

## Room A

**Tue. Sep 15**

### Invited Lecture

#### **Masaya Mitsuishi, presiding**

10:25 1A04IL Synthesis and Structure-Property Control of Block Copolymers Having Movable Linkages  
Toshikazu Takata

#### **Yuji Shibasaki, presiding**

11:15 1A06IL Precise Synthesis of Functional Polymers by RAFT polymerization  
Hideharu Mori

#### **Kazushi Kinbara, presiding**

12:55 1A08IL Glyco-Process Chemistry -Toward Effective Utilization of Polysaccharide Biomass-  
Shin-ichiro Shoda

#### **Takehiko Wada, presiding**

13:45 1A10IL Polymeric Micellar Drugs -Their Characteristics and Future Perspectives-  
Kazunori Kataoka

#### **Jiro Kumaki, presiding**

14:35 1A12IL Conformational analysis of single polymer chain by super-resolution optical nano-imaging technique  
Hiroyuki Aoki

#### **Seigou Kawaguchi, presiding**

15:25 1A14IL Etchingless electroless plating with colloid catalyst and its application  
Shin Horiuchi

#### **Shuji Okada, presiding**

16:15 1A16IL Non-Contact Non-Destructive Probing of Electron Local Motion @ interfaces / under Ultra-High Pressures  
Shu Seki

#### **Masahito Sano, presiding**

17:05 1A18IL Polymer Materials Design Based on Computational Science  
Kazuyoshi Tanaka

**Wed. Sep 16**

### Invited Lecture

#### **Nobukatsu Nemoto, presiding**

9:10 2A01IL "Not Existing, We will make it!" is our developing mind  
Yoshiki Shigaki

### Award Lecture

**Kensuke Naka, presiding**

10:00 2A03AL Development of Angle-independent Colored Materials using Self-assembled Structures of Polymers and Colloidal Particles  
Yukikazu Takeoka

**Toshimi Shimizu, presiding**

10:50 2A05AL Development of bio-sensing reagents based on the molecular recognition ability of DNA biopolymers  
Shigeori Takenaka

**Hideyuki Otsuka, presiding**

12:55 2A08AL Precision Polymerization of Vinyl Monomers by Controlling Different Reaction Mechanisms  
Kotaro Satoh

**Hiroshi Jinnai, presiding**

14:10 2A11AL Study on Synthesis and Structural Control of Polymers for Nanofabrication  
Teruaki Hayakawa

**Hirotsugu Kikuchi, presiding**

15:00 2A13AL Development of high Li-ion conductive polycarbonate-based electrolytes for battery materials  
Yoichi Tominaga

**Shizuo Tokito, presiding**

15:50 2A15AL Development of Fluorescent Microresonators from  $\pi$ -Conjugated Polymer Spheres  
Yohei Yamamoto

**Hiroshi Uyama, presiding**

16:40 2A17AL Synthesis of Bacterial Polyesters with Ultrahigh Molecular Weight and Control of Their Terminal Structure  
Takeharu Tsuge

**Thu. Sep 17**

**Invited Lecture**

**Shin-ichiro Shoda, presiding**

9:10 3A01IL Supercritical Fluid Technologies for Polymers  
Hiroshi Inomata

**Masaru Nakagawa, presiding**

10:00 3A03IL With the Aim of Realising the Flexible Electronics  
Hirobumi Ushijima

**Hideharu Mori, presiding**

10:50 3A05IL Recent developments in biosensors based on organic transistor  
Shizuo Tokito, Tsuyoshi Minami

**Room B**

**Tue. Sep 15**

## S1. Precise Polymerization Towards Creation of Functional Materials

- 9:50 1BSO Introductory Remarks S1  
Hideharu Mori, Yuji Shibasaki
- Takaki Kanbara, presiding**
- 10:00 1B03 Homo- and copolymerization of propylene by palladium/phosphine-sulfonate catalysts  
Yusuke Ota, Shingo Ito, Minoru Kobayashi, Takao Tayano, Kyoko Nozaki
- 10:25 1B04 Synthesis of Polyolefins with Functional Group in Controlled Sequence by Pd-Catalyzed Isomerization Polymerization  
Daisuke Takeuchi, Keisuke Watanabe, Kenya Motokuni, Kohtaro Osakada
- 10:50 1B05 Precision Polymerization of Diazoacetates: Syntheses of Well-defined Polymers with Accumulated Functional Groups  
Hiroaki Shimomoto, Hironori Asano, Ryo Hoshiki, Tomomichi Itoh, Eiji Ihara
- Daisuke Takeuchi, presiding**
- 11:15 1B06 Synthesis of poly(arylene vinylene)s via dehydrogenative direct alkenylation  
Hitoshi Saito, Junpei Kuwabara, Takaki Kanbara
- 11:40 1B07 Synthesis of self-standing 2D polymer membranes(7): solubilization by highly selective photoaromatic cyclization and introduction of oligosiloxane grafts  
Kyohei Yamashita, Madoka Moriya, Yuya Katsushika, Mari Miyata, Masahiro Taraguchi, Takashi Kaneko, Toshiki Aoki
- Eiji Ihara, presiding**
- 12:55 1B08IL Precise Synthesis of Conjugated Polymers and Control of the Higher Order Structures  
Fumio Sanda
- 13:45 1B10 Precision Synthesis of  $\pi$ -Electronic Polymers based on Stereochemistry of Tertiary Aromatic Amide  
Koji Takagi, Yuma Nishikawa, Ryohei Yamakado, Ryota Kato
- 14:10 1B11 Evaluation of acrylate-monomer reactivity by terminating reaction and application to graft polymer synthesis by a novel terminator  
Yasuhiro Kohsaka, Shoya Ishihara, Shu Kano, Tatsuki Kitayama
- Kotaro Satoh, presiding**
- 14:35 1B12 Precise Synthesis of Thermally Curable Multi-Functional Hyperbranched Polymers and Their Application to Solvent-Free Adhesives  
Eriko Sato, Izumi Uehara, Takashi Nishiyama, Akikazu Matsumoto, Hideo Horibe
- 15:00 1B13 Radical Cyclopolymerization of Dimethacrylate with Rigid Orthoester Moiety Derived from myo-Inositol  
Shusuke Okamoto, Shohei Onoue, Mami Muramatsu, Atsushi Sudo
- 15:25 1B14 Tandem Living Radical Polymerization with Transesterification: A Versatile Strategy to Gradient Copolymers and Pinpoint-Functionalized Polymers  
Yusuke Ogura, Takaya Terashima, Mitsuo Sawamoto
- Masahiro Teraguchi, presiding**
- 15:50 1B15 Living Radical Terpolymerization of Limonene, Maleimide, and Methacrylate Resulting in Specific (BAB)-r-C Sequence.  
masataka OJIKI, Kotaro SATOH, Masami KAMIGAITO
- 16:15 1B16 Precise synthesis and mechanochromic property of diarylbibenzofuranone-containing polymers

- Raita Goseki, Hironori Oka, Shigeki Furukawa, Hideyuki Otsuka
- 16:40 1B17 Preparation of oxetane derivatives having various side chain functionalities and their ring opening polymerization  
Naho Shigaki, Yohei Nakano, Kazuhide Ueno, Hiromori Tsutsumi
- Koji Takagi, presiding**
- 17:05 1B18 Concurrent cationic vinyl-addition, ring-opening, and carbonyl-addition terpolymerization through one-way cycle crossover reactions: Control over sequences of constitutional repeating units  
Arihiro Kanazawa, Sadahito Aoshima
- 17:30 1B19 RAFT miniemulsion polymerization using a novel type of amphiphilic RAFT agent  
Hideto Minami, Kengo Shimomura, Toyoko Suzuki, Keiichi Sakashita, Tetsuya Noda
- 17:55 1B20 Synthesis of Pi-Conjugated Polymers by Fluoride-Transfer Controlled Polymerization under Metal-free Conditions  
Takanobu Sanji, Junko Kakinuma, Tomokazu Iyoda

**Wed. Sep 16**

**S1. Precise Polymerization Towards Creation of Functional Materials**

**Takanobu Sanji, presiding**

- 9:10 2B01 Synthesis and anionic polymerization of allylidene hydrocarbon monomers  
Satoshi UCHIDA, Shogo MIYAI, Kota TOGII, Takashi ISHIZONE
- 9:35 2B02 Twofold (2<sub>1</sub>) Helical Polymerization: Thermal Solid-State Polymerization of 7-Cyano-(2'-haloethoxycarbonyl)-1,4-benzoquinone Methides  
Naoki Akira, Kyoko Tachino, Takahiro Uno, Masataka Kubo, Takahito Itoh, Norimitsu Tohnai, Mikiji Miyata
- 10:00 2B03 Synthesis of Poly(Vinyl Ether)s with a Sulfur-Containing Functional Group by Living Cationic Polymerization  
Takeshi Namikoshi, Yoshihito Kohari, Miki Murata, Shinji Watanabe
- 10:25 2B04 Synthesis of multi-functional TERP initiators and their applications to the controlled polymer synthesis  
Weijia Fan, Yasuyuki Nakamura, Shigeru Yamago

**Takashi Ishizone, presiding**

- 10:50 2B05 Synthesis of block copolymers containing well-defined hyperbranched polyamides and transcription of its self-assembled structures to silica by silification  
Yoshihiro OHTA, Kazuki SAKAMOTO, Daisuke INOUE, Miwa SAITO, Ren-Hua JIN, Tsutomu YOKOZAWA
- 11:15 2B06 Ring-Expansion Controlled Radical Polymerization Producing Polymer with Cyclic/Catenane-Like Chain Topology  
Atsushi Narumi, Shuhei Hasegawa, Ryo Yanagisawa, Miho Tomiyama, Masatsugu Yamada, Wolfgang Binder, Moriya Kikuchi, Seigou Kawaguchi
- 11:40 2B07 Topology transformation system of A<sub>2</sub>B to ABA directed toward development of stimuli-response material  
Daisuke Aoki, Uchida Satoshi, Toshikazu Takata

**Satoshi Uchida, presiding**

- 12:55 2B08 Precise synthesis and microphase-separated structure of polyfluorene-containing miktoarm star polymers

- Takuya Isono, Wen-Chang Chen, Toshifumi Satoh
- 13:20 2B09 Unique Gradient Nanodomain Formation via Photo-driven Controlled Radical Polymerization  
Takeo Suga, Kenta Minamibayashi, Hiroyuki Nishide
- 13:45 2B10 Precision Synthesis and Orientation Structural Control of Silicon-containing Block Copolymers in Thin Films For Next Generation Lithography Materials  
Rin Odashima, Takehiro Seshimo, Yutaka Takenaka, Lei Wang, Rina Maeda, Teruaki Hayakawa
- Takahito Itoh, presiding**
- 14:10 2B11 Design of micro-structured surface by enrichment of polymer segment and effect of wettability  
Junji Watanabe, Wataru Yakami, Atsushi Kimoto, Yoshiyuki Ikeda
- 14:35 2B12 Precision Synthesis and Surface Segregation of Comb-shaped Poly(vinyl ether)s  
Shin Sugimoto, Yukari Oda, Keiji Tanaka
- 15:00 2B13 Development of single component organic-inorganic hybrid materials based on  $\pi$ -conjugated units terminated polyhedral octasilicate-core dendrimers  
Yasuyuki Irie, Kensuke Naka
- 15:25 2B14 Design of Thermoresistant and Transparent Acrylic Polymers by Precise Radical Polymerization  
Akikazu Matsumoto, Eriko Sato, Yoshinori Nakano, Naoki Maeo
- Shinji Watanabe, presiding**
- 15:50 2B15 Synthesis and physical property of star-shaped poly(N-isopropylacrylamide)  
Yosuke Miyashita, Hiroto Kudo
- 16:15 2B16 Synthesis and surface characterization of end-functionalized polymers with both perfluorooctyl and photoreactive groups  
Kenji Sugiyama
- 16:40 2B17 Synthesis and Optoelectronic Properties of  $\pi$ -Conjugated Polymers Possessing Versatile Elements-blocks  
Ikuyoshi Tomita, Yoshimasa Matsumura, Yusuke Komatsuzaki, Hiroki Nishiyama, Shinsuke Inagi
- 17:05 2B18 Synthesis of polyphenylene-based polymer electrolytes by catalyst transfer polycondensation (XII) -Electrolytes for fuel cell utilizing nanostructure-  
Tatsuya Oshima, Hideaki Takagi, Masahiro Fujita, Akihiro Ohira, Yuko Takeoka, Masahiro Rikukawa

**Thu. Sep 17**

### **S1. Precise Polymerization Towards Creation of Functional Materials**

**Yoshiko Miura, presiding**

- 9:10 3B01 High Functionalization of Ion-Imaging Sensor by Concentrated Polymer Brushes  
Sungchul Baek, Keita Sakakibara, Chiaki Yoshikawa, Fumihiko Dasai, Kazukai Sawada, Yoshinobu Tsujii
- 9:35 3B02 Preparation of Supramolecular Hydrogels for Controlled Release of Growth Factors in Combination with Heparin Mimicking Polymers  
Ari Yamamoto, Tooru Ooya
- 10:00 3B03 Polymer vesicles with thermo-responsive and biocompatible binary shells  
Shin-ichi YUSA, Atsushi NAGAE, Keita NAKAI, Ryusuke ENOMOTO, Kazuhiko ISHIHARA, Yasuhiko IWASAKI

**Keita Sakakibara, presiding**

- 10:25 3B04 Synthesis of polymers having precisely placed side-chain branches: Application in controlled structure and functions of biomaterials.  
Shingo Kobayashi, Kousaku Fukuda, Keisuke Herai, Maiko Kataoka, Kohei Osawa, Masaru Tanaka
- 10:50 3B05 Syntheses and Preparation of Biointerface of Glycopolymers based on the Precise Polymerization  
Yoshiko Miura, Masanori Nagao, Hirokazu Seto, Masaki Takara, Hoshino Yu
- 11:15 3B06 Controlled Synthesis of Polysaccharides in Porous Coordination Polymers  
Yuichiro Kobayashi, Yuki Horie, Kayako Honjo, Takashi Uemura, Susumu Kitagawa
- 11:40 3B07 Evaluation of the dynamic properties of self-oscillating polymer brushes  
Tsukuru Masuda, Aya Mizutani Akimoto, Kenichi Nagase, Teruo Okano, Ryo Yoshida

**Shin-ichi Yusa, presiding**

- 12:55 3B08 Practical application examples of controlled polymerization technology  
fumi ariura, atsushi miyabo
- 13:20 3B09 Practical applications of heat-resistant pressure sensitive adhesives using the triblock polymer  
hirokazu mogami, hirokazu okada, kenji sano, masayoshi inada
- 13:45 3B10 Ferrocene-Assisted Concerted-Redox for Precision Radical Polymerization: Designable Catalysis with Ferrocene Derivatives  
Kojiro Fujimura, Makoto Ouchi, Mitsuo Sawamoto
- 14:10 3B11 Industrialization of Acrylic Thermoplastic Elastomer by Living Anionic Polymerization  
Yoshihiro Morishita

**Makoto Ouchi, presiding**

- 14:35 3B12 Photo-induced living radical polymerization using organotellurium compound  
Yasuyuki Nakamura, Mengmeng Yu, Shigeru Yamago
- 15:00 3B13 Atropos polymerization: Precise control of polymeric primary structures by programmed elemental reactions  
Shoya Ishihara, Yasuhiro Kohsaka, Tatsuki Kitayama
- 15:25 3B14 RAFT-mediated emulsion polymerization of chloroprene  
Yuhei Ishigaki, Hideharu Mori

**Room C**

**Tue. Sep 15**

**S3. Fine Structure Control of Fusion Materials and Exploration of Their Functions**

- 9:50 1CS0 Introductory Remarks S3  
Masaru Tanaka, Yuya Oaki
- Makoto Kobayashi, presiding**
- 10:00 1C03 Crystallization of calcium carbonate using lyotropic hexagonal phases as crystal growth field  
Kengo Nagaoka, Hiroki Higuchi, Machiko Shimoda, Yasushi Okumura, Tatsuya Nishimura, Takashi Kato, Hirotsugu Kikuchi

- 10:25 1C04 Crystallization, morphology control, and crystal growth mechanism of calcium carbonate in nematic liquid crystals  
Hiroki Higuchi, Takaya Nakao, Takanori Sajima, Shouta Daiki, Yasushi Okumura, Tatsuya Nishimura, Takashi Kato, Hirotsugu Kikuchi
- 10:50 1C05 Preparation of CaCO<sub>3</sub>-encapsulated polymer nanoparticles by the miniemulsion reaction system and their assembly into colloidal membranes  
Hideyuki Takamatsu, Yuuka Fukui, Keiji Fujimoto
- 11:15 1C06 Synthesis of Hydroxyapatite by Using Enzymatic Reaction in Solution Mimicking Body Fluid: Effect of Organic Groups in Calcium Salts of Phosphoric Esters  
Chikara Ohtsuki, Akiyoshi Mio, Ayae Narutaki, Taishi Yokoi
- 11:40 1C07 Incorporation of ionic liquids in the nanospace of oriented nanocrystals.  
Yukiko Ishijima, Yuya Oaki, Kazuki Yoshii, Yasushi Katayama, Hiroaki Imai

**Yuya Oaki, presiding**

- 12:55 1C08IL Function Design via Heteroassembly of 2D Nanosheets  
Takayoshi Sasaki
- 13:45 1C10 Synthesis and properties of flexible silicon nanosheets  
Hideyuki Nakano, Hirotaka Okamoto
- 14:10 1C11 Synergistic Photocatalytic Hydrogen Evolution over Semiconducting Nanosheets Combined with Inert Additives  
Teruyuki Nakato, Takako Fujita, Emiko Mouri
- 14:35 1C12 Luminescence of Fusion Materials with Rare Earths  
Miki Hasegawa

**Tomoyuki Tajima, presiding**

- 15:00 1C13 Development of the precision inorganic synthesis based on a fusion of dendrimers and metal complexes  
Takane Imaoka, Kimihisa Yamamoto
- 15:25 1C14 Preparation of nanostructured Si with chirality using polymeric objects as chiral source  
Xinling Liu, Ren-Hua Jin
- 15:50 1C15 Morphology Control of Metal Oxide Nanocrystals and Their Applications  
Yoshitake Masuda, Toshio Itoh, Woosuck Shin, Tatsuki Ohji, Kazumi Kato
- 16:15 1C16 Preparation of Photo-Responsive Organic-Inorganic Hybrid Films with Homogeneously Dispersed Metal Nanoparticles and Their Photo-Regulated Optical and Electrical Properties  
Takashi Miyata, Nobuhiro Akioka, Akifumi Kawamura

**Takane Imaoka, presiding**

- 16:40 1C17 End-to-End Assembly of Semiconductor Nanorods in Water  
Takuya Nakashima, Yuuki Taniguchi, Takao Takishita, Tsuyoshi Kawai
- 17:05 1C18 Co-assembly of Semiconductor Nanorods and Tetrapods  
Yuki Taniguchi, Tsuyoshi Kawai, Takuya Nakashima
- 17:30 1C19 Synthesis and properties of Si/Ti hybridized chiral oxides  
Ken Murakami, Katsuya Kaikake, Ren-Hua Jin
- 17:55 1C20 Synthesis and Photoproperties of Edge-selectively Modification of Zeolite-templated Carbon with Bromine or Carbazole Groups  
Tomoyuki TAJIMA, Haruko GOTO, Kazumasa KOBAYASHI, Yutaka TAKAGUCHI, Khanin Nueangnoraj, Takashi KYOTANI, Hirotomo NISHIHARA

**Wed. Sep 16**

### S3. Fine Structure Control of Fusion Materials and Exploration of Their Functions

#### Takashi Uemura, presiding

- 9:10 2C01 Counter Ion Structure Dependence on the Hydration State of Cationic Polyelectrolyte Brushes  
Yuji Higaki, Hitomi Ono, Ai Takenaka, Norifumi L. Yamada, Atsushi Takahara
- 9:35 2C02 Water-soluble brush polyethyleneimine/PNIPAM block copolymer: self-assembly and templating function in sol-gel reaction  
Hiroki Kubosawa, Dong-Dong Yao, Katsuya Kaikake, Ren-Hua Jin
- 10:00 2C03 Orientation and functionalization of organic-inorganic nanohybrid prepared from amphiphilic block copolymer and metal alkoxide  
Mitsuo Hara, Ryota Oguri, Shusaku Nagano, Takahiro Seki

#### Shokyoku Kanaoka, presiding

- 10:25 2C04 Development of lipid bilayer system by using microfabrication  
Ryuji Kawano
- 10:50 2C05 Confinement of Single Polysilane Chains in Coordination Nanospaces  
Takashi KITAO, Takashi UEMURA, Shu SEKI, Masanobu NAITO, Susumu KITAGAWA
- 11:15 2C06 One-step Enzymatic Synthesis and Characterization of Multiphase Celluloses  
Yusuke Yataka, Toshiki Sawada, Takeshi Serizawa
- 11:40 2C07 Development of Elastin-Like Block Polypeptides with Functional Motifs  
Duc H. T. Le, Reiko Kawakami, Tatsuya Okubo, Chikara Ohtsuki, Ayae Sugawara-Narutaki

#### Masaru Tanaka, presiding

- 12:55 2C08IL Analysis and control of psychological phenomena by using biomimetic system  
Yoshimune Nonomura
- 13:45 2C10 Synthesis of calcium phosphate-based fusion materials for biomedical applications  
Ayako Oyane, Maki Nakamura
- 14:10 2C11 Fusion Materials of Polysaccharide Analogues and Near-Infrared Dyes for Tumor Imaging  
Koji MIKI, Hioroki HASHIMOTO, Tatsuhiro INOUE, Kouichi OHE
- 14:35 2C12 Functionalized Polymer Nanosheets by Metal Nanoparticles for Biomedical Application  
Toshinori Fujie, Marin Okamoto, Kento Yamagishi, Shinji Takeoka

#### Yukari Oda, presiding

- 15:00 2C13 Chemical Synthesis of Proteins using an N-Sulfanylethylamide Auxiliary  
Akira Shigenaga, Kohei Sato, Tsubasa Inokuma, Akira Otaka
- 15:25 2C14 Effect of polymer molecular weight for water structure and non-thrombogenicity in PMEA analogues  
Kazuhiro Sato, Shingo Kobayashi, Asuka Sekishita, Masaru Tanaka
- 15:50 2C15 Blood compatible poly( $\omega$ -methoxyalkyl acrylate)s: Synthesis and blood compatibility evaluation.  
Shingo Kobayashi, Miyuki Wakui, Yukihisa Iwata, Daiki Murakami, Masaru Tanaka

#### Duc H. T. LE, presiding

- 16:15 2C16 The critical role of water at the bio-interface  
Hisao Matsuno, Toyooki Hirata, Ryota Tsukamoto, Ruriko Matsuyama, Daisuke Kawaguchi, Yukari Oda, Norifumi Yamada, Masaru Tanaka, Keiji Tanaka



- 16:40 2C17 Development of biodegradable polymers with biocompatible surface forming 'intermediate water'  
Kazuki FUKUSHIMA, Yuto INOE, Meng-Yu TSAI, Shunya TAKAOKA, Shunsuke SHISHIDO, Takayuki OTA, Masaru TANAKA
- 17:05 2C18 Precision Synthesis and Biocompatibility of Novel Functional Block Copolymers of Polylactide and Stimuli-Responsive Poly(vinyl ether) Segments  
Yukiko Seki, Arihiro Kanazawa, Shokyoku Kanaoka, Tomoko Fujiwara, Keiko Ogura, Masaru Tanaka, Sadahito Aoshima

**Thu. Sep 17**

**S3. Fine Structure Control of Fusion Materials and Exploration of Their Functions**

**Hiroki Higuchi, presiding**

- 9:10 3C01 Magnetic Alignment of  $\pi$ -Stacked Complexes Constructed by Stepwise Self-Assembly  
Sota Sato, Ryosuke Takeuchi, Maho Yagi-Utsumi, Takumi Yamaguchi, Yoshiki Yamaguchi, Koichi Kato, Makoto Fujita
- 9:35 3C02 Hybrid Perovskite Solar Cells Using Fullerene Derivatives (III) - Characterization of Perovskite Films having Fullerene Derivatives-  
mao imada, masahiro fujita, yuko takeoka, masahiro rikukawa
- 10:00 3C03 Controlled Supramolecular Assemblies for Solar Energy Conversion  
Taku Hasobe

**Sota Sato, presiding**

- 10:25 3C04 Morphology Control of mesogenic semiconductor and its solar cell application  
Masanori Ozaki, Quang-Duy Dao, Masashi Ohmori, Takuya Higashi, Akihiko Fujii
- 10:50 3C05 Development of Metal-Organic Frameworks Exhibiting Controlled Release of Guest Molecule in Response to External Stimuli  
Shunjiro Nagata, Kenta Kokado, Kazuki Sada
- 11:15 3C06 Morphology and Orientation Control of Organic Crystals by Advanced Biomimetic Approaches  
Mamoru Okaniwa, Yuya Oaki, Hiroaki Imai
- 11:40 3C07 Black electrochromism in metallo-supramolecular polymer  
Masayoshi Higuchi

**Yoshinori Takashima, presiding**

- 12:55 3C08 Aromatic Micelles with Anthracenes Shells: Solubilization of Phthalocyanine Metal Complexes in Water  
Kei Kondo, Michito Yoshizawa, Munetaka Akita
- 13:20 3C09 Synthesis of composite particles by the seeded emulsion polymerization using hierarchic microgels as seed.  
Takumi Watanabe, Chiaki Kobayashi, Daisuke Suzuki
- 13:45 3C10 Fabrication of Novel Heterotubes Utilizing Controlled One-Dimensional Fusion of Polymer Capsules  
Kiyotaka Inada, Toshiyuki Kida, Mitsuru Akashi
- 14:10 3C11 Active Protonic Transport by Temperature-Response Nanogel Particles  
Takaaki Miyoshi, Naoki Gondo, Masahiko Nakamoto, Yu Hoshino, Yoshiko Miura

**Daisuke Suzuki, presiding**

14:35	3C12	Active control of gold nanoparticle-assembly through the volume change of hydrogels <u>Hideyuki Mitomo</u> , Kenta Horie, Yasutaka Matsuo, Kenichi Niikura, Kuniharu Ijio
15:00	3C13	Preparation of Fusion Materials by Dissimilar Materials Joining Using Host-guest Interaction and Covalent Bond Formation <u>Tomoko Sekine</u> , Yoshinori Takashima, Akira Harada
15:25	3C14	Magnetically-guided organic-inorganic hybrid nanogel carrier for controlling cellular function <u>Riku Kawasaki</u> , Yoshihiro Sasaki, Kiyofumi Katagiri, Sadaatsu Mukai, Shin-ich Sawada, Kazunari Akiyoshi

## Room D

**Wed. Sep 16**

### S2. Supramolecular Polymers

9:00	2DSO	Introductory Remarks S2 <u>Mitsutoshi Jikei</u> <b>Mitsutoshi Jikei, presiding</b>
9:10	2D01IL	Precise Supramolecular Polymerization; Important Lessons from Polymer Chemistry <u>Daigo Miyajima</u>
10:00	2D03	Photocontrolled Living Supramolecular Polymerization Based on Coupled Energy Landscape of Photo-isomerization and Nucleation-elongation Processes <u>Mizuki Endo</u> , Kazunori Sugiyasu, Masayuki Takeuchi <b>Daigo Miyajima, presiding</b>
10:25	2D04	Construction of a Novel Multicyclic Polymer Topology including Spiro, Fused and Bridged Units <u>Yoichiro Tomikawa</u> , Takuya Yamamoto, Yasuyuki Tezuka
10:50	2D05	Synthesis of cyclic and linear polymers appending perylene diimide at the side chains and their thin film properties <u>Akihiro Kimura</u> , Takuya Yamamoto, Yasuyuki Tezuka
11:15	2D06	Linear-cyclic reversible topology change of block copolymer utilizing the dynamic nature of rotaxane structure <u>Valentina Stephanie</u> , Takahiro Ogawa, Kazuko Nakazono, Toshikazu Takata
11:40	2D07	Synthesis of Supramolecular Graft Copolymers directed by Guest Recognition of Molecular Capsule <u>Takeharu Haino</u> , Yuta Tsunoda, Ryo Sekiya <b>Hiromitsu Sogawa, presiding</b>
12:55	2D08	Synthesis and Fluorescent Properties of Molecular Tubes with a Subnanometer Pore <u>Keita Hagiwara</u> , Masafumi Otsuki, Michito Yoshizawa, Munetaka Akita
13:20	2D09	Unique Inclusion Complexation Behavior of Modified Amylose Containing Spacer Structure in the Main Chain <u>yasuhito koyama</u> , tamaki nakano

- 13:45 2D10 Fluorogenic detection of aromatic hydrocarbons by supramolecular porous hosts  
Toshikazu Ono, So Hatanaka, Yoshio Hisaeda
- 14:10 2D11 Phase Transitions and Hierarchical Organizations of Organic Nanotubes for Nanobio Applications  
Naohiro Kameta, Mitsutoshi Masuda, Toshimi Shimizu
- Toshikazu Ono, presiding**
- 14:35 2D12 The macroscopic artificial muscle powered by the microscopic sliding motion of [c2]daisy chain  
Kazuhisa Iwaso, Yoshinori Takashima, Akira Harada
- 15:00 2D13 Preparation of stimuli responsive supramolecular materials using host-guest interactions and its functions  
Yoshinori Takashima, Kohei Miyamae, Masaki Nakahata, Akira Harada
- 15:25 2D14 Crystalline supramolecular interaction of various side chain crystalline polymer and their application  
Shigeru YAO, Ryoko NAKANO, Hiroshi SEKIGUCHI, Fumiharu YAMASAKI, Kouki HIRAYAMA, Yusuke HASEBE, Yuri KANAZAWA, Hideaki Obuchi
- 15:50 2D15 Preparation of conductive nanofibers composed of tetrathiafulvalene derivatives having bulky substituents at the side chain terminal  
Kei Mizuguchi, Yoko Tatewaki, Shuji Okada
- Naohiro Kameta, presiding**
- 16:15 2D16 Self-sorting and Dynamic Imaging of Supramolecular Nanofibers  
Hajime Shigemitsu, Shoji Onogi, Tatsuyuki Yoshii, Tatsuya Tanida, Masato Ikeda, Ryou Kubota, Itaru Hamachi
- 16:40 2D17 A supramolecularly assisted self-assembly of biodegradable block copolymer including functionalized aliphatic polycarbonates  
Shunsuke Sato, Kodai Matsuzaki, Masashi Oji, Masaru Tanaka, Kazuki Fukushima
- 17:05 2D18 Physical Properties of Polyrotaxane Glass  
Kazuaki Kato, Tomoki Mizusawa, Kohzo Ito

**Thu. Sep 17**

## **S2. Supramolecular Polymers**

**Tatsuya Nishimura, presiding**

- 9:10 3D01 Rational molecular design of multi-functional supramolecular smart soft material: Highly luminescent C<sub>3</sub>-symmetrical boron difluoride diketonate complex modified by bulky lipophilic groups  
Shigesaburo Ogawa, Masa-aki Morikawa, Isao Takahashi, Nobuo Kimizuka
- 9:35 3D02 Synthesis and Application of Complementary Double Helices Linked with Metal Salen Complexes  
Shogo HIOKI, Junki TANABE, Daisuke TAURA, Naoki OUSAKA, Eiji YASHIMA
- 10:00 3D03 Synthesis of supramolecular polymer membranes by highly selective photocyclic aromatization of cis-cisoidal helical poly(substituted acetylene) and their permselectivities  
Jianjun Wang, Eri Otaka, Mari Miyata, Masahiro Teraguchi, Takashi Kaneko, Toshiki Aoki
- 10:25 3D04 Synthesis of chiral polymeric membranes by highly selective photocyclic aromatization (SCAT) of racemic helical poly(substituted phenylacetylene)s

with circularly polarized light  
Mari Miyata, Masahiro Teraguchi, Takashi Kaneko, Toshiki Aoki

**Takashi Kaneko, presiding**

- 10:50 3D05 The influence of hydrogen bonds on inclusion of polyethylene glycol and  $\alpha$ -cyclodextrin  
Hokuto Suzuki, Kohzo Ito, Shoko Takahashi, Norifumi Yamada, Hideaki Yokoyama
- 11:15 3D06 Development of Organic Polymer/Inorganic Functional Fusion Materials Using Supramolecular Polymers  
Tatsuya Nishimura, Fangjie Zhu, Matsumura Shunichi, Kato Takashi
- 11:40 3D07 Redox Responsibility and Luminescence Properties of Insulated  $\pi$ -Conjugated Metallopolymers  
Takuro Hosomi, Hiroshi Masai, Jun Terao, Tetsuaki Fujihara, Yasushi Tsuji

**Shigehisa Akine, presiding**

- 12:55 3D08 Study on electrochromic properties of Co-based organic-metallic hybrid polymer  
Sheng-Yuan Kao, Miki Kanao, Utpal Rana, Kuo-Chuan Ho, Masayoshi Higuchi
- 13:20 3D09 Infrared electrochromism of metallo-supramolecular polymers  
Masayoshi Higuchi
- 13:45 3D10 Synthesis and characterization of novel multi metallo supramolecular polymers containing tridentate ligand with platinum-acetylide  
Miki Kanao, Masayoshi Higuchi

**Taichi Ikeda, presiding**

- 14:10 3D11 Construction of Highly Stretched Linear Structure Assembled by Double-Strand Formation as Stiff Supramolecular Unit  
Mitsuhiko Morisue, Yuki Hoshino, Masaki Shimizu, Shinobu Uemura, Shinichi Sakurai
- 14:35 3D12 Dynamic structural conversion of helical metal complexes obtained by the metal complexation of oligomeric ligands  
Shigehisa Akine
- 15:00 3D13 Emergence and Control of Unusual Electronic States in Quasi-One-Dimensional Halogen-Bridged Metal Complexes  
Hiroaki Iguchi, Mohammad Rasel MIAN, Takefumi Yoshida, Shohei Kumagai, Shinya Takaishi, Masahiro Yamashita

**Room E**

**Tue. Sep 15**

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

**Takashi Honda, presiding**

- 10:00 1E03 Translational diffusion coefficient of semi flexible ring polymers  
Ryoto Yamashita, Daichi Ida
- 10:25 1E04 A picture of dilute solution behavior of polymers through polyelectrolyte simulation  
Daichi Ida, Takenao Yoshizaki
- 10:50 1E05 Complexation between an amphiphilic alternating copolymer and

cyclodextrin in aqueous solution  
Rintaro Takahashi, Takahiro Sato, Ken Terao, Akihito Hashidzume

**Daichi Ida, presiding**

- 11:15 1E06 Association behavior of an amphiphilic alternating copolymer of sodium malate and dodecyl vinyl ether in concentrated aqueous solutions  
Yasuho Ohtani, Takahiro Sato
- 11:40 1E07 The self-assembly in aqueous solution of hydrophobic polypeptide-poly (acrylic acid) amphiphilic diblock copolymers in aqueous solution  
Naoki Asai, Takahiro Sato, Nobuyuki Higashi

**Tadashi Inoue, presiding**

- 12:55 1E08 Dynamic scattering function simulation of the self-consistent field theory on phase separations of polymer melts.  
Takashi Honda
- 13:20 1E09 Preparation and Characterization of Dumbbell-shaped polymers  
Yuya Doi, Atsushi Takano, Yushu Matsushita
- 13:45 1E10 Dimensional Properties of Linear and Cyclic Amylose Tris(n-octadecylcarbamate) in Solution  
Akiyuki RYOKI, Shinichi KITAMURA, Ken TERA0

**Atsushi Takano, presiding**

- 14:10 1E11 Conformation and stiffness of carboxylated schizophyllan in solution  
Kazuto Yoshiba, Takahiro Sato, Takaaki Osumi, Ulset Ann-Sissel, Christensen Bjorn E.
- 14:35 1E12 Measurement and Prediction of Phase Equilibria of Ethylene + Vinyl Acetate + Methanol + Poly(ethylene-co-vinyl acetate) Systems  
Yoshiyuki Sato, Takaaki Nakamura, Ayako Igarashi, Hiroshi Inomata
- 15:00 1E13 The stereoregularity dependence on the phase separation dynamics of two types of the polyacrylamide-based polymers  
Mitsuhiro Matsumoto, Takanori Tada, Taka-aki Asoh, Tatsuya Shoji, Yasuyuki Tsuboi

**Ken Terao, presiding**

- 15:25 1E14 Effect of the chemical structure of junction point on the property of branched polymer: Synthesis and property of triple star polymer featuring tripodal triptycene junction  
Fumitaka Ishiwari, Tadahiro Kimura, Atsuki Sugimoto, Masatoshi Tokita, Takanori Fukushima
- 15:50 1E15 Analysis of Flow Distribution of Wormlike Micelle Aqueous Solution Using Polarization Imaging Method  
Naoto Oba, Tadashi Inoue
- 16:15 1E16 Calculation of polymer viscoelasticity using the equilibrium and non-equilibrium molecular dynamics simulations  
Yasuhito Karino, Osamu Hino
- 16:40 1E17 Yielding and Tearing Behavior of Rubber-microparticles Melts  
Yuki Kosugi, Kenji Urayama, Yoshiaki Matsuoka

**Kenji Urayama, presiding**

- 17:05 1E18 Effect of Molecular Weight Distribution of Poly(Ethylene Glycol) on the Nanosilica Reversible Gel  
Yuji Hirose
- 17:30 1E19 Simultaneous observations of particle behavior and flow behavior of electro-rheological nano-suspensions  
Seiya Robson, Katsufumi Tanaka, Midori Takasaki, Haruki Kobayashi, Masami Nakano, Atsushi Totsuka

17:55 1E20 Molar mass dependence of molecular structures of 2-ethylhexyl acrylate / N-vinyl- $\epsilon$ -caprolactam copolymers  
Takefumi Kawakami, Hajime Ohtani, Motonori Nakamura, Masuo Iida

**Wed. Sep 16**

## **B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

### **Hidemine Furuya, presiding**

- 9:10 2E01 Nanoscopic structure of physically cross-linked nanogels investigated by small-angle neutron scattering  
Yurina Sekine, Hitoshi Endo, Hiroki Iwase, Shigeo Takeda, Sada-atsu Mukai, Hiroshi Fukazawa, Yoshihiro Sasaki, Kazunari Akiyoshi
- 9:35 2E02 Investigation on gelation process of ovalbumin  
Yuya Okazumi, Takashi Hiroi, Ken Littrell, Yuri Narita, Naoki Tanaka, Mitsuhiro Shibayama
- 10:00 2E03 Analysis of growth process of polymer clusters near the sol-gel transition point  
Takuto Matsushita, Ung-il Chung, Takamasa Sakai
- 10:25 2E04 Internal structure of superabsorbent polymer with scanning microscopic light scattering system  
Hiroaki Kumagai, Yosuke Watanabe, Mei Abe, Naoya Yamada, Kazuyuki Sakai, Hidemitsu Furukawa, Taku Fujimoto, Erina Minami, Yoshiro Mitsukami, Yoshifumi Adachi

### **Kazuyuki Sakai, presiding**

- 10:50 2E05 Effect of the spatial heterogeneity on the mechanical properties of polymer gels  
Yuichi Yamazaki, Ung-il Chung, Takamasa Sakai
- 11:15 2E06 Temperature responsive shrinkage of peptide hybrid xerogel having secondary structure transition  
Yosuke Mizuno, Hidemine Furuya
- 11:40 2E07 Characterization of Syndiotactic Polystyrene Physical Gel in Mixed Solvent  
Risei Wada, Ryoichi Yoshida, Hidenobu Shimizu, Masaru Okabe

### **Masaru Okabe, presiding**

- 12:55 2E08 Mechanical properties and structures of polymer-clay blend hydrogels  
Hiroyuki Takeno, Yuri Kimura, Chikaki Sato
- 13:20 2E09 Frictional and wear properties of physically cross-linked PVA hydrogels as artificial cartilage  
Saori Sasaki, Teruo Murakami, Atsushi Suzuki
- 13:45 2E10 Preparation of a Supramolecular Hard Material Containing a Four-Armed Polymer and Its Self-Healable Property.  
Takaaki Sano, Yoshinori Takashima, Akira Harada
- 14:10 2E11 Molding and photoactuation of azobenzene liquid-crystalline elastomers with dynamic covalent bonds  
Toru Ube, Kyohei Kawasaki, Tomiki Ikeda

## **S4. Frontiers of Polymer Chemistry Based on Organocatalyst**

15:15 2ESO Introductory Remarks S4  
Hiroki IIDA

**Naoki Haraguchi, presiding**

- 15:25 2E14 Development of primary-amine-type peptide asymmetric catalyst  
Kazuaki Kudo
- 15:50 2E15 Development of Polyquinoxaline-based Helically Chiral DMAP-Type Polymer Catalysts  
Takeshi Yamamoto, Ryo Murakami, Michinori Suginome
- 16:15 2E16 Development of solid acid catalyst utilizing hyperbranched poly(ether sulfone)  
Yuta Nabae, Jie Liang, Teruaki Hayakawa, Masa-aki Kakimoto

**Takeshi Yamamoto, presiding**

- 16:40 2E17 Control of Extension/Contraction Motion of an Optically Active Double-Stranded Helicate Bearing Bipyridine N,N'-Dioxide Moieties and Its Application to Asymmetric Organocatalyst  
Taiki NAKAMURA, Yoshimasa SUZUKI, Daisuke TAURA, Hiroki IIDA, Naoki OUSAKA, Eiji YASHIMA
- 17:05 2E18 Synthesis and topology transformation of rotaxane-linked star polymer  
Takuma Hirose, Daisuke Aoki, Toshikazu Takata

**Thu. Sep 17**

**S4. Frontiers of Polymer Chemistry Based on Organocatalyst**

**Masa-aki Kakimoto, presiding**

- 9:10 3E01 Functionalized polystyrene-supported neutral flavin organocatalysts  
Yukihiro Arakawa, Risa Kawachi, Takahiro Oonishi, Keiji Minagawa, Yasushi Imada
- 9:35 3E02 Synthesis of main-chain polymers having MacMillan catalyst for asymmetric reaction using ionic bond (VIII)  
Nagisa Takenaka, Naoki Haraguchi, Shinichi Itsuno
- 10:00 3E03 Synthesis of Polymer Microsphere-supported Chiral Organocatalyst for Asymmetric Organocatalysis  
Naoki Haraguchi, Takuma Kobayashi, Wako Oyama, Shinichi Itsuno

**Hiroki Iida, presiding**

- 10:25 3E04IL Organocatalytic reaction process aiming at practical use: From small molecules to macromolecules  
Nobuyuki Mase

**Toshifumi Satoh, presiding**

- 11:15 3E06 Dimerization and Transfer Hydrogenation of Michael Acceptors Promoted by N-Heterocyclic Carbenes  
Shin-ichi Matsuoka, Terumasa Kato, Masanori Nakazawa, Naoki Awano, Masato Suzuki
- 11:40 3E07 Direct Polycondensations of Hydroxycarboxylic Acids Using Onium Salt Catalysts  
Miyuki Oshimura, Takahiro Hiura, Hikaru Momose, Yohei Miwa, Tomohiro Hirano, Koichi Ute

**Miyuki Oshimura, presiding**

- 12:55 3E08 Precise Synthesis of Star-Shaped Acrylate Polymer by Core-First Group Transfer Polymerization  
Takahiro Ito, Kenji Takada, Yougen Chen, Toshifumi Satoh, Toyoji Kakuchi
- 13:20 3E09 A Novel Group Transfer Polymerization of Acrylic Monomers Using

B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>/Hydrosilanes System  
Kodai Kitano, Seiya Kikuchi, Kenji Takada, Yougen Chen, Toshifumi Satoh, Toyoji Kakuchi

**Shin-ichi Matsuoka, presiding**

- 13:45 3E10 Phosphazene base-catalyzed living ring-opening polymerization system for glycidylamine derivatives  
Toshifumi Satoh, Takuya Isono, Kakuchi Toyoji
- 14:10 3E11 Organophosphate-catalyzed bulk ring-opening polymerization of cyclic esters  
Tatsuya Saito, Yusuke Aizawa, Takuya Isono, Kenji Tajima, Toshifumi Satoh
- 14:35 3E12 A new organocatalyst involving concerted acid-base catalysis. NMR analysis of lactide polymerization mechanism.  
Joji Kadota, Akinori Okada, Hiroshi Hirano, Yasuyuki Agari

**Naoki Ousaka, presiding**

- 15:00 3E13 Synthesis of antithrombotic poly(carbonate-urethane)s through a sequential process of ring-opening polymerization and polyaddition by acidic organocatalysts  
Kazuki FUKUSHIMA, Kota HONDA, Haritz SARDON, Andere BASTERRETXA, Yuto INOUE, Masaru TANKA
- 15:25 3E14 Organocatalytic modification reactions of cellulose with ionic liquids as a solvent and a catalyst  
Ryohei Kakuchi, Makoto Yamaguchi, Yoshiki Shibata, Ryo Ito, Takatsugu Endo, Tomoyuki Ikai, Kazuaki Ninomiya, Katsunori Maeda, Kenji Takahashi

**Room F**

**Tue. Sep 15**

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

**Shuji Okada, presiding**

- 10:00 1F03 Effect of Molecular Structure on Photoconductive Properties of Polyimide Films Possessing High CT Interaction  
Sho Fukuchi, Teppei Chino, Kazuhiro Takizawa, Ryohei Ishige, Shigeo Asai, Shinji Ando
- 10:25 1F04 The influences of Naphthalene Structure and Heavy Atoms in the Main Chain on the Volumetric Thermal Expansion Behaviors of Polyimide Films  
Tomohiro Okada, Shinji Ando
- 10:50 1F05 On the anomalous temperature dependence of intrinsic birefringence for polymers  
Yuki Okada, Tadashi Inoue

**Shinji Ando, presiding**

- 11:15 1F06 Synthesis and polymerization of new diacetylene derivatives having photonic materials.  
Yuzuru Nabuchi, Kei Mizuguchi, Shuji Okada, Yoko Tatewaki
- 11:40 1F07 Solid-State Polymerization of Diacetylene Derivatives Directly Substituted by a Phenylcarbazole Moiety and Properties of the Polymers  
Masataka Ikeshima, Masashi Mamada, Hiroshi Katagiri, Tsuyoshi Minami, Shizuo Tokito, Shuji Okada



**Sono Sasaki, presiding**

- 12:55 1F08 Crystalline Phase Transition Behavior of Poly(m-Methylene Terephthalamide)s and their Model Compounds with the Various Methylene Lengths  
Hiroko Yamamoto, Kohji Tashiro, Mitsunori Asada, Katsuyoshi Katsube
- 13:20 1F09 Effect of Center Block Chain in Triblock Copolymeric Ionomer on Formation and Collapse of Ionic Aggregates  
Hiroshi Yamashita, Daisuke Sasaki, Toru Hoshi, Toshiki Hagiwara, Takashi Sawaguchi, takao Aoyagi
- 13:45 1F10 The Effect of Nano-pores on Thermal Conductivities of Polymers  
Motoi Shiraga, Kohzo Ito, Yasuhiro Sakai, Kenji Sugiyama, Hideaki Yokoyama

**Hideaki Yokoyama, presiding**

- 14:10 1F11 Spatio-temporal fluctuations in binary mixtures of polymer thin films with low melting temperature  
Ryota MARUYAMA, Hiroki OMAMIUDA, Daisuke NAGAI, Takuro BABA, Yuya TACHIBANA, Ken-ichi KASUYA, Naoki ASAKAWA
- 14:35 1F12 Crystallization behavior of polycaprolactone in spin-coating film-forming processes ~effect of rotational rate of substrates and solution concentration~  
Shun MIYAMOTO, Yuki TSUJI, Shinichi SAKURAI, Takaaki HIKIMA, Hiroyasu MASUNAGA, Masaki TAKATA, Sono SASAKI
- 15:00 1F13 Crystallization Kinetics from the Melt of Poly(3-hydroxybutyrate) in Thin Films  
Sono SASAKI, Jiro HOSHIBA, Shun MIYAMOTO, Shinichi SAKURAI, Takaaki HIKIMA, Hiroyasu MASUNAGA, Masaki TAKATA, Tomoyasu HIRAI, Atsushi TAKAHARA
- 15:25 1F14 Surface scratching property and aggregation structure of polymer materials using a scratch testing  
Ken Kojio, Tomoko Kajiwara, Tatsuy Kubozono, Saburo Yamamoto, Atsushi Takahara

**Shinichi Sakurai, presiding**

- 15:50 1F15 Surface modification of polymer films based on physical methods and its effect on cell adhesion  
Ruriko Matsuyama, Hisao Matsuno, Norifumi Yamada, Keiji Tanaka
- 16:15 1F16 Kinetics of the dynamic polymer brush formation at polymer water interfaces  
Hirokazu Tanoue, Manabu Inutsuka, Kohzo Ito, Hideaki Yokoyama
- 16:40 1F17 An amorphous amphiphilic polymer forms a lamellar structure by annealing the polymer film under humidified conditions  
Yuki Hashimoto, Takuma Sato, Jun Matsui, Shusaku Nagano, Yuki Nagao, Shunsuke Yamamoto, Masaya Mitsuishi

**Ken Kojio, presiding**

- 17:05 1F18 Method of Making Hierarchic Porous Structure by Using Osmotic Shock and UV-Laser Interference  
Masateru Ito, Easan Sivaniah
- 17:30 1F19 Application of nano-palpation atomic force microscopy to viscoelastic analysis II  
Ken Nakajima, Makiko Ito, So Fujinami
- 17:55 1F20 Quantitative Nanomechanical Mapping of Young's Modulus of Polymer Electrolyte Membranes in Aqueous Solution Using Atomic Force Microscopy  
Yuichi Muraji, Xiaobin Liang, So Fujinami, Ken Nakajima

**Wed. Sep 16**

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

**Shinsuke Inagi, presiding**

- 9:10 2F01 Formation of Aggregates between pH-Responsive Unimer Micelles and Diblock Copolymers by Electrostatic Interaction  
Sayaka Ohno, Shin-ichi Yusa, Kazuhiko Ishihara
- 9:35 2F02 Synthesis of UCST-type Thermo-responsive Nanoparticles and Control of Their Association Behavior  
Ami Fujihara, Shin-ichi Yusa, Atsushi Maruyama, Naohiko Shimada, Kazuhiko Ishihara
- 10:00 2F03 Construction of Vesicles from Cyclic Block Copolymer Surfactants and Guest Encapsulation  
Toshiaki Yatsunami, Eisuke Baba, Yasuyuki Tezuka, Takuya Yamamoto

**Shin-ichi Yusa, presiding**

- 10:25 2F04 Relationship between composition and function of block-random copolymer surfactant synthesized by RAFT polymerization  
Naofumi Ezaki, Yoshifumi Watanabe, Hiroshi Hayashi, Hiroyuki Ogawa, Hideharu Mori
- 10:50 2F05 Controlling Phase Transition Behavior of Thermally Responsive Hydrocolloid  
Hidenobu SHIMIZU, Risei WADA, Masaru OKABE
- 11:15 2F06 Fabrication of gradient and patterned polymer brushes by electrochemically mediated atom transfer radical polymerization in a potential gradient  
Naoki Shida, Hiroki Nishiyama, Ikuyoshi Tomita, Shinsuke Inagi
- 11:40 2F07 Organic-silica nanocomposites based on the interaction between alicyclic epoxy group and perhydropolysilazane  
Hisanori Hashimoto, Joo Yeon Lee, Reiko Saito

**Kenji Hisada, presiding**

- 12:55 2F08 Binding Constant of Organic Ligands to Gold Nanoparticles and Applications to produce Conductive Inks  
Ikuko Matsumoto, Yasuaki Naitou, Hideyuki Nakanishi, Tomohisa Norisuye, Qui Tran-Cong-Miyata
- 13:20 2F09 Development of High Density Amorphous Chain in Nanodiamond-containing Transparent Nanohybrid Based on the Growth of the Lamellae Crystal Part  
Yusuke Kasahara, Taira Tasaki, Mamun Muhammad Abdullah Al, Shuichi Akasaka, Atsuhiko Fujimori
- 13:45 2F10 Creation of Two-dimensional Hybrid Organized Film Using Organo-magnetic Nanoparticles, and an Attempt to Construction of Bioconjugate Materials  
Kyohei Ohmura, Manami Suzuki, Atsuhiko Fujimori
- 14:10 2F11 An Attempt to Isothermal Crystallization and Control of Molecular Arrangement by Formation of Interfacial Films of Polyguanamine and Polyamide Derivatives with Bulky Aromatic Substituent  
Shuntaro Miura, Yusaku Shidara, Yuji Shibasaki, Atsuhiko Fujimori

**Atsuhiko Fujimori, presiding**

- 14:35 2F12 Energy dissipation through a molecular adsorbed film of chain molecules on the metal-liquid interface  
Kenji Hisada, Minako Ito, Yuta Isaka
- 15:00 2F13 Supramolecular Thiophene Nanosheets: Effect of polymer structure on nanosheet structure and stability  
Taichi Ikeda, Hiroyuki Tamura
- 15:25 2F14 Conical gradient junctions of redox-active molecules on Au electrodes  
Takehiro Kawauchi, Yuki Oguchi, Keiji Nagai, Tomokazu Iyoda
- 15:50 2F15 Structural Analysis of a Polymer Thin Film of Organic Semiconductor

Containing Thienothiophene Using IR MAIRS  
Nobutaka Shioya, Takafumi Shimoaka, Takeshi Hasegawa

**Takehiro Kawauchi, presiding**

- 16:15 2F16 Formation of self-assembled monolayer of thiol terminated polymers on copper surfaces and electrochemical characterization of oxidation and blocking factor of the surface  
Juri TAKAGI, Tomoki TAKATA, Takuya IKEDA, Kaoru ADACHI, Yasuhisa TSUKAHARA
- 16:40 2F17 Novel Thin Film Actuator With Carbon Nitride Polymer  
Hiroki Arazoe, Daigo Miyajima, Takuzo Aida
- 17:05 2F18 Controlling Self-assembly and Physical Properties of TTF Derivatives Having Hydrogen Bond  
Daiki Kishi, Kei Mizuguchi, Shuji Okada, Tomoyuki Akutagawa, Yoko Tatewaki

**Thu. Sep 17**

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

**Hideki Matsuoka, presiding**

- 9:10 3F01 Recrystallization of MOF nanosheets on surfaces by an equilibrium treatment  
Gento Matsuo, Yumeko Tokito, Satoshi Watanabe, Masashi Kunitake
- 9:35 3F02 Chemical liquid deposition films prepared by on-site Suzuki coupling  
Satoshi Tsuji, Kakeru Izuno, Satoshi Watanabe, Masashi Kunitake
- 10:00 3F03 STM Investigation of Bicomponent 2D Self-assembled Structures of Heptazine Derivatives at Solution-Solid Interfaces  
Shinobu Uemura, Yusuke Nakamura, Masashi Kunitake

**Masashi Kunitake, presiding**

- 10:25 3F04 Bottom up assembly of molecular nanosheets with highly regulated nanopores specifically formed at liquid interfaces  
Rie Makiura
- 10:50 3F05 Synthesis of Amphiphilic Diblock Copolymer containing Poly(sulfobetaine) and Brush Formation Behavior at the Air/Water Interface  
Yudai Mochizuki, Amiko Sakamoto, Hideki Matsuoka
- 11:15 3F06 Adsorption behavior to the polymer surface of silane coupling agent by the quartz crystal microbalance method and nanoscale thermal analysis of polymer using AFM  
Hidetoshi Hirahara, Saori Hiyama, Sumio Aisawa, Jing Sang
- 11:40 3F07 Raman microscopic study of polymer microstructure  
Yasushi Maeda, Kazumasa Matsuki, Kazuhisa Fujimura, Shinji Sugihara

**Room G**

**Tue. Sep 15**

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

**Seiji Ujiie, presiding**

- 10:00 1G03 Electro-optical properties and polymer structure of polymer-stabilized blue phase prepared by gradient stabilization  
Shunichi Kimura, Yasushi Okumura, Hiroki Higuchi, Hirotsugu Kikuchi
- 10:25 1G04 Lattice orientation dependence of electro-optic effects in polymer-stabilized blue phase  
Yasushi Okumura, So Okumura, Hiroki Higuchi, Hirotsugu Kikuchi
- 10:50 1G05 Light-induced liquid crystalline phase transition of smectic C to bicontinuous cubic phases via trans-cis photoisomerization of azo guest molecule  
Shoichi Kutsumizu, Yohei Miwa, Mariko Mizutani, Aya Nagai

**Atsushi Shishido, presiding**

- 11:15 1G06 Control of conductive polymer orientation by using discotic liquid crystal  
Naoto Eguchi, Hiromasa Goto
- 11:40 1G07 Thermal Response of Surface Profile and Macroscopic Shape of Cholestric Liquid Crystal Elastomers  
Hama Nagai, Yukihiro Nishikawa, Kenji Urayama, Xiaobin Liang, Ken Nakajima

**Shoichi Kutsumizu, presiding**

- 12:55 1G08 Liquid-Crystalline Poly(aminourethane)s and Their Metal Complexed Family  
Seiji Ujiie, Toshiyuki Hayashi, Yuko Iwami, Masanori Nata
- 13:20 1G09 Photoalignment of Liquid Crystal Polymer Films by Nonpolarized Light and Effect of Alkyl Spacer Length of Monomers  
Masaki Ishizu, Kyohei Hisano, Atsushi Shishido

**Ken Nakajima, presiding**

- 13:45 1G10 Elongational crystallization and X-ray study of three-dimensional structure of nano-oriented crystals (NOC) of PET  
Kiyoka OKADA, Yoshitaka TANAKA, Hiroyasu MASUNAGA, Masamichi HIKOSAKA
- 14:10 1G11 Physical properties of nano oriented crystals (NOCs) of polymers.  
Masamichi Hikosaka, Kiyoka Okada
- 14:35 1G12 Review of strain-induced crystallization in cross-linked natural rubber  
Masatoshi Tosaka
- 15:00 1G13 X-ray Study of Strain Induced Crystallization of Natural Rubber  
Yuji Kitamura, Kiyoka Okada, Hiroyasu Masunaga, Masamichi Hikosaka

**Masamichi Hikosaka, presiding**

- 15:25 1G14 Structural Relation of Various Crystal Modifications of Poly(L-Lactic Acid) in Their Phase Transition Processes as Revealed by the Detailed X-ray Structural Analyses  
Hai Wang, Kohji Tashiro
- 15:50 1G15 Structure formation of polyethylene films during uniaxial drawing  
Tadahiko Maede, Momoko Murakami, Nobuaki Takahashi, Go Matsuba, Koji Nishida, Toshiji Kanaya
- 16:15 1G16 Analysis of poly[(R)-2-hydroxybutyrate] Crystal structure by crystalline films and single crystals  
Kyohei MAKINO, Taizo KABE, Ken'ichiro MATSUMOTO, Takaaki HIKIMA, Masaki TAKATA, Akio TAKEMURA, Satoshi KIMURA, Seiichi TAGUCHI, Tadahisa IWATA
- 16:40 1G17 Control of crystallization behavior of polypropylene by incorporation of small amount of aromatic rings into polymer chains  
Takeshi Nagai, Patchanee Chammingkwan, Toshiaki Taniike, Minoru Terano

**Kohji Tashiro, presiding**

- 17:05 1G18 X-ray single crystal determination of carboxylic acids bearing a *n*-perfluorodecyl or *n*-perfluorooctyl group  
Takashi Okamura, Koichi Ute, Takeshi Hasegawa, Kohei Morita, Masashi Sonoyama, Toshiyuki Takagi, Toshiyuki Kanamori
- 17:30 1G19 Phase transitions of *n*-alkane/comb-like polymer blends  
Katsunori Motomura, Koji Nozaki, Takashi Yamamoto, Yoshimasa Nishimura, Akira Utsunomiya
- 17:55 1G20 molecular dynamics simulation of crystallization in mixtures of *n*-alkanes  
Takashi Yamamoto

**Wed. Sep 16**

## **B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

### **Masatoshi Tosaka, presiding**

- 9:10 2G01 Isotope Effect on the Isothermal Crystallization Behavior of Polyoxymethylene D/H Random Copolymers  
Sreenivas Kummara, Kohji Tashiro, Tomohiro Monma, Ken Horita
- 9:35 2G02 Investigation of Melt-Drawing and Phase Transition Behaviors for Ultra-High Molecular Weight Polyethylene Using In-Situ Measurement Techniques  
Satomi Kato, Hideyuki Yamashita, Hiroki Uehara, Takeshi Yamanobe
- 10:00 2G03 In-situ Raman spectroscopic study of melting and crystallization behavior for isotactic polypropylene  
Kento Takeda, Yusuke Hiejima, Kohei Nitta
- 10:25 2G04 Hierarchical Structure Change in Isothermal Crystallization and Crystalline Phase Transition Phenomena of isotactic Poly(butene-1) as Studied by in-situ 2D-IR imaging and WAXD/SAXS measurements of the Spherulites  
JIAN HU, Kohji Tashiro

### **Hiroki Ogawa, presiding**

- 10:50 2G05 The Crystallization Process of polyglycolide (PGA) by using Vibrational Spectroscopy and X-ray  
Fumita Nishimura, Hiromichi Hoshina, Harumi Sato
- 11:15 2G06 Temperature Reversible Structure Change Studied with Temperature Modulated X-ray Diffractometry  
Yuta Isobe, Keisuke Minami, Souichi Tatsumi, Haruhiko Yao, Yasuo Saruyama
- 11:40 2G07 Studies of failure in polyethylene under tensile process by using fluorescence probe method.  
Toru Jibiki, Yusuke Hiejima, Koh-hei Nitta

### **Koichi Ute, presiding**

- 12:55 2G08 Development of a New Technique of Temperature Modulated Dielectric Measurement and Application to Glass Transition(III)  
Tomoaki Yoshiuchi, Masahiro Urushidani, Souichi Tatsumi, Haruhiko Yao, Yasuo Saruyama
- 13:20 2G09 Crystallization of poly(*p*-phenylene sulfide) just above glass transition temperature through a transient state [II]  
Yasutoshi TANZAWA
- 13:45 2G10 Effect of interfacial interaction on the glass transition temperature of polymer thin film  
Mizuki Kishimoto, Rintaro Inoue, Hiroki Ogawa, Koji Nishida, Toshiji Kanaya
- 14:10 2G11 Dynamics and orientation immobilization of guest molecules caged in

crystalline cavity  
Hideo Kobayashi, Sho Akazawa, Fumitoshi Kaneko, Osamu  
Urakawa, Shusuke Yamanaka, Mitsutaka Okumura, Tadashi Inoue

**Tadashi Inoue, presiding**

- 14:35 2G12 Structure and properties of PLLA rods filled with hydroxyapatite processed by hydrostatic extrusion  
Gaku Hatsukano, Kakuryo Gon, Masakazu Konda, Suong-Hyu Hyon, Hideki Yamane
- 15:00 2G13 Nanoporous fabrication of fluorinated block copolymers by carbon dioxide swelling: transition process from swelling state to nanoporous materials  
Tomoaki Shinkai, Kohzo Ito, Kenji Sugiyama, Hideaki Yokoyama
- 15:25 2G14 Roles of Counter Ions in the Iodine Complex Formation Phenomena of Poly(vinyl alcohol) as Studied by X-ray Diffraction, V-UV and Raman Spectral Measurements and Density Functional Theory  
Siti Munirah Saharin, Tomohiko Takahama, Kohji Tashiro

**Koh-hei Nitta, presiding**

- 15:50 2G15 Crystal Structure Analysis of Iodine Complex of Nylon Model Compound and Structural Study of Nylon-Iodine Complex Formation  
Kohji Tashiro, Marina Gakhutishvili
- 16:15 2G16 Confirmation of Crystalline Iodine Complex Formation of Native and Regenerated Celluloses  
Kohji Tashiro, Marina Gakhutishvili
- 16:40 2G17 Effect of Amorphous Contents on Magnetic Orientation of Poly(lactic acid) Blend Films  
Rei Nakayama, Shuto Watanabe, Hiroki Ikake, Masako Takada, Yoshio Muroga, Kimio Kurita, Shigeru Shimizu, Satoshi Kurumi, Kaoru Suzuki, Kohki Takahashi, Hiroyuki Nojiri
- 17:05 2G18 water dynamics in hydrated B.mori silk fibroin; deuterium T1-T2 correlation measurement  
Toshifumi Hiraoki, Takahiro Ohkubo, S. Boutis Gregory, Tetsuo Asakura

**Thu. Sep 17**

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES**

**Qui Tran Cong-Miyata, presiding**

- 9:10 3G01 Novel Microphase-Separated Structures formed from Binary Blends of ABC Triblock Terpolymers  
Yusuke Asai, Atsushi Takano, Yushu Matsushita
- 9:35 3G02 Novel hexagonally-packed cylindrical microphase-separated structure formed by triblock polymer blends  
Atsushi Takano, Hirotaka Kondou, Yusuke Asai, Yushu Matsushita
- 10:00 3G03 Simultaneous Measurement of Stress-Strain Curve and Two-Dimensional Small-Angle X-ray Scattering for an SEBS Triblock Copolymer Film Containing Glassy Spherical Microdomains  
Shogo Tomita, Lei Li, Yoshimasa Urushibara, Shigeo Kuwamoto, Sono Sasaki, Shinichi Sakurai

**Yushu Matsushita, presiding**

- 10:25 3G04 Morphology and reaction-induced shrinkage in poly (methyl methacrylate), poly (ethyl acrylate) and poly (ethyl methacrylate) mixtures undergoing phase separation induced by photopolymerization

- Hayata Kameda, Hideyuki Nakanishi, Tomohisa Norisuye, Qui Tran-cong Miyata
- 10:50 3G05 Effects of confined space on the phase separation induced by photopolymerization in PEA (poly ethyl acrylate) / PMMA (poly methyl methacrylate) binary blends  
Yuki Kitamura, Hideyuki Nakanishi, Tomohisa Norisuye, Qui Tran-cong Miyata
- 11:15 3G06 Microphase-Separated Structure of Ionically End-Capped Polystyrene-block-poly(methyl acrylate)  
Shogo Kawamura, Akira Kamiya, Yohei Miwa, Shoichi Kutsumizu
- 11:40 3G07 Orientation Control of Cylindrical Microdomains by Using Non-equilibrium Spheres Which Have Ability to Transform into Cylinder via Coalescence - Thermal Annealing of a Film Under a Stretched State  
Shogo Tomita, Noriyuki Igarashi, Nobutaka Shimizu, Sono Sasaki, Shinichi Sakurai
- Shinichi Sakurai, presiding**
- 12:55 3G08 Crystalline Morphology of ABC Star-Shaped Terpolymers Containing Crystalline Blocks  
Satoshi Osawa, Takehiro Tokugawa, Raita Goseki, Hironori Marubayashi, Shuichi Nojima
- 13:20 3G09 Additional effects of PPC doped with ionic liquids on tensile properties of HDPE.  
Miho Mae, Koh-hei Nitta, Kiyoshi Nishioka
- 13:45 3G10 Mixing of immiscible polymers using porous metal complexes as removable templates  
Yotaro Sasaki, Tetsuya Kaseda, Hiroshi Jinnai, Takashi Uemura, Susumu Kitagawa

<b>Room H</b>
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**Tue. Sep 15**

**S9. Analysis and Functionalization of Time-space Structures of Softmaterials**

- 15:40 1HSO Introductory Remarks S9  
Takeshi Shimomura, Yo Nakamura
- Hiroyuki Aoki, presiding**
- 15:50 1H15 Precision structure analysis of poly(L-lactic acid)/poly(D-lactic acid) blends  
Hiroaki Sato, Go Matsuba, Hideto Tsuji, Toshiji Kanaya, Kiyotsuna Toyohara, Kohei Endo
- 16:15 1H16 Synthesis and Perpendicular Lamellar Orientation Control of Fluorine- and Silicon-containing Block Copolymers  
Takano Hiroki, Lei Wang, Yuki Tanaka, Rina Maeda, Teruaki Hayakawa
- 16:40 1H17 Structure Control of a Block Copolymer Monolayer by a Hierarchical Phase Separation  
Atsushi Watanabe, Jiro Kumaki
- Kazuhiro Shikinaka, presiding**
- 17:05 1H18 Microphase-separated structure of an ABA triblock copolymer with a main-chain nematic LC central block  
Takumi Wakabayashi, Sungmin Kang, Masatoshi Tokita

- 17:30 1H19 Conformational analysis of poly(methyl methacrylate) chains in ultra-thin films  
Hiroyuki Aoki, Toru Asada, Tomomi Tanii
- 17:55 1H20 Precursor Design of Thermosetting Resins by Cascade Theory  
Toshio Nakao, Yasuyuki Shudo, Atsushi Izumi, Mitsuhiro Shibayama

**Wed. Sep 16**

**S9. Analysis and Functionalization of Time-space Structures of Softmaterials**

**Ken Terao, presiding**

- 9:10 2H01 Hierarchical structures of bisamide supramolecular organogels IV -Study of conditions where two types of bisamides form a mixed-type lamellar structure-  
Eiichi Sato, Yuji Jinbo, Yoshinobu Izumi
- 9:35 2H02 Anisotropic swelling-shrinking behavior of uniaxially-oriented polypeptide gels induced by helix-coil transition  
Katsuhiko Inomata, Keisuke Mizutani, Yuya Iguchi, Naohiro Tachi, Hideki Sugimoto, Eiji Nakanishi
- 10:00 2H03 Control of Chiral Ordering of Cytoskeletal Protein "Tubulin"  
Kazuhiro Shikinaka, Saori Mori, Kiyotaka Shigehara, Hiroyasu Masunaga

**Katsuhiko Inomata, presiding**

- 10:25 2H04 Micellar Structure of an Amphiphilic Alternating Copolymer in Aqueous Solution: Effect of Addition of Low-Molar-Mass Compounds  
Takahiro Sato
- 10:50 2H05 Local conformational behavior of linear amylose derivatives as deduced from the solution behavior of cyclic amylose derivatives  
Ken Terao, Akiyuki Ryoki, Hiromi Ichikawa
- 11:15 2H06 Inclusion complex formation between alpha-cyclodextrin and poly(ethylene glycol) brush and Synthesis of highly filled polyrotaxane  
Shoko Takahashi, Kohzo Ito, Hideaki Yokoyama

**Osamu Urakawa, presiding**

- 11:40 2H07 Single-Molecule Imaging of Structural Dynamics in a Polymer Chain of PAMPS as a Hydrogel Material  
Ken-ichi Shinohara, Yuu Makida
- 12:55 2H08 The friction of polymers under stretched and oriented state  
Yuichi Masubuchi
- 13:20 2H09 Orientation transition of c-director in a shear flowed main chain polymer smectic CA liquid crystal  
Atsuki Sugimoto, Masatoshi Tokita

**Yuichi Masubuchi, presiding**

- 13:45 2H10 Hydration behavior and rheology of chemically modified celluloses  
Toshiyuki Shikata, Kengo Arai
- 14:10 2H11 Dynamics of Polymer Melts and Polymer Blends with Hydrogen Bonding Interaction: Case that Time-Temperature Superposition Holds.  
Osamu Urakawa, Osamu Yamane, Aya Yasue, Tadashi Inoue
- 14:35 2H12 Structural and Mechanical Properties of Microcapsule Suspensions by Ultrasound Spectroscopy Method  
Tomohisa Norisuye, Thao Nguyen Tran, Hideyuki Nakanishi, Qui Tran-Cong-Miyata

**Toshiyuki Shikata, presiding**



- 15:00 2H13 Dynamic Ultrasound Scattering Studies on the Hierarchical Dynamics of Particle Suspensions  
Kazuki Sugita, Tomohisa Norisuye, Hideyuki Nakanishi, Qui Tran-Cong-Miyata
- 15:25 2H14 Microscale IR Thermography and the analysis of anisotropic thermal conduction  
Junko Morikawa
- 15:50 2H15 Finite Deformation Behavior of Porous Elastomers under Various Types of Deformation  
Hiroki Iba, Yukihiro Nishikawa, Kenji Urayama
- Atsushi Noro, presiding**
- 16:15 2H16 Viscoelastic analysis of rubber-filler interface by using nano-rheological AFM  
Makiko Ito, So Fujinami, Ken Nakajima
- 16:40 2H17 Fabrication Methodology of Mesoporous Polymers Using Nanocrystallization Phase Separation  
Sadaki SAMITSU, Yoshihisa FUJII, Izumi ICHINOSE
- 17:05 2H18 Designable transportation of a droplet on the soft graded wrinkle surface  
Hiroshi Endo, Takeshi Kawai

**Thu. Sep 17**

**S9. Analysis and Functionalization of Time-space Structures of Softmaterials**

**Yasuhiro Matsuda, presiding**

- 9:10 3H01 Lower Critical Solution Temperature of Aqueous Cellulose Derivatives  
Koji Nishida, Yudai Fujishima, Yutaka Katayama, Hideyuki Morita, Hiroki Ogawa, Rintaro Inoue, Toshiji Kanaya
- 9:35 3H02 Stiffness Parameter of Brush-Like Polymers with Rod-Like Side Chains  
Yo Nakamura
- 10:00 3H03 Hysteresis in the thermoresponsive behavior of the aqueous Poly(2-isopropyl-2-oxazoline) solution  
Yukiteru Katsumoto
- Koji Nishida, presiding**
- 10:25 3H04 Solute Permeability of Slide-Ring Gel Membranes  
Hideharu Shimozawa, Hiroaki Okuno, Koichi Mayumi, Yasuhiro Sakai, Kazuaki Kato, Hideaki Yokoyama, Kohzo Ito
- 10:50 3H05 Characterization of structures and physical properties of poly(lactic acid) gel induced by complex crystals with solvents  
Yasuhiro Matsuda, Akinobu Fukatsu, Kazuaki Miyamoto, Shigeru Tasaka
- 11:15 3H06 Chiral Ionic Plastic Crystals of Amino Acid Derivatives and their Ion Dynamics  
Tomoya SHIMONO, Masaya MATSUKI, Teppei YAMADA, Shun DEKURA, Hiroshi KITAGAWA, Nobuhiro YASUDA, Nobuo KIMIZUKA
- 11:40 3H07 Aggregation Structures and Proton Conductivity in Thin Nafion Films  
Yudai Ogata, Daisuke Kawaguchi, Norifumi L. Yamada, Keiji Tanaka

**Takashi Uneyama, presiding**

- 12:55 3H08 Atomistic molecular dynamics study on elastic properties of cross-linked phenolic resins  
Yasuyuki Shudo, Atsushi Izumi, Katsumi Hagita, Toshio Nakao, Mitsuhiro Shibayama

13:20	3H09	Molecular Simulation of Structure Formation and Mechanical Properties of Gels Formed by End-linking of Tetra-arm Polymers <u>Hiroki Tanaka</u> , Tsuyoshi Koga
13:45	3H10	Nanoscale surface elasticity and etching durability of thin films of UV-cured resins <u>Shoichi Kubo</u> , Haruna Yano, Takuya Uehara, Masaru Nakagawa, Xiaobin Liang, So Fujinami, Ken Nakajima
<b>Hiroshi Jinnai, presiding</b>		
14:10	3H11	Controlling Crystallization of Polymer Chains Confined in Nanodomains by Chain-end Tethering <u>Shintaro Nakagawa</u> , Shuichi Nojima, Takashi Ishizone, Kohei Kamimura, Kazuo Yamaguchi, Seiichi Nakahama
14:35	3H12	Relation between Structure and Compressive Behavior of Moderately Expanded Low-Density Polyethylene Foams <u>Takashi Uneyama</u> , Tatsuya Yamazaki, Toshiro Igarashi, Koh-hei Nitta
15:00	3H13	Nanostructures and optical properties of block copolymer photonic films swollen with nonvolatile acidic solutions <u>Atsushi Noro</u> , Yusuke Tomita, Yushu Matsushita
15:25	3H14	Dewetting Suppression of Polystyrene Blend Thin Film with Homologue Having Different Molecular Weights <u>Naoya Torikai</u> , Norifumi Yamada, Masami Kawaguchi

<b>Room I</b>
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**Tue. Sep 15**

**S5. Characterization of Nano-structure and Dynamics of Polymers**

9:50	1ISO	Introductory Remarks S5 <u>Atsushi Asano</u>
<b>Atsushi Asano, presiding</b>		
10:00	1I03IL	In-Process Analysis of Molecular Entanglement Behavior during Drawing <u>Hiroki Uehara</u>
<b>Seiichi Kawahara, presiding</b>		
10:50	1I05	Potential of Terahertz Spectroscopy as a Novel Method for Polymer Research <u>Hikomichi Hoshina</u> , Hal Suzuki, Chiko Otani, Shigeki Yamamoto, Fumita Nishimura, Harumi Sato, Yukihiro Ozaki
11:15	1I06	Coarse-Grained Molecular Dynamics Simulation of Charged-Dendrimer/Linear-Polyelectrolyte Complexation <u>Susumu Fujiwara</u> , Tomoko Mizuguchi, Masato Hashimoto
11:40	1I07	Evaluation of structure/orientation of collagen in bones <u>Go Matsuba</u> , Yuki Sugawara, Hiromi Kimura=Suda, Teppei Ito
<b>Hiromichi Hoshina, presiding</b>		
12:55	1I08	Free volume hole size in near-surface/interface region of polymeric materials evaluated by positron annihilation lifetime spectroscopy <u>Hideaki Hagihara</u> , Masao Kunioka, Hiroyuki Suda, Atsushi Masuda, Yukiko Hara, Kenji Ito, Nagayasu Oshima
13:20	1I09	Spin dependent processes in $\pi$ -conjugated molecules investigated by

electrically detected magnetic resonance

Kunito Fukuda, Naoki Asakawa

13:45 1I10 Local Dynamics around Ionic Multiplets in Hydrophobic Polymer Matrices  
Yohei Miwa, Hajime Furukawa, Tomoyo Kondo, Shoichi Kutsumizu

14:10 1I11 Structure of Samia cynthia ricini silk fibroin with polyalanine studied by solution NMR

Yu Suzuki, Shuto Kawanishi, Akihiro Aoki, Hitoshi Saito, Tetsuo Asakura

**Susumu Fujiwara, presiding**

14:35 1I12 Effect of crystallinity of hydrophobic segments on anisotropic self-assembly of biodegradable block copolymers

Kodai Matsuzaki, Shunsuke Sato, Masashi Oji, Masaru Tanaka, Kazuki Fukushima

15:00 1I13 Preparation of polymer droplets by dewetting and observation of their internal micro phase separation

Yutaro HIRAI, Takeshi HIGUCHI, Hiroshi JINNAI, Hiroshi YABU

15:25 1I14 Gyroid Structure from ABCD tetrablock copolymers studied by a Monte-Carlo Simulation

Jiro Suzuki, Atsushi Takano, Yushu Matsushita

**Yohei Miwa, presiding**

15:50 1I15 Fabrication and emission properties of gold nanoclusters stabilized by thiol ligands

Takumi Nagasawa, Shunsuke Yamamoto, Masasya Mitsuishi

16:15 1I16 Development of Novel Soft Materials via Assembly of Fluorinated  $\pi$ -Conjugated Oligomer/Polymer

Shotaro Hayashi

16:40 1I17 Ca<sup>2+</sup> sensing based on polymer chain dynamics of AIE luminogen-appended polyacrylic acids and their gels

Fumitaka Ishiwari, Hanako Hasebe, Takao Someya, Takanori Fukushima

**Shotaro Hayashi, presiding**

17:05 1I18 Precision Nano Aggregates of Amphiphilic Random Copolymers with Precision Primary Structure

Yuji Hirai, Takaya Terashima, Mitsuo Sawamoto

17:30 1I19 Single-Chain Folding Functional Polymers: Precision Nanospaces for Molecular Recognition and Template Polymerization

Chitose Nagao, Takaya Terashima, Mitsuo Sawamoto

17:55 1I20 Variations of Intermolecular Interactions and Aggregation Structures of Semi-aromatic Polyimides Having Bent Structures in the Main Chain

Induced by Very High Pressure

Hiroshi Fukudome, Tomohiro Okada, Shinji Ando

**Wed. Sep 16**

**S5. Characterization of Nano-structure and Dynamics of Polymers**

**Jiro Suzuki, presiding**

9:10 2I01 Selective Surface-Modification by Recognizing the Molecular Arrangement of Polymer Metal Complex Nanocrystals

Ryuju Suzuki, Tsunenobu Onodera, Hitoshi Kasai, Hidetoshi Oikawa

9:35 2I02 Helical-to-Planar Structure Transition Induced by Thermal Treatment of Substituted Polyacetylene

- Takahiro Sasaki, Yoshiaki Yoshida, Yasuteru Mawatari, Masayoshi Tabata
- 10:00 2I03 Stereoregularity and crystallinity of hydrogenated ring-opened polynorbornene  
Yuki Nakama, Shigetaka Hayano, Kohji Tashiro
- Go Matsuba, presiding**
- 10:25 2I04 Structures of the crystalline polymers grafted onto substrates  
Takayuki Ikehara, Taiki Kosuge, Toshiyuki Kataoka
- 10:50 2I05 Effect of Stereoregularity and Monomer-Sequence on Phase-Transition Behavior of Aqueous Solution of Copolymers Composed of N-Alkylacrylamides  
Tomohiro Hirano, Hiroaki Yamamoto, Akiko Ono, Miyuki Oshimura, Koichi Ute
- 11:15 2I06 Synthesis and Conformational Control of Conjugated Polymers Bearing Biphenyl Units with Dynamic Axial Chirality in the Main Chain  
Katsuhiro MAEDA, Reina KISHIMOTO, Tomoyuki IKAI, Shigeyoshi KANO
- 11:40 2I07 Fabrication of Multi-functional Membrane via Phase Boundary Modification of Liquid Crystalline Block Copolymers  
Yusuke Hibi, Yuki Oguchi, Tomokazu Iyoda
- Yu Suzuki, presiding**
- 12:55 2I08 Preparation and characterization of poly(stearylmethacrylate) grafted natural rubber in latex stage  
Seiichi Kawahara, Hayati Nurul, Kenichiro Kosugi
- 13:20 2I09  $^1\text{H}$   $T_2$  Relaxation of cross-linked Polyisoprene Rubbers Filled with Carbon Black  
Masaki Tsunomura, Atsushi Asano, Takahiro Ohkubo
- 13:45 2I10 The Correlation between the degradation behavior of rubber parts and the change in the temperature dependence of molecular mobility with aging  
Kaori Numata, Hideto Kurokawa, Sokei Sekine, Yasumoto Nakazawa, Atsushi Asano

## **S6. Frontiers in Polymer Science Revealed by Novel Techniques in Nanotechnology**

- 14:25 2ISO Introductory Remarks S6  
Hiroyuki AOKI, Martin VACHA
- Hiroshi Morita, presiding**
- 14:35 2I12 Direct observation of unstained polymer materials with electron tomography  
Takeshi Higuchi, Hiroshi Jinnai
- 15:00 2I13 Current status and future prospects of reconstruction algorithm in electron tomography  
Takeshi Higuchi, Xiaodong Zhuge, Kees Joost Batenburg, Hiroshi Jinnai
- 15:25 2I14 Observation of microphase separation structure of thermoplastic elastomer by HVEM tomography  
Futoshi Maeda, Atsushi Takayanagi, Kimitaka Higuchi
- Daisuke Kawaguchi, presiding**
- 15:50 2I15 Analysis of dynamics of chain end using coarse-grained molecular dynamics method  
Hiroshi Morita
- 16:15 2I16 Molecular Mechanism of Strain Hardening in Bidisperse Polymers  
Yuichi Masubuchi
- Takeshi Higuchi, presiding**

- 16:40 2I17 Quantitative evaluation for the mechanochromic behavior of the fluorescent elastomer films  
Shunpei Nobusue, Shohei Saito, Shigehiro Yamaguchi, Yuta Saito, Yuta Saito
- 17:05 2I18 Analysis of the interfacial nano-structure using sum-frequency generation spectroscopy  
Takayuki Miyamae

**Thu. Sep 17**

**S6. Frontiers in Polymer Science Revealed by Novel Techniques in Nanotechnology**

**Hiroyuki Aoki, presiding**

- 9:10 3I01L Molecular-scale Visualization of Solid-liquid Interfaces by FM-AFM: Novel Measurement Tool for Hydration Structures and Local Charge Densities  
Hirofumi Yamada
- 10:00 3I03 Nanofishing of a Single Polymer Chain from a Polyethylene Oxide Single Crystal by Atomic Force Microscopy  
Xiaobin Liang, Ken Nakajima
- 10:25 3I04 Tip-enhanced Raman scattering studies of nano structure and interaction of polymer nanocomposites  
Yukihiro Ozaki, Xinlei Yan, Harumi Sato

**Yukihiro Ozaki, presiding**

- 10:50 3I05 Molecular Dynamics and Functionality of Blood-compatible Polymer at Water Interface  
Toyoaki Hirata, Hisao Matsuno, Daisuke Kawaguchi, Tomoyasu Hirai, L. Norifumi Yamada, Masaru Tanaka, Keiji Tanaka
- 11:15 3I06 Structure and novel function of DNA-functionalized nanoparticles  
Masahiro Fujita, Mizuo Maeda
- 11:40 3I07 Formation of Nanowires via Solid-State Polymerization/Crosslinking Reactions Using High Energy Particle Irradiation  
Tsuneaki Sakurai, Yuki Takeshita, Akifumi Horio, Shu Seki

**Yoshihiro Kikkawa, presiding**

- 12:55 3I08 Single molecular polymer analysis using a nanopore  
Makoto Takemasa, Masahiro Fujita, Mizuo Maeda
- 13:20 3I09 Mapping of chain dynamics across the thickness of thin polymer films using single-molecule detection  
Martin VACHA
- 13:45 3I10 Optically-active Polymers Exhibiting Thermoresponsiveness Depending on Chirality of Geusts  
Masami Naya, Yoshimi Hamano, Kenta Kokado, Kazuki Sada

**Martin Vacha, presiding**

- 14:10 3I11 Enzymatic Binding Force Measurement and Biolithography  
Yoshihiro Kikkawa
- 14:35 3I12 Surface modification by using nanosheets composed of functional polymers  
Yu Nagase, Yosuke Okamura, Shinichi Koguchi, Atsushi Iwano, Mari Ogino, Tatsuma Oda

**Room J**

**Tue. Sep 15**

**S8. Picturing Spatiotemporal Hierarchical Structure in Polymeric Materials Studied by Integration Approach of Understanding Interplay Phenomena between Different Scales**

10:40 1J50 Introductory Remarks S8  
Katsuhiko Yamamoto

**Shusaku Nagano, presiding**

10:50 1J05 Visualizaion of block copolymer thin films using by the GISAXS-CT method  
Hiroki Ogawa,Yukihiro Nishikawa,Mikihito Takenaka,Akihiko Fujiwara,Toshiji Kanaya,Masaki Takata

11:15 1J06 Orientation behavior of micro-phase separated structures in diblock copolymer thin films revealed by low-energy GISAXS measurement  
Itsuki Saito,Katsuhiko Yamamoto

**Tomoyasu Hirai, presiding**

11:40 1J07 Aspects for the hierarchical cooperative motions in photoalignment process of liquid crystalline block copolymer films  
Shusaku Nagano,Takahiro Seki

12:55 1J08 Infrared Spectroscopy using High Brilliant Synchrotron Radiation  
Yuka Ikemoto,Taro Moriwaki,Toyohiko Kinoshita

**Yuka Ikemoto, presiding**

13:20 1J09 Dynamic Evaluation of an Aggregation Structure in Perylenediimide Derivatives in the Drying Process using Synchrotron X-ray Measurements.  
Makoto Kido,Ken Kojio,Tomoyasu Hirai,Atsushi Takahara

13:45 1J10 Analysis of the reaction mechanism of 3-hexylthiophene with solid FeCl<sub>3</sub> particles using X-ray absorption fine structure (XAFS)  
Tomoyasu Hirai,Maiko Nishibori,Takeharu Sugiyama,Kazuhiko Saigo,Ryuichi Sugimoto,Atsushi Takahara

14:10 1J11 Mechanical properties of nylon12 film based on bulge testing and in situ molecular aggregation structure analysis  
Ken Kojio,Hirohmi Watanabe,Aya Fujimoto,Chigusa Nagano,Shuhei Nozaki,Kazutaka Kamitani,Atsushi Takahara,Hiroyasu Masunaga,Kohki Aoyama

**Ken Kojio, presiding**

14:35 1J12 Extraction of Crystal and Lamellar Stack Structure of Crystalline polymers Based on Analysis of 2-Dimensional Wide-Angle and Small-Angle X-ray Scattering Patterns Using Monte Carlo Method  
Daisuke Tahara,Kohji Tashiro

**Yuichi Masubuchi, presiding**

15:00 1J13 A Trial of the Development of 3D Seamless-Zooming Visualization System of Hierarchical Structures of Polymer Blends by an Organized Combination of High-Resolution 3D X-ray Microscope, Optical Microscope, Wide- and Small-Angle X-ray Scatterings and Raman Microscope  
Yoshihiro Takeda,Kensaku Hamada,Raita Hirose,Kazuhiko Omote,Kohji Tashiro,Hiroko Yamamoto

**Kohji Tashiro, presiding**

15:25 1J14 The Simulations of Entangled Polymers with Virtual Springs  
Yuichi Masubuchi

15:50 1J15 Coarse-Grained Simulation of Thermal Shrinkage Behavior of Drawn High-

- Density Polyethylene  
Takashi Uneyama, Kenichi Ibata, Koh-hei Nitta
- 16:15 1J16 Small-Angle X-ray Scattering Imaging using Gratings  
Wataru Yashiro, Atsushi Momose
- Wataru Yashiro, presiding**
- 16:40 1J17 Nano Imaging Under Controlled Environment Using X-ray Free-Electron Lasers  
Yoshinori Nishino, Takashi Kimura, Wei Jinjian, Iida Ryo, Niikura Kenichi, Mitomo Hideyuki, Ijiro Kuniharu, Yasumasa Joti, Yoshitaka Bessho
- 17:05 1J18 Visualization of hierarchical structures of polypropylene/cellulose nanofiber composites by electron microscopy  
Shin Horiuchi, Akio Nodera, Megumi Fujimoto, Tomoki Uchio
- Katsuhiko Yamamoto, presiding**
- 17:30 1J19 Studies on the change with the dispersion of filler in rubber by using ultra small X-ray scattering  
Sho Suzuki, Shotaro Nishitsuji, Mikihito Takenaka
- Shotaro Nishitsuji, presiding**
- 17:55 1J20 Isothermal Crystallization Behavior of Fluorinated Crystalline Block Copolymers in Lamellar Microphase Separated Morphology  
Shiki Nojima, Yuji Higaki, Noboru Ohta, Hiroyasu Masunaga, Ken Kojio, Atsushi Takahara

**Wed. Sep 16**

**S8. Picturing Spatiotemporal Hierarchical Structure in Polymeric Materials Studied by Integration Approach of Understanding Interplay Phenomena between Different Scales**

- Isamu Akiba, presiding**
- 9:10 2J01 Phase-separated structure of polystyrene-b-poly(2vinyl pyridine) in THF solution induced by addition of metal ions  
Katsuhiko Yamamoto, Takafumi Okamoto, Itsuki Saito, Shiho Kanie
- 9:35 2J02 Effect of Concentration and Thermal Treatment on Aqueous Nafion Dispersion  
Makoto Yamaguchi, Takuro Matsunaga, Kazuki Amemiya, Akihiro Ohira, Naoki Hasegawa, Kazuhiko Shinohara
- Katsuhiko Yamamoto, presiding**
- 10:00 2J03 The structural transition of micelles formed from cationic Calix [4] arene by electrostatic shielding  
Sakiko Matsumoto, Shimpei Yamada, Yusuke Sanada, Kazuo Sakurai
- 10:25 2J04 Hierarchical Structure of Amphiphilic Cyclic Peptide in Selective Solvent  
Isamu Akiba, Kanazawa Satoshi
- 10:50 2J05 Formation of higher-order structures in composite membranes of polymer-brush-afforded nanoparticles and ionic liquid: Structural analysis by small-angle X-ray scattering method  
Yohei Nakanishi, Ryohei Ishige, Hiroki Ogawa, Kohji Ohno, Takashi Morinaga, Takaya Sato, Toshiji Kanaya, Yoshinobu Tsujii
- Ryohei Ishige, presiding**
- 11:15 2J06 Bicontinuous cubic phase structure of siloxane-terminated mesogens  
Shoichi Kutsumizu, Issei Tokiwa, Yohei Miwa, Yasuhisa Yamamura, Kazuya Saito

- 11:40 2J07 A study on the Frank-Kasper sigma phase observed in block copolymer / homopolymer blends  
Hideaki Takagi, Katsuhiko Yamamoto
- 12:55 2J08 Physical Properties of Locally-Ionized Block Copolymers  
Yohei Miwa, Shogo Kawamura, Akira Kamiya, Shoichi Kutsumizu
- Yohei Miwa, presiding**
- 13:20 2J09 Design and Control of Dynamic Interfaces by Segregation of Hyperbranched Polymers  
Ryo Awane, Manabu Inutsuka, Yukari Oda, Hisao Matsuno, Norifumi Yamada, Masayuki Haraguchi, Masaaki Ozawa, Keiji Tanaka
- 13:45 2J10 Deformation Behavior of Inside and Outside Spherulite of Crystalline Polymer Film using a Dynamic micro-beam X-ray Diffraction Technique  
Shuhei Nozaki, Ken Kojio, Atsushi Takahara, Hiroyasu Masunaga, Koki Aoyama

#### **S14. New Developments in Photonic Polymers**

- 15:15 2JSO Introductory Remarks S14  
Okihiko SUGIHARA
- Okihiko Sugihara, presiding**
- 15:25 2J14IL Advanced Photonics Polymer Materials  
Yasuhiro Koike
- Yasuhiro Koike, presiding**
- 16:15 2J16 Photoinduced motions of crosslinked azobenzene liquid-crystalline polymers at cryogenic conditions  
Toru Ube, Gaku Hashimoto, Kiyohide Takado, Masayuki Suda, Hiroshi Yamamoto, Tomiki Ikeda
- 16:40 2J17 Engineering of Nonlinear Optical Chromophores with a Dihydropyrrone Acceptor  
Shuji Okada, Yoshifumi Abe, Yukina Rachi, Kazuki Kashiwabara, Takamasa Noguchi, Masato Imai, Kohei Kikuchi, Freddy Tan, Okihiko Sugihara
- 17:05 2J18 The dynamics of solid-state polymerization and hybridized process in  $\pi$ -conjugated polymer  
Tsunenobu Onodera, Rie Chiba, Yoshihiko Takeda, Hitoshi Kasai, Hidetoshi Oikawa

**Thu. Sep 17**

#### **S14. New Developments in Photonic Polymers**

**Akihiro Tagaya, presiding**

- 9:10 3J01 Photoinduced refractive index changes from binaphthyl-azo chromophores incorporated photonic polymers  
Takafumi Sassa
- 9:35 3J02 Development of Broadband Reflection Cholesteric Liquid Crystalline Films using High Birefringent Nematic Liquid Crystals  
Hiroki Kuwahara, Sungmin Kang, Koichi Sakajiri, Junji Watanabe, Masatoshi Tokita
- 10:00 3J03 Coassembly of  $\pi$ -conjugated polymers into hybridized microspheres with tunable WGM photoemission



Soh Kushida, Daniel Braam, Kosuke Shibasaki, Hitoshi Saito, Thang Dao, Satoshi Ishii, Tadaaki Nagao, Junpei Kuwabara, Takaki Kanbara, Masashi Kijima, Axel Lorke, Yohei Yamamoto

**Takafumi Sassa, presiding**

10:25 3J04 Fabrication of alumina nanocomposite with high Abbe number and high refractive index

Okihiro Sugihara, Bin Cai

10:50 3J05 Preparation of polymerizable titania nanoparticle dispersions and their application for high refractive index thin films

Kimihiro Matsukawa, Koji Mitamura, Seiji Watase

**Kimihiro Matsukawa, presiding**

11:15 3J06 Synthesis and Optical Properties of New High Refractive index Polymers Bearing Dinaphthothiophene Unit in the Main Chain

Yoko Nambu, Toshikazu Takata, Jyunya Honda, Hiroshi Ouchi, Toshihide Suruga

11:40 3J07 Birefringence of polymers and design of zero-zero-birefringence polymers

Akihiro TAGAYA, Shotaro BEPPU, Houran SHAFIEE, Yasuhiro KOIKE

**Naoto Tsutsumi, presiding**

12:55 3J08 Improvement of Transparency of Transparent Polymers by Molecular Structure Control

Shohei NAKAMURA, Norihisa TANIO

13:20 3J09 Novel Hybrid Polymer Photonic Device to Silicon Waveguide

Shiyoshi Yokoyama

13:45 3J10 Temperature Independent Silicon Photonics Devices using TiO<sub>2</sub> Hybrid Polymer Cladding

Tomohiro Kita, Wataru Mashiko, Mieko Masaka, Freddy Tan, Hirohito Yamada, Daisuke Inoue, Tatsuya Yamashita, Manabu Kagami, Okihiro Sugiharta

**Norihisa Tanio, presiding**

14:10 3J11 Fabrication of microstructure through two-photon polymerization of photoresist

Naoto Tsutsumi, Nanaho Sakamoto, Asato Fukuda, Tomohiro Miura, Junichi Hirota, Ryotaro Nakamura, Kenji Kinashi, Wataru Sakai

14:35 3J12 Improvement of optical properties and stabilities of electro-optic polymers for practical application of photonic polymer devices.

Akira Otomo, Toshiki Yamada, Yukihiro Tominari, Takahiro Kaji, Shukichi Tanaka

**Akira Otomo, presiding**

15:00 3J13 Light-induced self-written waveguides for novel optical integration devices

Tatsuya Yamashita

15:25 3J14 Fabrication of highly efficient terahertz wave filter by polymer nanocomposite

Bin Cai, Bo Guo, Yi Ming Zhu, Okihiro Sugihara

**Room K**

**Tue. Sep 15**

## S10. Frontiers in Inorganic Polymers beyond Organic-inorganic Hybrids

- 12:45 1KSO Introductory Remarks S10  
Kensuke Naka, Syuji Fujii
- Syuji Fujii, presiding**
- 12:55 1K08 High-resolution separation of thiolate-protected gold clusters  
Yuichi Negishi
- 13:20 1K09 Material synthesis prepared using silsesquioxane and polymer precursors  
Yusuke Daiko, Yuji Iwamoto
- 13:45 1K10 Polymerization of acrylate-type zinc bis(dithiocarbamate) complex for application as highly refractive materials  
Shintaro Nagayama, Bungo Ochiai
- 14:10 1K11 Learning from nature how to fabricate a novel nanohybrid  
Masahiro Okada, Emilio Hara, Takuya Matsumoto
- Takahiro Gunji, presiding**
- 14:35 1K12  $\pi$ -conjugated polymer complexes as new class of organic electronic materials  
Atsushi Kimoto
- 15:00 1K13 Dehydrocoupling Polymerization of Organosilanes and Organogermanes Promoted by Transition Metal Complexes and their Mechanistic Elucidation  
Makoto Tanabe, Kohtaro Osakada
- 15:25 1K14 Synthesis of Arsole-containing  $\pi$ -Conjugated Polymers by Reactions of Organotitanium Polymers Possessing Titanacyclopentadiene Moieties  
Yoshimasa Matsumura, Makoto Ishidoshiro, Yasuyuki Irie, Hiroaki Imoto, Kensuke Naka, Shinsuke Inagi, Ikuyoshi Tomita
- 15:50 1K15 Synthesis and properties of element-block polymers from bisvinylhexaisobutyl substituted T8-caged silsesquioxane  
Takayuki Maegawa, Yasuyuki Irie, Hiroaki Imoto, Kensuke Naka
- 16:15 1K16 Thin film formation and in-situ polymerization of liquid-crystalline electronic functional materials bearing cyclotetrasiloxane rings  
Masahiro Funahashi, Kunihiro Seike, Kaede Takenami
- Ikuyoshi Tomita, presiding**
- 16:40 1K17 Synthesis and application of polysilsesquioxanes having functional side-chains  
Takahiro Gunji, Satoru Tsukada, Yoshimoto Abe
- 17:05 1K18 Mesomorphic property and ferroelectricity of phenylterthiophene derivatives bearing a polymerizable cyclotetrasiloxane ring  
Atsushi SEKI, Masahiro FUNAHASHI
- 17:30 1K19 Inorganic-organic hybrid nanoporous materials derived from siloxane-based building units  
Shizuka SEO, Watcharop CHAIKITTISILP, Tatsuya OKUBO
- 17:55 1K20 Transparency and water vapor barrier property of polybenzoxazine-silica nanocomposites provided from perhydropolysilazane  
Joo Yeon Lee, Reiko Saito

Wed. Sep 16

## S10. Frontiers in Inorganic Polymers beyond Organic-inorganic Hybrids

**Katsunori Suzuki, presiding**

- 9:10 2K01 Surface Segregation of Silica/Block Copolymer Hybrid Domain in Photo-cured Smart Coatings  
Takeo Suga, Kenta Minamibayashi, Hiroyuki Nishide
- 9:35 2K02 Synthesis and properties poly(1,1-dithienogermole)s and their germoxane derivatives  
Masashi Nakamura, Joji Ohshita, Yoshihito Kunugi
- 10:00 2K03 Molecular-Recognition-Directed Formation of Sequence-Regulated Supramolecular Linear Terpolymer  
Takehiro Hirao, Takeharu Haino
- 10:25 2K04 Preferential Growth of Metal-Organic Frameworks on Metal Ion-Doped Materials  
Takaaki Tsuruoka
- Yoshiyuki Sugahara, presiding**
- 10:50 2K05 Organic-Inorganic Hybrid on Amino Acids/Peptides: Synthesis, Structure, and Functions  
Hikaru Takaya, Ryota Yoshida, Ran Ito, Tomoya Yokoi, Takahiro Iwamoto, Katsuhiko Isozaki, Nobuhiro Yasuda, Masaharu Nakamura
- 11:15 2K06 Cross-linking Behavior of Polyvinylalcohol Derivative containing Sulfur with Metal Ion and Its Application to Composite Metallic Materials  
Daisuke Nagai, Ayaka Kubo, Naoyoshi Shimazaki, Yasuyuki Maki, Hiroyuki Takeno, Masanobu Mori, Hiroki Uehara, Takeshi Yamanobe
- 11:40 2K07 Synthesis of main-chain polymers having chiral 1,2-diamine-metal complex and their application to asymmetric catalysis  
Yujiro Kawakami, Naoki Haraguchi, Shinichi Itsuno
- Kensuke Naka, presiding**
- 12:55 2K08IL Functions Generated by Nano-Structure Control : Super Active Au Atom Catalysts and Hybrid Thermoelectric Materials  
Naoki Toshima
- Kazuo Tanaka, presiding**
- 13:45 2K10 Twisting Motion and Carrier Formation Dynamics in Poly(3-alkylthiophene)s  
Yudai Ogata, Daisuke Kawaguchi, Keiji Tanaka
- 14:10 2K11 Synthesis of conjugated molecules using the reactions of bis(silyl)dihydropyrazines with chloroboranes  
Katsunori Suzuki, Mao Noguchi, Taiga Yurino, Hayato Tsurugi, Kazushi Mashima, Makoto Yamashita
- 14:35 2K12 Organic-inorganic nanocomposite based on copolymer of a surface-functionalized transition metal oxides monolayer and vinyl monomer  
Hiroshi Matsui, Yuya Oaki, Hiroaki Imai
- Shinsuke Inagi, presiding**
- 15:00 2K13 Surface modification of TiO<sub>2</sub> nanoparticles with phosphate ester at liquid-liquid interfaces for application of polymer hybrids  
Shiori Takahashi, Naokazu Idota, Kimihiro Matsukawa, Yoshiyuki Sugahara
- 15:25 2K14 Preparation and Properties of Layered Perovskite Nanosheets/Cellulose Acetate Hybrids Bearing Covalent Interfaces  
Satoru Sato, Kenji Shintani, Naokazu Idota, Takashi Nishino, Yoshiyuki Sugahara
- 15:50 2K15 New Progress on Organic-Inorganic Hybridized Nanocrystals/Nanoparticles Prepared by The Reprecipitation Method  
Hitoshi KASAI, Ryuju Suzuki, Kaito Kogure, Tsunenobu Onodera, Hidetoshi Oikawa

**Keita Kuroiwa, presiding**

- 16:15 2K16 Preparation of Element-block Particles by Site-selective Potential Application  
Shinsuke Inagi, Yuki Koizumi, Masato Ohira, Hiroki Nishiyama, Ikuyoshi Tomita
- 16:40 2K17 Synthesis and Characterization of Highly-Sensitive <sup>19</sup>F NMR Probes with Cubic Silsesquioxane  
Takahiro KAKUTA, Kazuo TANAKA, Yoshiki CHUJO
- 17:05 2K18 Preparation of polysilsesquioxane thin films containing metal nanoparticles and their application to catalytic layer of electroless copper plating  
Kimihiko Matsukawa, Seiya Goto, Kouichiro Murahashi, Kuniaki Otsuka, Kouji Mitamura, Seiji Watase

**Thu. Sep 17**

### **S10. Frontiers in Inorganic Polymers beyond Organic-inorganic Hybrids**

#### **Takeo Suga, presiding**

- 9:10 3K01 Modification on poly(dimethylsiloxane) (PDMS) by organic-inorganic hybrid biocompatible polymer  
Keita Kuroda, Hiromi Miyoshi, Shota Fujii, Tomoyasu Hirai, Atsushi Takahara, Aiko Nakao, Yasuhiko Iwasaki, Kenichi Morigaki, Kazuhiko Ishihara, Shin-ichi Yusa
- 9:35 3K02 Synthesis of amphiphilic silsesquioxanes and characterization of its functional property  
Misaki Takeda, Jun Matsui, Masaya Mitsuishi, Keita Kuroiwa
- 10:00 3K03 POSS-crystallization-kinetics driven self-assembly of inorganic nanoparticles  
Jinguang Cai, Akira Watanabe
- 10:25 3K04 Preparation and characteristics of imidazolium salt type ionic liquids containing cyclic siloxane frameworks  
Takuya Kubo, Sayako Koge, Joji Ohshita, Yoshiro Kaneko

#### **Reiko Saito, presiding**

- 10:50 3K05 Properties of Fluorescent Gold Nanoparticles in Polymer Liquid  
Tetsu Yonezawa, Yohei Ishida
- 11:15 3K06 Protein-conjugated Gold Clusters and Their Optical Functionality  
Hideya Kawasaki, Ryuichi Arakawa
- 11:40 3K07 Synthesis of Aggregation-Induced Emission-Active Polymers Based on the Group 13 Element-Diimine Complexes  
Kazuo Tanaka, Shunichiro Ito, Madoka Yamaguchi, Amane Hirose, Ryousuke Yoshii, Yoshiki Chujo

#### **Seigou Kawaguchi, presiding**

- 12:55 3K08 Synthesis and Photovoltaic Applications of Conjugated Polymers with Disilanobithiophene Units  
Joji Ohshita, Yohei Adachi, Makoto Nakashima, Yousuke Ooyama, Takanori Otsura, Hiroyoshi Naito
- 13:20 3K09 Carrier transport in titanium dioxide-dielectric nanocomposite  
Akira Watanabe, Toru Yumoto, Toshiyuki Hirano
- 13:45 3K10 Synthesis of Novel Elements-block  $\pi$ -Conjugated Polymers Based on Chemical Transformations of Group 14-16 Elements-blocks  
Ikuyoshi Tomita, Yoshimasa Matsumura, Yusuke Komatsuzaki, Hiroki Nishiyama, Shinsuke Inagi

## Room L

Tue. Sep 15

### S7. A new Paradigm for Gel Science Interplayed between Polymers and Solvents

- 9:50 1LSO Introductory Remarks S7  
Takamasa Sakai, Akira Matsumoto  
**Akira Matsumoto, presiding**
- 10:00 1L03 Dynamics of polymer chains in fracture process of double network gel by coarse-grained molecular dynamics simulation  
Yuji Higuchi, Keisuke Saito, Nobuki Ozawa, Momoji Kubo  
**Yuji Higuchi, presiding**
- 10:25 1L04 Effect of swelling on the network elasticity of hydrogel  
Ken-ichi Hoshino, Honglei Guo, Takahiro Matsuda, Tasuku Nakajima, Takayuki Kurokawa, Takamasa Sakai, Ung-il Chung, Jian Ping Gong
- 10:50 1L05 Design strategy toward a development of multiblock copolymers that expresses autonomous sol-gel oscillation  
Michika Onoda, Takeshi Ueki, Mitsuhiro Shibayama, Ryo Yoshida
- 11:15 1L06 Chiral Selective Organogel Formation through the Construction of Cyclodextrin Nanostructures as a Key Step  
Ayumi TERAGAKI, Toshiyuki KIDA, Mitsuru AKASHI  
**Takamasa Sakai, presiding**
- 11:40 1L07 Friction of polymer hydrogel studied by resonance shear measurements: effect of the deformation of interface  
Huai-Yin Ren, Masashi Mizukami, Tadao Tanabe, Hidemitsu Furukawa, Kazue Kurihara
- 12:55 1L08 Kinetic Evidence of Formation Process on Thixotropic Gel Prepared from Imogolite and Dibasic Acid  
Kazuhiro Shikinaka, Saori Mori, Kiyotaka Shigehara, Hiroyasu Masunaga  
**Kazuhiro Shikinaka, presiding**
- 13:20 1L09 Simultaneous control of rheological and swelling properties by using gelation critical clusters  
Kaori Hayashi, Ung-il Chung, Takamasa Sakai
- 13:45 1L10 Hydrogel with a reliable deformation region in an aqueous environment  
Shinji Kondo, Takashi Hiroi, Mitsuhiro Shibayama, Ung-il Chung, Takamasa Sakai
- 14:10 1L11 Control of Structure and Physical Properties of a Supramolecular Hydrogel by Applying Shear Flow  
Yuji Matsumoto, Atsuomi Shundo, Keigo Matsumoto, Masashi Ohno, Nobutomo Tsuruzoe, Masahiro Goto, Keiji Tanaka  
**Hisashi Kokubo, presiding**
- 14:35 1L12 Preparation of functional materials based on polyrotaxane using reversible bonds  
Shoko Mori, Masaki Nakahata, Yoshinori Takashima, Akira Harada
- 15:00 1L13 Formation of ductile and tough polymeric materials using host-guest interaction at polymer side chain  
Masaki Nakahata, Yoshinori Takashima, Akira Harada

15:25 1L14 Synthesis of thermosensitive poly(trimethylene carbonate derivatives) bearing crosslinking ability  
Hiroharu AJIRO, Yoshiaki HARAMIISHI, Kai KAN, Shun TAKAHAMA, Mitsuru AKASHI

**Hiroharu Ajiro, presiding**

15:50 1L15 Molecular design and self-assembled structure of thermo- and photo-responsive ion-gel  
Morinobu KUZUNUKI, Ryoji USUI, Xiaofeng MA, Yuzo KITAZAWA, Hisashi KOKUBO, Masayoshi WATANABE

16:15 1L16 Development of Polymer Actuators Based on Polymer Electrolytes with Homogeneous Network Structure  
Ryosuke SHIOIRI, Shunta ISHII, Yumi KOBAYASHI, Yuzo KITAZAWA, Hisashi KOKUBO, Masayoshi WATANABE

16:40 1L17 Architecture of Thermoresponsive Gel Network designed on the basis of Hydrophilic and Hydrophobic Balance  
Yoshitsugu Hirokawa, Shohei Ida, Toru Kawahara, Satoshi Tanimoto

**Takuya Katashima, presiding**

17:05 1L18 Characterization of Bundled Gel Fibers from Different Phase-Separated Polymer Blend Pattern  
Sayaka Tachizawa, Young-Jin Kim, Akihiko Kikuchi, T. Yukiko Matsunaga

17:30 1L19 Effect of wrinkle-structure formation on adhesive strength at adhered hydrogel-interface  
Masatoshi Kato, Yasuyuki Tsuboi, Akihiko Kikuchi, Taka-Aki Asoh

17:55 1L20 Synthesis of Temperature-Responsive Hydrogels by Atom Transfer Radical Polymerization and Effect of Network Structure on Responsive Behavior  
Chisa Norioka, Akifumi Kawamura, Takashi Miyata

**Wed. Sep 16**

**S7. A new Paradigm for Gel Science Interplayed between Polymers and Solvents**

**Takamasa Sakai, presiding**

10:00 2L03 Electro-responsiveness of soft photonic films composed of block copolymer/ protic solvent  
Maho Ohno, Atsushi Noro, Yushu Matsushita

**Atsushi Noro, presiding**

10:25 2L04 Synthesis and properties of solvent-sensitive fluorescent hydrogels based on solvatochromic pyrene dye-modified poly(2-oxazoline)s  
Chia-Hsiu Chen, Yosuke Niko, Gen-ichi Konishi

10:50 2L05 Gelation kinetics of Tetra-PEG Gel in pH-buffering ionic liquid  
Kei Hashimoto, Kenta Fujii, Takamasa Sakai, Mitsuhiro Shibayama

11:15 2L06 Development of self-oscillating polymer gels using protic ionic liquids  
Tsukuru Masuda, Takeshi Ueki, Ryota Tamate, Ko Matsukawa, Ryo Yoshida

**Xiang Li, presiding**

11:40 2L07 Tough physical double network hydrogels based on amphiphilic tri-block copolymer  
Huijie Zhang, Taolin Sun, Yumihiko Ikura, Aokai Zhang, Xufeng Li, Tasuku Nakajima, Takayuki Nonoyama, Takayuki Kurukawa, Osamu Ito, Hiroyuki Ishitobi, Jianping Gong

12:55 2L08 Self-Organization of dynamic microtubule network induced by mechanical

stress

Daisuke Inoue, Takahiro Nitta, Arif Md. Rashedul Kabir, Kazuki Sada, Akira Kakugo

- 13:20 2L09 Scattering and spectroscopic study on unconventional microscopic structures and critical behavior of thermo-responsive polymers and microgels  
Takaaki Sato, Kazuyuki Hasuoka, Keiichi Yanase, Richard Buchner, Daisuke Suzuki

**Akira Kakugo, presiding**

- 13:45 2L10 Adsorption behavior understanding from dynamic phenomenon of hydrogel particles which adsorb at the air water interface  
Koji Horigome, Yuki Sakurai, Daichi Aoki, Daisuke Suzuki
- 14:10 2L11 Rheological Properties of Temperature-Sensitive Microgel Suspensions  
Saori Minami, Kenji Urayama, Takumi Watanabe, Daisuke Suzuki
- 14:35 2L12 Target molecule-Induced Changes in Internal Microscopic Structures of Microgel and Property of Molecular Separation  
Takuma Kureha, Takaaki Sato, Daisuke Suzuki

**Daisuke Suzuki, presiding**

- 15:00 2L13 Synthesis of well-defined mechanically locked cross-linker and the properties of the rotaxane cross-linked polymer thereof  
Jun Sawada, Daisuke Aoki, Toshikazu Takata
- 15:25 2L14 Hydrogel formation of poly (vinyl alcohol) by controlling the crystal structure by using hot pressing method  
Tomoyo Sakaguchi, Shusaku Nagano, Mitsuo Hara, Yoshihiro Kimura, Akinobu Oharuda, Kazuaki Matsumura
- 15:50 2L15 Fracture of polymer gels cross-linked by reversible bonds  
Koichi Mayumi, Tetsuharu Narita, Costantino Creton, Jingyl Guo, Chung-Yuen Hui

**Koichi Mayumi, presiding**

- 16:15 2L16 Dynamics of transient network formed in permanent network  
Takuya Katashima, Takamasa Sakai, Tadashi Inoue
- 16:40 2L17 Control over the swelling of hydrogel by tuning the chemical structure of backbones  
Kohei Kanno, Hiroyuki Kamata, Ung-il Chung, Takamasa Sakai
- 17:05 2L18 Cross-linked polyamines gels with reversible crystalline domains and their application in sol-gel reaction  
Daiki Soma, Ren-Hua Jin

**Thu. Sep 17**

**S24. Upcoming 3D-printing Era in Polymer Science**

- 9:00 3LSO Introductory Remarks S24  
Yukihiro Nishikawa

**Yukihiro Nishikawa, presiding**

- 9:10 3L01IL Application of 3D printing in Science and Medicine  
Masaru Kawakami

**Jin Gong, presiding**

- 10:00 3L03 The development of biobased materials for 3D printer

- Kazunari Masutani, Yoshiharu Masutani
- 10:25 3L04 Free foring of the gel with 3D gel printer SWIM-ER  
Koji Okada, Hidemitsu Furukawa, Masaru Kawakami, Azusa Saito, Kyuitiro Takamatu, Taishi Tase, Takahumi Ota
- Hiroaki Nishiyama, presiding**
- 10:50 3L05 3D printing of transparent shape memory gels  
Jin Gong, Hiroaki Kumagai, Masanori Arai
- 11:15 3L06 Development of Piezoelectric Polymer Printer  
Atsuki Shiratori, Noriyasu Yamada, Go Murasawa
- 11:40 3L07 New filaments for 3D printer made from wooden powder and PLA  
Go Matsuba, Tatsuro Okita
- Go Matsuba, presiding**
- 12:55 3L08 Utilization of X-ray CT Data in Polymer Science  
Yukihiro Nishikawa, Satoshi Noma, Koichiro Mizoguchi, Jun Wu, Takuya Okada
- 13:20 3L09 Correlation between 3D printing orientation and mechanical properties of printed gel objects  
Takafumi Ota, Taishi Tase, Koji Okada, Azusa Saito, Kyuuichiro Takamatsu, Masaru Kawakami, Hidemitsu Furukawa
- Go Murasawa, presiding**
- 13:45 3L10 Tunable microdevices fabricated using two-photon polymerization  
Hiroaki Nishiyama
- 14:10 3L11 Study on mechanisms with 3D printers  
Riichiro Tadakuma, Kenjiro Tadakuma, Tsubasa Hoshino, Hiroaki Kato
- 14:35 3L12 3D Gel Printer Triggers Polymer Innovation - Realization of 3D Designable Gels -  
Hidemitsu Furukawa

<b>Room M</b>
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**Tue. Sep 15**

**S11. Functional Polymer Gels as Soft Matter**

- 16:05 1MSO Introductory Remarks S11  
Takao Aoyagi
- Takashi Aoki, presiding**
- 16:15 1M16 Photonic Water: Responsive photonic crystals with extra-high water content  
Koki Sano, Younsoo Kim, Yuka Onuma, Yasuo Ebina, Takayoshi Sasaki, Yasuhiro Ishida, Takuzo Aida
- 16:40 1M17 Preparation of the hollow spherical bacterial cellulose gels by the culture of *Acetobacter xylinum* in the medium-in-oil droplets  
Toru Hoshi, Yuka Kakinuma, Toshiki Hagiwara, Takashi Sawaguchi, Takao Aoyagi
- Takao Aoyagi, presiding**
- 17:05 1M18 Design of Poly(vinyl ether) Thin Films and Their Blood-compatibility  
Nozomi ITAGAKI, Yukari ODA, Hisao MATSUNO, Keiji TANAKA



- 17:30 1M19 Preparation of microspherical hybrid hydrogels based on polymer network cross-linked with nanoparticles  
Makoto Takafuji, Md. Ashraful Alam, Yutaka Kuwahara, Hirotaka Ihara
- 17:55 1M20 Coacervate interface to control anti-biofouling  
Takashi AOKI, Motomi SUGIYAMA, Junji YANAGISAWA

**Wed. Sep 16**

### **S11. Functional Polymer Gels as Soft Matter**

#### **Ryo Yoshida, presiding**

- 9:10 2M01 Gel Synthesis using Novel Crosslinker with Expanding the Distance of Vinyl Groups  
Shohei Ida, Furukawa Shoichi, Satoshi Tanimoto, Yoshitsugu Hirokawa
- 9:35 2M02 Preparation and Function of Amylose Supramolecular Gels by Vine-twining Polymerization  
Kazuya Tanaka, Kazuya Yamamoto, Jun-ichi Kadokawa

#### **Shohei Ida, presiding**

- 10:00 2M03 Self-oscillating vesicles/colloidosomes  
Ryota Tamate, Takeshi Ueki, Mitsuhiro Shibaya, Ryo Yoshida
- 10:25 2M04 The anisotropic mechanical motion of self-oscillating gel driven by uniformly aligned inorganic nano sheets  
Younsoo Kim, Yasuhiro Ishida, Yasuo Ebina, Takayoshi Sasaki, Ryo Yoshida, Takuzo Aida
- 10:50 2M05 Fabrication of biodegradable hydrogels with unique high elongation properties by ion-selective crosslinking of bisphosphonate and carboxylate  
Moe Noguchi, Michiya Matsusaki, Mitsuru Akashi

#### **Masayoshi Watanabe, presiding**

- 11:15 2M06 Anti-fouling properties of organogels possessing secretion function  
Chihiro Urata, Matt England, Gary Dunderdale, Atsushi Hozumi, Yuuki Kawabata
- 11:40 2M07 Friction and wear of high-strength gel  
Toshiki Kameyama, Masato Wada, Masato Makino, Kawakami Masaru, Furukawa Hidemitsu

#### **Jun-ichi Kadokawa, presiding**

- 12:55 2M08 Ionic Liquid/Sulfonated Polyimide Composite Membranes for CO<sub>2</sub> Separation  
Akika ITO, Tetsuro YOSHIOKA, Akihiro YOSHIDA, Kazukiyo NAGAI, Tomohiro YASUDA, Masayoshi WATANABE
- 13:20 2M09 Fundamental properties of polymeric ionic liquids and their application to actuators  
Ryo SANO, Shunta ISHII, Yuzo KITAZAWA, Hisashi KOKUBO, Masayoshi WATANABE
- 13:45 2M10 Thiol Monomer Based Ionic Gels using Ionic Liquid  
Kumkum Ahmed, Naofumi Naga, Hidemitsu Furukawa

#### **Akihiko Kikuchi, presiding**

- 14:10 2M11 A Bioreplaceable, injectable gels by combining biodegradable polymers and protein-adsorbable nanoclays for self-engineering of regenerative microenvironment toward in vivo tissue engineering  
Naho Oyama, Koji Nagahama

- 14:35 2M12 Injectable Hydrogels from Self-assembling Peptide-Polymer Hybrids and Their Applications  
Tomoyuki Koga, Tomoo Matsuoka, Nobuyuki Higashi
- Michiya Matsusaki, presiding**
- 15:00 2M13 Design of new degradable hydrogels under cytoplasmic environment  
Akihiko KIKUCHI, Koya YAMAWAKI, Taka-Aki ASOH, Ryo ISHIHARA
- 15:25 2M14 Preparation of Dual Stimuli-Responsive Gel Particles as Intracellular DDS Carriers and Their Drug Release Behavior  
Akifumi Kawamura, Shunsuke Ueno, Takashi Miyata
- 15:50 2M15 Hydrogel performance of biocompatible and reactive block-type MPC polymers  
Kazuhiko Ishihara, Yuuki Inoue, Surasak Chantansirichot
- Akifumi Kawamura, presiding**
- 16:15 2M16 Molecularly imprinted nanogels that acquire stealth in situ  
Yukiya Kitayama, Reo Sasao, Kazuko Toh, Yu Matsumoto, Kazunori Kataoka, Toshifumi Takeuchi
- 16:40 2M17 Development of novel gel biomaterials by integration of nanogels  
Sada-atsu Mukai, Yoshiro Tahara, Shin-ichi Sawada, Kazunari Akiyoshi
- 17:05 2M18 Functional gel based approach to develop artificial pancreas  
Akira Matsumoto, Takehiko Ishii, Hiroko Matsumoto, Takayoshi Suganami, Miyako Tanaka, Yoshihiro Ogawa, Kazunori Kataoka, Yuji Miyahara

**Thu. Sep 17**

### **S11. Functional Polymer Gels as Soft Matter**

**Taka-aki Asoh, presiding**

- 9:10 3M01 Synthesis of Chitosan-based Nanogel with Self-assembling Peptide Network for Protein Delivery Carrier  
Daisuke Matsukuma, Kaori Fujii, Hidenori Otsuka
- 9:35 3M02 Design of Smart Nanofiber Gels for Cancer Therapy  
Eri Niiyama, Chun Man Lee, Takao Aoyagi, Mitsuhiro Ebara

**Akira Matsumoto, presiding**

- 10:00 3M03 Development of Nanoparticle-Kit for Cancer Treatment  
Yohei Kotsuchibashi, Chunman Lee, Mitsuhiro Ebara, Takao Aoyagi
- 10:25 3M04 Development of method for stereo adhesive molding of hydrogels  
Taka-Aki ASOH, Hisayoshi KINOSHITA, Tasuyuki TSUBOI, Akihiko KIKUCHI

**Daisuke Matsukuma, presiding**

- 10:50 3M05 Preparation of polyallylurea hydrogels showing UCST-type thermo-response  
Hiroto Miyake, Naohiko Shimada, Atsushi Maruyama
- 11:15 3M06 Synthesis of biodegradable thermoresponsive hydrogel by radical polymerization  
Syuuhei Komatsu, Taka-aki Asoh, Ryo Ishihara, Akihiko Kikuchi
- 11:40 3M07 Anisotropic Deformation of Hydrogels Having Oriented Synthetic Bilayers  
Tasuku Nakajima, Corentin Durand, Kei Mito, Takayuki Kurokawa, Jian Ping Gong

**Naohiko Shimada, presiding**

- 12:55 3M08 Temperature response and internal structure of the hydroxypropyl cellulose gel

- Azusa Saito,Yosuke Watanabe,Masaru Kawakami,Hidemitsu Furukawa
- 13:20 3M09 Photo-fabrication of micro pocket structure composed of hydrogel sheet  
Kimio Sumaru,Toshiyuki Takagi,Kana Morishita,Taku Satoh,Toshiyuki Kanamori
- Mitsuhiro Ebara, presiding**
- 13:45 3M10 Chemical Smart Valve Developed with Shape Memory Gels  
Masanori Arai,Hiroaki Kumagai,Jin Gong,Masato Makino,Masaru Kawakami,Hidemitsu Furukawa
- 14:10 3M11 Control of Liquids Transport of Cryogel-like Capillaries  
Kohei Sugaya,Daisuke Ishii
- 14:35 3M12 Nanocomposite Polymers for Micro-Nano-Systems  
Ajit Khosla,Hidemitsu Furukawa
- Takao Aoyagi, presiding**
- 15:00 3M13 Future application of micro-patterable Nanocomposite polymer devices in daily life  
Ajit Khosla,Hidemitsu Furukawa
- 15:25 3M14 Extrusion as a clean process for cellulose in-situ chemical modification with Phthalic anhydrides  
Magdi E. Gibril,Bruce Sithole,Hidemitsu Furukawa,Jerome Andrew

<b>Room N</b>
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**Tue. Sep 15**

**S12. Functional Polymers at the Dissimilar Interfaces**

- 9:50 1NSO Introductory Remarks S12  
Masanobu Naito,Takafumi Ueno
- Takafumi Ueno, presiding**
- 10:00 1N03 Second-order time slicing measurement for kinetics measurement on hydration process of phospholipid multilayers using neutron reflectometry  
Norifumi YAMADA
- 10:25 1N04 Single molecule analysis of channel proteins using droplet contact method  
Ryuji Kawano
- 10:50 1N05 GTP-Responsive Tubulin Vesicle with a Photoreactive Molecular Glue for DDS Carrier  
Noriyuki Uchida,Kou Okuro,Michio Tomishige,Takuzo Aida
- Ryuji Kawano, presiding**
- 11:15 1N06 2D buckling of microtubules on a deformable soft substrate  
Arif Md. Rashedul KABIR,Daisuke INOUE,Tanjina AFRIN,Kazuki SADA,Akira KAKUGO
- 11:40 1N07 Protein adsorption behavior on various polymer brush surfaces generating different interaction forces  
Sho Sakata,Yuuki Inoue,Kazuhiko Ishihara
- Masayuki Endo, presiding**
- 12:55 1N08 Self-assembled peptides on two-dimensional nanomaterials  
Yuhei Hayamizu

- 13:20 1N09 Biomimetic polymer coating with anticorrosion and antibacterial properties  
Masanobu NAITO
- 13:45 1N10 Analysis of DNA-mediated interaction between proteins and phosphorylcholine group  
Tomoyuki Azuma, Yuji Teramura, Toru Hoshi, Madoka Takai
- Akira Kakugo, presiding**
- 14:10 1N11 Stimuli-responsive DNA nanoparticles based on the molecular design of water/DNA brush interface  
Naoki Kanayama, Satomi Kishi, Tohru Takarada, Mizuo Maeda
- 14:35 1N12 Self-assembly of DNA nanostructures on the lipid-bilayer and observation of their dynamic behaviors  
Masayuki Endo
- 15:00 1N13 Interfacial behavior of hyperbranched polystyrene modified by thermo-responsive polymer and its application to cell cultivation  
Yu Sudo, Yuta Nabae, Teruaki Hayakawa, Masa-aki Kakimoto
- Teruaki Hayakawa, presiding**
- 15:25 1N14 A single molecule view of a heterogeneous metal-molecule interface  
Manabu Kiguchi
- 15:50 1N15 Crystal-surface-induced simultaneous synthesis and hierarchical morphogenesis of conductive polymers  
Kento Kuwabara, Yuya Oaki, Hiroaki Imai
- 16:15 1N16 Construction of Tailored Surface-Confined Nanopores within 2D Porous Molecular Networks at the Liquid/Solid Interface  
Kazukuni Tahara, Keisuke Katayama, Koji Inukai, Jinne Adisoejoso, De Feyter Steven, Yoshito Tobe
- Masayoshi Higuchi, presiding**
- 16:40 1N17 Efficient Catalytic Reaction at the Interface between Self-Assembled Monolayer and Gold Nanoparticles  
Katsuhiko Isozaki, Tomoya Taguchi, Kosuke Ishibashi, Hikaru Takaya, Masaharu Nakamura, Kazushi Miki
- 17:05 1N18 Control of Molecular Assembly of Saccharide-Based Amphiphiles by Electrostatic Interaction in Non-polar Solvents  
Taihei Yamada, Kenta Kokado, Kazuki Sada

**Wed. Sep 16**

## **S12. Functional Polymers at the Dissimilar Interfaces**

### **Yoshinori Takashima, presiding**

- 9:10 2N01 Adhesion by Hydrogen Bonding at the Interface of Dissimilar Polymer Brushes  
Hayato Yoshioka, Kazuo Yamaguchi, Motoyasu Kobayashi
- 9:35 2N02 Hybridization of Polyimide Substrates with Inorganic and Metallic Materials Utilizing Noncovalent Interactions at the Interfaces  
Mineo HASHIZUME, Kohei TAKADA, Kento WATANABE, Hiroki AKABORI, Kazutoshi IJIMA

### **Haruhisa Akiyama, presiding**

- 10:00 2N03 Epoxy composite reinforced by polybenzimidazole-wrapped carbon nanotubes  
Tsuyohiko Fujigaya, Yusuke Saegusa, Nobuhide Uda, Naotoshi Nakashima
- 10:25 2N04 Adhesion between dissimilar materials through molecular recognition and

covalent bond formations  
Yoshinori Takashima, Tomoko Sekine, Akira Harada

- 10:50 2N05 Synthesis of Core-Shell Particles Containing Polyperoxide Utilizing Oxygen Supply from a Gas-Liquid Interface and Their Application to Stimuli-Responsive Adhesives  
Eriko Sato, Michihiro Yuri, Syuji Fujii, Takashi Nishiyama, Yoshinobu Nakamura, Hideo Horibe

**Mineo Hashizume, presiding**

- 11:15 2N06 PEEK surface modification via self-initiated photopolymerization to obtain high lubricity and durability  
Taro Shiojima, Yuuki Inoue, Masayuki Kyomoto, Kazuhiko Ishihara

- 11:40 2N07 Control of reversible adhesion in response to light  
Haruhisa Akiyama, Hideyuki Kihara

**Hikaru Takaya, presiding**

- 12:55 2N08 Nondestructive Evaluation of Dissimilar Interfaces by Terahertz Wave and Laser Ultrasonic Technologies  
Makoto Watanabe, Hideki Hatano, Kenji Kitamura, Masanobu Naito, Hisashi Yamawaki, Shiwa Mitsuharu

- 13:20 2N09 Residual stress evaluation at the interface between copper and resins of semiconductor packaging materials by X-ray diffraction method  
Midori Wakabayashi, Atsushi Izumi, Hiroshi Nakaido, Sakiko Suzuki, Toshiaki Watanabe, Takuya Hatao

- 13:45 2N10 Mutual dependency between the protonation state of amino acid residues on the water-protein interface and the reaction in the protein interior  
Hironari Kamikubo

**Mitsuo Hara, presiding**

- 14:10 2N11 Biological Fabrication of Nanodevices in the Interactive Bio Field.  
Ichiro Yamashita

- 14:35 2N12 Correlation between surface structure and physical and chemical properties on gold clusters  
Yuichi Negishi

- 15:00 2N13 Hetero interfaces between oxide nanocrystal and Au nanoparticles 2D array; Application to visible light-driven photocatalysis  
Kazushi Miki, Katsuhiko Iozaki, Takao Ochiai, Francesca Pincella

**Yuichi Negishi, presiding**

- 15:25 2N14 The aggregation structure of poly(methyl methacrylate) stereocomplex at water interface  
Kazuki Sasahara, Manabu Inutsuka, Ayanobu Horinouchi, Keiji Tanaka

- 15:50 2N15 Structural control of the crosslinked polymers by click reactions at liquid-liquid interfaces  
Masashi Kunitake, Takaaki Higashi, Haruka Kawano, Satoshi Watanabe

**Eriko Sato, presiding**

- 16:15 2N16 Self assembled polymer brush structure in surface segregated liquid crystalline block copolymer film  
Shusaku Nagano, Kouji Mukai, Mitsuo Hara, Takahiro Seki

- 16:40 2N17 Selective molecular separation by a free-standing and nanometer thick membrane.  
Shigenori Fujikawa, Roman Selyanchyn, Chihoko Fukakusa

- 17:05 2N18 Preparation of polymer monolith particles toward advanced separation materials  
Keita Sakakibara, Kyoko Konishi, Ryota Wada, Norio Ishizuka, Yoshinobu Tsujii

**Thu. Sep 17**

**S12. Functional Polymers at the Dissimilar Interfaces**

**Masaya Mitsuishi, presiding**

- 9:10 3N01 Electrochromic devices using metallo-supramolecular polymer  
Masayoshi Higuchi
- 9:35 3N02 Polymerization in thin film states and electrochromism of liquid-crystalline perylene tetracarboxylic bisimide derivatives bearing polymerizable cyclotetrasiloxane rings  
Masahiro Funahashi
- 10:00 3N03 Aromatic Micelles with Anthracenes Shells: Water Solubilization of Various Nanocarbons and Enhanced Photostability  
Kei Kondo,Michito Yoshizawa,Munetaka Akita

**Takashi Nakanishi, presiding**

- 10:25 3N04 Role of local charge carrier mobility in PN heterojunction of organic  
Akinori Saeki,Yoshiki Shimata,Yoshikawa Saya,Marina Ide
- 10:50 3N05 Transparent Electrode with Carrier Selective Function: Carbon Nanotube Organic Solar Cells  
Yutaka Matsuo

**Akinori Saeki, presiding**

- 11:15 3N06 Multicolor electrochromism using charge trapping in heterodeposited polymer hybrid film  
Kenta Hojo,Jun Matsui,Kenta Ono,Manabu Ishizaki,Katsuhiko Kanaizuka,Masato Kurihara,Shin-ich Kondo,Masaya Mitsui
- 11:40 3N07 Creation of functional "bottom-up" nanosheets by taking advantage of dissimilar interfaces  
Ryota Sakamoto

**Room O**

**Wed. Sep 16**

**S23. Fabrication and Properties of Nano- and Micropatterned Materials**

- 9:00 2OSO Introductory Remarks S23  
Haruyuki Okamura
- Shusaku Nagano, presiding**
- 9:10 2O01 Percolation in two dimensional random networks of nanowires  
Keisuke Azuma,Koichi Sakajiri,Hidetoshi Matsumoto,Sungmin Kang,Junji Watanabe,Masatoshi Tokita
- 9:35 2O02 Soft lithography for control of crystal growth and orientation of needle crystals applied to organic field effect transistors  
Satoshi Watanabe,Takuma Fujita,Tetsuya Aoyama,Mutsuyoshi Matsumoto
- 10:00 2O03 Light-induced directional motion of crystals of azobenzene derivatives on

glass surface  
Emi Uchida, Reiko Azumi, Yasuo Norikane

**Yasuo Norikane, presiding**

- 10:25 2004 Liquid crystal orientation of cyanobiphenyl acrylate and methacrylate polymers  
Daisuke Tanaka, Yuki Nagashima, Mitsuo Hara, Shusaku Nagano, Takahiro Seki
- 10:50 2005 Formation of polymer heterointerface by inkjet printing onto a polymer surface  
Atsushi Hirakawa, Shusaku Nagano, Mitsuo Hara, Takahiro Seki
- 11:15 2006 Dynamically controlled construction of micro structures based on photo-responsive assembly of spiropyran-functionalized polymer  
Kosuke Moriyama, Kimio Sumaru, Toshiyuki Takagi, Taku Satoh, Toshiyuki Kanamori

**Masahiro Furutani, presiding**

- 11:40 2007 Novel acrylic anchor -Designed for fine line electrodes-  
Kohei TAKADA, Junya HAMURO, Masami IYO, Tetsuya MATOBA, Munenori YAMASHITA, Hajime MORI, Takashi MIYAZAKI, Masamitsu SHIRAI, Haruyuki OKAMURA

**Koji Asakawa, presiding**

- 12:55 2008IL Applications of hydrophilic nano-cylinders self-assembled by amphiphilic block copolymers  
Hiroshi Yoshida

**Masaru Nakagawa, presiding**

- 13:45 2010 Fabrication of Half Pitch 15 nm Semiconductor Circuit Patterns using Directed Self-assembly (DSA) Lithography  
Tsukasa Azuma, Yuriko Seino, Hironobu Sato, Kasahara Yusuke, Katsutoshi Kobayashi, Katsuyoshi Kodera, Hideki Kanai, Naoko Kihara, Yoshiaki Kawamonzen, Shinya Minegishi, Ken Miyagi, Toshikatsu Tobana, Masayuki Shiraishi, Satoshi Nomura
- 14:10 2011 Development of Directed Self-Assembly Materials for Sub 10 nmhP Patterning  
Hiroyuki Komatsu, masafumi Hori, Tomohiro Oda, Kota Nishino, Takehiko Naruoka, Tomoki Nagai, Motoyuki Shima, Tooru Kimura
- 14:35 2012 Orientation control in thin film of Si-containing block copolymer for next generation lithography  
Takehiro Seshimo, Teruaki Hayakawa

**Hiroto Kudo, presiding**

- 15:00 2013 Negative-tone photopatterning of photosensitive polyimide containing photobase generator  
Katsuki Okayasu, Yangmei Guo, Takao Miwa, Masahiro Furutani, Koji Arimitsu
- 15:25 2014 Fabrication of Heterogeneous Nano-junction by Multiple Template Process of Polymer Nano Phase Separation  
Yuto Asakura, Tomokazu Iyoda, Motonori Komura
- 15:50 2015 Characterization of Vapor Deposited Polyimide for Through-Si Via (TSV)  
Takafumi Fukushima, Murugesan Mariappan, Jicheol Bea, Kangwook Lee, Mitsumasa Koyanagi

**Hideo Horibe, presiding**

- 16:15 2016 Directed self-assembly of microphase-separation structure in PS-b-PMMA on sub-100nm guide pattern  
Nobuya HIROSHIBA, Ryo OKUBO, Masaru NAKAGAWA, N. Azusa HATTORI, Hidekazu TANAKA
- 16:40 2017 Synthesis and property of chain-scission Type Resist Material based on

- calixarenes  
Hiroki Ogawa, Hiroto Kudo
- 17:05 2018 Synthesis and Property of Hyperbranched Polyacetals for Development of High-Sensitive Photoresist Materials.  
Hiroya Takeda, Hiroto Kudo

**Thu. Sep 17**

**S23. Fabrication and Properties of Nano- and Micropatterned Materials**

**Haruyuki Okamura, presiding**

- 9:10 3001 Viscosities in a hydroxy-containing diacrylate monomer confined between unmodified and modified silica surfaces  
Shunya ITO, Kenji KAWASAKI, Motohiro KASUYA, Ryuta WASHIYA, Yuzuru SHIMAZAKI, Kazue KURIHARA, Akihiro MIYAUCHI, Masaru NAKAGAWA
- 9:35 3002 Removal of a residual layer in 45-nm-wide line UV nanoimprinted patterns by oxygen reactive ion etching  
Takuya UEHARA, Shoichi KUBO, Nobuya HIROSHIBA, Masaru NAKAGAWA
- 10:00 3003 Nano-object figuration by UVN-ALD (IV) ~Al<sub>2</sub>O<sub>3</sub> deposition on UV-cured resin patterns with different chemical structures of monomers ~  
Shiho KUROYANAGI, Nobuya HIROSHIBA, Masaru NAKAGAWA

**Hiroshi Yoshida, presiding**

- 10:25 3004 Study on the mechanism of particle nano-indentation and nano-imprinting in terms of the interaction between particles and substrates.  
Kanako Yamamoto, Yuuka Fukui, Keiji Fujimoto
- 10:50 3005 Fabrication of Complex 3D Structures By Self-folding Wrinkle Film Based On Elast-capillary Force  
Hiroshi Endo, Takeshi Kawai

**Koji Asakawa, presiding**

- 11:15 3006 Development of Chemically Amplified Three-component Resist by Adding Dissolution Inhibitor  
Hideo Horibe, Satoshi Nishiyama, Eriko Sato, Hiroki Yamamoto, Takahiro Kozawa

**Masahiro Furutani, presiding**

- 11:40 3007 Preparation of organic-inorganic hybrid patterns by applying reaction development patterning to polyetherimide films containing siloxane oligomers  
Shinya IMABAYASHI, Toshiyuki OYAMA

**Takashi Nakanishi, presiding**

- 12:55 3008 Hierarchical Control and Properties of Functional Supramolecular Assemblies by using Organic Salts  
NORIMITSU TOHNAI, RYUNOSUKE NISHIDA, ICHIRO HISAKI, MIKIJI MIYATA
- 13:20 3009 Complex molecular alignments formed by dynamic photopolymerization  
Atsushi Shishido, Miho Aizawa, Kyohei Hisano, Norihisa Akamatsu

**Norimitsu Tohnai, presiding**

- 13:45 3010 Novel Self-assembly and Hierarchically Assembled Macroscopic Structures at the Molecular Liquid State or at the Air-Water Interface  
Takashi Nakanishi
- 14:10 3011 Control of the surface structure of polyimide microparticles  
Konomi Uchiya, Olaf Karthaus, Elisabeth Erbes



## Room Q

Tue. Sep 15

### F. POLYMER INDUSTRY AND TECHNOLOGY: PROCESSES AND PRODUCTS

#### **Hideo Sawada, presiding**

- 10:25 1Q04 Direct Adhesion between polyamide and Acrylonitrile Butadiene Rubber  
Hidetoshi Hirahara,Sato Riku,Sumio Aisawa,Jing Sang
- 10:50 1Q05 Effect of property of metal surface on adhesion between thermoplastic resin and metal using injection molding  
Hidetoshi Hirahara,Ryosuke Kumagai,Sumio Aisawa,Jing Sang
- 11:15 1Q06 Degradation analysis on plastic glass by yellowness measurement  
Sho YAMANAKA,Yoshihiro MASUDA,Mikiya ITO,Takeshi ISHIDA
- 11:40 1Q07 Structural analysis of drying process of catalyst ink for fuel cells by SAXS / USAXS  
Atsushi Kamiya,Takuro Matsunaga,Masashi Harada,Naoki Kitano,Naoki Hasegawa

### **S22. Recent Developments in Synthesis of Networked Polymers and Their Novel Properties and Functions**

- 12:45 1QSO Introductory Remarks S22  
Koji Arimitsu,Toshiyuki Oyama

#### **Kozo Matsumoto, presiding**

- 12:55 1Q08 Development of thermal superacid generators for photoinduced frontal polymerization  
Masahiro Tagami,Kaori Takemoto,Masahiro Furutani,Koji Arimitsu
- 13:20 1Q09 Photopatterning of organic/inorganic composites with a photobase generator  
Atsushi Asai,Masahiro Furutani,Koji Arimitsu
- 13:45 1Q10 Anionic UV curing of thick films of epoxy resins  
Nobuhisa Shimoda,Yukie Koyama,Masahiro Furutani,Koji Arimitsu

#### **Kenjiro Onimura, presiding**

- 14:10 1Q11 Characterization of anionic UV curing materials fabricated with cyclic carbonate resins  
Eri Nagai,Atsuko Sakauchi,Masahiro Furutani,Koji Arimitsu
- 14:35 1Q12 Properties of UV-cured films containing dispersed scaly silica modified with base-amplifying groups  
Saori Sugioka,Masahiro Furutani,Koji Arimitsu,Koji Watanabe
- 15:00 1Q13 Controlled Copolymerization by Metal Complex [74]. Synthesis of Carbon-Dioxide-Derived Polycarbonates Bearing Reactive Groups and Crosslinking by Polymer Reaction.  
Rie Arai,Shinya Handa,Hiroshi Sugimoto

#### **Koji Arimitsu, presiding**

- 15:25 1Q14 Molecular Imprinting with Photo-induced Cross-linking  
Kazuki Yoshikawa,Yukiya Kitayama,Toshifumi Takeuchi
- 15:50 1Q15 Syntheses of Rotaxane Network Polymers by Thiol-ene Reaction of Inclusion

- Complex Consisting of 24-Membered Crown Ether  
Tomomi Sakashita, Kazuhiro Yamabuki, Kenjiro Onimura
- 16:15 1Q16 Polymeric networks structure presumed by kinetic analysis of radical photo-induced polymerization  
Kentaro Taki
- 16:40 1Q17 Toughening mechanism of the slide-ring gels  
Hiroakazu Kadono, Koichi Mayumi, Kazuaki Kato, Hideaki Yokoyama, Kohzo Ito
- Kentaro Taki, presiding**
- 17:05 1Q18 Network formation of poly( $\gamma$ -glutamic acid) having catechol structures and its application to biocompatible adhesives  
Kozo Matsumoto, Aika Yamashita, Haruka Antoku, Mikiyasu Ishitobi, Takeshi Endo
- 17:30 1Q19 Properties of cured bismaleimide resin modified with multifunctional thiol containing long chain aliphatic unit  
Shunsuke Tsubota, Shinji Ikeshita, Hiroshi Nakao, Atsushi Miyata, Keiko Ohtsuka, Hajime Kimura, Akihiro Matsumoto
- 17:55 1Q20 Restoration Function of Fractured Thermosetting Polymer by Alkylborane Initiator  
Jun Nunoshige, Yuri Kajihara, Takahito Muraki

**Wed. Sep 16**

**S22. Recent Developments in Synthesis of Networked Polymers and Their Novel Properties and Functions**

**Atsushi Sudo, presiding**

- 9:10 2Q01 Synthesis of multi-functional nitrile N-oxides and efficient catalyst-free cross-linking reaction of unsaturated bond-containing polymers  
Hiromitsu Sogawa, Syunsuke Monjiyama, Toshikazu Takata
- 9:35 2Q02 Preparation of calixarene/o-cresol co-condensed phenolic polymers  
Hiroataka Shouji, Jun Saruta, Tomoki Ogoshi, Tada-aki Yamagishi
- 10:00 2Q03 Evaluation of a thermally latent property of microcapsules including Grubbs catalysts  
Hiroki Matsutani, Masahiro Furutani, Koji Arimitsu

**Tada-aki Yamagishi, presiding**

- 10:25 2Q04 Creation of Nanostructures and its Pores of Wholly Aromatic Polyimides by Self-assembly Molecular Technology  
Teruaki Hayakawa, Yuta Kushima, Kenta Okuhara, Ling Gao, Rina Maeda
- 10:50 2Q05 Development of imidazole-derived liquid-type thermal latent curing agents for one-component thermosetting resin.  
Kazuki Tomota, Kenji Kudo, Masahiro Furutani, Koji Arimitsu
- 11:15 2Q06 Synthesis of imidazole derivatives having an intramolecular hydrogen bond and their application to thermal latent curing agents  
Kenji Kudo, Masahiro Fururani, Koji Arimitsu
- 11:40 2Q07 Development of photo-crosslinked hybrid thin films with self-healing and low frictional properties  
Kimihiko Matsukawa, Daiki Toumori, Koji Mitamura, Tomoyuki Koga, Nobuyuki Higashi, Seiji Watase

**Eriko Sato, presiding**

- 12:55 2Q08 Synthesis of Networked Polymers Using Multifunctional Allylic Compounds

- Derived from myo- Inositol  
Atsushi Sudo,Tomio Sakue,Yugo Shirakawa
- 13:20 2Q09 Toughening of cured epoxy resins by using retro-Diels-Alder reaction between the matrix and modifier during curing reaction  
Toshiyuki Oyama,Taiki Kaga
- 13:45 2Q10 Triple Shape Memory Materials Incorporating Two Distinct Polymer Networks Formed by Selective Thiol-Michael Addition Reactions  
Shunsuke Chatani,Toshiaki Hattori,Christopher N. Bowman
- Toshiyuki Oyama, presiding**
- 14:10 2Q11 Degradability of Dynamic Covalent Epoxy Resins with Disulfide Linkages  
Akira Takahashi,Tomoyuki Ohishi,Raita Goseki,Hideyuki Otsuka
- 14:35 2Q12 Polymer design for sustainable network polymers utilizing thermo- and photo-reversible bonds  
Makito Yokoe,Daisuke Yamamoto,Koji Yamauchi,Timothy E. Long
- 15:00 2Q13 Dismantlable Adhesive Materials Using Side-Chain Reactive Acrylic Copolymers-Relationships among De-protection, Cross-linking, and Adhesion Properties-  
Eriko Sato,Shusei Iki,Kentaro Taniguchi,Takashi Nishiyama,Hideo Horibe,Akikazu Matsumoto
- 15:25 2Q14 Healing polymers made from Bio-based Furan  
Shoma Yoshida,Hiroataka Ejima,Koji Matsuoka,Naoko Yoshie
- Teruaki Hayakawa, presiding**
- 15:50 2Q15 Construction of reversible network based on Eucommia elastomer  
Hiroshi UYAMA,Qinghui ZHANG,Nao HOSODA,Kinkoh SHO,Yoshihisa NAKAZAWA
- 16:15 2Q16 Synthesis, Crosslinking and Resolubilization of Alternating Copolymers Containing an Ozone-Degradable Group  
Limin Lou,Mika Nagashima,Asuka Tsujii,Haruyuki Okamura,Akikazu Matsumoto
- 16:40 2Q17 Synthesis and Property of Network Polymers based on t-Butylcalix[n]arene (n = 4, 6, and 8)  
Hiroto Kudo,Shinya Shoji,Tomohiro Hayashi
- 17:05 2Q18 Synthesis of cross-linking materials containing noria-skeletons as templates, and its specific inclusion ability.  
Tsubasa Miyamae,Hiroto Kudo

**Thu. Sep 17**

## **S22. Recent Developments in Synthesis of Networked Polymers and Their Novel Properties and Functions**

**Hiroto Kudo, presiding**

- 9:10 3Q01 Characterization of thermosetting reactions of epoxy resins by matrix assisted laser desorption/ionization mass spectrometry  
Hajime Ohtani,Kanae Yamaguchi,Masaru Hanaoka,Minoru Matsuura
- 9:35 3Q02 Spatial Heterogeneity in An Epoxy Reaction System on the Basis of Diffusivity of Probe Particles  
Mika Aoki,Atsuomi Shundo,Keiji Tanaka
- 10:00 3Q03 Blend process and phase structures of epoxy / acrylic block copolymer alloys  
Kazuyoshi Yamada,Hajime Kishi

**Hajime Ohtani, presiding**

- 10:25 3Q04 Pressure sensitive adhesive utilizing thymine-adenine intermolecular interaction  
Nobuhiro Ishikawa, Masahiro Furutani, Koji Arimitsu
- 10:50 3Q05 Development of novel composite resin using  $\epsilon$ -caprolactam and epoxides.  
Kentaro Buya, Hiroto Kudo
- 11:15 3Q06 Structural Study for Nanogels by Means of Small-angle Neutron Scattering and Computer Simulation  
Hitoshi Endo, Yurina Sekine, Kazunari Akiyoshi
- 11:40 3Q07 Molecular dynamics computer simulation of GHz viscoelasticity in cross-linked polymers: toward materials design of polymer cross-linking  
Satoru Kuwajima

**Hajime Kishi, presiding**

- 12:55 3Q08 Characterization of network formed from liquid crystalline epoxy resin with low melting point.  
Hisanao Yamamoto, Naoki Sakamoto, Akira Fujita, Miyuki Harada, Mitsukazu Ochi
- 13:20 3Q09 Transfer Molding Composite Using a Reaction-Induced Smectic Type Mesogen Epoxy Resin  
Kenji Tanaka, Yoshida Yuka, Shinichi Kosugi, Hideyuki Katagi, Haruaki Sue, Yoshitaka Takezawa
- 13:45 3Q10 Improvement of LC Order and Thermal Conductivity for LC Epoxy by Surface Effect of Alumina Filler  
Shingo Tanaka, Fusao Hojo, Yoshitaka Takezawa

**Room R**

**Tue. Sep 15**

**S13. The Forefront of Fine Particles Related with Polymer Materials**

- 12:45 1RSO Introductory Remarks S13  
Seigou Kawaguchi, Masaya Mitsuishi
- Keiji Fujimoto, presiding**
- 12:55 1R08 Preparation and characterization of hybrid latex films containing zirconia nanoparticles  
Wataru Ito, Sho Hkozaki, Moriya Kikuchi, Atsushi Narumi, Seigou Kawaguchi
- 13:20 1R09 Synthesis of spherical hollow particles containing an anisotropic core  
Kanako Watanabe, Haruyuki Ishii, Daisuke Nagao, Mikio Konno
- Yoshiro Kaneko, presiding**
- 13:45 1R10 Hollow silica particles provided from perhydropolysilazane  
Reiko Saito, Toshifumi Kanahara
- 14:10 1R11 One-pot preparation of silica/polymer composite capsule  
Toyoko Suzuki, Satoshi Ikubo, Hideto Minami
- Reiko Saito, presiding**
- 14:35 1R12 Preparation of amphiphilic silsesquioxane and its formation of reverse micelle and incorporation of dyes

Akito Nagatomo, Yoshiro Kaneko

- 15:00 1R13 In-Situ Formation of Metal nanoparticle/Acrylic Polymer Hybrid and Its Application to Miniemulsion Polymerization  
Toshiyuki Tamai, Mitsuru Watanabe, Yasuyuki Kobayashi, Shingo Ikeda, Yutaka Fujiwara, Kimihiro Matsukawa

**Tatsuo Taniguchi, presiding**

- 15:25 1R14 Preparation and Optical Property of Single Crystalline Gallium Oxide Nanoparticles by Thermal Annealing of Liquid Metal Nanoparticles  
Shinya Sudo, Kenta Kokado, Kazuki Sada

- 15:50 1R15 Synthesis of the hydrogel particles by combining between the end groups of the star polymers in order to aim to control of microscopic structure  
Takahisa Shibamoto, Takuma Kureha, Takaaki Sato, Takamasa Sakai, Daisuke Suzuki

**Yosuke Okamura, presiding**

- 16:15 1R16 Preparation of liquid crystal nanocapsules by a combined phase inversion temperature emulsification and coacervation technique  
Sho Hidaka, Mayuka Taira, Michinari Kohri, Tatsuo Taniguchi, Keiki Kishikawa, Fumitaka Kondo

- 16:40 1R17 Long-Range Ordering controlled by electrostatic repulsion: Self-Organization of Ionic Polymer Brushes in Dilute Aqueous Solution  
Yoshihiro Yamauchi, Kuniyo Yamada, Noriko Horimoto, Yasuhiro Ishida

**Haruyuki Ishii, presiding**

- 17:05 1R18 Production of hybrid nanoparticles and control in their nanostructures by using nanodroplets in the miniemulsion system as nano-reactors  
Yuuka Fukui, Akihiro Koyama, Kaori Fujino, Keiji Fujimoto

- 17:30 1R19 Relationship between microscopic structures of polymer microgels and their functions  
Daisuke Suzuki, Takuma Kureha, Shusuke Matsui, Kensuke Hosho, Takaaki Sato

- 17:55 1R20 Shape Transformation of Spherical Particles ~Fabrication of Disk-shaped Particles and Their Applications via Two-dimensional Interactions~  
Daiki Sogabe, Atsushi Nakagawa, Yu Nagase, Yosuke Okamura

**Wed. Sep 16**

### **S13. The Forefront of Fine Particles Related with Polymer Materials**

**Michinari Kohri, presiding**

- 9:10 2R01 Advanced synthesis of monodisperse polymer nanoparticles with a tiny amount of low CMC anionic surfactant  
Haruyuki Ishii, Naoto Kuwasaki, Daisuke Nagao, Mikio Konno

- 9:35 2R02 Cutting Edge of Precision Microgels via Living Radical Polymerization: Functional Star Polymers and Single-Chain Crosslinked Polymers  
Takaya Terashima, Mitsuo Sawamoto

- 10:00 2R03 Metal-Bearing Chiral Star Polymer Catalysts: Microgel Reactors for Asymmetric Catalysis  
Ayaka Suzuki, Takaya Terashima, Mitsuo Sawamoto

**Takaya Terashima, presiding**

- 10:25 2R04 Synthesis of Whole Aromatic Polyimide Particles Using Ethylene Glycol as a Solvent

- Shinji Watanabe, Kozue Okamoto, Yusuke Mizuno, Takeshi Namikoshi, Yoshihito Kohari, Miki Murata
- 10:50 2R05 Radical polymerization of MMA in the presence of a bacterially produced bio-surfactant  
Takashi AOKI, Hideyuki TOKUSHIMA, Yoshiharu KIMURA, Takuto NAGANO
- Toshiyuki Tamai, presiding**
- 11:15 2R06 Fabrication of structural color materials from polydopamine-coated particles  
Michinari Kohri, Ayaka Kawamura, Yuri Nannichi, Tatsuo Taniguchi, Keiki Kishikawa
- 11:40 2R07 Preparation of Photo-Responsive Polymer Particles That Form Interparticle Bondings and Control of Their Photo-Responsive Assembling  
Takumi Moriyama, Akifumi Kawamura, Takashi Miyata
- Akifumi Kawamura, presiding**
- 12:55 2R08 Synthesis of Hollow Polymer Particles by Shell-specific Photo-induced Cross-linking  
Yukiya Kitayama, Kazuki Yoshikawa, Toshifumi Takeuchi
- 13:20 2R09 Preparation of composite polymer particles using ionic liquid monomer and their functionalization by anion exchange  
Masayoshi Tokuda, Tatsunori Shindo, Toyoko Suzuki, Hideto Minami
- 13:45 2R10 Synthesis and Functionalization of Well-defined Cross-linked Polymer Particles Based on Living Coordination Polymerization of Allene Derivatives  
Ikuyoshi Tomita, Akira Yamauchi, Misato Daitani, Yoshiyuki Oguchi, Takeshi Wakiya, Hiroshi Yamauchi, Hiroki Nishiyama, Shinsuke Inagi
- Hideto Minami, presiding**
- 14:10 2R11 Structural control and functionalization of colloidal particle through top-down and bottom-up approaches  
Hiroshi Endo, Takeshi Kawai
- 14:35 2R12 Structural Control of Unidirectional Macroscopic Structures of Inorganic Nanosheets  
Emiko Mouri, Yoshihiro Nono, Teruyuki Nakato
- Shinjiro Machida, presiding**
- 15:00 2R13 Whispering gallery mode photoemission from self-assembled ferroelectric polymer microspheres  
Daichi Okada, Satoshi Ito, Yuki Kawamata, Satoshi Ishii, Thang Dao, Tadaaki Nagao, Yohei Yamamoto
- 15:25 2R14 Synthesis of Nano-particles Consisting of Thiophene-Fluorene Copolymers and Their Fluorescence Properties  
Akira Horiuchi, Manato Suzuki, Shinya Nakano, Shino Inuzuka, Yasuhiro Kawaguchi, Kazuhiro Yamabuki, Kenjiro Onimura
- Yukiya Kitayama, presiding**
- 15:50 2R15 Development of polymer nano-particles as contrast agent for photo-acoustic imaging  
Yanbin Wang, Tomonori Fukasawa, Hiroyuki Shinto, Hiroyuki Aoki
- 16:15 2R16 Temperature-responsive and photophysical properties of self-organized nanoparticles consisting of poly(N-isopropylacrylamide) bearing perylene diimide  
Shinjiro Machida, Yuma Uchihashi, Noriaki Ikeda
- Emiko Mouri, presiding**
- 16:40 2R17 Properties of Copper Fine Particles Stabilized by Biopolymer for Low Temperature Sintering  
Tetsu Yonezawa, Hiroki Tsukamoto
- 17:05 2R18 Self-Assembly Behavior of Microparticles Based on Molecular Recognition

**Thu. Sep 17**

**S13. The Forefront of Fine Particles Related with Polymer Materials**

**Hideyuki Mitomo, presiding**

9:10 3R01 Self-assembled microspheres from highly fluorescent pi-conjugated polymers and whispering gallery mode photoemission  
Yohei Yamamoto

9:35 3R02 Liquid marble engineering: Synthesis of pressure-sensitive adhesive powder  
Syuji Fujii, Shizuka Sawada, Saori Nakayama, Michael Kappl, Kazuyuki Ueno, Kohei Shitajima, Hans-Juergen Butt, Yoshinobu Nakamura

**Takeshi Higuchi, presiding**

10:00 3R03 Preparation of Poly(ionic liquid) Hollow Particles and Estimation of Encapsulation Behavior  
Ryuma Nakamura, Masayoshi Tokuda, Toyoko Suzuki, Hideto Minami

10:25 3R04 Polymer-brush-grafted particles for control of phase separation in polymer/ionic-liquid blend films  
Yoshikazu Yahata, Kohji Ohno, Yoshinobu Tsujii

10:50 3R05 Hierarchical Self-assembly of Gold Nanoparticles with Different Sizes  
Jinjian Wei, Kenichi Niikura, Hideyuki Mitomo, Kuniharu Ijiro

**Syuji Fujii, presiding**

11:15 3R06 Preparation of organic-inorganic composite particles based on phase separation and end-functionalized polymers  
YUTARO HIRAI, HIROKI SATOH, MASA AKI KANAHARA, TAKESHI HIGUCHI, HIROSHI JINNAI, YASUTAKA MATSUO, HIROSHI YABU

11:40 3R07 Creation of Water-Insoluble Drug Nanoparticles by Using Macromolecules and Their Pharmacological Effects  
HITOSHI KASAI

**Room S**

**Tue. Sep 15**

**S15. Forefront of Polymer Materials for Energy Conversion/Storage Devices**

14:25 1SSO Introductory Remarks S15  
Kenji Miyatake, Manabu Tanaka

**Je Deok Kim, presiding**

14:35 1S12 Synthesis and evaluation of perfluorinated block copolymer electrolytes  
Takeshi Hirai, Atsushi Watakabe, Tatsuya Miyajima, Tetsuji Shimohira

15:00 1S13 Effect of Hydrophilic Structure on the Properties of Sulfonated Aromatic Copolymer Membranes  
Junpei Miyake, Reika Oida, Ryo Akiyama, Takashi Mochizuki, Kenji Miyatake

15:25 1S14 Synthesis and properties of poly(phenylene)-poly(ether ketone) block

copolymers (VII) -Preparation of thin films-  
Shogo Nagaya, Masahiro Fujita, Yuko Takeoka, Masahiro Rikukawa

**Masayoshi Watanabe, presiding**

- 15:50 1S15 Preparation and Fuel Cell Performance Characteristics of Ultra-thin Polymer Electrolyte Membranes Based on Proton Conductive Nanofiber Framework  
Manabu Tanaka, Takeru Wakiya, Takahito Makinouchi, Yuta Wakamoto, Kaori Hachiya, Tatsunori Ito, Takashi Tarao, Hiroyoshi Kawakami
- 16:15 1S16 Stability of azole molecule into perfluorosulfonic acid polymer  
Kim Jedeok
- 16:40 1S17 Construction of Novel Proton Conductor Based on a Control of Conformation and Hydrogen Bond  
Shinji Ando, Takanori Fukushima, Takeo Yamaguchi

**Masahiro Rikukawa, presiding**

- 17:05 1S18 Synthesis of Well Defined Polymers in Solid States by Radiation/Living Graft Polymerizations for Polymer Electrolyte Membranes  
Takashi Hamada, Kota Takeuchi, Shin Hasegawa, Yasunari Maekawa
- 17:30 1S19 Structure-property relationship in graft-type polymer electrolyte membranes studied by complementary small angle neutron/X-ray scattering analyses  
Yasunari Maekawa, Yue Zhao, Kimio Yoshimura, Hideyuki Shishitani, Susumu Yamaguchi, Hirohisa Tanaka, Satoshi Koizumi
- 17:55 1S20 Current-sensing AFM analysis of proton conductive area on hydrocarbon type polymer electrolyte membrane for fuel cells  
Masanori Hara, Junji Inukai, Kenji Miyatake, Masahiro Watanabe

**Wed. Sep 16**

**S15. Forefront of Polymer Materials for Energy Conversion/Storage Devices**

**Akihiro Ohira, presiding**

- 9:10 2S01 Effect of Proton-conducting Group Content on Proton Conductivity in Two-dimensional Interfaces Using the Langmuir-Blodgett Technique.  
Takuma Sato, Jun Matsui, Masaya Mitsuishi, Tokuji Miyashita, Shusaku Nagano, Makoto Gemmei-Ide
- 9:35 2S02 Condition Analysis of Perfluorosulfonic Acid Polymer in Solution  
Yoko Sakiyama, Hirokazu Hasegawa, Kazuyuki Okada, Junichi Tsuji
- 10:00 2S03 Theoretical analysis of chemical property of membrane for a molecular design of polymer electrolyte membrane  
Hironori Sakai, Takashi Tokumasu

**Takeo Yamaguchi, presiding**

- 10:25 2S04 Orientation structure and proton transport properties of the Nafion thin film at the Pt interface  
Yutaro Ono, Yuki Nagao
- 10:50 2S05 Ionic conduction property on surface of ionomer/Pt/C in an interface model of catalyst layer  
Seiichi Kuroda, Akihiro Ohira
- 11:15 2S06 Homogeneous Coating of Ionomer on Electrocatalyst Assisted by Polybenzimidazole as an Adhesive Layer and its Effect on Fuel Cell Performance  
Tsuyohiko Fujigaya, Zehui Yang, Akiyo Nagashima, Naotoshi Nakashima

**Kenji Miyatake, presiding**



- 11:40 2S07 Polymer-Coated Nanocarbon for use as a Direct Methanol Fuel Cell Electro-catalyst  
Ze Hui Yang, Tsuyohiko Fujigaya, Naotoshi Nakashima
- 12:55 2S08 Modeling of Transport Mechanism of OH<sup>-</sup> in Electrolyte of Alkaline Fuel Cell  
Hiromitsu Takaba, Nobuaki Shimizu, Tomoya Hisabe
- 13:20 2S09 Synthesis and Characterization of Graft type Anion Conducting Electrolyte Membranes Containing Non- $\beta$ -hydrogen imidazolium Grafts  
Shun Watanabe, Kimio Yoshimura, Tokio Hagiwara, Yasunari Maekawa
- Naotoshi Nakashima, presiding**
- 13:45 2S10 Development of Radiation Grafted Anion-Conducting Electrolyte Membranes and Application to Hydrazine Hydrate Fuel Cells  
Kimio Yoshimura, Yasunari Maekawa, Hideyuki Shishitani, Susumu Yamaguchi, Hirohisa Tanaka
- 14:10 2S11 Anion Conductive Aromatic Copolymers Containing Quaternized Oligophenylene Moieties  
Naoki Yokota, Manai Shimada, Natsumi Yoshimura, Hideaki Ono, Taro Kimura, Masanori Hara, Junji Inukai, Ryo Akiyama, Junpei Miyake, Kenji Miyatake
- 14:35 2S12 Analysis of alkaline degradation mechanism of aromatic anion exchange membrane  
shoji miyanishi, atsushi iijima, takeo yamaguchi
- Takaya Sato, presiding**
- 15:00 2S13 Synthesis and Properties of polycarbosilanes having 5-membered cyclic carbonate groups as novel solid polymer electrolytes  
Kozo Matsumoto, Yuichiro Taniguchi, Miho Kakehashi, Takeshi Endo
- 15:25 2S14 Characterization of polymer electrolytes prepared from poly(oxetane)s having various functional groups  
Yohei Nakano, Naho Shigaki, Kosuke Shinke, Kazuhide Ueno, Hiromori Tsutsumi
- 15:50 2S15 Design and Structural Control of Zwitterionic Liquid Crystals as Nanostructured Electrolytes  
Masafumi Yoshio, Soberats Bartolome, Takahiro Ichikawa, Hiroyuki Ohno, Takashi Kato
- Masafumi Yoshio, presiding**
- 16:15 2S16 New solid polymer electrolyte using silica particles decorated with an ionic liquid polymer brush  
Takaya Sato, Shoko Marukane, Saika Honma, Takashi Morinaga, Yoshinobu Tsujii
- 16:40 2S17 Preparation and Evaluation of Composite Membrane Based on Lithium Ion Conductive Nanofiber Framework  
Tsukasa Watanabe, Manabu Tanaka, Yasumasa Mochizuki, Futoshi Matsumoto, Hiroyoshi Kawakami
- 17:05 2S18 Battery performance of polymer gel electrolytes using lithium solvate ionic liquids  
Yuzo Kitazawa, Kaori Iwata, Ryosuke Kido, Kazuhide Ueno, Hisashi Kokubo, Kaoru Dokko, Masayoshi Watanabe

**Thu. Sep 17**

**S15. Forefront of Polymer Materials for Energy Conversion/Storage Devices**

**Tsuyohiko Fujigaya, presiding**

- 9:10 3S01 High-Performance Bioelectrocatalytic Electrodes Functionalized with Amphiphilic Polymer Mediators  
Norihiro Mizoshita, Hiromitsu Tanaka, Yasuo Nakashima
- 9:35 3S02 Synthesis and reversible negative charge storage ability of anthraquinone substituted poly(norbornene)  
Takuma Kawai, Kenichi Oyaizu, Hiroyuki Nishide
- 10:00 3S03 Synthesize of Fluorenone-substituted Polymers and Their Charge and Hydrogen Storage Properties  
Ryo Kato, Tatsuya Egashira, Kenichi Oyaizu, Hiroyuki Nishide
- Hidenori Okuzaki, presiding**
- 10:25 3S04 Template synthesis of nanocarbon materials and their application to energy storage fields  
Hirotomo Nishihara, Yasuto Hoshikawa, Alberto Castro-Muniz, Takashi Kyotani
- 10:50 3S05 Air stability of n-type thermoelectric material based on carbon nanotube sheet  
Tsuyohiko Fujigaya, Wenxin Huang, Naotoshi Nakashima
- 11:15 3S06 Improvement of energy conversion efficiency of piezoelectric rubber with particle alignment  
Shogo Mamada, Naoyuki Yaguchi, Masanori Hansaka, Masafumi Yamato, Hirohisa Yoshida
- 11:40 3S07 Medium temperature fuel cells under non-humidified condition using PBI composite electrolytes containing inorganic solid acid complex  
Atsunori Matsuda
- Hisashi Kokubo, presiding**
- 12:55 3S08 All-Organic Supercapacitors Using PEDOT/PSS As Flexible Electrodes  
Hiromi Takezawa, Masaki Sato, Haruki Saito, Hidenori Okuzaki
- 13:20 3S09 Synthesis and Electrical Properties of PEDOT/PSS with Conductivities Higher than 1000 S/cm  
Tatsuhiko Horii, Hiroki Amemiya, Hidenori Okuzaki
- 13:45 3S10 Characterization of Ultra-Thin Film Consisting of Amphiphilic Polymers with  $\pi$ -Conjugated Units  
Nanae Nishina, Shunsuke Yamamoto, Jun Matsui, Tokuji Miyashita, Masaya Mitsuishi
- Manabu Tanaka, presiding**
- 14:10 3S11 Preparation of tetra-PEG ion gels and application to polymer actuator  
Hisashi Kokubo, Shunta Ishii, Yuza Kitazawa, Masayoshi Watanabe
- 14:35 3S12 Incorporation with Fluorescent Dyes to Crystal Cross-linked Gel and Evaluation of Light-Harvesting Function  
Tsuyoshi Oura, Yumi Mochizuki, Takumi Ishiwata, Kenta Kokado, Kazuki Sada
- 15:00 3S13 Inclusion of poly(amideimide) into poly(acrylic acid)- $\beta$ -cyclodextrin  
Masaki Matsumoto, Reiko Saito
- 15:25 3S14 Investigation of Diffusion and Re-orientation in Iodine/Nylon 6 Complex [XVI]; "Multiple Ionic Diffusion" Discussed with Re-Orientation of Crystallite on Iodine-Doping. (1)  
Akio Kawaguchi

<b>Room T</b>
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**Tue. Sep 15**

## S16. Organic Materials for Energy Conversion

- 9:50 1TSO Introductory Remarks S16  
Yong-Jin Pu
- Chiba Takayuki, presiding**
- 10:00 1T03 Stable Emission of Ruthenium Complex and Constructing Light-emitting Electrochemical Transistor in Organic Solvent  
Atsushi Aoki,Motoyuki Nakano
- 10:25 1T04 Development of organic semiconductor crystal transistors with a polymer gate insulator layer  
Tatsuya Inokuchi,Takeshi Yamao,Shu Hotta
- 10:50 1T05 Carbazole Dendrimer Based Solution-Processable Thermally Activated Delayed Fluorescence Material  
Ken Albrecht,Kenichi Matsuoka,Katsuhiko Fujita,Kimihisa Yamamoto
- Hironori Kaji, presiding**
- 11:15 1T06 Development of a series of blue exciplex hosts formed from arylamine and sulfone derivatives for OLEDs  
Yuki Seino,Hisahiro Sasabe,Masato Kimura,Yong-Jin Pu,Junji Kido
- 11:40 1T07 Efficient OLEDs from delayed fluorescence of exciplexes  
Kenichi Goushi,Chihaya Adachi
- Tatsuya Fukushima, presiding**
- 12:55 1T08 Highly efficient solution processed OLED using a novel TADF emitter composed of an acridane-triazine system  
Yoshimasa Wada,Katsuyuki Shizu,Shosei Kubo,Katsuaki Suzuki,Hiroyuki Tanaka,Chihaya Adachi,Hironori Kaji
- 13:20 1T09 Solution-processed multi photon emission type organic light-emitting devices  
Takayuki Chiba,Tatsuya Hikichi,Yong-Jin Pu,Junji Kido
- 13:45 1T10 Development of n-type organic semiconductors that can create intermolecular networks by weak hydrogen bonds for high-performance OLEDs  
Hisahiro SASABE,Daisuke YOKOYAMA,Hiroshi KATAGIRI,Yong-Jin PU,Junji KIDO
- 14:10 1T11 Development of 2,2'-bipyridine-based electron transporters possessed weak hydrogen-bonding for organic LEDs  
Yuichiro Watanabe,Hisahiro Sasabe,Daisuke Yokoyama,Teruo Beppu,Hiroshi Katagiri,Yong-Jin Pu,Junji Kido
- Kenichi Goushi, presiding**
- 14:35 1T12 Analysis of Charge Transport in Organic LEDs: An Approach by Multiscale Simulation  
Hironori Kaji,Furitsu Suzuki,Katsuyuki Shizu
- 15:00 1T13 Precise Evaluation of Interfaces in Solution-Processed OLEDs  
Satoru Ohisa,Yong-Jin Pu,Norifumi L. Yamada,Go Matsuba,Junji Kido
- 15:25 1T14 Molecular design for light-emitting molecules based on reduced vibronic couplings  
Tohru Sato
- Hisahiro Sasabe, presiding**
- 15:50 1T15 Photon Upconverting Ionic Liquids: Controlling Triplet Energy Migration in Contiguous Ionic Chromophore Arrays  
Shota Hisamitsu,Nobuhiro Yanai,Nobuo Kimizuka

- 16:15 1T16 Ultralow-Power Photon Upconversion based on Fast Triplet Energy Migration  
Nobuhiro Yanai,Prasenjit Mahato,Nobuo Kimizuka
- 16:40 1T17 Development of polyurethane with high photoelasticity and its application to touch panels  
Yoshiro tajitsu,Masahiko MITSUZUKA,Satoshi YAMASAKI
- Satoru Ohisa, presiding**
- 17:05 1T18 A Survey of Organic-Based Thermoelectric Materials and Materials Design for Flexible Thermoelectric Generators  
Masakazu Nakamura,Mitsuhiro Ito,Ryo Abe,Hiroataka Kojima,Ichiro Yamashita
- 17:30 1T19 Single-Walled Carbon Nanotube-Polyelectrolyte Composites Exhibiting Superior Thermoelectric Power Factor  
Yoshiyuki Nonoguchi,Motohiro Nakano,Kawai Tsuyoshi
- 17:55 1T20 Thermoelectric properties of polythiophene nanofiber  
Takeshi Shimomura,Daichi Aoki,Hikaru Narita,Jyunma Wakui

**Wed. Sep 16**

### **S16. Organic Materials for Energy Conversion**

**Junpei Kuwabara, presiding**

- 9:10 2T01 Development of soluble squaraine derivatives with branched alkyl chains for efficient photovoltaic cells  
Tsukasa Igarashi,Hisahiro Sasabe,Tetsuri Miyazawa,Takeshi Sano,Junji Kido
- 9:35 2T02 Fabrication and film thickness dependence of T4P-based organic thin film solar cells  
Kenichiro Fukui,Takeshi Yamao,Shu Hotta
- 10:00 2T03 Singlet Fission in a Low-Bandgap Polymer Film  
Yukitomo Kasai,Yasunari Tamai,Hideo Ohkita,Hiroaki Benten,Shinzaburo Ito

**Hiroki Mori, presiding**

- 10:25 2T04 Development of semiconducting polymers containing bithiadiazole units for polymer solar cells  
Seijiro Fukuta,Tomoyuki Koganezawa,Mitsuru Ueda,Tomoya Higashihara
- 10:50 2T05 Effect of Solubilizing Side Chains on the Fundamental and Photovoltaic Properties of Carbazole-Benzothiadiazole D- $\pi$ -A Copolymers  
Kosuke Shibasaki,Takeshi Yasuda,Masashi Kijima

**Yutaka Noguchi, presiding**

- 11:15 2T06 Nanoscale mapping of the intra-domain charge transport property for conjugated polymer blends studied by conductive atomic force microscopy  
Miki Osaka,Hiroaki Benten,Hideo Ohkita,Shinzaburo Ito
- 11:40 2T07 Suppression of the transparent electrode deterioration by bending of flexible organic thin film solar cell  
Daiki Kato,Atsushi Aoki,Takayuki Abe

**Hideo Ohkita, presiding**

- 12:55 2T08 Investigation of slit-die coating process for organic solar cells  
Tatsuya Fukushima,Risako Kuroda,Hironori Kaji
- 13:20 2T09 Mesomorphic and carrier transport properties of the binary mixtures of non-peripherally octahexyl-substituted phthalocyanine and benzoporphyrin  
Yo Shimizu,Yumi Higuchi,Kouki Kawano,Lydia Sosa-Vargas,Hiromichi Itani,Woong Shin,Akihiko Fujii,Masanori Ozaki

**Tetsuya Taima, presiding**

- 13:45 2T10 Orientation Polarization of Organic Evaporated Films and Interface Properties of Organic Light-Emitting Diodes  
Yutaka Noguchi, Hisao Ishii
- 14:10 2T11 Low-energy inverse photoemission study on electron injection/collection mechanism at BCP/metal interface  
Hiroyuki Yoshida

**Akinori Saeki, presiding**

- 14:35 2T12 Electronic States of Organic Opto-electronic Devices Probed by High-sensitivity Photoemission Detection Techniques  
Yasuo Nakayama, Hiroumi Kinjo, Tomoya Sato, Junki Yamazaki, Yusuke Ozawa, Atsushi Yoneyama, Yutaka Noguchi, Kaveenga Rasika, Koswattage, Hisao Ishii
- 15:00 2T13 Carrier formation in organic solar cell  
Yutaka Moritomo, Kouhei Yonezawa, Takeshi Yasuda

**Yutaka Ie, presiding**

- 15:25 2T14 Microscopic investigation of charge formation and accumulation in polymer solar cells and elucidation of device performance deterioration  
Kazuhiro MARUMOTO
- 15:50 2T15 Charge Generation Dynamics in Crystalline Polymer Solar Cells  
Hideo Ohkita, Yasunari Tamai, Hiroaki Benten, Shinzaburo Ito

**Yutaka Matsuo, presiding**

- 16:15 2T16 Development of perovskite solar cells and trials of the preparation on flexible plastic films  
Masashi Ikegami, Tsutomu Miyasaka
- 16:40 2T17 Polymer-Assisted Sol-Gel Method for Construction of Mesoporous TiO<sub>2</sub> Layers and Their Application to Perovskite Solar Cells  
Tomokazu Umeyama, Yuki Kohara, Hiroshi Imahori
- 17:05 2T18 Development of Organic Semiconductors toward Highly Efficient Perovskite Solar Cells  
Atsushi Wakamiya, Hidetaka Nishimura, Gopal Anesh, Naoki Maruyama, Ai Shimazaki, Yumi Nakaike, Tomoko Aharen, Masaru Endo, Ishida Naoki, Akinori Saeki, Yasujiro Murata

**Thu. Sep 17**

**S16. Organic Materials for Energy Conversion**

**Tomokazu Umeyama, presiding**

- 9:10 3T01 Construction of Low-Molecular Organic Photovoltaics by Solution Process using "Precursor Approach"  
Hiroko Yamada, Mitsuharu Suzuki, Yuji Yamaguchi, Kenichi Nakayama
- 9:35 3T02 Morphology control of organic photovoltaic cells by co-evaporant induced crystallization method  
Toshihiko Kaji
- 10:00 3T03 Development of Semiconducting Block Copolymers for Ideal Morphology in Organic Photovoltaics  
Tomoya Higashihara

**Atsushi Wakamiya, presiding**

- 10:25 3T04 Reducing photovoltage loss in organic thin-film solar cells using charge transfer crystals  
Ken-ichi Nakayama, Akito Masuhara, Jun Matsui, Matthew Schuette White, Markus Clark Scharber, Niyazi Serdar Sariciftci, Tsukasa Yoshida
- 10:50 3T05 Development of naphthobisthiadiazole polymers toward the enhancement of Voc in polymer solar cells  
Itaru Osaka, Kazuaki Kawashima, Masahiko Saito, Yasuhito Suzuki, Kazuo Takimiya
- Hiroko Yamada, presiding**
- 11:15 3T06 Phenanthrothiophene-Based Semiconducting Polymers: Substitution Position Effect on Their Solar Cell Performances  
Hiroki Mori, Ryota Toyama, Shuto Hara, Shuhei Nishinaga, Yasushi Nishihara
- 11:40 3T07 Molecular engineering of benzothienoisindigo copolymers allowing highly preferential face-on orientations  
Marina Ide, Akinori Saeki, Yoshiko Koizumi, Shu Seki
- Tomoya Higashihara, presiding**
- 12:55 3T08 Effects of purity and molecular weight of conjugated polymer on photoelectric conversion  
Junpei Kuwabara, Naoto Takase, Takeshi Yasuda, Takaki Kanbara
- 13:20 3T09 Synthesis, Properties, and Photovoltaic Characteristics of pi-Conjugated Polymers Containing New Electron-accepting Units  
Yutaka Ie, Jianming Huang, Shohei Sasada, Makoto Karakawa, Yoshio Aso
- 13:45 3T10 Improving Open-circuit Voltage in Organic Thin-film Solar Cells Utilizing Structural Change of Fullerene Derivative  
Yutaka Matsuo
- Itaru Osaka, presiding**
- 14:10 3T11 High Pressure-Treated Organic Semiconductors  
Toshinori Matsushima, Yu Esaki, Munetomo Inoue, Takashi Fujihara, Qin Chuanjiang, Shinobu Terakawa, Hwang Sunbin, Sandanayaka Atula S. D., J. Potscavage, Jr. William, Chihaya Adachi
- 14:35 3T12 Interlayer effect on polymer based organic photovoltaic cell  
TETSUYA TAIMA, JUN TANAKA, TAKAYUKI KUWABARA, KOUSHIN TAKAHASHI
- Toshihiko Kaji, presiding**
- 15:00 3T13 Fundamental Characteristics of a Benzotriazaporphyrin Derivative and It's Solar Cell Application  
Akihiko Fujii, Quang-Duy Dao, Masashi Ohmori, Koichi Watanabe, Kento Fujita, Dai Nakagawa, Hiromichi Itani, Lydia Sosa-Vargas, Yo Shimizu, Masanori Ozaki
- 15:25 3T14 Development of ring-expanded phthalocyanines toward utilization of near-infrared light  
Atsuya Muranaka, Xuan Wang, Tetsuya Aoyama, Xingmei Ouyang, Rieko Tanaka, Masanobu Uchiyama

<b>Room U</b>
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**Tue. Sep 15**

**S17. Novel Basis of Biopolymers Emerged from Structural Control**

- 9:50 1USO Introductory Remarks S17  
Kensuke Osada
- Takehiko Wada, presiding**
- 10:00 1U03 Sequence Control for Vinyl Polymers: Molecular Design Inspired from Nature  
Makoto Ouchi, Marina Nakano, Takahiro Konishi, Dongyoung Oh, Kana Nishimori, Paul Brooks, Mitsuo Sawamoto
- 10:25 1U04 Peptide-Polymer Hybrids inspired by GFP-higher order structure  
Shinnosuke Nishimura, Tomoyuki Koga, Nobuyuki Higashi
- 10:50 1U05 Synthesis of Novel Structural Protein Materials with Spider Dragline Silk-Like Structures  
Kousuke Tsuchiya, Keiji Numata
- Yoshihiro Sasaki, presiding**
- 11:15 1U06 Hetero-selective duplex formation by using charge transfer interaction  
Hiromu Kashida, Takumi Sakakibara, Tetsuya Doi, Yasuyuki Araki, Takehiko Wada, Hiroyuki Asanuma
- 11:40 1U07 Design of Discrete DNA-Functionalized Gold Nanoparticle Assemblies with a Beads-on-a-String-Like Structure and Their Structural Changes Depending on Terminal Base-Pairing  
Yoshitsugu Akiyama, Shota Shiraishi, Guoqing Wang, Tohru Takarada, Mizuo Maeda
- Kensuke Osada, presiding**
- 12:55 1U08IL Control of the structural diversity in catalytic antibodies  
Emi Hifumi
- Hiromu Kashida, presiding**
- 13:45 1U10 Construction of 3D-layered lipid bilayers as a thylakoid membrane mimic  
Takehisa Dewa, Kouji Momota, Tatsuki Yamada, Masaharu Kondo, Mamoru Nango
- 14:10 1U11 Molecular design of in vivo protein crystals for constructing supramolecular nanocup structures  
Hashiru Negishi, Satoshi Abe, Hajime Mori, Takafumi Ueno
- 14:35 1U12 Design of micrometer-sized films for coating on cell surfaces to construct cell-density controlled thick 3D-tissues  
ChunYen Liu, Michiya Matsusaki, Mitsuru Akashi
- Takehisa Dewa, presiding**
- 15:00 1U13 Development of Primary Structure-dependent Redox-activity of PEG-b-Poly(pyridine)  
Daisuke Matsukuma, Shuto Noguchi, Yukie Maejima, Hidenori Otsuka
- 15:25 1U14 pH-dependent molecular motion inside the core of micells of amphiphilic block copolymers  
Aya Matsubara, Takeaki Yoshida, Masato Takahashi, Tooru Yoshitomi, Yukio Nagasaki
- 15:50 1U15 pH-Responsive Self-Assembling Peptide Gels for Cell Culture Materials  
Hiroshi Tsutsumi, Kunifumi Tanaka, Hisakazu Mihara
- Toshinori Sato, presiding**
- 16:15 1U16 Growthfactor immobilization with a higher activity for preventing the rejection of porous scaffolds  
Tetsuji Yamaoka, Yuusuke Sakai, Toshia Fujisato, Sachiro Kakinoki
- 16:40 1U17 Orientation mechanism of rigid polysaccharides on gas-liquid/solid-liquid interfaces in drying process and fabrication of anisotropically-swelling gels  
Kosuke OKEYOSHI, Gargi JOSHI, Kittima AMORNWACHIRABODEE, Maiko

OKAJIMA, Tatsuo KANEKO

- 17:05 1U18 Preparation of quadruplexes hydrogels using PEG-DNA copolymers  
Shizuma Tanaka, Kazuki Fukushima, Kenta Wakabayashi, Akinori Kuzuya, Yuichi Ohya

**Yoshitsugu Akiyama, presiding**

- 17:30 1U19 Construction of gliding MOF-Microtubule conjugates powered by molecular motor protein  
Masaki Ito, Takumi Ishiwata, Kenta Kokado, Akira Kakugo, Kazuki Sada
- 17:55 1U20 Emergence and bioapplications of soft nanomaterial via nanoparticles manipulation  
Yoshihiro Sasaki, Riku Kawasaki, Kiyofumi Katagiri, Iki Taketani, Hiroki Yoshitake, Shinichi Sawada, Sada-atsu Mukai, Kazunari Akiyoshi

**Wed. Sep 16**

**S17. Novel Basis of Biopolymers Emerged from Structural Control**

**Kanjiro Miyata, presiding**

- 9:10 2U01 Regulation of Molecular Recognition by Structural Changes of Stimuli-Responsive Hydrogels with Dynamic Molecular Recognition Sites and Their Potential Biomedical Applications  
Takashi Miyata, Kazuya Matsumoto, Yoshiaki Kuriu, Akifumi Kawamura
- 9:35 2U02 Controlled assembly of DNA-conjugated gold nanorods: a non-crosslinking approach  
Guoqing Wang, Tohru Takarada, Mizuo Maeda
- 10:00 2U03 Photocatalytic reactions by photosynthetic proteins immobilized in nano porous glass plates  
Tomoyasu Noji, Masaharu Kondo, Tetsuro Jin, Takanao Suzuki, Mikihiro Tada, Shigeru Itoh, Mamoru Nango, Takehisa Dewa

**Tomonori Waku, presiding**

- 10:25 2U04 Development of method for compatibility estimation of the bioplastic blend with a bridged diphenylamine-containing polymer  
Hideki Hayashi, Masanobu Maeda, Junpei Kuno, Taiki Naruo, Hiroki Hirota, Yukio Onouchi, Masaki Harada, Kouji Iida, Koji Hirano
- 10:50 2U05 Single molecule binding analysis of chitinase on chitin surface and application to functional materials  
Saki Kato, Asuka Masui, Yuko Nakagawa, Toshiaki Mori
- 11:15 2U06 Immobilization of sugar-mimic peptide on diamond electrode and electrochemical detection of influenza virus  
Teruhiko Matsubara, Michiko Ujie, Miku Akahori, Takashi Yamamoto, Yasuaki Einaga, Toshinori Sato
- 11:40 2U07 Detection of miRNA by DNzyme complexed with cationic copolymer.  
Tomoya Oyanagi, Naohiko Shimada, Atsushi Maruyama

**Kensuke Osada, presiding**

- 12:55 2U08IL Innovation of Biopolymers Emerged from Structural Regulation of Interfaces: Characterization of Biopolymers by Surfaces Measurement  
Kazue Kurihara

**Takeshi Serizawa, presiding**

- 13:45 2U10 Control of lipid membrane structure with grafted copolymer/peptide complexes



- Takuma Umegae, Naohiko Shimada, Athushi Maruyama
- 14:10 2U11 Utilization of structural changes for immobilizing of functional peptides to silk fibroin materials  
Tomoko Hashimoto, Yuka Nakamura, Hitomi Ishikawa, Tetsuji Yamaoka, Tsunenori Kameda, Yasushi Tamada, Hiromichi Kurosu
- 14:35 2U12 Development of antigen delivery system based on beta-sheet peptide nanofibers  
Tomonori WAKU, Ayane KASAI, Shigeru KUNUGI, Naoki TANAKA
- Atsushi Maruyama, presiding**
- 15:00 2U13 Construction and Thermophysical Property Investigation of Liquid Crystalline Films Composed of Oriented Filamentous Viruses  
Yuta Murata, Toshiki Sawada, Hironori Marubayashi, Shuichi Nojima, Junko Morikawa, Takeshi Serizawa
- 15:25 2U14 Modification of proteins onto surface of artificial viral capsid  
Kazunori Matsuura, Takahide Honjo, Yuriko Shiomi, Takashi Iwasaki
- 15:50 2U15 Biological light source-encapsulated virus capsule toward plasmonic devices  
Naotoshi Sugimura, Kenichi Niikura, Hideyuki Mitomo, Hirofumi Sawa, Yoshiyuki Arai, Takeharu Nagai, Kuniharu Ijiro
- Kazunori Matsuura, presiding**
- 16:15 2U16 Development and functional evaluation of enzyme-loaded PIC vesicles as nano-reactors working in vivo in blood compartment  
Daiki Sueyoshi, Yasutaka Anraku, Kazunori Kataoka
- 16:40 2U17 New potential of nucleic acids opened by high pressure  
Shuntaro Takahashi, Naoki Sugimoto
- 17:05 2U18 Quantitative evaluation of beneficial effect on nucleic acids therapeutics by intramolecular cross-linking for structural pre-organization  
Junji Kawakami, Saori Tahara, Erisa Tomita, Mew Sumimoto

**Thu. Sep 17**

**S17. Novel Basis of Biopolymers Emerged from Structural Control**

**Kuniharu Ijiro, presiding**

- 9:10 3U01 Regulation of DNA functions through reversible formation of omega-shaped global structure  
Toshihiro Ihara, Hidenaga Kodani, Tomoya Matsuo, Yuya Nariai, Yusuke Kitamura
- 9:35 3U02 Development of High Sensitive and High Time-Resolve Circular Dichroism Detection Method -Toward the Analyses of Supramolecular Chirality and Dynamics-  
Takehito SATO, Makoto KURONUMA, Makoto MURAKAMI, Yasuyuki ARAKI, Seiji SAKAMOTO, Takehiko WADA
- 10:00 3U03 Delivery of nucleic acid medicines using DNA nanotechnology  
Shuto Tokunaga, Shinichi Mochizuki, Noriko Miyamoto, Kazuo Sakurai

**Toshihiro Ihara, presiding**

- 10:25 3U04 Novel Strategy for Highly Functionalized Oligonucleotide Therapeutics Artificial Nucleic Acids Emerged from Structural Control  
Takehiko WADA, Ryohei UEMATSU, Hiroka SUGAI, Mitsuo ASAI, Masahito INAGAKI, Yasuyuki ARAKI, Seiji SAKAMOTO, Hiromu KASHIDA, Hiroyuki ASANUMA, Satoru ISHIBASHI, Takanori YOKOTA
- 10:50 3U05 Development of nuclease-resistant terminus-free siRNA prepared by photo-

- crosslinking  
Yukiko Kamiya, Kazuki Iishiba, Tetsuya Doi, Hiromu Kashida, Hiroyuki Asanuma
- 11:15 3U06 Precise construction of single siRNA-loaded unit polyion complexes using PEG-block-cationomers  
Kanjiro Miyata, Kotaro Hayashi, Hiroyuki Chaya, Sumiyo Watanabe, Kazuko Toh, Shigeto Fukushima, Wanjun Lan, Hyun Jin Kim, Hiroyasu Takemoto, Nobuhiro Nishiyama, Kensuke Osada, Kazunori Kataoka
- Hiroyuki Asanuma, presiding**
- 11:40 3U07 Morphological and functional control of polyplexes by the effect of multi-arm PEG crowding effect  
Atsushi Harada, Kenta Nomura, Eiji Yuba, Kenji Kono
- 12:55 3U08 Development of polysaccharide nanoparticles for reverse transfection method  
Toshinori Sato, Takahiro Arai, Yu Aiki
- 13:20 3U09 Development of intracellular delivery carrier with amphiphilic glucan dendrimers  
Shigeo Takeda, Akiko Kubo, Shin-ichi Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi
- Mizuo Maeda, presiding**
- 13:45 3U10 The development of polymer aptamer recognizing the target peptide  
Sho Katakami, Haejoo Lee, Shinnosuke Shimohara, Yu Hoshino, Yoshiko Miura
- 14:10 3U11 Minimization of the polyplex micelle size for treatment of stroma-rich pancreatic cancer by systemic gene therapy  
Wan Ling Foo, Kensuke Osada, Theofilus A. Tockary, Dirisala Anjaneyulu, Kazunori Kataoka
- 14:35 3U12 Control of pDNA packaging within a polyplex micelle and functional emergence as gene carriers  
Kensuke Osada, Qixian Chen, Theofilus Tockary, Anjaneyulu Dirisala, Yanmin Li, Wanling Foo, Kaori Takeda, Kazunori Kataoka

<b>Room V</b>
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**Tue. Sep 15**

**S18. Regulation and Analysis of Biological Functions by Polymers ~Polymer Meets Biology~**

- 9:50 1VSO Introductory Remarks S18  
Nobuhiro Nishiyama, Takashi Hoshiba
- Takashi Hoshiba, presiding**
- 10:00 1V03 Engineering of 3D tissue constructs with well-organized cell orientation using anisotropic cell sheets  
Hironobu Takahashi, Tatsuya Shimizu, Masamichi Nakayama, Masayuki Yamato, Teruo Okano
- 10:25 1V04 Design of biointerface for capture and collection of target cells  
Tsuyoshi Kimura, Naoko Nakamura, Nao Sasaki, Kanji Umeda, Shimon Sakaguchi, Shunsaku Kimura, Akio Kishida
- 10:50 1V05 Photo-processings of cultured cells using PAG-polymer-functionalized substrates  
Kimio Sumaru, Kana Morishita, Toshiyuki Takagi, Taku Satoh, Toshiyuki

Kanamori

**Sachiro Kakinoki, presiding**

- 11:15 1V06 Effect of Molecular Structure on Surface Hydration and Biocompatibility Modified by Ethylene Glycol-Based Polymer  
Hidenori Otsuka, Ryutaro Sato, Ykie Maejima, Daisuke Matsukuma
- 11:40 1V07 Control of Cell Proliferation by Modulating Adhesion between Cells and Polysaccharide Composite Films  
Kazutoshi Iijima, Yuna Tsuji, Atsushi Kakimoto, Rie Ninomiya, Takuya Iyoda, Fumio Fukai, Mineo Hashizume

**Satoshi Fujita, presiding**

- 12:55 1V08 Controlled cell attachment using oligonucleotide-poly(ethylene glycol)-lipid conjugates and their behavior at cell membrane  
Yusuke Arima, Hiroo Iwata
- 13:20 1V09 Cell surface modification with polymers for analyzing intercellular interaction  
Yuji Teramura
- 13:45 1V10 Precise operation of cell adhesion behavior on RGD peptide-immobilized phospholipid polymer brush surface  
Yuuki Inoue, Misaki Ito, Kazuhiko Ishihara

**Tsuyoshi Kimura, presiding**

- 14:10 1V11 Immobilization of cell adhesive peptide through direct oxidation of tyrosine residue by transition metal catalyst and hydrogen peroxide  
Sachiro Kakinoki, Yoshiaki Hirano, Tetsuji Yamaoka
- 14:35 1V12 Fabrication of Biodegradable IPN-type Injectable Hydrogel Consisting of Self-assembling Peptide and Chitosan to enhance Three-dimensionally Cultured Chondrocyte Functions  
Shohei Ishikawa, Daisuke Matsukuma, Michihiro Iijima, Hidenori Otsuka
- 15:00 1V13 Design of surface-binding growth factors with peptide sequence containing non-coding amino acids  
Seiichi Tada, Xiaoyue Zhou, Liping Zhu, Hongli Mao, Yoshihiro Ito

**Nobuhiro Nishiyama, presiding**

- 15:25 1V14 Phagocytic activity of nucleic acid aptamer-immobilized macrophages  
Shunsuke Sugimoto, Takeshi Mori, Yasuhiko Iwasaki
- 15:50 1V15 Recruiting endogenous IgG for cancer immunotherapy  
Takeshi Mori, Koichi Sasaki, Daiki Funamoto, Akihiro Kishimura, Yoshiki Katayama, Daisuke Asai, Kazuki Sato, Yoko Yamaguchi
- 16:15 1V16 Design of cationic comb-type copolymer/peptide nanocomplex manipulating lipid bilayer folding  
Nozomi Kume, Takuma Umegae, Naohiko Shimada, Atsushi Maruyama
- 16:40 1V17 Design and function of hybrid exosomes  
Shin-ichi Sawada, Yuko Sato, Kaori Umezaki, Sadaatsu Mukai, Yoshihiro Sasaki, Kazunari Akiyoshi

**Kenji Kono, presiding**

- 17:05 1V18 Development of artificial importin using polymeric nanogels and its protein nuclear transport technology  
Koji Nagahama, Yoshinori Sano, Kenta Nakanishi
- 17:30 1V19 Design and construction of a oxidative stress scavenging biointerface for cell separations  
Yutaka Ikeda, Tomoki Yoshinari, Hirotoshi Miyoshi, Yukio Nagasaki
- 17:55 1V20 Highly Efficient and Temperature-Controllable Photocytotoxicity by Gold Nanoparticle-Loaded Thermo-Sensitive Elastin-Mimetic Dendrimers  
Chie Kojima, Daichi Fukushima

Wed. Sep 16

**S18. Regulation and Analysis of Biological Functions by Polymers ~Polymer Meets Biology~**

**Michiya Matsusaki, presiding**

- 9:10 2V01 Separation System of Cancer Cell Cultivated in Photo-Degradable Hydrogel  
Masato Tamura, Mayu Shibuta, Shinji Sugiura, Toshiyuki Takagi, Kimio Sumaru, Hirofumi Matsui, Masumi Yanagisawa, Kei Kanie, Ryuji Kato, Toshiyuki Kanamori
- 9:35 2V02 Immunological Control through Apoptotic Cell Membrane Mimetic Phospholipid Polymer  
Yasuhiro Nakagawa, Atsuhiko Saitou, Takao Aoyagi, Mitsuhiro Ebara
- 10:00 2V03 Structural Analyses of Mucin and Related Functions: From The Investigation of Jellyfish Mucin (Qniumucin)  
Kiminori Ushida, Minami Sugiyama, Ayaka Ohata, Tatsuki Kobayashi, Takunori Ueda, Hiroshi Inui

**Satoru Kidoaki, presiding**

- 10:25 2V04 Analysis and control of invasion of cancer cells by using fine fibers  
Satoshi Fujita, Yusuke Ogihara, Kei-ichiro Kanamori, Yuta Torimoto, Shin-ichiro Suye
- 10:50 2V05 Exploring nanomechanobiology in collective cell migration by using photoactivatable substrates  
Jun Nakanishi
- 11:15 2V06 Fibronectin mimicked mixed-peptide chitosan matrix binds integrin  $\alpha 5 \beta 1$ ,  $\alpha 4 \beta 1$  and syndecan  
Kentaro Hozumi, Haruna Hori, Kyotaro Nakamura, Mari Miyagi, Fumihiko Katagiri, Yamato Kikkawa, Motoyoshi Nomizu
- 11:40 2V07 Chemosensitivity of cancer cells cultured on staged tumorigenesis-mimicking matrices  
Takashi Hoshiba

**Jun Nakanishi, presiding**

- 12:55 2V08 Preparation of tissue development-mimicking matrices for regenerative medicine  
Guoping Chen, Rong Cai, Takashi Hoshiba, Naoki Kawazoe
- 13:20 2V09 Maintaining quiescent state of mesenchymal stem cells in polysaccharide nanofibers-dispersed culture medium  
Satoru Kidoaki, Yukie Tsuji, Hisato Hayashi, Takehisa Iwama, Masato Horikawa
- 13:45 2V10 Functional Evaluation of Periodic Peptide That Formation of Cell Aggregation and Differentiation Induction  
Yoshiaki Hirano, Yudai Futaki, Sachiro Kakinoki
- 14:10 2V11 Regulation of stem cell differentiation by tuning protein adsorption on the substrates coated with PMEA and its analogs with different intermediate water contents.  
Eri Nemoto, Takashi Hoshiba, Kazuhiro Sato, Masaru Tanaka

**Shoichiro Asayama, presiding**

- 14:35 2V12 Induction of antigen specific CTL activity by immunization with peptides and CpG-DNAs complexed with  $\beta$ -glucan  
Shinichi Mochizuki, Hiromi Morishita, Kazuo Sakurai

- 15:00 2V13 Preparation of autogenous cancer vaccine using cellular membrane-derived vesicles modified with pH-sensitive polymers  
Eiji Yuba, Takanori Sakano, Takumi Kato, Takuma Urasaki, Atsushi Harada, Kenji Kono
- 15:25 2V14 Design of multifunctional liposome vaccine using pH-sensitive polymers, cationic lipid and CpG-DNA  
Yuta Yoshizaki, Eiji Yuba, Naoki Sakaguchi, Kazunori Koiwai, Atsushi Harada, Kenji Kono
- 15:50 2V15 Preparation of high performance liposomes by incorporation of target specific ligands and thermosensitive polymers for precision drug delivery  
Kenji Kono, Munenobu Takashima, Eiji Yuba, Atsushi Harada, Sadahito Aoshima
- Atsushi Harada, presiding**
- 16:15 2V16 Protein Condensate: Development of novel complex material of protein, surfactant and water  
Tatsuya Nojima, Tomokazu Iyoda
- 16:40 2V17 Filamentous Viruses as Neodymium-specific Adsorbents  
Toshiki Sawada, Masaya Asada, Kanjana Khunathai, Hiroaki Fukuda, Takeshi Serizawa
- 17:05 2V18 Design of new medical materials based on cell interaction of N-acetylglucosamine-bearing polymers  
Hirohiko Ise, Sadanori Yamasaki, Yoshiko Miura

**Thu. Sep 17**

**S18. Regulation and Analysis of Biological Functions by Polymers ~Polymer Meets Biology~**

**Nobuhiro Nishiyama, presiding**

- 9:10 3V01 Interaction of bioactive compounds on polystyrene monolithic flow channel modified with thermoresponsive polymers with controlled chain length  
Takuya Koriyama, Ishihara Ryo, Kikuchi Akihiko
- 9:35 3V02 Design of thermoresponsive core-corona type nanoparticles for imitable biofunction  
Akihiko KIKUCHI, Takuya Matsuyama, Taka-Aki ASOH, Ryo ISHIHARA
- 10:00 3V03 Development of a novel injectable polymer formulation forming chemically cross-linked hydrogel in response to physiological condition  
Yasuyuki YOSHIDA, Keisuke KAWAHARA, Shintaro MITSUMUNE, Shinya ICHIKAWA, Kenta INAMOTO, Akinori KUZUYA, Yuichi OHYA
- 10:25 3V04 Self-Assembly of Amphiphilic Liquid Crystalline Polymers Exhibiting Phase Transition at Body Temperature and Their Applications as Drug Carriers  
Yasuaki Inoue, Akifumi Kawamura, Takashi Miyata

**Hironobu Takahashi, presiding**

- 10:50 3V05 In Vivo Diffusive Gene Delivery by the Plasmid DNA Mono-ion Complexes  
Shoichiro Asayama, Atsushi Nohara, Yoichi Negishi, Hiroyoshi Kawakami
- 11:15 3V06 Polymer/silicate Hybrid Nanocarrier for siRNA Delivery  
Mitsuru Naito, Ryota Azuma, Hiroyasu Takemoto, Hyun jin Kim, Takehiko Ishii, Nobuhiro Nishiyama, Kanjiro Miyata, Kazunori Kataoka
- 11:40 3V07 Higher-Order Structures in the Core of Polymeric Micelles Incorporating Platinum Anticancer Drugs Determine Their Stability and Functions  
Yuki Mochida, Horacio Cabral, Yutaka Miura, Francesco Albertini, Kensuke

Osada, Nobuhiro Nishiyama, Kazunori Kataoka

**Tetsuji Yamaoka, presiding**

- 12:55 3V08 Challenge to Next-generation Medicine and Drug Assessment of Vascularized Human iPSC-derived 3D-Cardiac Myoblast Tissues  
Yuto Amano, Michiya Matsusaki, Shigeru Miyagawa, Yoshiki Sawa, Mitsuru Akashi
- 13:20 3V09 Development of Hydrophobically-modified, Pollock-derived Gelatin-based Biocompatible Sealants  
Ryo Mizuta, Temmei Ito, Keiko Yoshizawa, Tetsushi Taguchi
- 13:45 3V10 The effect of dissociative interlocked polymers on the metabolic phenotypes of Niemann-Pick type C disease  
Atsushi Tamura, Nobuhiko Yui

**Chiaki Yoshikawa, presiding**

- 14:10 3V11 Controlled fragmentation of blood circulatory polymers with subcritical water: A new manipulation for next generation sequencing and biomarker discovery  
Kana Kawasaki, Sanai Tsunokuni, Masayoshi Seike, Satomi Kishimoto, Rena Tsuruoka, Hiroyuki Kabata
- 14:35 3V12 Preparation of thermoresponsive block copolymer brushes possessing cationic basal layer for thermally-modulated protein adsorption  
Kenichi Nagase, Jun Kobayashi, Akihiko Kikuchi, Yoshikatsu Akiyama, Hideko Kanazawa, Teruo Okano

**Room W**

**Tue. Sep 15**

**D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Junji Watanabe, presiding**

- 10:00 1W03 Alignment of side-chains chromophores along peptide nanotube of cyclic peptides  
Yuki Tabata, Shunsaku Kimura
- 10:25 1W04 Photoimmobilization of proteins on non-fouling polymer surface  
Yasuhiko Iwasaki, Masako Tanaka
- 10:50 1W05 Preparation and characterization of pH-responsive diblock copolymer through RAFT polymerization using a macroinitiator  
Yusuke Onuma, Ryo Ishihara, Glen S. Kwon, Akihiko Kikuchi

**Masao Kamimura, presiding**

- 11:15 1W06 Preparation and characterization of biodegradable polymeric nanoparticles  
Satomi Ishida, Syuuhei Komatsu, Taka-Aki Asoh, Ryo Ishihara, Akihiko Kikuchi
- 11:40 1W07 Evaluation of protein interaction onto thermoresponsive polymer brush surfaces with affinity ligands by surface forces measurement  
Kenji KUDO, Takuya KORIYAMA, Ryo ISHIIHARA, Akihiko KIKUCHI

**Masaru Tanaka, presiding**

- 12:55 1W08 Creation of amphiphilic polymers with varying the crystallinity of the hydrophobic segment and evaluation of their surface wettability  
Riku Koezuka, Atsushi Kimoto, Junji Watanabe

- 13:20 1W09 Near-infrared luminescent nanothermometer based on PEGylated ceramic nanoparticles  
Masao Kamimura, Taiki Matsumoto, Satoru Suyari, Kohei Soga
- 13:45 1W10 Preparation and evaluation of thermoresponsive diagnostic nanoparticles with amount of sugar recognition moieties.  
Takuya Matsumoto, Takuya Matsuyama, Ryo Ishihara, Akihiko Kikuchi
- 14:10 1W11 Conducting polymers functionalized with phosphorylcholine group for biomolecular detection  
Masahiro Toya, Tatsuro Goda, Akira Matsumoto, Yuji Miyahara
- Yuji Hirai, presiding**
- 14:35 1W12 Permethylated Oligosaccharide-Polythiophene Conjugates: Chiroptical Properties and Application to Selective Oligopeptides-Sensing in Aqueous Media  
Yuki Ishida, Gaku Fukuhara, Tadashi Mori, Yoshihisa Inoue
- 15:00 1W13 Control of Dynamic Planar Chirality in Peptide-Bound Metallomacrocycles  
Fumihiko MAMIYA, Naoki OUSAKA, Eiji YASHIMA
- 15:25 1W14 Studies on the excited state dynamics of cyclodextrin inclusion complex by time-resolved Circular Dichroism (CD) measurement system  
Makoto KURONUMA, Yasuyuki ARAKI, Seiji SAKAMOTO, Takehiko WADA
- Atsushi Harada, presiding**
- 15:50 1W15 Friction measurements of *Thermobia domestica*'s scales by Atomic force microscopy  
Naoto Okuda, Yuji Hirai, Masatsugu Shimomura
- 16:15 1W16 Temperature-Dependent Infrared Spectra of Betaine Polymers  
Shigeaki Morita, Jun Teranishi, Masaru Tanaka
- 16:40 1W17 Development of fluorescent nanoparticle probes for quantification of HER family dimers relating to cancer malignancy  
Narufumi Kitamura, Gonda Kosuke, Hiroshi Tada, Nakano Yasushi, Ohuchi Noriaki
- Gaku Fukuhara, presiding**
- 17:05 1W18 MicroRNA detection on a power-free microfluidic chip having three dimensionally immobilized probe DNAs onto the channel inner surface  
Yoshitaka Uchino, Ryo Ishihara, Kazuo Hosokawa, Mizuo Maeda, Akihiko Kikuchi
- 17:30 1W19 Molecular crowding effect on PCR amplification of multi-arm PEGylated polyplexes  
Kenta Nomura, Eiji Yuba, Atsushi Harada, Kenji Kono
- 17:55 1W20 Preparation of the oxygen supply device in water that mimics the plastron of insects  
Naoki Yanagi, Yuji Hirai, Masatsugu Shimomura

**Wed. Sep 16**

#### **D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Kenji Kono, presiding**

- 9:10 2W01 Preparation and characterization of citrulline polypeptides that show UCST-type thermoresponse  
Soutaro Kuroyanagi, Naohiko Shimada, Atsushi Maruyama
- 9:35 2W02 Drug-releasing behavior from PLA electrospun nanofibers

Yuji Yoshida, Hideki Yamane, Hirokazu Yamada, Shinichi Yagi, Keiji Igaki  
10:00 2W03 Self-assembling curcumin amphiphile nanostructures as anticancer nanodrugs and dual drug delivery carriers  
Koji Nagahama, Saeko Maekawa, Tomoya Utsumi, Takayuki Kumano

**Naohiko Shimada, presiding**

10:25 2W04 Preparation of temperature and pH dually responsive liposomes using methacrylate copolymers and their carrier functions  
Takumi Sugimoto, Naoko Yamazaki, Eiji Yuba, Atsushi Harada, Kenji Kono

10:50 2W05 Gelatin particles encapsulating magnetic iron oxide modified with organic molecules for a drug carrier.  
Seiko Oishi, Yoshitaka Kitamoto

11:15 2W06 Phenylboronic acid-containing framboidal nanoparticles for drug delivery application  
Urara Hasegawa, Andre van der Vlies

11:40 2W07 Control of histone modification by lipid-coated biodegradable nanoparticles for the novel cancer therapy.  
Yutaro Asaba, Risa Shimazaki, Kazuhiko Nakabayashi, Shoichiro Asayama, Hiroyoshi Kawakami

**Yoshihiro Sasaki, presiding**

12:55 2W08 Development of polyplex micelles with phenylboronic acid-based intracellular environment responsive cross-linking for efficient gene delivery -Effect of phenylboronic acid-based cross-linking on intracellular trafficking-  
Naoto Yoshinaga, Takehiko Ishii, Taisuke Endo, Mitsuru Naito, Satoshi Uchida, Kensuke Osada, Kazunori Kataoka

13:20 2W09 Preparation of hollow nanocapsules for the delivery of cationic sonosensitizers exhibiting different intracellular distribution  
Ryoma Teranishi, Eiji Yuba, Atsushi Harada, Kenji Kono

13:45 2W10 Preparation of functional dendrimer-gold nanohybrids for drug and gene delivery  
Kenji Kono, Tomoya Tirata, Takuya Hashimoto, Eiji Yuba, Atsushi Harada

**Koji Nagahama, presiding**

14:10 2W11 Synthesis and the biofunction vitamin B6-bearing polysaccharide nanogel incorporating active enzyme  
Takahiro Yoshimura, Riku Kawasaki, Tomoki Nishimura, Shinichi Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi

14:35 2W12 Design and evaluation of antigen delivery system with functional nanogels  
Yukihiro Inuzuka, Yoshiro Tahara, Shin-ichi Sawada, Kazunari Akiyoshi

15:00 2W13 Biocompatibility mechanism of poly(tetrafluoroethylene-co-vinyl alcohol)  
Masayasu Totani, Tsuyoshi Ando, Masao Tanihara, Haruhiko Mouri, Yoshito Tanaka, Tadashi Kanbara, Jun Miki

15:25 2W14 Synthesis of aliphatic polycarbonates with a cyclic ether moiety at the side chain and evaluation of the blood compatibility  
Shunya Takaoka, Masaru Tanaka, Kazuki Fukushima

**Hiroyoshi Kawakami, presiding**

15:50 2W15 Tissue response and regeneration in peptide-modified decellularized vascular graft  
Atsushi Mahara, Marina Kitai, Akihisa Otaka, Maria Munisso, Yuichi Ohya, Tetsuji Yamaoka

16:15 2W16 Development of new blood compatible polymers which is capable of maintaining hepatic functions for bioartificial liver  
Takashi Hoshihara, Takayuki Otaki, Masaru Tanaka



- 16:40 2W17 Dynamics evaluation of neural progenitor cells transplanted with functional hydrogel into the brain and relationships of improvement from Parkinson's disease  
Tadashi Nakaji-H., Kurumi Fujimoto, Hiromi Kitano, Kazuaki Matsumura
- 17:05 2W18 Enhancement of plasma membrane-disrupting activity of amphiphilic peptides by a cationic graft copolymer  
Wakako Sakamoto, Nozomi Kume, Naohiko Shimada, Atsushi Maruyama

**Thu. Sep 17**

#### **D. BIOPOLYMERS AND BIORELATED POLYMERS**

##### **Atsushi Mahara, presiding**

- 9:35 3W02 Effects of affinity-bound heparin-binding growth factors onto heparin-functionalized thermoresponsive cell culture surfaces on cultured cells  
Jun Kobayashi, Yoshikatsu Akiyama, Masayuki Yamato, Terup Okano
- 10:00 3W03 A fabrication method to create a thick collagen bundle composed of uniaxially aligned fibrils: An essential technology for the development of artificial tendon matrices  
Shunji Yunoki, Hirosuke Hatayama, Mizue Ebisawa, Eiji Kondo, Kazunori Yasuda
- 10:25 3W04 Why are orb-webs of spiders strong against rain ?  
Shigeyoshi Osaki

##### **Yasuyuki Araki, presiding**

- 10:50 3W05 Influence of water contents on thermal properties of silk fibroin  
Kenjiro Yazawa, Keiji Numata
- 11:15 3W06 Crystal structure and mechanical/thermal properties of *Antheraea yamamai* silk fibers  
Keiji Numata, Ryota Sato, Hiroyasu Masunaga, Takaaki Hikima
- 11:40 3W07 Solid state NMR Analysis of Lamellar Structure of *Bombyx mori* Silk Fibroin with Silk II Form  
Shunsuke Kametani, Akihiro Aoki, Katsuyuki Shizu, Furitsu Suzuki, Hironori Kaji, Testuo Asakura

##### **Kazuma Yasuhara, presiding**

- 12:55 3W08 Innovative Technological Development for the Production of the Complex between Low Water-Soluble Compound and Target Protein  
Shigeru Sugiyama, Keisuke Kakinouchi, Hanako Ishida, Hiroyoshi Matsumura, Hiroaki Adachi, Kazufumi Takano, Mihoko Maruyama, Hiroshi Yoshikawa, Yoshinori Takahashi, Masashi Yoshimura, Satoshi Murakami, Tsuyoshi Inoue, Mchio Murata, Yusuke Mori
- 13:20 3W09 Supramolecular Asymmetric Photochirogenesis of 2-Anthracenecarboxylate (AC) with Proteins and Protein Polymer Hybrids as Chiral Reaction Media-11 - Creation of new type of reaction media by PEGylation of AC included Serum Albumin -  
Mitsuru Okugi, Haruhiko Sasaki, Souta Toyooka, Masaki Nishijima, Yasuyuki Araki, Seiji Sakamoto, Yutaka Ikeda, Yukio Nagasaki, Yoshihisa Inoue, Takehiko Wada
- 13:45 3W10 Development of functional proteoliposomes prepared by the hybrid of phospholipid bilayers and inorganic particles  
Iki Taketani, Sadaatsu Mukai, Shinichi Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi

##### **Shigeru Sugiyama, presiding**

14:10	3W11	Controlled formation of biomimetic lipid nanotubes and potential biomedical applications <u>Hiroki Yoshitake</u> , Takuto Kosai, Shinichi Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi
14:35	3W12	Amphiphilic polymers for the recognition of cell membrane curvature <u>Manami Tsukamoto</u> , Kenichi Kuroda, Jun-ichi Kikuchi, Kazuma Yasuhara
15:00	3W13	Design and evaluation of membrane-active antimicrobial agents with a calixarene backbone <u>Kazuma Yasuhara</u> , Takuto Nakano, Sachi Nagai, Jun-ichi Kikuchi

<b>Room X</b>
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**Tue. Sep 15**

**D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Shin-ichiro Shoda, presiding**

10:00	1X03	Synthesis of Novel Heteropolysaccharides by Phosphorylase-catalyzed Enzymatic Copolymerization <u>Jun-ichi KADOKAWA</u> , Ryotaro BABA, Kazuya YAMAMOTO
10:25	1X04	Synthesis of Non-Natural Aminopolysaccharides by Phosphorylase-catalyzed Enzymatic Polymerization <u>Kento Yamashita</u> , Kazuya Yamamoto, Jun-ichi Kadokawa
10:50	1X05	Synthesis and Characterization of Well-Defined Janus-Type Bottle Brush with Chiral Cellulose <u>Yuji Kinose</u> , Keita Sakakibara, Yoshinobu Tsujii

**Shinichi Mochizuki, presiding**

11:15	1X06	Stereoselective Inclusion of Polypeptides by Amylose in Vine-Twining Polymerization <u>Ryuya Gotanda</u> , Kazuya Yamamoto, Jun-ichi Kadokawa
11:40	1X07	Construction of hierarchical structure of methylated cyclodextrin in constrained geometry nano-thin films <u>Shigesaburo Ogawa</u> , Isao Takahashi
12:55	1X08	Water-Soluble Polyion Complex Micelles Containing Galactose on the Surface <u>Ryusuke Enomoto</u> , Yukie Oosako, Kazuhiko Ishihara, Shin-ichi Yusa
13:20	1X09	Formation mechanism of complex between phosphorylated pullulan and cationic surfactants <u>Takumi Okihara</u> , Hiroki Okajima, Shun Watanabe, shogo Kamenoue

**Yoshinobu Tsujii, presiding**

13:45	1X10	Enzymatic Synthesis of pH-Responsive Amphoteric Glycogen Gel <u>Yusei Takata</u> , Kazuya Yamamoto, Jun-ichi Kadokawa
14:10	1X11	Design and function of polysaccharide-nanoball cross-linked nanoparticle and hydrogel. <u>Keiji Okita</u> , Shigeo Takeda, Sadaatsu Mukai, Shinichi Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi
14:35	1X12	Surface Modification of Self-Assembled Chitin Nanofibers by Derivatization <u>Ryo Endo</u> , Kazuya Yamamoto, Jun-ichi Kadokawa

**Hironori Izawa, presiding**

- 15:00 1X13 The evaluation of physical properties for SPG/ODNs complex aiming to apply it to drug delivery system  
Shoi Mochidome, Shinichi Mochizuki, Kazuo Sakurai
- 15:25 1X14 Oligosaccharide Sensing by Fluorescent Reporter-Modified Curdlans in Aqueous Media  
Hiroki Kurohara, Gaku Fukuhara, Munenori Numata, Tadashi Mori, Yoshihisa Inoue
- 15:50 1X15 Preparation of Chitin Nanoparticles from Chitin/Ionic Liquid Solution using High-pressure Process  
Kazuya Yamamoto, Daichi Hashimoto, Keisho Iimori, Jun-ichi Kadokawa
- Jun-ichi Kadokawa, presiding**
- 16:15 1X16 Preparation of a protein/chitin nanofiber complex from crab shells and its applications  
Shinsuke Ifuku, Takeshi Urakami, Hironori Izawa, Minoru Morimoto, Hiroyuki Saimoto
- 16:40 1X17 Liquid crystal formation of cellulose nanowhiskers with coconcentrated polymer brushes  
Naotsugu Nogami, Keita Sakakibara, Kohji Ohno, Yoshinobu Tsujii
- 17:05 1X18 A novel surface wrinkling system inspired by woods  
Hironori Izawa, Noriko Okuda, Shinsuke Ifuku, Minoru Morimoto, Hiroyuki Saimoto

**Wed. Sep 16**

#### **D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Shinobu Sato, presiding**

- 9:35 2X02 Design of biodegradable nanosphere having cationic groups (III) - Dependence of the ratio of hydrophilic and hydrophobic composition on the DNA adsorption -  
Kento Takahashi, Masahiro Fujita, Yuko Takeoka, Masahiro Rikukawa
- 10:00 2X03 Morphological change of the DNA interacted with the cationic comb-type copolymer  
Tomoshige Takada, Naohiko Shimada, Atsushi Maruyama, Gen Kai, Hiromu Kashida, Hiroyuki Asanuma, Ayako Kurihara
- 10:25 2X04 Studies on the cellular uptake enhancements of arginine introduced peptide ribonucleic acid for hypoxia specific oligonucleotide therapeutics  
Hiroka Sugai, Ikuhiko Nakase, Seiji Sakamoto, Yasuyuki Araki, Takehiko Wada

**Shigeaki Morita, presiding**

- 10:50 2X05 Enhancement of chemically modified DNAzyme activity by cationic comb-type copolymers  
Ken Saito, Naohiko Shimada, Atsushi Maruyama
- 11:15 2X06 Creating Hypoxia-Specific Oligonucleotide Therapeutics System with Environment-Responsive Peptide Ribonucleic Acids (PRNAs) - Applying PRNA-DNA Chimera into Catalytic Oligonucleotide Therapeutics -  
Ryohei Uematsu, Mitsuo Asai, Yasuyuki Araki, Seiji Sakamoto, Satoru Ishibashi, Takanori Yokota, Takehiko Wada
- 11:40 2X07 Creation of hypoxia-specific oligonucleotide therapeutics system with intracellular environment-responsible Peptide Ribonucleic Acids (PRNAs): Synthesis and properties of new type of chimeric PRNA derivatives containing 3'-phosphoramidate linkage between DNA and PNA-PRNA moieties.

Masahito Inagaki, Ryohei Uematsu, Yasuyuki Araki, Seiji Sakamoto, Satoru Ishibashi, Hiromu Kashida, Hiroyuki Asanuma, Takanori Yokota, Takehiko Wada

**Atsushi Maruyama, presiding**

- 12:55 2X08 Synthesis of naphthalene diimide derivative for duplex DNA bundling  
Rui Moriyama, Shinobu Sato, Shigeori Takenaka
- 13:20 2X09 Creation of hypoxia specific oligonucleotide therapeutics system with intracellular environment-responsible Peptide Ribonucleic Acids (PRNAs): - Tuning of on - off switching pH of PRNA for optimization of hypoxia cell specificity =  
Mitsuo Asai, Ryohei Uematsu, Yasuyuki Araki, Seiji Sakamoto, Satoru Ishibashi, Takanori Yokota, Takehiko Wada

**Hiromu Kashida, presiding**

- 13:45 2X10 Properties of polythiophene having ability to recognize biomolecules (III) - ssDNA sensing-  
Takahiro Ishiyama, Erika Yamaguchi, Masahiro Fujita, Yuko Takeoka, Masahiro Rikukawa
- 14:10 2X11 Highly sensitive electrical detection of thrombin/aptamer interaction by multiple bindings  
Daiki Higashi, Tatsuro Goda, Akira Matsumoto, Toru Hoshi, Takao Aoyagi, Yuji Miyahara
- 14:35 2X12 Cooperative assembly of ferrocenylnaphthalene diimide carrying  $\beta$ -cyclodextrin on DNA duplex as template  
Shigeori Takenaka, Shinobu Sato, Yuuta Umeda

**S21. Polymer Membrane and Absorbent Use in Environmental, Resource and Energy Management**

- 15:15 2XSO Introductory Remarks S21  
Shingo Matsukawa
- Shingo Matsukawa, presiding**
- 15:25 2X14 Produced water treatment technology using self-assembled nanomaterials  
Masaki Kogiso, Masaru Aoyagi
- 15:50 2X15 Water diffusion behaviors of a plasma-polymerized film 'Nano-suits'  
Daisuke ISHII, Ryohei KAWAMURA, Shio ARAI, Hirohisa YOSHIDA
- 16:15 2X16 Improvement of separation property of PDMS graft polyimide membrane by nanosheet coating of polymers containing imidazolium group  
Tatsuma Oda, Masayuki Watanabe, Kosuke Taira, Shinichi Koguchi, Yosuke Okamura, Yu Nagase
- Daisuke Ishii, presiding**
- 16:40 2X17 Aggregation and Dispersion of Colloidal Particle with Protein on Soymilk  
Tomoyuki Fujii, Shiori Idogawa
- 17:05 2X18 Effects of network structures on water permeability and electrophoresis behavior  
Shingo Matsukawa

**Thu. Sep 17**

**S21. Polymer Membrane and Absorbent Use in Environmental, Resource and Energy Management**

**Koji Yamanaka, presiding**

- 9:10 3X01 Synthesis of poly(diphenylacetylene)s having ionic groups and gas separation property of the polymer membranes  
Toshikazu Sakaguchi, Shintaro Kaji, Tamotsu Hashimoto
- 9:35 3X02 Carbon dioxide permeation property of membranes of poly(vinyl ether)s possessing oxyethylene side chains  
Toshikazu Sakaguchi, Ryoki Okunaga, Shinya Yamasaki, Tamotsu Hashimoto
- 10:00 3X03 Water vapor adsorption on subnanoporous thin films as seen by low-energy positrons  
Kenji Ito, Nagayasu Oshima, Brian O'Rourke, Shigeru Yoshimoto

**Toshikazu Sakaguchi, presiding**

- 10:25 3X04 Development of innovative reverse osmosis membrane for desalination  
Masakazu Koiwa, Koji Nakatsuji, Takao Sasaki, Masahiro Kimura
- 10:50 3X05 Application of palladium-loaded monolithic ion exchange resin to ultrapure water production  
Hitoshi Takada, Daisaku Yano, Koji Yamanaka
- 11:15 3X06IL Network tuning of organosilica membranes and applications to energy and environment  
Toshiori Tsuru

**Kenji Ito, presiding**

- 12:55 3X08 Effects of organic polymers in water supply treatment and behavior of acrylamide  
Masaki Itoh, Masahiro Otaki, Shinobu Yamamoto
- 13:20 3X09 Water purification and seawater desalination by photo irradiation using azobenzene modified anodized alumina membrane  
Masahiro Fujiwara, Tatsuki Imura
- 13:45 3X10 Syntheses and applications of hierarchical polymer materials by using biomaterials  
Kosuke Sato, Yuya Oaki, Hiroaki Imai

**Room Y**

**Tue. Sep 15**

**S19. New Trends in Bioplastics**

- 9:50 1YSO Introductory Remarks S19  
Hiroshi Uyama

**Ken'ichiro Matsumoto, presiding**

- 10:00 1Y03 Relation between structure and environmental biodegradability on several chemosynthetically aliphatic polyesters.  
Ken-ichi Kasuya, Kana Inagaki, Takuro Baba, Shota Suda, Yuya Tachibana
- 10:25 1Y04 Environmental degradability of poly(ethylene succinate)  
Miwa Suzuki, Fumihiko Muroi, Jun-ichiro Kazahaya, Yuya Tachibana, Kenichi Kasuya
- 10:50 1Y05 The analysis of microbiota formed in the soil peripheral to poly(butylene

adipate-co-terephthalate) (PBAT).

Fumihiro Muroi, Yukiko Kobayashi, Takanori Sakurai, Yuya Tachibana, Ken-ichi Kasuya

**Ken-ichi Kasuya, presiding**

11:15 1Y06 Biosynthesis of medium chain length homo polyhydroxyalkanoate from plant biomass

Ayaka HIROE, Takeharu TSUGE

11:40 1Y07 Structure and Properties of Poly(L-2-hydroxy-3-methylbutanoic acid)

Hironori Marubayashi, Shuichi Nojima

**Ayaka Hiroe, presiding**

12:55 1Y08 Biobased microbial D-lactate polymer and its processing techniques

Ken'ichiro Matsumoto, Utsunomia Camila, Ryosuke Kadoya, Jian Sun, Nduko John, Daisuke Ishii, Taizo Kabe, Arisa koizumi, Toshihiko Ooi, Tadahisa Iwata, Seiichi Taguchi

13:20 1Y09 Development of novel acrylic resins from aromatic compounds produced by non-edible biomass.

Hidehito Hatanaka, Yasumasa Takenaka, Hideki Abe

13:45 1Y10 Synthesis and characterization of polylactides consisting of lactyl segment

Kazunari Masutani, Masaki Yamamoto, Yoshiharu Kimura, Hideki Yamane

**Tadahisa Iwata, presiding**

14:10 1Y11 Investigation of Formation Mechanism of Poly(lactic Acid) Stereocomplex on the Basis of X-ray Diffraction and Infrared Circular Dichroism Analyses

Kohji Tashiro, Hai Wang, Naoto Kouno, Jun Koshoubu, Keisuke Watanabe

14:35 1Y12 Effect of novel nucleating agent on the crystallization of Poly(L-lactic acid)

Takahiko Kawai, Ayumu Matsuda, Rikuya Ichiba, Shin-ichi Kuroda, Takuma Nagahama, Yoshinori Kasai

15:00 1Y13 Properties and applications of porous poly(L-lactic acid) prepared by freeze-drying

Takashi Sasaki, Hiroaki Matsuura, Daisuke Morino

**Hideki Abe, presiding**

15:25 1Y14 Low-temperature processability under pressure of degradable polymers from renewable materials

Ikuo Taniguchi, Kazunari Masutani, Fuji Kodera

15:50 1Y15 Development and chemical durability of dequalinium poly-gamma-glutamate, a novel antimicrobial bio-based-plastic material

Makoto Ashiuchi, Sawami Nakayama, Yuichi Hakumai, Hakuba Hirofumi, Shibatani Shigeo, Kobayashi Hisato

16:15 1Y16 Development of silk materials grafted with poly(phenylene ether) for surface modification of silks

Leo Simmons, Kousuke Tsuchiya, Keiji Numata

16:40 1Y17 PP/PA11 bioplastic alloy with high modulus and impact strength

Jumpei KAWADA, Makoto MOURI, Yuichi KATO, Takuya MITSUOKA, Hisato TAKEUCHI, Arimitsu USUKI, Masayuki KITOU, Toshiyuki ARIIO, KITOU Osamu

**Ikuo Taniguchi, presiding**

17:05 1Y18 Temperature dependence of elastic modulus of the crystalline regions of biobased polyesters

Sunglin LEE, Masayuki KIMOTO, Masakazu TANAKA, Chizuru HONGO, Takashi NISHINO

17:30 1Y19 Synthesis and property of novel bio-based polyurethane using vanillin and lysin monomers

Koichiro Tachibana, Hideki Abe  
17:55 1Y20 Polyurethane elastomers based on a non - edible plant oil  
Tomoki Kasahara, Hiroshi Uyama

**Wed. Sep 16**

### **S19. New Trends in Bioplastics**

#### **Hiroshi Uyama, presiding**

9:10 2Y01 Study on Photo-controlled Biodegradable Polymer  
Atsuyoshi Nakayama, Naoko Yamano, Norioki Kawasaki, Hitoshi Ando, Koichi Uegaki  
9:35 2Y02 Antioxidant activity of polyphenol-inspired polymers  
Hiroataka Ejima, Kan Zhan, Naoko Yoshie  
10:00 2Y03 Synthesis of poly(ester-amide)s of ferulic acid and aliphatic amino acids  
Tatsuya Goto, Daisuke Ishii, Akio Takemura, Tadahisa Iwata

#### **Hiroataka Ejima, presiding**

10:25 2Y04 Living Radical Polymerization of Renewable Styrene Derivatives from Natural Resources  
Hisaaki TAKESHIMA, Kotaro SATOH, Masami KAMIGAITO  
10:50 2Y05 Syntheses of amorphous biomass-based plastics from natural polysaccharides and their properties  
Takahiro Danjo, Yukiko Enomoto Rogers, Akio Takemura, Shogo Nobukawa, Masayuki Yamaguchi, Tadahisa Iwata  
11:15 2Y06 Preparation of Non-crystalline Cellulose Film Using Ionic Liquid  
Jun-ichi KADOKAWA, Akihiko TAKADA, Yasuhiro HABU, Keisho IIMORI, Kazuya YAMAMOTO

### **S20. Front line of Green Chemistry**

12:45 2YSO Introductory Remarks S20  
Hisayuki Nakatani

#### **Haruo Nishida, presiding**

12:55 2Y08 Thermal activation technology of semiconductors characterized by radical propagation and its application to the recovery of valuables from composites  
Jin Mizuguchi, Shigeru Suzuki, Masahiko Kaneko, Hiroo Takahashi  
13:20 2Y09 Material Recycling Technology on collected flame-retardant plastics from waste appliances  
Yoko Fukushima, Akihide Toda, Hiromichi Ueda  
13:45 2Y10 Solvolysis of GFRP resin by ethylene glycol mono-allyl ether and curing studies of decomposed resin  
Kazutoshi Ikenaga, Tomonori Kikukawa, Hiroki Nagamitsu  
14:10 2Y11 "Green" Selection of "End-of-Life" for (Biomass-based) Polyester Resin Products  
Kazushi Ohshima, Tadashi Yamamoto, Tugio Nagasawa

#### **Yuushou Nakayama, presiding**

14:35 2Y12 Preparation of light degradability PS using TiO<sub>2</sub> nanoparticles.  
Genichiro kawajiri, Shiho Miyagawa, Suguru Motokucho, Hisayuki Nakatani  
15:00 2Y13 Poly(lactic acid) as smart material for conservation of marine environment

- Haruo NISHIDA, Tadahide KITAYAMA, Taichi FURUKAWA
- 15:25 2Y14 Synthesis of Carbon Fiber-Reinforced Plastics Using Acetal Linkage-Containing Epoxy Resins with Highly Adhesive and Recyclable Properties  
Ayaka Yamaguchi, Tamotsu Hashimoto, Michio Urushisaki, Toshikazu Sakaguchi, Kazumasa Kawabe, Keiichi Kondo, Hirohumi Iyo
- 15:50 2Y15 Oxidatively Degradable Crosslinked Polymer  
Satoshi Yokoyama, Moe Kaneko, Kazuya Yanaze, Nobuhiro Kihara
- Nobuhiro Kihara, presiding**
- 16:15 2Y16 Modification of Polylactide by Introduction of Ionic Groups  
Yuushou Nakayama, Takamichi Inaba, Yosuke Toda, Toshitaka Ohmori, Ryo Tanaka, Takeshi Shiono, Hiroyuki Shirahama, Chikara Tsutsumi
- 16:40 2Y17 Creation of Superhydrophobic Materials Composed of Poly(amino acid)s  
Hiroaki Yoshida
- 17:05 2Y18 Possibility of the Use of Tannin as a Curing Agent for Epoxy Resins  
Shigeo Hirose, Takaki Nagafusa, Yishitaka Nakamura

**Thu. Sep 17**

**S20. Front line of Green Chemistry**

**Kazutoshi Ikenaga, presiding**

- 9:10 3Y01 Development of Hydrolysis Method of Persistent Polyurethane Using High Pressure Carbon Dioxide in the Absence of Catalyst  
Yu Nakayama, Suguru Motokucho, Hisayuki Nakatani
- 9:35 3Y02 Photo-degradation behavior of waterborne polyurethane  
Hiroataka Ohike, Suguru Motokucho, Hisayuki Nakatani
- 10:00 3Y03 Synthesis of five-membered cyclic carbonate in the presence urethane compound  
Yuta Yamada, Suguru Motokucho, Kouhei Hayashi, Yu Nakayama, Hisayuki Nakatani

**Suguru Motokucho, presiding**

- 10:25 3Y04 Radical Alternating Copolymerization of Styrene Dimer or Styrene Trimer, as Thermal Degradation Products of Polystyrene, with N-Substituted Maleimides for Chemical Recycling  
Takahiro Kimura, Michio Urushisaki, Toshikazu Sakaguchi, Tamotsu Hashimoto, Takashi Sawaguchi, Daisuke Sasaki
- 10:50 3Y05 Biomimetic approach to artificial Urushi via oxidative polymerization of cardanol.  
Takumi Otsuka, Shunichi Fujikawa, Hideki Yamane, Shiro Kobayashi

**Room ESA**

**Tue. Sep 15**

**C. FUNCTIONAL POLYMERS AND POLYMER FUNCTIONS “English Session”**

**Yasuhisa Tsukahara, presiding**



- 10:00 1ESA03 Function of self-doped conductive polymer poly(anilinephosphonic acid)  
Toru Amaya, Yasushi Abe, Ryosuke Sugihara, Hiroki Yamamoto, Takahiro Kozawa, Toshikazu Hirao
- 10:25 1ESA04 Thin Film Transistors of Benzobisthiadiazole-Based Organic Semiconducting Polymers  
Yang Wang, Tsuyoshi Michinobu
- Tsuyoshi Michinobu, presiding**
- 10:50 1ESA05 Development and Characterization of Organic Oligomer Solar Cells  
Ryo Asahi, Takeshi Yamao, Shu Hotta
- 11:15 1ESA06 Enhanced Ionic Conduction in the Aligned Metallo-Supramolecular Polymer Chains  
Rakesh Kumar Pandey, Satoshi Moriyama, Masayoshi Higuchi
- 11:40 1ESA07 Surface Modification of Carbon Nanotube Electrode with Polyethylene Glycol for Solid-State Lithium Ion Battery  
Kousuke Izaki, Akari Seko, Kaoru Adachi, Yasuhisa Tsukahara, Thein KYu, Piedrahita Camilo, He Ruixuan
- Shigeyuki Yamada, presiding**
- 12:55 1ESA08 Fabrication of pi-Conjugated Polymer Nanofibers and Their Formation Processes  
Chanon PORNRUNGROJ, Tsunenobu ONODERA, Hitoshi KASAI, Hidetoshi OIKAWA
- 13:20 1ESA09 Fabrication of optical devices made of BP3T single crystals  
Kazuki Aoki, Takeshi Yamao, Syu Hotta
- Syu Hotta, presiding**
- 13:45 1ESA10 Effect of Structure on the Optoelectronic Properties of Bimetallic Metallo-supramolecular Polymers with Different Geometry  
Chanchal Chakraborty, Satoshi Moriyama, Masayoshi Higuchi
- 14:10 1ESA11 Polymeric Liquid-crystalline Gold Complexes as White-Color Emitter in Solid-States  
Shigeyuki Yamada, Sho Tamai, Osama Younis, Osamu Tsutsumi
- 14:35 1ESA12 Efficient Deep-Blue Emission from Liquid-Crystalline Polymers in Solid State  
Osama Younis, Shigeyuki Yamada, Osamu Tsutsumi
- Kensuke Naka, presiding**
- 15:00 1ESA13 Synthesis of ultrathin polymer insulating layers by initiated chemical vapour deposition for low-power soft electronics  
Sung Gap Im
- 15:25 1ESA14 Construction of Functional Polymer Interfaces  
Yukari Oda, Keiji Tanaka
- 15:50 1ESA15 Functional hydrogel based culture systems for stem cell engineering  
Haram Lee, Ayeon Ryang, Hansoo Park
- 16:15 1ESA16 Design of functional DNA by using pseudo base-pairs  
Hiromu Kashida
- Olaf Karthaus, presiding**
- 16:40 1ESA17 Multifunctional biopatterns based on nanofiber-incorporated hydrogel  
Kanghee Cho, Yun-Min Kook, Won-Gun Koh
- 17:05 1ESA18 High Functional Composites using Collagen / Cellulose Nanofiber  
Chizuru Hongo, Minami Nishimura, Daisuke Goto, Takashi Nishino
- 17:30 1ESA19 Morphology and Ion Transport in Block Copolymer Electrolytes  
Moon Jeong Park
- 17:55 1ESA20 Creation of aliphatic polycarbonate-based biodegradable biomaterials and

evaluation of the hemocompatibility  
Kazuki FUKUSHIMA, Yuto INOUE, Kota HONDA, Yuta HAGA, Masaru TANAKA

**Wed. Sep 16**

**C. FUNCTIONAL POLYMERS AND POLYMER FUNCTIONS “English Session”**

**Shigenori Fujikawa, presiding**

- 9:10 2ESA01 Supramolecularly Polymerizable Dopant: Induction of Columnar Phase from Rod-shaped Liquid Crystalline Molecules  
Keiichi Yano, Yoshimitsu Itoh, Takuzo Aida
- 9:35 2ESA02 Controlling the Assembly Structure of Unsubstituted Polythiophene Mediated by Coordination Nanospaces  
Takashi KITAO, Michael MACLEAN, Takashi UEMURA, Susumu KITAGAWA
- 10:00 2ESA03 Surface Properties of Hybrid Clay-containing Transparent Nanocomposite Thin Films  
Matthew England, Chihiro Urata, Gary J. Dunderdale, Avinash J. Patil, Atsushi Hozumi
- 10:25 2ESA04 Effect of Al<sub>2</sub>O<sub>3</sub> particle size on thermal conductivity of main-chain liquid crystalline polyester composite  
Shusuke Yoshihara, Kazuaki Matsumoto

**Hiroyasu Yamaguchi, presiding**

- 10:50 2ESA05 Temperature-responsive mesoporous block copolymer membranes with controllable response temperature  
Yanchun Tang, Kahzo Ito, Lin Hong, Takashi Ishizone, Hideaki Yokoyama
- 11:15 2ESA06 Preparation, characterization and gas permeability of flexible TiO<sub>2</sub> membranes  
Roman Selyanchyn, Shigenori Fujikawa
- 11:40 2ESA07 Synthesis and Applications of Precision Catalysts Supported on Polymer Particles Based on Living Coordination Dispersion Polymerization of Allene Derivatives  
Akira Yamauchi, Yoshiyuki Oguchi, Takeshi Wakiya, Hiroshi Yamauchi, Hiroki Nishiyama, Shinsuke Inagi, Ikuyoshi Tomita

**Tomoyuki Ikai, presiding**

- 12:55 2ESA08 Study on reaction between chiral silver@silica composites and cysteine  
Dong-dong Yao, Ren-Hua Jin
- 13:20 2ESA09 Characterization and Functionalization of Monoclonal Antibodies with Chiral Recognition Ability for Binaphthol Derivatives  
Takuma Adachi, Tomoki Odaka, Hiroyasu Yamaguchi, Akira Harada
- 13:45 2ESA10 Formose Reaction Controlled by Water-soluble Polymers  
Tomohiro Michitaka, Akihito Hashidzume, Takahiro Sato

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES “English Session”**

**Koji Nishida, presiding**

- 15:25 2ESA14 Study on the Crystallization Behavior, an Intermediate Phase and Conformation Rearrangement of Poly(3-hydroxybutyrate) Ultrathin Film by Using IR-RAS and GIXD  
Khasanah -, Kummetha Raghunatha Reddy, Harumi Sato, Isao Takahashi, Yukihiko Ozaki
- 15:50 2ESA15 Characterization of crack patterns that occur in poly(L-lactic acid)

- spherulites on quenching  
Futoshi Matsuda, Takamasa Sobajima, Satoshi Irie, Takashi Sasaki
- 16:15 2ESA16 High modulus and High strength Poly (vinyl alcohol)/Nanodiamond  
 Nanocomposite Fibers Prepared by Ultradrawing  
Seira Morimune-Moriya, Yuya Fujita, Masaru Kotera, Kimiya Goto, Katsuhiko  
 Hata, Takashi Nishino

**Takashi Sasaki, presiding**

- 16:40 2ESA17 In-situ investigation of uniaxial drawing process of polyethylene by X-ray  
 and neutron scattering  
Momoko Murakami, Tadahiko Maede, Hiroki Ogawa, Nobuaki Takahashi, Go  
 Matsuba, Koji Nishida, Toshiji Kanaya
- 17:05 2ESA18 Exploring the structural material properties of diverse silkworm cocoon silks  
Ali MALAY, Hiroe WATANABE, Kenjiro YAZAWA, Ryota SATO, Nao IFUKU, Keiji  
 NUMATA

**Thu. Sep 17**

**B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES “English Session”**

**Yutaka Tanaka, presiding**

- 9:10 3ESA01 Effects of confinement on the elastic modulus of glassy and rubbery polymer  
 films  
Kim Hung Nguyen, Ken Nakajima
- 9:35 3ESA02 Melt-isothermal crystallization in thin films and melt viscosity of poly(3-  
 hydroxybutyrate-co-3hydroxyhexanoate) having different 3-  
 hydroxyhexanoate content  
Md. Amran Hossain, Junichiro Hasegawa, Shinichi Sakurai, Hideki  
 Yamane, Takaaki Hikima, Hiroyasu Masunaga, Masaki Takata, Sono Sasaki

**Go Matsuba, presiding**

- 10:00 3ESA03 Electrophoretic mobility of semi-flexible double-stranded DNA in defect-  
 controlled polymer networks  
Kateryna Khairulina, Xiang Li, Nishi Kengo, Mitsuhiro Shibayama, Ung-il  
 Chung, Takamasa Sakai
- 10:25 3ESA04 Structural Study on Cononsolvency and Critical Behavior of poly(N-  
 isopropylacrylamide), pNIPAm, in a water/methanol Mixed Solvent  
Mamoru Fujiki, Keiichi Yanase, Daisuke Suzuki, Takaaki Sato

**Ken Nakajima, presiding**

- 10:50 3ESA05 Plateau Value of Enthalpy Recovery in the relaxation of polystyrene near Tg  
 region  
Yutaka Tanaka, Y. Okuya, S. Kashiwabara
- 11:15 3ESA06 FAST SCANNING CHIP CALORIMETRY AND ITS APPLICATIONS  
Markus Peter Schubnell

**Room ESB**

**Tue. Sep 15**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS “English Session”**

**Nobuhiro Kihara, presiding**

- 10:00 1ESB03 Reexamination of the polymerization of amino acid NCA 68. Solutions to two problems in the solution polymerization and the availability of solid-state polymerization.  
Hitoshi Kanazawa, Aya Inada
- 10:25 1ESB04 Development of Rigid Monomers with Diamantane-like Core from myo-Inositol  
Shusuke Okamoto, Atsushi Sudo
- 10:50 1ESB05 Copper(I)-Catalyzed Azide-Alkyne Cycloaddition Polymerization of 3-Azido-1-propyne Derivatives and Solubilization of the Oligomers Obtained  
Akihito Hashidzume, Tomoaki Nakamura, Shun Nakano, Asami Mori, Takahiro Sato

**Atsushi Sudo, presiding**

- 11:15 1ESB06 Palladium-Catalyzed Direct Arylation Approach to Synthesize Naphthalene Bisimide-Based Polymers  
Kazuhiro Nakabayashi, Haruka Fukuzawa, Masaya Yamada, Hideharu Mori
- 11:40 1ESB07 Synthesis and oxidative degradation of novel polyamide bearing diacylhydrazine moiety  
Md. Masud Parvez, Nobuhiro Kihara

**Kazuhiro Nakabayashi, presiding**

- 12:55 1ESB08 Synthesis and Functionalization of Polythioesters Having Calixarene Moieties in the Main Chain  
Shinji Yamakawa, Hiroto Kudo
- 13:20 1ESB09 Synthesis of  $\pi$ -Conjugated Polymer Thin Films by Electropolymerization of Dithienobenzene Derivatives  
Sho Wakana, Hiroki Nishiyama, Shinsuke Inagi, Ikuyoshi Tomita

**Makoto Ouchi, presiding**

- 13:45 1ESB10 Synthesis of Optically Active Conjugated Polymers Containing Transition Metals in the Main Chain and Control of the Higher-order Structures  
Yu MIYAGI, Fumio SANDA
- 14:10 1ESB11 Synthesis of Thermoresponsive Polymer Particles by Living Coordination Dispersion Polymerization of Allene Derivatives  
Akira Yamauchi, Yoshiyuki Oguchi, Takeshi Wakiya, Hiroshi Yamauchi, Hiroki Nishiyama, Shinsuke Inagi, Ikuyoshi Tomita
- 14:35 1ESB12 Synthesis and Applications of Various Polymer Nanostructures Containing Redox-responsive Ferrocene Moieties by Living Coordination Polymerization of Allene Derivatives  
Hiroshi Eguchi, Hiroki Nishiyama, Shinsuke Inagi, Ikuyoshi Tomita

**Fumio Sanda, presiding**

- 15:00 1ESB13 Precise Synthesis and Structural Characterization of Polyamide Containing Polyhedral Oligomeric Silsesquioxane Side Chain  
Yusuke Nagae, Tomoyuki Ohishi, Makoto Kido, Ken Kojio, Tomoyasu Hirai, Atsushi Takahara
- 15:25 1ESB14 Towards simplicity in synthesis of monodispersed PEG derivatives  
Adam M. Wawro, Takahiro Muraoka, Kazushi Kinbara
- 15:50 1ESB15 Helical structures of poly(m-phenylenevinylene) derivatives bearing polar groups in the side chain and the conformational change by light stimulus  
Terada Kayo, Satoshi Omura, Tsuyoshi Ando, Mime Kobayashi, Masao Tanihara

**Kazushi Kinbara, presiding**

- 16:15 1ESB16 Arborescent graft polymers and their functionalization by living anionic polymerization using multifunctional macroinitiators  
Momoko Nakajima, Hai Thanh Ngyuen, Kaoru Adachi, Yasuhisa Tsukahara
- 16:40 1ESB17 Synthesis of multibranched polymer having block copolymer in branch chains and their temperature-responsive self-assembly in solution

Takayuki Kono,Kaoru Adachi,Yasuhisa Tsukahara

- 17:05 1ESB18 Synthesis of Various  $\pi$ -Conjugated Polymers via Polymer Reactions of Thiophene-1-oxide-containing Polymers  
Hiroki NISHIYAMA,Shinshuke INAGI,Ikuyoshi TOMITA

**Tomiki Ikeda, presiding**

- 17:30 1ESB19 Preparation and Properties of Phenyl-modified Natural Rubber  
Nuorn Choothong,Seiichi Kawahara
- 17:55 1ESB20 Analysis of reaction between polyisoprene rubber latex and sulfur  
Kewwarin Sae-heng,Seiichi Kawahara

**Wed. Sep 16**

### **A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS “English Session”**

**Ikuyoshi Tomita, presiding**

- 9:10 2ESB01 Sequence-controlled radical copolymerization of vinyl monomers with a styrene derivative immobilized periodically in a porous coordination matrix  
Shuto Mochizuki,Takashi Uemura,Susumu Kitagawa
- 9:35 2ESB02 Sequence-Controlled Vinyl Polymers via Iterative Single Monomer Radical Addition: Design of Cleavable Bulky Monomer  
Dongyoung Oh,Makoto Ouchi,Mitsuo Sawamoto
- 10:00 2ESB03 Rare-Earth-Catalyzed Aromatic C-H Bond Polyaddition of Dialkoxyarenes to Unconjugated Dienes  
Xiaochao Shi,Masayoshi Nishiura,Zhaomin Hou

### **E. POLYMERS AND ENVIRONMENT “English Session”**

**Hiroharu Ajiro, presiding**

- 11:15 2ESB06 Biosynthesis of novel PHA containing hydroxyl group from glycolate in Escherichia coli  
Chayatip Insomphun,Shingo Kobayashi,Tetsuya Fujiki,Keiji Numata
- 11:40 2ESB07 Development of the biodegradable joining tool for grafting plant  
Kubra Eksiler,Yoshitou Ando,Natsuki Nakayama,Keita Yoshinaga,Yoshihito Shirai

**Wed. Sep 16**

### **E. POLYMERS AND ENVIRONMENT**

**Hiroshi Uyama, presiding**

- 12:55 2ESB08 Study of the topology effect on the enzymatic degradation by cyclic and linear polylactides  
Kazuki Kaneko,Yasuyuki Tezuka,Takuya Yamamoto
- 13:20 2ESB09 Preparation of polylactide stereocomplex bearing vanillin at chain end  
Kai KAN,Hiroharu AJIRO,Mitsuru AKASHI
- 13:45 2ESB10 Development for biomass based polymer as functional materials from

vegetable oil fatty acids

Yoshito Andou, Noor Farisha Abd. Rahim,, Hidayah Ariffin, Mohd Ali Hassan, Yoshihito Shirai

**Takuya Yamamoto, presiding**

- 14:10 2ESB11 Substrate Recognition of Poly(aspartate) Hydrolase-1 from *Pedobacter* sp. KP-2  
Tomohiro Hiraishi, Tamao Hisano, Hideki Abe, Yoshitsugu Shiro, Mizuo Maeda
- 14:35 2ESB12 Bacterial Cellulose / Inorganic nanofiller composites by *in situ* Biosynthesis  
Risa Narahara, Chizuru Hongo, Takashi Nishino
- 15:00 2ESB13 Recovery of rare metals and development of composite metallic material based on coordination between Organic sulfur compounds and metal ion  
Asami Nagashima, Masanobu Mori, Daisuke Nagai

**Takuya Matsumoto, presiding**

- 15:25 2ESB14 Multiblock copolymer networks composed of 4-armed star-shaped L-lactide oligomer and 4-armed star-shaped caprolactone oligomer  
Ayaka Shibita, Toshiaki Shimasaki, Naozumi Teramoto, Mitsuhiko Shibata
- 15:50 2ESB15 Theoretical consideration of the number of tie-molecules of improved recycle PP from UV degradation test  
Aya Tominaga, Hiroshi Sekiguchi, Ryoko Nakano, Shigeru Yao, Eiichi Takatori
- 16:15 2ESB16 Pelletizing condition dependence of mechanical properties of recycle containers and package plastics  
Shigeru YAO, Nozomi Takenaka, Tetsuyoshi MICHIGAMI, Aya TOMINAGA, Hiroshi SEKIGUCHI, Ryoko NAKANO, Shunnsuke SUGAO

**Thu. Sep 17**

**D. BIOPOLYMERS AND BIORELATED POLYMERS “English Session”**

**Kazushi Kinbara, presiding**

- 9:10 3ESB01 A morphological study on *Nephila clavata* dragline silk under an external mechanical stretching force  
TING-YU LIN, KEIJI NUMATA
- 9:35 3ESB02 Enzyme-mimic peptide fibrils to realize amidolytic activity  
Yoke-Ming Wong, Kumar Sudesh, Keiji Numata

**Keiji Numata, presiding**

- 10:00 3ESB03 Recognition of DNA by Helical Metallo-Supramolecular Polymer and Their Cellular Activity Study  
Utpal Rana, Masayoshi Higuchi
- 10:25 3ESB04 Degradation control of polysaccharide by Malaprade oxidation for tissue engineering  
Wichchulada Konkumnerd, Tadashi Nakaji-Hirabayashi, Suong Hyu Hyon, Kazuaki Matsumura

**Kazuaki Matsumura, presiding**

- 10:50 3ESB05 Folding control of metathesis polymerization with a nanoscale synthetic catalyst-bilayer system  
Koji Harano, Ricardo Mizoguchi Gorgoll, Eiichi Nakamura
- 11:15 3ESB06 Topological effect on self-assembly of bola- and cyclic amphiphiles  
Rui Li, Takahiro Muraoka, Kazushi Kinbara