

## Room A

**Mon. Sep 6**

### Invited Lecture

**Masashi Kijima, presiding**

10:25 1A04IL Paper-based electronics and sensor  
Toshiharu Enomae

**Yoshihiro Kikkawa, presiding**

11:15 1A06IL ISO standardization for plastics related to environment  
Masao Kunioka

**Ikuyoshi Tomita, presiding**

13:20 1A09IL Development of Functional Polymeric Materials by RAFT polymerization  
and Their Applications  
Hideharu Mori

**Hiroki Uehara, presiding**

14:10 1A11IL Design of Metal Catalysts and Monomers Aiming for Synthesis of New  
Polyolefins  
Daisuke Takeuchi

**Koji Matsuoka, presiding**

15:25 1A14IL The dynamic epitope theory-Vulnerability of proteins induced by  
posttranslational glycosylation  
Shin-ichiro Nishimura

**Jun-ichi Kadokawa, presiding**

16:15 1A16IL Invention of Liquid-Crystalline Polymeric Systems and Their  
Applications  
Seiji Ujiie

**Ken Nakajima, presiding**

17:05 1A18IL bio-inspired polymer electronic devices  
Naoki Asakawa

**Tue. Sep 7**

### Invited Lecture

**Atsushi Maruyama, presiding**

9:35 2A02IL Development of polymers that control association and phase separation  
behavior of biomacromolecules and their application to biomaterials  
Akihiro Kishimura

**Koichiro Uto, presiding**

10:25 2A04IL Development of functional polymers based on degradable aliphatic  
polycarbonates towards applications in biomaterials  
Kazuki Fukushima

**Akihiko Kikuchi, presiding**

11:15 2A06IL Design and Application of Polymeric Materials that Exhibit Both High Degradability and Stability  
Nobuhiro Kihara

**Hideaki Yokoyama, presiding**

13:20 2A09AL Analysis and functionalization of anisotropic changes in structure and properties of heat-resistant polymers under high pressure and temperature  
Shinji Ando

**Award Lecture**

**Michinari Kohri, presiding**

14:10 2A11AL Cryoprotective properties of polyampholytes and their biomedical applications  
Kazuaki Matsumura

**Tomoya Higashihara, presiding**

15:25 2A14AL Development of functionalization method of carbon materials using polymer-wrapping approach  
Tsuyohiko Fujigaya

**Shusaku Nagano, presiding**

16:15 2A16AL Charge Transport and Near-Infrared Emission Properties of Semiconducting Polymers  
Tsuyoshi Michinobu

**Hiroyuki Asanuma, presiding**

17:05 2A18AL Development of Reversible CO<sub>2</sub> Absorbent Driven by Phase Transition of Amine-Containing Hydrogels  
Yu Hoshino

**Wed. Sep 8**

**Invited Lecture**

**Kazunari Akiyoshi, presiding**

11:15 3A06IL Soft Metallurgy of Block Copolymer  
Hsin-Lung Chen, Li-Ting Chen, Nai-Wen Hsu, Babak Nouri, Chun-Yu Chen

**Room B**

**Mon. Sep 6**

**S2. Well-defined Functional Polymers Prepared by Precision Polymerization**

9:50 1BSO Introductory Remarks S2  
Eiji Ihara

**Takeharu Haino, presiding**

- 10:00 1B03 Synthesis of mechanically-linked cyclic polymers exploiting the exchange reaction of bis(hindered amino)disulfide linkages  
Rikito Takashima, Daisuke Aoki, Hideyuki Otsuka
- 10:25 1B04 Insight into Carbon-Carbon Dynamic Covalent Bonds from Quantum Calculation  
Yi LU, Hajime SUGITA, Koichiro MIKAMI, Daisuke AOKI, Hideyuki OTSUKA

**Koichiro Mikami, presiding**

- 10:50 1B05 Control of mechanical properties of slide-ring gels by precise synthesis of polyrotaxane with homogeneous host/guest ratios.  
Takako Noritomi, Lan Jiang, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito
- 11:15 1B06 Construction of Divers Supramolecular Polymer Topologies by Curvature-Forming Supramolecular Polymerization  
Shiki Yagai
- 11:40 1B07 Structures and functions of noncovalent networks formed by bis(benzimidazole)-bound zinc dichlorido complexes  
Shun Ohta, Ryoga Yamaguchi, Yurika Iwabuchi, Masaaki Okazaki

**Daisuke Aoki, presiding**

- 12:55 1B08 Structure and function of supramolecular polymer controlled by molecular recognition of calix[5]arene and C60  
Takeharu Haino, Yoshiki Iwabe, Takehiro Hirao
- 13:20 1B09 Living supramolecular polymerization in two dimensions  
Kazunori Sugiyasu

**Junpei Kuwabara, presiding**

- 13:45 1B10 Multiblock copolymerization of aromatic oligoamide with aliphatic polyether and the application to shape memory resin  
Yuji Shibasaki, Ryoji Kudo, Tadashi Tsukamoto, Yoshiyuki Oishi, Atsuhiko Fujimori
- 14:10 1B11 Syntheses and evaluation of degradation properties for itaconic acid-derived biobased polyamides.  
Takuya Kumakura, Wang Huaiyu, Maninder Singh, Ali Asif Mohammad, Kenji Takada, Tatsuo Kaneko
- 14:35 1B12 Synthesis of Ladder-like Oligomers and Polymers by Intramolecular Direct Arylation  
Koji Takagi, Arika Maeda, Daiki Miyamoto, Hidetoshi Tanaka

**Yuji Shibasaki, presiding**

- 15:25 1B14 Development of Nonstoichiometric Polyaddition via Hydroarylation of Alkynes  
Ryota Iwamori, Ryota Sato, Junpei Kuwabara, Takaki Kanbara
- 15:50 1B15 Polycondensation using conjugate substitution: Controls of repeating units by understanding of reaction kinetics and mechanisms  
Yasuhiro Kohsaka, Keito Hagiwara, Takumi Miyazaki, Koki Nagai
- 16:15 1B16 A Novel Poly(arylene oxide) Synthesized by an Artificial Enzyme-Catalyzed Oxidative Polymerization of 2-Phenylphenol  
Akiyuki Nakano, Hoshito Tamaki, Rikuo Tanaka, Yoichi Tanabe, Hideyuki Higashimura

**Koji Takagi, presiding**

- 16:40 1B17 Synthesis of Uniform Cyclic Oligomers by Cu(I)-Catalyzed Azide-Alkyne Cycloaddition and Their Interaction

- Koki Ishitsuka, Yuri Kamon, Akihito Hashidzume
- 17:05 1B18 Click Living Polymerization of AB Monomers with Hydrophilic PEO Spacer  
Satoshi Sakai, Tomohiro Kubo, Kotaro Satoh
- 17:30 1B19 Click Living Polymerization of Various Monosaccharides AB Monomers  
Sawako Doi, Tomohiro Kubo, Kotaro Satoh

**Tue. Sep 7**

## **S2. Well-defined Functional Polymers Prepared by Precision Polymerization**

### **Hiromitsu Sogawa, presiding**

- 9:10 2B01 Synthesis of linear and cyclic aromatic polymers by means of unstoichiometric polycondensation using excess acceptor dibromoarylene and synthesis of graft copolymers with conventional vinyl polymers  
Sana KOBAYASHI, Yoshihiro OHTA, Tsutomu YOKOZAWA
- 9:35 2B02 Precise synthesis of poly(*N*-alkyl carbazole)s via Suzuki-Miyaura catalyst-transfer polycondensation of triolborate salt type monomers  
Mayoh Ashiya, Saburo Kobayashi, Brian J Ree, Takuya Isono, Takuya Yamamoto, Kenji Tajima, Toshifumi Satoh
- 10:00 2B03 Development of Highly Active Nickel Catalysts Possessing Carboxylate Ligands for Coordination Polymerization of Unsaturated Monomers  
Shunsuke Kochi, Yooichiroh Maruyama, Toshiaki Kadota, Ryoyu Hifumi, Shinsuke Inagi, Ikuyoshi Tomita

### **Daisuke Takeuchi, presiding**

- 10:25 2B04 Synthesis and properties of star polymers possessing norbornene/1-octene gradient copolymer arms  
Haobo Yuan, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono
- 10:50 2B05 Synthesis of Elastomers by Yttrium-Catalyzed Isospecific Trans-1,4-Polymerization of (E)-1,3-Pentadiene  
Kei Nishii, Guangli Zhou, Yusuke Saito, Atsushi Yamamoto, Masayoshi Nishiura, Yi Luo, Zhaomin Hou

### **Masayoshi Nishiura, presiding**

- 11:15 2B06 Polymerization of conjugated dienes by rare earth metal amide / hydroxypyridine catalyst systems  
Kento Shibuta, Daisuke Takeuchi, Shigenaga Takano
- 11:40 2B07 Ring-opening metathesis polymerization of norbornene monomer, and terminal functionalization of the formed polymer with platinum-acetylide complexes  
Shoichiro Uchiyama, Taichi Sotani, Hiromitsu Sogawa, Fumio Sanda

### **Eiji Ihara, presiding**

- 12:55 2B08IL Cascade Olefin Metathesis Polymerization  
Tae-Lim Choi

### **Kosuke Oki, presiding**

- 13:45 2B10 Stereospecific Ring-Opening Metathesis Polymerization of Cyclic Olefins by (Arylimido)vanadium-Alkylidene Catalysts  
Kotohiro NOMURA
- 14:10 2B11 Synthesis of PMEAs analogs with altered position of carbonyl groups: their hydration state and blood compatibility

- Shingo Kobayashi, Yasuki Okazaki, Kazuki Morita, Masaru Tanaka
- 14:35 2B12 Recent advances in Pd-catalyzed C1 polymerization of diazoacetates  
Hiroaki Shimomoto, Eiji Ihara
- Kotohiro Nomura, presiding**
- 15:25 2B14 Synthesis of Helically  $\pi$ -Stacked Poly(quinolyene-2,3-methylene) via Living Cyclopolymerization: Structural Stabilization by Types of Side Chain Amino Acid Substituents  
Naoya Kanbayashi, Yuki Kataoka, Taka-aki Okamura, Kiyotaka Onitsuka
- 15:50 2B15 Development of living polymerization of phenylacetylenes in water using rhodium catalysts and its application to synthesis of water-soluble telechelic polymers  
Kensuke Echizen, Tsuyoshi Taniguchi, Tatsuya Nishimura, Katsuhiko Maeda
- Naoya Kanbayashi, presiding**
- 16:15 2B16 Immobilization of Poly(biphenylacetylene)s Bearing Polar Pendant Groups in the Vicinity of the Main-Chains onto Silica Gel and Their Application to Switchable Chiral Stationary Phases  
Atsushi Tsuzuki, Tomoyuki Ikai, Eiji Yashima
- 16:40 2B17 Acid-Base Interaction-Driven Helical Chirality Induction of Poly(quinoxaline-2,3-diyl)s Bearing Achiral Carboxyl Side Chains: Highly Sensitive Chirality Detection of Amines by CD Spectroscopy  
Tomonori Yamawaki, Takuma Kuroda, Yuuya Nagata, Michinori Suginome
- 17:05 2B18 Chiral Recognition by NMR Spectroscopy Based on Nonbonding Interaction of Small Molecules with Single-Handed Poly(quinoxaline-2,3-diyl)s  
Takaya Fujie, Takeshi Yamamoto, Michinori Suginome

**Wed. Sep 8**

## S2. Well-defined Functional Polymers Prepared by Precision Polymerization

- Tsuyoshi Nishikawa, presiding**
- 9:10 3B01 Preparation and polymerization of styrene trimer with the controlled stereochemistry  
Sorachi Saito, Yuma Tanaka, Naoki Fukaya, Kazutada Ikeuchi, Keiji Tanin, Kenta Kokado, Kazuki Sada
- 9:35 3B02 Precise synthesis of chain-end di-functionalized poly(dimethylsiloxane)s with azide groups and ABA-type triblock copolymers consisted of poly(dimethylsiloxane) and poly(3-hexylthiophene) segments  
Keiichiro Sato, Shin Inagaki, Tomoya Higashihara, Keita Fuchise
- 10:00 3B03 Preparation and characterization of uniform oligo(phenylacrylamide)  
Hinako Iwamoto, Satoki Fukuda, Sotaro Akashi, Yusuke Saito, Yu Hoshino, Yoshiko Miura
- Ryohei Kakuchi, presiding**
- 10:25 3B04 UV-Curing via Photo-controlled Radical Polymerization and Nanostructure Control  
Takeo Suga, Midori Iwakiri, Go Araki, Kenichi Oyaizu

10:50 3B05 Precision Syntheses of PS-PMMA Block Copolymers Carrying Oligopeptide at the Junction toward Phase Separation of Low Molecular Weight Polymer  
Tomoka Yoshimura, Yoshihiro Agata, Kodai Nagashima, Yuta Nabae, Teruaki Hayakawa, Makoto Ouchi

11:15 3B06 Novel inclusion material based on intramolecular polymerization of cyclodextrin derivatives containing multiple vinyl groups  
Kaito Yamashita, Reiko Saito

**Jin Motoyanagi, presiding**

11:40 3B07 Practical application of styrene-acrylic elastomer using Reversible Addition-Fragmentation Chain Transfer (RAFT) polymerization.  
Hirokazu Mogami, Hirokazu Okada, Takayuki Ishimoto, Hideharu Mori

12:55 3B08 Self-Sorting and Co-Self-Assembly of Amphiphilic Random Copolymer Micelles in Water: Environment-Responsive Discrimination and Association  
Rikuto Kanno, Makoto Ouchi, Takaya Terashima

**Takaya Terashima, presiding**

13:20 3B09 Synthesis of hyperbranched-linear amphiphilic block copolymers and their micelle formation in water  
Lu Yangtian, Yuzhong He, Masatoshi Tosaka, Yuki Watanabe, Mikito Takenaka, Shigeru Yamago

13:45 3B10 Synthesis of hyperbranched polymers by polymerization induced self-assembly (PISA)  
Yangtian Lu, Kana Goto, Masatoshi Tosaka, Shigeru Yamago

14:10 3B11 Development of novel ring-expansion RAFT polymerization with a cyclic trithiocarbonate derivative  
Hiroki Fujii, Jin Motoyanagi, Masahiko Minoda

**Shigeru Yamago, presiding**

14:35 3B12 Radical Copolymerizations of Divinyl Ether with N-Alkyl Maleimide for Precision Syntheses of Topologically Unique Alternating Cyclopolymers  
Hiroyuki Kubota, Makoto Ouchi

15:25 3B14 Feasible chain-end modification via the combination of RAFT polymerization and the Passerini three component reaction  
Ryohei Kakuchi

15:50 3B15 Controlled Polymerization of Alkenyl Boronate and End-Selecting Suzuki-Miyaura Cross Coupling: Orthogonal Pendant Transformation for the Repeating and Terminal Units  
Tomoaki Kanazawa, Tsuyoshi Nishikawa, Makoto Ouchi

**Room C**

**Mon. Sep 6**

**S3. Frontiers in Polymer Synthesis Developed by Key Reactions and Molecular Designs**

9:50 1CS0 Introductory Remarks S3  
Shin-ichi Matsuoka, Tsuyoshi Nishikawa

**Ryohei Kakuchi, presiding**

- 10:00 1C03 Degradation and Isomerization of poly(conjugated ester)s by conjugate substitution reaction assisted via allyl substituent  
Anri Tanaka, Keito Hagiwara, Yasuhiro Kohsaka
- 10:25 1C04 Cationic Co- and Terpolymerization of 1,3-Dioxo-2-silacycloalkanes with Vinyl Ethers, Cyclic Ethers, and/or Carbonyl Monomers  
Ryosuke Hada, Arihiro Kanazawa, Sadahito Aoshima
- 10:50 1C05 Design of Divinyl Monomer for Efficient Syntheses of AB Alternating Copolymers Made of Two Different Acrylamide Units and Sequence-Specific Thermoresponsive Behaviors  
Kentaro Shibata, Makoto Ouchi

**Raita Goseki, presiding**

- 11:15 1C06 Sequence-Controlled Synthesis of Oligosiloxanes  
Kazuhiro Matsumoto
- 11:40 1C07 Design of Hyperbranched Polyester by Ring-opening Alternating Copolymerization of Cyclic Anhydride and Epoxide  
Ryota Suzuki, Xiaochao Xia, Takuya Yamamoto, J. Brian Ree, Takuya Isono, Kenji Tajima, Toshifumi Satoh

**Tsuyoshi Nishikawa, presiding**

- 12:55 1C08IL Flash Synthetic Polymer Chemistry from Space Controlling Time  
Aiichiro Nagaki

**Yasuhiro Kohsaka, presiding**

- 13:45 1C10 One-pot synthesis of sequence-controlled polymers by living anionic addition reaction  
Kazuki Takahata, Raita Goseki, Takashi Ishizone
- 14:10 1C11 Synthesis of (self-)alternating (co)polymer through anionic polymerization of designed monomers based on reactivity  
Raita Goseki, Hammin Kim, Yoshito Itaya, Takashi Ishizone
- 14:35 1C12 Synthesis and radical polymerization of metal salt/amide-based deep eutectic monomers  
Yuta Tanaka, Ayaka Torii, Hideharu Mori

**Hideharu Mori, presiding**

- 15:25 1C14 Precise synthesis of graphene nanoribbons in metal-organic frameworks  
Takashi Kitao, Takashi Uemura
- 15:50 1C15 [2+2] photocycloaddition polymerization within confined spaces: towards molecular weight control  
Kei Saito
- 16:15 1C16 Radical Polymerization of Vinyl Boronate Derivatives and Subsequent Side-Chain Replacement: Molecular Design of the Boron Pendants toward Efficient Polymerization and Versatile Transformation  
Hiroshi Suzuki, Tsuyoshi Nishikawa, Makoto Ouchi

**Takashi Kitao, presiding**

- 16:40 1C17 A modification of the Petasis three-component reaction for the integration with polymer synthesis  
Lichieh Chou, Ryohei Kakuchi
- 17:05 1C18 Computational analysis for aminolysis of novel activated esters and its application to post-modification reactions  
Kiho Matsubara, Hideki Amii, Ryohei Kakuchi
- 17:30 1C19 Practical synthesis of hyperbranched polymer by ab-initio emulsion radical polymerization  
Yuhan JIANG, Masatoshi TOSAKA, Shigeru YAMAGO

17:55 1C20 Simulation of Formation Process of Dendrimer-like Hyper-branched Polymer by Radical Polymerization  
Masatoshi TOSAKA, Yangtian LU, Shigeru YAMAGO

**Tue. Sep 7**

**S3. Frontiers in Polymer Synthesis Developed by Key Reactions and Molecular Designs**

**Shin-ichi Matsuoka, presiding**

9:10 2C01IL Lewis Pair Polymerization for Synchronous Control of Chain Length, Sequence, and Topology  
Eugene Y.-X. Chen

**Hiroaki Shimomoto, presiding**

10:00 2C03 Synthesis and Characterization of Novel Semiconducting Elastomer Materials by using Chain-end-functionalized Poly(3-hexyl thiophene)  
Shin Inagaki, Hisakazu Tanaka, Yan-Cheng Lin, Wen-Chang Chen, Tomoya Higashihara

10:25 2C04 Synthesis of boron-functionalized polydiene via copolymerization using neodymium catalyst  
Ryo Tanaka, Yuina Kuwabara, Yuushou Nakayama, Takeshi Shiono

10:50 2C05 Highly Selective Palladium Catalysts for Precise Synthesis of  $\pi$ -Conjugated Polymers via Direct Arylation Polymerization (DARP)  
Masayuki Wakioka

**Tomoya Higashihara, presiding**

11:15 2C06 Synthesis of end-functionalized poly(substituted methylene)s: C1 polymerization of diazoacetates initiated by Pd complexes with *N*-substituted maleimide ligands  
Hiroaki Shimomoto, Hinano Hayashi, Kyoka Aramasu, Tomomichi Itoh, Eiji Ihara

11:40 2C07 Attempt of polycondensation control of amino acids by continuous monomer addition method  
Tsuyoshi Ando, Keita Shiraki, Hiroharu Ajiro

**Ryo Tanaka, presiding**

12:55 2C08 Synthesis and characterization of catalysts for the living polymerization of substituted acetylenes  
Shiori SAKAMOTO, Tsuyoshi TANIGUCHI, Yoko SAKATA, Shigehisa AKINE, Tatsuya NISHIMURA, Katsuhiko MAEDA

13:20 2C09 Terminal Modification of Poly(quinolylene-2,3-methylene) using the palladium complex at the Growth End  
Naoya Kanbayashi, Manami Narukawa, Taka-aki Okamura, Kiyotaka Onitsuka

13:45 2C10 Development of Precision Anionic Polymerizations Based on C-H Bonds for Precision Polymer Synthesis  
Mineto Uchiyama, Natsumi Ohira, Konomi Yamashita, Masaya Fujita, Masami Kamigaito

**Katsuhiko Maeda, presiding**

14:10 2C11 Synthesis of Block Copolymers with the Epoxide/Carbon Dioxide or Epoxide/Cyclic Anhydride Alternating Copolymers  
Minori Ida, Yuu Nakabayashi, Koji Nakano

- 14:35 2C12 Syntheses of Block Copolymers Utilizing Carbonylation of Growing Chain End in Pd-Catalyzed Polymerization  
Kohsuke Ota, Nanako Kimura, Daisuke Takeuchi
- Koji Nakano, presiding**
- 15:25 2C14 Visualization of mechanoradicals generated by polymer chain scission using fluorescent molecular probes  
Takumi Yamamoto, Daisuke Aoki, Hideyuki Otsuka
- 15:50 2C15 Chirality-Switchable Helical Polymer Ligand Bearing 2,2'-Bipyridine Pendants for Enantioconvergent Cu-Catalyzed Intramolecular C-C Coupling of  $\alpha$ -Aminoalkylboronates  
Takeshi Yamamoto, Yukako Yoshinaga, Michinori Suginome
- 16:15 2C16 Dual modification of a diblock copolymer for structural tuning and crosslinking to obtain immobilized structure  
Kodai Nagashima, Yuta Nabae, Teruaki Hayakawa
- 16:40 2C17 Synthesis of bipyridine-containing conjugated polymers bearing optically active amide groups and control of the higher order structures utilizing metal-coordination  
Taichi Sotani, Mio Hosotani, Mai Otaba, Hiromitsu Sogawa, Fumio Sanda

**Hiromitsu Sogawa, presiding**

- 17:05 2C18 Mechanochemistry of Bis(9-aryl-9-fluorenyl) Peroxide Derivatives in Cross-Linked Polymers  
Yi LU, Hajime SUGITA, Koichiro MIKAMI, Daisuke AOKI, Hideyuki OTSUKA
- 17:30 2C19 Synthesis and post-polymerization modification of cyclic olefin polymers containing cyclopropane ring  
Kazuki Hase, Shin-ichi Matsuoka, Masato Suzuki
- 17:55 2C20 Synthesis of Janus-shaped single chain nanoparticle by one-shot intramolecular crosslinking of block copolymer  
Takuya Isono, Kodai Watanabe, Noya Kaizawa, Kenji Tajima, Toshifumi Satoh

**Wed. Sep 8**

**S3. Frontiers in Polymer Synthesis Developed by Key Reactions and Molecular Designs**

**Takuya Isono, presiding**

- 9:10 3C01 Synthesis and Properties of Iodine-Containing Hyperbranched Polyacetal Photoresist Materials for Extreme Ultraviolet  
Yutaro Iwashige, Hiroto Kudo
- 9:35 3C02 Synthesis of novel main-chain degradable vinyl polymer by introducing trigger-responsive comonomer.  
Sota Yamamoto, Tomohiro Kubo, Kotaro Satoh
- 10:00 3C03 Synthesis and properties of helical polyphenylacetylenes having alkylimidazolium groups in the side chains.  
Ryoma Ozawa, Takashi Kaneko, Toshiki Aoki, Masahiro Teraguchi
- 10:25 3C04 Synthesis and application of decrosslinkable epoxy cured materials using regioisomers of anthracenecarboxylic acid dimers  
Kinuka Tano, Eriko Sato

## Room D

Mon. Sep 6

### S4. Development of Element-block Materials for The Bright Future

- 9:50 1DSO Introductory Remarks S4  
Koji Takagi, Hiroaki Imoto  
**Yohei Adachi, presiding**
- 10:00 1D03 Synthesis of Stimuli-Responsive Fluorescence Dyes and Their Application for Detection of Enzymatic Activity and Biological Thiols  
Koji Miki, Huiying Mu, Masahiro Oe, Kouichi Ohe
- 10:25 1D04 Bulk photovoltaic effect in ferroelectric oligothiophene liquid crystals doped with fullerene derivative  
Masahiro Funahashi  
**Koji Miki, presiding**
- 10:50 1D05 Conjugated polymers consisting of aromatic building units containing tricoordinate boron  
Yohei Adachi, Joji Ohshita
- 11:15 1D06 Development of aryl-modified o-carborane presenting aggregation-induced luminochromism in film  
Kazuo Tanaka, Junki Ochi, Keisuke Wada, Kazushi Hashimoto
- 11:40 1D07 Substituent dependent alignment of asymmetrically substituted  $\pi$ -extended aza[5]helicenes  
Satoru Hiroto  
**Kyosuke Isoda, presiding**
- 12:55 1D08 Solution-phase synthesis of borophene-like sheet  
Tetsuya Kambe, Kimihisa Yamamoto
- 13:20 1D09 Versatile and selective use of azides toward element-block polymerization  
Hiroki Tanimoto, Koshiro Maegawa, Kodai Tanisawa, Ryo Adachi, Takenori Tomohiro  
**Hiroki Tanimoto, presiding**
- 13:45 1D10 Control of pH in surface modification of niobate nanosheets using a liquid-liquid biphasic system  
Yusuke Shimizu, Regis Guegan, Naokazu Idota, Takehiko Tsukahara, Taisei Nishimi, Yoshiyuki Sugahara
- 14:10 1D11 Stimuli-responsive behavior of functional room temperature liquid materials  
Kyosuke Isoda, Yuika Sato, Ayumi Ikenaga
- 14:35 1D12 Self-assembling crosslinking behavior of metal ions with metal-coordinated hydrophilic polymers and its application to the synthesis of nanomaterials  
Naoki Isobe, Daisuke Nagai, Yasuyuki Maki, Tatushi Inoue, Takeshi Yamanobe  
**Ryoyu Hifumi, presiding**
- 15:25 1D14 Synthesis and application of polysilsesquioxane having phosphoric acid as a ligand

- Takahiro Gunji, Hiroshi Fujioka, Kosuke Ogimoto, Miyu Kajiyama, Kazuki Yamamoto
- 15:50 1D15 Synthesis and Optical Properties of Donor-Acceptor Polymers and Oligomers Composed of Silole/Germole and Tricoordinate Boron Units  
Joji Ohshita, Keigo Kawakami, Keisuke Kondo, Adachi Yohei
- 16:15 1D16 Controlled Supramolecular Structures Based on the Formation of Nonclassical Hydrogen Bonds  
Mitsuhiko Morisue, Miho Kawamishi
- Mitsuhiko Morisue, presiding**
- 16:40 1D17 Coating film properties of alkoxythiophene copolymers  
Yuhō Kagaya, Satoru Tsukada, Katsuyoshi Hoshino
- 17:05 1D18 Syntheses and physical properties of mixed-valence assemblies consisting of polyoxometalate element-blocks and platinum complexes  
Kazuhiro Uemura, Haruka Hasegawa, Atsushi Takamori
- 17:30 1D19 Robust and self-healable hybrids based on metal complexation with ligand-containing silsesquioxane nanoparticles  
Yusuke Sasaki, Hideharu Mori
- 17:55 1D20 Development of Phosphorus-Containing Aromatic Poly(ether) Materials Utilizing Features and Reactivity of Phosphine Sulfide Groups  
Ryoyu Hifumi, Keisuke Ikeda, Shinsuke Inagi, Ikuyoshi Tomita

**Tue. Sep 7**

**S4. Development of Element-block Materials for The Bright Future**

**Yoshiro Kaneko, presiding**

- 9:10 2D01IL Putting Boron into Polymers: Applications in Catalysis and as Supramolecular Materials  
Fernando Vidal, Huina Lin, James McQuade, Frieder Jaekle

**Takahiro Kakuta, presiding**

- 10:00 2D03 Synthesis and Electronic Properties of Organometallic Polymers Containing Dithienotitanacyclopentadiene Units  
Alvin Tanudjaja, Ryoyu Hifumi, Shinsuke Inagi, Ikuyoshi Tomita
- 10:25 2D04 Monodispersed nitrogen-containing carbon capsules fabricated from conjugated polymer-coated particles via light irradiation  
Keigo Oyama, Musashi Seike, Koji Mitamura, Seiji Watase, Kanade Matsui, Kenshin Yamamoto, Toyoko Suzuki, Taro Omura, Hideto Minami, Tomoyasu Hirai, Yoshinobu Nakamura, Syujii Fujii
- 10:50 2D05 Supramolecular assembly of hybrid metal porphyrin/ tomatine analogues with nanostructures and cytotoxic activities  
Mayuko Fujitsuka, Kouta Araki, Keita Kuroiwa

**Keita Kuroiwa, presiding**

- 11:15 2D06 Exfoliation of Layered Silicate Compounds through Host-Guest Interaction  
Takahiro Kakuta, Yudai Baba, Tomoki Ogoshi, Tada-aki Yamagishi
- 11:40 2D07 Preparation, aggregation, and inclusion behavior of double-chain polymer composed of hydrophilic and hydrophobic polymer chains  
Katsufumi Soda, Yoshiro Kaneko

**Shinobu Uemura, presiding**

- 12:55 2D08 Fabrication of Ultrafine Nanostructures from Block Copolymers Consisting of Inorganic Polymer and Oligosaccharide Segments  
Taiki Nishimura, Satoshi Katsuhara, Chaehun Lee, J. Brian Ree, Takuya Yamamoto, Kenji Tajima, Takuya Isono, Toshifumi Satoh
- 13:20 2D09 Synthesis of aromatic ladder polymer utilizing coordination nanospaces  
Takumi Miura, Takashi Kitao, Takashi Uemura
- Takashi Kitao, presiding**
- 13:45 2D10 Preparation of the layered structures consisted of carbon nitrides and ionic molecules  
Shinobu Uemura, Taichi Harada, Qi Feng
- 14:10 2D11 Reversible Structural Change in Aligned Films of Amphiphilic Element-block Random Copolymer  
Kohei Amada, Wataru Kukai, Jun Matsui
- 14:35 2D12 Surface Segregation of Star-shaped Polyhedral Oligomeric Silsesquioxane in Polymer Matrix  
Daisuke Kawaguchi, Kentaro Yamamoto, Tatsuki Abe, Takeshi Komino, Masashi Mamada, Taizo Kabe, Chihaya Adachi, Kensuke Naka, Keiji Tanaka
- Tomokazu Umeyama, presiding**
- 15:25 2D14 Preparation of zirconia nanoparticle single-layer thin films and their functions  
Kimihiko Matsukawa, Yoshiyuki Tsukiyama, Hiroyuki Enomoto, Koji Mitamura, Mitsuru Watanabe, Seiji Watase
- 15:50 2D15 Development of hybrid films consisting of silicon/carbon-based layered materials and lignin nanoparticle  
Kazuhiro Shikinaka, Asami Suzuki, Yuichiro Otsuka
- 16:15 2D16 Stand-alone electrochemical analysis system based on bicontinuous microemulsion gel films  
Masashi kunitake, Hinako Hshimoto, Satoshi Watanabe, Tomoyuki Kamata, Dai Kato, Osamu Niwa, Taisei Nishimi, Eisuke Kuraya
- 16:40 2D17 Characteristics of Frequency-Modulated Element-Blocked Polymer Light-Emitting Diodes and Their Applications  
Hiroyoshi Naito
- Kazuhiro Shikinaka, presiding**
- 17:05 2D18 In-Plane Micro-Supercapacitors Using 2D Nanomaterial MXene as Element Block  
Akira Watanabe, Ashiqur Rahman, Hirotaka Ooi
- 17:30 2D19 Relationship between side chain and lustrous color in oligo-3-alkoxythiophene metallic lustrous films  
Ryota Saito, Satoru Tsukada, Katsuyoshi Hoshina
- 17:55 2D20 Electron-accepting Materials Containing Thienoazacoronene as an Element Block  
Tomokazu Umeyama

**Wed. Sep 8**

#### **S4. Development of Element-block Materials for The Bright Future**

**Koji Takagi, presiding**

9:10 3D01IL Structures and Functions of Supramolecular Polymers Directed by Molecular Recognitions  
Takeharu Haino

**Takuya Matsumoto, presiding**

10:00 3D03 Design and Synthesis of Luminescent Materials with 3D Structure of Polyhedral Oligomeric Silsesquioxane  
Masayuki Gon, Kazuo Tanaka, Yoshiki Chujo

10:25 3D04 Radical Copolymerization of Vinyl Boronate: Side-Chain Cooperative Catalyst Based on the Lewis Acidic Boron and Syntheses of Functional Copolymers via Post-Polymerization Transformation of Boron on the Main-Chain  
Hiroshi Makino, Tsuyoshi Nishikawa, Makoto Ouchi

**Masayuki Gon, presiding**

10:50 3D05 Fabrication of Waterborne Polyurethane/Cellulose Nanofiber Composites with High Thermal Dimensional Stability  
Takuya Matsumoto, Nanami Yagi, Takashi Nishino

11:15 3D06 Synthesis of poly(carbon sulfide)s by electroreductive polymerization of carbon disulfide and their battery performance  
Yuma Terashima, Yoshimasa Matsumura, Bungo Ochiai

11:40 3D07 Thermo-responsive Behavior of Optical and Electrical Properties of Liquid Crystalline Polymer-Gold Nanoparticle Hybrids  
Takashi Miyata, Hiroki Tanaka, Akifumi Kawamura

**Yoshimasa Matsumura, presiding**

12:55 3D08 Glass formation of luminescent Eu(III) coordination polymers with amide groups  
Joe Hayashi, Sunao Shoji, Yuichi Kitagawa, Koji Fushimi, Yasuchika Hasegawa

13:20 3D09 Luminescence properties of Eu-doped Si-Al-O-N glasses prepared by the sol-gel process  
Shunsuke Watanabe, Yuta Osawa, Shingo Machida, Ken-ichi Katsumata, Atsuo Yasumori, Hiroyo Segawa

**Hiroaki Imoto, presiding**

13:45 3D10 Synthesis of phosphonic-acid-modified polysilsesquioxane and its application to a flexible self-cleaning film  
Miyu Kajiyama, Takahiro Gunji, Kazuki Yamamoto

14:10 3D11 Effect of hybridized polymer material on luminescence of iridium complex  
Yuki Kuroda, Masashi Nakamura, Koji Mitamura, Mitsuru Watanabe, Masahiro Muraoka, Araki Masuyama, Seiji Watase

14:35 3D12 Synthesis of Polysilsesquioxane Containing Hydroxyl Groups and Application for Antifogging Materials  
Tetsuya Sugimoto, Takashi Hamada, Tetsuya Maeda, Daiji Katsura, Susumu Mineoi, Joji Ohshita

**Yuichi Kitagawa, presiding**

15:25 3D14 Synthesis and Application for Circularly Polarized Luminescence of Planar Chiral Element-Blocks  
Yasuhiro Morisaki, Nanami Miki, Genki Namba, Ryo Inoue

15:50 3D15 Synthesis of organoarsenic conjugated polymers and their unusual properties  
Kensuke Naka, Chieko Yamazawa, Susumu Tanaka, Hiroaki Imoto

## Room E

**Mon. Sep 6**

### **S1. Frontier in Polymer Chemistry Based on Metal-free Catalyst**

- 9:50 1ES0 Introductory Remarks S1  
Hiroki Iida
- Takuya Isono, presiding**
- 10:00 1E03 Synthesis of basic amino acid-containing polypeptides by chemoenzymatic polymerization  
Kayo Terada, Taichi Kurita, Joan Gimenez-Dejoz, Kousuke Tsuchiya, Keiji Numata
- 10:25 1E04 Synthesis of hydrophobic polysaccharides by enzymatic polymerization  
Shogo Abe, Kazuya Yamamoto, Jun-ichi Kadokawa
- 10:50 1E05 Enzymatic Synthesis and Characterization of Cellulosic Block Co-oligomers  
Kai Sugiura, Toshiki Sawada, Hiroshi Tanaka, Takeshi Serizawa
- Hiroki Iida, presiding**
- 11:15 1E06IL Precision Enzymatic Synthesis of Amylose Analog Polysaccharides by Glucan Phosphorylase Catalysis  
Jun-ichi Kadokawa
- 12:55 1E08 Helical Chirality Induction of Macromolecular Nucleophilic Catalysts with Protected Natural Amino Acids: Application to Asymmetric Acyl Rearrangement  
Naoto Ariki, Takaya Fujie, Kana Omoto, Takeshi Yamamoto, Michinori Suginome
- 13:20 1E09 Synthesis of binaphthyl-based helical polymers bearing cinchona alkaloid moieties for asymmetric organocatalysis application  
Hiroya Sasaki, Naoki Haraguchi, Shinichi Itsuno
- 13:45 1E10 Design of polymer-immobilized cis-diphenylprolinol derivatives and their application to asymmetric reactions  
Naoki Haraguchi, Rina Watanabe, Hidenori Ochiai, Akira Nishiyama, Shinichi Itsuno
- Yuta Nabae, presiding**
- 14:10 1E11 Ionically polymer-immobilized MacMillan catalyst for continuous flow asymmetric reaction  
Md Azgar Ali, Naoki Haraguchi
- 14:35 1E12 Continuous Flow Synthesis of porous polymer monolith with organocatalyst  
Yoshiko Miura, Haruka Hattori, Hikaru Matsumoto, Seiya Nonaka, Masanori Nagao, Yu Hoshino
- Takeshi Yamamoto, presiding**
- 15:25 1E14 On-demand design of chiral guanidine catalysts utilizing noncovalent modification and immobilization onto polymer  
Yukihiro Arakawa, Aya Ogawa, Momoko Hara, Keiji Minagawa, Yasushi Imada
- 15:50 1E15 Creation of Novel Catalytic Strategy for Asymmetric Synthesis with Supramolecular Approach Utilizing Protein as Chiral Nanoreactor

Nagisa Kanazawa, Misaki Kawai, Masaki Nishijima, Tadashi Mori, Yasuyuki Araki, Takehiko Wada

**Yukihiro Arakawa, presiding**

- 16:15 1E16 Development of Heterogeneous Organocatalysts Immobilized onto Chitin and Chitosan Derivatives and Their Catalytic Activity  
Hiroki Iida, Hayaki Okai, Daichi Katsube, Marina Oka, Takuya Sakai, Mirai Watanabe
- 16:40 1E17 Synthesis of a N-doped carbon by carbonizing polyimide nano-particles for electrocatalytic oxygen reduction  
Yuta Nabae, Yun Wu, Shinsuke Nagata, Kazushige Hori, Teruaki Hayakawa

**Naoki Haraguchi, presiding**

- 17:30 1E19L Polymer supported ionic liquid-like phases in metal-free catalysis  
Santiago V. Luis, Eduardo García-Verdugo, Belèn Altavai, Raúl Porcar

**Tue. Sep 7**

**S1. Frontier in Polymer Chemistry Based on Metal-free Catalyst**

**Mineto Uchiyama, presiding**

- 10:00 2E03 Ring-opening polymerization of cyclic esters catalyzed by resin-supported alkali metal carboxylates  
Itsuki Takahashi, Satoru Takagi, Yoshinobu Mato, Takuya Yamamoto, Takuya Isono, Kenji Tajima, Toshifumi Satoh
- 10:25 2E04 Alkali Metal Carboxylate as an Efficient and Simple Catalyst for Ring-Opening Polymerization of Epoxides  
Tianle Gao, Xiaochao Xia, Takuya Isono, Kenji Tajima, Toshifumi Satoh
- 10:50 2E05 Sequentially and Architecturally Controlled Multiblock Copolymers using Alkali Metal Carboxylate-Catalyzed Polymerization System  
Xiaochao Xia, Ryota Suzuki, Tianle Gao, Takuya Isono, Toshifumi Satoh

**Toshifumi Satoh, presiding**

- 11:15 2E06 Acridinium Salts as Photoredox Organocatalysts for Photocontrolled Metal-Free Living Cationic and Radical Polymerizations: Control of Different Polymerizations with Single Catalyst  
Marina MATSUDA, Mineto UCHIYAMA, Masami KAMIGAITO
- 11:40 2E07 Synthesis of Methacrylate and Acrylate Polymers Containing BOC Protecting Groups and Their Functionalization by Deprotection  
Kaito Osada, Jing Chu, Tatsuya Sakamoto, Yasuhito Suzuki, Akikazu Matsumoto

**Akinori Takasu, presiding**

- 12:55 2E08 Precise Synthesis of Side-Chain-Functionalized Linear Polysiloxanes by Ring-Opening Polymerization of Functional Cyclotrisiloxanes Using Guanidine Catalysts  
Keita Fuchise, Kazuhiko Sato, Masayasu Igarashi
- 13:20 2E09 Screening glycopolymer for detection of Cholera toxin using aqueous PET-RAFT polymerization  
Takeshi Uemura, Masanori Nagao, Yu Hoshino, Yoshiko Miura

**Masanori Nagao, presiding**

- 13:45 2E10 Synthesis and Evaluation of Bottlebrush Polymers with  
Mechanochromic Properties  
Riho Shibata, Takuma Watabe, Daisuke Aoki, Hideyuki Otsuka
- 14:10 2E11 New development in synthesis of cyclic vinyl polymer via ring-closing  
reaction without need of highly diluted condition  
Yuki Muramatsu, Kota Oto, Hiroki Ito, Hirotake Yato, Akinori Takasu
- 14:35 2E12 Polymerization by Organic Lewis Acid Catalysts including Heavy  
Elements  
Koji Takagi, Hiroto Murakata, Nao Sakakibara, Tomoki Hasegawa, Kanami  
Okamura

## **S2. Well-defined Functional Polymers Prepared by Precision Polymerization**

### **Mineto Uchiyama, presiding**

- 16:15 2E16 Novel tandem polymerization and cationic ring-opening polymerization  
based on cyclotrimerization of two aldehydes and one vinyl ether for  
sequence regulated polymer  
Tadashi Naito, Arihiro Kanazawa, Sadahito Aoshima
- 16:40 2E17 Cationic Alternating Copolymerization of Vinyl Monomers and  
Conjugated Aldehydes: Selective Synthesis of Backbone-degradable  
Polymers Towards Precise Control of Monomer Sequence and Chain-end  
Functionalization  
Tomoki Nara, Arihiro Kanazawa, Sadahito Aoshima
- 17:05 2E18 Polymer synthesis and analysis of halogen bonding vinyl ether  
monomers: Towards polymer self-assembly  
Takanaga Suzuki, Kira Landenberger

### **Arihiro Kanazawa, presiding**

- 17:30 2E19 Anionic polymerizability of 2-isopropenylthiophene derivatives  
Yuki Kurishiba, Raita Goseki, Takashi Ishizone
- 17:55 2E20 Novel Living Anionic Polymerization Using Active Proton for Reversible  
Reactions at Propagating Chain End  
Natsumi OHIRA, Mineto UCHIYAMA, Masami KAMIGAITO

## **Room F**

**Mon. Sep 6**

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

### **Shigeki Habaue, presiding**

- 10:00 1F03 A simple model for polymer-gel elasticity in statistical mechanics  
Naoyuki Sakumichi, Nobu C. Shirai
- 10:25 1F04 Coarse-Grained Molecular Dynamics Simulation of Biaxial Extension of  
Chemical Gels and Slide-Ring Gels  
Haru Shinohara, Takeyoshi Masumoto, Kosuke Aomura, Yusuke  
Yasuda, Koichi Mayumi, Hideaki Yokoyama, Kozo Ito

### **Koichi Mayumi, presiding**

- 10:50 1F05 Molecular Simulation of Structure Formation of Polymer Gels Synthesized by Radical Polymerization  
Tsutomu Furuya, Tsuyoshi Koga
- 11:15 1F06 Universality of osmotic pressure of polymer gels based on star-branched polymer solutions  
Takashi Yasuda, Naoyuki Sakumichi, Takamasa Sakai
- 11:40 1F07 Formation and Control of Network Structure in Poly(Lactic Acid) Gel  
Yasuhiro Matsuda, Shun-ich Ishima, Atsushi Takahara
- Takamasa Sakai, presiding**
- 12:55 1F08 Rheological Properties of Poly(vinyl alcohol) Gels with Chemical/Transient Cross-links  
Takuro Taniguchi, Kenji Urayama
- 13:20 1F09 In Situ X-ray Scattering Investigation of PI Ionomers with Dynamic Network under Uniaxial Deformation  
Shinichiro Hamajima, Masatoshi Tsunoda, Yohei Miwa, Shoichi Kutsumizu, Hideaki Takagi
- 13:45 1F10 Control of Network Rearrangement in Ionic Silicone Elastomer with Dynamic Crosslinks  
Takehito Ohya, Yohei Miwa, Shoichi Kutsumizu
- Takuya Ohzono, presiding**
- 14:10 1F11 Material Design for High-Strength Co-continuous Network Polymers (CNP) Using Epoxy Monolith.  
Ren Tominaga, Yasuhito Suzuki, Yoshihiro Takeda, Masaru Kotera, Akikazu Matsumoto
- 14:35 1F12 Stretch-induced two-step fluorescence color change of polyurethane elastomer incorporating a flapping force probe  
Kensuke Suga, Takuya Yamakado, Shohei Saito
- Kenji Urayama, presiding**
- 15:25 1F14 Synthesis of biocompatible elastomer microspheres crosslinked with rotaxane and formation of latex films  
Yuma Sasaki, Haruka Minato, Takuma Kureha, Kazuko Nakazono, Toshikazu Takata, Daisuke Suzuki
- 15:50 1F15 Effect of Proteins on Vulcanization of Natural Rubber  
Seiichi Kawahara, Skihiro Sato, Yoshimasa Yamamoto
- 16:15 1F16 Study on the time-evolution of zinc compounds formed in the vulcanization process  
Yuki Watanabe, Takenaka Mikihiro, Shotaro Nishitsuji
- Seiichi Kawahara, presiding**
- 16:40 1F17 Effect of Elongation Mode on the Mechanical Behavior of Strain-Induced Crystallizable Elastomers  
Ryosuke Osumi, Thanh-Tam Mai, Ruito Tanaka, Shinichi Sakurai, Katsuhiko Tsunoda, Kenji Urayama
- 17:05 1F18 Effect of network structures on strain-induced crystallization of peroxide cross-linked isoprene rubbers  
Shoko Yamakawa, Kosuke Miyaji, Yuko Ikeda
- 17:30 1F19 Impact of crystallites on nematic elastomers  
Takuya Ohzono, Hiroyuki Minamikawa, Emiko Koyama, Yasuo Norikane

**Tue. Sep 7**

## B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES

### **Yasuhiro Matsuda, presiding**

- 9:10 2F01 Wide-angle X-ray Scattering from Aqueous Poly(*N,N*-diethylacrylamide) Solutions  
Daichi Ida, Keiji Numata
- 9:35 2F02 Dilute solution properties of polyvinyl alcohol alkyl carbamates  
Shodai Miura, Akiyuki Ryoki
- 10:00 2F03 Effect of difference in D-form content of poly(D,L-lactic acid) on molecular conformation  
Kayo Ueda, Natsuki Fukuta, Shou Kasuga, Yoshinori Suzuki, Takahiro Watanabe, Moriya Kikuchi, Seigou Kawaguchi

### **Daichi Ida, presiding**

- 10:25 2F04 Thermal denaturation and renaturation behavior of xanthan under different pH  
Yasuhiro Matsuda, Ryoga Saiki, Kana Kurimoto, Kazuto Yoshida
- 10:50 2F05 Branched Polymers with New Architectures  
Kazumi Suematsu
- 11:15 2F06 Partition of Block Copolymers in Phase-Separating Polymer Solutions  
Takahiro Sato, Itaru Asano
- 11:40 2F07 Phase Separation Behavior and Complex Formation Ability of Highly-branched Cyclic Dextrin Derivatives in Aqueous Solution  
Akihito Kobayashi, Ken Terao, Shinichi Kitamura

### **Katsufumi Tanaka, presiding**

- 12:55 2F08 Solution properties of poly(ethylene oxide)-poly(propylene oxide) alternating multiblock copolymers in water  
Kenji Sakanaya, Yusuke Sanada, Keisuke Watanabe, Yukiteru Katsumoto
- 13:20 2F09 Preparation and characterization of two-dimensional sheet-shaped polymers  
Yuya Doi, Mitsuo Hara, Takahiro Seki, Takashi Uneyama, Yuichi Masubuchi
- 13:45 2F10 Rheological Behavior of Hydrogen Bonding Entangled Polymer / Oligomer Blend  
Osamu Urakawa, Ayaka Yasue, Ryota Kashoji, Tadashi Inoue

### **Osamu Urakawa, presiding**

- 14:10 2F11 Rheology of Conjugated Polymers with Bulky and Flexible Side Chains  
Akira Shinohara, Takashi Nakanishi
- 14:35 2F12 Flow Behavior and Microstructure of Electro-Rheological Nano-Suspensions with a Small Amount of Water Molecules  
Katsufumi Tanaka, Izumi Tateisi, Yuki Maenaka, Lin Xin, Midori Takasaki, Haruki Kobayashi

### **Shinji Tanaka, presiding**

- 15:25 2F14 Structural Analysis of Symmetrically Substituted Poly(diphenylacetylene) Derivatives Bearing Optically Active Substituents Through an Amide Linkage  
Mai NOZAKI, Daisuke HIROSE, Tatsuya NISHIMURA, Sawa ISHII, Go WATANABE, Eiji YASHIMA, Katsuhiko MAEDA
- 15:50 2F15 Structural Analysis of Poly(diphenylacetylene)s Synthesized with Tantalum Catalysts

- Shingyo Sueyoshi, Tsuyoshi Taniguchi, Saki Tanaka, Hitoshi Asakawa, Tatsuya Nishimura, Katsuhiko Maeda
- 16:15 2F16 Structural Analysis and Formation Mechanism of Poly(diphenylacetylene)s Obtained by Low-Valent Tungsten-Catalyzed Polymerization of Diphenylacetylenes  
Mami Miyairi, Tsuyoshi Taniguchi, Saki Tanaka, Hitoshi Asakawa, Syo Kasuga, Moriya Kikuchi, Seigou Kawaguchi, Tatsuya Nishimura, Katsuhiko Maeda
- Tsuyoshi Taniguchi, presiding**
- 16:40 2F17 Structural characterization of end-groups of poly(p-phenylene)sulfide by solid-state DNP-NMR spectroscopy  
Shinji Tanaka, Shingo Takada, Toru Suzuki, Yumiko Nakajima, Kazuhiko Sato
- 17:05 2F18 Analysis of the heat aging behavior of polyamide containing iron stabilizer by soft X-ray emission spectroscopy.  
Tomoyo Okumura, Takashi Ono, Kouji Satou, Yuki Ishiyama, Shunsuke Mieda, Yohei Sato, Masami Terauchi
- 17:30 2F19 Fluorescence Polymers that are Controllable by Hydrostatic Pressure  
Kotoe Nakasha, Gaku Fukuhara

**Wed. Sep 8**

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

**Shoichi Kubo, presiding**

- 9:10 3F01 Polymerization of siloxanyl terminals of cubic liquid-crystalline hydrogen-bonding complexes  
Yuto Ogasawara, Yohei Miwa, Ryunosuke Kani, Kazumasa Funabiki, Shoichi Kutsumizu
- 9:35 3F02 Shape classification of twisted nematic elastomer ribbons  
Atsushi Joto, Haruka Doi, Valerio Varano, Luciano Teresi, Kenji Urayama
- 10:00 3F03 Gliding anchoring of liquid crystal on cross-linked bottlebrush film  
Yuji Kinose, Keita Sakakibara, Osamu Sato, Yoshinobu Tsujii

**Shoichi Kutsumizu, presiding**

- 10:25 3F04 Synthesis of Disubstituted Polyacetylene with Liquid crystallinity and Fluorescence, and Properties of Electromagnetic Characteristics  
Kyoka Komaba, Masashi Otaki, Reiji Kumai, Shigeki Nimori, Hiromasa Goto
- 10:50 3F05 Effect of molecular diffusion on photopolymerization behavior of an anisotropic methacrylate monomer  
Takuto Ishiyama, Yoshiaki Kobayashi, Shoichi Kubo, Atsushi Shishido

**Room G**

**Mon. Sep 6**

## B. POLYMER PHYSICS: STRUCTURE AND PROPERTIES

### Hiroki Uehara, presiding

- 10:00 1G03 Local Structure Analysis of Polymer Spherulites by Nanodiffraction Imaging  
Hironori Marubayashi, Shusuke Kanomi, Koichi Azuma, Hiroya Satoh, Tomohiro Miyata, Hiroshi Jinnai
- 10:25 1G04 Synthesis and spherulitic growth of cyclic poly(p-dioxanone) by ring expansion polymerization  
Ryogo Ono, Shinichi Yamazaki, Hironori Atarashi, Kunio Kimura
- 10:50 1G05 Crystallization behavior of star-shaped polylactides distinguishing the chain directions  
Shota Yamazaki, Mahoko Harada, Osamu Haba, Kazuki Fukushima, Jiro Kumaki

### Hironori Marubayashi, presiding

- 11:15 1G06 Kinetics of density fluctuations during the early stage of crystallization in syndiotactic polypropylene IV  
Takashi Konishi, Tadokoro Daisuke, Fukao Koji, Miyamoto Yoshihisa
- 11:40 1G07 Isothermal and non-isothermal examinations of the melting kinetics of polyethylene  
Akihiko Toda, Rene Androsch, Christoph Schick

### Shinichi Yamazaki, presiding

- 12:55 1G08 The analysis of the growth rate of poly(trimethylene terephthalate)  
Daisuke Tadokoro, Takashi Konishi, Fukao Koji, Miyaji Hideki, Teppei Yoshida, Yoshihisa Miyamoto
- 13:20 1G09 Influence of the uncrystallizable 3-hydroxyhexanoate Content on Melt-isothermal Crystallization Kinetics of Microbial Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate)  
Toan Van Nguyen, Toshiteru Nagata, Kosei Noso, Kenshiro Kaji, Hiroyasu Masunaga, Taiki Hoshino, Takaaki Hikima, Shinichi Sakurai, Kenta Yamamoto, Yuta Miura, Takashi Aoki, Hideki Yamane, Sono Sasaki
- 13:45 1G10 Dynamics of molecules confined in the e-phase of syndiotactic polystyrene  
Ryosai Inoue, Osamu Urakawa, Tadashi Inoue

### Akihiko Toda, presiding

- 14:10 1G11 An in-situ Raman spectroscopic study on morphology during heating and cooling in mesomorphic isotactic polypropylene  
Ryota Midorikawa, Misato Nabata, Yusuke Hiejima, Koh-hei Nitta
- 14:35 1G12 Relationship between  $\alpha 1$ - $\alpha 2$  Phase Transition and Reorganization of Isotactic Polypropylene Crystals: Melting and Recrystallization  
Misako Inagaki, Takahiro Miyoshi, Koji Nozaki, Koji Yamada

### Tetsuya Uchida, presiding

- 15:25 1G14 Effect of crystallization condition on phase formation and transformation of  $\pi$ -conjugated supramolecule  
Tomoki Hidai, Masaki Kakiage, Hiroki Uehara, Takeshi Yamanobe, Kazumasa Suzuki, Shin-ichiro Kato
- 15:50 1G15 Fabrication of Elastic Single Crystals of a  $\pi$ -conjugated small molecule in an ionic Liquid of capillaries  
Keigo Ono, Satoshi Watanabe, Shotaro Hayashi, Masashi Kunitake
- 16:15 1G16 Single crystallization of organo lead halide perovskite based on lower-critical solution temperature

Satoshi Watanabe, Shun Inouti, Tenuu Date, Masashi Kunitake

**Masashi Kunitake, presiding**

- 16:40 1G17 Crystallization of Single-Walled Carbon Nanotubes from a Dilute Solution  
Naoya Tsugawa, Satoru Yoshida, Natsuki Tohnai, Tetsuya Uchida
- 17:05 1G18 A Reactive Molecular Dynamics Study on Structural Change of Damaged Hydrocarbons in a Vacuum  
Haolun Li, Susumu Fujiwara, Hiroaki Nakamura, Tomoko Mizuguchi, Ayako Nakata, Tsuyoshi Miyazaki, Shinji Saito, Wataru Sakai
- 17:30 1G19 Wetting and Drying Process Observed by Pulse Neutron Small-angle Scattering  
Satoshi Koizumi, Mitsuki Tanaka, Yohei Noda, Tomoki Maeda, Masako Shinozuka, Mutsuko Nakano
- 17:55 1G20 Spatial distribution of the amorphous region constrained by polymer crystals  
Mizuki Kishimoto, Mikihiro Takenaka, Hitoshi Iwabuki

**Tue. Sep 7**

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

**Shogo Nobukawa, presiding**

- 9:10 2G01 Microphase Separation and Nanostructured Thin Films of Random Copolymers: Effects of Crystalline or Hydrogen-Bonding Units on Order-Disorder Transition  
Takaya Terashima, Takaya Ikami
- 9:35 2G02 Microphase Separation of Random Copolymers via Pendant Design  
Sahori Imai, Makoto Ouchi, Takaya Terashima
- 10:00 2G03 Ordered Structure of Binary Random Copolymer Formed in an Aqueous Environment II  
Katsuhiko Yamamoto, Tatsuya Imai, Mikihiro Inukai, Eri Ito, Yoshihito Inai
- 10:25 2G04 Effects of crosslinking on low-temperature crystallinity and mobility of NR/BR rubber  
Toshimi Nakaya, Kazuma Kobayashi, Yuya Miyake, Keiko Otake, Hiroyuki Kai, Joji Ohshita

**Katsuhiko Yamamoto, presiding**

- 10:50 2G05 Morphology and mechanical properties of PMMA/EVOH blends containing metal salt  
Shogo Nobukawa, Mayu Horada, Katsuhiko Inomata
- 11:15 2G06 Correlation analysis of degree of crosslinking with degree of orientation and thermal expansion of cross-linkable polyimide prepared from lyotropic liquid crystalline precursor  
Yuta Ohsako, Shohei Hara, Shinji Ando, Ryohei Ishige, Tomoya Higashihara
- 11:40 2G07 USAXS analysis of self-assembled structures of polymer-brush-modified nanoparticles in ionic liquid  
Yohei Nakanishi, Ryohei Ishige, Hiroki Ogawa, Keita Sakakibara, Kohji Ohno, Toshiji Kanaya, Mikihiro Takenaka, Yoshinobu Tsujii

**Ryohei Ishige, presiding**

- 12:55 2G08 Study of submicron-scale heterogeneous structures of crystalline polymers  
Masato Arakawa, Mizuki Kishimoto, Yohei Nakanishi, Mikihiro Takenaka
- 13:20 2G09 Universality of strain-induced density fluctuations in glassy materials  
Shuta Aokura, Mikihiro Takenaka
- 13:45 2G10 Melt drawability of ultra-high molecular weight polyethylene via periodic orientation/relaxation process  
Kenta Oomori, Masaki Kakiage, Hiroki Uehara, Takeshi Yamanobe
- Mikihiro Takenaka, presiding**
- 14:10 2G11 Multiaxial Analysis of Soft Elasticity of Liquid Crystal Elastomers  
Suzuka Okamoto, Asaka Takebe, Haruki Tokumoto, Kazutaka Kamitani, Ken Kojio, Atsushi Takahara, Kenji Urayama
- 14:35 2G12 Effects of morphology in polypropylene damaged by falling weight impact tests  
Ryohei Ippitsu, Yusuke Hiejima, Koh-hei Nitta
- Masaki Kakiage, presiding**
- 15:25 2G14 Probabilistic analysis of tensile fracture behavior at poly(methyl methacrylate)  
Naoya Funasaki, Asae Ito, Koh-hei Nitta
- 15:50 2G15 Mechanical properties of poly (methyl methacrylate) with various lithium salts  
Arisa Shin, Asae Ito, Koh-hei Nitta
- 16:15 2G16 Temporal analysis of surface bending strain in polymer films  
Yuhao Zhang, Ryo Taguchi, Masayuki Kishino, Norihisa Akamatsu, Shoichi Kubo, Atsushi Shishido
- 16:40 2G17 All-atomistic molecular dynamics study of the glass transition phenomenon of amorphous polymers  
Zhiye Tang, Susumu Okazaki

**Wed. Sep 8**

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

**Takashi Konishi, presiding**

- 9:10 3G01 DNP-SANS investigation of water distribution in hair fiber microstructure  
Yohei Noda, Satoshi Koizumi, Tomoki Maeda, Takumi Inada, Mitsuki Tanaka, Aya Ishihara, Hiroyuki Inoue
- 9:35 3G02 Micro-phase Separated Structure in Block Copolymer Analyzed by Small-angle Neutron Scattering with Dynamic Nuclear Polarization II  
Katsuhiro Yamamoto, Kensei Ando, Satoshi Koizumi, Yohei Noda, Tomoki Maeda
- 10:00 3G03 The structural analysis of polyvinyl alcohol including water by DNP-SANS  
Yohei Noda, Satoshi Koizumi
- 10:25 3G04 New method of Spin polarization contrast variation with neutrons - current status and future plan-  
Satoshi Koizumi, Yohei Noda, Tomoki Maeda, Takumi Inada

**Yohei Noda, presiding**

- 10:50 3G05 Structure Evaluation of Carbon Fiber Reinforced Composite during Fatigue Testing by small/wide Angle X-ray Scattering  
Masatoshi Todaka, Kakeru Obayashi, Ken Kojio
- 11:15 3G06 B Segment Distribution Analysis in the Block Copolymer Microdomain Consisting of A Chain and Random BC Chain Utilizing Anomalous Small-Angle X-ray Scattering  
Yoshiaki Fuwa, Hideaki Takagi, Katsuhiko Yamamoto
- 11:40 3G07 Theoretical Study on Pressure-Induced Phase Transition of Baroplastics  
Hiroki Degaki, Tsuyoshi Koga

**Ken Kojio, presiding**

- 12:55 3G08 Quasicrystal and Its Approximant of Complex Packing of Spherical Microdomains in Block Copolymers  
Katsuhiko Yamamoto, Hideaki Takagi
- 13:20 3G09 Construction of double gyroid structure from AB and ABC block copolymers with various molecular weight and the transformation into nanoporous structure  
Ayane Kitahara, Tsuyoshi Orido, Atsushi Takano, Yushu Matsushita
- 13:45 3G10 Helical Cylinders formed from ABAC Tetrablock Terpolymers and Terpolymer/Homopolymer Blends.  
Tsuyoshi Orido, Atsushi Takano, Yushu Matsushita

**Atsushi Takano, presiding**

- 14:10 3G11 Dispersion State of Silica with Different Shapes and Viscoelastic Properties of the Polymer Composite  
Masayuki Miyamoto, Yoshihisa Fujii, Naoya Torikai
- 14:35 3G12 Nanocellulose/polyethylene nanocomposite sheets prepared from an oven-dried nanocellulose by elastic kneading  
Ken-ichi Niihara, Toru Noguchi, Rie Iwamoto, Genichi Matsuda, Morinobu Endo, Akira Isogai

**Naoya Torikai, presiding**

- 15:25 3G14 Energetic and entropic elasticity of natural rubber with nanomatrix structure  
Yoshimasa Yamamoto, Kota Endo, Seiichi Kawahara
- 15:50 3G15 Mechanism of Mechanical Relaxation and Toughening for Epoxy Resins with Polyrotaxanes  
Akihiro Hanafusa, Shota Ando, Tetsuharu Yuge, Satoru Ozawa, Masakazu Ito, Ryuichi Hasegawa, Koichi Mayumi, Kohzo Ito

**Room H**

**Mon. Sep 6**

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

**Hideaki Yokoyama, presiding**

- 10:00 1H03 Precise and Dynamic Random Copolymer Micelles: Elucidation of Chain Exchange Behavior by Small-Angle Neutron Scattering  
Masayuki Hibino, Shin-ichi Takata, Kosuke Hiroi, Makoto Ouchi, Takaya Terashima

- 10:25 1H04 Molecular simulation of micelle formation and self-sorting of amphiphilic copolymers  
Nami Sato, Tsuyoshi Koga
- 10:50 1H05 Colloidal Particle Morphology in Aqueous Dispersions of a Higher Alcohol–Surfactant Mixture  
Kaoru Yagishita, Takahiro Sato
- Takahiro Sato, presiding**
- 11:15 1H06 Study on Shape Change and Thermo-Responsivity of PIC Micelles with Sulfobetaine as a Shell  
Dongwook Kim, Hideki Matsuoka, Yoshiyuki Saruwatari
- 11:40 1H07 Effect of disk-shaped deformation of spherical hollow polymer particles on hydrodynamic properties  
Tomoya Hirano, Tatsuo Taniguchi, Takashi Karatsu
- Takaya Terashima, presiding**
- 12:55 1H08 Regulation of Stimuli-responsiveness of Capsule Particles Prepared by Interfacial Photocrosslinking of Spherical Polymer Particles  
Yukiya Kitayama, Atsushi Harada
- 13:20 1H09 Surface graft polymerization and into kinetics of silica capsules containing radical initiator group on their surface  
Yuichi Iki, Reiko Saito
- Reiko Saito, presiding**
- 13:45 1H10 Preparation of porous polymeric membranes by miniemulsion templating method for structural coloration  
Haruna Sumida, Yusuke Sugaya, Yuuka Fukui, Keiji Fujimoto
- 14:10 1H11 Origin Elucidation of Spherical Particulation that Deteriorates Thixotropic Property of Diamide-Based Additive Having Two-Hydrocarbons and Proposal of Its Suppressed Technology  
Yuki MASHIYAMA, Haruka MARUYAMA, Atsuhiko FUJIMORI
- 14:35 1H12 Study on the Improvement of Dispersibility and Orientation Control of Fluorocarbon-Modified Single-Walled Carbon Nanotubes in a Fluorinated Polymer Matrix  
Takuto HAYASAKI, Yuna YAMADA, Kai XU, Ahmed A. ALMARASY, Atsuhiko FUJIMORI
- Yuji Higaki, presiding**
- 15:25 1H14 On-surface synthesis of graphene nanoribbon at low temperature  
Takahiro Kojima, Karan Patel, Shunpei Nobusue, Hiroshi Sakaguchi
- 15:50 1H15 Air/liquid interfacial synthesis of electrically conductive coordination polymer nanosheets -synthetic conditions influencing orientation and morphology-  
Takashi Ohata, Akihiro Nomoto, Takeshi Watanabe, Ichiro Hirosawa, Tatsuyuki Makita, Jun Takeya, Rie Makiura
- 16:15 1H16 Metal Capture and Desorption Abilities of Two Kinds of Films of Polyguanamine Derivatives with Cyclic Moiety and Bulky or Flexible Linkers  
Junto YAMAGUCHI, Yuji SHIBASAKI, Atsuhiko FUJIMORI
- 16:40 1H17 Regularity Maintenance Property of Multilayered Assemblies of Organic, Inorganic, and Their Alternating Nanoparticle Layers under Heating  
Nanata KIKUCHI, Takato OHASHI, Atsuhiko FUJIMORI
- Tatsuo Taniguchi, presiding**
- 17:05 1H18 Interfacial Film Conformation and Its Molecular Arrangement of s-Triazine Derivatives Containing Three Fluorocarbons without Hydrophilic Group

- Haruka MARUYAMA, Momo MAEDA, Atsuhiko FUJIMORI
- 17:30 1H19 Regularity Maintenance Properties under Deformation of Kink-introduced Nano-mille-feuille Structure Derived from Interfacial Friction Effect  
Takato OHASHI, Nanata KIKUCHI, Atsuhiko FUJIMORI
- 17:55 1H20 Lyotropic Ordered Structure of Double Zwitterionic Block Copolymers Produced by Zwitterion-Specific Interactions  
Yuji Higaki, Masaya Takahashi, Akane Shimizu, Mai Nakamura

**Tue. Sep 7**

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

### **Atsuhiko Fujimori, presiding**

- 9:10 2H01 Unique thickening growth of supramolecular nanosheet consisting of polyethylene glycol and  $\alpha$ -cyclodextrin  
Haruki Kazumi, Shuntaro Uenuma, Hideaki Yokoyama, Kohzo Ito
- 9:35 2H02 Temperature and concentration dependence of the structure of pseudo-polyrotaxane nanosheet  
Naoki Ando, Shuntaro Uenuma, Hideaki Yokoyama, Kohzo Ito
- 10:00 2H03 Effect of the axis polymer composition on the formation of pseudo-polyrotaxane nanosheet  
Shuntaro Uenuma, Rina Maeda, Hideaki Yokoyama, Kohzo Ito
- 10:25 2H04 Adhesion kinetics and degradation properties of pseudo-polyrotaxane nanosheets  
Junshin Takeda, Kimika Endo, Shuntaro Uenuma, Hideaki Yokoyama, Kohzo Ito

### **Tomoyasu Hirai, presiding**

- 10:50 2H05 Development of Silicone Compound-based Pseudo-Polyrotaxane Nanosheet  
kazuhiro Sugiyama, Kaori Hayashi, Genichi Nakamura, Koji Oosaki, Shuntaro Uenuma, Kohzo Ito
- 11:15 2H06 Development of Pseudo-Polyrotaxane Nanosheet with Frame-like Structure  
kazuhiro Sugiyama, Yuji Sakaiharu, Koji Oosaki, Shuntaro Uenuma, Kohzo Ito
- 11:40 2H07 Precise synthesis of polymer brush substrates consisting of poly(phenylacetylene)s and their structural analysis  
Tatsuya Nishimura, Kokoro Takayama, Feng Li, Tsuyoshi Taniguchi, Katsuhiko Maeda

### **Hiroshi Endo, presiding**

- 12:55 2H08 Preparation of novel chiral silica using stereoregular organic-inorganic hybrid polymers  
Satoshi Kometani, Kei Manabe, Syuji Fujii, Yoshinobu Nakamura, Tomoyasu Hirai
- 13:20 2H09 Optical property control of aromatic network polymer spheres with phenolic polyaromatic backbone  
Nanami Hano, Akari Yamamoto, Makoto Takafuji, Hirotaka Ihara

### **Yoshihisa Fujii, presiding**

- 13:45 2H10 Carbonization of aromatic network polymer spheres and their application to thermally stable high-contrast iridescent structural colors  
Makoto Takafuji, Kousuke Nakamae, Nanami Hano, Hirotaka Ihara
- 14:10 2H11 Neutron total reflection to observe the rubber interface on metal surface  
Satoshi Koizumi, Syuhei Aso, Tomoki Maeda, Masahiro Ueno, Yoshihisa Takeyama, Yuki Nakama
- 14:35 2H12 Changes in higher-order structure due to seawater immersion treatment of polycaprolactone thin films  
Mamiko Takigawa, Kenshirou Kaji, Hiroyasu Masunaga, Taiki Hoshino, Shinichi Sakurai, Sono Sasaki
- Satoshi Koizumi, presiding**
- 15:25 2H14 Fabrication of Hierarchical and Temperature-responsive Wrinkled Film  
Hiroshi Endo, Kohei Sawa, Daichi Kawabata
- 15:50 2H15 Viscoelastic impact between PDMS surface having different surface morphology and solid spheres  
Hirokazu Maruoka
- 16:15 2H16 Control of Bionterface functionalized with Pyridine Containing Amphiphilic Block Copolymer for Biomedical Applications.  
Hidenori Otsuka, Shuto Noguchi, Daisuke Kozuma
- Sono Sasaki, presiding**
- 16:40 2H17 Molecular dynamics study on the interaction of PMEA and water: Local states and properties of confined water  
Yoshiki Ishii, Hajime Torii, Yuka Ikemoto, Hitoshi Washizu
- 17:05 2H18 Polymer Adsorption into Sub-Nanoporous Metal-Organic Frameworks  
Noriyoshi Oe, Nobuhiko Hosono, Takashi Uemura
- 17:30 2H19 Property of dynamic zwitterionic polymer brush  
Katsuki Otaki, Norifumi Yamada, Kohzo Ito, Hideaki Yokoyama
- 17:55 2H20 Swelling behaviors of polyamide 4 thin films in aqueous environments  
Shunta Tamura, Haruki Mokudai, Takashi Masaki, Norifumi Yamada, Hisao Matsuno, Keiji Tanaka

**Wed. Sep 8**

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

### **Takashi Nishino, presiding**

- 9:10 3H01 In-situ AFM observation of crystallization process of extended-chain crystals of poly(lactic acid)  
Kazuya Ohtomo, Jiro Kumaki
- 9:35 3H02 High-temperature real-time AFM of a PMMA flat substrate prepared by thermal imprinting with mica and PMMA isolated chains deposited on it  
Jin Ohkawa, Jiro Kumaki
- 10:00 3H03 Molecular combing of various poly(n-alkyl acrylate) chains by the dipping method  
Akihiro Ohmatsuzawa, Moriya Kikuchi, Seigou Kawaguchi, Jiro Kumaki

### **Akihiro Hanafusa, presiding**

- 10:25 3H04 Relation between Sliding Friction of Poly(vinyl alcohol) Hydrogels and Surface Geometry

		<u>Haruna Takefuji</u> , Shintaro Yashima, Masahiko Annaka
10:50	3H05	Effect of lubricant with polyalkyl methacrylate on tribology of polymer materials <u>Atsuya Higuchi</u> , Masaki Kakiage, Hiroki Uehara, Takeshi Yamanobe, Yasushi Onumata, Kazuo Tagawa
11:15	3H06	Investigation of effects of lamellae sticking structure and orientation on polymer thin films on the surface elastic modulus <u>Kenshiro Kaji</u> , Van Toan Nguyen, Hiroyasu Masunaga, Daiki Hoshino, Shinichi Sakurai, Sono Sasaki
11:40	3H07	Alkyl side chain dependence on phase separations of poly(N-alkyl acrylamides-b-ethylene glycol). <u>Mizuki Ohke</u> , Wataru Kukai, Atsushi Narumi, Hiroshi Yabu, Masaya Mitsuishi, Jun Matsui
		<b>Jun Matsui, presiding</b>
12:55	3H08	Temperature Dependence of Interfacial Segregation for Aqueous Methylcellulose Solution and Its Effect on Gelation Behavior <u>Kenji Yamaoka</u> , Norifumi L. Yamada, Yoshihisa Fujii, Naoya Torikai
13:20	3H09	X-ray Diffraction Study on Thermal Residual Stress Analysis and Adhesion Strength at Different Polymers Interface <u>Ryosuke Hosomi</u> , Takuya Matsumoto, Takashi Nishino
13:45	3H10	Improving the adhesiveness between polyamide and carbon fibers by fiber surface oxidation <u>Tomoyo Okumura</u> , Taichi Oshima, Yasuhisa Ichihashi, Kei Ohkubo

<b>Room I</b>
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**Mon. Sep 6**

**S5. Polymer Simulation and Machine Learning - From Nanoscale to Macroscale**

12:45	1I50	Introductory Remarks S5 <u>Taku Ozawa</u>
		<b>Naohito Urakami, presiding</b>
12:55	1I08	Large-scale All-atom Molecular Dynamics Study on the Fracture Process of Semi-crystalline Polyethylene <u>Shuichi Uehara</u> , Yusuke Ootani, Nobuki Ozawa, Momoji Kubo
13:20	1I09	Relaxation process after elongation of semicrystalline polymers by coarse-grained molecular dynamics simulation <u>Yuji Higuchi</u>
13:45	1I10	Molecular Dynamics Simulation of diamond and Tetra-arm network under Uniaxial Stretching <u>Kosuke Aomura</u> , Yusuke Yasuda, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito
		<b>Takahiro Murashima, presiding</b>
14:10	1I11	Coarse-grained Modeling of Rubbers with Reversible Cross-Links <u>Yusuke Yasuda</u> , Hiroshi Morita
14:35	1I12	Elongation simulation of thermoplastic elastomer using CG model - dependence of elongation direction

Hiroshi Morita, Ayano Miyamoto, Ryohei Hosoya

**Yuji Higuchi, presiding**

- 15:25 1I14 Description of Finite Chain Extensibility in Elastomer Based on Complex Network  
Yoshifumi Amamoto, Ken Kojio, Atsushi Takahara, Yuichi Masubuchi, Mariko Ito, Takaaki Ohnishi
- 15:50 1I15 Multi-chain slip-spring simulations for unentangled polyisoprene melts  
Yuichi Masubuchi

**Hiroshi Morita, presiding**

- 16:15 1I16 Discovery of Stress Overshoot Phenomena in Ring-Linear Blends under Biaxial Elongational Flow  
Takahiro Murashima, Katsumi Hagita, Toshihiro Kawakatsu
- 16:40 1I17 Vesicle deformation and division induced by flip-flop  
Naohito Urakami, Yuka Sakuma, Toshikaze Chiba, Masayuki Imai

**Taku Ozawa, presiding**

- 17:30 1I19IL Computer simulations of block copolymer composite materials  
Javier Díaz, Marco Pinna, Ignacio Pagonabarraga, Andrei Zvelindovsky

**Tue. Sep 7**

**S5. Polymer Simulation and Machine Learning - From Nanoscale to Macroscale**

**Taku Ozawa, presiding**

- 9:10 2I01 Development of Material Information Extraction AI Tools  
Yuji Matsumoto, Masashi Ishii, Hiroya Takamura, Hiroyuki Shindo, Kouji Kozaki
- 9:35 2I02 Research and development of a corpus for polymer science and training data creation for an advanced AI tool  
Hiroyuki OKA, Akira Suzuki, Luca FOPPIANO, Koichi SAKAMOTO, Masashi ISHII, Kimito FUNATSU
- 10:00 2I03 Machine Learning-based Methods for Information Extraction in Material Science Domain  
Tatsuya Ishigaki, Yui Uehara, Liu Shanshan, Goran Topic, Hiroya Takamura
- 10:25 2I04 A development of machine-learning techniques for analyzing tables and figures in papers of polymer science  
Hiroyuki Shindo, Van Thuy Phi, Akihiko Kato, Shuhei Kondo, Yuya Yoshikawa
- 10:50 2I05 Development of a Polymer Ontology from Large-scale Knowledge Graphs for Structuring Material Data  
Kouji Kozaki, Satoshi Kume

**Hiroya Nitta, presiding**

- 11:15 2I06 Molecular design by unsupervised machine learning and quantum annealing technique  
Kan Hatakeyama, Momoka Umeki, Hiroki Adachi, Takahiro Kashikawa, Koichi Kimura, Kenichi Oyaizu
- 11:40 2I07 Machine Learning on Fundamental Polymer Properties using All-Atom Molecular Dynamics Simulation Data  
Umi Yamamoto, Masahiro Kitabata, Isamu Shigemoto

**Satoru Yamamoto, presiding**

- 12:55 2I08 Construction of thermophysical properties database of polymers using molecular dynamics calculations and analysis of controlling factor of the thermophysical properties by machine learning approach  
Yoshihiro Hayashi, Stephen Wu, Yoh Noguchi, Junichiro Shiomi, Junko Morikawa, Ryo Yoshida
- 13:20 2I09 High throughput prediction of elastic property of thermoplastic elastomer by hierarchical simulation and deep learning  
Takeshi Aoyagi
- 13:45 2I10 Deep learning-based estimation of chi-parameter of block copolymers from cross-sectional images of phase-separated structures  
Katsumi Hagita, Takeshi Aoyagi, Takashi Honda

**Kazushi Fujimoto, presiding**

- 14:10 2I11 Virtual experiment of generating CNT bucky-papers  
Takashi Honda, Shun Muroga, Hideaki Nakajima, Taiyo Simizu, Kazufumi Kobashi, Hiroshi Morita, Toshiya Okazaki, Kenji Hata
- 14:35 2I12 Experimental and Computational Studies of Microstructures and Heterogeneous Interfaces of Alumina/PMMA Composites  
Ken Saito, Kimiyasu Sato, Yuichi Tominaga, Yusuke Imai

**Takeshi Aoyagi, presiding**

- 15:25 2I14 Molecular Studies of Amorphous and Crystalline Polymers  
Kazushi Fujimoto, Hiroaki Ishikawa, Minoru Shimooka, Toshihiro Kaneko, Susumu Okazaki
- 15:50 2I15 Curing reaction process between epoxy molecules with different internal degrees of freedom and amines  
Satoru Yamamoto, Keiji Tanaka
- 16:15 2I16 Mechanical Property of Fiber/Matrix Interface for CFRP  
Jun Koyanagi

**Takashi Honda, presiding**

- 16:40 2I17 Force field parameter construction for molecular dynamics simulation of polymers adsorbed on solid slab  
Hiroya Nitta, Taku Ozawa
- 17:05 2I18 Molecular dynamics simulation of polyion complex formation of oligosaccharides and its drug loading behavior  
Makoto Yamazaki, Makoto Yabe, Kazutoshi Iijima
- 17:30 2I19 Fast local electronic structure analysis of DNA block polymer by ab initio elongation method and machine learning  
Keisuke Hisama, Yuuichi Orimoto, Yuriko Aoki

**Room J**

**Mon. Sep 6**

**S7. Surface and Interface of Polymers and Water; From Nano to Bulk Level**

- 9:50 1JSO Introductory Remarks S7  
Shingo Matsukawa

**Shingo Matsukawa, presiding**

- 10:00 1J03IL Recrystallization of ice crystals in sucrose solution containing food hydrocolloids.  
Tomoaki Hagiwara
- 10:50 1J05 Rheological properties and nano-structures of potato starch paste in gelatinization and retrogradation process.  
Isamu Kaneda, Shiho Sasaki, Rei Saito, Naoki Okabe, Masato Ohnuma, Takahiro Noda
- Isamu Kaneda, presiding**
- 11:15 1J06 Effects of acidic and basic additives on the cooperative order-disorder transition of aqueous schizophyllan  
Kazuto Yoshiba, Yota Yasuda, Yuji Miyazaki, Motohiro Nakano
- 11:40 1J07 Interaction and complex formation of ionic polysaccharide from seaweed with whey protein  
Yoshiaki Yuguchi, Sugumi Kawashima, Teruko Konishi, Thi Thu Thuy Thanh
- Yoshiaki Yuguchi, presiding**
- 12:55 1J08 Selectable Oil-Water Separation Membrane using a Self-organized Honeycomb Film  
Bihai CHEN, Takehiko WADA, Hiroshi YABU
- 13:20 1J09 Analysis of water swelling behaviors of phospholipid-mimetic polymers with different hydrophobic units  
Chie Kojima, Risa Katayama, Nobuyuki Tanaka, Yo Tanaka, Kohei Shiraishi, Akikazu Matsumoto
- Daisuke Ishii, presiding**
- 13:45 1J10 Synthesis of triblock copolymers composed of different betaine chains, and self-assembly and stimulus responsiveness  
Hiroyoshi Kameshima, Hideki Matsuoka, Yoshiyuki Saruwatari
- 14:10 1J11 Correlation between Hydration and Protein Rejection on Ethylene Glycol-Based Polymer Surface with Different Molecular Structure  
Hidenori Otsuka, Ryutaro Sato, Yukie Maejima, Shuto Noguchi
- 14:35 1J12 Creation of temperature-responsive cell culture base with side-chain crystalline block copolymer  
Shigeru Yao, Mai Hazekawa
- Yasuhisa Adachi, presiding**
- 15:25 1J14 Interfacial properties of amphiphilic cellulose nanofibrils with Janus-type structure  
Shingo Yokota, Koichiro Ishida, Tetsuo Kondo
- 15:50 1J15 Effect of addition of Ferulic acid Copolyester on the Enzymatic Degradation of Isothermally Crystallized Poly(L-lactide)  
Daisuke Ishii, Ai Matahira, Rui Tsukada
- 16:15 1J16 Hydration process in biocompatible polymers undergoing phase separation  
Daiki Murakami, Kosuke Yamazoe, Sin-nosuke Nishimura, Kurahashi Naoya Kurahashi, Tomoya Ueda, Jun Miyawaki, Yuka Ikemoto, Masaru Tanaka, Yoshihisa Harada
- Shigeru Yao, presiding**
- 16:40 1J17 Correlation between wettability of microstructured surfaces and dynamic behavior of bubbles in water atmospheres  
Honoka Sugiyama, Maria Inukai, Daisuke Ishii
- 17:05 1J18 Measurement of Adhesive interaction between Marine Sessile Organisms and Polyzwitterion Surface in Aqueous Media  
Motoyasu Kobayashi, Takumi Komiya, Ryota Sato, Yasuyuki Nogata

- 17:30 1J19 The analysis of the electrokinetic behavior in the cationic polymer brush surfaces as model interfaces  
Tsukuru Masuda, Yoichi Watanabe, Madoka Takai
- 17:55 1J20 Rate of flocculation of colloidal particles induced with polyelectrolytes in the standardized mixing  
Yasuhisa Adachi, Voon Hayley Lim

**Tue. Sep 7**

### **S7. Surface and Interface of Polymers and Water; From Nano to Bulk Level**

#### **Shingo Matsukawa, presiding**

- 9:10 2J01IL Molecular architecture and mechanical properties of plant cell walls and polysaccharide composite models  
Mike Gidley, P Lopez-Sanchez, M Martinez-Sanz, D Mikkelsen, BM Flanagan, M Rincon, S-Q Chen, G Gartaula, D Lin, GE Yakubov, EP Gilbert, JR Stokes
- 10:00 2J03 Cellulose structural assessment by Infrared spectroscopy combined with detuteration  
Mayu Yamazaki, Yoshiki Horikawa
- 10:25 2J04 Cellulose biosynthesis: an example of polymer synthesis in water  
Tomoya Imai, Tatsuya Kondo

#### **Yoshiki Horikawa, presiding**

- 10:50 2J05 Evaluation of aspect ratios of cellulose nanowhisker particles by viscosity measurements under controlled particle repulsions  
Naoya Osawa, Jun Araki
- 11:15 2J06 Structure and conformation of chemically modified cellulose ethers in aqueous solution  
Toshiyuki Shikata, Kei Kurahashi, Erika Saiki, Misato yoshida

### **S6. Frontier of Soft Materials Imaging**

- 12:45 2JSO Introductory Remarks S6  
Hiroshi Jinnai

#### **Takashi Nishino, presiding**

- 12:55 2J08 Dark Field Imaging Developed with the Pulse Neutron.  
Satoshi Koizumi, Yohei Noda, Yoshie Ohtake, Tomohiro Kobayashi, Takumi Inada, Tomoki Maeda
- 13:20 2J09 Structure analysis of adhesion interface using neutron reflection tomography  
Hiroyuki Aoki, Yuwei Liu

#### **Yohei Noda, presiding**

- 13:45 2J10 Spectro-microscopic Analysis of Organic Materials by Scanning Transmission X-ray Microscopy  
Takuji Ohigashi
- 14:10 2J11 Three-dimensional in situ observation of crack propagation in phase-separated structure of epoxy resin / polyether sulfone blends by X-ray CT and analysis of strain distribution  
Kazuya Tao, Takuya Matsumoto, Takashi Nishino

14:35 2J12 Damage-free nanoimaging of soft materials using X-ray free-electron laser  
Yoshinori Nishino, Suzuki Akihiro, Niida Yoshiya, Bessho Yoshitaka, Joti Yasumasa

**Hiroshi Jinnai, presiding**

15:25 2J14IL Emerging significance of molecular movies in chemistry  
Eiichi Nakamura

**Masatoshi Tosaka, presiding**

16:15 2J16 Nanoscale molecular vibration spectroscopy of polymers by using a monochromatized TEM  
Ryosuke Senga, Kazu Suenaga, Hsiao-Fang Wang, Tomohiro Miyata, Hiroshi Jinnai

16:40 2J17 Evaluation of electron irradiation damage on crystalline polymers by transmission electron microscopy  
Shusuke Kanomi, Tomohiro Miyata, Hiroshi Jinnai

**Kei Kobayashi, presiding**

17:05 2J18 Nano-scale chemical imaging of polymer blends  
Shunsuke Muto, Hiroki Umemoto, Shigeo Arai, Jun Kikuma, Hirohide Otake

17:30 2J19 In-situ heating electron microscopy of order-order transition in block copolymer  
Wang Hsiaofang, Hiroshi Jinnai

17:55 2J20 High-contrast observation of unstained polymeric samples using phase-plate transmission electron microscopy  
Tomohiro Miyata, Hsiao-Fang Wang, Hiroshi Jinnai

**Wed. Sep 8**

**S6. Frontier of Soft Materials Imaging**

**Hiroshi Jinnai, presiding**

9:10 3J01IL Locating Atoms and Ions in Polymer Crystals by Cryo-Electron Microscopy  
Nitash Balsara

10:00 3J03 Structural analysis of molecular structures by cryo-electron microscopy  
Masahide Kikkawa

**Keiji Tanaka, presiding**

10:25 3J04 Reproducibility of unidirectional processive motion of a complex molecule of an anionic polymer chain and a cationic polymer chain  
Yuga Onuki, Ken-ichi Shinohara

10:50 3J05 Observation of crystallization behavior of isolated isotactic poly(methyl methacrylate) chains.  
Yusaku Takahashi, Jiro Kumaki

**Hiroyuki Aoki, presiding**

11:15 3J06 Direct Observation of an Epoxy/Amine System at the Initial Stage of Curing Reaction  
Yukari Oda, Satoru Yamamoto, Keiji Tanaka

11:40 3J07 Operando Nanocharacterization of Polymer Blend Solar Cells by Photoconductive AFM

Hiroaki BENTEN, Yuji YAMAGATA, Masakazu NAKAMURA

**Jiro Kumaki, presiding**

- 12:55 3J08 Dynamics Imaging of Polymer Microspheres by High-Speed Atomic Force Microscopy  
Takayuki Uchihashi, Yuichiro Nishizawa, Daisuke Suzuki
- 13:20 3J09 Visualization of Buried Interfaces by Atomic Force Microscopy  
Kei Kobayashi

**Room K**

**Mon. Sep 6**

**S8. Functionality-Oriented High-Order Structure of Polymers: Formation, Characterization, and Design**

- 9:50 1KSO Introductory Remarks S8  
Sadaki Samitsu
- Kazunori Sugiyasu, presiding**
- 10:00 1K03IL The intrinsic difference in viscoelastic phase separation between polymeric and colloidal systems and its relation to biological phase separation  
Hajime Tanaka
- 10:50 1K05 Local molecular conformation of rigid ring polymers and intermolecular interactions with small molecules  
Ken Terao
- 11:15 1K06 Self-assembled Single-crystalline Micro-vessels of Planar Chiral  $\pi$ -Conjugated Molecule  
Osamu Oki, Hiroshi Yamagishi, Yasuhiro Morisaki, Yasuo Norikane, Yohei Yamamoto
- Sadaki Samitsu, presiding**
- 11:40 1K07 Kinetic control over molecular self-assembly  
Kazunori Sugiyasu
- 12:55 1K08 Large deformation and Fracture of Model Network Materials  
Tetsuo Yamaguchi
- Tetsuo Yamaguchi, presiding**
- 13:20 1K09 Structural Development Utilizing Molecular Entanglements  
Hiroki Uehara, Masaki Kakiage
- 13:45 1K10 Preparation of Dual Cross Network Polymers by Knitting Method and Evaluation of Their Mechanical Properties  
Yusaku Kawai, Junsu Park, Yoshiki Ishii, Shunusuke Murayama, Ryohei Ikura, Motohumi Osaki, Yuka Ikemoto, Osamu Urakawa, Hiroyasu Ymaguchi, Tadashi Inoue, Akira Harada, Hitoshi Washizu, Go Matsuba, Yoshinori Takashima
- 14:10 1K11 Application of coarse-grained molecular dynamics simulation to improve tensile properties of styrene block copolymer blends  
Ryohei Hosoya, Makiko Ito, Ken Nakajima, Hiroshi Morita
- 14:35 1K12 Relation between the Hydration State and Mechanical Properties of Crosslinked Polymer

Yoshihisa Fujii, Koki Inoue, Daiki Shomura, Risa Hishida, Naoya Torikai

**Yoshihisa Fujii, presiding**

- 15:25 1K14 Effect of Cross-link Density on Strain-induced Crystallization in Sliding Gels.  
Sohei Kawahara, Chang Liu, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito
- 15:50 1K15 Effects of intramolecular folding structure on the mechanical properties of thermoplastic elastomers  
Natsuki Kanemura, Shintaro Nakagawa, Naoko Yoshie
- 16:15 1K16 Evaluation of Void and Filler Orientation Distribution before Filler-Filled Rubber Material Fracture by Small-Angle X-ray Scattering-Tomography  
Yuta Hara, Mikihito Kakenaka, Hiroki Ogawa, Ryo Mashita, Yukihito Nishikawa

**Yoshihiro Yamauchi, presiding**

- 16:40 1K17 Visualization and Quantification of Tensile Stress by Composites of Layered Polydiacetylene and Polyurethane  
Yuki Mochizuki, Hiroaki Imai, Yuya Oaki
- 17:05 1K18 Hyper-ordered Structure Induced by Photopolymerization in Chiral-Nematic-Liquid-Crystal Polymers and Their Mechano-Optical Properties  
Maki Yanagihara, Kyohei Hisano, Osamu Tsutsumi
- 17:30 1K19 Side-chain Modified Block Copolymers by Click Chemistry for Controlling the Microphase-separated Structures  
Zhengdan Lin, Yuta Nabae, Teruaki Hayakawa
- 17:55 1K20 Synthesis and Properties of Monodispersed Cross-Linked Liquid-Crystalline Polymer Particles with Controlled Molecular Orientation  
Shodai Hayashi, Tomoki Shigeyama, Kyohei Hisano, Osamu Tsutsumi

**Tue. Sep 7**

**S8. Functionality-Oriented High-Order Structure of Polymers: Formation, Characterization, and Design**

**Sadaki Samitsu, presiding**

- 9:10 2K011L Burn-Dry: Aerogel Fabrication via Polymer-Assisted Rapid Thermal Annealing  
James Pagaduan, Jordan Varma, Todd Emrick, Reika Katsumata
- 10:00 2K03 Development of high-performance composite materials using carbon nanotubes  
Seisuke Ata

**Seisuke Ata, presiding**

- 10:25 2K04 Fabrication and thermoelectric property of conducting polymer aerogel  
Takeshi Shimomura, Shinji Kanehashi
- 10:50 2K05 Precision synthesis of bottlebrush polymers and their application to tough and transparent multiphase plastics  
Yoshihiro Yamauchi
- 11:15 2K06 Degradability of polyglycolic acid fiber mats  
Hisao Matsuno, Misato Fujii, Masayasu Totani, Keiji Tanaka
- 11:40 2K07 Mechanical Properties of SIS Thermoplastic Elastomer Ultra-Thin Films: Film Thickness and Strain Rate Dependence of Elastic Modulus

Masayuki Saito, Kohzo Ito, Hideaki Yokoyama

**Sadaki Samitsu, presiding**

12:55 2K08 Distribution states of nanoscale structures by scattering-tomography measurements  
Hiroki Ogawa, Shunsuke Ono, Mikihiro Takenaka, Yukihiro Nishikawa

**Hiroki Ogawa, presiding**

13:20 2K09 Study on polymer electrolyte membrane having 3D proton conduction channel composed of functionalized filler prepared by Polymerization with Particles (PwPs)  
Toshihiko Arita, Akito Masuhara

13:45 2K10 Electron Transport in Thin Films of Conjugated Polymers Visualized by Conductive Atomic Force Microscopy  
Hiroaki BENTEN, Anjar Taufik HIDAYAT, Toshiki KAWANISHI, Noboru OHTA, Azusa MURAOKA, Masakazu NAKAMURA

14:10 2K11 Robust Angular Anisotropy of Circularly Polarized Luminescence from a Single Twisted-bipolar Polymeric Microsphere  
Yohei Yamamoto, Osamu Oki, Hiroshi Yamagishi, Chidambar Kulkarni, Stefan C. J. Meskers, Bert E. W., Zhan-Hong Lin, Jer-Shing Huang

14:35 2K12 Orientational order of liquid crystal included in continuous regular pores of Metal-Organic Frameworks  
Shizuka Anan, Hirotsugu Kikuchi

**Shizuka Anan, presiding**

15:25 2K14 Construction and properties of porous organic salts having perfluoro space composed of tetrahedral tetrasulfonic acids and bulky amines  
Takahiro Ami, Norimitsu Tohnai

15:50 2K15 Synthesis and Self-assembled Structural Characterization of Poly(4-vinyl pyridine)-b-Poly(2,2,2-trifluoroethyl methacrylate) for Hierarchical Porous Structure Formation  
Hitomi Kawahara, Yuta Nabae, Teruaki Hayakawa

16:15 2K16 Construction of porous structures with various topologies composed of tetrasulfonic acids and modified triphenylmethylenes: induced-phosphorescent properties of the incorporated compounds into the pores.  
Hiroi Sei, Norimitsu Tohnai

16:40 2K17 Synthesis of 18/24 -membered Binary Crownether Compound and Analysis of Its Self-aggregated Structure  
Kohei KITAMOTO, Kenjiro ONIMURA, Kazuhiro YAMABUKI

**Room L**

**Mon. Sep 6**

**S9. Polymer Structure and Dynamics Captured by Multidimensional and Complementary Analysis**

9:50 1LSO Introductory Remarks S9  
Koji Yazawa

**Koji Yazawa, presiding**

10:00 1L03IL Diffusion NMR and Applications including Polymers  
William S. Price

**Ryosuke Kusumi, presiding**

10:50 1L05 Solid-State NMR and ESR studies of annealed Ethylene Ionomers  
Atsushi Asano, Shohei Mikage, Takayuki Matsukawa, Chikako T. Nakazawa

11:15 1L06 Analysis of hierarchical ordered structures based on synchrotron X-ray scattering and microscopic ATR-FTIR imaging methods  
Ryohei Ishige, Shohei Hara, Shinji Ando, Cai Li, Sergei Kazarian

11:40 1L07 Dynamics and Photophysical Properties of pi-Conjugated Polymers with a Dynamic Bifacial Structure  
Fumitaka Ishiwari, Daiki Abe, Yalun Yin, Akinori Saeki, Takanori Fukushima

**Yasunari Kusaka, presiding**

12:55 1L08 Pure effects of domain cross-linking on the physical properties of ABA triblock copolymer-based elastomers  
Mikihiro Hayashi, Isamu Kawarazaki, Akitsugu Shibata, Mikihiro Kawai

13:20 1L09 Structural formation dynamics of silk fibroin in the silk gland of Bombyx mori and Samia cynthia ricini silkworms revealed by time-resolved X-ray scattering analysis  
Taiyo Yoshioka, Tamako Hata, Tsunenori Kameda

13:45 1L10 Multi-faceted analysis of polyethylene terephthalate films deteriorated by UV irradiation.  
Takaya Satoh, Yusuke Sakuda, Chikako Nakayama, Azusa Kubota, Sayaka Nakamura, Ryota Watanabe, Shogo Yamane, Hiroaki Sato, Yoshihisa Ueda

**Hiroaki Yoshimizu, presiding**

14:10 1L11 Multifaceted structural analysis of natural lacquer films  
Noriyasu Niimura, Hiroshi Terashima, Osamu Kamo, Keisuke Ishii

14:35 1L12 Structure Analysis by Noise Reduction Method for Solid-State NMR Array Spectra Using Principal Component Analysis  
Yasunari Kusaka, Takeshi Hasegawa, Hironori Kaji

**Yuki Nakama, presiding**

15:25 1L14 Asymmetric Radical Cyclopolymerization of N-allyl-N-tert-butylacrylamide in the Presence of Chiral Tartrates  
Tomohiro Hirano, Yosuke Fujita, Miki Shinomiya, Yukihiro Arakawa, Fumitoshi Yagishita, Akira Emoto, Miyuki Oshimura, Koichi Ute

15:50 1L15 Solid-State <sup>1</sup>H-NMR Analysis for As-Polymerized Structure of Polyethylene  
Hiroki Uehara, Masaki Kakiage

16:15 1L16 Analysis of structural changes during deformation of polymer materials by combination of in-situ X-ray and pulse NMR measurements  
Masaki Kakiage, Ayaka Takazawa, Takeshi Yamanobe, Hiroki Uehara

**Atsushi Asano, presiding**

17:05 1L18 Correlation between polymer structure and function by NMR observation of dissolved gases  
Hiroaki YOSHIMIZU

17:30 1L19 Structure determination of polysaccharide synthesized with glucosyltransferase GtfL via chemical modification  
Ryosuke Kusumi, Shinichi Asai, Qinfeng He, Kayoko Kobayashi, Satoshi Kimura, Masahisa Wada

**Tue. Sep 7**

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

### **Fujimoto Keiji, presiding**

10:00 2L03 New rheological evaluation method of cosmetic creams using nonlinear viscoelasticity  
Kosuke Suzuki, Rika Takeda, Kyoichi Tsurusaki, Ryoen Shirasaki

10:25 2L04 Investigation of polymerization conditions for preparation of oligo(3-methoxythiophene) lustrous films  
Ryohei Sano, Satoru Tsukada, Katsuyoshi Hoshino

10:50 2L05 Development of meat analogue using food 3D printing  
Takaho Kuramochi, Masaru Kawakami, Yosuke Watanabe, Jun Ogawa, Khosla Ajit, Hidemitsu Furukawa

11:15 2L06 Development of RepRap-Based 3D chocolate printer that can control shape and texture  
Yuji Motegi, Masaru Kawakami, Yosuke Watanabe, Jun Ogawa, Khosla Ajit, Hidemitsu Furukawa

### **Hidemitsu Furukawa, presiding**

11:40 2L07 Preparation of methyl cellulose nanoparticles by using an aqueous nanodroplet as a reactor  
Kaho Wada, Ryo Sakaiya, Yuuka Fukui, Keiji Fujimoto

12:55 2L08 The fabrication of inorganic nanoparticles using organic layered structures as soft templates  
Youfeng Yue

13:20 2L09 The evaluation of resist property and chemical component dispersion on a photoacid generator of chemical amplification resist thin films  
Shinji Yamakawa, Tetsuo Harada, Takeo Watanabe

### **Naoki Azuma, presiding**

13:45 2L10 Photo-induced Fluorine-containing Polyimide: a Molecular Orbital Calculation Approach on Steric Structure of Photo Alignment Film  
Hitoshi Sugiyama, Kazukiyo Nagai, Shuichi Sato

14:10 2L11 Surface Modification of Syndiotactic Polystyrene by Chlorine Dioxide Radical  
Atsushi Koizumi, Yankun JIA, Yu-I Hsu, Taka-Aki Asoh, Hiroshi Uyama

14:35 2L12 manufacturing nacre-like composites and Mechanical property  
Kazuki Domon, Akira Ishigami, Takashi Takashi, Hiroshi Ito

### **Takashi Kurose, presiding**

15:25 2L14 Fabrication of Large Deformable Hydrogel Composites with Macroscopic Reinforcement  
Tsuyoshi Okumura, King R. Daniel, Jian Ping Gong

15:50 2L15 Unidirectional alignment of zinc oxide nanorods in liquid-crystalline polymer films

16:15 2L16 Kaho Ogata, Yoshiaki Kobayashi, Kohsuke Matsumoto, Shoichi Kubo, Atsushi Shishido  
 Preparation and Mechanical Properties of CNF/PMMA Composites by Elastic Kneading  
Kiyoto Sasaki, Akira Isogai, Gen-ichi Matsuda, Rie Iwamoto, Tokiko Hirabayashi, Toru Noguchi

<b>Room M</b>
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**Mon. Sep 6**

**S10. The Role of Hierarchy Hidden behind Polymer Gels**

9:50 1MSO Introductory Remarks S10  
Takeshi Ueki  
**Kenta Kokado, presiding**

10:00 1M03 Synthesis and Application of Hydrogels by One-Shot Radical Polymerization Accompanying Spontaneous Delay  
 Takayuki Koda, Shunsuke Dohi, Haruki Uesaka, Yasuhito Suzuki, Chie Kojima, Akikazu Matsumoto

10:25 1M04 Biodegradable Injectable Hydrogel with IPN Structure for Cartilage Tissue Engineering  
Hidenori Otsuka, Shohei Ishikawa, Shigehito Osawa, Michihiro Iijima

10:50 1M05 Fabrication of inorganic porous materials using cellulose monolith skeleton as templates  
Taka-Aki Asoh, Yanting Lyu, Hiroshi Uyama  
**Taka-aki Asoh, presiding**

11:15 1M06 Molecular Design of Anisotropic Deformation from Crosslinking Design of Metal Organic Frameworks  
 Tokiyo Kato, Kenta Kokado, Kazuki Sada

11:40 1M07 Effects of molecular characteristics of hydrogen bonds on macroscopic mechanical properties of dual network  
Shintaro Nakagawa, Xin Huang, Hirohiko Houjou, Naoko Yoshie  
**Shintaro Nakagawa, presiding**

12:55 1M08IL Development of various functional hydrogels of imidazolium-based zwitterionic polymers  
Youn soo Kim  
**Akifumi Kawamura, presiding**

13:45 1M10 Precision synthesis of thermoresponsive hydrogels using living cationic polymerization and subsequent crosslinking reactions: Towards easily molded and highly sensitive thermoresponsive hydrogels.  
Hiroaki Kato, Kira Landenberger

14:10 1M11 Stiffness-optimized hierarchical microfibrillar gel matrix for selective capture of cancer cells  
Satoru Kidoaki, Daoxiang Huang

14:35 1M12 Hydrogel that functions at the interface: Biodevice application  
Madoka Takai, Tsukuru Masuda, Shintaro Hara  
**Tsukuru Masuda, presiding**

- 15:25 1M14 Hierarchical structure control and biofunctional evaluation of nanogel-integrated gels in microscale  
Yoshihiro Sasaki, Ayumu Koyama, Shunya Hayashi, Eriko Marukawa, Hiroyuki Harada, Shin-ichi Sawada, Kazunari Akiyoshi
- 15:50 1M15 Design of Glucose-responsive Gel Microcapsules by Complex Formation at Emulsion Interface  
Takashi Miyata, Shiori Matsubara, Kota Tanaka, Akifumi Kawamura
- 16:15 1M16 Compression of microgel monolayers adsorbed at air/water interfaces  
Tetsuya Noguchi, Haruka Minato, Suzuki Daisuke
- Chie Kojima, presiding**
- 16:40 1M17 Introduction of hierarchical structure to CO<sub>2</sub> separation material consisting of microgel particles  
Yu Hoshino, Shoma Aki, Yida Liu, Yuki Terayama, Kota Katafuchi, Yoshiko Miura
- 17:05 1M18 Post-polymerization modification reaction with maleimidophenyl isocyanates for the synthesis of gels with homogeneous network structure  
Rikito Takashima, Masashi Ohira, Hirogi Yokochi, Xiang Li, Daisuke Aoki, Hideyuki Otsuka
- 17:30 1M19 Fabrication of dynamic wrinkles on hydrogel surface by electrophoretic approach  
Yuka Kashihara, Taka-Aki Asoh, Hiroshi Uyama
- 17:55 1M20 Hierarchical Structure Analysis of Amphiphilic Gel Surface by Quantum Beam Multiple Probe Method  
Eri Ito, Tatsuya Imai, Katsuhiko Yamamoto

**Tue. Sep 7**

**S10. The Role of Hierarchy Hidden behind Polymer Gels**

**Ryota Tamate, presiding**

- 9:10 2M01 Toughening of Slide-ring gels by strain-induced crystallization  
Koichi Mayumi, Chang Liu, Sohei Kawahara, Takako Noritomi, Hideaki Yokoyama, Kohzo Ito
- 9:35 2M02 Coarse-grained Molecular Dynamics Simulations for Strain Induced Crystallization in Slide-Ring Gels  
Takeyoshi Masumoto, Yusuke Yasuda, KOsuke Aomura, Koichi Mayumi, Takashi Uneyama, YUichi Masubuchi, Hideaki Yokoyama, Kohzo Ito
- 10:00 2M03 Structure and dynamics of gels synthesized at different polymer packing conditions  
Xiang Li, Yui Tsuji, Shotaro Nakagawa, Mitsuhiro Shibayama

**Xiang Li, presiding**

- 10:25 2M04 A Simple Macroscale Model of Double Networks  
Daniel King, Tsuyoshi Okumura, Riku Takahashi, Jian Ping Gong
- 10:50 2M05 Characterization of Crack of Polymer Gels under Biaxial Strain  
Thanh-Tam Mai, Kenji Urayama
- 11:15 2M06 Crossover from Positive to Negative Energetic Elasticity in Silicone Gels  
Takuma Aoyama, Kenji Urayama

11:40 2M07 Study on the Correlation between Activation Energy/Toughness and Water Content of Reversible Cross-Linking Hydrogels  
Chiharu Ueda, Junsu Park, Subaru Konishi, Motofumi Osaki, Hiroyasu Yamaguchi, Akira Harada, Go Watanabe, Masaru Tanaka, Yoshinori Takashima

**Koichi Mayumi, presiding**

12:55 2M08IL Homogeneous polymer network gel electrolytes for energy storage devices: relationship between polymer/ion solvation and electrochemical properties  
Kenta Fujii

**Shohei Ida, presiding**

13:45 2M10 Stimuli-responsibility of Polymer Gel Containing Ionic Liquid and its Relevance to Competitive Interactions  
Masayoshi Watanabe

14:10 2M11 Properties of liquid metal-ionic liquid composite gels  
Kazuhide Ueno, Juri Asada, Hiroki Ota, Masayoshi Watanabe

14:35 2M12 Formation of nano-particle/polymer composite network to improve mechanical strength of a gel containing an ionic liquid  
Eiji Kamio, Masayuki Minakata, Atsushi Matsuoka, Hideto Matsuyama

**Kazuhide Ueno, presiding**

15:25 2M14 Highly Stretchable and Self-Healing Ion Gels Based on Entanglement of Ultra-High Molecular Weight Polymers.  
Yuji Kamiyama, Ryota Tamate, Takeshi Ueki

15:50 2M15 Tetra-arm PEG-based Polymer Electrolytes Prepared in Ionic Liquids Containing Na salt: Gelation Kinetics and Structural study  
Mayu Osugi, Ayuko Kitajou, Fujii Kenta

16:15 2M16 Dynamically Functional Hydrogels with Responsive Crosslinked Nanodomain Structures  
Shohei Ida, Shokyoku Kanaoka

16:40 2M17 Effect of DNA on the gel formation of alginate/DNA composite hydrogels  
Tuerxun Weinire, Takashi Aoki

**Wed. Sep 8**

## **S10. The Role of Hierarchy Hidden behind Polymer Gels**

**Daisuke Ishii, presiding**

9:10 3M01 Structural design of self-oscillating polymers driven by only organic acids  
Takahiro Ono, Takafumi Enomoto, Micika Onoda, Takeshi Ueki, Ryota Tamate, Aya Akimoto, Ryo Yoshida

9:35 3M02 Capsule-shaped Self-Oscillating Hydrogel with Cell-like Surface Fluctuation  
Won Seok Lee, Takafumi Enomoto, M. Aya Akimoto, Ryo Yoshida

10:00 3M03 Development of a sand surface movement mechanism using shape memory gel  
Hibiki Aoyama, Jun Ogawa, Yosuke Watanabe, Shiblee Nahin, Masaru Kawakami, Khosla Ajit, Hidemitsu Furukawa

**Takafumi Enomoto, presiding**

10:25	3M04	Development of Anti-adhesion Organogel Surface Using Oil-based Nanosuit and Elucidation of Anti-adhesion Mechanism <u>Soma Kitamura</u> , Daisuke Ishii
10:50	3M05	Development of the Transfer Systems Using the Progressive Cavity Pumps with Gels <u>Daisuke Sato</u> , Yosuke Watanabe, Jun Ogawa, Masaru Kawakami, Khosla Ajit, Hidemitsu Furukawa
11:15	3M06	4D Printing of Inter-Crosslinking Network Structure Gel with Hinge Structure <u>Masanari Kameoka</u> , Shiblee Nahin, Yosuke Watanabe, Masaru Kawakami, Jun Ogawa, Khosla Ajit, Hidemitsu Furukawa
11:40	3M07	Hierarchical engineering of polymer gel for the development of sustainable microneedle devices <u>Akira Matsumoto</u> , Siyuan Chen, Takuya Miyazaki, Michiko Ito, Barthelmes Kevin, Hiroko Matsumoto, Sayaka Kanai, Kiyoshi Ikehara, Yuki Moro-oka, Shinichiro Kimura, Miyako Tanaka, Takayoshi Suganami, Yuji Miyahara

## Room N

**Mon. Sep 6**

### S11. Polymers for Next-generation Energy Devices

12:45	1NS0	Introductory Remarks S11 <u>Masamichi Nishihara</u>
		<b>Kenichi Oyaizu, presiding</b>
12:55	1N08	Property of fuel cell electrocatalyst dispersion depending on the alcohol concentration <u>Tsuyohiko Fujigaya</u> , Nana Kayo, Dan Wu, Naoki Tanaka
13:20	1N09	Distinguishing Adsorbed and Deposited Ionomers in the Catalyst Layer of Polymer Electrolyte Fuel Cells using Contrast Variation Small-angle Neutron Scattering <u>Masashi HARADA</u> , Shin-ichi TAKATA, Hiroki IWASE, Shuji KAJIYA, Hiroaki KADOURA, Toshiji KANAYA
		<b>Je Deok Kim, presiding</b>
13:45	1N10	Effects of Acidity on Proton Conductivity of Block Polymer-Based Anhydrous Electrolyte Membranes <u>Takato Kajita</u> , Atsushi Noro, Takahiro Seki, Yushu Matsushita, Masaki Ando, Naoki Nakamura
14:10	1N11	OH- Conduction and Hydration Properties of Anion Exchange Ionomer <u>Fangfang Wang</u> , Dongjin Wang, Yuki Nagao
14:35	1N12	Database of rubber composites for high-pressure hydrogen seal <u>Shin Nishimura</u> , Ono Hiroaki, Fujiwara Hirotada
		<b>Yuki Nagao, presiding</b>
15:25	1N14	Electrolytic Hydrogenation of High-density Redox Polymers and Its Application to Pure Hydrogen Production <u>Kenichi Oyaizu</u> , Yusuke Kaiwa

- 15:50 1N15 Novel Polyphenylene Ionomer Membranes for High-Performance, High-Temperature-Operable Fuel Cells  
Zhi Long, Kenji Miyatake
- 16:15 1N16 High Oxygen Permeable Blend Ionomer for Concentration Overvoltage Reduction in PEFC systems  
Yasir Arafat Hutapea, Zulfi Al Rasyid Gautama, Akari Hayashi, Kazunari Sasaki, Masamichi Nishihara
- Tsuyohiko Fujigaya, presiding**
- 16:40 1N17IL Pathways to ion-exchange polymer membranes with high stability and conductivity through superacid-mediated polyhydroxyalkylations  
Patric Jannasch
- 17:30 1N19 Achieving high chemical durability with high oxygen barrier polymer electrolyte membranes  
Zulfi Al Rasyid Gautama, Yasir Arafat Hutapea, Stephen Lyth, Kazunari Sasaki, Masamichi Nishihara
- 17:55 1N20 Sulfonated polyphenylsulfone-vinylon crosslinked composite electrolyte membrane  
Je Deok Kim

**Tue. Sep 7**

### **S11. Polymers for Next-generation Energy Devices**

#### **Masamichi Nishihara, presiding**

- 9:10 2N01 Modification of polyethylenes by radiation crosslinking for development of high-pressure hydrogen resistant materials  
Akira Idesaki, Hirotada Fujiwara, Akihiro Hiroki, Shin Hasegawa, Mitsuo Shibutani, Hiroki Takeshita, Yasunari Maekawa, Katsuhisa Tokumitsu, Shin Nishimura
- 9:35 2N02 High-pressure hydrogen characteristic of radiation induced crosslinking polyethylene  
Hirotada Fujiwara, Mitsuo Shibutani, Shin Nishimura, Akira Idesaki, Akihiro Hiroki, Shin Hasegawa, Yasunari Maekawa, Hiroki Takeshita, Katsuhisa Tokumitsu
- 10:00 2N03 Establishment of quantitative evaluation method using small-angle Xray scattering of the nano-voids formed in polyamide 11 by high-pressure hydrogen gas exposure.  
Keiko OHYAMA, Fumitoshi KANEKO, Hirotada FUJIWARA, Masahiro KASAI, Hiroaki ONO, Shin NISHIMURA
- 10:25 2N04 Prediction of the key parameters for high-pressure hydrogen seal rubbers using machine learning  
Hiroaki Ono, Hirotada Fujiwara, Shin Nishimura

#### **Ikuo Taniguchi, presiding**

- 10:50 2N05 A study on the hydrogen resistance and mechanical properties of EVOH/ETFE blends.  
Katsuhisa Tokumitsu, Koh-hei Kitayama, Eiichi Nishi, Hiroki Takeshita, Hirotada Fujiwara, Shin Nishimura
- 11:15 2N06 In situ high pressure hydrogen tensile properties of polypropylene  
Masanori Anan, Hirotada Fujiwara, Shin Nishimura
- 11:40 2N07 In-situ FTIR spectroscopic study on the effect of high-pressure hydrogen gas on polymer materials

Fumitoshi Kaneko, Keiko Ohyama, Hirotsada Fujiwara, Shin Nishimura

**Mitsuru Higa, presiding**

- 12:55 2N08 CO<sub>2</sub> capture by amine-containing polymeric membranes: Preparation of membrane modules and the gas transport properties  
Ikuo Taniguchi
- 13:20 2N09 Optical Characteristics of Optical Energy Conversion Films with Photon Upconversion Dyes System  
Rina Hisatsugu, Ryo Ohira, Kazuki Shirakata, Mio Yamauchi, Genta Takatoki, Masataka Yaguchi, Yasutaka Urata, Hirokazu Yamane

**Manabu Tanaka, presiding**

- 13:45 2N10 Nanocarbon-based novel non-precious metal electrode catalyst design  
Pandian Ganesan, Aleksandar Staykov, Shu Hiroaki, Mitsugu Uejima, Naotoshi Nakashima
- 14:10 2N11 Correlation between the proton conductivity and durability at the cathode in PEFC  
Akari HAYASHI
- 14:35 2N12 Effect of twisted structure on the membrane property of fully-aromatic polyelectrolyte  
Shoji Miyanishi, Kaede Matsuta, Takeo Yamaguchi

**Noriyoshi Matsumi, presiding**

- 15:25 2N14 Creation of gyroid structured membranes with a three-dimensional proton conduction surface  
Takahiro Ichikawa
- 15:50 2N15 Investigation on high energy conversion efficiency of reverse electrodialysis (RED) hydrogen system  
Mitsuru Higa, Ryou Ujike, Hiroki Kawasaki, Yuriko Kakihana
- 16:15 2N16 Design of Nanostructured Proton-Conducting Polymers Based on Photopolymerizable Ionic Liquid Crystals  
Masafumi Yoshio, Siyu Cao

**Takahiro Ichikawa, presiding**

- 16:40 2N17 Stretchable Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> electrode using liquid metal-ionic liquid composite gels  
Natsuka Usami, Juri Asada, Hisashi Kokubo, Kaoru Dokko, Masayoshi Watanabe, Kazuhide Ueno
- 17:05 2N18 Properties of sulfone-based polymer electrolytes in lithium secondary batteries  
Chihiro Doi, Hisashi Kokubo, Kaoru Dokko, Masayoshi Watanabe, Kazuhide Ueno
- 17:30 2N19 Stabilization of Silicon Anode in Li Ion Secondary Batteries Using Crosslinked Poly(BIAN) as Binder  
Agman Gupta, Badam Rajashekar, Noriyoshi Matsumi
- 17:55 2N20 Fabrication and Characterization of Lithium-Air Battery Consisted of Nanofiber Composite Electrolyte Membrane with Suppressed Water Vapor Permeability  
Manabu Tanaka, Yuu Matsuda, Hiroyoshi Kawakami

**Wed. Sep 8**

**S11. Polymers for Next-generation Energy Devices**

**Masahiro Fujita, presiding**

- 9:10 3N01 Development of redox flow battery with bicontinuous microemulsion  
Kodai Nakao, Akihiro Ohira, Takaaki Sakai, Yukari Sato, Masashi Kunitake
- 9:35 3N02 Performance Prediction Models of Organic Cathodes for Lithium-ion Battery Constructed by an Assistance of Machine Learning  
Kosuke Sakano, Yasuhiko Igarashi, Shuntaro Miyakawa, Takaya Saito, Yoshiki Takayanagi, Koji Nishiyama, Hiroaki Imai, Yuya Oaki
- 10:00 3N03 Design of High Capacity Li Ion Secondary Battery Utilizing Silicon Carbide  
Nandan Ravi, Noriyuki Takamori, Koichi Higashimine, Badam Rajashekar, Noriyoshi Matsumi

**Akihiro Ohira, presiding**

- 10:25 3N04 TetraPEG Gel Electrolyte Containing High Concentration Li Salt: Fundamental Properties and Application to Lithium Batteries  
Natsumi Tasaki, Kei Hashimoto, Yousuke Ugata, Miki Fujishiro, Kazuhide Ueno, Masayoshi Watanabe, Kaoru Dokko
- 10:50 3N05 Synthesis and evaluation of solid electrolytes using ionic plastic crystals  
Masahiro Fujita, Hiromasa Yamada, Shun Yamaguchi, Zhiduan Yang, Yuko Takeoka, Masahiro Rikukawa
- 11:15 3N06 Lithium-ion conductive characteristics of polarizable polymer nanofiber-based composite solid polymer electrolytes bearing high salt concentrations  
Nohara Yokota, Manabu Tanaka, Hiroyoshi Kawakami

**Room O**

**Mon. Sep 6**

**S12. Precisely Designed Network Polymers for Next-generation Materials**

- 9:50 10S0 Introductory Remarks S12  
Eriko Sato
- Atsushi Sudo, presiding**
- 10:00 1003 Chemical modification of crosslinked poly(trimethylene carbonate) derivatives with ester free structure by thiol  
Lee Yae Tan, Nalinthip Chanthaset, Hiroharu Ajiro
- 10:25 1004 Precise synthesis and crosslink of unsaturated polyester prepared by intermolecular conjugate substitution reaction between initial and terminal ends  
Naoki Nagatsuka, Madoka Kitamura, Kentaro Maehara, Yasuhiro Kohsaka
- Hiroharu Ajiro, presiding**
- 10:50 1005 Synthesis of Network Polymers Based on Visible-Light-Driven Reductive Coupling  
Atsushi Sudo, Kazuma Otani, Ayaka Yamada, Hideya Tanaka
- 11:15 1006 Development of bio-based carbonate resins utilizing resveratrol

- Kazuma MAKITA, Kozo MATSUMOTO
- 11:40 1007 Synthesis of epoxy resins by using Corey-Chaykovsky reaction and preparation of their cured products  
Toshiyuki Oyama, Seiryu Umetani, Naoya Yamaguchi, Kazuo Arita
- Eriko Sato, presiding**
- 12:55 1008IL Emulsion-Based Multiblock Copolymer Systems: Microphase Separated Nanoparticles and Advanced Materials  
Thiago R. Guimaraes, Murtaza Khan, Steven W. Thompson, Glenn Clothier, G. Moad, S. Perrier, Per B. Zetterlund
- Yoshinori Takashima, presiding**
- 13:45 1010 Nanostructural analysis and control of stimulus-responsive hydrogel microspheres  
Yuichiro Nishizawa, Takayuki Uchihashi, Daisuke Suzuki
- 14:10 1011 Network formation by host-guest cross-polymerization of MOF with hydroxy group  
Hiroki Amaya, Mariko Tsutsumi, Kenta Kokado, Kazuki Sada
- 14:35 1012 Templated Synthesis of Two-Dimensional Polymer Networks using Metal-Organic Frameworks  
Yuki Hayashi, Marta Ximenis Campins, Nobuhiko Hosono, Takashi Uemura
- Takaya Terashima, presiding**
- 15:25 1014 Functionalization of Polymeric Materials by Facilitating Host-Guest Interaction through Planetary Ball Milling  
Junsu Park, Yui Sasaki, Shunsuke Murayama, Tomoka Kokuzawa, Motofumi Osaki, Hiroyasu Yamaguchi, Akira Harada, Tsuyoshi Minami, Go Matsuba, Yoshinori Takashima
- 15:50 1015 Stable Construction of Rotaxane Network Polymer Using Protecting Group and Its Dismantling  
Kazuhiro Yamabuki
- Yohei Miwa, presiding**
- 16:15 1016 Influence of crystalline domains in polyrotaxane slide-ring elastomers on mechanical properties  
Shota Ando, Koichi Mayumi, Hideaki Yokoyama, Kohzo Ito
- 16:40 1017 Reinforcement of Silicone Rubbers through Cyclic Polymer-Linear Polymer Rotaxane Cross-Linking  
Minami Ebe, Kaiyu Fujiwara, J. Brian Ree, Takuya Isono, Takuya Yamamoto, Kenji Tajima, Hironori Marubayashi, Hiroshi Jinnai, Toshifumi Satoh
- 17:05 1018 Hydrogels with Amphiphilic Random Copolymer Micelles as Crosslinking Points: Network Design and Physical/Self-Healing Properties  
Hiroaki Asai, Makoto Ouchi, Takaya Terashima
- Takuya Yamamoto, presiding**
- 17:30 1019 Development of self-healing gels prepared by complex formation between counter ion of polyanion and sugar  
Suzune Miki, Taka-Aki Asoh, Hiroshi Uyama
- 17:55 1020 Unusual Role of Alkali Metal Counterions on Dynamics of Ionic Groups in Carboxylate Polyisoprene Ionomer  
Yohei Miwa, Koki Hasegawa, Yu Shinke, Taro Udagawa, Shoichi Kutsumizu

**Tue. Sep 7**

**S12. Precisely Designed Network Polymers for Next-generation Materials**

**Koji Arimitsu, presiding**

- 9:10 2001 Evaluation of Curing Behavior of Multifunctional Hyperbranched Polymers and Their Application to Dismantlable Adhesives with Interfacial Debonding  
Seidai Okada, Keita Katagi, Eriko Sato
- 9:35 2002 Design of polyester/silica composite network and chemical recycling utilizing transesterification  
Takahiro Kimura, Mikihiro Hayashi
- 10:00 2003 Modification of Polybenzoxazine with Boronic Acids  
Yuki Tsukamoto, Daisuke Aoki, Hideyuki Otsuka

**Hideyuki Otsuka, presiding**

- 10:25 2004 Synthesis of Thermosetting Poly(phenylene sulfide) Derivatives and Its Partially Miscible Polymer Blends with Nylon 6  
Seigo Watanabe, Teru Takayama, Tomohiro Miura, Kenichi Oyaizu
- 10:50 2005 Enhancement of anionic UV curing efficiency using chain curing agents  
Yoshiki Kojima, Daisuke Aoki, Koji Arimitsu
- 11:15 2006 Fabrication of organic-inorganic hybrid films having gradient structure by radical-anionic UV curing  
Yoshiki Shirai, Ayano Sasaki, Daisuke Aoki, Koji Arimitsu
- 11:40 2007 Synthesis, Structure Control and Chirality Recognition of Optically Active Acetylene Copolymers Substituted with Benzoxazine Moieties  
Masahide Goto, Masaki Minami, Hiromitsu Sogawa, Fumio Sanda

**Fumio Sanda, presiding**

- 12:55 2008 Structural analysis of vulcanized natural rubber through rubber-state NMR spectroscopy  
Masaki Yamano, Yoshimasa Yamamoto, Seiichi Kawahara
- 13:20 2009 Analysis of mechanical "fingerprint" of single polymer chain based on mechanical property of polymer gel  
Tsutomu Indei, Takahiro Matsuda, Tasuku Nakajima, Yukiko Takahashi, Tatiana B. Kouznetsova, Michael Rubinstei, Stephen L Craig, Jian Ping Gong
- 13:45 2010 Network Structure and Fracture Mechanism of Epoxy Monoliths and Co-continuous Network Polymers  
Ren Tominaga, Yasuhito Suzuki, Akikazu Matsumoto

**Akikazu Matsumoto, presiding**

- 14:10 2011 Preparation and Higher-order Structural Characterization of Liquid Crystalline Epoxy Resin for Insulating and Highly Thermal Conducting Resin  
Rika Marui, Yuta Nabae, Teruaki Hayakawa
- 14:35 2012 Phase structures of epoxy / in-situ polymerized methacrylic polymer / Ag filler composites  
Hajime Kishi, Natsumi Kimura, Ryoko Hara, Kazuyoshii Yamada, Akira Fujita, Hirohiko Furui

**Yasuhito Suzuki, presiding**

- 15:25 2014 Cross-linked Structure and Properties of Cyanate/Epoxy Cured by Thermal Latent Hardener with Aliphatic Amine Structure

Junji Ueyama, Keisuke Ohta, Ryo Ogawa, Akihiko Tsuge, Takeshi Endo

15:50 2015 Characterization of networked polymers formed by thermal reaction of p-tert-butylcalix[n]arene and bisoxazoline  
Morio Yonekawa, Hajime Kimura, Keiko Ohtsuka

**Morio Yonekawa, presiding**

16:15 2016 Development of High Heat Resistant Epoxy Resin by Introducing Crosslinking Points into Rigid Mesogenic Moiety  
Saki Ota, Miyuki Harada

16:40 2017 Effect of Curing agent on High Thermal conductivity of Liquid crystalline Epoxy Thermosets with side-chain mesogenic structure  
Maki Murai, Miyuki Harada, Tsunehiko Terada, Yu Iihara

**Hajime Kishi, presiding**

17:05 2018 Effect of Heterogeneous Structure of Epoxy Resins via Different Curing Processes on Tensile Properties  
Mika Aoki, Atsuomi Shundo, Satoru Yamamoto, Taiki Hoshino, Keiji Tanaka

17:30 2019 Heterogeneous Curing Process and Mechanical Properties of Epoxy Resins  
Ryoya Ida, Atsuomi Shundo, Satoru Yamamoto, Keiji Tanaka

17:55 2020 Creation of reversibly crosslinked tough polymer based on hydrogen bonds between diols  
Shogo Ishizaka, Shintaro Nakagawa, Naoko Yoshie

**Room Q**

**Mon. Sep 6**

**S13. Adhesive Bonding and Polymer Interfaces**

9:50 1QSO Introductory Remarks S13  
Haruhisa Akiyama

**Satoshi Matsuda, presiding**

10:00 1Q03 Study on degradation mechanism of carbon fiber reinforced plastic composites by electron spin resonance observation  
Kazuhiro Marumoto

10:25 1Q04 Fatigue crack growth of SGA adhesives  
Yu Sekiguchi, Chiaki Sato

10:50 1Q05 A simple method for estimating the mechanical residual strength of epoxy adhesives using IR spectra  
Kazumasa Shimamoto, Haruhisa Akiyama

**Yu Sekiguchi, presiding**

11:15 1Q06 Mechanoluminescence visualization on mechanical behavior and strength at adhesive interface  
Nao Terasaki, Yuki Fujio

11:40 1Q07 Lap shear adhesion properties of epoxy adhesives under fatigue loading  
Satoshi Matsuda, Koji Kishi, Hiroshi Ishida, Kohei Kametaka, Takeshi Kakibe, Hajime Kishi

**Shin Horiuchi, presiding**

- 13:20 1Q09 Surface Properties and Depth of Treatment of Polyamide 6 Irradiated by Electron Beams  
Hiroyuki Nakamura, Takuya Matsumoto, Takashi Nishino
- 13:45 1Q10 Visualization of Spatial Heterogeneity of Epoxy Resin after Curing by X-ray Scattering coupled with CT  
Satoshi Kuwata, Mikihito Takenaka, Hiroki Ogawa
- 14:10 1Q11 Structural analysis of the interface between polymers and metal substrates based on a cyclic molecular probe and X-ray nanobeam  
Kazuaki Kato, Takeshima Ayumu, Kenichiro Ryu, Kohzo Ito, Masanobu Naito, Taiki Hoshino
- 14:35 1Q12 Interface structure of epoxy adhesives in humid atmosphere studied by neutron reflectometry  
Yuwei Liu, Hiroyuki Aoki

**Nao Terasaki, presiding**

- 15:25 1Q14 Water penetration behavior at the adhesive interface  
Naoya Otsuki
- 15:50 1Q15 Study of aluminum/epoxy adhesion mechanism by STEM-EELS  
Shin Horiuchi, Yida Liu, Haruhisa Akiyama, Kouki Akaike
- 16:15 1Q16 Characterization of phase distribution on adhesion interface by localized thermal analysis  
YIDA LIU, SHIN HORIUCHI, HARUHISA AKIYAMA

**Haruhisa Akiyama, presiding**

- 16:40 1Q17IL Surface treatment of polymers by atmospheric pressure plasma: from lab scale trials to large scale applications  
Christoph Regula, Joerg Ihde, Uwe Lommatzsch

**Tue. Sep 7**

**S13. Adhesive Bonding and Polymer Interfaces**

**Toshiaki Miura, presiding**

- 9:10 2Q01 Data-driven development of functional adhesive  
Masanobu NAITO
- 9:35 2Q02 Curing reaction kinetics of epoxy/amine at quartz interface  
Ko Yamaguchi, Daisuke Kawaguchi, Satoru Yamamoto, Keiji Tanaka
- 10:00 2Q03 Theoretical Study on Adhesive Interfaces in Electronics  
Yuta Tsuji, Taiki Baba, Naoaki Tsurumi, Hiroyuki Murata, Noriyuki Masago, Kazunari Yoshizawa

**Masanobu Naito, presiding**

- 10:25 2Q04 Simulation study of the adhesion behaviors at the interfaces between metal and epoxy resin networks  
Toshiaki MIURA, Maki FUNADA, Yukihiko SHIMOI, Hiroshi MORITA
- 10:50 2Q05 Photo-reversible adhesives based on solid-liquid phase transition of azopolymers  
Shotaro Ito, Haruhisa Akiyama
- 11:15 2Q06 Dismantling adhesion interface induced by thermo/photocleavable molecular layer  
Miho Aizawa, Haruhisa Akiyama, Yoko Matsuzawa

**Shotaro Ito, presiding**

- 12:55 2Q08 Fabrication of hydrogel electrodes with wrinkle structures by adhesion of conductive film and hydrogel  
Koki Tsujita, Taka-Aki Asoh, Hiroshi Uyama
- 13:20 2Q09 Application of polyrotaxanes having polymerizable group and crystallizable polymer chain to functional adhesives  
Airi Ueda, Eriko Sato, Shota Ando, Koichi Mayumi, Kohzo Ito
- 13:45 2Q10 Topological Adhesion of Polymer Networks Using Orthogonal Dynamic Covalent Linkages  
Sae Sakamoto, Disuke Aoki, Hideyuki Otsuka

**Haruhisa Akiyama, presiding**

- 14:10 2Q11 Structural adhesive for multi-material based on Epoxy resin / Silyl-terminated polyether hybrid system  
Shingo Yano, Hideharu Hashimukai
- 14:35 2Q12 Curing Behavior and Adhesive Properties of Epoxy Adhesives with Phosphorus-Containing Monofunctional Epoxy  
Shiori Asada, Miyuki Harada, Yuka Mino

**S14. Molecular Thin-Film Devices**

- 15:15 2QSO Introductory Remarks S14  
Kiyoshi Yase

**Kiyoshi Yase, presiding**

- 15:25 2Q14IL Development of printable semiconducting materials for high performance thin film transistors  
Yong-Young Noh
- 16:15 2Q16 Structures and Growth Mechanisms of Thin Molecular Films  
Atsushi Kubono

**Yuji Yoshida, presiding**

- 16:40 2Q17 Fabrication Techniques of Molecular Thin Films: LB films and Self-assembled Molecular Layers(SAMs)  
Takao Ishida
- 17:05 2Q18 Fabrication of Molecular Thin Films: Physical Vapor Deposition  
Kiyoshi Yase
- 17:30 2Q19 Measuring incident molecular temperature during vacuum deposition of organic thin films  
Ryosuke Matsubara, Takeshi Azuma, Takahiro Abe, Atsushi Kubono
- 17:55 2Q20 Evaluation of Molecular Thin-Film  
Masato Yamamoto, Yasushi Yamamoto

**Wed. Sep 8**

**S14. Molecular Thin-Film Devices**

**Atsushi Kubono, presiding**

- 9:10 3Q01 Research Trend and Future Direction for Organic Photovoltaic Cells  
Yuji Yoshida

- 9:35 3Q02 Development of naphthobisthiadiazole-based polymers for high-performance organic solar cells  
Tsubasa Mikie, Shota Suruga, Tomokazu Morioku, Hyong Do Kim, Hideo Ohkita, Itaru Osaka
- 10:00 3Q03 Improvement of Crystallinity and Photovoltaic Performance in Thiazolothiazole-based Polymers by Intramolecular Non-Covalent Interactions  
Kodai Yamanaka, Tsubasa Mikie, Masahiko Saito, Hyung Do Kim, Hideo Ohkita, Itaru Osaka
- Kenji Ishida, presiding**
- 10:25 3Q04 Polarized electroluminescence devices with orientated conjugated-polymers by friction transfer method  
Nobutaka Tanigaki
- 10:50 3Q05 Thin-Film Technology and Thermoelectric Materials Research  
Masakazu Nakamura
- 11:15 3Q06 Excitonic Properties in Fused-Ring  $\pi$ -Conjugated Molecules with Different Aggregated States  
Hiroya Yamada, Masahiko Saito, Itaru Osaka, Hideo Ohkita
- 11:40 3Q07 Improved Hole Transport in Crystalline Conjugated Polymers Blended with Polystyrene with Different Molecular Weights  
Yuya Horiuchi, Hyung Do Kim, Hiroki Ogawa, Mikihito Takenaka, Hideo Ohkita
- Takao Ishida, presiding**
- 12:55 3Q08 Development of Pyroelectric Infrared Sensor using Ferroelectric Molecular Thin Film  
Kenji Ishida
- 13:20 3Q09 Design and Synthesis Proton-dopable Organic Semiconductors  
Chenzhu Yin, Masakazu Mukaida, Shohei Horike, Kazuhiro Kiriwara, Zhenya Zhang, Qingshuo Wei
- 13:45 3Q10 Computer simulation of crystal growth of organic molecules  
Toshihiro Shimada, Takashi Yanase, Hirohiko Tanoguchi, Yang Xiaoran, Taro Nagahama
- 14:10 3Q11 Single crystal growth of large aromatic molecules by naphthalene flux methods  
Hirohiko Tanoguchi, Takashi Yanase, Taro Nagahama, Toshihiro Shimada

<b>Room R</b>
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**Mon. Sep 6**

**D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Kosuke Okeyoshi, presiding**

- 10:00 1R03 Modulation of two-dimensional assembly patterns of protein needles by engineering the distal ends  
Kosuke Kikuchi, Tatsuya Fukuyama, Tadaomi Furuta, T. Yusuke Maeda, Takayuki Uchihashi, Takafumi Ueno

10:25 1R04 Single-chain variable fragment-bearing "navigator" to switch  $\beta$ 2-microglobulin metabolism to liver  
Akihisa Otaka, Yusuke Kambe, Ken Kuwahara, Takahiko Nakaoki, Mitsuru Sato, Tetsuji Yamaoka

10:50 1R05 Controlled Assembly and Mineralization Ability of Filamentous Virus  
Michihiro Tanaka, Toshiki Sawada, Takeshi Serizawa

**Akihiro Nishiguchi, presiding**

11:15 1R06 Efficient Complex Formation of Functional Molecules with Biomedical Polymers Based on the Specific Affinity of Peptides  
Kenta Moro, Misaki Takizawa, Toshiki Sawada, Tetsuya Kadonosono, Takeshi Serizawa

11:40 1R07 Effect of the skin layer structures on the morphology of wrinkles on the chitosan film surfaces  
Hironori Izawa, Shota Ishisaka, Yumi Nakamura, Shinsuke Ifuku

**Toshiki Sawada, presiding**

12:55 1R08 Analysis of nucleation distribution in meniscus splitting from aqueous mixture of cationic polysaccharides and preparation of oriented membranes  
Koji OGURA, Isamu SAITO, Mitsuo HARA, Yuka IKEMOTO, Kosuke OKEYOSHI

13:20 1R09 Controlled synthesis of alternating glycopolymers as a chondroitin sulfate C mimic by a combination of RAFT copolymerization and sequential post-click reactions  
Ryohei Saiga, Munehisa Tomihama, Jin Motoyanagi, Masahiko Minoda

13:45 1R10 Development of aqueous-stable polymers bearing activated esters for post-polymerization modification in water  
Sotaro Tsuji, Kazuma Kobayashi, Tomonari Tanaka

**Akihisa Otaka, presiding**

14:10 1R11 Design of Polymer Structure of Star Glycopolymers for the Influenza Virus  
Masanori Nagao, Teruhiko Matsubara, Yu Hoshino, Toshinori Sato, Yoshiko Miura

14:35 1R12 Hydrogel adhesion by complex formation of water-soluble cellulose derivative and polyanion  
Yuki Shioji, Taka-Aki Asoh, Hiroshi Uyama

**Hironori Izawa, presiding**

15:25 1R14 Development of an alkyl group modified Alaska pollock-derived gelatin sheet enabled for sealing lung defect  
Hiroaki Ichimaru, Yosuke Mizuno, Xi Chen, Akihiro Nishiguchi, Tetsushi Taguchi

15:50 1R15 Development of Biodegradable Particles for Tissue Adhesion and Perforation Closure in Early Gastrointestinal Cancer Removal Sites  
Shima Ito, Akihiro Nishiguchi, Fumisato Sasaki, Hidehito Maeda, Masayuki Kabayama, Akio Ido, Tetsushi Taguchi

16:15 1R16 Development of urease immobilized nanofiber meshes for the removal of uremic toxins  
Makoto Sasaki, Yihua Liu, Mitsuhiko Ebara

**Taka-aki Asoh, presiding**

16:40 1R17 Degradation induced removal of adsorbed proteins from the surfaces of PEG-grafted degradable thermoresponsive hydrogels  
Naoki Kamei, Tatsuki Kamiya, Syuuhei Komatsu, Akihiko Kikuchi

- 17:05 1R18 Evaluation of electrical responsiveness of repeatedly stretchable electrically-triggered shape-memory polymer  
Kazusa NAKAMURA,Akihiko KIKUCHI,Mitsuhiro EBARA,Koichiro UTO
- 17:30 1R19 Properties of waterborne polyurethane film and its biocompatibility  
Ayao Nishimura,Minari Shiren,Masahito Nishiura,Masaru Tanaka,Shingo Kobayashi

**Tue. Sep 7**

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

##### **Shin-ichi Sawada, presiding**

- 9:10 2R01 Development of polymer-based anti-epileptic drug  
Yutaka Ikeda,Yuya Tajika,Yukio Nagasaki
- 9:35 2R02 Polymeric Iron Chelators Overcoming Tumor Immune Escape  
Haochen Guo,Takahiro Nomoto,Makoto Matsui,Yan Ming Voon,Yi-Jung Sung,Yutaka Miura,Nobuhiro Nishiyama
- 10:00 2R03 Construction of protein-loaded ternary complex comprising tannic acid and phenylboronic acid conjugation polymer for efficient protein delivery.  
Yuto Honda,Takahiro Nomoto,Makoto Matsuo,Makoto Miura,Nobuhiro Nishiyama
- 10:25 2R04 Osteoclastogenesis inhibition by polyphosphoesters  
Kohji Takahashi,Yasuhiko Iwasaki

##### **Kanjiro Miyata, presiding**

- 10:50 2R05 Cell uptake mechanism and anticancer activity test of DOX-encapsulating DNA quadruplex mesogels  
Haruki TANAKA,Daichi INUI,Kohei TATSUMI,Kana TERAGAMI,Yuichi OHYA,Akinori KUZUYA
- 11:15 2R06 Formation of low-molecular-weight polysaccharide/oligonucleotides complexes by optimization of polysaccharide chain length and evaluation of their bioactivity  
Yuki Hata,Kazuki Sumiya,Hiroto Izumi,Kazuo Sakurai
- 11:40 2R07 Design and function of immunoliposomes with immune checkpoint single chain antibody  
Keigo Nakamura,Risako Miura,Mitsuru Ando,Shin-ichi Sawada,Yoshihiro Sasaki,Kazunari Akiyoshi

##### **Yutaka Ikeda, presiding**

- 12:55 2R08 Design of saccharide chain conjugated polylysine nanogels and evaluation of their functions as nucleic acid delivery carriers  
Kenta Okada,Tomoki Nishimura,Shinichi Sawada,Yoshihiro Sasaki,Kazunari Akiyoshi
- 13:20 2R09 Preparation of Inorganic coated Vesicles having Target Recognition Ability and Application for DDS Carriers  
Kazuho Atsumi,Masahiro Higuchi,Syogo Matsubara
- 13:45 2R10 Preparation of deformable nanocapsules by living radical polymerization inside the liposomes  
Yuuka Fukui,Arisa Fukui,Keiji Fujimoto

##### **Yuji Tsuchido, presiding**

- 14:10 2R11 Preparation of lipid nanodiscs using amphiphilic cyclic peptide and their encapsulation of hydrophobic substances  
Hiroki Miwa, Ryosuke Nagao, Isamu Akiba
- 14:35 2R12 Fine-tuning of cationic block copolymer structures for enhanced blood circulation of single-oligonucleotide-loaded ultrasmall nanocarriers  
Hiroyuki Chaya, Mitsuru Naito, Masaru Cho, Kazuko Toh, Beob Soo Kim, Hyun Jin Kim, Kotaro Hayashi, Shigeto Fukushima, Kazunori Kataoka, Kanjiro Miyata
- Isamu Akiba, presiding**
- 15:25 2R14 Nanocapsules composed of polymers with pendant phosphorylcholine groups  
Sayaka Fujii, Kazuhiko Ishihara, Shin-ichi Yusa
- 15:50 2R15 Peptide assembly reversible-transforming between kinetic and thermodynamic morphology  
Mohamed Elafify, Yoshihiro Ito, Motoki Ueda
- 16:15 2R16 Thermoresponsive-cationic block copolymer brush for stem cell separation  
Kenichi Nagase, Goro Edatsune, Sota Yamada, Hideko Kanazawa
- Kenichi Nagase, presiding**
- 16:40 2R17 Adhesion of mesenchymal stem cell and anti-thrombogenic property of the surface immobilized with heparin and peptide ligand  
Yuki Arichi, Ryo Minami, Sachiro Kakinoki
- 17:05 2R18 Design of Enzymatically Degradable Hydrogels for Exploring Mechanical Response of Human Mesenchymal Stem Cells  
Riho TANIMOTO, Mitsuhiro EBARA, Koichiro UTO
- 17:30 2R19 Fabrication of engineered tissue using porous polymer culture substrate consisting of cell adhesion layer and medium retaining layer  
Naoya Takeda, Mai Onuki, Mari Nagasawa, Kenta Iitani, Yuji Tsuchido

**Wed. Sep 8**

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

**Mitsuhiro Ebara, presiding**

- 9:10 3R01 Development of Plastic Antibodies by Incorporating of Homogeneous Synthetic Oligomer Ligand as Molecular Recognition Sites into Nanogel Particles  
Yusuke Saito, Masanori Nagao, Yu Hoshino, yoshiko Miura
- 9:35 3R02 On-Off Control of Energy Conversion by Assembling Autonomously Oscillating Hydrogel Microspheres  
Kohei Inui, Takumi Watanabe, Haruka Minato, Shusuke Matsui, Keito Ishikawa, Ryo Yoshida, Daisuke Suzuki
- 10:00 3R03 Growth and orientation mechanisms of oriented gelatin network by self-assembly  
Kazuki Murai, Kohei Kawaguchi, Syuuhei Komatsu, Yoshihiro Nomura, Akihiko Kikuchi

**Haruka Minato, presiding**

- 10:25 3R04 Design of Apoptotic Cell -inspired anti-inflammatory MPS polymers to control of the inflammatory environment in microglia cell  
Akari Tasaki, Yihua Liu, Mitsuhiro Ebara

10:50	3R05	Antimicrobial properties of cicada wing-inspired poly(vinyl alcohol)-based films <u>Kazuma Fujimoto</u> , Yohei Kotsuchibashi
11:15	3R06	Formation of oligonucleotide-crosslinked polysaccharide nanogels and bio-functions <u>Tomoya Arai</u> , shin-ichi Sawada, Yoshihiro Sasaki, Kazunari Akiyoshi
<b>Masanori Nagao, presiding</b>		
11:40	3R07	Near infrared fluorescence detecting avidin-biotin interactions on chemically modified carbon nanotubes <u>Yoshiaki Niidome</u> , Rie Wakabayashi, Masahiro Goto, Tsuyohiko Fujigaya, Tomohiro Shiraki
12:55	3R08	The model of intracellular liquid-solid phase transition morphological change by using citrulline polypeptide <u>Shouhei Nomura</u> , Naohiko Shimada, Atsushi Maruyama
13:20	3R09	Preparation of capsules with $SrxCa_{1-x}CO_3$ shells on thermoresponsive degradable polymer-based coacervates. <u>Yuya Mizuno</u> , shuuhei Abe, Shuuhei Komatsu, Akihiko Kikuchi

## Room S

**Mon. Sep 6**

### S15. New Strategy for Biosupramoleclar Materials

9:50	1SS0	Introductory Remarks S15 <u>Teruyuki Komatsu</u>
<b>Hiroyasu Yamaguchi, presiding</b>		
10:00	1S03	In vivo application of supramolecular hemoglobin model complexes as a biological gas scavenger <u>Hiroaki Kitagishi</u> , Mao Qiyue
10:25	1S04	Photocatalytic CO <sub>2</sub> Reduction using Supramolecular Zn(II) Porphyrins as Photosensitizers <u>Yusuke Kuramochi</u>
10:50	1S05	Construction of supramolecular assemblies containing hexameric hemoprotein as a building unit <u>Koji Oohora</u>
<b>Keiji Numata, presiding</b>		
11:15	1S06	Effect of Alanine substitution at the 2-fold symmetric interface of the ferritin cage <u>JIAXIN TIAN</u> , Takafumi Ueno, Satoshi Abe, Basudev Maity, Ta ke shi Murata, Kenji Yasuda
11:40	1S07	Protein Crystallization using Cell-free Protein Synthesis and Structural Analysis <u>Satoshi Abe</u> , Takafumi Ueno
<b>Satoshi Arai, presiding</b>		
12:55	1S08	Synthesis and O <sub>2</sub> affinity control of hemoglobin-albumin trimer as an artificial O <sub>2</sub> carrier with cooperativity

- Yoshitsugu Morita, Teruyuki Komatsu
- 13:20 1S09 Hemoglobin-PEG alternating copolymer synthesized via entropy-driven supramolecular ring-opening polymerization  
Takashi Matsuhira, Hiromi Sakai
- 13:45 1S10 Construction of kinesin driven microtubule swarm as a molecular transporter to load-deliver-unload cargo  
Mousumi Akter, Jakia Jannat Keya, Arif Md. Rashedul Kabir, Daisuke Inoue, Henry Hess, Kazuki Sada, Hiroyuki Asanuma, Akinori Kuzuya, Akira Kakugo
- Masaki Nakahata, presiding**
- 14:10 1S11 Force Determination of Circular Shaped Microtubules Swarm Driven by Kinesin Using Electromagnetic Tweezers  
MST Rubaya Rashid, Mousumi Akter, Arif Md. Rashedul Kabir, Jakia Jannat Keya, Kazuki Sada, Akira Kakugo
- 14:35 1S12 Development of N-terminal Specific Protein Modification Technology for Precise Construction of Protein-based Materials  
Akira Onoda, Nozomu Inoue, Eigo Sumiyoshi, Shoichi Kitai, Takashi Hayashi
- 15:25 1S14 Self-assembly of crystalline molecules directed by excluded volume and overlap of polymers  
Yuuki Hata, Xiang Li, Ung-il Chung, Shingo Nakamura, Takamasa Sakai
- 15:50 1S15 Synthesis of Polymer Microtube Motors by Photopolymerization in Template  
Ryo Kato, Tomonao Sugawara, Teruyuki Komatsu
- Teruyuki Komatsu, presiding**
- 16:15 1S16 Temperature-induced supramolecular morphological transition composed of two kinds of amphiphilic polypeptides containing different hydrophilic polypeptides  
Hiroataka Uji, Shota Yoshida, Hiroyasu Masunaga, Keiji Numata, Shunsaku Kimura
- 16:40 1S17IL Bioactive Nanotubes and Biomimetic Nanostructured Interfaces based on the Layer-by-Layer Assembly of Proteins and Polyelectrolytes in Nanochannels  
Sophie Demoustier-Champagne

**Tue. Sep 7**

### **S15. New Strategy for Biosupramoleclar Materials**

**Takahiro Muraoka, presiding**

- 9:10 2S01 Biosensor application of aptamer modified graphene  
Yuko Ueno
- 9:35 2S02 Development of Bio-Supramolecular Materials Formed by Mucin-Boronic Acid Interaction for Application to Culture of Intestinal Bacteria  
Masaki Nakahata, Keishi Saito, Naoki Tominaga, Masaru Kojima, Shinji Sakai
- 10:00 2S03 Photo-induced out-of-equilibrium patterning in a self-sorting supramolecular double network hydrogel  
Ryou Kubota, Keisuke Nakamura, Wataru Tanaka, Kei Sada, Itaru Hamachi

10:25 2S04 Mechano-responsive hydrogels driven by dissociation of supramolecular bonding  
Akihide Sugawara, Taka-Aki Asoh, Yoshinori Takashima, Akira Harada, Hiroshi Uyama

**Shoichiro Asayama, presiding**

10:50 2S05 Double-stranded DNA recognition of peptide nucleic acid (PNA) via invasion complex formation  
Yuichiro Aiba, Masanari Shibata, Kota Ito, Masaki Hibino, Shinya Ariyasu, Osami Shoji

11:15 2S06 Creation of Novel Function of Nucleases by Bio-Supramolecular Strategy with Chimeric Artificial Nucleic Acid  
Masato Inagaki, Nozomu Ishiwata, Ryota Azuma, Masaki Nishijima, Hironori Hayashi, Yasuyuki Araki, Eiichi Kodama, Takehiko Wada

11:40 2S07 Sensitive detection of cancer cells by the successive strand exchange of nucleic acids  
Yusuke Kitamura, Shunpei Sakamoto, Yuta Nakashima, Masaaki Iwatsuki, Keiichiro Yasuda, Seitaro Kumamoto, Yousuke Katsuda, Hideo Baba, Yoshitaka Nakanishi, Toshihiro Ihara

**Keitaro Sou, presiding**

12:55 2S08 Endocytosis-like Vesicle Fission Induced by a Photoresponsive Molecular Machine  
Noriyuki Uchida, Yunosuke Ryu, Takahiro Muraoka

13:20 2S09 Control of intracellular delivery and antigen-specific immune responses using liposomes containing pH-responsive dendron-bearing lipids  
Eiji Yuba, Yoshikatsu Sugahara, Yuta Yoshizaki, Takeyuki Shimizu, Keiko Udaka

13:45 2S10 Effects of Glycon and Temperature on Self-Assembly Behaviors of alpha-Galactosyl Ceramide  
Yasuhito Koyama, Ryo Miyazaki, Mahmuda Nargis, Abu Bin Ihsan, Noriyuki Nakajima, Masahiro Hamada

14:10 2S11 Biomolecule-integrated nano-interfaces for highly sensitive detection of extracellular vesicles  
Hirobumi Sunayama, Toshifumi Takeuchi

**Teruyuki Komatsu, presiding**

14:35 2S12 A light-modulated nanovesicle system enabling to control the spatiotemporal dynamics of bioactive molecules  
Satoshi Arai, Satya Sarker

**Room T**

**Mon. Sep 6**

**S16. Working Biomedical Polymers: From the Viewpoint of Time/Space and Functions/Actions**

9:50 1TSO Introductory Remarks S16  
Tatsuro Goda, Akihiro Nishiguchi

**Michiya Matsusaki, presiding**

- 10:00 1T03 Design and function of tissue adhesive particles that prevent complications after the surgery of early-stage gastrointestinal cancer  
Akihiro Nishiguchi, Shima Ito, Fumisato Sasaki, Hidehito Maeda, Masayuki Kabayama, Akio Ido, Tetsushi Taguchi
- 10:25 1T04 Inhibition of inflammatory edema through the treatment of lanoconazole-loaded emulsions stabilized with cellulose nanocrystals grafted with polyphosphoesters  
Suphatra Hiranphinyophat, Akihisa Otaka, Syuji Fujii, Yasuhiko Iwasaki
- 10:50 1T05 Development of a surgical adhesive that has an anti-adhesion effect after curing  
Tetsushi Taguchi, Ryo Mizuta, Yosuke Mizuno, Xi Chen

**Mitsuhiro Ebara, presiding**

- 11:15 1T06 Cell surface modification of Neural Progenitor Cells for Ischemic Stroke Treatment  
Isha Goel, Yuka Yamauchi, Koichi Kato, Yuji Teramura
- 11:40 1T07 Design of an azobenzene-bearing hydrogel which exhibits photo-induced phase transition behavior and its development towards mechanobiology  
Kenta Homma, Alice Ching-Hsuan Chang, Ryota Tamate, Shota Yamamoto, Takeshi Ueki, Jun Nakanishi

**Akihiro Nishiguchi, presiding**

- 12:55 1T08 Development of Polymer Nanomaterials That work at Microenvironment on Cell Surfaces and Their Biomedical Applications  
Michiya Matsusaki
- 13:20 1T09 Application of black phosphorus nanosheets/gelatin composite porous scaffolds for photothermal ablation of breast tumor cells and adipogenic differentiation of mesenchymal stem cells  
Guoping Chen, Linawati Sutrisno, Naoki Kawazoe
- 13:45 1T10 Analysis of osteoinductive ability of carbonate apatite capsules based on degradable coacervate.  
Syuuhei Komatsu, Shuhei Abe, Taka-Aki Asoh, Akihiko Kikuchi
- 14:10 1T11 Synthesis and functional evaluation of polymer-conjugated lipid for cell surface modulation of endothelium  
Yuji Teramura, Kazuhiko Ishihara
- 14:35 1T12 Engineering of the polymer inhibitor of the cancer cell proliferation by the synergistic inhibition of the co-localized enzyme cluster on the cell membrane  
Masahiko Nakamoto, Yuki Koba, Michiya Matsusaki

**Atsushi Mahara, presiding**

- 15:25 1T14 Permeation and transport through epithelial barriers by phospholipid-mimicking amphiphilic polymers  
Tatsuro Goda
- 15:50 1T15 Design of Sulfobetaine Polymers with Enhanced Permeation into Three-Dimensional Cell Aggregates  
Nobuyuki Morimoto, Yuki Miura, Masaya Yamamoto
- 16:15 1T16 Development of a method for biomaterials using designed cells  
Tsuyoshi Kimura, Shota Toda, Hanako Maeda, Yoshihide Hashimoto, Takahide Matsushima, Wataru Nomura, Hirotsugu Asahara, Akio Kishida

**Yuji Teramura, presiding**

16:40	1T17	Microvasculature MR imaging by self-assembled formation of Gd-chelate conjugated 8-arm polyethylene glycol <u>Atsushi Mahara</u> , Keigo Shima, Shigeyoshi Saito, Yoshiaki Hirano, Tetsuji Yamaoka
17:05	1T18	Design and evaluation of antibody-smart polymer conjugates by "Grafting from" method <u>Erika YOSHIHARA</u> , Nabil Ahmed, Michihiro IJIMA, Mistuhiro EBARA
17:30	1T19	Control over cell microenvironment for hair regenerative medicine <u>Junji Fukuda</u>

**Tue. Sep 7**

**S16. Working Biomedical Polymers: From the Viewpoint of Time/Space and Functions/Actions**

**Tsuyoshi Kimura, presiding**

9:10	2T01	Design of Bio-friendly Nanosheets as an Observation Window for Deep Tissue Imaging <u>Yosuke Okamura</u> , Hong Zhang, Kenji Yarinome, Konoha Shiratori, Hiroaki Mitsuhashi, Taiga Takahashi, Kohei Otomo, Ryosuke Kawakami, Tomomi Nemoto
9:35	2T02	Functionalization of nanofluidic devices using polymers <u>Yan Xu</u>
10:00	2T03	Expression of physiological functions of HepG2 spheroid using flexible floating hydrogel membrane as cell culture scaffold <u>Atsushi Tsuyukubo</u> , Kimio Sumaru, Kana Morishita, Toshiyuki Kanamori

**Tatsuro Goda, presiding**

10:25	2T04	Polymer nanosheet for low-adhesive sEMG measurement <u>Marimo Ito</u> , Tatsuhiro Horii, Toshinori Fujie
10:50	2T05	Temporal Response Control of Neuromorphic Devices Based on Mixed Conducting Polymers <u>Shunsuke Yamamoto</u> , George G. Malliaras
11:15	2T06	Bioiontronic devices for interactive communication with biology <u>Takeo Miyake</u>

**Satoshi Uchida, presiding**

12:55	2T08	Working biomedical polymer capitalizing on "borono-lectin" based chemistry for cross-talking <u>Akira Matsumoto</u> , Takuya Miyazaki, Khan Thahomina, Taiki Miyazawa, Horacio Cabral, Yuji Miyahara
13:20	2T09	Activation of immunocytes in temperature-responsive injectable polymer gel and the application for to cancer immunotherapy <u>Kenta Horii</u> , Yuta Yoshizaki, Nobuo Murase, Yuichi Ohya
13:45	2T10	Development of cell nuclear-targeting nanocarriers that mimic function of importin <u>Yuta Hamada</u> , Mitsuo Inui, Yoshinori Sano, Koji Nagahama

**Shoichiro Asayama, presiding**

14:10	2T11	Development of cancer-specific prodrug polymeric micelles and their therapeutic effect <u>Yuki Mochida</u> , Horacio Cabral, Kazunori Kataoka
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- 14:35 2T12 Intracellular delivery of oligonucleotide with reductively degradable cationic gel particle  
Akifumi Kawamura, Shun Fujisawa, Takashi Miyata
- Yuki Mochida, presiding**
- 15:25 2T14 Molecular Design of Zn<sup>2+</sup>/pDNA Co-delivery Carriers to Induce Muscle Cell Differentiation by Working Zn<sup>2+</sup> Timely  
Shoichiro Asayama, Yuki Kobayashi
- 15:50 2T15 Activation of antigen presenting cells and induction of cancer immunity by liposomes containing pH-sensitive polysaccharides and cationic lipids  
Eiji Yuba, Yuna Kado, Nozomi Kasho, Yukiya Kitayama, Atsushi Harada
- Akira Matsumoto, presiding**
- 16:15 2T16 Controlling the biodistribution of nanomedicines by transient coating of liver sinusoidal walls using 2-armed PEG-oligolysine  
Satoshi Uchida
- 16:40 2T17 Recent advances of Self-Organizing Antioxidants (RNPs)  
Yukio Nagasaki
- Tatsuro Goda, presiding**
- 17:30 2T19IL Protein engineering approaches to control immune system to achieve safe and effective cancer immunotherapy  
Jun Ishihara, Jeffrey Hubbell

### Wed. Sep 8

#### S16. Working Biomedical Polymers: From the Viewpoint of Time/Space and Functions/Actions

- Naohiko Shimada, presiding**
- 9:10 3T01 Plasticized Poly(vinyl chloride) for Reducing Plasticizer Migration  
Junji WATANABE, Fumiya TAKAGISHI, Yuki HIROTA
- 9:35 3T02 Controlled molecular arrangements and protein adsorption properties of alkyl beta-celluloside assemblies  
Takeshi Serizawa, Shoki Tanaka, Saeko Yamaguchi, Moe Amitani, Toshiki Sawada, Yukiko Tanaka, Masaru Tanaka
- 10:00 3T03 Interaction at nanoscales induced by anti-biofouling self-assembled monolayers  
Tomohiro Hayashi
- 10:25 3T04 Shape control of degradable core-corona type particles around body temperature  
Satoshi YAMADA, Syuuhei KOMATSU, Akihiko KIKUCHI
- Takeshi Serizawa, presiding**
- 10:50 3T05 Design Smart Vinyl Polymers Suspended Pyrrolidone Ring : Thermo-responsibility and Cell Affinity in Water  
Shinnosuke Nishimura, Kei Nishida, Tomoya Ueda, Masaru Tanaka
- 11:15 3T06 Design of Visible Light- and Temperature-responsive Polymers with Controllable Physical and Chemical Properties and Their Application to Cell Regulation  
Masaaki Okihara, Akifumi Kawamura, Takashi Miyata

11:40 3T07 Spatiotemporal Control of Cell Aggregation and Protein Recruitment by using photoresponsive ureido polymers  
Naohiko Shimada, Nao Ikeuchi, Takuya Komachi, Keiji Murayama, Hiroyuki Asanuma, Atsushi Maruyama

**Room U**

**Mon. Sep 6**

**S17. Bio-Related Polymers for Understanding, Mimicking, and Controlling The Hierarchical Bioinformation**

9:50 1US0 Introductory Remarks S17  
Koji Nagahama, Hideyuki Mitomo

**Hideyuki Mitomo, presiding**

10:00 1U03 Covalent Cell-Loading Injectable Hydrogel Scaffold Significantly Promotes Tissue Regeneration in vivo Compared with a Conventional Physical Cell-Loading Hydrogel Scaffold  
Koji Nagahama, Yuka Kimura, Natsumi Ueda

10:25 1U04 Design of biomaterials to cover the incision by understanding the information of intestinal tissues  
Shinji Takeoka, Mayu Okuda

10:50 1U05 Design of temperature-responsive polymer nanoparticles for cancer therapy  
Hiroyuki Koide, Kazuhiro Saito, Yu Hoshino, Kenneth Shea, Naoto Oku, Tomohiro Asai

**Shinji Takeoka, presiding**

11:15 1U06 Immunosuppression by sialic acid-containing glycopolymers via interacting with Siglec-E.  
Takato Ishida, Takahiro Oh, Masanori Nagao, Yu Hoshino, Yoshiko Miura

11:40 1U07 Delivery into lymph node-resident T cells and tumor cells by surface modification of the anionic terminal dendrimers  
Chie Kojima, Misaki Nishio, Kento Nagai, Akikazu Matsumoto

**Kousuke Tsuchiya, presiding**

12:55 1U08 Preparation of polysaccharide composite cell scaffolds mimicking in vivo environment and culture of bone marrow-derived mesenchymal stem cells therein  
Kazutoshi Iijima, Kazuki Yamauchi

13:20 1U09 Immobilization of cell-recognition ligands to desired compartments on the surface of a degradable material using DNA-Tags for favorable spatial arrangements of various cells  
Yuichi Ohya, Hiromichi Sumida, Yuta Yoshizaki, Akinori Kuzuya

13:45 1U10 Functional analysis of peptide inducing cell aggregate  
Ikumi Amimoto, Rino Watanabe, Yudai Futaki, Yoshiaki Hirano

**Kazutoshi Iijima, presiding**

14:10 1U11 Dissociation of cellulose network in plant cell walls by zwitterionic polypeptides  
Kousuke Tsuchiya, Kayo Terada, Keiji Numata

- 14:35 1U12 Design of Protein Needle Materials Encapsulated in In-cell Protein Crystals  
THUC TOAN PHAM, Satoshi ABE, Takafumi UENO
- Naohiko Shimada, presiding**
- 15:25 1U14 Stabilization of microtubules by encapsulation of tetrameric fluorescent proteins using Tau-derived peptides  
Yurina Sueki, Hiroshi Inaba, Takashi Iwasaki, Kabir Arif Md. Rashedul, Akira Kakugo, Kazuki Sada, Kazunori Matsuura
- 15:50 1U15 Stabilization of microtubules by photocrosslinkable Tau-derived peptide  
Soei Watari, Hiroshi Inaba, Arif Md. Rashedul Kabir, Akira Kakugo, Kazuki Sada, Kazunori Matsuura
- 16:15 1U16 Creation of artificial viral capsid equipped with membrane proteins mimicking enveloped virus  
Hiroto Furukawa, Keigo Nakamura, Hiroshi Inaba, Yoshihiro Sasaki, Shin-ichi Sawada, Kazunari Akiyoshi, Kazunori Matsuura
- Hiroshi Inaba, presiding**
- 16:40 1U17 Hierarchical assembly and function of membrane protein-mimetic multiblock amphiphiles  
Kohei Sato, Ryo Sasaki, Kazuhito Tabata, Hiroyuki Noji, Kazushi Kinbara
- 17:05 1U18 Chaperone-polymer decoration for controlled lipid membrane responses  
Shutaro Takahashi, Takuro Ochiai, Wakako Sakamoto, Tomoka Takenaka, Naohiko Shimada, Atsushi Maruyama
- 17:30 1U19 Hierarchization of polyion complex vesicle for mimicry of cellular organelles  
Tomoki Maruyama, Yiwei Liu, Takeshi Mori, Yoshiki Katayama, Akihiro Kishimura
- 17:55 1U20 Molecular permeable behavior of the polymer vesicle composed of thermoresponsive polypeptoid-oligosaccharide block polymer  
Yota Okuno, Tomoki Nishimura, Yoshihiro Sasaki, Kazunari Akiyoshi

**Tue. Sep 7**

**S17. Bio-Related Polymers for Understanding, Mimicking, and Controlling The Hierarchical Bioinformation**

**Daisuke Miyoshi, presiding**

- 9:10 2U01IL Dehydration protection by a tardigrade-desiccation protein revealed at the residue level by liquid-observed vapor exchange NMR  
Gary J. Pielak, Candice J Crilly, Julia A Brom, Jonathan E Eicher

**Koji Nagahama, presiding**

- 10:00 2U03IL Hydration and phase separation of non-canonical nucleic acid structures  
Daisuke Miyoshi
- 10:50 2U05 Development of oligonucleotide probe for imaging of sodium ion in living cell  
Shinobu Sato, Ayano Udo, Shigeori Takenaka
- 11:15 2U06 Development of BRET system using DNA as a linker  
Fumiaki Takano, Toshiki Inui, Akinori Kuzuya

11:40 2U07 Supramolecular materials composed of distinct self-assembled structures of peptides and nucleic acids anchored by saccharides  
Masato Ikeda

**Takehiko Wada, presiding**

12:55 2U08 Regulation of conformational dynamics of guanine quadruplexes DNA by Mg<sup>2+</sup> ions  
Shuntaro Takahashi, Naoki Sugimoto

13:20 2U09 Comparison of dissociation behavior in DNA hybridization between single-molecule observation and ensemble observation  
Hiroyuki Furusawa, Kenjiro Yazawa

13:45 2U10 Stimulus-responsive orientation change of gold nanorods using a DNA polymer brush  
Yu Sekizawa, Hideyuki Mitomo, Chisato Toyokawa, Yusuke Yonamine, Kuniharu Ijiro

**Shigehito Osawa, presiding**

14:10 2U11 Creation of Novel Function of Nucleases by Backbone Structural Design of DNA-XNA Chimeras  
Nozomu Ishiwata, Ryota Azuma, Akira Yano, Masahito Inagaki, Masaki Nishijima, Takeshi Yamamoto, Yasuyuki Araki, Asako Yamayoshi, Takehiko Wada

14:35 2U12 Creation of Functional Artificial Metalloenzymes by Hybridization of Biological and Synthetic Molecules  
Hiroyasu Yamaguchi, Takuma Adachi, Keisuke Murata, Seiji Yamasaki, Kenji Kohara, Yuichiro Kobayashi, Akira Harada

**Toshiki Sawada, presiding**

15:25 2U14 Design of pH-Responsive Polypeptide Gels and Nanoparticles by Entropy Reduction and Regulation of Molecular Binding Ability by Structural Transition  
Takashi Miyata, Masaaki Kanazawa, Tomoya Iwagaki, Akifumi Kawamura

15:50 2U15 Structure-activity relationship of biologically active calixarene derivatives  
Kazuma Yasuhara, Mizuki Kaji, Hideto Kibata, Takuto Nakano, Gwenael Rapenne

16:15 2U16 Promoted redox activity through forming locally concentrated state by installing copper complexes into polymer sidechain  
Shigehito Osawa, Kenichi Kitanishi, Maho Kiuchi, Motoyuki Shimonaka, Hidenori Otsuka

**Kazuma Yasuhara, presiding**

16:40 2U17 Development of functions and physical properties of filamentous viruses based on machine learning  
Toshiki Sawada, Takashi Kishida, Michihiro Tanaka, Takeshi Serizawa

17:05 2U18 Artificial Membrane Protein Complex expressed in Photosynthetic Membrane  
Takehisa Dewa, Yasushi Suzuki, Takuya Wada, Kaho Hirano, Jun-na Hata, Masaharu Kondo

17:30 2U19 Unraveling dimerization mechanism of N-terminal domain of spider dragline silk protein  
Nur Alia Oktaviani, Ali Malay, Akimasa Matsugami, Fumiaki Hayashi, Keiji Numata

## Room V

Mon. Sep 6

### E. POLYMERS AND ENVIRONMENT

#### Ken-ichi Kasuya, presiding

- 10:00 1V03 Synthesis and characterization of bio-based polyamides and copolyamides derived from divanillic acid  
Kazuma Yagura, Yukiko Enomoto, Tadahisa Iwata
- 10:25 1V04 Novel Functional Bio-Based Polymers by Precision Polymerization of Caffeic Acid-Derived Styrenes  
Shiho Tanizaki, Tomohiro Kubo, Kotaro Satoh

#### Yukiko Enomoto, presiding

- 10:50 1V05 Development of Concise Synthetic Methods of Cellulose Derivatives Based on Cellulose Acrylate  
Hiroya Okamoto, Tsuyoshi Taniguchi, Motohiro Takekuma, Asami Mashio, Kuo Hong Wong, Hiroshi Hasegawa, Tatsuya Nishimura, Katsuhiko Maeda
- 11:15 1V06 Preparation and properties of self-healing polymer networks utilizing a bio-based epoxy resin and poly(lipoic acid) having disulfide bonds  
Kaito Sugane, Mitsuhiro Shibata
- 11:40 1V07 Thermal properties of polyurethane foams prepared from liquefied apple residue  
Mika Iijima, Hatakeyama Tatsuko, Hatakeyama Hyoe

#### Tatsuya Nishimura, presiding

- 12:55 1V08 Double Helix Structures and Water Vapor Sorption Properties of Carrageenan Membranes Derived From Red Algae  
Natsumi Hirota, Kazukiyo Nagai
- 13:20 1V09 Chemically recyclable bio-based polyester composed of bifuran and glycerol acetal  
Yuya Tachibana, Senri Hayashi, Naoto Tabata, Ken-ichi Kasuya
- 13:45 1V10 Control of biodegradability of poly(butylene succinate) via the reductive cleavage of disulfide bonding  
Toyokazu Tsutsuba, Moe Shimizu, Yuya Tachibana, Ken-ichi Kasuya

#### Tomohiro Kubo, presiding

- 14:10 1V11 Fabrication of multilayer films composed of Cellulose ester derivatives and microbial polyester and assessment of the biodegradability  
Jobu Tateiwa, Satoshi Kimura, Hongyi Gan, Tadahisa Iwata
- 14:35 1V12 Miscibility, degradability and compatibilization of poly(3-hydroxybutyrate-co-3-hydroxyhexanoate)-based polyester blends  
Iffa Farahin Jeepery

#### Kazukiyo Nagai, presiding

- 15:25 1V14 Mechanistic analysis of photodeformable biobased polyester  
Kenji Takada, Tatsuo Kaneko
- 15:50 1V15 Thermally cross-linked poly(methacrylic acid)-based materials by poly(vinyl alcohol) and their degradability in an oxidizing environment  
Yohei Kotsuchibashi, Daiki Kobayashi, Masayuki Kirihara

- 16:15 1V16 Preparation and characterization of curdlan dried-gel-films with high mechanical strength by strain-induced oriented crystallization of curdlan chemical hydrogels.  
Yusuke Matsumoto, Yukiko Enomoto, Tadahisa Iwata
- Kenji Takada, presiding**
- 16:40 1V17 Highly ordered structure analyses of high strength and elastic microbial polyester fibers and its marine biodegradability  
Taku Omura, Katsuya Komiyama, Sakura tsujimoto, Akira Maehara, Taizo Kabe, Tadahisa Iwata
- 17:05 1V18 Characterization of a poly(3-hydroxybutyrate)-degrading actinobacterium isolated from plastisphere formed on marine plastic debris  
Miwa Suzuki, Yuya Tachibana, Reika Takizawa, Takuya Morikawa, Hiroyuki Takeno, Ken-ichi Kasuya
- 17:30 1V19 Biodegradation of aliphatic aromatic polyester by a mesophilic actinobacteria *Rhodococcus fascians*  
Phouvilay Soulethone, Fumihiko Muroi, Tsukasa Mizuno, Yuya Tachibana, Ken-ichi Kasuya

**Tue. Sep 7**

## **E. POLYMERS AND ENVIRONMENT**

**Masahiro Fujiwara, presiding**

- 9:10 2V01 Development of Thermo-responsive microgel particles for CO<sub>2</sub> separation under low CO<sub>2</sub> concentration  
Ryutaro Honda, Yoshiko Miura, Yu Hoshino
- 9:35 2V02 Preparation of Polymeric Materials Adsorbing Phosphoric acid and Its Properties  
Risei Wada, Hidenobu Shimizu

**Yu Hoshino, presiding**

- 10:00 2V03 Surface modification of cellulose through mechanochemical method  
Lease Jacqueline, Yoshito Andou
- 10:25 2V04 Relationship between physical properties of polyacrylic acid and lung damage  
Ryohei Ono, Chinatsu Nishida, Shota Fujii, Hiroto Izumi, Yasuo Morimoto, Kazuo Sakurai
- 10:50 2V05 Highly energy efficient solar desalination of seawater  
Masahiro Fujiwara, Shinobu Yamauchi

## **S18. Polymer Materials and Recycling Technology Aimed at Coexistence with Diverse Environments**

- 12:45 2VSO Introductory Remarks S18  
Kazutoshi Ikenaga

**Kazutoshi Ikenaga, presiding**

- 12:55 2V08 Synthesis and biodegradability of sequence-controlled copolyesters composed of glycolic acid, 1,4-butanediol, and dicarboxylic acids  
Yuushou Nakayama, Keitaro Fukumoto, Tanaka Ryo, Takeshi Shiono, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama

- 13:20 2V09 Preparation of high impact resistant poly(lactic acid)/Eucommia elastomer blend using dynamic crosslinking  
Yuji Klba, Yu-I Hsu, Taka-Aki Asoh, Kinkoh Sho, Nobu-Aki SuZuki, Hiroshi Uyama
- 13:45 2V10 Preparation and properties evaluation of microbeads derived from biodegradable polymer  
Hongyi Gan, Satoshi Kimura, Tadahisa Iwata
- Yuushou Nakayama, presiding**
- 14:10 2V11 Fabrication, the higher-order structural analysis, and the evaluation of environmental biodegradation of elastic P(3HB-co-3HV) fiber  
Katsuya Komiyama, Taku Omura, Taizo Kabe, Tadahisa Iwata
- 14:35 2V12 Improvement of mechanical strength in polyurethane by citric acid modified cellulose as filler  
Takeshi Hiraoka, Yu-I Hsu, Taka-Aki Asoh, Hiroshi Uyama
- 15:25 2V14 Development of Polymer Composite with CNF-hybrid filler  
Yoshito Andou, Safarul bin Mustapha, Tessei kawano
- Yoshito Andou, presiding**
- 15:50 2V15 Consideration on new plastic recycling law and future plastic recycling  
naoki kubo
- 16:15 2V16 Shape and particle size of microplastics  
Hisayuki Nakatani, Takuya Muraoka, Yuina Ohshima, Suguru Motokucho
- Hisayuki Nakatani, presiding**
- 16:40 2V17 Natural weathering of nylon, PET and polyethylene  
Olaf Karthaus, Takayuki Maruyama
- 17:05 2V18 Photo-oxidative Degradation and Microplastic Formation of Polyolefins  
Atsushi Takahara, Tomoko Kajiwara, Atsushiko Isobe, Yuka Ikemoto
- 17:30 2V19 Current status of the marine plastic pollution and relevant studies  
ATSUHIKO ISOBE

**Wed. Sep 8**

**S18. Polymer Materials and Recycling Technology Aimed at Coexistence with Diverse Environments**

**Takayuki Tsukegi, presiding**

- 9:35 3V02 Pyrolysis and Chemical Separation Approaches for Plastic Recycling  
Shogo Kumagai, Toshiaki Yoshioka
- 10:00 3V03 Co-pyrolysis of PVC and woody biomass in glycerol  
Katsuki Kusakabe, Thamisha Steven, Anna Nagai, Yoshimitsu Uemura, Kazutoshi Ikenaga
- 10:25 3V04 Advanced recycling process by using the self-resilience ability of plastic.  
Shigeru Yao, Patchiya Panthong

**Shigeru Yao, presiding**

- 10:50 3V05 Progress of precise thermal degradation and new development of functional polyolefins  
Daisuke Sasaki, Atsushi Takamura, Takashi Sawaguchi
- 11:15 3V06IL Multiple screw type reactor for pyrolysis of waste plastic to oil and char

**Takashi Arai, presiding**

- 13:20 3V09 Interfacial Adhesiveness Between Fiber and Resin in Composite Material and the Effect of Adding a Compatibilizer  
Hiroshi Yamashita,Hisai Ueda,Hiroki Matsumoto,Nobuaki Inui,Takayuki Tsukegi,Kiyoshi Uzawa
- 13:45 3V10 Practical Synthesis of Oxidatively Degradable Polymer  
Nobuhiro Kihara,Ai Kikuchihara
- 14:10 3V11 Effect of alcohol component for the chemical recycling via hydrolysis of polyurethane by using carbonic acid  
Suguru Motokucho,Ryota Oshima,Hisayuki Nakatani

**Suguru Motokucho, presiding**

- 14:35 3V12 Basic chemicals prepared by unused biomass material  
Takashi Arai,Kiyoharu Tsutsumi,Noritsugu Yamasaki
- 15:25 3V14 Synthesis of bio-based polycarbonates and development of their recycling systems  
Takumi Abe,Rikito Takashima,Daisuke Aoki,Hideyuki Otsuka
- 15:50 3V15 Alcoholysis of polycarbonate by microwave irradiation under the pressurized condition  
Kazutoshi Ikenaga

**Room ESA**

**Mon. Sep 6**

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

**Jun Matsui, presiding**

- 10:00 1ESA03 Single-step fabrication of honeycomb-patterned antibacterial organic-inorganic hybrid films prepared by breath figure technique with in situ selective silver reduction  
Shahkar Falak,Bo Kyoung Shin,Do Sung Huh
- 10:25 1ESA04 All-atom molecular dynamics simulation study on dielectric properties of p-hydroxybenzoic acid polymer crystal  
Toshihiro Kaneko,Kazushi Fujimoto,Hiroaki Ishikawa,Minoru Shimooka,Susumu Okazaki

**Shinji Ando, presiding**

- 10:50 1ESA05 Ionic conductivity and mechanical properties of lithium salt-doped Polymerized ionic liquid electrolytes  
Kamonthira Wichai,Osamu Urakawa,Tadashi Inoue,Visit Vao-soongnern
- 11:15 1ESA06 N-type Organic Semiconductor-All-Inorganic Perovskite Quantum Dot Photosensitizer Bulk-Heterojunction Structure for Hybrid Phototransistors  
Shao-Huan Hong,Ming-Chou Chen,Cheng-Liang Liu
- 11:40 1ESA07 Proton conductive mechanism at the interlayer of polymer nanosheet film

Minami Inoue, Miaomiao Liu, Yuki Nagao, Makoto Gemmei, Tokuji Miyashita, Masaya Mitsuishi, Jun Matsui

**Toshihiro Kaneko, presiding**

- 12:55 1ESA08 Retardation Analysis of Random Depolarization Film for Liquid-Crystal and OLED Displays without Color Degradation  
Shizuki Sasaki, Mariko Udono, Yasuhiro Koike
- 13:20 1ESA09 An Imide Compound and Polyimides Forming Multiple Intramolecular Hydrogen Bonds and Exhibiting Large Stokes-shifted Yellow Fluorescence  
Naiqiang Liang, Mayuko Nara, Ryohei Ishige, Shinji Ando
- 13:45 1ESA10 Novel phthalimide compound having proton-transfer ability and exhibiting full colored fluorescence in the visible region under UV irradiation  
Atsuko Tabuchi, Teruaki Hayakawa, Shigeki Kuwata, Ryohei Ishege, Shinji Ando
- 14:10 1ESA11 Observation and Analysis of High Pressure-Enhanced Luminescence of Phosphorescent Bromine-Containing Imide Compounds and Polyimides  
Ryuichi Isoda, Koichiro Muto, Marina Doi, Ryohei Ishige, Shinji Ando

**Tomoya Higashihara, presiding**

- 14:35 1ESA12ILY Development of proton-conductive membrane with high performance and stability at high temperature  
Junpei Miyake, Kenji Miyatake
- 15:25 1ESA14ILY Synthesis of Polymer Microparticles with Unique Shapes and Their Applications  
Mun Ho Kim

**Teruaki Hayakawa, presiding**

- 15:50 1ESA15ILY Development of novel bio-based functional polymers derived from non-edible phenolic compound  
Shinji Kanehashi
- 16:15 1ESA16ILY Reproducible and rapid synthesis of a conjugated polymer in flow  
Ye-Jin Hwang

**Hideaki Yokoyama, presiding**

- 16:40 1ESA17ILY Precise analysis of noncrystalline thin films based on GI-WAXS and infrared pMAIRS  
Ryohei Ishige
- 17:05 1ESA18ILY Thermo-rheology for Ceramic 3D printing and Micro-injection Molding Processes  
Doojin Lee

**Takashi Nakanishi, presiding**

- 17:30 1ESA19ILY Nanosheet Electronics for Monitoring and Control of Biological Functions  
Toshinori Fujie
- 17:55 1ESA20ILY Understanding the swelling hysteresis of hydrogels  
Jungwook Kim

**Tue. Sep 7**

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

**Taichi Ikeda, presiding**

- 9:10 2ESA01 Polyethylene glycol Nectars in Honeycomb Membranes Applicable as Composite Electrolytes for Rechargeable All-solid Lithium-ion batteries  
Manjit Singh Grewal,Kazuaki Kisu,Shin-ichi Orimo,Hiroshi Yabu
- 9:35 2ESA02 Utilization of Cafe Acid Based Lithium Borate Type Polymer as Anodic Binder in Li Ion Secondary Batteries  
Anusha Pradhan,Badam Rajashekar,Noriyoshi Matsumi
- 10:00 2ESA03 BIAN Based Covalent Organic Framework and Its Derivatives for Lithium-ion Battery Applications  
Bharat Srimitra Mantripragada,Badam Rajashekar,Noriyoshi Matsumi

**Noriyoshi Matsumi, presiding**

- 10:25 2ESA04 Copolymer consisting of PEO and cationic GTP with tri-branched side chains  
Taichi Ikeda
- 10:50 2ESA05 Solvent Permeability of Interfacial Crosslinked PDMS Membranes and The Analysis by Flory-Huggins Theory  
Fatin Bazilah Fauzi,Mizuki Inoue,Edhuan Ismail,Izumi Ichinose
- 11:15 2ESA06 Metal-Organic Frameworks for Practical Separation of Cyclic and Linear Polymers  
Taku Sawayama,Nobuhiko Hosono,Takashi Uemura
- 11:40 2ESA07 Polymer Recognition Enabled by Coordination-Driven Insertion into Metal-Organic Frameworks  
Mizuki Asami,Biplab Manna,Nobuhiko Hosono,Takashi Uemura

**Junya Uchida, presiding**

- 12:55 2ESA08 3-Dimensional Alignment Control of Chiral-Nematic-Liquid-Crystal in Monodispersed Microparticles  
Tomoki Shigeyama,Kyohei Hisano,Osamu Tsutsumi
- 13:20 2ESA09 Synthesis of network polymers by boronic acid ester formation with fructose  
Yuri Kamon,Koya Mineta,Akihito Hashidzume
- 13:45 2ESA10 Polymer Gel fibers produced by photoreactive electrospinning  
Jin Gong,Hiroto Sakurai,Kohei Takahashi

**Yuri Kamon, presiding**

- 14:10 2ESA11 PEG-rich triblock copolymers with PLGA end-blocks for thermogelling and degradable nanocomposite hydrogels  
Tomoki Maeda,Satoshi Koizumi,Atsushi Hotta
- 14:35 2ESA12 Development of Dynamic Supramolecular Liquid-Crystalline Networks Formed by Hydrogen Bonding Interactions and Coordination Bonding  
Junya Uchida,Takashi Kato
- 15:25 2ESA14 Mechanoresponsive PDMS that Reversibly Changes Fluorescence in Sub-MPa Stress  
Hidetsugu Kitakado,Saito Shohei

**Tomoki Maeda, presiding**

- 15:50 2ESA15 Thermal, optical and liquid-physical properties investigation with substitution pattern effect of alky-distyrybenzene liquids  
Xiao Zheng,Kazuhiko Nagura,Takashi Nakanishi
- 16:15 2ESA16 Carbon nanotube coated with antibody-modified polymer for photothermal therapy  
Yukiko Nagai,Kenta Nakamura,Tsuyohiko Fujigaya

16:40	2ESA17	Preparation and evaluation of free-standing polydimethylsiloxane ultrathin sheet <u>Sho Mihara</u> , Tsai-Yun Lee, Shinji Takeoka
<b>Tsuyohiko Fujigaya, presiding</b>		
17:05	2ESA18	Chiral Induction of Buckminsterfullerene in a Metal-Organic Framework <u>Shao-Wei Lo</u> , Yusuke Nada, Takashi Kitao, Takashi Uemura
17:30	2ESA19	Topological Entrapment of Polymer in Metal-Organic Frameworks: Synthesis and Properties <u>Nagi Mizutani</u> , Nobuhiko Hosono, Takashi Uemura
17:55	2ESA20	Ultra-Long Polymer Intercalates MOF <u>Tomoya Iizuka</u> , Hiroyuki Sano, Nobuhiko Hosono, Takashi Uemura

<b>Room ESB</b>
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**Mon. Sep 6**

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

**Takuya Yamamoto, presiding**

12:55	1ESB08	Conformation and Rheological Scaling of Ionic Liquid-Based Polyelectrolytes in Ionic Liquid Solutions <u>Atsushi Matsumoto</u> , Ryota Yoshizawa, Osamu Urakawa, Tadashi Inoue, Amy Shen
13:20	1ESB09	Ejection of a Polymer from a Cavity through a Small Pore to an Outer Semi-infinite Space <u>Pai-Yi Hsiao</u>
13:45	1ESB10	Thermal properties of melt-spun polyamide 4 fibers <u>Jinhyeok Hong</u> , Haruki Mokudai, Takashi Masaki, Hisao Matsuno, Keiji Tanaka

**Osamu Urakawa, presiding**

14:10	1ESB11	Computer simulation of the topological effect on crystallization of linear and cyclic polyethylene <u>Supanont Jamornsuriya</u> , Visit Vao-soongnern
14:35	1ESB12	Characterization of 3D structures of multi-component rubber/silica composites by STEM-EDX tomography <u>Lingyun Lyu</u> , Takeshi Hanada, Naohiro Yamahira, Jun Morita, Ryota Yamamoto, Ken Itomi, Takumi Adachi, Sho Kubouchi, Shin Horiuchi

**Hisao Matsuno, presiding**

15:25	1ESB14	SANS study of thermodynamics and demixing in PaMSAN/dPMMA blends <u>Yutaka Aoki</u> , S. Julia Higgins, T. Joao Cabral
15:50	1ESB15	Cyclization of PEG and Pluronic for Dispersion Stabilization of Nanoparticles <u>Yubo Wang</u> , Yamamoto Takuya
16:15	1ESB16	Cyclization of Polyethylene Glycol and Pluronic Surfactants and the Effect of Topology at the Air-Water Interface

**Tue. Sep 7**

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

**Takanori Fukushima, presiding**

- 9:35 2ESB02 Reexamination of reactivity of N-carboxy amino acid anhydrides 96. The necessity of experiments using non-pre-polymerized and highly-purified amino acid NCA  
Hitoshi Kanazawa, Aya Inada
- 10:00 2ESB03 Syntheses of Degradable Alternating Copolymers via Radical Copolymerization of a Bulky Electron-Deficient Methacrylate with Cyclic Ketene Acetal  
Haiwang Lai, Makoto Ouchi
- 10:25 2ESB04 Synthesis and free radical photopolymerization of visible light phenylamine-based oxime ester photoinitiators  
Yung-Chung Chen
- 10:50 2ESB05 Polymerization induced vitrification and Trommsdorff effect  
Yasuhito Suzuki, Eri Kato, Ryutaro Mishima, Koji Fukao, Akikazu Matsumoto

**Katsuhiko Maeda, presiding**

- 11:15 2ESB06 Preparation of ionic polymers using novel anionic polymerization  
Wataru HIGASHIGUCHI, Yoshinobu NAKAMURA, Syuji FUJII, Tomoyasu HIRAI
- 11:40 2ESB07 Introduction of a luminophore into generic polymers via mechanoradical coupling reactions  
Koji Kubota, Naoki Toyoshima, Daiyo Miura, Julong Jiang, Satoshi Maeda, Mingoo Jin, Hajime Ito
- 12:55 2ESB08 Seeded Supramolecular Polymerization of Helicoidal Supramolecular Polymer by Quinoline-Embedded Barbituric Acid  
Keigo Tashiro, Shumpei Koshikawa, Sougata Datta, Shiki Yagai

**Tomoyasu Hirai, presiding**

- 13:20 2ESB09 pH-responsive aggregation behavior of multibranched blockarm star polymers governed by ionic segment sequence  
Hiroomi Kitajima, Shohei Ida, Shin-ichi Yusa, Shokyoku Kanaoka
- 13:45 2ESB10 Carbonization of polyacrylonitrile chains in metal-organic frameworks  
Xiyuan ZHANG, Takashi KITAO, Takashi UEMURA
- 14:10 2ESB11 Mechanical and membrane-forming properties of tripodal-triptycene terminated polydimethylpolysiloxane  
Yugen Chen, Fumitaka Ishiwari, Tomoya Fukui, Takashi Kajitani, Takanori Fukushima
- 14:35 2ESB12 Self-assembling behavior and mechanical properties of triptycene-appended block copolymers  
Ayami Itagaki, Fumitaka Ishiwari, Tomoya Fukui, Takashi Kajitani, Haonan Liu, Xiaobin Liang, Ken Nakajima, Takanori Fukushima

**Shiki Yagai, presiding**

- 15:25 2ESB14 Chirality Detection of Chiral Compounds with Ultra-Low Optical Purity Based on Chiral Aggregate Formation of Poly(biphenylylacetylene) Derivatives  
Mayu FUKUDA, Daisuke HIROSE, Tsuyoshi TANIGUCHI, Tatsuya NISHIMURA, Eiji YASHIMA, Katsuhiko MAEDA
- 15:50 2ESB15 Synthesis and properties of N,N'-diacylated diazacyclooctane-containing flexible ladder polymers exhibiting conformational change  
Keiki Inoue, Fumitaka Ishiwari, Takanori Fukushima

**Wed. Sep 8**

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

**Yuki Mochida, presiding**

- 10:00 3ESB03 A novel nano-delivery system for short chain fatty acids to overcome various diseases  
Babita Shashni, Yuya Tajika, Yukio Nagasaki
- 10:25 3ESB04 Establishment of tert-butyl substituted azobenzene tethered DNA programmed microtubule swarm driven by kinesin motor  
Satsuki Ishii, Mousumi Akter, Jakia Jannat Keya, Arif Md. Rashedul Kabir, Keiji Murayama, Hiroyuki Asanuma, Kazuki Sada, Akira Kakugo
- 10:50 3ESB05 Preparation of spherical nucleic acid nanoparticles containing self-immolative poly(carbamate) core for carrier-free DDS  
Yoshitsugu Akiyama, Shione Fukumoto, Hiroki Okajima, Akihiko Kikuchi
- 11:15 3ESB06 Development of short-peptide-antibiotic-based polyion complex nanostructure as a novel vehicles for antibiotic delivery  
Asmariah Ahmad, Takeshi Mori, Yoshiki Katayama, Masanori Toyofuku, Akihiro Kishimura
- 11:40 3ESB07 Role of Zwitterionic Polymers for Protein Denaturation Protection and Renaturation  
Alisha Debas, Robin Rajan, Kazuaki Matsumura

**Shigehito Osawa, presiding**

- 12:55 3ESB08 Design and Contraction Evaluation of Smart Shape-memory Polymers for Fetal Surgery  
FULATI AILIFEIRE, Koichiro Uto, Mitsuhiro Ebara
- 13:20 3ESB09 Fabrication of Patterned Artificial Basement Membranes for Cell Compartmentalization in Organized 3D Tissues  
Jinfeng Zeng, Michiya Matsusaki
- 13:45 3ESB10 3D printing of collagen in granular gel bath for high-strength tissue engineering scaffold  
Zhengtian Xie, Michiya Matsusaki
- 14:10 3ESB11 Fluidic Material Reveals the Role of Matrix Viscous Component in Cancer Cell Dormancy  
Mazaya Najmina, Mitsuhiro Ebara, Koichiro Uto
- 14:35 3ESB12 Vapor-Phased Synthesis of Polymers from Coatings to Porous Materials  
Hsien-yeh Chen