

## Room A

**Wed. Sep 20**

### Invited Lecture

**Kotaro Satoh, presiding**

10:25    1A04IL    Stereocontrolled poly(N-alkylacrylamide)s - from synthesis to characterization -  
Tomohiro Hirano

**Atsushi Takahara, presiding**

11:15    1A06IL    Bringing Fluorine into Nanomaterials  
Bruno Ameduri, N. Durand, B. Boutevin

**Akinori Takasu, presiding**

12:55    1A08IL    End-functionalization of conjugated polymers via intramolecular transfer  
of metallic catalyst  
Tsutomu Yokozawa

**Joji Ohshita, presiding**

13:45    1A10IL    Controlling Energy Landscapes and Photon Energy Conversion by means  
of Molecular Self-Assembly & Systemization  
Nobuo Kimizuka

**Takahiro Seki, presiding**

14:35    1A12IL    *In situ* polymerization of p-conjugated liquid crystals bearing  
cyclotetrasiloxane rings  
Masahiro Funahashi

**Takeshi Shiono, presiding**

15:25    1A14IL    The story of the discovery of syndiotactic polystyrene  
Nobuhide Ishihara

**Koji Nozaki, presiding**

16:15    1A16IL    Progress in Precision Polymer Network Science with Tetra-PEG gels  
Mitsuhiro Shibayama

**Koichi Ute, presiding**

17:05    1A18IL    Self-assembly of amphiphilic polymers in solution  
Takahiro Sato

**Thu. Sep 21**

### Invited Lecture

**Yoshiki Chujo, presiding**

10:00    2A03IL    Preparation, Properties and Applications of Graphene-based Polymer Nano  
Composite Materials  
Chen-Chi M. Ma, Sheng Chi Lin, Jeng An Wang, Shang Yaw Hsu, Yi Hong Chen

10:50    2A05IL    Immiscibility-driven folding of periodically grafted amphiphilic copolymers  
Ramkrishna Sarkar, Sananda Chanda, Joydeb Mandal, Raj Kumar Roy, S.  
Ramakrishnan

### Award Lecture

**Yoshiko Miura, presiding**

12:55 2A08AL Control of Higher Order Structures of plasmid DNA by Block Copolymers and Its Application toward Gene Delivery System  
Kensuke Osada

**Kenji Hanabusa, presiding**

14:10 2A11AL Development of Highly Functional Membranes through Structural Control of Crystalline/Amorphous Phases  
Hiroki Uehara

**Kohtaro Osakada, presiding**

15:00 2A13AL Development of Functional Polymeric Materials Using Plant Oils  
Hiroshi Uyama

**Toshihiro Okamoto, presiding**

15:50 2A15AL Environmentally benign synthesis of conjugated polymer materials using C-H direct arylation polycondensation  
Junpei Kuwabara

**Atsushi Shishido, presiding**

16:40 2A17AL Development of new orientation methods for polymer liquid crystalline materials utilizing interfaces and light  
Shusaku Nagano

**Fri. Sep 22**

**Invited Lecture**

**Jun-ichi Kadokawa, presiding**

9:35 3A02IL Biological properties of chitin nanofiber, which is just different from that of cellulose  
Shinsuke Ifuku

**Kazunori Matsuura, presiding**

10:25 3A04IL Developments of new bio-nanotransporters and biomedical applications  
Kazunari Akiyoshi

**Masaru Yoshida, presiding**

11:15 3A06IL Development and commercialization of functional materials based on investigation of phenomena - from color photography to OLED lighting -  
Hiroshi Kita

**Room B**

**Wed. Sep 20**

**S1. Development of Integrated Functions via Organization of Element-Block Polymers**

9:50 1BSO Introductory Remarks S1  
Takeharu Haino, Seiji Watase

**Masahiro Funahashi, presiding**

10:00 1B03 Controlled Polymerization of Diazoacetates with Element-Blocks

- Hiroaki Shimomoto, Eiji Ihara
- 10:25 1B04 Optical and Electrical Properties of Functional Element-Block Polymer Films Composed of Photo-Responsive Polymers and Metal Nanomaterials  
Tsuyoshi Tomotoshi, Akifumi Kawamura, Takashi Miyata
- 10:50 1B05 Electro-accepting properties of caged germasesquioxanes  
Joji Ohshita
- Eiji Ihara, presiding**
- 11:15 1B06 A Mussel-Inspired Cyclosiloxane Supramolecule for Air-Stable Self-Assembly Coatings  
Huie Zhu, Shunsuke Yamamoto, Masaya Mitsuishi
- 11:40 1B07 Mesomorphic property and in situ ring-opening polymerization of perylene bisimide derivatives bearing cyclotetrasiloxane rings and ionic moiety  
Masahiro Funahashi, Shinobu Uemura
- Hidetoshi Kawai, presiding**
- 12:55 1B08 Preparation of polyhedral polymer capsules encapsulating of functional materials  
Ayano Michibata, Takashi Machida, Takumi Ishiwata, Kenta Kokado, Kazuki Sada
- 13:20 1B09 Creation of Helical Rods through Self-Assembly of Cyclodextrin and their Utilization  
Sayaka SONODA, Ayumi TERAGAKI, Toshiyuki KIDA
- 13:45 1B10 Synthesis of macromolecular [2]rotaxane using supramolecular initiator and evaluation of the physical property  
Miya Hiroi, Hiromitsu Sogawa, Daisuke Aoki, Toshikazu Takata
- Takeharu Haino, presiding**
- 14:10 1B11 Development of Polymer Materials Composed of Spiroborate Molecular Connecting Modules as Element-Blocks  
Hiroshi Danjo, Toshi Nakagawa, Yusuke Muraki, Kazuyua Hirata, Masatoshi Kawahata, Kentaro Yamaguchi, Koichi Sudoh
- 14:35 1B12 Effect of Allosteric Bindings on Cooperative Supramolecular Copolymerization  
Hidetoshi Kawai
- 15:00 1B13IL Hypervalent Pentacoordinate Nitrogen Radical Cations and the Dimers  
Yohsuke Yamamoto, Masato Takeshita, Wataru Tada, Yan Chenting, Masayoshi Nakano, Kenji Kamada
- Hiroshi Danjo, presiding**
- 15:50 1B15 Synthesis of Novel Porphyrinoids Based on Dipyrin Element Blocks  
Hiroshi Shinokubo
- 16:15 1B16 Metal-assembly using Dendrimer Reactor  
Kimihisa Yamamoto
- 16:40 1B17 Synthesis and properties of dendrimers with typical metal assembly  
Tetsuya Kambe, Aiko Watanabe, Takane Imaoka, Kimihisa Yamamoto
- Hiroshi Shinokubo, presiding**
- 17:05 1B18 Control of Higher Order Structures of Platinum-containing Conjugated Polymers by Ligand Exchange Reaction  
Takahiro Ishida, Yu Miyagi, Natsuhiko Sano, Fumio Sanda
- 17:30 1B19 Creation of Metal Composite Materials by Cross-linking Reaction of Poly(vinylalcohol) Derivative Containing Sulfur and Metal ions  
Moeko Morita, Masaki Shimazaki, Daisuke Nagai, Hiroki Uehara, Takeshi Yamanobe
- 17:55 1B20 Design of Supramolecular polymers Featuring Unique Conformations  
Shiki Yagai

**Thu. Sep 21**

## S1. Development of Integrated Functions via Organization of Element-Block Polymers

### **Kyosuke Isoda, presiding**

- 9:10 2B01 Construction of Silicon-Containing Fused Ring Blocks through C-H Activation of Hydrosilylarenes by a Ruthenium Catalyst  
Yuichiro Tokoro, Nobuhiko Ohtsuka, Shin-ichi Fukuzawa, Toshiyuki Oyama
- 9:35 2B02 Synthesis and Properties of Conjugated Polymers with Alternating Dithienyldithienosilole or -Germole and Trivalent Boron Units  
Yohei Adachi, Yousuke Ooyama, Frieder Jaekle, Joji Ohshita
- 10:00 2B03 Photophysical properties of nanocarbon element block-oligophenylene-porphyrin linked systems  
Tomokazu Umeyama, Jinseok Baek, Hiroshi Imahori
- 10:25 2B04 Organization and Functionalization of Precision Molecular Architectures Based on Double-stranded Porphyrin Arrays  
Mitsuhiko Morisue

### **Tomokazu Umeyama, presiding**

- 10:50 2B05 Construction of Novel Functional Molecules Using Dipyrrin Typical-Element Complexes as an Element Block  
Tatsuya Nabeshima
- 11:15 2B06 Development of Stimuli-responsive fluorescent materials based on N-Heteroacene Element-Block  
Kyosuke ISODA
- 11:40 2B07 Synthesis and Characterization of Tetraphenylethene Polymers Binding with Methylene Unit  
Takahiro Kakuta, Yusaku Hakoishi, Tomoki Ogoshi, Tada-aki Yamagishi

### **Toshiaki Ikeda, presiding**

- 12:55 2B08 Synthesis and Polymerization of Fused Azobenzene Complexes with Near-Infrared Luminescence  
Masayuki Gon, Kazuo Tanaka, Yoshiki Chujo
- 13:20 2B09 pH-Responsive Near-Infrared Dyes for Bioapplication  
Koji MIKI, Kentaro KOJIMA, Masahiro OE, Kouichi OHE
- 13:45 2B10 Development of Aromatic-Modified o-Carborane Derivatives Having Solid-State Luminescent Chromic Properties  
Kazuo Tanaka, Hideki Yamamoto, Kenta Nishino, Kazushi Hashimoto, Yoshiki Chujo

### **Koji Miki, presiding**

- 14:10 2B11 Circularly polarized luminescent supramolecular gel constructed by luminescent dyes possessing phenylisoxazoles  
Toshiaki Ikeda, Kyohei Hirano, Yohei Adachi, Joji Oshita, Takeharu Haino
- 14:35 2B12 Preparation of hybrid films by using PMMA-modified TiO<sub>2</sub> nanoparticles grown via SI-ATRP  
Daisuke Nishijima, Satoshi Maeda, Naokazu Idota, Kimihiro Matsukawa, Yoshiyuki Sugahara
- 15:00 2B13 Preparations, Optical Properties, and Structural Analysis of Epoxide-based Hybrid Materials using Surface Modifier-free Hybridization  
Kazushi Enomoto, Moriya Kikuchi, Atsushi Narumi, Seigou Kawaguchi

### **Kazuo Tanaka, presiding**

- 15:25 2B14 Development of Poly(phosphonate)s with High Refractive Index and Low Birefringence  
Ryoyu Hifumi, Ikuyoshi Tomita
- 15:50 2B15 X-ray diffraction analysis of stress transfer in nanocellulose / montmorillonite paper

Takuya Matsumoto, Takuya Ohashi, Shunnichi Mori, Chizuru Hongo, Takashi Nishino

16:15 2B16 Humidified Annealing for Amphiphilic Polymer to Produce Highly Oriented Lamellar Film and Their Anisotropic Ion Conduction  
Kazuki Ebata, Ryosuke Goto, Yuki Nagao, Shunsuke Yamamoto, Masaya Mitsuishi, Shusaku Nagano, Jun Matsui

**Takuya Matsumoto, presiding**

16:40 2B17 In-plane micro-supercapacitor using element block materials  
Akira Watanabe, Jinguang Cai

17:05 2B18 Preparation of polysilsesquioxane thin films dispersing gold nanoparticles and change of local property by laser direct drawing  
Kimihiro Matsukawa, Atsushi Sasaki, Chieko Yamasawa, Koji Mitamura, Seiji Watase, Hiroaki Imoto, Kensuke Naka

**Fri. Sep 22**

### **S1. Development of Integrated Functions via Organization of Element-Block Polymers**

**Hiromitsu Maeda, presiding**

12:55 3B08 Construction of organoarsenic element blocks towards functional polymers and supramolecules  
Hiroaki Imoto, Susumu Tanaka, Kensuke Naka

13:20 3B09 Conversion of the Phosphine Element Block Polymers and their Properties  
Minoru Hayashi, Naoko Kubota, Syunji Miyoshi, Yuki Wada, Hidetoshi Ohta

13:45 3B10 Synthesis and Application of Novel Planar Chiral Element-Blocks  
Yasuhiro Morisaki, Masayuki Gon, Risa Sawada, Jun Nakamura, Yoshiki Chujo

**Seiji Watase, presiding**

14:10 3B11  $\pi$ -Electronic Ion-Pairing Dimension-Controlled Assemblies  
Hiromitsu Maeda

14:35 3B12 Sol-gel preparation of soluble polysilsesquioxane containing macrocyclic structure and metal ions capture  
Daisuke Maeda, Kimihiro Matsukawa, Yasunari Kusaka, Yoshiro Kaneko

15:00 3B13 Synthesis of cage silsesquioxane element-blocks  
Takahiro Gunji

15:25 3B14 Development of material delivery system based on element-block polymer particle-stabilized liquid marble  
Syuji Fujii, Hisato Kawashima, Hiroyuki Mayama, Maxime Paven, Hans-Jurgen Butt, Yoshinobu Nakamura

**Room C**

**Wed. Sep 20**

### **S2. Development of organocatalytic synthesis of polymers and their properties**

10:15 1CSO Introductory Remarks S2  
Miyuki Oshimura, Yukihiko Arakawa

**Yu Miyagi, presiding**

10:25 1C04 In vitro synthesis of novel polysaccharides by glucansucrase

Satoshi Kimura

- 10:50 1C05 Synthesis of Functionalized Amyloses by Means of Characteristics of Phosphorylase-catalyzed Enzymatic Polymerization  
Jun-ichi KADOKAWA, Kazuya YAMAMOTO, Tomonari TANAKA

**Jun-ichi Kadokawa, presiding**

- 11:15 1C06 Synthesis of Polypeptide containing  $\alpha$ -aminoisobutylic acid using chemoenzymatic polymerization  
Yu MIYAGI, Kousuke TSUCHIYA, Keiji NUMATA
- 11:40 1C07 Chemoenzymatic Synthesis of Polypeptides Containing Amino Acids with Poor Affinity for Protease  
Prashant Gopal Gudeangadi, Kousuke Tsuchiya, Keiji Numata

**Shin-ichi Matsuoka, presiding**

- 12:55 1C08 Metal-Free polymer synthesis based on the Kabachnik-Fields three component reaction  
Ryohei Kakuchi, Takasuke Sasaki, Satoshi Yoshida, Shigeyoshi Kanoh, Katsuhiko Maeda
- 13:20 1C09 A Synthetic Protocol for a New Class of Thermoresponsive Polymers Based on the Kabachnik-Fields Reaction  
Takasuke Sasaki, Ryohei Kakuchi, Shigeyoshi Kanoh, Katsuhiko Maeda

**Ryohei Kakuchi, presiding**

- 13:45 1C10 Novel Cationic Polymerization of Vinyl Ethers mediated by Halogen Bonding Organocatalyst  
Koji Takagi, Koji Yamauchi, Hiroto Murakata, Hiroki Yano
- 14:10 1C11 Synthesis of Polyamines Based on Visible Light-Driven Coupling Reaction of Imines Using Perylene as a Photoredox Catalyst  
Shusuke Okamoto, Risako Aiki, Takanori Aoki, Atsushi Sudo
- 14:35 1C12 Synthesis of mechanochromic polymers with organocatalysts and their properties  
Daisuke Aoki, Hideyuki Otsuka

**Daisuke Aoki, presiding**

- 15:00 1C13 Cyclic Polymer Synthesis by Anionic Polymerization of (E,E)-Alkyl Sorbate Assisted by Organocatalyst  
Yuhei Hosoi, Akinori Takasu, Shin-ichi Matsuoka
- 15:25 1C14 Synthesis of Polyesters from Methacrylates Catalyzed by N-Heterocyclic Carbene  
Shin-ichi Matsuoka, Aoi Fukumoto, Hiroki Kawai, Miharuru Arimoto, Masato Suzuki
- 15:50 1C15 Synthesis of Polyesters by Oxa-Michael Addition or Addition Condensation reaction of Acrylic Acid  
Takuya Murase, Shin-ichi Matsuoka, Masato Suzuki

**Koji Takagi, presiding**

- 16:15 1C16 Precise Synthesis of Polysiloxanes by Ring-Opening Polymerization Using Strong Organic Bases as Catalyst  
Keita Fuchise, Masayasu Igarashi, Kazuhiko Sato, Shigeru Shimada
- 16:40 1C17 Applicable initiators to ring-opening polymerization of lactide by concerted acid-base organocatalyst  
Joji Kadota, Akinori Okada, Hiroshi Hirano, Yasuyuki Agari
- 17:05 1C18 Screening of organocatalysts capable of forming statistical sequences of lactide and carbonate  
Kazuki Fukushima, Shunta Hakozaiki, Keita Saito, Mai Sano, Nozomi Fujimura, Haruki Moriyama

**Kazuki Fukushima, presiding**

- 17:30 1C19 Organocatalytic linear / cyclic polylactide synthesis with suppressing epimerization in supercritical carbon dioxide  
Nobuyuki Mase
- 17:55 1C20 Ring-opening polymerizations of cyclic hemiacetal ester bearing acryloyl

group and the derivatives  
Yosuke Matsushashi, Shuji Ymashita, Yasuhiro Kohsaka

**Thu. Sep 21**

## **S2. Development of organocatalytic synthesis of polymers and their properties**

### **Keita Fuchise, presiding**

- 9:10 2C01 Ring-Opening Polymerization of Cyclic Esters Using Organic Acid Salts  
Tatsuya Saito, Takuya Yamamoto, Takuiya Isono, Kenji Tajima, Toshifumi Satoh
- 9:35 2C02 Synthesis of thermoresponsive polyethers via phosphazene base-catalyzed ring-opening polymerization of glycidyl ethers  
Takuya Isono, Toshifumi Satoh
- 10:00 2C03 Synthesis of architecturally complex triblock terpolymer via *t*-Bu-P<sub>4</sub>-catalyzed ring-opening polymerization of epoxides  
Tomoki Shingu, Yusuke Satoh, Takuya Isono, Takuya Yamamoto, Kenji Tajima, Toshifumi Satoh

### **Takuya Isono, presiding**

- 10:25 2C04 Design of Multiple Precise Polymer Structures by Metal-Free Cationic RAFT Polymerization  
Mineto Uchiyama, Kotaro SATOH, Masami KAMIGAITO
- 10:50 2C05 Synthesis of Multiblock Copolymers Using Combination of Metal-Free Step-Growth Cationic/Radical and Chain-Growth Cationic Polymerization  
Masahiro OSUMI, Mineto UCHIYAMA, Kotaro SATOH, Masami KAMIGAITO

### **Mineto Uchiyama, presiding**

- 11:15 2C06 Metal-Free RAFT Cationic Polymerization with HCl·Et<sub>2</sub>O Using Various RAFT Cationogens  
Shinji Sugihara, Masakazu Nakayama, Keigo Michishita, Yasushi Maeda
- 11:40 2C07 Reaction Control of Reversible Addition-Fragmentation Chain Transfer Polymerization of Diisopropyl Fumarate and Synthesis of Highly Transparent Block Copolymers  
Kohei Takada, Akikazu Matsumoto

### **Yukihiro Arakawa, presiding**

- 12:55 2C08IL Precise polymerization of cyclic ester and epoxide using organocatalyst  
Toshifumi Satoh

### **Naoki Haraguchi, presiding**

- 13:45 2C10 Synthesis of hyperbranched poly(arylene ether ketone) by self-condensation of aromatic tetracarboxylic dianhydride and application in catalysis  
Yuta Nabae, Nobuhiro Takusari, Kentna Yamamoto, Jun Mizuno, Teruaki Hayakawa, Masa-aki Kakimoto
- 14:10 2C11 Catalytic activity control by phase transition of stimuli-responsive polymer supported organic catalyst  
Yoshiki Kuroshima, Masami Naya, Kenta Kokado, Kazuki Sada

### **Yuta Nabae, presiding**

- 14:35 2C12 Helically Chiral Poly(quinoxaline-2,3-diyl)s Bearing DMAP-Type Pendants as Highly Efficient Nucleophilic Catalysts in Asymmetric Acyl Transfer Reactions  
Takeshi Yamamoto, Ryo Murakami, Michinori Suginome
- 15:00 2C13 Remote Control of Axial Chirality of Bipyridine Derivatives through Dynamic Helical Peptide and its Application to Asymmetric Catalysis  
Akio Urushima, Naoki Ousaka, Eiji Yashima

### **Hiroki Iida, presiding**

- 15:25 2C14 Synthesis of chiral polymers of cinchona alkaloid containing sulfonamides

- structure and their application to asymmetric Michael addition reaction  
Yuta Endo, Naoki Haraguchi, Shinichi Itsuno
- 15:50 2C15 Synthesis of Ionic polymers Containing chiral imidazolidinone salt in Polymer Main chain and their application to Asymmetric Diels-Alder Reaction  
Naoki Haraguchi, Thanh Liem Nguyen, Nagisa Takenaka, Shinichi Itsuno
- Takeshi Yamamoto, presiding**
- 16:15 2C16 Development of Reusable Flavinium Catalyst Immobilized on Sulfated Chitin via Ionic Interaction  
Hiroki Iida, Takuya Sakai, Mirai Watanabe, Yukihiro Arakawa, Yasushi Imada
- 16:40 2C17 Flavopeptidyl-Resins That Catalyze Aerobic Oxygenations Just Like a Flavoenzyme  
Yukihiro Arakawa, Ken Yamanomoto, Hazuki Kita, Keiji Minagawa, Yasushi Imada

## Room D

**Wed. Sep 20**

### **S3. Frontiers in the design of catalysts to synthesize polymers or by the use of polymers**

- 12:45 1DSO Introductory Remarks S3  
Hiroyasu Yamaguchi, Osami Shoji
- Naoya Kanbayashi, presiding**
- 12:55 1D08 Synthesis of poly(arylenevinylene)s via dehydrogenative direct alkenylation polycondensation  
Hitoshi Saito, Junpei Kuwabara, Takeshi Yasuda, Takaki Kanbara
- 13:20 1D09 Controlled polymerization reaction of various lactones by using salen type-Al catalysts  
Nobuyoshi Nomura
- 13:45 1D10 Development of Cationic Polyether: Living polymerization of epoxide and successive quaternization of the polymer obtained  
Shigetaka Hayano, Keisuke Ohta
- Junpei Kuwabara, presiding**
- 14:10 1D11 (Imido)Vanadium Alkylidene Complexes for Ring-Opening Metathesis Polymerization of Cyclic Olefins  
Sapanna Chaimongkolkunasin, Xiaohua Hou, Kotohiro Nomura
- 14:35 1D12 Acyclic Diene Metathesis Polymerization of 9,9-Dialkyl-2,7-divinylfluorene Containing Chiral Alkyl Substituents  
Takumi Yamada, Shunsuke Sueki, Kotohiro Nomura, Michiya Fujiki
- 15:00 1D13 Ligand effect on the Neodymium-catalyzed stereoblock polymerization of conjugated dienes  
Ryo Tanaka, Kaede Yuuya, Yuto Shinto, Yuushou Nakayama, Takeshi Shiono
- 15:25 1D14 Synthesis of Sequence-Regulated Polymers by Atom Transfer Radical Addition and One-Pot Thiol-Ene Polymerization via Deprotection  
Yoshiki TANAKA, Kotaro SATOH, Masami KAMIGAITO
- Yuushou Nakayama, presiding**
- 15:50 1D15 Synthesis of Precision Polymer Microspheres and Nanostructures by Living Coordination Dispersion Polymerization of Allene Derivatives  
Ikuyoshi Tomita, Akira Yamauchi, Yoshiyuki Oguchi, Takeshi Wakiya
- 16:15 1D16 Alternative Copolymerization of Carbon Dioxide and Epoxide Catalyzed by



- tetranuclear cluster containing rare-earth metal and zinc  
Haruki Nagae, Ryota Aoki, Spaniol Thomas, Jun Okuda, Kazushi Mashima
- 16:40 1D17 Copolymerization of ethylene with various comonomers by double-decker type dinuclear palladium complex  
Daisuke Takeuchi, Takashi Iwasawa, Shigenaga Takano, Kohtaro Osakada
- Daisuke Takeuchi, presiding**
- 17:05 1D18 Development of Novel Polymerization Based on Intramolecular Alternative Insertion of Isocyanide and Allene into Palladium-Carbon Bond  
Jun Ikegami, Naoya Kanbayashi, Yuki Kataoka, Taka-aki Okamura, Kiyotaka Onitsuka
- 17:30 1D19 Specific synthesis of linear and cyclic polymers from nonstoichiometric Suzuki-Miyaura polycondensation  
Hajime Sugita, Masataka Nojima, Yoshihiro Ohta, Tsutomu Yokozawa
- 17:55 1D20 Efficient polymer modification using metal-templated macrocycle catalyst  
Hiromitsu Sogawa, Takuma Hirose, Koji Yamamoto, Nam-Kim Kim, Toshikazu Takata

**Thu. Sep 21**

**S3. Frontiers in the design of catalysts to synthesize polymers or by the use of polymers**

**Yuko Takeoka, presiding**

- 9:10 2D01 Design of supramolecular scaffold for manipulation of proteins  
Yoshihiro Sasaki, Yuki Ujihisa, Mitsuru Ando, Kazunari Akiyoshi
- 9:35 2D02 Ruthenium-bound Peptide Catalyst directed toward Artificial Peroxidase for Lignin Degradation  
Hikaru Takaya, Ryota Yoshida, Katsuhiko Isozaki, Tomoya Yokoi, Takafumi Shano, Hiroshi Nishimura, Keiko Kondo, Takashi Watanabe, Masato Katahira, Masaharu Nakamura
- 10:00 2D03 Synthesis of poly(ester-urea) from hydrogen-bonded complex between bisoxazine and dicarboxylic acid  
Masatoshi Miyamoto, Yasunori Nishiguchi, Yuichi Okamoto

**Hikaru Takaya, presiding**

- 10:25 2D04 In-situ preparation of biodegradable polymers within ceramics and application to artificial bone materials  
Yuko Takeoka, Shingo Sato, Mika Saito, Masahiro Fujita, Masahiro Rikukawa
- 10:50 2D05 Preparation of chiral phenolic resins promoted by chiral matrices and achiral catalysts  
Seiji Tsunega, Ren-Hua Jin
- 11:15 2D06 Stochastic polymerization of monomers immobilized in MOF crystal  
Shizuka Anan, Yumi Mochizuki, Kenta Kokado, Kazuki Sada
- 11:40 2D07 Construction of Supramolecular Nanoreactor with Designable Porous Organic Salts  
Norimitsu Tohnai, Keiho Tsuchiya, Ichiro Hisaki

**Norimitsu Tohnai, presiding**

- 12:55 2D08 Synthesis and Catalytic Reaction Activity with Gold Nanoparticles/Diblock Ionomers (IV)  
HINAKO INOUE, HARUKA FURUKAWA, MASAHIRO FUJITA, YUKO TAKEOKA, MASAHIRO RIKUKAWA
- 13:20 2D09 Bicontinuous Nano domain Formation via Controlled Photo-curing and Post-Functionalization  
Takeo Suga, Eigo Ando, Yusuke Sahashi, Hiroyuki Nishide
- 13:45 2D10 Novel Functions based on a Dendrimer Reactor

Kimihisa Yamamoto

**Osami Shoji, presiding**

- 14:10 2D11 Polystyrene-cross-linking Phosphine Ligands as Platforms to Create Reaction Environments for Organometallic Catalysis  
Masaya Sawamura
- 14:35 2D12 Biomimetic Reactor with Gel Monolith  
Yoshiko Miura, Hikaru Matsumoto, Yu Hoshino
- 15:00 2D13 Formose Reaction Controlled by Boronic Acid Polymers  
Tomohiro Michitaka, Toru Imai, Akihito Hashidzume
- 15:25 2D14 Bottom-up synthesis of functional nanoparticles based on self-assembly of amphiphilic block copolymers  
Kazuhiro Nakabayashi, Watanabe Yu, Takata Mizuki, Mori Hideharu

**Hiroyasu Yamaguchi, presiding**

- 15:50 2D15 Synthesis and Photocatalytic function of Isolated TiO<sub>2</sub>/SiO<sub>2</sub> Microballs Templated by Polyethyleneimine Microgel  
Daiki Soma, Ren-Hua Jin
- 16:15 2D16 Synthesis of Dirhodium Complexes Coordinated with Helical Poly(diphenylacetylene)s and Their Use in the Asymmetric Catalysis  
Haruka MATSUKAWA, Daisuke HIROSE, Tatsuya NISHIMURA, Shigeyoshi KANO, Katsuhiko MAEDA
- 16:40 2D17 Development of Chiral Amplification System Using Helical Polymer Ligands: An Efficient Chiral Amplification Based on the Introduction of Reaction Products to Side Chains  
Yuuya Nagata, Fumiko Miyata, Michinori Suginome
- 17:05 2D18 Control of Reaction Field Based on Dual Characteristics in Structures of Host Protein  
Takashi Matsuo, Teruyuki Miyake, Akira Fujii, Isamu Shobu, Takamasa Kono, Shun Hirota

**Room E**

**Wed. Sep 20**

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

**Daigo Miyajima, presiding**

- 10:00 1E03 Lyotropic liquid crystalline behavior of fully-aromatic poly(amic ester)s and in-situ orientation analysis during solvent-evaporation and thermal imidization processes  
Kazuyuki Tanaka, Ryohei Ishige, Shinji Ando
- 10:25 1E04 Photoresponsive Behavior of Viologen-Containing Polymers in the Main Chain  
Takuto Onaya, Yumiko Naka
- 10:50 1E05 Thermally Driven Out-of-Plane Deformations of Liquid Crystal Gels Coupled to Volume Change  
Haruka Doi, Kenji Urayama

**Kenji Urayama, presiding**

- 11:15 1E06 Stabilization of gyroid structure formed by asymmetric liquid crystalline compounds having siloxane terminal  
Akane Kawafuchi, Yuki Kawase, Masaki Masuda, Shoichi Kutsumizu, Yohei Miwa
- 11:40 1E07 Ultralarge periodic structure of inorganic nanosheets and its spatiotemporal pattern formation

Koki Sano, Yasuo Ebina, Takayoshi Sasaki, Yasuhiro Ishida, Takuzo Aida

**Shinji Ando, presiding**

- 12:55 1E08 Synthesis and Temperature responsivity of Polymers Composed of Sulfobetaine and Ionic Chains.  
Dongwook Kim, Hideki Matsuoka
- 13:20 1E09 Effect of Addition of Ionic Polymer on Behavior of Sulfobetaine Surfactant  
Hitomi Sakamoto, Dongwook Kim, Hideki Matsuoka
- 13:45 1E10 Nanostructure and Stimuli-Responsivity of Polysulfobetaine Brushes at the Air-Water Interface  
Koichiro Mae, Ryota Matsuda, Hideki Matsuoka
- 14:10 1E11 Synthesis and characteristics of dual stimuli-responsive polybetaine copolymers  
Jongmin Lim, Hideki Matsuoka

**Hideki Matsuoka, presiding**

- 14:35 1E12 Mixing melanin-like particles with different diameters to create neutral colors  
Ayaka Kawamura, Michinari Kohri, Shinya Yoshioka, Tatsuo Taniguchi, Keiki Kishikawa
- 15:00 1E13 3D Structural Color Materials Prepared by Melanin-Like Particles  
Kenshi Yanagimoto, Ayaka Kawamura, Kosuke Hamada, Michinari Kohri, Yoshihiko Imai, Takaichi Watanabe, Tsutomu Ono, Tatsuo Taniguchi, Keiki Kishikawa
- 15:25 1E14 Immobilization of bio-derived molecules on the organo-modified magnetic nanoparticle layers and the maintenance property of their regularity on this substrate under the high temperature condition  
Takeru Yunoki, Yusaku Shidara, Atsuhiko Fujimori

**Michinari Kohri, presiding**

- 15:50 1E15 Thixotropic Cooperative Effect of "Transcending Hierarchical" Supramolecular-crystalline Nanofibers Produced by A Trefoil-type Triamide Derivatives with Three Chains.  
Yuto Nakagawa, Manami Iizuka, Yuma Moriya, Eiichi Sato, Yuji Shibasaki, Atsuhiko Fujimori
- 16:15 1E16 Preparation of polyion complex micelle covered with polyampholyte  
Rina Nakahata, Shin-ichi Yusa
- 16:40 1E17 Colloidal stability and structural analysis of DNA-functionalized nanoparticles  
Masahiro Fujita, Mizuo Maeda

**Masahiro Fujita, presiding**

- 17:05 1E18 Preparation of Poly(ionic liquid) Particles by Dispersion Polymerization and Supporting Metal Ion by Cation Exchange  
Takanori Nakano, Mitsuyosi Yamane, Aya Kurozuka, Hideto Minami
- 17:30 1E19 Preparation of Capsule Particles having Salt Stimulus-channels  
Shuichiro Mizuhara, Takuto Ouchi, Toyoko Suzuki, Hideto Minami
- 17:55 1E20 Functionalization of poly(ionic liquid) hollow particles by anion exchange  
Chihiro Hayashi, Ryuma Nakamura, Toyoko Suzuki, Hideto Minami

**Thu. Sep 21**

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

**Keiji Tanaka, presiding**

- 9:10 2E01 Two-dimensional disrelation analysis for polymer nanocomposite  
Hideyuki Shinzawa, Junji Mizukado
- 9:35 2E02 Adsorption of Triblock Polymer Additive from Lubricant Oil onto Mica

Studied by Sum Frequency Generation Spectroscopy  
Takako Imamura, Shin-ichi Yusa, Masashi Mizukami, Kazue Kurihara

10:00 2E03 Relationship between alkyl chain length and aggregation number of  
Micelle formed Calix[4]arene surfactants  
Masataka Araki, Shota Fujii, Rintaro Takahashi, Kazuo Sakurai

**Hiddenobu Shimizu, presiding**

10:25 2E04 Interfacial thickness and adhesive properties between (polystyrene and  
epoxy resin)  
Kosuke Fujino, Manabu Inutsuka, Norifumi Yamada, Keiji Tanaka

10:50 2E05 Swelling Behavior of Polystyrene Film in Contact with Alcohols  
Hiddenobu Taneda, Hisao Matsuno, Norifumi Yamada, Yasuhisa  
Minagawa, Keiji Tanaka

11:15 2E06 Surface and Interfacial Effects on Carrier Transport in Poly(3-  
hexylthiophene) Films  
Daisuke Kawaguchi, Tatsuki Abe, Keiji Tanaka

11:40 2E07 Frictional Properties of Poly(vinyl ether-co-acrylate)-Grafted Interfaces  
Yuki Ogusa, Yukari Oda, Daisuke Kawaguchi, Keiji Tanaka

**Daisuke Kawaguchi, presiding**

12:55 2E08 Dynamical study of interfaces under shear condition using X-ray photon  
correlation spectroscopy  
Taiki Hoshino, So Fujinami, Tomotaka Nakatani, Yoshiki Kohmura

13:20 2E09 Correlation between Adhesiveness of Polymer Nanosheets to Surfaces and  
Their Surface Free Energy  
Daiki Sakagami, Hong Zhang, Kaito Sasaki, Rio Kita, Naoki Shinyashiki, Shin  
Yagihara, Yosuke Okamura

13:45 2E10 Controlling of Radius of Perpendiculary Oriented Cylindrical  
Microdomains by Blending Homopolymer into a Cylinder-Forming Liquid  
Crystalline Diblock Copolymer  
Shigeo Suita, Norihiko Maruyama, Sadayuki Asaoka, Sono Sasaki, Shinichi  
Sakurai

**Taiki Hoshino, presiding**

14:10 2E11 Hotmelt type adhesive using necklace shaped polymer bearing POSS units  
Tsubasa Natsuaki, Kenta Kumeda, Naohiro Katsuta, Satoshi  
Watanabe, Kazuya Suwa, Tomoyuki Ohba, Masashi Kunitake

14:35 2E12 Effect of Electrolytes on Crystallization of Poly (vinylidene fluoride) Thin  
Film Prepared by Phase Separation  
Yohei Okanishi, Chikara Harada, Takashi Nishiyama, Eriko Sato, Kazuyoshi  
Ueda, Hideo Horibe

**Masashi Mizukami, presiding**

15:00 2E13 Fabrication and Fine Structural Analysis of Functional Films of Polymer /  
Organo-modified Magnetic Particle Nanohybrids  
Yusaku Shidara, Takeru Yunoki, Atsuhiko Fujimori

15:25 2E14 Surface-modification Effect on Particle Arrangement of Layered  
Organization Contributing to the Creation of Crystalline Fluorinated  
Polymers / Heat-resistant Fluorocarbon-modified Nanodiamond Composite  
Taira Tasaki, Shuhei Hirayama, Yifei Guo, Shuichi Akasaka, Atsuhiko Fujimori

15:50 2E15 Two-dimensional Integration of Heat-Resistant Long-Chain Phosphonate-  
modified Nanodiamond and Its Attempt to Nano-dispersion into the  
Polyacetal Matrix  
Yifei Guo, Shuhei Hirayama, Hiroki Machida, Taira Tasaki, Shuichi  
Akasaka, Atsuhiko Fujimori

**Atsuhiko Fujimori, presiding**

16:15 2E16 Thermodynamic Studies of Interpolymer Complex Formation between  
Poly(N-Isopropylacrylamide) and Poly(Acrylic Acid)  
Kazuyoshi Ogawa, Atsushi Tsuyukubo

- 16:40 2E17 Effects of Molecular Structure in Food Additives on the Phase Transition Behavior of Thermosensitive Hydrocolloids  
Hide Nobu Shimizu, Risei Wada, Masaru Okabe
- 17:05 2E18 Development of Superhydrophobic Nonwovens Composed of Cyclodextrin Derivative  
Yuji Sugiyama, Hiroaki Yoshida

**Fri. Sep 22**

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

### **Takanori Fukushima, presiding**

- 9:10 3E01 Influence to Molecular Structure of Star Polymer on Formation of Porous Films  
Hiromu Takayama, Yumiko Naka, Takeo Sasaki
- 9:35 3E02 Fabrication of polar nanosheet crystals by photoisomerization of arylazopyrazole derivatives at the air-water interface and their nonlinear optical properties  
Yuki Nagai, Keita Ishiba, Ryosuke Yamamoto, Masa-aki Morikawa, Nobuo Kimizuka
- 10:00 3E03 Electrical and optical properties of D- $\pi$ -A type oligo(phenyleneethynylene) built in self-assemblies of amphiphilic polypeptides  
Yuya Suzuki, Hiroataka Uji, Shunsaku Kimura

### **Nobuo Kimizuka, presiding**

- 10:25 3E04 Synthesis of Strongly-Segregating Organic-Organic Fluorine-Containing Block Copolymers with Balanced Surface Free Energies to Induce Perpendicular Orientation in Thin Film Microdomains  
Yasunari Yoshimura, Teruaki Hayakawa
- 10:50 3E05 Substituent and Chain-Length Effects on the Self-Assembled Structures of Paraffinic Triptycenes  
Masato Morita, Noriya Seiki, Takashi Kajitani, Yoshiaki Shoji, Fumitaka Ishiwari, Atsuko Kosaka, Masaki Takata, Takanori Fukushima
- 11:15 3E06 Development of thermo responsible refractive index increasing materials based on Hyperbranched poly(N-isopropylacrylamide)  
Seiichi Ominami, Hiroto Kudo
- 11:40 3E07 Formation and structures of polymer Langmuir-Blodgett films by using self-organization of liquid crystalline polyamines.  
Takeshi Yoshimi, Shota Yamaguchi, Seiji Ujiie

### **Seiji Ujiie, presiding**

- 12:55 3E08 Fabrication of ZnO site-selective growth substrate using a wrinkle structure  
Hiroshi Endo, Takeshi Kawai, Toru Kimura
- 13:20 3E09 Synthesis of Comb-Type Poly(methyl Methacrylate)s by ATRP and Formation of Porous Films  
Kenya Sato, Yumiko Naka, Takeo Sasaki
- 13:45 3E10 The effect of electrical wettability change of water by electrode surface treatment and changing terminal functional group of fluoropolymer as dielectric  
Eri Ooishi, Noritoshi Araki, Teruya Goto, Hiroshi Awano, Tatsuhiro Takahashi
- 14:10 3E11 Preparation of well-defined star polymer film by Breath-Figure method  
Wataru Miyamoto, Yumiko Naka, Takeo Sasaki

### **Hiroshi Endo, presiding**

- 14:35 3E12 Structural analysis of RO membranes which utilized the neutron scattering measurement  
Hiroaki Tanaka, Harutoki Shimura, Takafumi Ogawa, Masahiro Kimura
- 15:00 3E13 Preparation of narrowly dispersed polymer microsphere with sulfonic acid group  
Kaito Aburaya, Naoki Haraguchi, Shinichi Itsuno

15:25 3E14 Hygroscopic Effect of Solvent on Dewetting Morphology of Polystyrene Film  
Yuta Yamada, Yoshihisa Fujii, Naoya Torikai

**Room F**

**Wed. Sep 20**

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

**Tsuyoshi Koga, presiding**

10:50 1F05 Structure and Properties of Gel from Organically Modified Clay and Polydimethylsiloxane.  
Masakatsu Kuroki

11:15 1F06 Nanometer-scale static structure of double-network polymers  
Taiki Tominaga

11:40 1F07 Developing of tough polyion-complex gel with porous structure and the function  
Kohei MURAKAWA, Taolin SUN, Daniel KING, Takayuki NONOYAMA, Tasuku NAKAZIMA, Takayuki KUROKAWA, Jian Ping GONG

**Katsuhiro Inomata, presiding**

12:55 1F08 Network fiber growth mechanism of supra-molecular organogels composed of bisamide by time-resolved small angle X-ray scattering measurements.  
Eiichi Sato, Rei Okano, Yuji Jinbo

13:20 1F09 Molecular simulation of mechanical properties of amphiphilic co-network gel  
Natsuki Hosoe, Tsutomu Furuya, Tsuyoshi Koga

13:45 1F10 Molecular simulation of mechanical properties of networks consisting of polymers associating with colloids  
Keita Yamamoto, Tsutomu Furuya, Tsuyoshi Koga

14:10 1F11 Large Deformation Behavior of Irregular Networks Including Much Amounts of Uncross-linked Components  
Naoto Yamada, Kenji Urayama

**Yuji Jinbo, presiding**

14:35 1F12 Shape memory properties of elastin-based hydrogel  
Ryota Azumi, Koichi Sakamoto, Shogo Nobukawa, Hideki Sugimoto, Eiji Nakanishi, Katsuhiro Inomata

15:00 1F13 Energetic contribution on elasticity of polymer gels  
Yuki Yoshikawa, Takamasa Sakai

15:25 1F14 Designing Multiscale Wrinkled Hydrogels  
Saori Sasaki, Hiroyuki Ebata, Satoru Kidoaki

**Takayuki Nonoyama, presiding**

15:50 1F15 Ultrastretchable and Autonomic Self-Healing Ionic Elastomer  
Junosuke Kurachi, Yohei Miwa, Yu Kohbara, Shoichi Kutsumizu

16:15 1F16 Study on surface structure of gel material for contact lens by neutron reflectometry  
Eri Ito, Daisuke Suto, Masaki Baba, Norifumi L Yamada, Katsuhiro Yamamoto

16:40 1F17 Tuning of reversible pKa in zwitter ionic Gel Particles that mimic proteins  
Toshiki Jibiki, Masahiko Nakamoto, Yu Hoshino, Yoshiko Miura

**Shoichi Kutsumizu, presiding**

17:05 1F18 Self-propelled ion gel: powerful and durable motion at air-water interface and its mechanism

- Kazuaki Furukawa, Tetsuhiko Teshima, Yuko Ueno
- 17:30 1F19 Preparation and physical properties of supramolecular elastomers prepared by bulk polymerization with hydrophobic cyclodextrin monomers  
Suguru NOMIMURA, Hikaru ARAMOTO, Syunpei IKURA, Yoshinori TAKASHIMA, Hiroyasu YAMAGUCHI, Akira HARADA
- 17:55 1F20 Network formation mechanism and mechanical properties of inorganic/organic double network gels containing ionic liquids  
Tomoki Yasui, Eiji Kamio, Yu Iida, Hideto Matsuyama

**Thu. Sep 21**

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

**Kohzo Ito, presiding**

- 9:10 2F01 Analysis of the stretched exponential relaxations of Multilamellar Vesicles in shear fluid by using Shannon entropy.  
Hirokazu Maruoka, Akio Nishimura, Makoto Yoshida, Keisuke Hatada
- 9:35 2F02 Elasticity and Flow Behavior of Dense Suspensions of Binary Blends of Microgels with Different Diameters and Rigidity  
Ayaki Nakaishi, Takumi Watanabe, Daisuke Suzuki, Kenji Urayama
- 10:00 2F03 lectro-Rheological Effect and Dielectric Properties of Nano-Suspensions based on Titanium Dioxide Nano-Particles  
Katsufumi Tanaka, H. Komatsu, M. Nishimoto, A. Ichikawa, S. Aoki, M. Takasaki, H. Kobayashi
- 10:25 2F04 Self-Assembly Mechanism of Bolaamphiphilic Molecules in a Solution: Dissipative Particle Dynamics Simulations  
Takehide Tsutsui, Susumu Fujiwara, Tomoko Mizuguchi, Masato Hashimoto

**Masato Hashimoto, presiding**

- 10:50 2F05 Coarse-Grained Molecular Dynamics Simulations of Polyrotaxanes and Slide-ring Materials  
Yusuke Yasuda, Masatoshi Toda, Koichi Mayumi, Hideaki Yokoyama, Hiroshi Morita, Kohzo Ito
- 11:15 2F06 Characterization of dynamics of oligomeric dispersant in nanosuspension  
Haruhisa Kato, Ayako Nakamura
- 11:40 2F07 Size-dependent Heterogeneity in Polymer Solution at Temperature below Cloud Point  
Takuro Kogo, Atsuomi Shundo, Chi Wang, Keiji Tanaka

**Kazuo Sakurai, presiding**

- 12:55 2F08 Solvation Structure of Thermoresponsive Polymer in Solvate Ionic Liquid Studied by X-ray Total Scattering and MD Simulation  
Kei Hashimoto, Yumi Kobayashi, Kazu Hirosawa, Yuzo Kitazawa, Takeshi Ueki, Kenta Fujii, Masayoshi Watanabe
- 13:20 2F09 A cooperative order-disorder transition of carboxylated schizophyllan in water + dimethylsulfoxide  
Kazuto Yoshiba, Satoka Okamoto, Toshiaki Dobashi, Bjorn E. Christensen
- 13:45 2F10 Self-assembly of zwitterionic block copolymers containing glutamic acid and polyplex formation with DNA  
Toshiki KOSEKI, Kazuhiro NAKABAYASHI, Hiroyuki FURUSAWA, Hideharu MORI

**Kei Hashimoto, presiding**

- 14:10 2F11 Cross-sectional Structure of Surfactin-Cationic Surfactant Complex as explored by Synchrotron SAXS  
Kazuyuki Ito, Eri Tabata, Isamu Akiba

- 14:35 2F12 pH-Induced Formation of hierarchically organized structure and Hydrogelation in Aqueous Solution of Colistin  
Kosuke Morimoto, Satoshi Kanazawa, Isamu Akiba
- Kazuto Yoshiba, presiding**
- 15:00 2F13 Creation of stimuli-responsive platonic micelles oriented functional nanoparticles  
Rika Miyake, Shota Fujii, Kazuo Sakurai
- 15:25 2F14 Structural analysis of a micelle formed from diblock and triblock copolymers consisting of TEMPO-containing block(s) and a PEG block  
Rintaro Takahashi, Shotaro Miwa, Shota Fujii, B. Long Vong, Yukio Nagasaki, Kazuo Sakurai
- 15:50 2F15 Monodisperse micelles composed of calix[4]arene-based amphiphiles bearing nonionic hydrophilic groups  
Kenta Yoshida, Shota Fujii, Rintaro Takahashi, Kazuo Sakurai
- Isamu Akiba, presiding**
- 16:15 2F16 Temperature dependence of the microscopic structure of aqueous 2-butoxyethanol solutions. II. Radial distribution function between atoms  
Hiroshi Yamazawa, Jiro Shimada, Daichi Ida
- 16:40 2F17 A Molecular Dynamics Study of the Second Virial Coefficient of Poly(ethylene glycol) in Aqueous Solution  
Ryoto Yamashita, Daichi Ida, Jiro Shimada, Takenao Yoshizaki
- 17:05 2F18 Screw-sense Induction of Poly(quinoxaline-2,3-diyl)s based on the Preferential Solvation of a Chiral Solvent in Mixed Solvents  
Yuuva Nagata, Ryohei Takeda, Michinori Suginome

**Fri. Sep 22**

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

**Yo Nakamura, presiding**

- 9:10 3F01 Dimension of Catenated Ring Polymers in Dilute Solution Studied by Monte-Carlo Simulation  
Jiro Suzuki, Atsushi Takano, Yushu Matsushita
- 9:35 3F02 Conformation of ring polystyrenes in the bulk and solution  
Takuro Iwamoto, Yuya Doi, Atsushi Takano, Jiro Suzuki, Yoshiaki Takahashi, Michihiro Nagao, Yushu Matsushita
- 10:00 3F03 Excluded Volume Effects of Branched Polymers  
Kazumi Suematsu
- Atsushi Takano, presiding**
- 10:25 3F04 Solution Properties of a Three-Arm Star Poly(quinoxaline-2,3-diyl)  
Hirokazu Hasegawa, Ken Terao, Yuya Nagata, Michinori Suginome
- 10:50 3F05 Viscoelasticity and stress-optical relationship for semiflexible polymers  
Yuki Okada, Atsushi Matsumoto, Yuka Goto, Ai Fukazawa, Reina Tanaka, Tadashi Inoue, XinYue Jiang, Ken Terao, Takahiro Sato
- 11:15 3F06 Dependence on the degree of saponification of dilute aqueous solution behavior of poly(vinyl alcohol)  
Tatsuya Kajikawa, Satoshi Nishino, Daichi Ida, Masashi Osa, Takenao Yoshizaki
- 11:40 3F07 Salt concentration dependence of intra- and intermolecular interactions of polymacromonomers consisting of sodium poly(styrene sulfonate).  
Yo Nakamura

**Tomoyuki Ikai, presiding**

- 12:55 3F08 Polymerization of Disubstituted Acetylene Monomers by Pd



		Catalyst Bearing Bulky Phosphine Ligand <u>Yuta Goto</u> , Yu Miyagi, Natsuhiko Sano, Fumio Sanda
13:20	3F09	Control of the End Structures of Conjugated Helical Polymers and Reaction of the Polymers <u>Takeru Kamada</u> , Yu Miyagi, Fumio Sanda
13:45	3F10	Synthesis of platinum-containing conjugated polymers having bipyridine ligands <u>Manabu Marumoto</u> , Yu Miyagi, Natsuhiko Sano, Fumio Sanda
14:10	3F11	Interaction between Helically Folded Conjugated Polymers and Low Molecular Weight Compounds <u>Mana Tanaka</u> , Yu Miyagi, Fumio Sanda
		<b>Takenao Yoshizaki, presiding</b>
14:35	3F12	13C NMR Studies of Vulcanized Diene Rubber Blends <u>Sota Nimura</u> , Ichiro Ozaki, Kou Hasegawa, Yuusuke Amano, Kouji Okada
15:00	3F13	Analysis of Polymerization Behavior of Amino Acid-based Isocyanides and Precise Control of Higher-Order Structure of Resulting Polymers <u>Yuya Wada</u> , Yugaku Takagi, Tomoyuki Ikai, Ken-ichi Shinohara, Katsuhiko Maeda, Shigeyoshi Kanoh

## Room G

**Wed. Sep 20**

### **S4. Relationship between nanostructure / dynamics in polymer materials and their properties**

10:15	1GSO	Introductory Remarks S4 <u>Osamu Urakawa</u> , Naoya Torikai
		<b>Osamu Urakawa, presiding</b>
10:25	1G04	Mechanical property and dynamics of polycarbonate containing anti-plasticizers <u>Shogo Nobukawa</u> , Mai Maeda, Katsuhiko Inomata
10:50	1G05	Relation between macroscopic flows in a contraction-expansion channel and states of polymer chains - From the viewpoint of a multiscale simulation - <u>Takeshi Sato</u> , Takashi Taniguchi
		<b>Shogo Nobukawa, presiding</b>
11:15	1G06	Effect of Hydrogen Bonds on the Rheological Properties of Polycarbonate-Polyurethane <u>Naoya Miyawaki</u> , Osamu Urakawa, Tadashi Inoue
11:40	1G07	Mechanical Properties of Ultra-Thin Polymer Films <u>Hiroki Hasegawa</u> , Kohzo Ito, Hideaki Yokoyama
		<b>Tadashi Inoue, presiding</b>
12:55	1G08IL	Nanostructures and dynamics of particle-filled polymers <u>Tomomi Masui</u> , Hiroyuki Kishimoto
		<b>Tomoyasu Hirai, presiding</b>
13:45	1G10	Study of nano-mechanical properties of polymer nano-alloys and polymer nano-composites by atomic force microscope <u>Xiaobin Liang</u> , Reina Dejima, Makiko Ito, Sungmin Kang, Ken Nakajima
14:10	1G11	Composition and Density Profile of Elastomer on Substrate Interface <u>Koichiro Hori</u> , L. Norifumi Yamada, Tomomi Masui, Hiroyuki Kishimoto, Hideki Seto
14:35	1G12	The study of the filler dispersion in rubber by simultaneous measurement

of the stress and ultra small angle X-ray scattering  
Shotaro Nishitsuji, Makoto Otomo, Mikihiro Takenaka

**Tadashi Inoue, presiding**

- 15:00 1G13 Control of dispersion state of carbon nanofillers in immiscible polymer blends  
Masayuki Yamaguchi
- 15:25 1G14 Single Polymer Interface-free Composite  
Takashi Nishino, Takuya Matsumoto, Chizuru Hongo, Masaru Kotera
- 15:50 1G15 Effect of vulcanization on the mechanical property of isoprene rubber latex films  
Futoshi Maeda, Shunjin Aihara, Misako Asada

**Atsushi Noro, presiding**

- 16:15 1G16 Mechanism of High Strength, Ultrastretchability, and Autonomic Self-Healing at Room Temperature of Ionically Crosslinked Elastomer  
Yohei Miwa, Junosuke Kurachi, Yu Kohbara, Shoichi Kutsumizu
- 16:40 1G17 Correlation between cross-link density and mechanical properties on main-chain liquid crystalline elastomers prepared via bond-exchangeable dynamic cross-links  
Mikihiro Hayashi, Akinori Takasu, Masatoshi Tokita
- 17:05 1G18 Mechanical Properties of Elastomers Generated from Supra-Network of Telechelic Ionomers  
Hiroshi Sasaki, Kento Oomura

**Mikihiro Hayashi, presiding**

- 17:30 1G19 Soft Elasticity of Main Chain Liquid Crystal Elastomers Revealed by Biaxial Stretching  
Haruki Tokumoto, Kenji Urayama
- 17:55 1G20 Preparation of Supramolecular Elastomers Based on Styrenic Block Copolymer SIS  
Atsushi NORO, Takato KAJITA, Yushu MATSUSHITA, Kosuke ISOBE, Sadaharu HASHIMOTO, Atsushi NOZAWA, Ryoji KAMEYAMA

**Thu. Sep 21**

**S4. Relationship between nanostructure / dynamics in polymer materials and their properties**

**Nobuyoshi Miyamoto, presiding**

- 9:10 2G01 Characterization of Molecular Aggregation Structure of Helical Poly(methyl methacrylate) Brush Encapsulating Fullerene Molecules  
Masanao Sato, Tomoyasu Hirai, Atsushi Takahara
- 9:35 2G02 Flexible two-dimensional magnesium coordination polymer capable of water/2-propanol vapor separation  
Rika Ochi, shin-ichiro Noro, Yuichi Kamiya, Yuh Hijikata, Kazuya Kubo, Takayoshi Nakamura
- 10:00 2G03 Development of 3-dimensional Small-angle Scattering Observing Film Specimen  
Satoshi Koizumi, Satoru Ueda, Takako Fujisawa
- 10:25 2G04 Grazing Incidence Neutron Scattering to Evaluate Microstructure and Mass Transport along Film Thickness Direction  
Satoshi Koizumi, Satoru Ueda, Yohei Noda

**Satoshi Koizumi, presiding**

- 10:50 2G05 Design of nano-structured complex coacervates and clarification of the relationship between the structure and physical property  
Yujiro Hamada, Yuji Higaki, Ken Kojio, Atsushi Takahara, Takeshi Mori, Yoshiki Katayama, Akihiro Kishimura
- 11:15 2G06 Nanocomposite gel of pNIPA hybridized with inorganic nanosheet liquid

crystal macroscopically aligned by electric field  
Nobuyoshi Miyamoto, Takumi Inadomi, Kenji Urayama

11:40 2G07 Odd-even Effect of Side Chain in Poly(3-alkylthiophene)s on Photo-carrier Generation Process  
Shuhei Yamaguchi, Yu Tokita, Daisuke Kawaguchi, Tsutomu Yokozawa, Keiji Tanaka

**Takashi Nishino, presiding**

12:55 2G08IL Cellulose nanofiber surface design for polymer reinforcement  
Hiroyuki Yano, Sano Hironari, Fumiaki Nakatsubo

**Naoya Torikai, presiding**

13:45 2G10 Heat-transfer mechanism and controllability of highly-crystallized nanocellulose sheets  
Kojiro Uetani, Takumi Okada, Hideko Oyama

14:10 2G11 Wet spinning of biaxial liquid crystalline mixtures of cellulose nanowhiskers and graphene oxide  
Jalili Rouhollah, Miku Obikane, Masahiro Miyayama, Takaaki Sato, Jun Araki, Wallace Gordon

14:35 2G12 Structure and flow temperature of poly(lactic acid) gel formed by nano-fibers  
Yasuhiro Matsuda, Hiroki Ashizawa, Takahiro Fukui, Kazuaki Miyamoto, Shigeru Tasaka

**Yasuhiro Matsuda, presiding**

15:00 2G13 Proton transport property of sulfonated polyimide thin films with lamellar nanostructure  
Yuki Nagao, Karthik Krishnan, Yutaro Ono, Ryosuke Goto, Mitsuo Hara, Shusaku Nagano, Takashi Abe

15:25 2G14 Preparation of multi-helical structure using polymer brush with well-controlled stereoregularity  
Tomoyasu Hirai, Tomoki Kato, Masanao Sato, Hitoshi Shimamoto, Atsushi Takahara

15:50 2G15 Tribological performance of concentrated polymer brush: Dynamic characterization with colloid probe atomic force microscopy  
Tomoya FUJIMORI, Kohji OHNO, Ken NAKANO, Hiroshi WATANABE, Yoshinobu THUJII

**Masayuki Yamaguchi, presiding**

16:15 2G16 Internal structure and physical properties evaluation of PA6/SEBS alloy fabricated by high shear processing technology  
Akira Ishigami, Yuki Kodama, Hiroshi Ito

16:40 2G17 Thermal shrinkage behavior of cold-drawn isotactic polypropylene films  
Koh-hei Nitta, Kana Murotani, Takashi Uneyama

17:05 2G18 Molecular Simulation for Stress Responses of lamella Polypropylene  
Tadaaki Yamada, Yoshinori Tamai

**Fri. Sep 22**

**S4. Relationship between nanostructure / dynamics in polymer materials and their properties**

**Koichi Mayumi, presiding**

9:10 3G01 Rheological Behavior of Polymer Gels at High Frequency Limit  
Takuya Katashima, Miyu Ohnishi, Aoi Yamada, Takamasa Sakai, Tadashi Inoue

9:35 3G02 Permeation of Water through Hydrogels with Controlled Network Structure  
Takeshi Fujiyabu, Xiang Li, Takamasa Sakai

10:00 3G03 Structure and dynamics of dilute or semidilute Tetra-PEG solutions during gelation

Shintaro Nakagawa, Nobuyuki Watanabe, Xiang Li, Takamasa Sakai, Mitsuhiro Shibayama

**Takuya Katashima, presiding**

- 10:25 3G04 Development and characterization of physical gel with well-controlled crosslinkers  
Yusuke Yoshikawa, Xiang Li, Takamasa Sakai, Ung-il Chung, Mitsuhiro Shibayama
- 10:50 3G05 Probe diffusion in polymer solution and gels  
Nobuyuki Watanabe, Xiang Li, Mitsuhiro Shibayama
- 11:15 3G06 Water Triggered Ductile-Brittle Transition of Anisotropic Lamellar Hydrogels  
Muhammad Ilyas, Md. Anamul Haque, Youfeng Yue, Takayuki Kurokawa, Tasuku Nakajima, Takayuki Nonoyama, Jian Ping Gong
- 11:40 3G07 Network fluctuation and dynamical properties of slide-ring gels  
Koichi Mayumi, Hiroaki Okuno, Kazuaki Kato, Hideaki Yokoyama, Kohzo Ito

**Osamu Urakawa, presiding**

- 12:55 3G08 Inter-chain correlations in entangled polymers  
Yuichi Masubuchi

**Room H**

**Wed. Sep 20**

**S5. Interplay between industry-academia collaboration and fundamental research in soft materials**

- 9:50 1HSO Introductory Remarks S5  
Mikihito Takenaka
- Mikihito Takenaka, presiding**
- 10:00 1H03 Polymer Research on Ibaraki Neutron Spectrometer I - New Development of iBIX System for the Wide-angle Neutron Diffraction Experiments of Polymer Materials -  
Katsuhiko Kusaka, Kohji Tashiro, Naomine Yano, Taro Yamada, Yukihiko Yoshida, Satoshi Koizumi
- 10:25 1H04 Polymer Research on Ibaraki Neutron Spectrometer II - small-angle scattering and special sample environment on iMATERIA -  
Satoshi Koizumi, Yohei Noda, Yukihiko Yosida, Satoru Ueda, Takumi Inada, Katsuhiko Kusaka, Kouji Tashiro
- 10:50 1H05 Contrast variation small angle neutron scattering by proton spin polarization: precise structural analysis of bound rubber  
Yohei Noda, Yukihiko Yoshida, Satoshi Koizumi, Tomomi Masui, Ryo Mashita, Yasumasa Bito, Hiroyuki Kishimoto, Daisuke Yamaguchi, Takayuki Kumada, Shin-ichi Takata, Kazuki Ohishi, Jun-ichi Suzuki
- Katsuhiko Yamamoto, presiding**
- 11:15 1H06 Structural analysis of clay-polymer blend hydrogels investigated by combined contrast variation small-angle neutron scattering and synchrotron small-angle X-ray scattering  
Hiroyuki TAKENO, Yohei NODA, Hideki IZUNOME, Satoshi KOIZUMI
- 11:40 1H07 Study of fuel cell catalyst layer by IBARAKI materials design diffractometer, iMATERIA - Approach by Neutron Reflectivity -  
Satoru UEDA, Takumi INADA, Yohei NODA, Yukihiko YOSHIDA, Satoshi KOIZUMI, Akihiro OHIRA, Seiichi KURODA
- Kohji Tashiro, presiding**
- 12:55 1H08 Multiscale structural analysis of solid acid composites based on nano

porous SiO<sub>2</sub> by neutron diffractometer iMATERIA  
Yukihiko Yoshida, Yuji Tota, Takumi Inada, Yohei Noda, Haruyuki Takahashi, Satoshi Koizumi

13:20 1H09 Structural Analysis on Fuel Cell Catalyst Using Small-angle Neutron Scattering  
Takumi INADA, Satoru UEDA, Yohei NODA, Yukihiko YOSHIDA, Kiyoshi KANIE, Satoshi KOIZUMI

**Hiroki Ogawa, presiding**

14:10 1H11 Progress in soft X-ray analysis and its application to soft materials  
Yusuke Tamenori

14:35 1H12 Depth-Resolved Structure Analysis of Polymer Thin Films by Grazing Incident Small-Angle X-ray Scattering Utilizing Tender X-ray  
Katsuhiko Yamamoto, Itsuki Saito, Mayu Aikawa

**Yusuke Tamenori, presiding**

15:00 1H13 Depth-dependent structural analyses in PS-b-P2VP thin films as revealed by Grazing incidence small angle scattering with tender region energy  
Kota Tsujioka, Hiroki Ogawa, Mikihito Takenaka, Hiroshi Okuda, Hideaki Takagi, Nobutaka Shimizu, Noriyuki Igarashi

15:25 1H14 An adaptation of the total variation method for GISAXS-CT images  
Hiroki Ogawa, Shunsuke Ono, Yukihiko Nishikawa, Mikihito Takenaka, Akihiko Fujiwara, Masaki Takata

**Satoshi Koizumi, presiding**

15:50 1H15 Deep Learning based Super Resolution for FIB-SEM Observation of 3D Morphologies of Silica Nano Particles in SBR Rubbers  
Katsumi Hagita, Takeshi Higuchi, Hiroshi Jinnai

16:15 1H16 Large area structural analysis of microphase separated structures by scanning electron microscopy  
Takeshi Higuchi, Hideo Nishioka, Mitsuo Suga, Katsumi Hagita, Hiroshi Jinnai

16:40 1H17 Direct observation of spring constant and AFM video imaging of dynamics of a single SBR chain  
Ken-ichi Shinohara, Yuu Makida

**Hiroyuki Takeno, presiding**

17:05 1H18 in-situ synchrotron X-ray scattering measurement of hierarchical structural change of poly(vinylidene fluoride) under the application of high electric field  
Kohji Tashiro, Hiroko Yamamoto, Koki Aoyama, Hiroyuki Iwamoto

17:30 1H19 Development of composite of UHMWPE and MWCNT for artificial joint  
Kazuki Miyamae, Takumi Okihara

17:55 1H20 Study on the morphology of a polyolefin with high melting temperature during isothermal crystallization  
Mizuki Kishimoto, Kazuki Mita, Junhyeok Jang, Hiroki Ogawa, Koji Nishida, Toshiji Kanaya, Mikihito Takenaka

**Thu. Sep 21**

**S5. Interplay between industry-academia collaboration and fundamental research in soft materials**

**Yohei Noda, presiding**

9:10 2H01 Hybrid coarse-grained molecular dynamics simulation for the study of interfacial structure of polymer blend  
Takeshi Aoyagi

9:35 2H02 Properties prediction of block copolymers by machine learning  
Ryuichi Sakashita, Jun-ichi Takimoto, Takeshi Aoyagi, Kei Morohoshi, Hiroshi Shima, Yuichi Iwakata, Yoshinori Nagai, Tatsuhiko

Iwama,Daisuke Tsukio,Kazushi Horie,Takuya Komine,Keita Abe,Yohei Shimizu  
10:00 2H03 Evaluation of glass-transition temperatures of polymers by using  
atomistic molecular-dynamics simulations of dynamic viscoelasticity at a  
GHz-level frequency  
Satoru Kuwajima,Yoshihiro Okamoto

**Takeshi Aoyagi, presiding**

10:25 2H04 Simulation study on the formation mechanism of polymer membrane  
generated by the non-solvent induced phase separation method  
Kenji Yoshimoto,Kyohei Yano,Takashi Taniguchi,Masahiro Ohshima

10:50 2H05 Large scale coarse-grained molecular dynamics simulation of fracture of rubber  
Masataka Oikawa,Yuichi Masubuchi

**Hiroki Murase, presiding**

11:15 2H06 In-situ synthesis of supramolecular hydrogelator at an oil/water interface  
for stabilization and controlled fusion of microdroplets  
Tatsuo Maruyama,Yuki Nishida,Akiko Tanaka,Shota Yamamoto,Yudai  
Tominaga

11:40 2H07 Molecular hydrogels composed of new glucamine-based gelators and their  
thixotropic properties  
Yutaka Ohseido,Masashi Oono,Kowichiro Saruhashi,Hisayuki  
Watanabe,Nobuyoshi Miyamoto

**Mikihito Takenaka, presiding**

12:55 2H08IL Tire material research using synchrotron radiation and neutron.  
Hiroyuki Kishimoto

**Nobuyoshi Miyamoto, presiding**

13:45 2H10 Evaluation of dilute-rich system dispersion state of silica particles in rubber  
by X-ray small angle scattering method and Reverse Monte Carlo method  
Tomotaka Nakatani,Shinji Kohara,Taiki Hoshino,So Fujinami,Masaki Takata

14:10 2H11 Studies on dispersing process of silica particles during rubber mixing  
Naoya Amino

14:35 2H12 Mechanical properties of cellulose nanofibers reinforced SBR  
Masayuki Kawazoe,Tomoyuki Sakai,Wataru Kashima,Takashi Miura,Toru  
Noguchi

**Tatsuo Maruyama, presiding**

15:00 2H13 Research on Density fluctuation of Amorphous polymer by time-resolved  
small-angle X ray scattering  
Yuki Watanabe,Shotaro Nishitsuji,Hiroshi Ito,Masaru Ishikawa,Takashi  
Inoue,Mikihito Takenaka

15:25 2H14 Solution Scattering Techniques to Characterize Nano-medicines and  
Regulatory Science  
Kazuo Sakurai,Isamu Akiba

15:50 2H15 Cross-sectional structures of a molecular monolayer nanotube formed  
from a bolaamphiphile and its inclusion of bovine serum albumin  
Hiroki Kawauchi,Kenta Yoshida,Rintaro Takahashi,Shota Fujii,Kazuo Sakurai

**Shotaro Nishitsuji, presiding**

16:15 2H16 pH dependence of a micelle formed from a triblock copolymer consisting of  
hydrophobic-ionic hydrophilic-nonionic hydrophilic blocks  
Shotaro Miwa,Rintaro Takahashi,Shota Fujii,Rossel Carsten,H. Schacher  
Felix,Kazuo Sakurai

16:40 2H17 Monodisperse micelles composed of calix[4]arene-based amphiphiles  
bearing large electrostatic potential  
Shota Fujii,Rintaro Takahashi,Kazuo Sakurai

17:05 2H18 Evaluation of molecular aggregation structure of symmetrical  
cycloaliphatic diisocyanate-based polyurethane during deformation  
Shiori Masuda,Shuhei Nozaki,Ken Kojio,Atsushi Takahara,Kazuki

**Fri. Sep 22**

**S5. Interplay between industry-academia collaboration and fundamental research in soft materials**

**Ken Kojo, presiding**

- 9:10 3H01 Quasicrystal lattice in block copolymer / homopolymer blends  
Hideaki Takagi, Katsuhiko Yamamoto
- 9:35 3H02 Fast switching between lamellar and Gyroid structures with UV light in thermotropic liquid crystalline systems  
Shoichi Kutsumizu, Aya Nagai, Hideaki Kondo, Yohei Miwa, Yasuhisa Yamamura, Kazuya Saito
- 10:00 3H03 Dynamics and mechanical properties of polyrotaxane materials  
Kazuaki Kato, Kaito Nemoto, Masayuki Taniguchi, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito

**Room I**

**Wed. Sep 20**

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

**Yasuyuki Agari, presiding**

- 10:00 1I03 Application of polyurethane with high photoelasticity to sensor device  
Masahiko MITSUZUKA, Satoshi YAMASAKI, Takahiro NAKATSUJI, Takaaki TONE, You SUGINO, Yoshiro Tajitsu
- 10:25 1I04 Preparation and property of conjugated polymer polyaniline composite  
Kohei Yamabe, Hiromasa Goto
- 10:50 1I05 Variation with molecular weight in enthalpy relaxation  
Yoshihisa Miyamoto, Takashi Konishi, Waki Sakatsuji

**Yumiko Naka, presiding**

- 11:15 1I06 Fracture behavior and structure of nano-porous block copolymer  
Takashi Ohta, Koichi Mayumi, Kazuaki Kato, Kohzo Ito, Hideaki Yokoyama
- 11:40 1I07 Measurement of effective thermal emissivity of polymers and various types of factors on them  
Yasuyuki Agari, Hikaru Ito, Hiroshi Hirano, Joji Kadota, Akinori Okada

**Yoshihisa Miyamoto, presiding**

- 12:55 1I08 Image recording in nitro benzylidene aniline type photorefractive polymers.  
Tomoyuki Toda, Takeo Sasaki, van Khoa Le
- 13:20 1I09 Photo-Responsive Behavior of Extended-Viologen Polymers  
Yumiko Naka, Azuma Ito, Shota Ito, Takeo Sasaki

**Hideaki Yokoyama, presiding**

- 13:45 1I10 Heat Releasing Properties of PP/Al<sub>2</sub>O<sub>3</sub> nanocomposites prepared based on Reactor Granule Technology  
Bulbul Maira, Patchanee Chammingkwan, Minoru Terano, Toshiaki Taniike
- 14:10 1I11 Study on the new transparent vinyl chloride resin

		<u>Taizo Aoyama</u>
14:35	1I12	Molecular Mechanism of Impact Fracture of Glassy Polymer <u>Kazuhiro Fujimoto</u> ,Tomonari Hattori,Wataru Shinoda,Susumu Okazaki
		<b>Akio Kawaguchi, presiding</b>
15:00	1I13	Peculiar Behavior of Small-angle X Ray Scattering Profiles from Phase Separated Structure of Block Copolymer with Low electron density difference <u>Kenichi Yoshimori</u> ,Katuhiko Yamamoto
15:25	1I14	High-resolution separation of metal nanoclusters using reversed-phase high-performance liquid chromatography <u>Yuichi Negishi</u> ,Yuki Koyama,Daisuke Shima,Watanabe Seiichiro,Kana Yoshida,Yoshiki Niihori
15:50	1I15	Thiolate-protected trimetallic 25-atom clusters with specific high stability <u>Tasuku Ono</u> ,Sakiat Hossain,Mahiro Yoshioka,Mai Hosoi,Wataru Kurashige,Yuichi Negishi
16:15	1I16	Study on filler effect of silica nanoparticle in natural rubber with organic-inorganic nano matrix structure <u>Tsukasa Takagi</u> ,Seiichi Kawahara
		<b>Yuichi Negishi, presiding</b>
16:40	1I17	Investigation of Diffusion and Re-orientation in Iodine/Nylon 6 Complex [19]; Consideration for Re-orientation of Crystallite Induced by Inner Diffusion of Polyiodides.(4) <u>Akio KAWAGUCHI</u>
17:05	1I18	Heterogeneous Structure and Mechanical Properties of Nanocellulose Composites <u>Atsuomi Shundo</u> ,Yuji Matsumoto,Hisato Hayashi,Nobutomo Tsuruzoe,Keiji Tanaka
17:30	1I19	The effect of adsorbed polymer on dispersion and aggregation state of the carbon black in dispersion medium and polystyrene <u>Yudai Fukunaga</u> ,Yoshihisa Fujii,Naoya Torikai

**Thu. Sep 21**

## **S6. Consideration of structure development of polymer crystallization at molecular level**

9:00	2ISO	Introductory Remarks S6 <u>Shinichi Yamazaki</u>
		<b>Koji Nozaki, presiding</b>
9:10	2I01	in-situ AFM of crystallization process of an it-PMMA monolayer under high humidity <u>Yuki Ono</u> ,Jiro Kumaki
9:35	2I02	Preparation of poly(p-phenylene terephthalamide) single crystal and structural reorganization during heat treatment Tomoyasu Takaki,Yutaro Hara, <u>Tetsuya Uchida</u>
10:00	2I03	Lamellar morphology and crystallization rate of crystalline polymers grafted onto solid surfaces <u>Takayuki Ikehara</u> ,Toshiyuki Kataoka,Kosuge Daiki,Kobayashi Tsubasa
		<b>Masatoshi Tosaka, presiding</b>
10:25	2I04	Polymer crystallization and chain dynamics in ultrathin films <u>Ken Taguchi</u> ,Youhei Noda,Akihiko Toda,Yoshihisa Miyamoto
10:50	2I05	Preparation of the composite of UHMWPE and carbon nanotube by microwave heating. <u>Takumi Okihara</u> ,Kazuki Miyamae



**Yasuo Saruyama, presiding**

- 11:15 2I06 Crystallization and Melting kinetics of PBT using fast scanning calorimetry  
Yoshitomo Furushima, Sadanori Kumazawa, Hideyuki Umetsu, Akihiko Toda, Evgeny Zhuravlev, Andreas Wurm, Christoph Schick
- 11:40 2I07 Fast-scan DSC and SAXS of polymer crystallization and melting  
Akihiko Toda, Ken Taguchi, Koji Nozaki, Gaku Kono

**Yasutoshi Tanzawa, presiding**

- 12:55 2I08 Change in the higher order structure of semi-crystalline polymers induced by the temperature modulation  
Yasuo Saruyama, Keisuke Minami, Yuta Isobe, Chihiro Nakai, Soichi Tatsumi, Haruhiko Yao
- 13:20 2I09 Relationship between Crystallization Kinetics and Mobility of Polymer Chains Confined in Cylindrical Nanodomains  
Shuichi Nojima, Koushun Kawazu, Takashi Ishizone, Shintaro Nakagawa, Daiki Arai, Kazuo Yamaguchi, Seiichi Nakahama
- 13:45 2I10 Crystal nucleation in immiscible and reactive compatibilized blends of poly(epsilon-caprolactone) and poly(methyl methacrylate)  
Toshiyuki Kataoka, Kazuya Ito, Akira Kato, Ikehara Takayuki

**Koji Nishida, presiding**

- 14:10 2I11 Investigation of electron-density imaging of poly(3-hydroxybutyrate) crystal on the basis of maximum entropy method and X-ray powder diffraction.  
Junki Yamamoto, Mami Goda, Md. Amran Hossain, Shinichi Sakurai, Kenichi Kato, Masaki Takata, Sono Sasaki
- 14:35 2I12 Hierarchical Structure Evolution Mechanism of Polymers in the Melt-Isothermal Crystallization Process: a Proposal based on the Simultaneous Time-resolved Measurements of Wide-angle and Small-angle X-ray Scatterings and Vibrational Spectra  
Kohji Tashiro
- 15:00 2I13 Thermally-induced crystal phase transition in polyoxymethylene ultra-small single crystal investigated by the temperature-dependent high-energy synchrotron X-ray scattering measurement  
Kohji Tashiro, Hiroko Yamamoto, Kunihisa Sugimoto

**Shuichi Nojima, presiding**

- 15:25 2I14 The extinction of the lamellar twisted structure in the poly(trimethylene terephthalate) spherulite  
Daisuke Tadokoro, Takashi Konishi, Koji Fukao, Yoshihisa Miyamoto
- 15:50 2I15 Crystallization of Poly(butylene-2,6-naphthalate) via Mesophase  
Koji Nishida, Harutoshi Asakawa, Norihiro Matsumoto, Toshiji Kanaya
- 16:15 2I16 Phase transition and dynamics in ionic liquid crystals through a metastable highly ordered smectic phase  
Yoko Nozaki, Kenji Tomida, Kenji Nakamura, Takashi Konishi, Koji Fukao

**Go Matsuba, presiding**

- 16:40 2I17 Crystallization of poly(p-phenylene sulfide) via a transient state in glass transition region  
Yasutoshi TANZAWA
- 17:05 2I18 Crystallization of poly(2-isopropyl-2-oxazoline) induced by the phase separation of the aqueous solution  
Yukiteru Katsumoto

**Fri. Sep 22**

**S6. Consideration of structure development of polymer crystallization at molecular level**

**Shinichi Yamazaki, presiding**

- 9:10 3I01IL Morphology and Process Control of Eco-friendly polymers  
Go Matsuba
- 10:00 3I03 Three-dimensional Observation of A Novel Fibrous Structure in Shish-Kebab Studied by Transmission Electron Microtomography  
Hiroki Murase, Hiroshi Jinnai, Takeshi Higuchi, Takaaki Toriyama, Takeji Hashimoto
- 10:25 3I04 Entanglement Characteristics Evaluated from Melt-Drawing Behaviors  
Hiroki Uehara, Takeshi Yamanobe

**Hiroki Murase, presiding**

- 10:50 3I05 Crystallization Behavior of Long Chain Branched Polypropylene  
Shinichi Kitade, Hideo Kurihara, Isamu Akiba, Kazuo Sakurai
- 11:15 3I06 Role of branched point and arm length in shear induced crystallization of linear and star poly(L-lactic acid) blends  
Go Hiwasa, Shinichi Yamazaki, Hironori Atarashi, Kunio Kimura
- 11:40 3I07 Molecular dynamics simulation of polymer crystallization under large deformation and flow  
Takashi Yamamoto

**Hiroki Uehara, presiding**

- 12:55 3I08 Three-dimensional nano-oriented crystals of polyesters  
Kiyoka OKADA, Yoshitaka TANAKA, Yoko MINAMI, Taizo KABE, Hiroyasu MASUNAGA, Masamichi HIKOSAKA
- 13:20 3I09 Bi-axial nano oriented crystals (NOCs) of PA66  
Masamichi Hikosaka, Kiyoka Okada, Kei Yasui, Kenichirou Iwasaki, Mai Ishikawa, Katsumi Nabeshima, Taizo Kabe, Hiroyasu Masunaga
- 13:45 3I10 Crystallization of PA66 is controlled by nucleation process of p-Hex form  
Kei Yasui, Kenichirou Iwasaki, Mai Ishikawa, Katsumi Nabeshima, Taizo Kabe, Hiroyasu Masunaga, Kiyoka Okada, Masamichi Hikosaka

**Takumi Okihara, presiding**

- 14:10 3I11 Analysis on crystallization rate of uni- and bi-axially oriented poly(ethylene terephthalate)  
Seiji Shibata, Wataru Takarada, Takeshi Kikutani
- 14:35 3I12 Dominating Factor of Strain-Induced Crystallization in Natural Rubber  
Masatoshi Tosaka
- 15:00 3I13 Relationship between The Anomalous WAXD Pattern of Cross-Linked Poly(dimethylsiloxane) and Its Polymorphism  
Masatoshi Tosaka, Kohji Tashiro
- 15:25 3I14 Clarification of kinetics of higher-order structure formation polycaprolactone in spin-coating film-forming processes.  
Jin Kyu Park, Shun Miyamoto, Mami Goda, Md. Amran Hossain, Junki Yamamoto, Shinichi Sakurai, Hiroyasu Masunaga, Takaaki Hikima, Masaki Takata, Sono Sasaki

**Room J**

**Wed. Sep 20**

**S8. Foods, polymers and water**

9:50	1J50	Introductory Remarks S8 <u>Shin Yagihara</u> ,Katsuyoshi Nishinari
		<b>Katsuyoshi Nishinari, presiding</b>
10:00	1J03	Physical meaning and application of fractal water structure analysis in food stuff and model materials <u>Shin Yagihara</u>
10:25	1J04	Characteristics of the structures and physical properties of ethylene-vinyl alcohol copolymer in the swollen state <u>Hiroaki Yoshimizu</u>
		<b>Shin Yagihara, presiding</b>
10:50	1J05	The effects of sucrose on solvent transportation behavior from the constrained agarose gels <u>Isamu Kaneda</u> ,Masumi Morita
11:15	1J06	Effect of molar mass on sorbed water in Konjac glucomannan <u>Shoji Takigami</u>
11:40	1J07	The amount of hydration of polymers obtained from the small angle X-ray scattering and partial specific volume. <u>Yuji Jinbo</u>
12:55	1J08IL	Gelation and Phase Behaviors of Water Soluble Polymers <u>Masayuki Tokita</u>
		<b>Hiroaki Yoshimizu, presiding</b>
13:45	1J10	Structural change of polysaccharide xanthan used as a viscosity enhancer induced by thermal denaturation and renaturation <u>Yasuhiro Matsuda</u> ,Fumitada Sugiura,Kazuya Okumura,Shigeru Tasaka
14:10	1J11	Thermal gelation of curdlan as observed by small angle X-ray scattering <u>Yoshiaki Yuguchi</u> ,Hanna Ono,Masashi Ogasawara,Manabu Nakachi,Yusuke Matsuyama,Yoshihiro Kakehashi
14:35	1J12	Effect of multivalent cations on network formation and physical properties of gellan gum solutions <u>Yun Zhou</u> ,Demei Kong,Qiuhua Zhao,Matsukawa Shingo
		<b>Katsuyoshi Nishinari, presiding</b>
15:00	1J13	Relationship between structures and physical properties of endosperm starches of rice <u>Naoyoshi Inouchi</u>
15:25	1J14	Mechanical properties of Japonica rice noodles with low methoxyl pectin <u>Yoko Nitta</u>
		<b>Shingo Matsukawa, presiding</b>
15:50	1J15	Role of glass transition in food <u>Kiyoshi Kawai</u>
16:15	1J16	Rheological and structural properties of dietary fiber enriched noodle <u>Takao Nagano</u> ,Kenji Ogura
16:40	1J17	Meniscus Splitting at Gas-LC Interface in Drying Process of Megamolecular Polysaccharides <u>Gargi JOSHI</u> ,Kosuke OKEYOSHI,Maiko K. OKAJIMA,Tatsuo KANEKO
		<b>Isamu Kaneda, presiding</b>
17:05	1J18	Effect of coexistence of protein on the helix-coil transition of food polyelectrolytes Yiping Cao,Shugang Li,Yapeng Fang, <u>Katsuyoshi Nishinari</u> ,G.O. Phillips
17:30	1J19	Dynamic Rheological Behaviors of Mixed Carrageenan Gels under Large Deformation <u>Shingo Matsukawa</u> ,Stephen Flores,Faith Descallar,Rommel Bacabac
17:55	1J20	Synergistic interaction in polysaccharide mixture systems <u>Makoto Takemasa</u> ,Katsuyoshi Nishinari

Thu. Sep 21

### S7. Design of Functional Polymer Based on Surface and Interface

- 9:00 2JSO Introductory Remarks S7  
Masaru Kotera, Atsuomi Shundo
- Atsuomi Shundo, presiding**
- 9:10 2J01 Easy Debonding Adhesive by Microwave-triggered Rapid Heating of Ionic Liquid  
Mirei Usuba, Takuya Matsumoto, Chizuru Hongo, Takashi Nishino
- 9:35 2J02 Analysis of adhesion interface between brass plating and rubber  
Hiromi Yoshikawa, Hiroyuki Shirai, Yasuyuki Kobayashi, Shingo Ikeda, Yutaka Fujiwara, Toshiyuki Isshiki, Taisuke Ihozaki, Ryuichi Arakawa
- 10:00 2J03 Structure of polymer hard-coating film and solution of silane reagents  
Yasuhiro Matsuda, Masaki Nakazawa, Masahiro Suzuki, Ryo Muramatsu, Shigeru Tasaka
- Yasuhiro Matsuda, presiding**
- 10:25 2J04 Structure and Lubrication Properties of Triblock Copolymer Adsorbed on Solid Surface: Neutron reflectometry and Resonance Shear Measurement  
Yuvaraj Sivalingham, Masashi Mizukami, Norifumi Yamada, Koichiro Hori, Shinichi Yusa, Kazue Kurihara
- 10:50 2J05 Friction on shape-tunable wrinkles  
Takuya Ohzono, Kay Teraoka
- 11:15 2J06 Liquid Spreading on Open Channels Composed of Paddle-Shaped Pillars Aligned One Row  
Koji MUTO, Daisuke ISHII
- 11:40 2J07 Development of boronic acid inks capable of functionalizing the surface of solid polyvinyl alcohol  
Ryuhei Nishiyabu, Tomo Okade, Yuji Kubo
- Masaru Kotera, presiding**
- 12:55 2J08 Scanning transmission x-ray microscopy for polymer science  
Jun Kikuma, Misato Kazama, Hiroki Umemoto, Yasuo Takeichi
- 13:20 2J09 Polymer/nano-filler interfacial adhesion in nanocomposites and its applications to advanced films  
Shigeru Aoyama
- 13:45 2J10IL Polymer Material Design Utilizing Interface between Polymer and Filler  
Kazuya Nagata
- Jun Kikuma, presiding**
- 14:35 2J12 Proton conductive polymer layer coated silica nanoparticles prepared by Reversible Addition-Fragmentation chain Transfer Polymerization with Particles method  
Keiji Shito, Satoshi Sekine, Yuki Takahashi, Toshihiko Arita, Akito Maushara
- 15:00 2J13 Electrochemical Analysis of Nickel Surfaces Covered with Thiol Terminated Polystyrene  
Kosuke Yamakawa, Hai-Thanh Nguyen, Kaoru Adachi, Yasuhisa Tsukahara
- 15:25 2J14 Surface modification of PEN and PET substrates by plasma treatment and layer-by-layer assembly of polyelectrolyte multilayer thin films and its application to electroless deposition  
Toshiyuki TAMAI, Mitsuru WATANABE, Yasuyuki KOBAYASHI, Yoshio NAKAHARA, Setsuko YAJIMA, Joonhaeng KANG, Azusa KITA
- Akito Masuhara, presiding**
- 15:50 2J15 Improvement of separation property of gas permeable membrane by

- surface modification using polymer nanosheets  
Yu Nagase, Suleimenova Botakoz, Chihiro Umeda, Kana Ando, Taishi Suzuki, Tooru Isono, Yosuke Okamura, Shinichi Koguchi
- 16:15 2J16 Application of two-dimensional nanospace in polymer nanosheet assembly for high proton conductive membrane  
Mayu Tsukamoto, Jun Matsui, Syusaku Nagano, Syunsuke Yamamoto, Masaya Mitsuishi, Tokuji Miyashita
- 16:40 2J17 Polymer Nanosheets Based on Silsesquioxane-containing Block copolymers and SiO<sub>2</sub> Ultra-Thin Film Formation  
Yuya Ishizaki, Shunsuke Yamamoto, Tokuji Miyashita, Masaya Mitsuishi
- 17:05 2J18 Construction and structural control of 2D multicomponent self-assembled structures at solution/solid interfaces  
 Kohdai Furusawa, Mariko Moriyoshi, Mai Shoda, Shinobu Uemura

**Fri. Sep 22**

### **S7. Design of Functional Polymer Based on Surface and Interface**

#### **Motoyasu Kobayashi, presiding**

- 9:10 3J01 Preparation of photochromic liquid core nanocapsules by phase inversion temperature emulsification and coacervation technique  
Yosuke Tsuru, Michinari Kohri, Tatsuo Taniguchi, Keiki Kishikawa, Masaki Hayashi
- 9:35 3J02 Analysis of chain end functionalization of concentrated polymer brush by p-polarized multiple-angle incidence resolution spectrometry (pMAIRS).  
Kosuke Nishiumi, Yuji Kinose, Keita Sakakibara, Yoshinobu Tsujii, Nobutaka Shioya, Takafumi Shimoaka, Takeshi Hasegawa
- 10:00 3J03 Ion-specific Hydration State of Polyelectrolyte Brushes Induced by Interaction in Charged Groups in Polyelectrolyte Chains and the Counter Ions  
Yoshihiro Inutsuka, Yuji Higaki, Norifumi Yamada, Yuka Ikemoto, Atsushi Takahara
- 10:25 3J04 Visualization of Interfacial Interaction Potentials in Zwitterionic Polymer Brushes and Particles by Reflection Interference Contrast Microscopy  
Yuji Higaki, Yoshihiro Inutsuka, Tatsunori Sakamaki, Keiko Higaki, Norifumi Yamada, Motomu Tanaka, Atsushi Takahara

#### **Yuji Higaki, presiding**

- 10:50 3J05 Control of microphase separated structures by introduction of chiral compounds at the interfaces of polymer phases  
Takeshi Higuchi, Tomohiko Nagao, Hiroshi Jinnai
- 11:15 3J06 Orientational structure in liquid crystalline block copolymers at film surfaces and interfaces  
Shusaku Nagano, Koji Mukai, Mitsuo Hara, Takahiro Seki
- 11:40 3J07 Polymer brush patterns formed by self-assembly of liquid-crystalline block copolymer on polymer films  
Koji Mukai, Mitsuo Hara, Shusaku Nagano, Takahiro Seki

#### **Takeshi Higuchi, presiding**

- 12:55 3J08 Interaction Between Tentacles of Live Cypris Larvae and Hydrophilic Polymer-grafted Surfaces  
Motoyasu Kobayashi, Yuta Toshimitsu, Shohei Shiomoto, Yasuyuki Nogata
- 13:20 3J09 Surface modification of petri dish with copolymers of hyperbranched polystyrene and poly(N-isopropylacrylamide) for thermo-responsive cell culture dish  
Yu Sudo, Yuta Nabae, Teruaki Hayakawa, Masa-aki Kakimoto
- 13:45 3J10 Preparation of glass substrate surface for suppression protein adsorption  
Tomoko Honda, Shin-ichi Yusa, Aiko Nakao, Kazuhiko Ishihara, Yasuhiko Iwasaki

#### **Shinobu Uemura, presiding**

- 14:10 3J11 Swelling behavior of polymer thin films at non-solvent interfaces and its effect on biological responses  
Hisao Matsuno, Hirata Toyoaki, Hidenobu Taneda, Norifumi Yamada, Yasuhisa Minagawa, Keiji Tanaka
- 14:35 3J12 Sugar-responsive diagnostic nanoparticles with phenylboronic acid moieties at the terminal of corona layers  
Kenta Yonezu, Taka-Aki Asoh, Ryo Ishihara, Akihiko Kikuchi

<b>Room K</b>
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**Wed. Sep 20**

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

**Koji Nozaki, presiding**

- 12:55 1K08 Effects of substituents on cooperativity and fragility at glass transition of polymers  
Akinori Sato, Taichiro Sasai, Takashi Sasaki
- 13:20 1K09 Effect of Local Glass Transition Temperature around Ionic Multiplets of Polyethylene Ionomers on Tensile Behaviors  
Yuu Kohbara, Yohei Miwa, Hajime Furukawa, Shoichi Kutsumizu

**Takeshi Yamanobe, presiding**

- 13:45 1K10 Effect of the shape of specimen on uniaxial deformation of polyoxymethylene  
Misako Fujino, Koh-hei Nitta
- 14:10 1K11 Deformation mechanism of polyethylene gel added liquid paraffin under uniaxial drawing  
Takamasa Okuda, Yusuke Hiejima, Koh-hei Nitta, Chunyao Li, Koichi Kono
- 14:35 1K12 Uniaxial deformation mechanism of thermoplastic polyamide elastomers.  
Taisei Sasaki, Yusuke Hiejima, Kou-hei Nitta

**Koh-hei Nitta, presiding**

- 15:00 1K13 Research on Flemion membrane under elongation by time-resolved small and wide angle X-ray scattering: III  
So Fujinami, Taiki Hoshino, Tomotaka Nakatani, Masaki Takata
- 15:25 1K14 Effect of kneading condition and the composition on the structure and physical properties of EPDM/PP thermoplastic elastomer  
Ryunosuke Iwabuchi, Masakazu Manaka, Hiroki Uehara, Takeshi Yamanobe

**Shinichi Yamazaki, presiding**

- 15:50 1K15 Quantum Chemical Study of Crystal Structures and Charge Transfer Mechanism for the Various Kinds of Polymer-Iodine Complexes  
Kohji Tashiro, Tomohiko Takahama
- 16:15 1K16 Basic helical crystalline form of syndiotactic polystyrene  
Yoshinori Tamai

**Akihiko Toda, presiding**

- 16:40 1K17 Change of molecular weight of cyclic PLLA via transesterification and molecular weight dependence of nucleation promotor effect of cyclic PLLA for linear PLLA  
saori yoshida, hironori atarashi, shinichi yamazaki, kunio kimura
- 17:05 1K18 Morphology Control of Substituted Poly(4-oxybenzoyl) by Crystallization during  
Hironori Atarashi, Nobuhira Wada, Yasushi Higaki, Shinichi Yamazaki, Kunio Kimura

- 17:30 1K19 The crystallization of 3OCB  
yoshitaka kawahara, takashi konishi, mayumi tanabe, masahiro takashima, yoshihisa miyamoto
- 17:55 1K20 Cocrystallization of syndiotactic polystyrene with synthetic polymers and related compounds  
Fumitoshi Kaneko, Shuma Sato, Yoshinori Yamamoto, Masayoshi Nishiura, Zhaomin Hou, Aurel Radulescu, Juergen Allgaier, Maria Maddalena Schiavone

**Thu. Sep 21**

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

**Chihiro Hashimoto, presiding**

- 9:10 2K01 Control of Orientation of Microdomains in a Triblock Copolymer / Selective Solvent (Diluent) System by the Application of Temperature Gradient  
Ryo Yamanaka, Hideaki Takagi, Nobutaka Shimizu, Noriyuki Igarashi, Sono Sasaki, Shinichi Sakurai
- 9:35 2K02 Toughening Mechanism of Polyampholytes Hydrogels  
Kunpeng CUI, Tao Lin SUN, Liang CHEN, Takayuki KUROKAWA, Tasuku NAKAJIMA, Takayuki NONOYAMA, Jian Ping GONG
- 10:00 2K03 Liquid Crystalline Block Copolymer Exhibiting Transition of LC Anchoring on the Lamellar Microdomain Interface upon the Composition  
Maito Koga, Takumi Wakabayashi, Masatoshi Tokita

**Masatoshi Tokita, presiding**

- 10:25 2K04 The study of higher order structure of poly ( $\epsilon$ -caprolactone) by terahertz spectroscopy  
Chihiro Funaki, Hiromichi Hoshina, Yukihiro Ozaki, Harumi Sato
- 10:50 2K05 Crystal structure changes of Poly(L-lactide)/Poly(D-lactide) Stereocomplex studied by Terahertz Spectroscopies  
Moe Nakamura, Harumi Sato, Hiromichi Hoshina, Yukihiro Ozaki
- 11:15 2K06 Higher-order structure of poly(butylene succinate) by using terahertz and infrared spectroscopy  
Seika Tatsuoka, Harumi Sato
- 11:40 2K07 Effect of additives on the crystallization behavior of poly(hydroxybutyrate-co-hydroxyhexanoate) by vibrational spectroscopy  
Shuhei Suzuki, Harumi Sato, Hitoshi Sashiwa

**S9. Analysis of polymer properties based on resonance phenomena**

- 12:45 2KSO Introductory Remarks S9  
Kazuhiko Yamada

**Fumitaka Ishiwari, presiding**

- 12:55 2K08 End-group analysis of natural rubber by NMR  
Takehiro Kitaura, Masatoshi Kobayashi, Hathainat Kumourm, Luksanaporn Tarachiwin, Ai Matsuura, Kazuhisa Fushihara
- 13:20 2K09 Study on vulcanizations of rubber by time-resolved spectroscopies  
Yuko Ikeda, Yuta Sakaki, Tomoyuki Sato, Kosuke Miyaji
- 13:45 2K10 Study on Network Structures in Isoprene Rubber Vulcanizates by TD-NMR  
Kosuke Miyaji, Yuri Kitada, Preeyanuch Junkong, Yuko Ikeda

**Tsuneaki Sakurai, presiding**

- 14:10 2K11 New method for observation of molecular dynamics by muon spin relaxation  
Soshi Takeshita, Koichiro Shimomura, Hirotaka Okabe, Masatoshi

- Hiraishi, Akihiro Koda, Kenji Kojima, Ryosuke Kadono, Hideki Seto, Tomomi Masui, Noboru Wakabayashi
- 14:35 2K12 Specific thermoelectric effect in organic materials and evaluation the vibronic coupling by computational analysis  
Hiroataka Kojima, Ryo Abe, Masakazu Nakamura
- 15:00 2K13 Structural analysis of the bound water in polymer by terahertz spectroscopy  
Hiromichi Hoshina, Yoh Iwasaki, Eriko Kometani, Makoto Okamoto, Chiko Otani
- Hiromichi Hoshina, presiding**
- 15:25 2K14 Conductivity change of silver nanoparticles on resonant antennas irradiated with intense terahertz pulses  
Keisuke Takano, Hirofumi Harada, Masashi Yoshimura, Makoto Nakajima
- 15:50 2K15 Infrared and Raman Spectroscopic Study of Structure and Properties of Polymers  
Yasushi Maeda
- 16:15 2K16 Development of Microwave-based Noncontact Evaluation Technique of Charge Carrier Transport Property  
Tsuneaki Sakurai, Shu Seki
- Atsushi Asano, presiding**
- 16:40 2K17 The analysis of structures and dynamics of polyrotaxane by NMR  
Kohzo Ito, Yuta Hidaka, Shuntaro Uenuma, Rina Maeda, Koichi Mayumi, Kazuaki Kato, Hideaki Yokoyama, Hiroaki Yoshimizu
- 17:05 2K18 Self-Assembling Behavior and Solid-State Dynamics of Tripodal Triptycene with a Dipolar Molecular Rotor  
Fumitaka Ishiwari, Yoshiaki Shoji, Takashi Kajitani, Koji Yazawa, Norihisa Hoshino, Tomoyuki Akutagawa, Masahiro Yamaki, Yoshiaki Teranishi, Yuichi Fujimura, Sheng Hsien Lin, Viktor M. Rozenbaum, Takanori Fukushima

**Fri. Sep 22**

**S9. Analysis of polymer properties based on resonance phenomena**

**Ryosuke Kusumi, presiding**

- 9:10 3K01 Evaluation of polymer materials by Electron Spin Resonance (ESR)  
Aiko Shimada
- 9:35 3K02 Polymer analysis using Electron Spin Resonance method  
Hideyuki HARA
- 10:00 3K03 Morphological effect on spin-dependent processes in pi-conjugated polymer thin films explored by electrically detected magnetic resonance  
Kunito Fukuda, Naoki Asakawa

**Yu Suzuki, presiding**

- 10:25 3K04 Morphology of Ethylene Portion in Ethylene Ionomers investigated by High-Resolution Solid-State <sup>13</sup>C NMR  
Atsushi Asano, Takayuki Matsukawa, Chikako T. Nakazawa
- 10:50 3K05 Characterization and evaluation of block copolymers consisting of poly(3-hexylthiophene)  
Kenji Ogino, Eri Tomita, Kyusun Kim, Shinji Kanehashi
- 11:15 3K06 Structural analysis of silsesquioxane with unique structure by NMR  
Yasunari Kusaka, Nami Hamamae, Kimihiro Matsukawa, Daisuke Maeda, Yoshiro Kaneko
- 11:40 3K07 Structure analysis of enzymatically synthesized glucan using NMR spectroscopy  
Ryosuke Kusumi, Shinichi Asai, Masahisa Wada, Tsunehisa Kimura

**Yasunari Kusaka, presiding**

- 12:55 3K08 NMR study of natural liquid silk



		<u>Yu Suzuki</u> , Tetsuo Asakura
13:20	3K09	Dynamics of Polymers using CPVC method <u>Yu Tsutsumi</u>
		<b>Kazuhiko Yamada, presiding</b>
13:45	3K10	Studies on gelation mechanism and network structure of polysaccharide gels by gradient NMR <u>Shingo Matsukawa</u>
14:10	3K11	Latest solid state NMR technologies and applications to macromolecules <u>Koji Yazawa</u>
14:35	3K12	NMR Characterizations of Polymers Using Gases as Probes <u>Hiroaki Yoshimizu</u>
15:00	3K13	Quantative dispersibility analysis of color particles in functional ink <u>Hikaru Momose</u>

<b>Room L</b>
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**Wed. Sep 20**

**S10. Progress of fundamental science in polymer nanotechnology**

12:45	1LSO	Introductory Remarks S10 <u>Seiichi Kawahara</u>
		<b>Masami Kamigaito, presiding</b>
12:55	1L08	Synthesis and thermoresponsive properties of graft polymethacrylates <u>Satoshi Uchida</u> , Takashi Ishizone, Toshikazu Takata
13:20	1L09	Side-chain Modification of Poly(styrene- <i>block</i> -methyl methacrylate) for Realizing Sub-10 nm Patterning <u>Kohei Yoshida</u> , Lin Tian, Ken Miyagi, Takuya Isono, Takuya Yamamoto, Kenji Tajima, Toshifumi Satoh
13:45	1L10	Sequence-Controlled Vinyl Polymers via Iterative Cyclization along with Cleavage and Regeneration of Embedded Bonds <u>Yuki Kametani</u> , Makoto Ouchi, Mitsuo Sawamoto
		<b>Takaya Terashima, presiding</b>
14:10	1L11	Synthesis of Novel Copolymer Consisting of Vinyl Esters and Vinyl Ethers by Interconvertible Radical/Cationic Copolymerization <u>Yuuma FUJIKI</u> , Mineto UCHIYAMA, Kotaro SATOH, Masami KAMIGAITO
14:35	1L12	Synthesis of Sequenced-Regulated Polymers with Various Vinyl Monomers Units via Atom Transfer Radical Addition and Metathesis Polymerization <u>Masato MIYAJIMA</u> , Kotaro SATOH, Masami KAMIGAITO
15:00	1L13	Continuous control of stereostructure in polymerization of acrylates over a wide range of temperature Kazuyoshi Maki, Tatsuya Kibayashi, Miki Niwa, <u>Hitoshi Tanaka</u>
		<b>Takuya Yamamoto, presiding</b>
15:25	1L14	Multicolor Mechanochromism of Polymer Blends with Different Mechanochromophores <u>Kuniaki Ishizuki</u> , Raita Goseki, Daisuke Aoki, Hideyuki Otsuka
15:50	1L15	Radical Polymerization of Amino Acid-Based Captodative Acrylates and Change of Polymerizability by Substituent <u>Miki Niwa</u> , Hajime Norisada, Hitoshi Tanaka
16:15	1L16	Synthesis of Highly Stereoregularity Poly(3-hexylthiophene) by Oxidative

- Coupling Polymerization within Zeolite Mesopore  
Masaru Mukai, Hitoshi Shimamoto, Kazutaka Kamitani, Tomoyasu Hirai, Maiko Nishihori, Atsushi Takahara
- 16:40 1L17 Synthesis of Amphiphilic Triblock Copolymer Containing Liquid Crystalline Moiety by Click Reaction and Microphase-Separation Structure of the Polymer  
Kyohei Okumura, Yosuke Niko, Shigeru Watanabe, Shingo Hadano
- Hideyuki Otsuka, presiding**
- 17:05 1L18 Precise Synthesis of Amphiphilic Block Copolymers Consisting of Water-soluble Polymethacrylate and Flexible Hydrophobic Segment and Investigation of Surface Structure  
Raita Goseki, Takashi Ishizone, Hideaki Yokoyama, Kohzo Ito
- 17:30 1L19 Fabrication of Nanowires by Solid-State Polymerization of Organic Molecules Triggered by Irradiation with High-Energy Charged Particles  
Tsuneaki Sakurai, Kazuto Kayama, Shu Seki
- 17:55 1L20 Bromination of Natural Rubber Through Electrolysis in Water Process in the Presence of Carbon Dioxide  
Yoshimasa Yamamoto, Takaya Kudo, Seiichi Kawahara

## Thu. Sep 21

### S10. Progress of fundamental science in polymer nanotechnology

#### Seiichi Kawahara, presiding

- 9:10 2L01 Nano structure and coloring phenomena of strain-responsive structural colored elastomer  
Katsuhiko Inomata, Reimi Emoto, Chihiro Katsura, Xing Shi, Kanae Ishibashi, Shogo Nobukawa
- 9:35 2L02 Molecular Characteristics/Crystal Structure Dependent Crystallization Kinetics of Crystalline-Crystalline Diblock Copolymers  
Shuichi Nojima, Satoshi Osawa, Rei Hijikawa, Hironori Marubayashi
- 10:00 2L03 Precise Structure Analysis of Bicontinuous Structure Formed from Diblock Copolymer Blend with Chain Length Difference  
Wataru Takagi, Atsushi Takano, Yusyu Matsushita

#### Katsuhiko Inomata, presiding

- 10:25 2L04 Control of self-assembled structure of polyrotaxane consisting of triblock copolymer  
Shuntaro Uenuma, Rina Maeda, Kazuaki Kato, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito
- 10:50 2L05 Polyrotaxane TPE using a self-assembly of cyclic molecules  
Rina Maeda, Ryota Kobayashi, Shuntaro Uenuma, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito
- 11:15 2L06 Visualization of periodic surface formed by block copolymer and construction of porous structure  
Asano Masayuki, Atsushi Takano, Jiro Suzuki, Yushu Matsushita
- 11:40 2L07 Stimuli-responsive mesoporous block copolymer membranes for remote control switchable molecular sieving: Thermo- and magneto-responsivity  
yanchun Tang, Hideaki Yokoyama, Kohzo Ito, Takashi Ishizone, Mathias Ulbricht

#### Hiroshi Jinnai, presiding

- 12:55 2L08IL Morphology and Mechanism of Rubber Elasticity in Thermoplastic Elastomer consisting of Polymer Blends  
Toshiaki Ougizawa
- 13:45 2L10 Loss tangent mapping on silica-filled SBR by nanorheological Atomic Force Microscope

Eijun Ueda, Misako Asada, takuji Kishimoto, Xiaobin Liang, Makiko Ito, Sungmin Kang, Nakajima Ken

- 14:10 2L11 A Study of Modeling and Machine Learning based Classification of Morphologies of Silica Nano Particles in SBR Rubbers  
Katsumi Hagita
- Xiaobin Liang, presiding**
- 14:35 2L12 Dynamic viscoelastic function of polymer materials based on dynamic x-ray diffraction/scattering measurement  
Ken Kojo, Shuhei Nozaki, Atsushi Takahara, Koki Aoyama, Hiroyasu Masunaga
- 15:00 2L13 Development of a Tensile Holder for Transmission Electron Microscopy for Characterization of Polymer Materials  
Takashi Gondo, Takeshi Higuchi, Hiroya Miyazaki, Yasuhiro Sakamoto, Juanfang Ruan, Hiroshi Jinnai
- 15:25 2L14 Structural characterization of soft matter by electron microscopy  
Yasuhiro Sakamoto, Hiroshi Jinnai
- 15:50 2L15 Analysis of Segmental Dynamics at Interfaces in Nanocomposite Materials  
Hung Kim Nguyen, Asuka Konomi, Manabu Inutsuka, Daisuke Kawaguchi, Keiji Tanaka
- Keiji Tanaka, presiding**
- 16:15 2L16 The packing structure and structural change of the silk crystalline region studied with several solid state NMR techniques  
Shunsuke Kametani, Yugo Tasei, Akio Nishimura, Tetsuo Asakura
- 16:40 2L17 Temperature Dependence of Network Structure and Rheology of High Density Polyethylene near Melting Point  
Takashi Uneyama, Koh-hei Nitta
- 17:05 2L18 Preparation and Properties of natural rubber with nanomatrix of fatty acid  
Seiichi Kawahara

**Fri. Sep 22**

### **S10. Progress of fundamental science in polymer nanotechnology**

**Naoko Yoshie, presiding**

- 9:10 3L01 Solidification of Nylons obtained via rheology  
Takaya Hirayama, Tetsuya Yamamoto, Yuichi Masubuchi
- 9:35 3L02 Synthesis of linear polymers and particles by controlled polymerization in aqueous media  
Yuichiro Nishizawa, Takuma Kureha, Shusuke Matsui, Daisuke Suzuki

**Yuichi Masubuchi, presiding**

- 10:00 3L03 Fabrication of strong nacre-like polymer/nanoclay composite with water resistant property.  
Kyungmo Sung, Shintaro Nakagawa, Naoko Yoshie
- 10:25 3L04 Relationship between Metal-Ion Exchange and Nano-dispersibility of TEMPO-Oxidized Cellulose Nanofibers and Their Functionality  
Atsushi Sone, Tsuguyuki Saito, Akira Isogai
- 10:50 3L05 Hierarchically Organized Composites of Polypyrrole and Quinone Derivatives and Electrochemical Properties  
Mirei Arayasu, Kosuke Sato, Hiroaki Imai, Yuya Oaki

**Room M**

Wed. Sep 20

**S16. Design and application of structure and function of bio/polymers by designing molecular interaction**

- 9:50 1MSO Introductory Remarks S16  
Yu Hoshino, Tomonori Waku  
**Yu Hoshino, presiding**
- 10:00 1M03 Preparation of novel multi-stranded structures by *d*TNA tethering artificial bases  
Yuhei Hattori, Kaho Tazoe, Hiromu Kashida, Kentaro Ishii, Susumu Uchiyama, Hiroyuki Asanuma
- 10:25 1M04 Topology control of conjugates composed of DNA and synthetic polymers  
Yuta Yamasaki, Yuta Ikeda, Akinori Kuzuya, Yuichi Ohya  
**Hiromu Kashida, presiding**
- 10:50 1M05 Controlled assembly of gold nanorods using electrostatic interaction with DNAs  
Hideyuki Mitomo, Satoshi Nakamura, Miho Aizawa, Yasutaka Matsuo, Kenichi Niikura, Atsushi Shishido, Kuniharu Ijiro
- 11:15 1M06 Purification of anisotropic nanoparticles in complex colloidal media by depletion flocculation  
Guoqing Wang, Tohru Takarada, Mizuo Maeda
- 11:40 1M07 Examination of One-Dimensional Fusion of Cellulose Derivative Nanocapsules and Fabrication of Nanotubes  
Masashi Wada, Toshiyuki Kida  
**Takehiko Wada, presiding**
- 12:55 1M08 Design of intermolecular interactions of protein needle with cell membrane  
Takafumi UENO
- 13:20 1M09 Design of Artificial Transmembrane Receptor Using Cell Membrane Potential  
Wataru Hatanaka, Akihiro Kishimura, Takeshi Mori, Yoshiki Katayama
- 13:45 1M10 Effects of sulfobetaine polymer structures on membrane translocation properties  
Nobuyuki Morimoto, Riho Takei, Masaru Wakamura, Makoto Suzuki, Masaya Yamamoto  
**Hiroyuki Asanuma, presiding**
- 14:10 1M11 Size dependence of hydrophilic nanogel uptake into cell-sized liposomes and living cells  
Shoko Ichikawa, Naofumi Shimokawa, Masahiro Takagi, Yukiya Kitayama, Toshifumi Takeuchi
- 14:35 1M12 Molecularly Imprinted Nanogels Acquiring Stealth in situ by Regulating Protein Corona Contents After Administration  
Toshifumi Takeuchi, Kentaro Kiguchi, Takuya Yamada, Kazuko Toh, Yu Matsumoto, Kazunori Kataoka, Yukiya Kitayama
- 15:00 1M13 Construction of 3D biological tissue models using interactions between extracellular matrixes  
Mitsuru Akashi
- 15:25 1M14 Design of phenylboronic acid-based cross-linked polyplex micelles with sequential responsiveness toward intracellular pH and ATP concentration  
Naoto Yoshinaga, Mitsuru Naito, Satoshi Uchida, Horacio Cabral, Kensuke Osada, Kazunori Kataoka  
**Kensuke Osada, presiding**
- 15:50 1M15 Development of delivery system of nucleic acid and peptide by using interaction between  $\beta$ -glucan and the receptors  
Shinichi Mochizuki, Hiromi Morishita, Kazuo Sakurai

- 16:15 1M16 Development of cancer specific intracellular delivery system using PEG-conjugated peptide responding to MMP-9 activity and its application for cellular function control  
HIROKA SUGAI, MOEKA MATSUSHIMA, ASAKO SANBE, IKUHIKO NAKASE, SATORU ISHIBASHI, ASAKO YAMAYOSHI, SELJI SAKAMOTO, YASUYUKI ARAKI, HIROMU KASHIDA, TAKANORI YOKOTA, HIROYUKI ASANUMA, TAKEHIKO WADA, MASAHIRO INAGAKI
- 16:40 1M17 Development and characterization of the polymersomes self-assembled by multivalent ionic interactions and hydrogen bonding  
Mao Hori, Yasutaka Anraku, Akihiro Kishimura, Kazunori Kataoka
- Shinichi Mochizuki, presiding**
- 17:05 1M18 Nucleic acids loaded polyion complex micelles having hydrophobic middle layer composed of thermo-responsive Poly(2-oxazoline)  
Shigehito Osawa, Kensuke Osada, Anjaneyulu Dirisala, Kazunori Kataoka
- 17:30 1M19 Molecular introduction into microtubule interior space using Tau protein-based peptides  
Takahisa Yamamoto, Hiroshi Inaba, Arif Md. Rashedul Kabir, Akira Kakugo, Kazuki Sada, Kazunori Matsuura
- 17:55 1M20 Control of in vitro synthesized membrane protein-sorting into liposome based on histidine-nickel affinity  
Mitsuru Ando, Yoshihiro Sasaki, Kazunari Akiyoshi

**Thu. Sep 21**

**S16. Design and application of structure and function of bio/polymers by designing molecular interaction**

**Satoshi Yamaguchi, presiding**

- 9:10 2M01 Development of ligand-conjugated nucleic acid material that allows detection and regulation of damaged guanine-quadruplex DNAs  
Shuntaro Takahashi, Byeang Hyeon Kim, Naoki Sugimoto
- 9:35 2M02 Development of signal amplification circuit composed of only acyclic artificial nucleic acids for visualization of RNA  
Keiji Murayama, Ryuya Nagao, Hiroyuki Asanuma
- 10:00 2M03 Colorimetric Single-Nucleotide Polymorphism Genotyping Based on High Colloidal Stability of Double-Stranded DNA-Functionalized Gold Nanoparticles with Single-Base-Protruding Structure  
Yoshitsugu Akiyama, Guoqing Wang, Shota Shiraishi, Naoki Kanayama, Tohru Takarada, Mizuo Maeda

**Shuntaro Takahashi, presiding**

- 10:25 2M04 Soft Nanotubes Functionalized with Short PEG Chains for Inhibition of Protein Aggregation  
Naohiro KAMETA, Tomohiko MATSUZAWA, Katsuro YAOI
- 10:50 2M05 Control of protein aggregation by the design of the interaction with poly(ethylene glycol) chain  
Satoshi Yamaguchi, Tomoki Kinpyo, Teruyuki Nagamune, Akimitsu Okamoto
- 11:15 2M06 Synthesis and biosensing properties of polythiophene having phosphonium group (II) -Effect of counter anions-  
Kiyoshiro Fukui, Masahiro Fujita, Yuko Takeoka, Masahiro Rikukawa
- 11:40 2M07 Development of Functional Molecules based on Monodisperse Oligoethylene Glycols  
Kazushi Kinbara

**Daiki Murakami, presiding**

- 12:55 2M08 Single molecule analysis by controlling direction and speed of polymer

- translocating a solid state nanopore  
Makoto Takemasa, Masahiro Fujita, Mizuo Maeda
- 13:20 2M09 Mechanical Measurements of DNA Brush Layer Interactions by Colloid Probe AFM Technique  
Naoki Kanayama, Taito Sekine, Kazunari Ozasa, Takashi Nyu, Tomohiro Hayashi, Mizuo Maeda
- 13:45 2M10 Analyses of mechanism to the decomposition of lipid membranes by lipid-related enzymes using AFM  
Keisuke Kurihara, Rina Tanaka, Toshiaki Mori
- 14:10 2M11 Fabrication of Fluoropolymer Nanosheets as a Wrapping Mount for High quality Tissue Imaging  
Hong Zhang, Ami Masuda, Kenji Yarinome, Yu Nagase, Ryosuke Kawakami, Tomomi Nemoto, Yosuke Okamura
- Naoki Kanayama, presiding**
- 14:35 2M12 Quantitative analysis of intermolecular interaction force involved in formation process of adsorbed protein layer  
Yuuki Inoue, Kazuhiko Ishihara
- 15:00 2M13 Influence of Protein Adsorption on Cell Response for PEEK Surface Modified with Various Polymers  
Satoshi Yanokuchi, Yuuki Inoue, Kazuhiko Ishihara
- 15:25 2M14 Interfacial structure and functionalization caused by the biocompatible polymer - water interaction.  
Daiki Murakami, Yoko Kitahara, Shingo Kobayashi, Masaru Tanaka
- 15:50 2M15 Analysis of interaction between interfacial nano-structure and proteins at PMEAs analogues/water interfaces  
Tomoya Ueda, Daiki Murakami, Masaru Tanaka
- Hiroyuki Koide, presiding**
- 16:15 2M16 Interactions between cationic polyhydroxyurethane and enzymes  
Kohei Sato, Yoshimasa Matsumura, Shigekazu Yano, Hiroyuki Furusawa, Bungo Ochiai
- 16:40 2M17 Immobilization on gold surfaces of periodic glycopolymers synthesized by RAFT polymerization and their lectin binding assay  
Yuichi Hiraki, Yohei Yamamoto, Jin Motoyanagi, Tomonari Tanaka, Masahiko Minoda
- 17:05 2M18 Construction of Three-dimensional Tissues by Molecular Interaction of Extracellular Matrix  
Michiya Matsusaki, Misaki Komeda

**Fri. Sep 22**

**S16. Design and application of structure and function of bio/polymers by designing molecular interaction**

**Keiji Numata, presiding**

- 9:10 3M01 Development of synthetic polymer nanoparticle with engineered affinity for a vascular endothelial growth factor (VEGF)  
Hiroyuki Koide, Saki Ariizumi, Yu Hoshino, Yoshiko Miura, Kenneth J. Shea, Naoto Oku
- 9:35 3M02 Apoptotic cell membrane-mimetic polymers for anti-inflammatory therapy  
Yasuhiro Nakagawa, Takao Aoyagi, Atsuhiko Saitou, Mitsuhiro Ebara
- 10:00 3M03 Molecular design of calixarene antimicrobials by mimicking antimicrobial peptides in nature  
Kazuma Yasuhara, Hideto Kibata, Takuto Nakano, Jun-ichi Kikuchi

**Kimio Sumaru, presiding**

- 10:25 3M04 Development of cell cross-linking hydrogels and quest of their characteristic functions  
Koji Nagahama, Junji Kawakami, Ayaka Takemoto
- 10:50 3M05 Regulation of Molecular Adsorption and Release by Structural Changes of Stimuli-Responsive Polypeptide Gels with Dynamic Molecular Recognition Sites  
Takashi Miyata, Kazuya Matsumoto, Yoshinori Ito, Akifumi Kawamura
- 11:15 3M06 Extension of Light-Harvesting Ability of Photosynthetic Antenna LH2 through Attachment of Artificial Chromophores  
Takehisa Dewa, Yusuke Yoneda, Akari Goto, Daiki Mori, Masaharu Kondo, Hiroshi Miyasaka, Shigeru Itoh, Yutaka Nagasawa

**Shinsuke Ifuku, presiding**

- 11:40 3M07 Precision Synthesis of Temperature-responsive Glycopolymers by RAFT polymerization and Their Lectin Recognition  
Tomonari Tanaka, Masaru Okamoto

**Naohiko Shimada, presiding**

- 12:55 3M08 Silk materials with controlled beta-sheet contents and network structures  
Keiji Numata, Nao Ifuku
- 13:20 3M09 Structural control-based functionalization of molecular assembly composed of filamentous virus  
Toshiki Sawada, Haruhiko Inomata, Yuta Murata, Hironori Marubayashi, Shuichi Nojima, Junko Morikawa, Takeshi Serizawa
- 13:45 3M10 Creation of Artificial Viral Capsids decorated with Enzymes  
Kazunori Matsuura, Yuriko Shiomi, Junpei Ohta, Yasutaka Matsubara, Hiroshi Inaba
- 14:10 3M11 One-Pot Synthesis and Properties of Alternating Peptides with Perfluoroalkyl Pendant Groups  
Yasuhito Koyama

**Tomonori Waku, presiding**

- 14:35 3M12 Design of photo-responsive ureido polymers containing azobenzene moieties  
Nao Ikeuchi, Naohiko Shimada, Atsushi Maruyama
- 15:00 3M13 Photoresponse of photochromic polymers specifically regulated by molecular recognition of cyclodextrin  
Kimio Sumaru, Toshiyuki Takagi, Taku Satoh, Toshiyuki Kanamori
- 15:25 3M14 Mechanistic Consideration for Light-induced liquid-nonliquid conversion of poly(dimethyl siloxane)s based on a transformation between star and network macromolecular architectures  
Satoshi Honda, Hideaki Takagi, Taro Toyota

**Room N****Wed. Sep 20****S17. Biomedical Polymers for Regenerative Medicine**

- 9:50 1NSO Introductory Remarks S17  
Tetsuji Yamaoka

**Yusuke Kambe, presiding**

- 10:00 1N03 Clinical application of injectable hydrogel having ability of cell regulation  
Tadashi NAKAJI-H., Syunsuke MORI, Kazuaki MATSUMURA, Hiromi KITANO

- 10:25 1N04 Autologous polymer material for tissue engineering made from hair keratin  
Hiroki Goto, Kazuya Sawada, Toshiya Fujisato
- 10:50 1N05 Affinity binding modulation on heparin-immobilized thermoresponsive cell culture surfaces for culture and release of hepatocyte sheets  
Jun Kobayashi, Yoshikatsu Akiyama, Masayuki Yamato, Teruo Okano
- Jun Kobayashi, presiding**
- 11:15 1N06 Development of a silk fibroin hydrogel with vascular-inducing functions as an injectable material for myocardial infarction treatment  
Yusuke Kambe, Tetsuji Yamaoka
- 11:40 1N07 Bone augmentation ability of porous polyetheretherketone with a foamed surface  
Yoshiya Hashimoto, Shunsuke Baba, Koichi Imai
- Sachiro Kakinoki, presiding**
- 12:55 1N08 Peptide-functionalized silk fibroin biomaterials for skin wound healing  
Tomoko HASHIMOTO, Yuka NAKAMURA, Naoko SANO, Tetsuji YAMAOKA, Tsunenori KAMEDA, Yasushi TAMADA, Hiromichi KUROSU
- 13:20 1N09 Fabrication of Biodegradable and Injectable Hydrogel Consisting of Self-assembling Peptide and Chitosan  
Shohei Ishikawa, Kazutoshi Iijima, Daisuke Matsukuma, Mineo Hashizume, Michihiro Iijima, Hidenori Otsuka
- 13:45 1N10 UCST-type behavior of ureido polymers having hydrophobic or hydrophilic groups  
Naohiko Shimada, Taira Sasaki, Atsushi Maruyama
- Naohiko Shimada, presiding**
- 14:10 1N11 Fabrication of hierarchical biodegradable tubular structures inducing vascular endothelial cellular attachment by electrospinning as scaffolds for regenerative blood vessels.  
Hiromichi SUMIDA, Kazuki NISHIMURA, Yuta YOSHIZAKI, Akinori KUZUYA, Atsushi MAHARA, Tetsuji YAMAOKA, Yuichi OHYA
- 14:35 1N12 Cellular functionalization of poly (lactic acid) by blending hydrophobic artificial protein  
Sachiro Kakinoki, Satoshi Yamada, Shota Tsubouchi, Yoshiaki Hirano, Tetsuji Yamaoka
- 15:00 1N13 Modification of poly(lactic acid) matrices with oligo(lactic acid)-peptide hetero conjugates  
Tetsuji Yamaoka, Yu-I Hsu
- Yasushi Tamada, presiding**
- 15:25 1N14 High-speed processing of cell cultures using photo-responsive polymer and laser  
Kimio Sumaru, Junichi Matsumoto, Yohei Hayashi, Long Xiang, Kana Morishita, Masami Suzuki, Yohei Kohori, Seiji Hori, Toshiyuki Kanamori
- 15:50 1N15 Investigation of physicochemical property to control cell functions with spontaneously and reversible phospholipid polymer hydrogels  
Tomohiro Konno, Kazuhiko Ishihara
- 16:15 1N16 Study on cytocompatibility of temperature-responsive biodegradable injectable hydrogel for stem cell delivery.  
Hiroki TAKAI, Yasuyuki YOSHIDA, Masaaki Ii, Yuta YOSHIZAKI, Akinori KUZUYA, Yuichi OHYA
- Kimio Sumaru, presiding**
- 16:40 1N17 Beating behaviors of P19CL6 cells cultured on silk substrate  
Takanori Kobashi, Tomoko Hashimoto, Mitsuhi Hirata, Tetsuji Yamaoka, Yasushi Tamada
- 17:05 1N18 Development of thermoresponsive micro/nano imprinted substrates for cell separation  
Kenichi Nagase, Lisa Shukuwa, Takahiro Onuma, Masayuki Yamato, Naoya Takeda, Teruo Okano
- 17:30 1N19 Defense system against oxidative damage



Yutaka Ikeda, Yukio Nagasaki

17:55 1N20 Design of Photo-responsive Polymers with Photo-dimerizable Groups and Cell Behavior on Their Surfaces  
Takashi Miyata, Takafumi Noguchi, Akana Matsuda, Akifumi Kawamura

**Thu. Sep 21**

**S17. Biomedical Polymers for Regenerative Medicine**

**Akihiko Kikuchi, presiding**

9:10 2N01 Surface modification of artificial tooth for tissue-engineered artificial periodontal tissue  
Naoko Nakamura, Tsuyoshi Kimura, Masahiro Okada, Toshia Fujisato, Akio Kishida

9:35 2N02 Controlling of mechanical property of vascular scaffold by fiber covering  
Tsuyoshi Kimura, Naoko Nakamura, Yoshihide Hashimoto, Toshia Fujisato, Akio Kishida

10:00 2N03 Porous Scaffolds Composed of Cultured Cell-Derived Extracellular Matrix  
Naoki Kawazoe, Guoping Chen

**Naoki Kawazoe, presiding**

10:25 2N04 Epithelial-mesenchymal transition of breast cancer cells incubated on 3D fibrous polymeric scaffolds  
Rie Sasaki, Ryota Domura, Yuma Ishikawa, Shintaro Imatani, Masami Okamoto

10:50 2N05 Synthesis and characterization of biodegradable thermoresponsive hydrogels and cellular adhesion on these hydrogels  
Syuuhei KOMATSU, Taka-Aki ASOH, Ryo ISHIHARA, Akihiko KIKUCHI

11:15 2N06 A new molecular model for the biocompatibility of PMEA based on novel interface-selective spectroscopy  
Anton Myalitsin, Satoshi Nihonyanagi, Shoichi Yamaguchi, Junji Yanagisawa, Takashi Aoki, Tahei Tahara

11:40 2N07 Required properties of small-diameter acellular blood vessel for short- and/or long-term patency  
Tetsuji Yamaoka, Hiroki Yamanaka, Maria Munisso, Shigehiko Suzuki, Atsushi Mahara

**Atsushi Harada, presiding**

12:55 2N08 Development of green tea catechin control releasable material for bone regeneration therapy  
Yoshitomo Honda, Tomonari Tanaka

13:20 2N09 Effect of PEGylation on Catalase/PEG Mono-Ion Complexes  
SHOICHIRO ASAYAMA, KANA NAGASHIMA, HIROYOSHI KAWAKAMI

13:45 2N10 Design of functional glyco polymer vesicles and DDS application  
Tomoki Nishimura, Yoshihiro Sasaki, Kazunari Akiyoshi

**Yoshitomo Honda, presiding**

14:10 2N11 Control of morphology and surface properties of polyplexes covered by multi-arm PEGs  
Atsushi Harada, Yukiko Katsuen, Kenta Nomura, Eiji Yuba, Kenji Kono

14:35 2N12 Affinity-based Efficient Loading of Polymer-binding Peptides into Polymeric Micelles  
Misaki Takizawa, Toshiki Sawada, Takeshi Serizawa

15:00 2N13 Self-assembled polymeric MRI contrast agent for cerebrovascular imaging  
Atsushi Mahara, Yu-I Hsu, Jun-ichiro Ennmi, Hidehiro Iida, Tetsuji Yamaoka

**Yasuhiko Iwasaki, presiding**

15:25 2N14 Bone morphogenetic protein-2 tethered supramolecular surfaces for

- enhancing osteogenic differentiation  
Yoshinori Arisaka, Nobuhiko Yui
- 15:50 2N15 Control of cellular responses to intermediate water on the biocompatible polymer surface  
Aki Kashiwazaki, Daichi Hiramatsu, Fumihiro Aratsu, Masaru Tanaka
- Masaru Tanaka, presiding**
- 16:15 2N16 Induction of specific cell-cell interactions via metabolic glycoengineering  
Shunsuke Sugimoto, Takeshi Mori, Yasuhiko Iwasaki
- 16:40 2N17 Development of Novel Functional Silk Fibroin for Tissue Engineering Materials in the Cardiovascular System  
Yasumoto NAKAZAWA, Honami KUBO, Chiemi SAKATA, Shintaro NEMOTO, Tomoaki MURAKAMI, Pinkarn CHANTAWONG, ryo TANAKA, Chikako NAKAZAWA, Atsushi ASANO, Tsunenori KAMEDA
- 17:05 2N18 Influence of the shape of thermoresponsive core-corona type nanoparticles on phagocytic activity of macrophages  
Akihiko Kikuchi, Takuma Suzuki, Takuya Matsuyama, Masatoshi Kawase, Shuhei Okafuji, Ryo Ishihara, Taka-Aki Asoh

**Fri. Sep 22**

**S17. Biomedical Polymers for Regenerative Medicine**

**Yuji Teramura, presiding**

- 9:10 3N01 Potential application for regenerative medicine in natural rubber latex  
Mitsuru Furuya, Masaya Kinoshita, Masami Okamoto
- 9:35 3N02 Construction of 3D-Connective Tissues with High ECM Density by Sedimentary Culture Using Collagen Microfibers  
Michiya Matsusaki, Misaki Komeda
- 10:00 3N03 Construction of iPS-derived myocardial fibrosis model using collagen microfibers.  
Nishi Kouki, Misaki Komeda, Michiya Matsusaki

**Tetsuji Yamaoka, presiding**

- 10:25 3N04 Evaluation of Cell Aggregation Induced Periodic Peptide for 3D Culture  
Yoshiaki Hirano, Yuki Yamamoto, Yudai Futaki, Shin-nosuke Takashiro, Sachiro Kakinoki
- 10:50 3N05 Induced cell adhesion by surface modification with cell-penetrating peptide-conjugated PEG-lipid: A new cell glue for 3D structures  
Yuji Teramura, Bo Nilsson

**Yoshiaki Hirano, presiding**

- 11:15 3N06 Thermoresponsive polymer patterned surfaces fabricated by polymer printing method for cell sheet technology  
Masamichi Nakayama, Junichi Tonegawa, Yuki Toyoshima, Akihiko Kikuchi, Masayuki Yamato, Teruo Okano
- 11:40 3N07 Construction of 3D tissue models by cell accumulation technique and their application for regenerative medicine  
Takami Akagi, Mitsuru Akashi

**Room O**

**Wed. Sep 20**

## S18. Frontiers in polysaccharide researches

- 9:50 1O50 Introductory Remarks S18  
Toshinori Sato
- Akihito Hashidzume, presiding**
- 10:00 1O03 Creation of Functional Materials Using Modified Cyclodextrins  
Hiroaki Kitagishi
- 10:25 1O04 Chemical Synthesis and Biological Evaluation of Naturally Occurring Fucoidan Derivatives  
Daisuke Takahashi
- 10:50 1O05 Facile synthesis of oligosaccharides directed to the synthesis of polysaccharides  
Jun-ichi Tamura
- Daisuke Takahashi, presiding**
- 11:15 1O06 Synthesis and functions of new methylcelluloses inducing thermoresponsive supramolecular hydrogels  
Hiroshi Kamitakahara, Ryo Suhara, Mao Yamagami, Ryoko Okanishi, Tomoyuki Asahi, Arata Yoshinaga, Toshiyuki Takano
- 11:40 1O07 Selective modification of cellulose reducing end at solid-liquid interface  
Masato Noguchi, Yuma Ohno, Ryo Koike, Gefei Li, Shin-ichiro Shoda
- Hiroshi Kamitakahara, presiding**
- 12:55 1O08 Synthesis and biological evaluation of sialo-containing macromolecules.  
Hiroshi Tanaka
- 13:20 1O09 Synthesis of amylose analog polysaccharides by phosphorylase-catalyzed enzymatic polymerization  
Takuya Nakauchida, Kazuya Yamamoto, Jun-ichi Kadokawa
- 13:45 1O10 Modification of monodisperse amylose using deuterium isotope effects  
Yuto Miyata, Takuya Yamamoto
- Daisuke Tatsumi, presiding**
- 14:10 1O11 A pseudo-rotaxane of  $\alpha$ -cyclodextrin and a two-station axis molecule consisting of pyridinium and decamethylene moieties, and its deuteration in deuterium oxide  
Akihito Hashidzume, Akihiro Kuse, Tomoya Oshikiri, Hiroyasu Yamaguchi, Akira Harada
- 14:35 1O12 Single DP difference in the molecular weight larger than 10000, ~ in case of HMHEC and large ring cyclodextrin mixture system~  
Makoto Takemasa, Shinichi Kitamura
- 15:00 1O13 Thermal diffusion behavior of polysaccharide solutions under temperature gradient  
Rio Kita
- Rio Kita, presiding**
- 15:25 1O14 Nonequilibrium Molecular Dynamics of the cellulose crystal models  
Toshifumi Yui, Yuta Kodama, Takuya Uto
- 15:50 1O15 Structural analyses of cyanobacterial extracellular polysaccharides using FFF-MALS  
Masaki Ihara, Naoki Kanayama, Jun Nakanishi, Makoto Takemasa, Shota Yamamoto, Yukiko Higashi
- 16:15 1O16 Super-resolution optical microscopy for studying properties of polysaccharide materials  
Hiroyuki AOKI
- Hiroyuki Aoki, presiding**
- 16:40 1O17 Dynamics and self-healing ability of polysaccharide-derived gels from the viewpoint of rheological approach

- Daisuke Tatsumi, Kazuya Fujiwara, Yukari Yoshinaga, Tetsuo Kondo
- 17:05 1018 Analyses of chitinase reaction to chitin using Atomic Force Microscopy  
Toshiaki Mori, Saki Kato, Asuka Masui, Yuko Nakagawa
- Toshiaki Mori, presiding**
- 17:30 1019 Construction and characterization of molecular assemblies composed of functionalized cellulose oligomers  
Takatoshi Nohara, Toshiki Sawada, Hiroshi Tanaka, Takeshi Serizawa
- 17:55 1020 Development of cancer cell delivery system and preparation of hyaluronic acid using antigen modified polysacchar  
Atsushi Moritaka, Kazuo Sakurai, Shinichi Mochizuki

**Thu. Sep 21**

**S18. Frontiers in polysaccharide researches**

**Hiroaki Kitagishi, presiding**

- 9:10 2001 Potential use of cyclodextrins as DDS carriers and active pharmaceutical ingredients  
Hidetoshi Arima, Keiichi Motoyama, Taishi Higahi
- 9:35 2002 Design of pH-sensitive polysaccharide-modified liposomes for antigen delivery and induction of immune responses  
Eiji Yuba, Ayaka Yamaguchi, Shinya Uesugi, Atsushi Harada, Kenji Kono

**Mineo Hashizume, presiding**

- 10:00 2003 Preparation of hyaluronic acid-coated polymeric micelles for drug delivery to hepatic satellite cells and evaluation of their body distribution  
Takuya NAGATA, Rio YAMADA, Yuta YOSHIZAKI, Kosuke KAJI, Hitoshi YOSHIJI, Akinori KUZUYA, Yuichi OHYA
- 10:25 2004 A new strategy for the passive skin delivery of nanoparticulate, high molecular weight hyaluronic acid prepared by a polyion complex method  
Yoshihiro Tokudome

**Yoshihiro Tokudome, presiding**

- 10:50 2005 Gene delivery and cell activation by polyion complex-type polysaccharide nanoparticles  
Toshinori Sato, Aiki Yu, Arai Takahiro, Naoki Tsuji, Hisada Akari
- 11:15 2006 Analysis of Interaction between Polysaccharide Composite Films Prepared by Utilizing Hot Press Techniques and Cells  
Kazutoshi Iijima, Izumi Kuriki, Yuna Tsuji, Atsushi Kakimoto, Rie Ninomiya, Takuya Iyoda, Fumio Fukai, Mineo Hashizume
- 11:40 2007 Design of functional self-assembled polysaccharide nanogels for biomedical applications  
Shin-ichi Sawada, Yoshiro Tahara, Sada-atsu Mukai, Yoshihiro Sasaki, Kazunari Akiyoshi

**Takeshi Serizawa, presiding**

- 12:55 2008 Strategic design of glyco-biointerfaces composed of structural polysaccharides for cell culture applications  
Takuya Kitaoka
- 13:20 2009 Biological properties of chitin nanofiber extracted from crab shell  
Shinsuke Ifuku

**Shin-ichi Sawada, presiding**

- 13:45 2010 Design of molecular recognizing ability by sequence control of multi-block glycopolymers  
Kazuki Jono, Shoutarou Sonoda, Yu Hoshino, Yoshiko Miura

- 14:10 2011 Temporal control of lipid bilayer morphology by cationic comb-type copolymer/peptide complex  
Takuro Ochiai, Naohiko Shimada, Atsushi Maruyama
- 14:35 2012 composite bone cement based on phosphorylated pullulan and calcium phosphate  
Takumi Okihara, Tomoya Watanabe, Kohei Sadari

#### D. BIOPOLYMERS AND BIORELATED POLYMERS

##### **kazuya Yamamoto, presiding**

- 15:25 2014 Glycopolymer interface for application of cell separation  
Yuki Taguchi, Yuhei Terada, Yu Hoshino, Yoshiko Miura
- 15:50 2015 Observation of glycosylation to glycolipids by the glycosyltransferase with AFM Force Mapping  
Shuhei Teguri, Shinya Kobayashi, Toshiaki Mori
- 16:15 2016 Anionic polysaccharide-sensing by using excimer fluorescence of a 1,8-naphthalimide derivative  
Mayuko Wada, Hironori Izawa, Shinsuke Ifuku, Minoru Morimoto, Hiroyuki Saimoto
- 16:40 2017 Synthesis of carbohydrate-containing poly(oxazoline)s and thermo-responsive polymer vesicle formation  
Naoki Sumi, Tomoki Nishimura, Yuta Koda, Shin-ichi Sawada, Sada-atsu Mukai, Yoshihiro Sasaki, Kazunari Akiyoshi

**Fri. Sep 22**

#### D. BIOPOLYMERS AND BIORELATED POLYMERS

##### **Yoshiko Miura, presiding**

- 9:10 3001 Controlled synthesis and functions of periodic glycopolymers by RAFT copolymerization (1) -Copolymers of carbohydrate-carrying vinyl monomers and maleimides-  
Tomomi Otsubo, Yohei Yamamoto, Jin Motoyanagi, Tomonari Tanaka, Masahiko Minoda
- 9:35 3002 Controlled synthesis and functions of periodic glycopolymers by RAFT copolymerization (2) -Copolymers of carbohydrate-carrying maleimides and vinyl monomers-  
Tomomi Otsubo, Yohei Yamamoto, Jin Motoyanagi, Tomonari Tanaka, Masahiko Minoda
- 10:00 3003 Wood mimetic skins to induce surface wrinkling of chitosan film upon drying  
Hironori Izawa, Shinsuke Ifuku, Minoru Morimoto, Hiroyuki Saimoto
- 10:25 3004 A novel approach to fabricate micro-structured surfaces on a chitosan film using alginate  
Yuka Miyazaki, Hironori Izawa, Shinsuke Ifuku, Minoru Morimoto, Hiroyuki Saimoto

##### **Toshiaki Mori, presiding**

- 10:50 3005 Preparation of network materials by formation of higher-ordered structures from enzymatically synthesized amylose  
Takuya Shoji, Kazuya Yamamoto, Jun-ichi Kadokawa
- 11:15 3006 Preparation of Composite Materials from Different Types of Chitin Nanofibers by Electrostatic Interaction  
Kazuya Yamamoto, Koki Sato, Jun-ichi Kadokawa
- 11:40 3007 Preparation of chitin nanofiber gel by grafting of poly(oxazoline)  
Junpei Yoshida, Kazuya Yamamoto, Jun-ichi Kadokawa

**Hironori Izawa, presiding**

- 12:55 3O08 Ring-opening polymerization of 1, 6-anhydro oligosaccharide derivatives  
Chaolumen Bai, Takashi Yoshida
- 13:20 3O09 Preparation of regenerated composite materials through dissolution of  
polysaccharides in ionic liquids  
Daichi Hashimoto, Kazuya Yamamoto, Jun-ichi Kadokawa
- 13:45 3O10 Dissolution simulation of cellulose and chitin in ionic liquids  
Takuya Uto, Kazuya Yamamoto, Jun-ichi Kadokawa

**Room Q**

**Wed. Sep 20**

**D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Kensuke Osada, presiding**

- 10:25 1Q04 Formulation of phase-separated molecular assemblies by amphiphilic  
polypeptides having different hydrophilic blocks  
Tetsuya Hattori, Motoki Ueda, Shunsaku Kimura
- 10:50 1Q05 Optimization of preparation condition of PICsome for material delivery into  
plant cells.  
Taku TAKAMI, Kousuke TSUCHIYA, Keiji NUMATA
- 11:15 1Q06 Characterization of monodispersed polyion complex micelles for gene  
delivery in plants  
Takaaki Miyamoto, Kousuke Tsuchiya, Keiji Numata
- 11:40 1Q07 Preparation of Stimuli-Responsive Gel Capsules via Miniemulsion  
Periphery RAFT Polymerization for Protein Delivery  
Hiroshi Nakaura, Akifumi Kawamura, Takashi Miyata

**Hiroyasu Takemoto, presiding**

- 12:55 1Q08 Imaging analysis of RISC localization mechanism by using siRNA involving  
dye pair.  
Mayu Satake, Hiroshi Kamimoto, Anna Ito, Yukiko Kamiya, Hiroyuki Asanuma
- 13:20 1Q09 Near-Infrared Light Responsive Theranostic Nanoparticles for Cancer  
Diagnosis and Treatment in Deep Tissue  
Masao Kamimura, Ayumu Omoto, Shota Sekiyama, Masakazu  
Umezawa, Hsin-Cheng Chiu, Kohei Soga
- 13:45 1Q10 Developments of in vivo antigen delivery system by self-assembled nanogels.  
Risako Miura, Yoshiro Tahara, Shin-ichi Sawada, Yoshihiro Sasaki, Kazunari  
Akiyoshi
- 14:10 1Q11 Effect of polyanion-coating of TiO<sub>2</sub> nanoparticles-incorporated polyion  
complexes to immune cell activation  
Kazuki Furukawa, Satoshi Yamamoto, Eiji Yuba, Atsushi Harada, Kenji Kono

**Akifumi Kawamura, presiding**

- 14:35 1Q12 Development of engineered extracellular vesicles by baculovirus-expression system  
Raga Ishikawa, Shosuke Yoshida, Shin-ichi Sawada, Sada-atsu  
Mukai, Yoshihiro Sasaki, Kazunari Akiyoshi
- 15:00 1Q13 Development of Glutamine-Decorated Polymeric Micelle as a Tumor-  
Targeted Drug Delivery Vehicle Based on Aberrant Cancer Metabolism  
Hiroki Shinkai, Naoki Yamada, Hiroyasu Takemoto, Takahiro  
Nomoto, Makoto Matsui, Keishiro Tomoda, Nobuhiro Nishiyama
- 15:25 1Q14 Development of polymeric micelles for ROS-triggered release of antioxidant

Naoto Nakamura, Naoto Yoshinaga, Yasutaka Anraku, Cabral Horacio, Kazunori Kataoka

15:50 1Q15 Controlling the size and tumor-targetability of platinum-complexed supramolecular micelles by utilizing the conformation of PEG-poly(glutamic acid)  
Yuki Mochida, Horacio Cabral, Yutaka Miura, Kensuke Osada, Nobuhiro Nishiyama, Kazunori Kataoka

**Eiji Yuba, presiding**

16:15 1Q16 Development of Tumor-Targeted Stealth Polymer and Their Applications for DDS -Effect of Anionic Groups in Betaine Structure-  
Shunya Sakuma, Abdul-Hackam Ranneh, Hiroyasu Takemoto, Takahiro Nomoto, Makoto Matsui, Keishiro Tomoda, Nobuhiro Nishiyama

16:40 1Q17 Preparation of pH-/Reducing Environment-Responsive Gel Particles as DDS Carriers and Their Drug Release Behavior  
Ayaka Harada, Akifumi Kawamura, Takashi Miyata

17:05 1Q18 Temperature- and pH-responsive polymeric micelle for selective and efficient anti-tumor agent delivery  
Yuki Hiruta, Yuki Kanda, Naoya Katsuyama, Hideko Kanazawa

17:30 1Q19 Development of polymeric micelles for intractable neurological diseases  
Yasutaka Anraku, Hiroya Kuwahara, Takanori Yokota, Kazunori Kataoka

**Thu. Sep 21**

**D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Satoshi Abe, presiding**

9:10 2Q01 Fabrication of multifunctional protein microdevice  
Hironori Yamazoe

9:35 2Q02 Development of gel particles immobilized with carbonic anhydrase  
Ryutaro Honda, Tomohiro Gyobu, Hideto Shimahara, Yu Hoshino, Yoshiko Miura

10:00 2Q03 Redox-responsive nanogel for intracellular protein delivery in vivo  
Genya Tanaka, Riku Kawasaki, Yoshihiro Sasaki, Shin-ichi Sawada, Kazunari Akiyoshi

10:25 2Q04 Novel Phage Display Method with Enhanced Efficiency under Strong Magnetic Field  
Kento Ueno, Noriyuki Uchida, Teruhiko Matsubara, Toshinori Sato, Takuzo Aida, Yasuhiro Ishida

**Yoshihiro Sasaki, presiding**

10:50 2Q05 The effect of phospholipids on the photocurrent generation activity by light-harvesting 1/reaction center complex (LH1-RC) in reconstituted lipid bilayers.  
Nobutaka Takeda, Mikano Matsuo, Masaharu Kondo, Tomoyasu Noji, Shigeru Itou, Mamoru Nango, Takehisa Dewa

11:15 2Q06 Real time single-molecular observation of Ferritin disassembly and assembly  
Kento NIWASE, Basudev MAITY, Takafumi UENO

11:40 2Q07 Controlled Synthesis of Multiblock Copolymers Consist of Sequential Peptides and Vinyl Polymers via Nitroxide-mediated Polymerization  
Shinnosuke Nishimura, Nobuyuki Higashi, Tomoyuki Koga

**Tsuyoshi Kimura, presiding**

12:55 2Q08 Development of multifunctional oligomer ligands with completely uniform molecular weight  
Shohei Taniguchi, Sho Katakami, Yusuke Yonamine, Yu Hoshino, Yoshiko Miura

13:20 2Q09 Large Area Formation of Hydrophilic Polymer Brushes Based on a "Paint-on" Method  
Tomoya Sato, Chihiro Urata, Atsushi Hozumi

- 13:45 2Q10 Construction of 3D-stromal tissues with high ECM concentration and blood capillary by collagen microfibers  
Misaki Komeda, Michiya Matsusaki
- 14:10 2Q11 Construction of Human 3D-Cancer-Stromal Tissues with High ECM Density Using Collagen Microfibers  
Natsuko Kato, Misaki Komeda, Michiya Matsusaki
- Kentaro Hozumi, presiding**
- 14:35 2Q12 Cellular function of artificial transmembrane proteins synthesized by precise polymerization  
Daiki Takahashi, Yuta Koda, Yoshihiro Sasaki, Kazunari Akiyoshi
- 15:00 2Q13 Recognition of side chain structure in catecholamine by dopamine templated molecularly imprinted polymer-coated gate field-effect transistor  
Taira Kajisa, Wei Li, Tsuyoshi Michinobu, Toshiya Sakata
- 15:25 2Q14 Modulating hydration of aliphatic polycarbonates via post-reactions for improved blood compatibility  
Kazuki Fukushima, Shunta Hakozaki, Yuta Haga, Mai Sano, Haruka Tuchiya, Masaru Tanaka
- Takami Akagi, presiding**
- 15:50 2Q15 Development of the coaxial core-sheath microfiber scaffold composed of conductive layer and cell adhesive layer for efficient induction of myotube formation  
Keita Tanaka, Misa Nakaya, Keiichi Imato, Naoya Takeda
- 16:15 2Q16 Cell capture and release of lymphocytes using antibody-immobilizing filter  
Tsuyoshi Kimura, Naoko Nakamura, Yoshihide Hashimoto, Shimon Sakaguchi, Shunsaku Kimura, Akio Kishida
- 16:40 2Q17 Effects of Materials Fluidity on Cancer Cellular Senescence-Materials-induced Senescence (MIS)  
Sharmy Mano, Koichiro Uto, Mitsuhiro Ebara
- 17:05 2Q18 Well-controlled protein immobilization on photo-responsive phosphorylcholine polymer surfaces  
Yasuhiko Iwasaki, Masako Tanaka

**Fri. Sep 22**

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

**Yasuhiko Iwasaki, presiding**

- 9:10 3Q01 The research on the correlation between surface structure and cell migration of biocompatible polymers containing intermediate water  
Shunya IRIE, Fumihiko ARATSU, Daiki MURAKAMI, Masaru TANAKA
- 9:35 3Q02 Synthesis of novel regioregular polymers with hydroxy groups via regioselective ring-opening metathesis polymerization and their blood compatibility evaluation.  
Naoki Fujita, Singo Kobayashi, Masaru Tanaka
- 10:00 3Q03 Evaluation of human salivary gland cell differentiation on the laminin derived active peptide conjugated chitosan hydrogel  
Kentaro Hozumi, Hayato Yamada, Fumihiko Katagiri, Yamato Kikkawa, Motoyoshi Nomizu

**Kazuki Fukushima, presiding**

- 10:25 3Q04 Hydrophobically modified, Alaska pollock derived gelatin-based sealant adhere on wet tissues  
Ryo Mizuta, Temmei Ito, Akihiro Nishiguchi, Tetsushi Taguchi
- 10:50 3Q05 Fabrication of orientation controlled 3D cardiac tissue with vascular network using 3D printed a thermo-responsive gel frame



- Yoshinari Tsukamoto, Takami Akagi, Mitsuru Akashi
- 11:15 3Q06 Design and function of electrostatically crosslinked hydrogel formed with ionic polysaccharide nanogels as biodegradable scaffold  
Taisei Kojima, Yoshiro Tahara, Sada-atsu Mukai, Shin-ich Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi
- 11:40 3Q07 Preparation of Poly[(meth)acrylamide] Having L-Lysine Moiety and Its Effect on Fibrinolytic Activity  
Shingo WAKISAKA, Junji SATOZAKI, Kohei SHIRAISHI
- Tetsushi Taguchi, presiding**
- 12:55 3Q08 Fabrication and evaluation of hydrogel microcapsules for high-throughput microorganism analyses  
Sotaro Fushiki, Ryosuke Mogi, Nobuhiko Nomura, Hiroaki Suzuki, Masatoshi Yokokawa
- 13:20 3Q09 Integration of laser light sheet and microfluidic technique for visualization of mass diffusion in gel  
Yutaro Shimamune, Toru Izawa, Andrew Shinichi Utada, Shigeki Nonaka, Nobuhiko Nomura, Hiroaki Suzuki, Masatoshi Yokokawa
- 13:45 3Q10 Porous microneedle array made of a polymer monolith for the analysis of interstitial fluid  
Hiroyuki Kai, Hiroki Kumata, Atsushi Kubota, Matsuhiko Nishizawa
- 14:10 3Q11 Characterization of Polymer Disks and Their Application for Turbidimetric Assay  
Kenichi Ishikura, Daiki Sogabe, Atsushi Nakagawa, Yosuke Okamura
- Yosuke Okamura, presiding**
- 14:35 3Q12 Metabolome monitoring of stable isotope-labeled algae by Raman imaging  
Yusuke Yonamine, Yuta Suzuki, Takuro Ito, Kouki Oh, Yuri Aisaka, Yoshiko Miura, Keisuke Goda, Yasuyuki Ozeki, Yu Hoshino
- 15:00 3Q13 Metabolome monitoring of stable isotope-labeled algae by resonance Raman spectroscopy  
Yusuke Yonamine, Kotaro Hiramatsu, Takuro Ito, Takuro Ideguchi, Yoshiko Miura, Keisuke Goda, Yu Hoshino
- 15:25 3Q14 Effects of sequence and structure of pendant groups on antimicrobial activity and hemolytic property of cationic aliphatic polycarbonates  
Kazuki Fukushima, Keita Saito, Kazuki Takakuwa, Kohei Kishi, Haruka Tsuchiya, Shigekazu Yano, Masaru Tanaka

<b>Room R</b>
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**Wed. Sep 20**

**S11. Exploration of Soft Macromolecular Systems by Theoretical and Synthetic Approaches**

- 13:35 1RSO Introductory Remarks S11  
Michito Yoshizawa, Takashi Nakanishi
- Takashi Nakanishi, presiding**
- 13:45 1R10 Construction of Soft-polymer System Based on Polymerization of Diazoacetates  
Eiji Ihara, Hiroaki Shimomoto
- 14:10 1R11 Synthesis and functionalization of molecular weight distribution controlled novel poly(vinyl acetate) derivatives  
Asuka Sekishita, Aki Kashiwazaki, Shingo Kobayashi, Masaru Tanaka
- 14:35 1R12 Synthesis and Structure Control of Polymers Containing Diketopiperazine Moieties in the Main Chain

- Noritaka Shimosaraya, Yu Miyagi, Fumio Sanda
- 15:00 1R13 Physical Property Control and Functionalization of Polymers through Peptide Affinities  
Seigo Suzuki, Toshiki Sawada, Takashi Ishizone, Takeshi Serizawa
- Koji Nakano, presiding**
- 15:25 1R14 Synthesis and structural analysis of cellulosic Janus-type bottlebrushes  
Keita SAKAKIBARA, Yuji KINOSE, Yoshinobu TSUJII
- 15:50 1R15 Solvent Vapor-, Mechanical Stress- and Magnetic Field-Responsive Materials Realized by Conjugated Polymers and Helical Polymers  
Hiroki Hayashi, Shigeki Nimori, Hiromasa Goto
- 16:15 1R16 Control of Dynamic Propeller Chirality of Dirhodium Complexes through Coordination-Driven Supramolecular Polymerization  
Takuya Iwata, Naoki Ousaka, Eiji Yashima
- 16:40 1R17 Synthesis of an Optically Active Helical Polymer Possessing an Inner Cavity and Its Supramolecular Polymerization  
Satoshi Kawabata, Naoki Ousaka, Eiji Yashima
- Koji Oohora, presiding**
- 17:05 1R18 Supramolecular asymmetric photochirogenesis of anthracene-2-carboxylate and anthracene-2,6-dicarboxylate mediated by human serum albumin  
SOUTA TOYOOKA, MITSURU OKUGI, YUYA FUJISHIRO, MASAKI NISHIJIMA, YASUYUKI ARAKI, SEIJI SAKAMOTO, YUTAKA IKEDA, MADOKA TAKAI, YUKIO NAGASAKI, YOSHIHISA INOUE, TAKEHIKO WADA
- Keita Sakakibara, presiding**
- 17:30 1R19 Synthesis and Properties of Helicene-containing Polymers  
Sae Kubota, Sudai Aoki, Koji Nakano
- 17:55 1R20 Synthesis of a Carboxylic Acid Dimer Connected with an Anthracene Linker and Its Enantioselective Photodimerization  
Naomichi Horimoto, Makoto Tanaka, Junki Tanabe, Daisuke Taura, Naoki Ousaka, Eiji Yashima

## Thu. Sep 21

### S11. Exploration of Soft Macromolecular Systems by Theoretical and Synthetic Approaches

#### **Tomohiro Shiraki, presiding**

- 9:10 2R01 Mesomorphic and Carrier Transport Properties of The Binary Mixtures consisting of Phthalocyanine/Perylenebisimide bearing Oligosiloxane Moieties.  
Ryutaro Yamaoka, Masahiro Funahashi
- 9:35 2R02 Stimuli-responsive luminescent properties of an asymmetric cyclophane  
Yoshimitsu Sagara
- 10:00 2R03 Dynamic structural transformation of a multiple catenane composed of porphyrins and a phthalocyanine  
Yasuyuki Yamada, Ryohei Ito, Sayaka Ogino, Tatsuhisa Kato, Kentaro Tanaka

#### **Yoshimitsu Sagara, presiding**

- 10:25 2R04 Soft-chromophoric Liquid Porphyrins  
Takashi Nakanishi, Avijit Ghosh, Izuru Kawamura, Yasuhisa Mizutani, Yuki Kurashige, Osamu Yamamuro
- 10:50 2R05 Soft Modulation of Near Infrared Photoluminescent Properties of Chemically-Functionalized Carbon Nanotubes by a Molecular Design Approach  
Tomohiro Shiraki, Hisashi Onitsuka, Tamehito Shiga, Tomonari Shiraishi, Naotoshi Nakashima

11:15 2R06 Layered composites of polydiacylene and organic molecules with tunable stimuli responsiveness  
Hideto Terada, Yuya Oaki, Hiroaki Imai

11:40 2R07 The electrochemical properties of metal complex polymers on the surface of the layered silicates  
Miharu Eguchi, Masako Momotake, Fumie Inoue, Takayoshi Oshima, Kazuhiko Maeda, Masayoshi Higuchi

**Michito Yoshizawa, presiding**

12:55 2R08 A propagating wave by spatiotemporally-coupled formation and degradation of stimuli-responsive supramolecular nanofibers  
Ryou Kubota, Hajime Shigemitsu, Itaru Hamachi

13:20 2R09 Spatiotemporal Dynamics of New Click Reaction in  $\pi$ -Molecular Assemblies  
Atsuro Takai, Masayuki Takeuchi

13:45 2R10 Amplified interpolymer interactions under non-equilibrium micro-environments  
Munenori Numata

14:10 2R11 Properties of Supramolecular Polymers Featuring Unique Conformations  
Shiki Yagai

**Atsuro Takai, presiding**

14:35 2R12 Supramolecular chemistry of giant cylindrical polymer brushes with precision polymerization  
Yoshihiro Yamauchi

15:00 2R13 Dynamical Topology Transformation of Block Copolymers Bearing Rotaxane Linkage  
Hiroki SATO, Daisuke AOKI, Toshikazu TAKATA

15:25 2R14 Design and Function of Dynamic Covalent Polymers That Can Reorganize Their Structures  
Hideyuki Otsuka, Akira Takahashi, Keiichi Imato, Raita Goseki, Daisuke Aoki

**Shiki Yagai, presiding**

15:50 2R15 Photon upconversion and protection of triplet excited states in aqueous self-assemblies  
Hironori Kouno, Nobuhiro Yanai, Nobuo Kimizuka

16:15 2R16 Polyaromatic Nanospace for the Recognition of Disaccharide in Water  
Masahiro YAMASHINA, Michito YOSHIZAWA

16:40 2R17 Design of Protein Crystals as Soft Porous Materials  
Satoshi Abe, Takafumi Ueno

17:05 2R18 Structural analysis of metal clusters by single-crystal X-ray structural analysis  
Wataru Kurashige, Shota Wakayama, Shunjiro Takagi, Sakiat Hossain, Lakshmi V. Nair, Tasuku Ono, Mahiro Yoshioka, Mai Hosoi, Yukari Imai, Zhaoheng Chen, Yuichi Negishi

**Fri. Sep 22**

**S11. Exploration of Soft Macromolecular Systems by Theoretical and Synthetic Approaches**

**Satoshi Abe, presiding**

9:10 3R01 Construction of polymers based on soft hemoprotein as a building block and its elasticity  
Koji Oohora, Takahiro Urayama, Takashi Hayashi

9:35 3R02 Selective Oligosaccharide-Sensing by Porphyrin-Curdlan Conjugates in Aqueous Media  
Gaku Fukuhara, Mayuko Sasaki, Munenori Numata, Tadashi Mori, Yoshihisa Inoue

10:00	3R03	Domain library approach for high performance cellulase on nanomaterials <u>Mitsuo Umetsu</u> , Hikaru Nakazawa
		<b>Keita Sakakibara, presiding</b>
10:25	3R04	Helix oscillation of substituted poly(arylacetylene)s induced by pi-stack between neighbor side groups <u>Yasuteru Mawatari</u> , Masayoshi Tabata
		<b>Koji Oohora, presiding</b>
10:50	3R05	The softness determining the ion-transport function of microbial rhodopsin <u>Keiichi Inoue</u>
11:15	3R06	Understanding and design of molecular functions of flexible proteins <u>Shigehiko Hayashi</u>
11:40	3R07	Association and dissociation dynamics of biopolymers <u>Akio Kitao</u>
		<b>Keiichi Inoue, presiding</b>
12:55	3R08	Chemo-mechanical coupling mechanisms of protein molecular motors revealed by high-speed single-molecule imaging analysis <u>Ryota Iino</u>
13:20	3R09	Dynamic behavior of collectively moving microtubules and their unique response to external mechanical perturbation. AInoue Daisuke, Kabir Arif Md. Rashedul, Sada Kazuki, <u>Akira Kakugo</u>
13:45	3R10	Development of photo-cross-linked collagen gels keeping the native triple helix. <u>Takahiro Fujisawa</u> , Satoru Kidoaki
		<b>Akira Kakugo, presiding</b>
14:10	3R11	Folding or spooling of pDNA by block cationomers, and its functions <u>Kensuke Osada</u> , Yanmin Li, Kazunori Kataoka
14:35	3R12	Development of Ordered Fluid Material Formed by Controlled Assembly of Protein <u>Tatsuya Nojima</u>
15:00	3R13	Control of phase transition of polymer solution by photo-isomerization of spiropyran derivatives <u>Miku Kawamura</u> , Taihei Yamada, Kenta Kokado, Kazuki Sada
15:25	3R14	pH-responsive coassembly of oligo(ethylene glycol)-coated gold nanoparticles with anionic polymers via hydrogen bonding <u>Yu Torii</u> , Naotoshi Sugimura, Hideyuki Mitomo, Kenichi Niikura, Kuniharu Ijiri

## Room S

**Wed. Sep 20**

### **S12. Three-dimensional interphase for bonding dissimilar materials: Adhesion Interphase**

9:50	1SSO	Introductory Remarks S12 <u>Eriko Sato</u> , Daisuke Kawaguchi
		<b>Daisuke Kawaguchi, presiding</b>
10:00	1S03	Material Design for Multimaterials Adhesive <u>Masanobu NAITO</u>
10:25	1S04	Modification of chemically stable polymeric materials 96. Adhesion of modified polymeric materials to dissimilar materials. <u>Hitoshi Kanazawa</u> , Aya Inada
		<b>Masanobu Naito, presiding</b>

- 10:50 1S05 Chemical change and adhesive strength improvement by surface treatment to the materials that are difficult to be adhered  
Yu Sekiguchi, Chiaki Sato
- 11:15 1S06 Formation of low hysteresis surface layer by fluorine-based monomer coating  
Shin-ichi Kihara, Kouji Morino, Ikuo Ushiki, Shigeki Takishima, Tsuyoshi Noguchi
- 11:40 1S07 Surface modification of inorganic oxides utilizing photoactive properties of disilanes  
Joji Ohshita
- Keiji Tanaka, presiding**
- 12:55 1S08IL Molecular Understanding of Adhesion  
Kazunari Yoshizawa
- 13:45 1S10 Structured Liquid on Solid: A Liquid-Solid Interphase  
Hiroshi Onishi
- Shusaku Nagano, presiding**
- 14:10 1S11 Evaluation of nano-structure at adhesive interphase using neutron reflectometry  
Norifumi Yamada, Katsuhiko Yamamoto, Tsukasa Miyazaki
- 14:35 1S12 Estimation of compatibility of plastic blend by fluorescent additive  
Hideki Hayashi, Yuza Ishigaki, Yukio Onouchi
- 15:00 1S13 Adsorption behavior of polydimethylsiloxane at a solid interface  
Junichi Kakuta, Takatoshi Yaoita, Yoshitaka Matsuyama, Kiyoshi Yamamoto, Manabu Inutsuka, Daisuke Kawaguchi, Keiji Tanaka
- 15:25 1S14 Molecular-weight-dependent durability of polyelectrolyte-surfactant complex films prepared through sequential deposition  
Kenji Hisada, Taishi Yamamoto, Masaki Goto, Uchida Syota, Toyoaki Hirata
- Kenji Hisada, presiding**
- 15:50 1S15 Adhesion of solid microsphere on soft elastic surface  
Shoko Mishima, Toshiaki Ougizawa
- 16:15 1S16 Development of hydrogel adhesion method utilizing wrinkle-structure formation by swelling of gel-film at adhered gel-gel interface  
Masatoshi KATO, Taka-Aki ASOH, Hiroshi UYAMA
- 16:40 1S17 Debonding and fracture of model polymer networks  
Tetsuo Yamaguchi, Yudai Onoue, Yoshinori Sawae
- Eriko Sato, presiding**
- 17:05 1S18 Anti-fouling surfaces using organogels showing syneresis  
Chihiro Urata, Atsushi Hozumi
- 17:30 1S19 Mass transfer in polymer heterointerface by inkjet printing onto polymer films  
Shusaku Nagano, Issei Kitamura, Mitsuo Hara, Takahiro Seki
- 17:55 1S20 Mass transfer induced by the surface tension difference fabricated by inkjet printing on polymer films  
Issei Kitamura, Mitsuo Hara, Shusaku Nagano, Takahiro Seki

**Thu. Sep 21**

**S12. Three-dimensional interphase for bonding dissimilar materials: Adhesion Interphase**

**Takashi Nishino, presiding**

- 9:10 2S01 Fabrication of ultrathin hetero multilayers of oxides by photo-oxidation of Ti-containing polymer complex ultrathin films  
Shunsuke Yamamoto, Asami Ono, Tokuji Miyashita, Masaya Mitsuishi
- 9:35 2S02 Pressure-sensitive Dismantlable Adhesives with Interfacial Failure

- Utilizing Microphase-separated Structure  
Eriko Sato, Shusei Iki, Takashi Nishiyama, Hideo Horibe, Akikazu Matsumoto
- 10:00 2S03 Novel Acrylic PSA based on Tackifier Segregation Onto the Surface  
Kenichi Nakamura
- 10:25 2S04 Fabrication of reactive surfaces using spontaneous surface segregation of block copolymers  
Akiko Seki, Takashi Ishizone, Hideaki Yokoyama
- Hideaki Yokoyama, presiding**
- 10:50 2S05 Interphase analyses of polyolefin adhesive/polyolefins  
Takashi Nishino, Yosuke Shimizu, Takuya Matsumoto, Chizuru Hongo
- 11:15 2S06 Mechanisms of surface treatments for adhesion of polypropylene  
Shin Horiuchi, Haruhisa Akiyama, Takayuki Miyamae, Chiaki Sato
- 11:40 2S07 Evaluation of primer effect of cobalt metal complexes with isotactic polypropylene / cyanoacrylate interface analyses  
Takuya Matsumoto, Yuta Nakanishi, Chizuru Hongo, Shin Horiuchi, Takashi Nishino
- Masaru Yoshida, presiding**
- 12:55 2S08 Adherend selectivity of acrylic PSAs containing a side-chain crystalline acrylic copolymer particles  
Satoshi Yamaguchi, Minoru Nanchi, Shin'ichiro Kawahara, Hiroto Murakami
- 13:20 2S09 Synthesis and underwater adhesive property of bioinspired phenolic polymers  
Hiroataka Ejima, Kan Zhan, Naoko Yoshie
- 13:45 2S10 Catecholic Bio-Adhesive  
Daisaku Kaneko
- Hiroataka Ejima, presiding**
- 14:10 2S11 Adhesion Property and Mechanism of Maleimides Copolymers Containing Reacting Groups  
Akikazu Matsumoto, Ryosuke Senba, Yuto Kurasaki
- 14:35 2S12 Photochemically reversible adhesives composed of azobenzene acrylate polymers  
Masaru Yoshida, Haruhisa Akiyama, Shotaro Ito, Hideyuki Kihara
- 15:00 2S13 Functionalization of Adhesion between Hard Materials Based on Reversibility of Host-guest Interaction  
Yasushi SHOJIMA, Tomoko SEKINE, Yoshinori TAKASHIMA, Hiroyasu YAMAGUCHI, Akira HARADA
- Motoyasu Kobayashi, presiding**
- 15:25 2S14 Adhesion between materials using supramolecular hydrogel cross-linked by host-guest and metal-ligand complexes.  
Fumiaki Goto, Yoshinori Takashima, Akira Harada, Hiroyasu Yamaguchi
- 15:50 2S15 Dissimilar Materials Bonding Using Epoxy Monolith: Expansion of Bonding Conditions and Application Limit  
Yukihiro Nishimura, Yuka Sugimoto, Akikazu Matsumoto
- Akikazu Matsumoto, presiding**
- 16:15 2S16 Molecular Design of Surface-grafted Polymers for Adhesion of Different Materials  
Motoyasu Kobayashi, Saori Mihara, Kazuo Yamaguchi
- 16:40 2S17 Novel polymer design for connecting interfaces  
Masashi KUNITAKE
- 17:05 2S18 Investigation on adhesion using an organophosphonic acid bearing a C-ON bond  
Kohei Kaneta, Seiichi Tahara, Naokazu Idota, Yoshiyuki Sugahara

**Fri. Sep 22**

## S12. Three-dimensional interphase for bonding dissimilar materials: Adhesion Interphase

### Daisuke Ishii, presiding

- 9:10 3S01 Powdered two-liquid mixing type adhesive created based on dry liquid engineering  
Syuji Fujii, Kohei Kido, Yoshinobu Nakamura
- 9:35 3S02 Preparation and characterization of self-supporting nanofilms from  
peptide-based multiblock copolymers  
Tomoyuki Koga, Yushi Harumoto, Tomotaka Morishita, Nobuyuki Higashi

### Tomoyuki Koga, presiding

- 10:00 3S03 Healable and Reprocessable Network Polymers Based on Thermally  
Exchangeable Bis(hindered amino)disulfides  
Akira Takahashi, Ayuko Tsuruoka, Raita Goseki, Daisuke Aoki, Hideyuki Otsuka
- 10:25 3S04 Adhesion and autohesion bwtween generally used polymer materials by grafting  
Kazunori Yamada
- 10:50 3S05 Surface shield effects of a plasma-polymerized film "Nano-suits" of  
amphiphilic molecules  
Daisuke Ishii, Nanami Sawayama, Shingo Ito

## Room T

Wed. Sep 20

## S14. Molecular design for highly functionalized organic semiconductors

- 12:45 1TSO Introductory Remarks S14  
Hironori Kaji, Hideo Ohkita
- Hironori Kaji, presiding**
- 12:55 1T08IL High performance delayed fluorescence materials and their OLED application  
Chihaya Adachi
- 13:45 1T10 Design, Synthesis, and Device Application of the Organic Semiconductor  
Materials Enabling Singlet - Triplet Conversion at Excited State  
Yong-Jin Pu
- Yong-Jin Pu, presiding**
- 14:10 1T11 Molecular Design through Computational Science: High-throughput  
Screening of TADF and Charge Transport Materials  
Hironori Kaji
- 14:35 1T12 Design principles for emitting molecules via reverse intersystem crossing  
from higher triplet states  
Tohru Sato
- 15:00 1T13 Spectroscopic study on the mechanism of thermally activated delayed  
fluorescence  
Takuya Hosokai
- Takuya Hosokai, presiding**
- 15:25 1T14 Development of High-Performance OLED Materials by Multiple Resonance  
Effect  
Takuji Hatakeyama
- 15:50 1T15 Surface-induced Controls of Organic Semiconductors in Thin Films  
Seiichiro Izawa, Tomohiro Mayumi, Kyohei Nakano, Kaori Suzuki, Yujiao  
Chen, Tomoka Kikitsu, Daisuke Hashizume, Tomoyuki  
Koganezawa, Kazuhito Hashimoto, Keisuke Tajima

16:15	1T16	Ternary blend solar cells using thiazolothiazole polymers <u>Itaru Osaka</u> , Masahiko Saito
<b>Keisuke Tajima, presiding</b>		
16:40	1T17	Enhancement of SnPb mixed metal perovskite solar cells <u>Shuzi Hayase</u>
17:05	1T18	Photophysics of organic-inorganic hybrid perovskite solar cells <u>Yoshihiko Kanemitsu</u>
17:30	1T19	Up-Scaling of Organic-Inorganic Hybrid Perovskite Solar Cells and Modules <u>Luis Katsuya Ono</u> , Matthew Ryan Leyden, Sonia Ruiz Raga, Yan Jiang, Mikas Remeika, Emilio Jose Juarez-Perez, Shenghao Wang, Yabing Qi
17:55	1T20	Charge Separation Interface Engineering of Colloidal Quantum Dot-based Solar Cells and Approaches to Improving the Energy Conversion Efficiency <u>Qing Shen</u> , Yaohong Zhang, Chao Ding, Feng Liu, Naoki Nakazawa, Syuhei Ozu, Taro Toyoda

**Thu. Sep 21**

#### **S14. Molecular design for highly functionalized organic semiconductors**

**Hisahiro Sasabe, presiding**

9:10	2T01	Molecular design strategy for improving the operational lifetime of organic light-emitting diodes <u>Hirohiko Fukagawa</u>
9:35	2T02	Inverted Organic Light-Emitting Diodes <u>Katsuyuki Morii</u>
10:00	2T03	Optical Properties and Device Characteristics of Solution-Processable Blue and Green Thermally Activated Delayed Fluorescence Materials <u>Yume Habuka</u> , Toru Yashima, Keita Tani, Katsuaki Suzuki, Katsuyuki Shizu, Hironori Kaji

**Hirohiko Fukagawa, presiding**

10:25	2T04	High-performance pyrimidine-based TADF emitters realizing EQE of 25% <u>Hisahiro Sasabe</u> , Ryutaro Komatsu, Tatsuya Ohsawa, Kohei Nakao, Yuya Hayasaka, Junji Kido
10:50	2T05	Lithium bipyridylphenolate complexes with different terminal pyridine substitution positions and chelate interactions for an electron injection layer in organic light-emitting devices <u>Satoru Ohisa</u> , Taichiro Karasawa, Yuichiro Watanabe, Tatsuya Osawa, Yong-Jin Pu, Hisahiro Sasabe, Junji Kido
11:15	2T06	Applications of Conjugated Polyelectrolyte: Polyethylenimine Derivative Blends for An Electron Injection Layer in Solution-processed Organic Light-emitting Devices <u>Tetsuya Kato</u> , Satoru Ohisa, Tatsuya Takahashi, Michinori Suzuki, Yong-Jin Pu, Takayuki Chiba, Junji Kido
11:40	2T07	Air-Stable and High-Performance Solution-Processed Organic Light-Emitting Devices Based on Polymeric Ionic Liquids <u>Shugo Sato</u> , Satoru Ohisa, Yukihiro Hayashi, Tetsuya Kato, Daisuke Yokoyama, Ryo Sato, Takayuki Chiba, Yong-Jin Pu, Hisahiro Sasabe, Junji Kido

**Katsuyuki Morii, presiding**

13:20	2T09	Characterization of electrical transport properties of organic semiconducting devices by means of impedance spectroscopy <u>Hiroyoshi Naito</u>
13:45	2T10	Microscopic investigations into the charge states and the degradation mechanisms of device performances in organic semiconductor photodevices



Kazuhiro Marumoto

14:10 2T11 n-doping on polymer semiconductors and formation of pn junction  
Katsuhiko Fujita, Shin Sakiyama, Hiroataka Iwashita, Naoki Mizutani

**Hiroyoshi Naito, presiding**

14:35 2T12 Charge Generation Dynamics in Polymer Solar Cells with Small Photovoltage Loss  
Hideo Ohkita, Yasunari Tamai, Kazuaki Kawashima, Itaru Osaka, Kazuo Takimiya

15:00 2T13 Search and design for organic semiconductor materials by computational science  
Yutaka Imamura

15:25 2T14 Development of Naphthalene-Based Electron Deficient conjugated Systems and Synthesis and Properties of Conjugated Polymers Having Those Systems  
Tsubasa Mikie, Itaru Osaka

**Kazuhiro Marumoto, presiding**

15:50 2T15 Development of Semiconducting Polymers Based on a Vinylene-Bridged  $\pi$ -Extended Acceptor Unit and Their Photovoltaic Properties of Organic Solar Cells  
Hiroki Mori, Ryosuke Takahashi, Yuya Asanuma, Yasushi Nishihara

16:15 2T16 Ultrafast long-range charge separation in non-fullerene organic solar cells  
Yasunari Tamai, S. Matthew Menke, Yeli Fan, Vincent O. Kim, Kostiantyn Ziabrev, Stephen Barlow, Seth R. Marder, Richard H. Friend

16:40 2T17 Module design of polymer solar cell for solar hydrogen generation  
Shinpei Goto, Atsushi Aoki

17:05 2T18 Internal Noise Effects on Stochastic Resonance in Organic Transistor  
Yoshiharu Suzuki, Teruo Kanki, Hidekazu Tanaka, Naoki Asakawa

**Fri. Sep 22**

**S14. Molecular design for highly functionalized organic semiconductors**

**Katsuhiko Fujita, presiding**

9:10 3T01 Effect of liquid crystalline semiconductor composites on carrier transport properties  
Yo Shimizu, Kouki Kawano, Akihiko Fujii, Tsuyoshi Kawai, Masanori Ozaki

9:35 3T02 Degradation analysis of organic light-emitting diodes  
Hideyuki Murata, Shiho Oyama, Heisuke Sakai, Tomoaki Kubo, Kazunori Sugimoto, Toshihiro Yoshioka, Hiroshi Ohata, Satoshi Miyaguchi, Tetsuo Tsutsui

10:00 3T03 Thermoelectric properties of freeze-dried thicker fabric of conducting polymers  
Takeshi Shimomura, Naoki Okada, Rina Kodama, Risako Sumi, Moegi Yokoo, Shinji Kanehashi

10:25 3T04 Evaluation of Block Copolymers Consisting of Electrically Inert Polystyrene and p- or n-Type Semiconductor and Application to Organic Photovoltaic Device  
Eri TOMITA, Kazushi MINEGISHI, kyusun KIM, shinji KANEHASHI, kenji OGINO

**Hideyuki Murata, presiding**

10:50 3T05 Synthesis and Properties of Structurally Defect-free Cyclic Poly(3-hexylthiophene)  
Masaaki Hosokawa, Minato Nakamura, Takuya Yamamoto

11:15 3T06 Synthesis of chiral magnetic conjugated polymer with phenoxy radical and the magnetic properties  
Masashi Otaki, Hiromasa Goto

11:40 3T07 Development of multi-functional liquid-crystalline semiconductors: Bulk photovoltaic effect derived from molecular chirality in  $\pi$ -conjugated ferroelectric liquid crystals  
Atsushi Seki, Masahiro Funahashi

## Room U

Wed. Sep 20

### S13. Polymer materials and technologies for contributing to future energy systems

- 9:50 1US0 Introductory Remarks S13  
Akihiro Ohira, Tsuyohiko Fujigaya
- Masahiro Fujita, presiding**
- 10:00 1U03 Characteristic lithium ion transportation in poly(oxetane)-based electrolytes having nitrile group in their side chain  
Ryansu Sai, Kazuhide Ueno, Hiromori Tsutsumi
- 10:25 1U04 Mechanism of fast ion transport and favorable electrochemical properties of highly-concentrated polycarbonate electrolytes  
Kento Kimura, Yoichi Tominaga
- 10:50 1U05 Ion-Conductive Behavior and Battery Performance of Solid Polymer Electrolyte Based on Poly(2,2-dimethoxytrimethylene carbonate)  
Takahito Itoh, Kaito Nakamura, Takahiro Uno, Masataka Kubo
- Yuya Oaki, presiding**
- 11:15 1U06 Synthesis and Evaluation of Polybetaine-type Polymer Electrolytes (II) - Relationship between monomer composition and higher-order structure-  
Jun Ishii, Yuko Takeoka, Masahiro Rikukawa, Masahiro Fujita
- 11:40 1U07 The fabrication of polymer electrolyte membrane for lithium-ion battery and the effect of polymer architecture and molecular weight of prepolymers  
Shoki Nakano, Rendon Camilo Piedrahita, Kaoru Adachi, Yasuhisa Tsukahara, Thein Kyu, Pugh Coleen
- 12:55 1U08 Applications of Polysiloxanes Having 5-Membered Cyclic Carbonate Groups to Polymer Electrolytes  
Kozo Matsumoto, Daisuke Tsutsumi, Makoto Kuwajima, Takeshi Endo
- Kazuhide Ueno, presiding**
- 13:20 1U09 Design and secondary battery application of solid polymer electrolyte based on nanofiber framework  
Manabu Tanaka, Yuta Inafune, Shun Nakazawa, Kaito Takenaka, Hiroyoshi Kawakami
- 13:45 1U10 Hierarchical composites of conductive polymers and redox-active organic crystals for charge storage  
Kosuke Sato, Mirei Arayasu, Hiroaki Imai, Yuya Oaki
- 14:10 1U11 Conductive polymer for an anode material of lithium-ion battery  
Hiromichi Numazawa, Kosuke Sato, Hiroaki Imai, Yuya Oaki
- Manabu Tanaka, presiding**
- 14:35 1U12 Totally organic-based, flexible secondary battery consisting of a TEMPO-substituted polymer / carbon nanotube composite electrode  
Kan Sato, Hiroyuki Nishide, Kenichi Oyaizu
- 15:00 1U13 All-Organic Flexible Supercapacitors Using Conducting Polymers  
Haruki Saito, Kazuki Kudo, Hidenori Okuzaki
- 15:25 1U14 Application of a highly durable graphene-based mesoporous material to electrochemical capacitor  
Keita Nomura, Hirotomo Nishihara, Takashi Kyotani
- 15:50 1U15 Characterization method of carbon materials and electroactive materials for redox flow battery  
Yukari Sato, Akira Negishi, Eiji Hozomi, Akihiro Ohira

**Yu Hoshino, presiding**

- 16:15 1U16 Direct Electrosynthesis of Organic Chemical Hydrides by Using Microemulsion  
Mitsuru Wakisaka, Kayoko Tamoto, Masashi Kunitake
- 16:40 1U17 Development of zeolite-PVA composite electrolyte membrane for water-  
absorbing porous electrolyte water electrolysis cell  
Masamichi Nishihara, Yuki Terayama, Takamasa Haji, Stephen Lyth, Shigeo  
Satokawa, Hiroshige Matsumoto
- 17:05 1U18 Effect of preparation conditions on ion transport properties of PVA-based  
ion exchange membrane  
Yuriko Kakihana, Taiko Mizuno, Marika Anno, Takahiro Yamada, Ikuo  
Taniguchi, Masahiro Yasukawa, Mitsuru Higa

**Akihiro Ohira, presiding**

- 17:30 1U19 Improvement of salt absorption capacity of nanogel membrane for  
reversible desalination driven by low temperature heat  
Mitsunori Moribe, Naoki Gondo, Masahiko Nakamoto, Yu Hoshino, Yoshiko Miura
- 17:55 1U20 Carbon-free H<sub>2</sub> production by amine-containing polymer membranes  
Ikuo Taniguchi, Kae Kinugasa, Mai Yoshizawa

**Thu. Sep 21**

**S13. Polymer materials and technologies for contributing to future energy systems**

**Masamichi Nishihara, presiding**

- 9:10 2U01 Crosslinked sulfonated polyphenylsulfone electrolyte membranes for PEMFCs (I)  
Je Deok Kim, Satoshi Matsushita
- 9:35 2U02 Newly Aromatic Polymer Electrolyte Membranes Based on  
Benzothiadiazole Units with Multiply Introduced Sulphonic Acid Groups  
Shuntaro Amari, Shinji Ando, Takeo Yamaguchi
- 10:00 2U03 Synthesis and properties of sulfonated terpolymers containing  
quinquephenylene groups as proton exchange membranes  
Yaojian Zhang, Junpei Miyake, Ryo Akiyama, Ryo Shimizu, Kenji Miyatake
- 10:25 2U04 Synthesis and properties of sulfonated terpolymers containing aliphatic  
and perfluoroalkyl groups as proton exchange membranes  
Jinju Ahn, Kenji Miyatake

**Tsuyohiko Fujigaya, presiding**

- 10:50 2U05 Synthesis and Application of Polymer Electrolytes with Super Acid Group  
(II) - Correlation of Ion Exchange Capacity and Gas Permeability -  
Miho Asano, Masahiro Fujita, Yuko Takeoka, Masahiro Rikukawa
- 11:15 2U06 Development of highly durable anion exchange membrane with spiro  
segment in the backbone and application to fuel cell device  
Shoji Miyanishi, Hidenori Kuroki, Takeo Yamaguchi
- 11:40 2U07 Partially fluorinated aromatic copolymers functionalized with pendant  
alkyl ammonium groups as highly conductive and alkaline stable anion  
exchange membranes  
Ahmed Mohamed Ahmed Mahmoud, Ahmed Mohamed Mohamed  
Elsaghier, Kanji Otsuji, Kenji Miyatake
- 12:55 2U08IL High Performance Ion Conductive Membranes for Energy Applications  
Kenji Miyatake, Junpei Miyake

**Je Deok Kim, presiding**

- 13:45 2U10 Influence of side chain structure on proton conductivity in sulfonated  
polyimide thin film  
Yutaro Ono, Ryosuke Goto, Mitsuo Hara, Shusaku Nagano, Takashi  
Abe, Yuki Nagao

- 14:10 2U11 Design of carbon nanotube-based non-noble metal electrode catalyst  
Naotoshi Nakashima, Jun Yang, Tao Jie
- 14:35 2U12 Nonstructural Evolution during Catalyst Layer Formation in PEFC Studied via Cryo Electron Microscopy  
Hidekazu Sugimori, Takeshi Terao, Yuri Nishino, Yoshiko Ito, Atsuo Miyazawa, Yuichi Konosu, Maito Koga, Hidetoshi Matsumoto, Suguru Uemura, Yuki Kameya, Takashi Sasabe, Toshihiko Yoshida, Kazuhiko Shinohara, Shuichiro Hirai
- 15:00 2U13 Nanostructural Analysis of Catalyst Layer Formation Process of Polymer Electrolyte Fuel Cells by Time-Resolved Grazing-Incidence X-ray Scattering  
Maito Koga, Yuichi Konosu, Hidetoshi Matsumoto, Masatoshi Tokita, Hiroyasu Masunaga, Takaaki Hikima, Hidekazu Sugimori, Takashi Sasabe, Toshihiko Yoshida, Kazuhiko Shinohara, Shuichiro Hirai
- 15:25 2U14 Transport phenomena of reaction materials in polymer electrolyte fuel cell  
Takashi Tokumasu
- Shoji Miyanishi, presiding**
- 15:50 2U15 Preparation of composite membranes of poly(substituted acetylene) containing metal particles and the gas permeability  
Toshikazu Sakaguchi, Satoshi Irie, Tamotsu Hashimoto
- 16:15 2U16 Nanocomposite membranes for carbon capture application  
Shinji Kanehashi, Kenji Ogino, Sandra Kentish
- 16:40 2U17 CO<sub>2</sub> Separation Properties of Sulfonated Polyimide / Ionic Liquid Composite Membranes: Comparison between Protic and Aprotic Ionic Liquids  
Eri Hayashi, Akika Ito, Morgan Leslie Thomas, Kei Hashimoto, Masayoshi Watanabe
- 17:05 2U18 Formation of Voids in Polyethylene after Rapid Decompression from High-Pressure Hydrogen: Inhibition by Radiation Cross-Linking  
Kazuyuki Enomoto, Shin Hasegawa, Akihiro Hiroki, Yasunari Maekawa, Hiroaki Ono, Hirotsada Fujiwara, Shin Nishimura

**Fri. Sep 22**

### **S13. Polymer materials and technologies for contributing to future energy systems**

**Akihiro Ohira, presiding**

- 9:10 3U01 Development of polymer electrolytes consisting of homogeneous polymer network and application to polymer actuator  
Hisashi Kokubo, Ryosuke Shioiri, Tatsuhiro Horii, Kei Hashimoto, Kazuhide Ueno, Masayoshi Watanabe
- 9:35 3U02 Fabrication of Polymer Electrolytes Consisting of Poly(ionic liquid) and Homogeneous Polymer Network and Application to Polymer Actuator  
Keita Murai, Ryosuke Shioiri, Tatsuhiro Horii, Hisashi Kokubo, Kazuhide Ueno, Masayoshi Watanabe
- 10:00 3U03 Sensor of piezoelectric-rubber with vibration isolating properties  
Shogo Mamada, Tatsuya Ohta, Ryo Noginura, Sho Yamanaka

**Hisashi Kokubo, presiding**

- 10:25 3U04 Development of a printed thermoelectric generator  
Koji Miyazaki
- 10:50 3U05 Electrochemical estimation of doping level of poly(3-hexylthiophene) and its thermoelectric properties  
Ichiro Imae, Ryosuke Akazawa, Yutaka Harima
- 11:15 3U06 The elucidation of selectivity mechanism for the separation of semiconducting single-walled carbon nanotubes by Vitamin B<sub>2</sub> analogues  
Fumiyuki Toshimitsu, Kanako Nishimura, Keita Ozono, Tsuyohiko

Fujigaya, Naotoshi Nakashima  
 11:40 3U07 Energy Upconversion Emission Characteristics of Hyperbranched Copolymer with Photon Upconversion Dyes System  
Hirokazu Yamane, Tatsuya Taniguchi, Yasutaka Urata, Naoto Hori, Genta Takatoki, Yasuhiro Yamasaki, Toshihiko Nagamura

## Room V

**Wed. Sep 20**

### **S15. Development of Novel High Functional Gels by Precision Design of Network Structure**

9:50 1VSO Introductory Remarks S15  
Shohei Ida  
**Shohei Ida, presiding**

10:00 1V03 Control of arrangement of reaction points inside MOF for preparation of anisotropically deforming gel  
Kanta Fukushima, Takumi Ishiwata, Kenta Kokado, Kazuki Sada

10:25 1V04 Evaluation of physical properties and redox-responses supramolecular materials cross-linked by movable and reversible bond  
Hikaru Aramoto, Yoshinori Takashima, Akira Harada, Hiroyasu Yamaguchi  
**Kenta Kokado, presiding**

10:50 1V05 Functional evaluation of photo-responsive supramolecular materials generated by expansion and contraction between cross-linking points.  
Shinji Ikejiri, Yoshinori Takashima, Akira Harada, Hiroyasu Yamaguchi

11:15 1V06 Preparation of Proton Conductive Soft Elastomers under the Condition of Non-Humidification  
Takato Kajita, Atsushi Noro, Yushu Matsushita, Naoki Nakamura, Makoto Adachi, Masaki Ando

11:40 1V07 Efficient synthesis and property of cross-linked polymer using rotaxane-based cross-linkers  
Hiromitsu Sogawa, Misako Tani, Jun Sawada, Toshikazu Takata  
**Hiroki Takeshita, presiding**

12:55 1V08 Rheology of Polymer gels with relaxation components  
Takuya Katashima, Miyu Ohnishi, Takamasa Sakai, Tadashi Inoue

13:20 1V09 Rheological Behavior of the Dense Suspensions of Temperature-Responsive Microgel Mixtures  
Saori Minami, Takumi Watanabe, Daisuke Suzuki, Kenji Urayama

13:45 1V10 Microscopic structure formation of nanogel crosslinked materials by non-equilibrium process and characteristic evaluation  
Sada-atsu Mukai, Tatsuya Fujimoto, Chisato Kadota, Shin-ichi Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi  
**Takuya Katashima, presiding**

14:10 1V11 Rheology and Diffusion Dynamics of Polymer Microgel Dispersion  
Kazuki Shibasaki, Hiroki Takeshita, Katsuhisa Tokumitsu, Koichi Hirao

14:35 1V12 Structure formation and crystallization dynamics of concentrated dispersions of polymer microgels  
Hiroki Takeshita, Kohei Sonoda, Kazuki Shibasaki, Katsuhisa Tokumitsu

15:00 1V13 Viscoelasticity of Particle double-network gels and scanning microscopic light scattering analysis of their internal structure.  
Hideaki Tamate, Hidemitsu Furukawa, Masaru Kawakami, Kazuyuki

- Sakai, Mei Abe
- 15:25 1V14 Development of polymeric sealing material gel O-ring  
Hikaru Yahagi, Masato Wada, Kazunari Yoshida, Masaru Kawakami, Hidemitsu Furukawa
- Hidemitsu Furukawa, presiding**
- 15:50 1V15 Fabrication of photothermal actuators by adhesion of conductive polymer films and thermoresponsive gels  
Megumi NAKAMURA, Taka-Aki ASOH, Tatsuya SHOJI, Yasuyuki Tsuboi, Hiroshi UYAMA
- 16:15 1V16 Flexible Acceleration Sensors Based on Piezoelectric Effect of Ionic liquid-Polyurethane Gels  
Takahiro Kondo, Masaki Sato, Hidenori Okuzaki
- 16:40 1V17 Development of benzoxaborole-based functional hydrogels  
Yohei Kotsuchibashi
- Yohei Kotsuchibashi, presiding**
- 17:05 1V18 Smart-gel driven and subcutaneously implantable technology for the development of artificial pancreas  
Akira Matsumoto, Hiroko Matsumoto, Taiki Miyazawa, Yuki Morooka, Chen Siyuan, Hironori Yamada, Yoshihiro Ogawa, Miyako Tanaka, Hirohito Kuwata, Kozue Ochi, Takayoshi Suganami, Kazunori Kataoka, Yuji Miyahara
- 17:30 1V19 Regulation of nitric oxide release by poly(arginine)-assisted redox injectable hydrogel in cardiovascular therapeutics  
Binh Long Vong, Quoc Thang Bui, Tsutomu Tomita, Hiroki Sakamoto, Yuji Hiramatsu, Yukio Nagasaki
- 17:55 1V20 Synthesis of star polymer bearing luminescent metal complex in the microgel core and introduction into cells  
Tsuyoshi Ando, Yuto Nakamaki, Masayasu Totani, Mime Kobayashi, Kayo Terada, Masao Tanihara

**Thu. Sep 21**

**S15. Development of Novel High Functional Gels by Precision Design of Network Structure**

**Koichi Mayumi, presiding**

- 9:10 2V01 Synthesis of huge polymer with quick gelation ability  
Akihiro Yamamoto, Takamasa Sakai
- 9:35 2V02 Mechanism of Polymer Gel Shrinkage in Good Solvent  
Ikuo Fujinaga, Takamasa Sakai
- 10:00 2V03 A study on gelation mechanism and network in mixed carrageenan gels by multiple particle tracking  
Lester Geonzon, Faith Bernadette Descallar, Rommel Bacabac, Shingo Matsukawa
- 10:25 2V04 Molecular simulation of structure and mechanical properties of mixed networks consisting with disk-shaped particles and polymers  
Tsutomu Furuya, Tsuyoshi Koga

**Takamasa Sakai, presiding**

- 10:50 2V05 Clay-Alcohol-Water Dispersions: Anomalous Viscosity Changes Due to Network Formation of Clay Nanosheet Induced by Alcohol Clustering  
Kazutoshi Haraguchi, Yuji Kimura
- 11:15 2V06 Static and dynamic fracture toughness of slide-ring gels  
Chang Liu, Koichi Mayumi, Kazuaki Kato, Hideaki Yokoyama, Kohzo Ito
- 11:40 2V07 Stimuli-responsive Gel Consisting of Microtubules, a Cytoskeletal Protein.  
Kazuhiro Shikinaka, Hiroki Kudoh

**Hiromitsu Sogawa, presiding**

- 12:55 2V08 Precision Design and Functions of Polymer Nanogels with Star and Random Copolymers  
Takaya Terashima
- 13:20 2V09 Synthesis of homogeneous network polymer gel by condensation reaction  
Yuumi Okaya, Yuto Jochi, Yukikazu Takeoka, Takahiro Seki, Kotaro Satoh, Masami Kamigaito
- 13:45 2V10 Synthesis and Physical Properties of PNIPA-block-PDMA Copolymer Gels with Controlled Network Structure  
Dowoo Kwon, Yuumi Okaya, Yuto Jochi, Yukikazu Takeoka, Takahiro Seki, Kotaro Satoh, Masami Kamigaito
- 14:10 2V11 Self-toughening of DN Gels by Using Bond Rupture-induced Radical Polymerization  
Ryo Namba, Takahiro Matsuda, Tasuku Nakajima, Takayuki Nonoyama, Takayuki Kurokawa, Jian Ping Gong

**Atsushi Noro, presiding**

- 14:35 2V12 Structure control of the photonic gel having lamellar bilayer sheets.  
Akane Inoue, Md. Anamul Haque, Takayuki Kurokawa, Tasuku Nakajima, Takayuki Nonoyama, Jian Ping Gong
- 15:00 2V13 Interfacial design and Frictional properties of Hydrogel Thin Films  
Nozomi Itagaki, Yukari Oda, Kim Hung Nguyen, Daisuke Kawaguchi, Keiji Tanaka
- 15:25 2V14 Microgeometry of Cyanobacterial Supra-Polysaccharides: Micrometer-Scale Twisting Fibers  
Kulisara Budpud, Kosuke Okeyoshi, Maiko Okajima, Tatsuo Kaneko

**Tasuku Nakajima, presiding**

- 15:50 2V15 Mechanical oscillation of dynamic microtubule rings  
Arif Md. Rashedu Kabir, Kazuki Sada, Akira Kakugo
- 16:15 2V16 The helical shaped gel showing large and uniaxial deformation  
Younsoo KIM, Narumi TAKEDA, Mareo KINOSHITA, Takamasa SAKAI, Aya AKIMOTO, Ryo YOSHIDA
- 16:40 2V17 Ureido polymer-based design of tunable, UCST-type self-oscillating polymer  
Tsukuru Masuda, Naohiko Shimada, Taira Sasaki, Atsushi Maruyama, Aya Mizutani Akimoto, Ryo Yoshida
- 17:05 2V18 Synthesis of Vinyl Ether Diblock Copolymers with Pendant Imidazolium Ionic Liquids and Their UCST-type Phase Separation Behavior and Physical Gelation in Water  
Daichi Yokota, Arihiro Kanazawa, Sadahito Aoshima

**Fri. Sep 22**

**S15. Development of Novel High Functional Gels by Precision Design of Network Structure**

**Takayuki Nonoyama, presiding**

- 9:10 3V01 Water-immiscible domain composite microgels for molecular separation carriers  
Takuma Kureha, Daisuke Suzuki
- 9:35 3V02 Improvement of a Tissue Clearing Method by Using Polyacrylamide Gel with 4-Styrenesulfonic Acid Sodium Salt  
Chie Kojima, Yuta Oono, Akikazu Matsumoto
- 10:00 3V03 Design of Multiple Stimuli-Responsive 4-Armed Polymers Exhibiting Sol-Gel Phase Transition and Their Phase Transition Behavior  
Akifumi Kawamura, Kohei Okuma, Kazuma Okita, Yosuke Natsume, Takashi

Miyata

**Shohei Ida, presiding**

- 10:25 3V04 Preparation of multi-stimuli responsive PEG hydrogels and their application to controlled protein release  
Akihiko Kikuchi, Yu Ando, Taka-Aki Asoh, Ryo Ishihara
- 10:50 3V05 Self-healing ion gels using multiple hydrogen bonding  
Ryota Tamate, Kei Hashimoto, Masayoshi Watanabe

**Room W**

**Wed. Sep 20**

**S19. Forefront of the development of bioplastics**

- 9:50 1WSO Introductory Remarks S19  
Hideki Yamane
- Takashi Aoki, presiding**
- 10:00 1W03 Development of environmentally-friendly functional polymer materials derived from cashew nut shell liquid (CNSL) as a non-food biomass  
Shinji Kanehashi, Kenji Ogino, Tetsuo Miyakoshi
- 10:25 1W04 Synthesis and characterization of novel biobased polyesters containing anthraquinone structure  
Tatsuya GOTO, Hideki ABE, Tadahisa IWATA
- 10:50 1W05 Synthesis of novel polyolefins from oleic acid  
Kazuhisa Ohtake, Junpei Kuwabara, Takaki Kanbara
- Kenji Ogino, presiding**
- 11:15 1W06 Polymerization of bifurfural produced by the dimerization of furfural  
Senri Hayashi, Yuya Tachibana, Ken-ichi Kasuya
- 11:40 1W07 Changes in the mechanical properties of DNA-derived films responding to relative humidity  
Takashi AOKI, Hidetaka MAKINO
- Hideki Yamane, presiding**
- 12:55 1W08IL Degradable polymers with low-temperature formability: Synthesis and characterization  
Ikuo Taniguchi
- 13:45 1W10 Polymerization of acrylate derivatives that are able to synthesize from biomass resources and characterization of obtained polymer.  
Yasumasa Takenaka, Hideki Abe
- 14:10 1W11 Conversion of cellulosic plastics into functional materials by structural design and processing  
Yoshikuni Teramoto
- Seiichi Taguchi, presiding**
- 14:35 1W12 Precise analysis for crystal morphology and crystallization of polyurea  
Go Matsuba, Takayuki Kobayashi, Yuta Chonan
- 15:00 1W13 Organogel-like properties of poly- $\epsilon$ -lysine-based bioplastic materials  
Yuichi Hakumai, Makoto Ashiuchi
- 15:25 1W14 Synthesis and compatibilizing ability of bio-based polyester-poly( $\epsilon$ -caprolactone) block copolymer  
Takafumi Oyama, Tatsuya Saito, Shingo Kobayashi, Takuya Isono, Takuya Yamamoto, Kenji Tajima, Toshifumi Satoh



**Go Matsuba, presiding**

- 15:50 1W15 Synthesis and properties of Segmented poly(urethane) containing oligo lactic acid as a building block  
DONGHO KIM,JINHO SEOK,MASAKI YAMAMOTO,KAZUNARI MASUTANI,YOSHIHARU KIMURA,HIDEKI YAMANE
- 16:15 1W16 Stereocomplexation of melt-spun fiber of segmented PLLA/PDLA blends  
Masaki Yamamoto,Felix Merkord,Kazunari Masutani,Yoshiharu Kimura,Hideki Yamane
- 16:40 1W17 Microbial secretion system of lactate-based oligomers for realizing short-cut process of polylactide synthesis  
Seiichi Taguchi

**Yoshikuni Teramoto, presiding**

- 17:05 1W18 Preparation and characterization of paramylon ester derivatives  
Hongyi Gan,Taizo Kabe,Takaaki Hikima,Masaki Takata,Tadahisa Iwata
- 17:30 1W19 Crystal Polymorphism of Poly(L-2-hydroxy-3-methylbutanoic acid)  
Hironori Marubayashi,Ryo Mizukami,Shuichi Nojima
- 17:55 1W20 Spider dragline silk materials reinforced by addition of polyalanine motifs  
Kousuke Tsuchiya,Takaaki Ishii,Keiji Numata

**Thu. Sep 21****S19. Forefront of the development of bioplastics****Takahiko Nakaoki, presiding**

- 9:10 2W01 Synthesis of Functional Bio-Based Polystyrenes using Various Styrene Monomers Derived from Naturally-Occurring Cinnamic Acids  
Hisaaki Takeshima,Kotaro Satoh,Masami Kamigaito
- 9:35 2W02 Novel Bio-Based Cycloolefin Polymers by Cationic Polymerization of Various Alicyclic Conjugated Dienes Synthesized from Natural Compounds  
Takenori NISHIDA,Kotaro SATOH,Masami KAMIGAITO
- 10:00 2W03 Synthesis and properties of biodegradable and bio-based polyester  
Yuya Tachibana,Masayuki Yamahata,Saori Kimura,Kohji Nagayama,Ken-ichi Kasuya
- 10:25 2W04 Chemical synthesis and biodegradation of copolymers using fermented (R)-3-hydroxybutyric acid  
Yutaka Tokiwa,Atsuyoshi Nakayama,Norioki Kawasaki,Naoko Yamano,Sayuri Ida,Takao Raku,Hiroto Yokaryo

**Yuya Tachibana, presiding**

- 10:50 2W05 Effects on Marine Biodegradation of Biodegradable Polymers  
Atsuyoshi Nakayama,Norioki Kawasaki,Naoko Yamano
- 11:15 2W06 Preparation of Comb-Like Polymers by Propargyl-Terminated Poly(hydroxyalkanoate)s and Improvement on Mechanical Strength of Bioplastics  
Toshiki Tamiya,Taka-Aki Asoh,Hiroshi Uyama
- 11:40 2W07 Block copolymerization of poly(3-hydroxyalkanoate) accumulated in microorganism  
Takahiko Nakaoki,Risa Yamagishi,Jyunya Yasui,Tomo Komaeda

**Atsuyoshi Nakayama, presiding**

- 12:55 2W08 Preparation of cellulose nano-fiber by enzymatic hydrolysis with mechanical processing, and its application  
Noriko Hayashi
- 13:20 2W09 One-pot synthesis of lignocellulosic biomass plastics using ionic liquid  
Shiori Suzuki,Hirose Daisuke,Kenji Takahashi
- 13:45 2W10 Elastic modulus of the crystalline regions of bio-based aromatic polyester

containing trimethylene units  
Yusuke Kikukawa, Takuya Matsumoto, Chizuru Hongo, Takashi Nishino

## **S20. Utilization of organic resources and conversion of polymeric materials to valuable resources**

- 15:40 2WSO Introductory Remarks S20  
Nobuhiro Kihara  
**Yuushou Nakayama, presiding**
- 15:50 2W15 Oxidative Polymerization Coating of Cellulose Micro/Nano-fibers and Properties of Composites  
Haruo Nishida
- 16:15 2W16 Preparation and thermal and mechanical properties of polyurethane foams derived from soda lignin  
Shigeo Hirose, Hidetaka Taneda, Shoichi Miyawaki, Yuji Matsumoto, Hyoe Hatakeyama
- 16:40 2W17 Surface Functionalization of Polyolefin in High Pressure Carbon Dioxide using Low Temperature Initiator  
Toru Hoshi, Junya Inage, Tatsuhito Ikeda, Harumi Ohno, Daiki Hagiwara, Takao Aoyagi

**Fri. Sep 22**

## **S20. Utilization of organic resources and conversion of polymeric materials to valuable resources**

**Suguru Motokucho, presiding**

- 9:35 3W02 Synthesis of Oligosulfide-containing Dynamic Covalent Polymers Using Direct Insertion Reactions of Elemental Sulfur  
Koki Ikuta, Akira Takahashi, Raita Goseki, Daisuke Aoki, Hideyuki Otsuka
- 10:00 3W03 Synthesis and characterization of sulfur-based polymer from elemental sulfur and algae oil  
Shuhei Oishi, Junpei Kuwabara, Ryo Omoda, Yuichi Aihara, Hideo Watanabe, Makoto Watanabe, Takaki Kanbara
- 10:25 3W04 Preparation of Reworkable Thiol-ene UV Curing System and Analysis of Chain Propagation  
Haruyuki Okamura, Kyohei Nakata, Akikazu Matsumoto

**Kazutoshi Ikenaga, presiding**

- 10:50 3W05 Synthesis, properties, and degradabilities of sequence-regular copolymers consisting of terephthalic acid, ethylene glycol, and hydroxycarboxylic acid  
Yuushou Nakayama, Wataru Yagumo, Yuji Kusu, Ryo Tanaka, Takeshi Shiono, Chikara Tsutsumi, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama
- 11:15 3W06 Fibrillation and composite preparation process of biomass using iPP-PAA by reactive processing  
Takayuki Tsukegi, Daisuke Sasaki, Haruo Nishida

**Nobuhiro Kihara, presiding**

- 11:40 3W07 Dismantlable Pressure-sensitive Adhesives Utilizing Reversible Photo-cross-linking  
Eriko Sato, Shusei Iki, Takashi Nishiyama, Hideo Horibe
- 12:55 3W08IL High Functionalization of Bio-based Amorphous Plastic  
Katsuhiko Yamanaka

**Haruyuki Okamura, presiding**

- 13:45 3W10 Development of recyclable CFRP using oxidatively degradable materials  
Kazuya Yanaze, Nobuhiro Kihara
- 14:10 3W11 Polyester-selective degradation of polyester-cotton mixed textile under  
pressurized microwave irradiation  
Kazutoshi Ikenaga, Koushiro Kuwamoto, Emika Ikeda

**Haruo Nishida, presiding**

- 14:35 3W12 Effect of chemical structure for hydrolysis of polyurethane under high  
pressure of carbon dioxide  
Suguru Motokucho, Yu Nakayama, Hisayuki Nakatani
- 15:00 3W13 Recycle of polystyrene containing flame retardant with a novel photo and  
thermal catalyst system  
Hisayuki Nakatani, Kanae Yamaguchi, Saki Arita, Suguru Motokucho
- 15:25 3W14 High performance and recycling technology of Expanded Polystyrene  
Michihiro Takeda

**Room X**

**Wed. Sep 20**

**S22. New development in precisely designed network polymers for materials with high performance and new functions**

- 9:50 1XSO Introductory Remarks S22  
Hisatoyo Morinaga, Atsushi Sudo
- Hisatoyo Morinaga, presiding**
- 10:00 1X03 Properties of bismaleimide resin modified with polyrotaxane as a stress  
relaxation material  
keiko Ohtsuka, Hajime Kimura, Morio Yonekawa, Changming Zhao, Kiyoshi  
Nishioka, Yusaku Masuhara, Kei Ishikura
- 10:25 1X04 Synthesis of Curable Hyperbranched Polymers Containing Dense Acetal Bonds  
Yoji Yamashita, Eriko Sato, Takashi Nishiyama, Hideo Horibe
- 10:50 1X05 Dismantlable Adhesion of Bacterial Cellulose Utilizing Supramolecular  
Bonding  
Moe Sugahara, Shun Takawa, Taka-Aki Asoh, Yoshinori Takashima, Akira  
Harada, Hiroshi Uyama
- Hiroshi Uyama, presiding**
- 11:15 1X06 Decomposition mechanisms of cured phenol resin in tetralin studied by  
Py-GC-MS and MALDI-MS in terms of its network structure analysis  
Ryota Kano, Hajime Ohtani
- 11:40 1X07 Structure and dynamics of cross-links in phenolic resins during curing  
process investigated by 1H-pulse NMR and SAXS  
Atsushi Izumi, Yasuyuki Shudo, Mitsuhiro Shibayama
- Keiko Ohtsuka, presiding**
- 12:55 1X08 GISAXS Analysis of Liquid Crystalline Epoxy Resin Cured on Ceramic Surface  
Shingo Tanaka, Fusao Hojo, Yoshitaka Takezawa, Kiyoshi Kanie, Atsushi  
Muramatsu
- 13:20 1X09 High Tg and high thermal conductive multifunctional mesogenic epoxy resin  
Yuuka Fujiwara, Daichi Morioka, Miyuki Harada
- 13:45 1X10 Analysis of Heterogeneous Curing Process in An Epoxy Network System

Mika Aoki,Atsuomi Shundo,Keiji Tanaka

**Eriko Sato, presiding**

- 14:10 1X11 The Effect of Curing Agent on Arrangement of Mesogenic Units and Thermal Conductivity of Liquid Crystalline Epoxy Resin  
Saki Ota,Kosuke Yamaguchi,Miyuki Harada
- 14:35 1X12 Synthesis of polyhydroxyl substituted calixarene derivatives for application of photosensitive materials  
Tsuyoshi Kawano,Kazuhiro Yamabuki,Kenjiro Onimura,Sadaaki Kuroiwa,Seichiro Takabayashi
- 15:00 1X13 Synthesis and Properties of Doubly Threading Rotaxane Cross-linked Polymer Using Macrocyclic Binuclear Palladium Complex  
Koji Yamamoto,Riku Nameki,Toshikazu Takata

**Miyuki Harada, presiding**

- 15:25 1X14 Synthesis and Crosslinking Reaction of Polyacetylenes Substituted with Benzoxazine Rings  
Masahide Goto,Yu Miyagi,Masaki Minami,Fumio Sanda
- 15:50 1X15 Toughening of epoxy resin by in situ polymerization to improve mechanical properties of carbon fiber reinforced plastics  
Jun Misumi,Toshiyuki Oyama
- 16:15 1X16 Toughening of thermoplastic elastomers by introduction of hydrogen bonds between hard and soft phases.  
Shuya Nakai,Shoma Yoshida,Hiroataka Ejima,Naoko Yoshie

**Naoko Yoshie, presiding**

- 16:40 1X17 Formation of Network Structure and Functionalization by Ene-Thiol Reactions of Maleimides Copolymers Containing Allyl Groups  
Ryohei Oban,Ryosuke Senba,Akikazu Matsumoto
- 17:05 1X18 Mechanistic Analysis and Achievement of High Strength of Metal-Resin Bonding with Epoxy Monolith  
Yuka Sugimoto,Akikazu Matsumoto
- 17:30 1X19 Development of thermosets with adjustable pot-life and their utilization in the formation of multi-polymer network  
Shunsuke Chatani

**Thu. Sep 21**

**S22. New development in precisely designed network polymers for materials with high performance and new functions**

**Fumio Sanda, presiding**

- 9:10 2X01 Synthesis of Carbon Fiber-Reinforced Plastics Using Thermosetting Epoxy Resins Containing Degradable Acetal Linkages  
Tamotsu Hashimoto,Yoshinori Kakichi,Ayaka Yamaguchi,Michio Urushisaki,Toshikazu Sakaguchi,Kazumasa Kawabe,Keiichi Kondo,Hirofumi Iyo
- 9:35 2X02 Preparation and Function of Organic-Inorganic Hybrid Materials from Phenolic Resins  
Naohiro YOSHIDA,Takafumi HAYASHI,Tada-aki YAMAGISHI,Tomoki OGOSHI,Takahiro KAKUTA
- 10:00 2X03 Development of Cross-linked Polymer Possessing Photoregulatable Thermal Degradability  
Jumpei Kida,Keiichi Imato,Raita Goseki,Daisuke Aoki,Masakazu Morimoto,Hideyuki Otuska

**Toshiyuki Oyama, presiding**

- 10:25 2X04 Reductive Decomposition of Cross-Linked Polyperoxides by Nitrogen-Containing Compounds with Thermal Latency  
Chisato Omori, Michihiro Yuri, Eriko Sato, Takashi Nishiyama, Hideo Horibe
- 10:50 2X05 Syntheses of Supramolecular Networks Consisting of 8-Arms Silsesquioxane Modified with a Crown Ether Derivative  
Ginta Yamane, Kazuhiro Yamabuki, Kenjiro Onimura
- 11:15 2X06 Synthesis of networked polymers with higher refractive index by polyaddition of thiols to bifunctional alkyne monomer containing spiro structure composed of sulfur atoms  
Naoto Aoyagi, Takeshi Endo
- 11:40 2X07 Synthesis of polyhydroxyurethanes from multi-functional six-membered cyclic carbonates and their application to networked films  
Hiroyuki Matsukizono, Takeshi Endo
- Akikazu Matsumoto, presiding**
- 12:55 2X08IL In-situ control of interface of nanostructured epoxy / block copolymer blends  
Hajime Kishi, Kazuyoshi Yamada
- Koji Arimitsu, presiding**
- 13:45 2X10 Crosslinking Effects on Linear and Volumetric Thermal Expansion Behaviors in Thermally and Photo-Crosslinkable Polyimide Films  
Mari Harada, Tomohiro Okada, Ryohei Ishige, Shinji Ando
- 14:10 2X11 Promotion of UV-induced radical polymerization by oxygen inhibition and its surface elasticity by nanoindentation  
Ryota Hayashi, Asuka Tsuneishi, Kentaro Taki
- 14:35 2X12 A kinetic investigation of effect of UV light source on network structure of UV-cured resin  
Kentaro Taki
- Hiroto Kudo, presiding**
- 15:00 2X13 Synthesis of N-substituted maleimide copolymers and their crosslinked polymers and their color-change based on acid-base switching  
Yoshiaki Yoshida, Takeshi Endo
- 15:25 2X14 Synthesis of Oxetane-based Networked Polymers Having Imidazolium Groups and their Application to Anion-Exchange Membranes  
Kozo Matsumoto, Takuya Yano, Shota Date, Takeshi Endo
- 15:50 2X15 Development of tough, and thermo-setting shape-recovery materials via solventless radical cyclocopolymerization  
Kazuki Chiba, Yoshimasa Matsumura, Bungo Ochiai
- Kozo Matsumoto, presiding**
- 16:15 2X16 Influence of curing agents on glass transition temperature and fracture toughness properties of mesogenic epoxy resins  
Kazumasa Fukuda, Naoki Maruyama, Yoshitaka Takezawa
- 16:40 2X17 Development of High Thermal Stable Curing Materials by Ring-opening Copolymerization of Caprolactam and Epoxide  
Hiroto Kudo, Kentaro Buya, Yu-ki Watanabe
- 17:05 2X18 Radical Cyclopolymerization Behavior of Trimethacrylate Bearing a Rigid Orthoester Core Derived from myo-Inositol  
Shusuke Okamoto, Kentaro Tanaka, Mika Morimoto, Atsushi Sudo

**Fri. Sep 22**

**S22. New development in precisely designed network polymers for materials with high performance and new functions**

**Naoto Aoyagi, presiding**

9:10	3X01	Multi-functional epoxides derived from limonene oxide and its cross-linking reaction <u>Hisatoyo Morinaga</u> , Mayu Sakamoto
9:35	3X02	Synthesis of Reactive Polymers Bearing Hydroxyl Groups in the Side Chains from myo-Inositol <u>Atsushi Sudo</u> , Kohei Kaiba, Takuya Takahashi
10:00	3X03	UV Hardcoating Materials Utilizing Benzoin Derivatives as Photobase Generators Liberating Radicals and Bases. <u>Kiwamu Terada</u> , Masahiro Furutani, Koji Arimitsu
<b>Atsushi Sudo, presiding</b>		
10:25	3X04	Development of adhesive films using anionic UV curing of thiol/epoxy mixed resins <u>Erika Iwata</u> , Masahiro Furutani, Koji Arimitsu, Yumiko Oto, Toshimitsu Moriya, Hiroyuki Izawa
10:50	3X05	UV curing of organic-inorganic hybrid coating films having gradient structure via segregation of siloxane resins <u>Ayano Sasaki</u> , Koki Takeue, Masahiro Furutani, Koji Arimitsu
11:15	3X06	Properties of photoreactive materials using nonionic photobase generators generating strong bases <u>Keijiro Ohbora</u> , Masahiro Furutani, Koji Arimitsu
11:40	3X07	Enhancement of the photosensitivity of cationic UV curing materials by acid amplifiers generating superacids <u>Kyohei Akiyama</u> , Masahiro Furutani, Koji Arimitsu

## Room Y

**Wed. Sep 20**

### F. INDUSTRIAL POLYMERS AND TECHNOLOGY

#### **Masatoshi Hasegawa, presiding**

10:00	1Y03	Birefringence Evaluation Method of Shear-deformed Pressure Sensitive Adhesive <u>Yasuyuki Niino</u> , Masashi Hagiwara, Hiroyuki Ogawa, Sumihisa Oda, Akihiro Tagaya, Yasuhiro Koike
10:25	1Y04	Application of a mixture of poly(olefin sulfone)s and a photobase generator to solvent-free photo-dismantlable adhesives. <u>Shintaro Ono</u> , Takeo Sasaki, van Khoa Le
10:50	1Y05	Stabilization of polyoxymethylene by hydrazide compounds studied by high-resolution MALDI-MS <u>Tetsuma Nishioka</u> , Hajime Ohtani, Kazufumi Watanabe

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

11:15	1Y06	Heat-resistant Transparent Aromatic Poly(ester imide)s with low CTE as Plastic Substrate Materials in Image Display Devices <u>Masatoshi Hasegawa</u> , Tomoki Hirai, Tomohiro Ishigami, Shinya Takahashi, Junichi Ishii
11:40	1Y07	Organo-Soluble Low CTE Polyimides (6). Applications of Cover Layer Materials in Flexible Printed Circuit Boards <u>Junichi ISHII</u> , Naoki YOKOYAMA, Fumiya HAYASHI, Masatoshi HASEGAWA

#### **Kiyomi Fuchigami, presiding**

12:55	1Y08	Analysis of two layer polymer melt flow using a multiscale simulation <u>Takuya Kishida</u> , Takashi Taniguchi
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- 13:20 1Y09 Influence of Ambient Liquid on an In-liquid Electrospinning of Cellulose Acetate  
Masahiro Tsuchiya, Akihiro Wakisaka, Hitomi Kobara, Shuto Yamada
- 13:45 1Y10 Direct Electrospinning of Cyclodextrin for Fabrication of Functional Fiber Materials  
Hiroaki Yoshida
- Masahiro Tsuchiya, presiding**
- 14:10 1Y11 Direct Electrospinning of Cyclic Compounds with Urea Skeleton  
Koki Miyazawa, Hiroaki Yoshida, Toshiyuki Kida
- 14:35 1Y12 Formation of mesoscopic structure on polymer film surface using atomic hydrogen and its surface properties  
Takashi Nishiyama, Seiji Takagi, Masashi Yamamoto, Eriko Sato, Toshiyuki Ogata, Hideo Horibe
- 15:00 1Y13 Synthesis and Physical Properties of Polymeric Silane Coupling Agents Consisting of Diblock Copolymers  
Tomomi Hachiken, Sakie Yamauchi, Kiyomi Fuchigami, Kosuke Kaneko, Tomonori Hanasaki
- Hiroaki Yoshida, presiding**
- 15:25 1Y14 Characterizations of Silver Nanowires  
Yasunao Miyamura, Hitomi Ueno, Yasushi Kadowaki, Masanao Hara
- 15:50 1Y15 Creation and Control of Strong and Tough Composite Material Possessing a Macroscale Double Network Structure  
Tsuyoshi Okumura, Riku Takahashi, King Daniel R, Tasuku Nakajima, Taolin Sun, Takayuki Nonoyama, Takayuki Kurokawa, JianPing Gong
- 16:15 1Y16 Polymer grafting onto surface of inorganic particles using nitroxide-terminated polymers with various molecular weight  
Ryo Yukioka, Masahiro Furutani, Koji Arimitsu, Hiroshi Yoshitani, Shoji Nozato, Akira Nakasuga
- 16:40 1Y17 Preparation of surface-modified titania particles with polysilanes and their application to self-cleaning materials  
Miki Kudo, Masahiro Furutani, Koji Arimitsu

**Thu. Sep 21**

## **F. INDUSTRIAL POLYMERS AND TECHNOLOGY**

### **Hiroharu Ajiro, presiding**

- 9:10 2Y01 Study of degradation of natural rubber and steel cord composites by thermal and water aging  
Hidetoshi Hirahara, Koh Sasaki, Sumio Aisawa, Jing Sang
- 9:35 2Y02 UV adhesion using polymer materials including disulfide bond and their thermal dismantlement  
Masahiro Furutani, Kaoru Endo, Ayaru Kakinuma, Koji Arimitsu
- 10:00 2Y03 Amplification of the wettability for azobenzene-bearing polymer blend films by their photo-induced phase transition  
Kazuki Tange, Masahiro Furutani, Koji Arimitsu

### **Kazuhiro Yamazaki, presiding**

- 10:25 2Y04 Investigation of Thermosensitive Behavior of Poly(N-vinylamide) Derivatives Bearing Alkyl or Ethylene Glycol Groups for Development of Kinetic Hydrate Inhibitor  
Ryo KAWATANI, Hiroharu AJIRO
- 10:50 2Y05 Computational Analyses of Detachment Force at the Interface between Carbon Fibers and Epoxy Resin  
Kazuki Mori, Sukeharu Nomoto, Jun Koyanagi
- 11:15 2Y06 Delamination of anisotropic thermal conductive fillers by wet type jet milling

Yusuke Imai,Yuichi Tominaga,Yuji Hotta

## **E. POLYMERS AND ENVIRONMENT**

### **Hideki Abe, presiding**

- 12:55 2Y08 Direct Methylenation of Polycaprolactone and Transformation into Other Functional Groups by Thiol-ene Reaction  
Hiroshi YAMASHITA,Toru HOSHI,Takao AOYAGI
- 13:20 2Y09 Physical Property Evaluation of Composite Materials Consisting of Bacterial Cellulose Grafted Poly( $\epsilon$ -Caprolactone)  
Yuichi Kida,Toru Hoshi,Takao Aoyagi
- 13:45 2Y10 Mechanical property of poly(butylene succinate) composites with oriented cellulose-acetate nanofibers  
Naruki Kurokawa,Shunta Kimura,Atsushi Hotta
- 14:10 2Y11 Optimization of process parameter for graft copolymerization of glycidyl methacrylate onto delignified kenaf fibers  
Nor Azillah Fatimah Othman,Zulkafli Ghazali,Tuan Amran Tuan Abdullah,Sarala Selambakkannu

### **Tadahisa Iwata, presiding**

- 14:35 2Y12 Biodegradable polymer blends with amorphous poly(ethylene carbonate) and crystalline poly(lactic acid)  
Nur Azrini Binti RAMLEE,Yoichi TOMINAGA
- 15:00 2Y13 Structure-property relationships of poly(ethylene carbonate) and poly(propylene carbonate)  
Yuji Sasanuma,Yuta Takahashi
- 15:25 2Y14 Ring opening polymerization of cyclic carbonate over H3PW12O40/CeO2 catalyst  
Masayoshi Honda,Hideki Abe

**Fri. Sep 22**

## **E. POLYMERS AND ENVIRONMENT**

### **Hiroharu Ajiro, presiding**

- 9:10 3Y01 Adsorption properties of palladium(II) on polystyrenic  $\mu$ -balls bearing theophylline residues  
Katsuya Kaikake,Takada Masafumi,daiki Soma,Yusuke Ichinokido,Ren-Hua Jin
- 9:35 3Y02 Synthesis and characterization of alginic acid derivatives  
Yusuke Matsumoto,Daisuke Ishii,Satoshi Kimura,Tadahisa Iwata
- 10:00 3Y03 Study on Coating of Urushi with Base  
Makoto IKENAGA,yoichi TACHIBANA,Sakihito KITAJIMA

### **Satoshi Kimura, presiding**

- 10:25 3Y04 Synthesis and Evaluation of Cellulose Derivatives in Ionic Liquids (VI) - Reuse of Ionic Liquid-  
Hideki Hanabusa,Yuko Takeoka,Masahiro Rikukawa,Masahiro Fujita
- 10:50 3Y05 Substrate recognition mechanism of poly(Asp) hydrolase  
Tomohiro Hiraishi,Tamao Hisano,Hideki Abe,Yoshitsugu Shiro,Mizuo Maeda
- 11:15 3Y06 Synthesis and property of novel bio-based polyurethane using vanillin derivatives  
Koichiro Tachibana,Hideki Abe
- 11:40 3Y07 Preparation of polylactide bearing hydroxymethylfurfural possessing



**Room Z**

**Wed. Sep 20**

**S23. Our forthcoming future depicted by 3D printed polymers**

- 9:50 1ZSO Introductory Remarks S23  
Kentaro Taki
- Hidemitsu Furukawa, presiding**
- 10:00 1Z03 Approach for 3D print materials made from polymer composites containing anisotropic particles.  
Yoshito ANDO, Kubra EKUSILER, Minoru YOSHIHIRO, Hidekazu NISHIGUCHI
- 10:25 1Z04 Correlation between 3D printing and structure analysis  
Go Matsuba
- 10:50 1Z05 Energy-storage Crystalline Gels for Light Polymerized 3D Printing  
Jin Gong, Yuchen Mao, Takuya Miyazaki, Kouhei Sakai
- Go Matsuba, presiding**
- 11:15 1Z06 Development of 3D gel organ model for radiation dosimetry by 3D printing technology  
Shota Inoue, Kazuyuki Sakai, Hidemitsu Furukawa, Masaru Kawakami
- 11:40 1Z07 Sphere molding with biocompatible and flexible elastomer  
Kazunari Yoshida, Masaru Kawakami, Hidemitsu Furukawa
- Kentaro Taki, presiding**
- 12:55 1Z08IL 3D printing for STEM education  
Masato Makino, Mai Kodama, Kyuuichiro Takamatsu, Hideaki Tamate, Kazuya Yoshida, Azusa Saito, Kazuyuki Sakai, Ajit Khosla, Masaru Kawakami, Hidemitsu Furukawa
- 13:45 1Z10 Drop&dry polymer film fabrication and its application to piezoelectric polymer printer development  
Noriyasu Yamada, Atsuki Shiratori, Go Murasawa
- 14:10 1Z11 Development of opensource 3D gel printer "RepRap SWIM-ER"  
Kei Sato, Samiul Basher, Mizuki Takahashi, Takafumi Ota, Taishi Tase, Kyuichiro Takamatsu, Azusa Saito, Masaru Kawakami, Hidemitsu Furukawa
- Go Murasawa, presiding**
- 14:35 1Z12 Mechanical properties of gel molded with 3D gel printer  
Azusa Saito, Takafumi Ota, Taishi Tase, Kei Sato, Masanobu Tanaka, Kazunari Yoshida, Masaru Kawakami, Hidemitsu Furukawa
- 15:00 1Z13 Soft-matter Robotics Developed by 3D Gel Printer  
Masaru Kawakami, Ajit Khosla, Masato Makino, Kazuyuki Sakai, Azusa Saito, Kazunari Yoshida, Kyuichiro Takamatsu, Mai Kodama, Hideaki Tamate, Hidemitsu Furukawa
- 15:25 1Z14 Development of Multi Material 3D Printing  
Samiul Basher, Kumkum Ahmed, Azusa Saito, Masaru Kawakami, Hidemitsu Furukawa
- Jin Gong, presiding**
- 15:50 1Z15 Bio 3D printer-assisted fabrication of 3D tissue by using multicellular spheroids as building block

- Kazuaki Ninomiya
- 16:15 1Z16 Development of 3D food printer for high-viscosity food materials  
Mai Kodama,Ryou Ishigaki,Yumiko Takita,Hideaki Tamate,Azusa Saitou,Masaru Kawakami,Hidemitsu Furukawa
- 16:40 1Z17 A numerical simulation of CLIP 3D printer  
Kentaro Taki

**Thu. Sep 21**

**S21. Photo & Electronics Based on Nanostructures: Current Situation and the Future of Materials Development and Manufacturing Process**

- 9:00 2ZSO Introductory Remarks S21  
Teruaki Hayakawa,Motoi Kinoshita  
**Teruaki Hayakawa, presiding**
- 9:10 2Z01IL Current Status and Prospect for Extreme Ultraviolet Lithography  
Takeo Watanabe  
**Masaru Nakagawa, presiding**
- 10:00 2Z03 Development of Tellurium Containing Resist Materials for Extreme Ultraviolet Laser Photoresist system  
Mari Fukunaga,Hiroto Kudo
- 10:25 2Z04 Development of High Sensitive Extreme Ultraviolet Resist Materials based on Tannic acid  
Kento Hira,Hiroto Kudo  
**Hiroto Kudo, presiding**
- 10:50 2Z05 Organic/inorganic hybridization of positive-tone electron beam resists by sequential infiltration synthesis  
Yuki Ozaki,Shunya Ito,Nobuya Hiroshiba,Takahiro Nakamura,Masaru Nakagawa
- 11:15 2Z06 Selection of a fluorescent dye suitable for in-liquid fluorescence alignment in UV nanoimprint  
Kento OCHIAI,Mari KUMAGAI,Eri KIKUCHI,Takahiro NAKAMURA,Masaru NAKAGAWA
- 11:40 2Z07 Formation of surface relief based on local photopolymerization  
Takashi Ubukata,Sachiko Imura,Taishi Sonoda,Megumi Nakayama,Youta Iwamoto  
**Akira Watanabe, presiding**
- 12:55 2Z08 Fluidity of a low-viscosity diacrylate monomer in nano-gap between silica surfaces evaluated by surface forces and resonance shear measurements  
Shunya Ito,Motohiro Kasuya,Kazue Kurihara,Masaru Nakagawa
- 13:20 2Z09 Photomechanical behaviors observed for hybrid systems including photochromic amorphous molecular materials  
Hideyuki Nakano,Ryoji Ichikawa,Tomohisa Iwashita,Ryota Ichikawa,Ayame Kitano
- 13:45 2Z10 Electrochromic devices using metallo-supramolecular polymer  
Masayoshi Higuchi  
**Takashi Ubukata, presiding**
- 14:10 2Z11 Development of electro-optic chromophores and polymers for applications to ultra-high speed optical modulator and THz wave generation and detection devices  
Toshiki Yamada,Isao Aoki,Yoshihiro Takagi,Chiyumi Yamada,Takahiro Kaji,Maya Mizuno,Shingo Saito,Akira Otomo

- 14:35 2Z12 Fluorescence sensor based on PET (photo-induced electron transfer) and AIEE (aggregation-induced emission enhancement) for detection of water  
Yousuke Ooyama
- 15:00 2Z13 Device fabrication on a flexible material via on-demand process based on laser direct writing  
Akira Watanabe, Jinguang Cai
- Motoi Kinoshita, presiding**
- 15:25 2Z14 Inkjet-printed conductive lines on polymer nanosheets towards the application of neuronal electrodes  
Toshinori Fujie, Nana Kokubo, Kento Yamagishi, Shinji Takeoka, Hiroyuki Ohta
- 15:50 2Z15 Surface strain analysis of bending polymer films toward process innovation in development of flexible devices  
Atsushi Shishido, Norihisa Akamatsu, Ryo Taguchi, Kohei Yamada, Kayoko Tokumitsu
- 16:15 2Z16 Electric properties of DNA-surfactant complex with different chain length and application for organic TFT device.  
Kaoru Oka, Taiki Nobeshima, Sei Uemura, Kazuki Nakamura, Norihisa Kobayashi
- Kazuki Nakamura, presiding**
- 16:40 2Z17 Circular Dichroism Spectrum in the Photo-Excited Triplet State of Chiral pi-Electron System  
MAKOTO KURONUMA, TAKEHITO SATO, YOTA KIKUCHI, YASUYUKI ARAKI, TADASHI MORI, TAKEHIKO WADA
- 17:05 2Z18 Light-Controlling Materials with Alcoxycyanobiphenyl Liquid Crystals  
Motoi Kinoshita, Yuta Sekiguchi, Daiki Hosonuma, Mana Sugiyama

## **Fri. Sep 22**

### **S21. Photo & Electronics Based on Nanostructures: Current Situation and the Future of Materials Development and Manufacturing Process**

#### **Shusaku Nagano, presiding**

- 9:10 3Z01 Evaluation method for printing properties of a small amount of metal nanoinks by utilizing needle-type microdispenser  
Yukiyasu Kashiwagi, Masashi Saitoh, Takahiro Hasegawa, Masaya Chigane
- 9:35 3Z02 Preparation of Photocrosslinked Polysilane/dinaphthylfluorene Blended Films with High Reflective Indices and Control of Polymer Networks and Refractive Indices by Photolysis  
Haruyuki Okamura, Kaai Degawa, Akikazu Matsumoto, Keiko Minokami, Shinsuke Miyauchi
- 10:00 3Z03 Anisotropy in Photoconductivity of Polyimide Films Containing Diphenyl-Benzidine Structure and the Relations with Molecular Orientation and Aggregation Structures  
Chiaki Takemasa, Teppei Chino, Sho Fukuchi, Shigeo Asai, Ryohei Ishige, Shinji Ando

#### **Toshihiro Okamoto, presiding**

- 10:25 3Z04 Synthesis of cyclic polymers consisting only of 3HT units and complexation with single-walled carbon nanotubes  
Minato Nakamura, Masaaki Hosokawa, Takuya Yamamoto
- 10:50 3Z05 White-Color Luminescence from a Single Liquid-Crystalline Polymer Exhibiting Color Sensitivity to the Aggregated Structure of Luminophores  
Osama Younis, Fumika Mitsuhashi, Osamu Tsutsumi

#### **Teruaki Hayakawa, presiding**

- 11:15 3Z06 Understanding the impact of polystyrene side chain arrangement on the

- all-polymer solar cell performance  
Tadanori Kurosawa, Xiaodan Gu, Zhenan Bao
- 11:40 3Z07 Creation of high performance organic semiconductor single crystalline thin-film by solution crystallized technique  
Toshihiro Okamoto, Masato Mitani, Tatsuyuki Makita, Tadanori Kurosawa, Jun Takeya
- Tadanori Kurosawa, presiding**
- 12:55 3Z08 Nanostructure Formation Using Phase Transitions of Lyotropic Liquid Crystals in Polymer Films  
Mitsuo Hara, Taiki Orito, Naoyuki Wakitani, Shusaku Nagano, Takahiro Seki
- 13:20 3Z09 Defect Dynamics in DSA Micro-phase Separation Process  
Katsuyoshi Kodera, Tsukasa Azuma Yuriko Seino, Hironobu Sato Yusuke Kasahara, Phubes Jiravanichsakul, Masayuki Shiraishi, Ken Miyagi, Ryota Matsuki, Terumasa Kosaka Toshiyuki Himi, Seiji Nagahara, Kenji Yoshimoto, Takuya Omosu, Mikito Takenaka, Ryuichi Nakatani, Alvin Chandra, Teruaki Hayakawa
- Mikihito Takenaka, presiding**
- 13:45 3Z10 Time-Lapsed Atomic Force Microscopy Observations of the Evolution of Perpendicular Lamellae in Thermally-Annealed Block Copolymer Thin Films  
Alvin Chandra, Ryuichi Nakatani, Yuriko Seino, Hironobu Sato, Yuusuke Kasahara, Phubes Jiravanichsakul, Tsukasa Azuma, Teruaki Hayakawa
- 14:10 3Z11 Construction of nano phase separation structure in poly (*N*-dodecylacrylamide)-*b*-poly (ethylene glycol) thin film via humid annealing  
Kohei Matsunaga, Jun Matsui, Shunsuke Yamamoto, Masaya Mitsuishi, Shusaku Nagano
- Jun Matsui, presiding**
- 14:35 3Z12 Analysis of self-assembling processes in blockcopolymer with GISAXS  
Takuya Omosu, Mikihito Takenaka, Hitoki Ogawa, Kenji Yoshimoto, Tsukasa Azuma, Katsuyoshi Kodera
- 15:00 3Z13 Visualization of Directed Self-Assembly Process by in-situ AFM  
Kenji Yoshimoto, Alvin Chandra, Ryuichi Nakatani, Teruaki Hayakawa, Mikihito Takenaka, Tsukasa Azuma

## Room ESA

**Wed. Sep 20**

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

#### Zhoomin Hou, presiding

- 10:00 1ESA03 Monomer sequence control in vinyl polymers using metal-organic frameworks  
Shuto Mochizuki, Susumu Kitagawa, Takashi Uemura
- 10:25 1ESA04 Polymerization of polystyrene by the borane approach  
Chao Zhao

#### Yoshihiro Ohta, presiding

- 10:50 1ESA05 Heteroatom-assisted olefin polymerization by rare-earth metal catalysts  
Chunxiang Wang, Gen Luo, Masayoshi Nishiura, Guoyong Song, Atsushi Yamamoto, Yi Luo, Zhaomin Hou
- 11:15 1ESA06 Rare-Earth-Catalyzed Syndiotactic Polymerization of Styrene Using Pyridines as Chain Transfer Agents  
 Atsushi Yamamoto, Masayoshi Nishiura, Fan Liu, Yi Luo, Zhaomin Hou

11:40 1ESA07 Rare-Earth-Catalyzed Tandem C-H Polyaddition and Macromolecular Chain Transfer Polymerization of Styrene, Ethylene and Isoprene  
Yang YANG, Masayoshi NISHIURA, Zhaomin HOU

**Japan-Korea Joint Session**

**Ikuyoshi Tomita, presiding**

12:55 1ESA08ILY Precision Self-Assembly and Self-Sorting of Amphiphilic Random Copolymers  
Takaya Terashima

13:20 1ESA09ILY Simple Preparation of Soluble Graphene and Carbon Dots using Polymer Chemistry  
Insik In, Yujin Choi, Ari Chae, Sungho Jo

13:45 1ESA10ILY Advances in Pd-initiated polymerization of diazoacetates: From variety of functional groups, living polymerization system, to high stereoregularity  
Hiroaki Shimomoto

14:10 1ESA11ILY Synthesis of nucleic acid-based multi-functional biomaterials  
Jong Bum Lee, Hyejin Kim

**Kazuo Sakurai, presiding**

14:35 1ESA12ILY Advantages of Vapor-Phase Assisted Surface Polymerization (VASP) at a fine surface of lignocellulosic biomass  
Yoshito Ando

15:00 1ESA13ILY Multilayered Nano-Films for Stem Cell Technology  
Jinkee Hong

15:25 1ESA14ILY Precise Supramolecular Polymerization  
Daigo Miyajima

15:50 1ESA15ILY Synthesis of Nanoparticles and Polysiloxanes for Stable Superhydrophobic Surfaces over a Wide Range Temperature  
Dong Yun Lee

**Kenji Ogino, presiding**

16:15 1ESA16 Synthesis of dye-containing polymers using polycondensation via aerobic oxidative coupling reaction  
Alanna Faradhiyani, Junpei Kuwabara, Takaki Kanbara

16:40 1ESA17 Alternating Copolymerization of Ethylene with Anisyl Functionalized Propylene by a Scandium Catalyst.  
Haobing Wang, Masayoshi NISHIURA, Zhaomin Hou

**Takaki Kanbara, presiding**

17:05 1ESA18 Synthesis of Poly(triphenylamine) via C-N Coupling Catalyzed by Mono(phosphine)palladium Complex  
Syu Kikuchi, Shinji Kanehashi, Kenji Ogino

17:30 1ESA19 Development of Single Polynorbornene Chain Supported Half-Metallocene Catalysts to Embody Catalytic Multifunctionality in Ethylene Polymerization  
Ashutosh Thakur, Ryuki Baba, Minoru Terano, Toshiaki Taniike

17:55 1ESA20 Controlled synthesis of oligoalanine-incorporated multi-block copolymer by phosgene-free system  
Shuhei Yamada, Yusuke Shiraki, Takeshi Endo

**Thu. Sep 21**

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

**Toshifumi Satoh, presiding**

9:10 2ESA01 Re-examination of Amino Acid NCA Polymerization 81. Solutions to several problems in the polymerization of amino acid NCAs.  
Hitoshi Kanazawa, Aya Inada

- 9:35 2ESA02 Synthesis of poly(arylene alkylene) utilizing Pd-catalyzed polycondensation  
Liyi Tan, Daisuke Takeuchi, Khotaro Osakada
- 10:00 2ESA03 Formation of Graphene Nanoribbon Mediated by Coordination Nanospaces  
Michael MacLean, Takashi Kitao, Ryoto Hongu, Susumu Kitagawa, Takashi Uemura
- 10:25 2ESA04 Macromolecular Helicity Induction and Memory in Poly(biphenylacetylene) Derivatives with Chiral Ammonium Salts and Their Chiral Amplification Behavior  
Mai MORIKAWA, Daisuke HIROSE, Tatsuya NISHIMURA, Shigeyoshi KANO, Eiji YASHIMA, Katsuhiko MAEDA

**Daisuke Takeuchi, presiding**

- 10:50 2ESA05 Synthesis and Morphology Study of Polysiloxane-based Triblock Copolymers  
Lei Dong, Odashima Rin, Takehiro Seshimo, Teruaki Hayakawa
- 11:15 2ESA06 Grafting poly(3-hexylthiophene) to the surface of polypropylene  
Thien An Phung Hai
- 11:40 2ESA07 Novel Synthetic Strategy for Multicyclic Polymers Based on Intramolecular Consecutive Cyclization  
Kohei Honda, Yoshinobu Mato, Takuya Isono, Takuya Yamamoto, Kenji Tajima, Toshifumi Satoh

**Hideyuki Otsuka, presiding**

- 12:55 2ESA08 Self-replicating reaction based on supramolecular polymerization  
Daigo Miyajima, Chen Zhen, Ayumi Imayoshi, Takuzo Aida
- 13:20 2ESA09 Supramolecular Block Copolymers Formed by Solid-state Supramolecular Polymerization  
Yukinaga Suzuki, Daigo Miyajima, Takuzo Aida
- 13:45 2ESA10 Microwave-assisted synthesis of high-performance electrochromic Ru(II)-based metallosupramolecular polymer  
Utpal Rana, Yuko Saito, Kazuhiko Takeuchi, Ritsuko Nagahata, Masayoshi Higuchi
- 14:10 2ESA11 Polymers in a Flexible Metal-Organic Framework: Competition between Guest-Induced Opening and Self-Closing  
Benjamin Le Ouay, Susumu Kitagawa, Takashi Uemura

**Masayoshi Higuchi, presiding**

- 14:35 2ESA12 Ultra-long Room-temperature Phosphorescence from Poly(Styrene Sulfonic Acid) in Dry Solid State  
Hiromu TSUCHIDA, Tomoki OGOSHI, Takahiro KAKUTA, Tada-aki YAMAGISHI, Ai TAEMA, Toshikazu ONO, Manabu SUGIMOTO, Motohiro MIZUNO
- 15:00 2ESA13 Polymerization of Atom Mimicking Phenylazomethine Dendrimer  
Ken Albrecht, Yuki Hirabayashi, Masaya Otake, Shin Mendori, Yuta Tobari, Kimihisa Yamamoto
- 15:25 2ESA14 Freezing-induced Mechanoluminescence of Cross-linked Polymer Gels with Tetraarylsuccinonitrile  
Sota Kato, Kuniaki Ishizuki, Raita Goseki, Daisuke Aoki, Hideyuki Otsuka
- 15:50 2ESA15 Modification of Epoxy Resins Based on Phenylboronic Acid / Diethanolamine Dynamic Covalent Chemistry  
Yumiko Ito, Jumpei Kida, Daisuke Aoki, Hideyuki Otsuka

**Fri. Sep 22**

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

**Tomoyuki Ikai, presiding**

- 9:10 3ESA01 Mesophase formation and rapid crystallization of poly(L-lactic acid) during

- precipitation  
Syazwan Muhammad, Takashi Sasaki
- 9:35 3ESA02 Molecular design of bio-based polyamides with super-high mechanical toughness and structure-property relationships  
Yohei Yoshinaka, Seiji Tateyama, Kenji Takada, Tatsuo Kaneko
- Shinichi Sakurai, presiding**
- 10:00 3ESA03 Mechanical and viscoelastic properties of natural rubber prepared with a nanodiamond nanomatrix structure  
Asangi Gannoruwa, Seichi Kawahara
- 10:25 3ESA04 Toughened Poly(lactic acid)/Poly(trimethylene terephthalate) blends with Poly(ethylene-co-glycidyl methacrylate) by two-step melt blending  
Katanyu Kultravut, Keiichi Kuboyama, Toshiaki Ougizawa
- Seiichi Kawahara, presiding**
- 10:50 3ESA05 Effects of a Liquid-type Nucleation Agent on Crystallization of Poly(L-lactic Acid)  
Diep Thi Ngoc Pham, Masatsugu Mochizuki, Mikio Doi, Hideaki Takagi, Nobutaka Shimizu, Noriyuki Igarashi, Sono Sasaki, Shinichi Sakurai
- 11:15 3ESA06 Grain Coarsening Near the Free Surface of a Thin Film of a Triblock Copolymer  
Rasha Bayomi, Hideaki Takagi, Nobutaka Shimizu, Noriyuki Igarashi, Sono Sasaki, Shinichi Sakurai
- 11:40 3ESA07 Stimuli-responsive properties of poly(sulfobetaine-co-carboxybetaine) and their derivatives  
Jongmin Lim, Hideki Matsuoka
- Ken Terao, presiding**
- 12:55 3ESA08 Investigation of the equilibrium thermodynamic properties of the poly(vinylidene fluoride)/N-methyl-2-pyrrolidone/water ternary system: all-atom molecular dynamics simulation  
Tsedem Taddese, Masahiro Kitabata, Susumu Okazaki
- 13:20 3ESA09 preparation of polystyrene based organogels in limonene as drug storage  
Preeyarad Charoensumran, Hiroharu Ajiro
- Susumu Okazaki, presiding**
- 13:45 3ESA10 Chain Dimensions and Stiffness of Cellulosic and Amylose Chains in an Ionic Liquid: Cellulose, Amylose, and an Amylose Carbamate in BmimCl  
Ken Terao, Xinyue Jiang, Shinichi Kitamura, Takahiro Sato
- 14:10 3ESA11 Lyotropic Liquid Crystallinity of Linear and Cyclic Amylose Alkylcarbamate Derivatives  
DongChan KIM, Akiyuki RYOKI, Shinichi KITAMURA, Ken TERAO
- 14:35 3ESA12 Conformational properties of linear and cyclic amylose tris(n-octadecylcarbamate) in solution  
Akiyuki RYOKI, DongChan KIM, Shinichi KITAMURA, Ken TERAO

<b>Room ESB</b>
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**Wed. Sep 20**

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

**Takeshi Sakamoto, presiding**

- 10:00 1ESB03 Syntheses of super-anisotropic sacran hydrogels by two-step cross-linking  
Kittima Amornwachirabodee, Maiko Okajima, Tatsuo Kaneko
- 10:25 1ESB04 Analysis of surface and bulk properties of surface grafted gels depending

- on graft density  
Ko Matsukawa, Tsukuru Masuda, Aya Mizutani Akimoto, Ryo Yoshida
- 10:50 1ESB05 Scaling Hydrogel Toughness Through Composite Designs  
Daniel Rudolf King, Yiwan Huang, Tao Lin Sun, Takayuki Kurokawa, Jian Ping Gong
- Yukio Nagasaki, presiding**
- 11:15 1ESB06 Thermo-Electrochemical Cell Development by Using Temperature Responsive Nanogel  
Benshuai Guo, Yu Hoshino, Teppei Yamada, Yoshiko Miura
- 11:40 1ESB07 Latent heat energy storage crystalline gels  
Yuchen Mao, Takuya Miyazaki, Jin Gong, Meifang Zhu
- Teppei Yamada, presiding**
- 12:55 1ESB08 Development of Water Treatment Membranes for Virus Rejection Preserving Bicontinuous Cubic Structures  
Daniel KUO, NICHOLAS MARETS, Jason TORREY, Takeshi SAKAMOTO, Masahiro HENMI, Hiroyuki KATAYAMA, Takashi KATO
- 13:20 1ESB09 Development of Nanostructured Liquid-Crystalline Polymer Membranes for Water Treatment  
Takeshi SAKAMOTO, Takafumi OGAWA, Hiroki NADA, Koji NAKATSUJI, Takao SASAKI, Masahiro KIMURA, Masafumi YOSHIO, Masahiro HENMI, Takashi KATO
- 13:45 1ESB10 Enhanced adhesive property of polymer nanosheets to biological tissue by polydopamine modification  
Isao Takahashi, Kento Yamagishi, Shinji Takeoka, Toshinori Fujie
- 14:10 1ESB11 Perfectly alternating donor-acceptor architecture mediated by coordination nanospaces  
Takashi Kitao, Susumu Kitagawa, Takashi Uemura
- Hiromitsu Sogawa, presiding**
- 14:35 1ESB12 Controlled Synthesis of Anisotropic Polymer Particles Templated by Metal-Organic Frameworks  
Alexandre Legrand, Takashi Kitao, Takashi Uemura
- 15:00 1ESB13 Adsorption Behavior of Metallic Ions onto Thiol-containing Silane Modified Liquid Crystal Polymer  
Dexin Chen, Hidetoshi Hirahara, Sumio Aisawa, Jing Sang, Zhixin Kang
- 15:25 1ESB14 Influence of resins surface thermal characteristics on the adhesion properties of resins and different materials  
JING SANG, SUMIO AISAWA, KAORU OGAWA, HIROYUKI KAWAMURA, KUNIO MORI, HIDETOSHI HIRAHARA
- 15:50 1ESB15 A highly stretchable slide-ring gel based on the water-soluble polyrotaxane with low cyclodextrin coverage  
Lan Jiang, Chang Liu, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito
- Takashi Kitao, presiding**
- 16:15 1ESB16 Tough and Self-Healing Elastomers Based on Sacrificial Bonds Concept  
Liang CHEN, Taolin SUN, Kunpeng CUI, Daniel R. KING, Takayuki NONOYMA, Tasuku NAKAJIMA, Takayuki KUROKAWA, Yoshiyuki Saruwatari, Jian Ping GONG
- 16:40 1ESB17 Optimization of magnesium ion conduction in poly(ethylene carbonate)-based solid electrolytes  
AZLINI BINTI AB AZIZ, YOICHI TOMINAGA
- 17:05 1ESB18 Superheat-resistant Poly(benzoxazole imide)s with Low Coefficients of Thermal Expansion  
Masatoshi Hasegawa, Yuki Hoshino, Natsumi Katsura, Natsuki Hamano, Junichi Ishii

**Thu. Sep 21**



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

### **Rei Furukawa, presiding**

- 9:10 2ESB01 Synthesis of Temperature-Independent Zero-Zero-Birefringence Polymer by Quinary Copolymerization  
Hiroaki Nagahama,Akihiro Tagaya,Yasuhiro Koike
- 9:35 2ESB02 Proposal for Evaluating Method to Confirm Additivity of Temperature Dependence of Intrinsic Birefringence for Design of TIZZBP  
Kenji Wada,Akihiro Tagaya,Yasuhiro Koike
- 10:00 2ESB03 Design and Synthesis of Temperature-Independent Zero-Birefringence Polymer with High Heat Resistance  
Yuma Kobayashi,Akihiro Tagaya,Yasuhiro Koike
- 10:25 2ESB04 Control of Birefringence Dispersion with Both Copolymerization and Polymer Blend for Photonics Polymers  
Kenta Hirose,Akihiro Tagaya,Yasuhiro Koike

### **Kenji Kinashi, presiding**

- 10:50 2ESB05 Waveguiding analysis of polymer optical fiber using dichroic dye  
Takamichi Tozaki,Rei Furukawa,Daichi Mizorogi,Kentaro Yano
- 11:15 2ESB06 Laser oscillation and wavelength control of carbon-bridged oligophenylenevinylene microcavities  
Daichi Okada,Hiroki Nishioka,Anna Ichimura,Hayato Tsuji,Fumio Sasaki,Eiichi Nakamura,Yohei Yamamoto
- 11:40 2ESB07 Efficient Near-Infrared Whispering Gallery Mode Photoluminescence from  $\pi$ -Conjugated Polymer Blend Microsphere resonators  
Osamu Oki,Soh Kushida,Kota Hatanaka,Youhei Takeda,Satoshi Minakata,Junpei Kuwabara,Takaki Kanbara,Dao Thang,Satoshi Ishii,Tadaaki Nagao,Yohei Yamamoto

### **Tsuyoshi Michinobu, presiding**

- 12:55 2ESB08 Water-soluble supramolecular system for multielectron redox reaction  
Riku Kubota,Hiroyoshi Kawakami
- 13:20 2ESB09 Synthesis and Characterization of Europium based Metallo-supramolecular Polymers for Luminescence and Proton Conduction Applications  
S L V Narayana Yemineri,Masayoshi HIGUCHI
- 13:45 2ESB10 Effect of Perylene Based Anion in Pt(II) Containing Metallo-supramolecular Polymer: Naonosheets with Improved Electronic Transport  
Chanchal Chakraborty,Masayoshi Higuchi
- 14:10 2ESB11 Development of electrochemical thiophene probes for quantitative detection of proteins  
Krishnachary Salikolimi,Hideyuki Miyatake,Yoshihiro Ito,Masuki Kawamoto

### **Hideharu Mori, presiding**

- 14:35 2ESB12 Osmium-based metallo-supramolecular polymers for electrochromic application  
Manas Kumar Bera,Masayoshi HIGUCHI
- 15:00 2ESB13 Radiation-induced color changes in a spiropyran/BaFCl:Eu<sup>2+</sup>/polystyrene composite film and nonwoven fabric  
Kenji Kinashi,Hayato Tsuchida,Takato Iwata,Wataru Sakai,Naoto Tsutsumi
- 15:25 2ESB14 Polymer Phase Transition Induced by Organic or Photochemical Reaction in Organic Solvents  
Masami Naya,Yoshimi Hamano,Kenta Kokado,Kazuki Sada

### **Yasuhiro Koike, presiding**

- 15:50 2ESB15 Transistor-Memory Engineering: from Interfacial Charge-Transfer to Molecular Nanostructure  
Chen-Tsyr Lo,Daiki Murakami,Kazuhiro Nakabayashi,Hideharu Mori

16:15	2ESB16	Impact of polystyrene side-chain on n-type polymer semiconducting properties <u>Tadanori Kurosawa</u> , Yu-Cheng Chiu, Zhenan Bao
16:40	2ESB17	Mechanism analysis on deterioration of polymer materials in existence of carbon nanotubes <u>Seisuke Ata</u> , Shogo Yamane, Tomonoh Shigeki, Zyunji Mizukado, Takeo Yamada, Kenji Hata
17:05	2ESB18	Improvement and New Application of Pressure-Sensitive Paints <u>Tsuyoshi Michinobu</u> , Sachiko Sano, Aiko Hamasaki, Tsuyoshi Hyakutake, Hiroyuki Nitta

**Fri. Sep 22**

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

**Masahiro Funahashi, presiding**

9:10	3ESB01	Size-Selective Synthesis and The Properties of Metal Oxide Clusters Using The Metal-Assembling Nature of Phenylazomethine Dendrimer <u>Yusuke Inomata</u> , Ken Albrecht, Kimihisa Yamamoto
9:35	3ESB02	Atom-precise clusters synthesized by cyclic metallo-polymers Takane Imaoka, <u>Yuki Akanuma</u> , Naoki Haruta, Wang-Jae Chun, Kimihisa Yamamoto
10:00	3ESB03	Enantioseparation on a metal cation-responsive optically active poly(phenylacetylene) as a chiral stationary phase for HPLC Asahi Isobe, <u>Daisuke Hirose</u> , Katsuhiko Maeda, Felix Freire
10:25	3ESB04	Colorimetric Chiral Discrimination of Chiral Amines Using Macromolecular Reaction with a Helical Poly(diphenylacetylene) Bearing Carboxyl Pendants <u>Taro Mori</u> , Kentaro Yamanaka, Daisuke Hirose, Tomoyuki Ikai, Shigeyoshi Kanoh, Katsuhiko Maeda

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

**Hiroharu Ajiro, presiding**

10:50	3ESB05	Mechanism for changing transparency of the skeleton flower <u>Olaf Karthaus</u> , Takumi Arakawa, Ryota Wakabayashi
11:15	3ESB06	Molecular Design of Protein Crystal for construction of Self-Assembly Biosupramolecule <u>Tien Khanh Nguyen</u> , Hashiru Negishi, Satoshi Abe, Takafumi Ueno
11:40	3ESB07	Engineered control of antimicrobial production in gram-negative bacteria due to inhibiting complex formation between autoinducer and its receptor <u>Chigusa Okano</u> , Eri Nasuno, Tomohiro Morohoshi, Ken-ichi Iimura, Norihiro Kato

**Olaf Karthaus, presiding**

12:55	3ESB08	Effect of multiple cyclic RGD peptides on tumor accumulation and intratumoral distribution of photosensitizer-conjugated polymers <u>Xuebo Dou</u> , Takahiro Nomoto, Hiroyasu Takemoto, Makoto Matsui, Keishiro Tomoda, Nobuhiro Nishiyama
13:20	3ESB09	Size-controlled construction of gold nanoparticle-based vehicle with polymeric building blocks for systemic delivery of siRNA <u>HyunJin Kim</u> , Yu Yi, Kanjiro Miyata, Kazunori Kataoka
13:45	3ESB10	Evaluation of the surface prepared by thermoresponsive poly(trimethylene carbonate derivatives) with ester free structure <u>Hiroharu Ajiro</u> , Nalinthip Chanthaset, Yoshiaki Haramiishi