

## Room A

**Wed. Jun 5**

### INVITED LECTURES

**Naoko Yoshie, presiding**

10:15 1A06IL Plastic recycling and carbon neutrality aimed at arterio-venous industries integration  
Toshiaki Yoshioka

**Masaya Yamamoto, presiding**

11:00 1A09IL Smart Polymer Technologies for Global Health  
Mitsuhiro Ebara

**Tomohiro Konno, presiding**

12:30 1A12IL Design of Cell Surfaces by Polymeric Nanomaterials for Medical and Pharmaceutical Applications  
Michiya Matsusaki

**Hiroshi Jinnai, presiding**

13:15 1A15IL Utilizing Quantum Beams for the Development of Next-Generation Tire Rubber Materials.  
Hiroyuki Kishimoto

### AWARD LECTURES

**Toshifumi Satoh, presiding**

14:00 1A18AL Founding and Utilization of Living Anionic Polymerization of Isocyanates  
Jae-Suk Lee

**Atsushi Takahara, presiding**

14:45 1A21AL Pioneering Contribution on Synthesis of Fluoropolymers for Advanced Applications  
Bruno Ameduri

**Michiya Matsusaki, presiding**

15:30 1A24AL Development of Functional Environmentally Friendly Polymers for Advanced Materials  
Suwabun Chirachanchai, Thanit Kertsomboon, Sarunya Phunpee, Phanicha Wiwatsamphan

**Takashi Miyata, presiding**

16:15 1A27AL Nanostructured Layered Polymer Systems and Advanced Manufacturing  
Rigoberto C. Advincula

**Thu. Jun 6**

## INVITED LECTURES

### **Kohzo Ito, presiding**

- 9:30 2A03IL Future society engendered by LIB  
Akira Yoshino
- 10:15 2A06IL Design Strategy of Organic Semiconducting Materials for Various Organic Electronics  
Yun-Hi Kim

### **Yukio Nagasaki, presiding**

- 11:00 2A09IL Effect of Chain Architecture on the Biodegradability and Mechanical Properties of Biodegradable Copolymers of L-Lactide  
Phornwalan Nanthananon, Nutchai Nongyai, Yong Ku Kwon

## AWARD LECTURES

### **Kenichi Oyaizu, presiding**

- 12:30 2A12AL Polymer Optoelectronic Applications Based on Spectroscopic Studies on Exciton and Charge Carrier Dynamics  
Hideo Ohkita

### **Michinori Suginome, presiding**

- 13:15 2A15AL Precise Synthesis and Characterization of Architecturally Complex Polymers  
Toshifumi Satoh

### **Atsushi Kajiwara, presiding**

- 14:00 2A18AL Synthesis of New Polymers by Olefin Metathesis Polymerization Using Transition Metal Complex Catalysts  
Kotohiro Nomura

## INVITED LECTURES

### **Takehiko Wada, presiding**

- 14:45 2A21IL The Role Envisioned for NanoTerasu in Polymer Science & Technology  
Masaki Takata

### **Masaru Nakagawa, presiding**

- 15:30 2A24IL Development of highly ionic conductive materials based on molecular orientation and polymer organization  
Yuki Nagao

### **Atsushi Hozumi, presiding**

- 16:15 2A27IL Smart and Responsive Polymer Nanostructures  
Jiun-Tai Chen, Yu-Liang Lin, Yi-Fan Chen, Lin-Ruei Lee, Yu-Hsuan Tseng, Kuan-Ting Lin, Sheng Zheng

**Fri. Jun 7**

## AWARD LECTURES

**Seiichi Kawahara, presiding**

10:15 3A06AL Functionalization of Polymers Using Dynamic Bonds  
Naoko Yoshie

**Jumpei Kawada, presiding**

11:00 3A09AL Ultrastrong Carbon Fibers via Nanoscale Tailoring  
Fumihiko Tanaka, Jun Watanabe, Tatsuya Nakatani

**Masaya Mitsuishi, presiding**

12:30 3A12AL Unique Properties of Cyclic Polymers and Their Applications for  
Nanomaterials  
Takuya Yamamoto

**Hiromu Kashida, presiding**

13:15 3A15AL Studies on Biosynthesis and Hierarchical Structures of Spider  
Silk  
Keiji Numata

**INVITED LECTURES**

**Jun Matsui, presiding**

14:00 3A18IL Towards high-mobility organic semiconductors via molecular  
science  
Kazuo Takimiya

**Room B**

**Wed. Jun 5**

**POLYMERS TODAY AND BEYOND**

**Yoshinao Taniguchi, presiding**

10:15 1B06IL  $sp^2$ -based carbon materials with sponge-like flexibility for energy-  
related applications  
Hiroto Nishihara

**Yuji Shibasaki, presiding**

11:00 1B09IL What will all-solid-state batteries bring to the electric society?  
Hiroyuki Higuchi

**Kazuki Gyoda, presiding**

12:30 1B12IL Tire and Polymer : Sustainable Future  
Misao Hiza

**Tsutomu Ishihara, presiding**

13:15 1B15IL Nanotechnology for Future Medicine: Development of Polymeric  
Materials for Delivering, Manufacturing, and Manipulating Drugs  
in the Body  
Kazunori Kataoka

**Tomoya Higashihara, presiding**

- 14:00 1B18IL Development of novel cardiovascular surgical patch - New options for surgical treatment for congenital heart diseases -  
Kentaro Fujinaga  
**Hidemitsu Furukawa, presiding**
- 14:45 1B21IL Horizontal expansion from MRI research to the "Radiation House" comic.  
Kousaku Saotome  
**Atsushi Kobayashi, presiding**
- 15:30 1B24IL Implementation of 3D Food Printers in Society  
Toshiyuki Akachi  
**Masaru Nakagawa, presiding**
- 16:15 1B27IL Creating Solutions Connecting Polymer Materials and Devices in the VUCA Age, and Expectations of R&D Personnel  
Yoshihisa Shinya

**Thu. Jun 6**

**POLYMERS TODAY AND BEYOND**

**Toshio Tada, presiding**

- 9:30 2B03IL Activities on materials design using digital technology  
Hiroya Kodama

**Narukuni Hirata, presiding**

- 10:15 2B06IL Digital transformation in materials development at Asahi Kasei  
Takeshi Aoyagi

**Shuichiro Ogawa, presiding**

- 11:00 2B09IL Digital Transformation for Materials and Processes: from Autonomous Experiments to Multimodal Deep Learning  
Shun Muroga

**Fumihiko Shimizu, presiding**

- 12:30 2B12IL Technology Development of Teijin Frontier for Social Contributions  
Yukihiro Shigemura

**Kazuya Noda, presiding**

- 13:15 2B15IL Resonac Holding Co., Ltd.'s advanced technology development and social contribution.  
Masato Fukushima

**Masao Tomikawa, presiding**

- 14:00 2B18IL Advanced technology development and social contributions of ZEON Corporation  
Masao Akasaka

**Fri. Jun 7**

**POLYMERS TODAY AND BEYOND**

**Hiroshi Jinnai, presiding**

- 9:45 3B04IL Application of Synchrotron Radiation X-ray Scattering and Spectroscopy to Soft Materials and Expectations for NanoTerasu  
Atsushi Takahara
- 10:15 3B06IL Chemical imaging of adhesive interfaces with soft X-rays  
Hiroyuki Yamane

**Tomohiro Konno, presiding**

- 10:45 3B08IL Characterization of hydrated medical polymers and design of functional materials  
Masaru Tanaka
- 11:15 3B10IL Visualization and Materials Diagnosis by X-ray Spectroimaging  
Mizuki Tada

**Keiji Tanaka, presiding**

- 12:30 3B12IL Introduction to the Green Cross Tech Research Center and the SIP Circular Economy System  
Tomonaga Okabe
- 13:00 3B14IL Innovative material design by using data-driven approach  
Masashi Otsuki

**Masaru Nakagawa, presiding**

- 13:30 3B16IL Research and development of composite plastic materials using synchrotron radiation measurement  
Satoru Hosono
- 14:00 3B18IL Expectations for "Nano Terasu" and utilization of synchrotron facility from perspective of local SME.  
Yuko Akabane
- 14:30 3B20IL Urbannet Sendai-Chuo Building's initiatives to contribute to the promotion of industrial use of "NanoTerasu"  
Yoko Okubo

**Room C**

**Wed. Jun 5**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Koji Takagi, presiding**

- 10:00 1C05 Synthesis of Aliphatic Polyesters using Citric Acid and its Salts as a Catalyst  
Toshiki Miwa, Ryota Suzuki, Takuya Yamamoto, Feng Li, Takuya Isono, Toshifumi Satoh
- 10:15 1C06 Synthesis of Aliphatic Polyesters by Ring-opening Polymerization Using Amide/Iminium Zwitterion Catalyst  
Minoru Matsuda, Ryota Suzuki, Feng Li, Takuya Yamamoto, Takuya Isono, Toshifumi Satoh
- 10:30 1C07 One-step Synthesis of Polyester-based Hot-melt Adhesives via Self-switchable Polymerization  
Ryota Suzuki, Masaru Ando, Katsuaki Takahashi, Feng Li, Takuya Isono, Toshifumi Satoh

**Takuya Isono, presiding**

- 10:45 1C08 Ring-Opening Copolymerizations of ethylene carbonate with other cyclic carbonates.  
Yu Satake, Osamu Haba, Hisanari Yoneda, Tatsuro Toda
- 11:00 1C09 Ring-opening polymerization of a five-membered cyclic carbonate derived from myo-inositol.  
Yuto Oshima, Haba Osamu, Hisanari Yoneda, Tatsuro Toda
- 11:15 1C10 Synthesis of controlled polysiloxanes by ring-opening polymerization of cyclic siloxane using p-t-butylphenol as an initiator.  
Kensei Chikashita, Hiroto Kudo
- 11:30 1C11 Ring-opening polymerization of 1,3-dioxo-2-silacycloalkanes  
Ikuto Tanaka, Sadahito Aoshima, Arihiro Kanazawa

**Hiroto Kudo, presiding**

- 12:45 1C13 Development of initiating systems for living cationic polymerization of oxiranes: Investigation for control of end groups and expansion of applicable oxiranes  
Hibiki Yamada, Sadahito Aoshima, Arihiro Kanazawa
- 13:00 1C14 Sequence-Controlled Cationic Terpolymerization of Styrene Derivatives, Oxiranes, and Aromatic Aldehydes  
Yuto Eguchi, Sadahito Aoshima, Arihiro Kanazawa
- 13:15 1C15 Cationic Copolymerization of Furfural-Derived 5-Alkoxy-2(5H)-furanones: Reactivity Control in Copolymerization through Monomer Design  
Naoki Higashibata, Sadahito Aoshima, Arihiro Kanazawa
- 13:30 1C16 Aqueous Controlled/Living Cationic Polymerization of Caffeic Acid-derived Vinyl Catechol  
Risa Fujita, Shiho Tanizaki, Tomohiro Kubo, Kotaro Satoh

**Chihiro Homma, presiding**

- 13:45 1C17 Controlled Cationic Polymerization of Styrene Derivatives Using Redox-active Organotellurium Catalysts  
Shuhei Hayashi, Koji Takagi
- 14:00 1C18 Metal-free cationic polymerization of low reactive styrenes using diaryliodonium salts as organic Lewis acid catalysts: Acceleration by UV irradiation and suppression of side reactions  
Yutaka Yokawa, Sadahito Aoshima, Arihiro Kanazawa
- 14:15 1C19 Cationic Polymerization of Vinyl Ether with Salicylic Acid Derivatives as Initiators: Effects of Substituent on Tacticity  
JeongHyeon Lee, Makoto Ouchi
- 14:30 1C20 Living Anionic Polymerization of Acrylamides even under Open-Air Condition  
Shin-ichi Matsuoka, Riki Akita

**Arihiro Kanazawa, presiding**

- 14:45 1C21 Anionic polymerization of various vinyl monomers using benzyltrimethylsilanes and fluoride ions as initiator systems  
Mei Nakamoto, Daichi Fuyuki, Kaoru Adachi
- 15:00 1C22 Anionic polyaddition of 1,1-diphenylethylene derivatives using various lithium amides  
Honoka Matsumoto, Kaoru Adachi
- 15:15 1C23 Anionic polymerization of 6-(p-chlorophenyl)-benzofulvene and degradation behavior of resultant polymer  
Jiaxuan Wu, Karen Kawazome, Ayana Fukui, Chihiro

Homma, Takashi Ishizone

**Mineto Uchiyama, presiding**

- 15:30 1C24 Anionic polymerization of  $\alpha$ -methylenetetralins with substituents on aromatic ring  
Karen Kawazome, Chihiro Homma, Takashi Ishizone
- 15:45 1C25 Anionic polymerization of styrenes bearing electrophilic functional groups by initiators generated in flow  
Yuya Yonekura, Yosuke Ashikari, Tomoko Kawaguchi, Kyosuke Tomite, Takashi Tamaki, Mai Furusawa, Aiichiro Nagaki
- 16:00 1C26 Anionic polymerization of 2-phenyl-5-vinylfuran  
Hayato Nakamura, Yuki Kurishiba, Chihiro Homma, Takashi Ishizone
- 16:15 1C27 Synthesis of sequence-controlled homopolymer via anionic self-alternating polymerization of AB-type divinyl monomers with a halogen group  
Tsuyoshi Matsuo, Hamin Kim, Chihiro Homma, Takashi Ishizone

**Thu. Jun 6**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Shin-Ichi Matsuoka, presiding**

- 9:30 2C03 Synthesis of ABC/ACB-Type Triblock Copolymers Based on Polystyrene and Polymethacrylate via Living Anionic Polymerization and Higher-Order Structural Analysis  
Ryota Uehara, Shinsuke Maekawa, Takehiro Seshimo, Takahiro Dazai, Kazufumi Sato, Kan Hatakeyama, Yuta Nabae, Teruaki Hayakawa
- 9:45 2C04 Living Anionic Polymerization with C-H Bonds as Dormant Species: Control of Molecular Weight and Tacticity for Various Monomers  
Katsutoshi Sagawa, Hironobu Watanabe, Mineto Uchiyama, Masami Kamigaito
- 10:00 2C05 Living Anionic Polymerization of Aromatic Vinyl Monomers Based on Reversible Activation of C-H Bonds as Dormant Species  
Koki SAKAI, Hironobu WATANABE, Mineto UCHIYAMA, Masami KAMIGAITO

**Kaoru Adachi, presiding**

- 10:15 2C06 Anionic alternating copolymerization of styrene derivative having a bulky substituent at *meta*-position and 1,1-diphenylethylene  
Rinya Kawashima, Kotaro Koike, Hamin Kim, Chihiro Homma, Takashi Ishizone
- 10:30 2C07 Living anionic addition reaction of 1,1-diphenylethylene derivative possessing acyl group  
Ikushi Suzuki, Tomohiko Nishijima, Chihiro Honma, Takashi Ishizone
- 10:45 2C08 Synthesis of sequence-controlled polymers by living anionic addition reaction and acyclic diene metathesis polymerization  
Tomohiko Nishijima, Chihiro Homma, Takashi Ishizone

**Shin-Ichi Yusa, presiding**

- 11:00 2C09 Group-Transfer Radical Polymerization Using Photoredox

Catalysts for Various Monomers  
Shinnosuke NAKAYAMA, Hironobu WATANABE, Mineto  
UCHIYAMA, Masami KAMIGAITO

- 11:15 2C10 Neighboring Group Effects in Polymer Reactions of Vinylboron Copolymers  
Takuma Kawada, Tsuyoshi Nishikawa, Makoto Ouchi
- 11:30 2C11 Radical Polymerization of Vinylboronic Acid Derivatives: Stereocontrol by Monomer Design and Lewis Acid Additives and Post-polymerization Transformation into Tacticity-controlled PVA  
Hiroshi Suzuki, Tsuyoshi Nishikawa, Makoto Ouchi

**Tsuyoshi Nishikawa, presiding**

- 12:45 2C13 Synthesis of Poly(N-vinylpyrrolidone) Analogues Having Sulfur Atoms in the Backbones by Direct Radical Polymerizations of C=S Double Bond  
Tatsuya HATTORI, Hironobu WATANABE, Mineto  
UCHIYAMA, Masami KAMIGAITO
- 13:00 2C14 Synthesis of Polymers Containing Nitrogen Atoms in the Main Chains by Radical Polymerization of Oxime Ethers through their C=N Double Bonds  
Yunosuke NAKACHI, Hironobu WATANABE, Mineto  
UCHIYAMA, Masami KAMIGAITO
- 13:15 2C15 Practical synthesis of linear and hyperbranched polymers by microemulsion TERP with hydrophobic organotellurium chain transfer agents  
Nanami Miyoshi, Masatoshi Tosaka, Shigeru Yamago
- 13:30 2C16 Synthesis of Dendritic Hyperbranched Polyacrylate by Controlled Radical Polymerization and Their Zero-Shear Viscosity  
TIANXIANG TONG, Masato Kibune, Masatoshi Tosaka, Yumi Matumiya, Hiroshi Watanabe, Shigeru Yamago

**Jin Motoyanagi, presiding**

- 13:45 2C17 CoPolDB: Database of monomer reactivity ratios in radical copolymerization  
Masatoshi Tosaka, Keiichiro Takahashi, Hiroshi Mamitsuka, Shigeru Yamago
- 14:00 2C18 A Library Synthesis of Isotactic Polyacrylamides via Radical Polymerization of a Bulky and Transformable Monomer and Post-Polymerization Modification  
YUEHANG PAN, Makoto Ouchi
- 14:15 2C19 Development of ultra-high molecular weight polymethacrylamide using deep eutectics.  
Ryosuke YOSHIMURA, Reina SHINOHE, Hideharu MORI
- 14:30 2C20 Development of ion-conductive polyelectrolytes by photo-radical polymerization of deep eutectic monomers based on N-vinylcaprolactam  
Yuya SASAKI, Reina SHINOHE, Hideharu MORI
- 14:45 2C21 RAFT Copolymerization of VAc and Vinyl Ethers for the Synthesis of Well-defined PVA  
Taigo Morioka, Risa Fujita, Riko Kashima, Tomohiro Kubo, Kotaro Satoh

**Daisuke Nagai, presiding**

- 15:00 2C22 Synthesis and polymerization of exo-methylene five-membered cyclic monomers containing N atom with different substituents  
Sota Takashima, Ryoya Kamiki, Sota Yamamoto, Tomohiro



- Kubo, Kotaro Satoh
- 15:15 2C23 Synthesis of Degradable Vinyl Polymers by Addition-Fragmentation Radical Ring-Opening Copolymerization of Thionolactide Derivatives  
Ryoya Kamiki, Tomohiro Kubo, Kotaro Satoh
- 15:30 2C24 Radical Ring-Opening Copolymerization of Bicyclic Thiocarbonyl Monomers Derived from Bio-based beta-Pinene  
Tomohiro Ikeyama, Ryoya Kamiki, Shiho Tanizaki, Tomohiro Kubo
- 15:45 2C25 Synthesis of Photo-Degradable Polymers via Sequence-Specific Radical Copolymerization of Activated Ester Containing Acrylate and Postpolymerization Modification  
Keita Kuroda, Makoto Ouchi
- 16:00 2C26 Backbone Degradation of Vinyl Polymers Triggered by Activation of Pendant C-H Bond: Effects of Sequence and Pendant Structures on Degradation Behaviors  
Masaya Kinugawa, JeongHyeon Lee, Makoto Ouchi
- Tomohiro Kubo, presiding**
- 16:15 2C27 Radical copolymerization of N-cyclohexyl maleimide and vinyl ethers with various substituents: effects of substituents on thermal stability, optical property and biocompatibility of the copolymers  
Tamotsu Hashimoto, Kanta Sato, Michio Urushisaki, Toshikazu Sakaguchi, Nakaji Tadashi
- 16:30 2C28 Synthesis of alternating copolymers based on a vinyl ether having a pendant quaternary ammonium salt and their antimicrobial properties  
Baku Koito, Jin Motoyanagi, Yuji Aso, Masahiko Minoda
- 16:45 2C29 Development of photoredox polymer catalysts based on pyrene core and their application to the reductive coupling reaction  
Risa Suzuki, Daisuke Nagai, Shusuke Okamoto

**Fri. Jun 7**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Junpei Kuwabara, presiding**

- 9:30 3C03 Copolymerization of Ethylene with Methylene-cyclopropanes with Bicyclic Structure by Cobalt Catalyst  
Yuki Hori, Yuta Kimura, Daisuke Takeuchi
- 9:45 3C04 Synthesis of boronic acid-functionalized isotactic polypropylene and its application for polyolefin modifier  
Kazuki Shimizu, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono, Shinichi Kihara
- 10:00 3C05 Influence of the chemical structure of boronic acid functionalities on the crosslinking rate of EPM  
Yusuke Bando, Ryo Tanaka, Yusho Nakayama, Takeshi Shiono
- 10:15 3C06 Precise synthesis of ethylene/styrene/butadiene terpolymers by lanthanide-based catalyst systems  
Shojiro Kaita, Shigenaga Takano, Jun-ichi Ishigami

**Ryo Tanaka, presiding**

- 10:30 3C07 Helix-sense-selective polymerization of phenylacetylenes using

- rhodium complexes having helical chirality  
Akari Oka, Kensuke Echizen, Tsuyoshi Taniguchi, Tatsuya Nishimura, Katsuhiko Maeda
- 10:45 3C08 Synthesis and applications of poly(p-phenylene) derivatives via direct arylation polymerization using 3-methylpyridin-2-yl directing group.  
Genta Horiguchi, Ryoyu Hifumi, Ikuyoshi Tomita
- 11:00 3C09 Synthesis of Poly(arylene vinylene)s via Manganese-catalyzed Hydroarylation Polyaddition  
Kakeru Tsukahara, Ryota Iwamori, Junpei Kuwabara, Takaki Kanbara
- 11:15 3C10 Synthesis of Thiophene-Based Poly(arylenevinylene)s via Thioether Ligated Pd Catalyzed Direct Alkenylation  
Daichi Terauchi, Ryota Iwamori, Junpei Kuwabara, Takaki Kanbara
- Shuji Okada, presiding**
- 11:30 3C11 Self-assembly of Edge Functionalized Nanographenes  
Ryo Sekiya, Haruka Moriguchi, Takeharu Haino
- 12:45 3C13 Creating Flexible Crystals and Exploring the Mechanical Properties of Anthracene Derivatives that Freely Incorporate Guest Molecules  
Yuto Hino, Takumi Matsuo, Shotaro Hayashi
- 13:00 3C14 Synthesis of *o*-Carborane Containing Macrocyclic and Change in Optical Properties by Guest Recognition  
Mei Tokutomi, Kazuhiro Yuhara, Kazuo Tanaka
- Ryo Sekiya, presiding**
- 13:15 3C15ILY Development of functional materials based on ion-pair recognition  
Ryohei Yamakado
- 13:45 3C17 Quick Synthesis of Ru(II)-Based Metallosupramolecular Polymer with Enhanced Electrochromic Properties Using Microwave Assistance  
Banchhanidhi Prusti, Utpal Rana, Ritsuko Nagahata, Masayoshi Higuchi
- 14:00 3C18 Development of fibrous and sheeted nanostructures formed from hybrid of glycyrrhetic acid glycosides with Fe(III) spin crossover complexes  
Kota Araki, Keita Kuroiwa
- Keita Kuroiwa, presiding**
- 14:15 3C19 Multistimuli-responsive fluorenone-based supramolecular organogels  
Atsushi Seki, Mao Suzuki, Syota Yamada, Ken'ichi Aoki
- 14:30 3C20 Control of Drug Release from Protein Gels Based on the Valency of Salts  
Michiya Arafuka, Akihiro Yabuki, JIHA LEE
- 14:45 3C21 Development of Drug-encapsulated Protein Films and their drug release behavior  
Hiroya Tsubota, Akihiro Yabuki, JI HA LEE

**Room D**

**Wed. Jun 5**

## A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS

### **Toshifumi Satoh, presiding**

- 10:00 1D05 Synthesis of Sequence-Defined Polymers via Iterative Additions  
Haruka Yamauchi, Syunya Inayama, Shotaro Hayashi
- 10:15 1D06 Synthesis and properties of core-gel type star polysulfide by acyl group transfer polymerization of thirane with cyclic and linear thiocarbamate  
Ryouta Tsutsui, Hiroto Kudo, Akiyuki Ryoki
- 10:30 1D07 Precise Synthesis of Alternating Graft Copolymers and Evaluation of Physical Properties Specific to Controlled Sequence  
Aoto Ishikawa, Makoto Ouchi
- 10:45 1D08 Precise synthesis of novel poly(lactic acid)-grafted alternating copolymers and their molecular assembly formation  
Naoya Kinoshita, Jin Motoyanagi, Masahiko Minoda

### **Kazuya Matsumoto, presiding**

- 11:00 1D09 Synthesis of multicyclic polystyrene and polystyrene-containing multicyclic copolymers via cyclopolymerization  
Yamato Ebii, Feng Li, Takuya Yamamoto, Kenji Tajima, Takuya Isono, Toshifumi Satoh
- 11:15 1D10 Synthesis of multicyclic poly(butyl acrylate) for application in damping materials  
Kotaro Ibe, Yamato Ebii, Kazushige Suzuki, Feng Li, Takuya Yamamoto, Takuya Isono, Toshihumi Satoh
- 11:30 1D11 Preparation of topological gels using penetrating polymerization and evaluation of their physical properties  
Hiroaki Ogawa, Fumika Seko, Yuto Nakazawa, Kousei Sinnzaki, Kennitirou Mizuguti, Nobuo Murase, Yuichi Ohya

### **Kaoru Adachi, presiding**

- 12:45 1D13 Structural design of multiarm star poly(N-isopropylacrylamide) for control of unique aggregation behavior and construction of functional nanospaces  
Shuya Hayashi, Shohei Ida, Shokyoku Kanaoka
- 13:00 1D14 Heat-triggered gel formation by physical interaction between multiarm star polymers and different types of linear polymers  
Asaka Nishigaki, Sho Sugimoto, Shohei Ida, Shokyoku Kanaoka
- 13:15 1D15 Synthesis and Properties of Multiarm Star Polymer-Crosslinked Hydrogels with Locally Dense Dangling Chains  
Souma Suzuki, Shohei Ida, Hiroki Takeshita, Masatoshi Oyama, Keiji Nakajima, Shokyoku Kanaoka
- 13:30 1D16 The synthesis and properties of tellurium-containing hyperbranched polymers by polyaddition reaction of tellurium tetrachloride with epoxide and oxetane.  
Ryosuke Taguchi, Hiroto Kudo

### **Shokyoku Kanaoka, presiding**

- 13:45 1D17 Synthesis of multibranching polymers having hydrosilyl groups at each side chain ends and their application to surface immobilization  
Chiho Utaki, Takeru Iwamura, Kaoru Adachi
- 14:00 1D18 Synthesis of main-chain degradable hyperbranched

poly(hemiacetal esters) and their application to EUV-resist materials

Kouta Iwane, Hiroto Kudo

- 14:15 1D19 Preparation of ethylene-crosslinked ladder-like polysiloxanes and effect of silylating agents on protection of residual silanol groups  
Sho Nonaka, Kazuhiro Shikinaka, Tomoyasu Hirai, Yoshiro Kaneko
- 14:30 1D20 Synthesis and evaluation of silica particles grafted with electrolyte units (III) -Study of higher molecular weight-  
Yusuke Watabe, Masahiro Fujita, Yuko Takeoka, Masahiro Rikukawa

**Tomoyasu Hirai, presiding**

- 14:45 1D21 Effect of curvature of initiator-modified silica surface on surface radical polymerization  
minghao Lu, Reiko Saito
- 15:00 1D22 Fabrication of Polymer Nanomaterials Using Clays  
Takahiro TAMARU, Takahiro KAKUTA, Tada-aki YAMAGISHI
- 15:15 1D23 Correlation between acrylic side chain structure and bond exchange capacity in dynamic disulfide-crosslinked acrylic elastomers  
Shinji Suzuki, Mikihiro Hayashi
- 15:30 1D24 Synthesis of Cyclic Chiral Isotactic Poly(propylene glycol)s and Their Topological and Optical Separation by Using Chiral Chromatography  
Yuki Tanaka, Yuna Kinoshita, Tomoko Ono, Takuya Yamamoto
- 15:45 1D25 Development of adhesive polymer films based on the synergy effect of the surface structure having vertically oriented polymer pillars and electrostatic interactions  
Kaito Kishimoto, Jin Motoyanagi, Masahiko Minoda

**Yuko Takeoka, presiding**

- 16:00 1D26 Radical Polymerization and Fine Particle Formation of Vinylphosphonic Acid Ester  
Nonoka Yamamura, Atsushi Matsumoto, Yasushi Maeda, Shinji Sugihara
- 16:15 1D27 Two-Dimensional Assembly of Polythiophenes Directed by a Triptycene Supramolecular Scaffold  
Masato Fukumitsu, Tomoya Fukui, Yoshiaki Shoji, Takanori Fukushima

**Thu. Jun 6**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Hideharu Mori, presiding**

- 9:30 2D03 Development and Evaluation of Luminescent Gallium-Fused Azobenzene Complexes  
Chiaki Hotta, Masashi Nakamura, Masayuki Gon, Kazuo Tanaka
- 9:45 2D04 Evaluation of Vapochromic Properties Based on  $\pi$ -Conjugated Polymer Films Composed of Hypervalent Tin Compounds  
Masayuki Gon, Yusuke Morisaki, Keisuke Shibahara, Kazuo Tanaka
- 10:00 2D05 Synthesis and Optical Properties of Conjugated Polymers Based

on Dinuclear Hypervalent Tin Compounds  
Kento Tanaka, Kazuya Tanimura, Masayuki Gon, Kazuo Tanaka

10:15 2D06 Synthesis of poly(2-vinylpyridine)-b-polydimethylsiloxane and its application to nanostructured template materials  
Haruka Samizo, Riku Takahashi, Kan Hatakeyama, Yuta Nabae, Teruaki Hayakawa

10:30 2D07 Fabrication and Evaluation of Fluorinated Polymer Hybrid Materials with Highly Fluorinated POSS Fillers  
Tatsuaki Kunimitsu, Keisuke Shibahara, Masayuki Gon, Kazuo Tanaka

**Kensuke Naka, presiding**

10:45 2D08 Construction of luminescent nanoobjects by polymerization induced self-assembly using deep eutectic solvents.  
Kento SATO, Hirotsugu MIYAKAWA, Reina SHINOHE, Shingo YUKI, Hideharu MORI

11:00 2D09 Creation of novel luminescence materials using aggregation-induced emission (AIE) and clusterization-triggered emission (CTE)  
Satoru OZEKI, Kanako YAMAMOTO, Hideharu MORI

11:15 2D10 Discovery of Luminescent Functionality of the Anionic Carborane by Counteranions  
Takumi Yanagihara, Kazuo Tanaka

11:30 2D11 Synthesis and Optical Properties of *o*-Carborane-Pyrene-based Solid-State Fluorescent Probes  
Shunsuke Nishiyama, Kazuo Tanaka

**Kazuhiro Yamabuki, presiding**

12:45 2D13 Photophysical Properties of 9-Hydroxyphenalenone Boron Complexes and Effects of Monodentate Ligands  
Yuga TARUMI, Yuto AOYAMA, Shunichiro ITO, Kazuo TANAKA

13:00 2D14 Controlling the Electron Acceptability of Boron Tropolonate Complexes by Regioselective Functionalization  
Hikari Ogoshi, Shunichiro Ito, Kazuo Tanaka

13:15 2D15 Homopolymerization of Boron Dialdiminate Complexes and Their Stimuli-Responsive Luminescence  
Shunichiro Ito, Yuki Sakai, Kazuo Tanaka

13:30 2D16 Stimuli-Responsive Luminescence Through Controlling the Interchain Interactions of  $\pi$ -Conjugated Polymers Based on Pyridylenolate Boron Complexes  
Yuto AOYAMA, Shunichiro ITO, Kazuo TANAKA

**Takuya Yamamoto, presiding**

13:45 2D17 Nanoparticle-based elastomers with high tear-resistance  
Yuma Sasaki, Yuichiro Nishizawa, Takuma Kureha, Kazuya Uenishi, Kazuko Nakazono, Toshikazu Takata, Daisuke Suzuki

14:00 2D18 Single-Molecule Imaging of Polypseudorotaxane by FS-AFM  
Ryoga Hori, Ken-ichi Shinohara

14:15 2D19 Synthesis of [c2]Daisy-chain Rotaxane Network Constructed with Reversible Cross-linking Points Consisting of Two-ammonium-armed DB24C8  
Moe KODA, Kenjiro ONIMURA, Kazuhiro YAMABUKI

14:30 2D20 Optically active polyaryleneethynylenes bearing bipyridine moieties: Synthesis, higher-order structures and chirality/metal ion recognition

Fumio Sanda, Mio Hosotani, Taichi Sotani, Hiromitsu Sogawa

**Kan Hatakeyama, presiding**

- 14:45 2D21 Synthesis of inorganic-sugar hybrid materials toward constructing ultrafine nanostructures  
Yu Oishi, Taiki Nishimura, Takuya Yamamoto, Toshifumi Satoh, Takuya Isono
- 15:00 2D22 Systematic synthesis of inorganic-sugar hybrid materials toward constructing quasicrystal and Frank-Kasper phase  
Taiki Nishimura, Feng Li, Takuya Yamamoto, Kenji Tajima, Hsin-Lung Chen, Toshifumi Satoh, Takuya Isono
- 15:15 2D23 Development of sugar-based block copolymers for toughening poly( $\epsilon$ -caprolactone)  
Yurika Fujiwara, Yuki Tsuji, Minami Ebe, Takaya Kobayashi, Kazushige Suzuki, Weeranuch Lang, Feng Li, Takuya Yamamoto, Kenji Tajima, Toshifumi Satoh, Takuya Isono
- 15:30 2D24 Synthesis of Amorphous Conjugated Polymer Networks with Graphitic Structures and Their Application to Reinforced Materials with Composites into Resins  
Tomoki Sakuma, Hiroaki Imai, Yuya Oaki

**Kazuo Tanaka, presiding**

- 15:45 2D25 Synthesis and properties of aromatic poly(ether ketone) block copolymers containing methoxy groups  
Masaru yoneyama, Mayu Arai, Takeshi Yamanobe
- 16:00 2D26 Synthesis, Higher-Order Structure, and Dielectric Property of Poly(phenylene ether)-Based Block Copolymers  
Riku Takahashi, Kan Hatakeyama, Yuta Nabae, Teruaki Hayakawa
- 16:15 2D27 Block Copolymerization of Less and More Activated Monomer with Difunctional RAFT Agent  
Genki Sano, Mikito Muratomi, Atsushi Matsumoto, Yasushi Maeda, Shinji Sugihara
- 16:30 2D28 Synthesis and evaluation of polyphenylene-based copolymers with superacid groups(III)-Effect of hydrophilic structure-  
Rio Takahashi, Masahiro Fujita, Yuko Takeoka, Masahiro Rikukawa
- 16:45 2D29 Systematic synthesis of polyfluorene-based block copolymers for application in carbon nanotube solubilization  
Rin Iwasaki, Mayoh Ashiya, Mei-Nung Chen, Yu-Cheng Chiu, Feng Li, Takuya Yamamoto, Kenji Tajima, Toshifumi Satoh, Takuya Isono

**Fri. Jun 7**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Takaya Terashima, presiding**

- 9:30 3D03 Constructing Laterally Alternating Arrays of Polymer Chains in Bichannel MOF Templates  
Keat Beamsley, Nobuhiko Hosono, Takashi Uemura
- 9:45 3D04 Fabrication of Double-Stranded Polymers with Reactive Side-Chains Using Metal-Organic Frameworks  
Yuki Kametani, Masahiro Abe, Takashi Uemura
- 10:00 3D05 Synthesis of polymer bundles using one-dimensional coordination

mesopores as template  
Yosuke Nukui, Yuki Kametani, Takashi Uemura

**Yuki Kametani, presiding**

- 10:15 3D06 PS-PMMA Block Copolymers Carrying Urea Junction: Cooperative Self Assembly Enabling Phase Separation of Low Molecular Weight Polymer  
Suguru Sonobe, Teruaki Hayakawa, Makoto Ouchi
- 10:30 3D07 Microphase Separation of Cationic Alternating Copolymers: Strategies to Control Nanostructures  
Takaya Terashima, Ryoto Sujita
- 10:45 3D08 Water-Assisted Microphase Separation of Acrylic Acid Salt-Based Random Copolymers  
Yuki Horiike, Makoto Ouchi, Takaya Terashima
- 11:00 3D09 Microphase separation of acrylonitrile/hydrogen bonding alkylacrylamide statistical copolymers  
Kenshiro Iguchi, Makoto Ouchi, Takaya Terashima
- 11:15 3D10 Development of Near-Infrared Light-Emitting  $\pi$ -Conjugated Polymers Based on Hypervalent Silicon Azobenzene Compounds  
Ippei Kanetani, Masayuki Gon, Kazuo Tanaka
- 11:30 3D11 Construction of Near-infrared Light-Emitting  $\pi$ -Conjugated Polymers Based on Geometry of Hypervalent Antimony  
Kazuya Tanimura, Masayuki Gon, Kazuo Tanaka

**Tomoyuki Ikai, presiding**

- 12:45 3D13 Hierarchical Micro-/Macro Phase Separation in UV curing Based on Photo-induced Controlled Radical Polymerization  
Takeo Suga, Honoka Fumoto, Shuhei Abe, Kenichi Oyaizu
- 13:00 3D14 Dynamic Chain Exchange and Self-Sorting of Amphiphilic Alternating Copolymer Micelles  
Hiroyuki Kouno, Makoto Ouchi, Takaya Terashima
- 13:15 3D15 Self-Sorting Micelles Based on Ionic Random Copolymers and PEG random Copolymers  
Rikuto Kanno, Makoto Ouchi, Takaya Terashima
- 13:30 3D16 Micellar Structure of Amphiphilic Random Copolymers Bearing Alkyl and Polyoxyethylene Chains in Water  
Takahiro Sato, Takaya Terashima

**Takeo Suga, presiding**

- 13:45 3D17 Controlling of preferred-handed helical conformation in linear polysiloxane main chain and evaluation of its functional properties  
Tomoki Mure, Yoshinobu Nakamura, Syuuji Fujii, Tomoyasu Hirai
- 14:00 3D18 Secondary Structure Modulation of Optically-Active Triptycene-Based Helical Ladder Polymers through  $\pi$ -Extension of Achiral Units  
Atsuya Tanaka, Tomoyuki Ikai, Takumi Shiotani, Kosuke Oki, Eiji Yashima
- 14:15 3D19 Synthesis of Tethered Binaphthyl-Embedded One-Handed Helical Ladder Polymers and Their Chiroptical Properties  
Tomoyuki Ikai, Namiki Mishima, Takehiro Matsumoto, Sayaka Miyoshi, Kosuke Oki, Eiji Yashima
- 14:30 3D20 Synthesis of helical poly(diphenylacetylene)s bearing various optically active amide groups and their application to colorimetric chiral sensors

**Room E**

**Wed. Jun 5**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Mineto Uchiyama, presiding**

- 10:00 1E05 Re-examination of the reactivity of amino acid N-carboxy anhydrides 101. Correction of representative studies  
Hitoshi Kanazawa, Aya Inada
- 10:15 1E06 Re-examination of the reactivity of amino acid N-carboxyanhydrides 102. Problems with the two reports published in Nature  
Hitoshi Kanazawa, Aya Inada
- 10:30 1E07 Study of Homocoupling Defects in Thiophene-containing  $\pi$ -Conjugated Polymers  
Masayuki Wakioka, Takeru Hirukawa, Hinatsu Ito, Hitoshi Hanamura, Akira Shinohara

**Katsuya Maeyama, presiding**

- 10:45 1E08 Synthesis of sulfur-containing polyketones by step-growth polymerization and their degradability  
Shun Hashimoto, Yuichiro Kobayashi, Hiroyasu Yamaguchi
- 11:00 1E09 Design and Synthesis of Deprotection-Induced Degradable Polymers: Introduction of Various Protecting Groups and Evaluation of Degradation Behaviors  
Yoji TANAKA, Hironobu WATANABE, Mineto UCHIYAMA, Ravi Teja Ananthu, Tomohiro KUBO, Koutarou SATOH, Masami KAMIGAITO
- 11:15 1E10 Polyesters synthesized by dimerizing lignin derivatives and condensing them with diols, and evaluation of their thermal property and degradability  
Miyuki Oshimura, Kazuma Abe, Ryo Kawatani, Tomohiro Hirano, Koichi Ute

**Masaru Yoneyama, presiding**

- 13:00 1E14 Colorless Polyimides Derived from Novel Spiro-type Monomers (10). Strategies to Overcome the Trade-off between Low CTE and Low Birefringence  
Masatoshi Hasegawa, Toyo Ikuma, Yoshihiko Terada, Junichi Ishii
- 13:15 1E15 Modified Polyimides for use in Flexible Printed Circuit Boards for High-speed Data Communication (5)  
Masatoshi Hasegawa, Taro Fukuda, Yuto Ichiba, Junichi Ishii
- 13:30 1E16 Synthesis and Dielectric Properties of Double-Decker Silsesquioxane-Containing Polyimides  
Natsuko Sashi, Erina Yoshida, Hayato Maeda, Kan Hatakeyama, Yuta Nabae, Ririka Sawada, Shinji Ando, Teruaki Hayakawa
- 13:45 1E17 Synthesis and properties of heat-resistant poly (phenylene ether)s



with bulky substituents  
Kentaro Sone, Hayato Maeda, Kan Hatakeyama, Yuta Nabae, Teruaki Hayakawa

- 14:00 1E18 Synthesis and Characterization of Water/Oil repellent, Heat-resistant, Organosoluble Aromatic Poly(ether ketone)s Bearing Multi-perfluoroalkyl Groups at the Both Ends  
haruki konta, katsuya maeyama

**Yuta Nabae, presiding**

- 14:15 1E19 Development of novel polycondensation reaction toward N-tetra-substituted polyurea and its thermo-responsiveness in water  
Keitaro Matsuoka, Mio Sasaki, Akari Sugano, Kazuki Sada

- 14:30 1E20 Synthesis of Bio-based Poly(ether ester)s by Ammonium Salt Catalysts and Aluminum Catalysts  
Daisuke Takeuchi, Watanabe Toshiki, Tomonori Sonoki

- 14:45 1E21 Preparation of divanillin-based nitrile N-oxides and metal-free cycloaddition polymerization with various diynes  
Hiromitsu Sogawa, Yuki Kakita, Fumio Sanda

- 15:00 1E22 Precisely controlled polymerization of (-)-Levoglucosenone by sequential 1,4-addition / condensation with dihydrazides  
Shogo Yashiro, Atsushi Tahara, Toshio Hokajo, Shinji Kudo, Takayuki Doi

**Daisuke Takeuchi, presiding**

- 15:15 1E23 Synthesis and fluorescence properties of polycarbonates with a pi-extended fluorene in the main chain  
Gen-ichi Konishi, Tomoharu Matsushita, Tanaka Takuya

- 15:30 1E24 Improvement of mechanical properties of porous cyclohexyl epoxy resin  
Shuma Shinoda, Reiko Saito

- 15:45 1E25 Development of Malonic Ester Synthesis-type Polymerization Toward Sequence-Controlled Carbon Chain Polymers  
Taichi Meno, Shunsuke Tsuchiya, Keitaro Matsuoka, Kazuki Sada

- 16:00 1E26 Synthesis of polyimines by oxidative polymerization and their structural analysis using model compounds  
Hayate Tajima, Takeshi Yamanobe, Masaru Yoneyama

- 16:15 1E27 Synthesis of Oligomeric Porphyrin Arrays via Hiyama-type Sonogashira Cross-Coupling Reaction Driven by Siloxane Formation  
Wataru Nakamura, Mitsuhiko Morisue

**Thu. Jun 6**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Hiromitsu Sogawa, presiding**

- 9:45 2E04 Synthesis of polybenzothiazoles by oxidative cyclopolymerization of bifurfural, aromatic diamines, and element sulfur  
Ryota Abe, Takeshi Yamanobe, Yuya Tachibana, Masaru Yoneyama

- 10:00 2E05 Synthesis of polybenzothiazoles by oxidative cyclopolymerization of aromatic diamines, diacrylates, and sulfur  
Masaru Yoneyama, Nao Yanagi, Takeshi Yamanobe

- 10:15 2E06 Synthesis of bio-based polymer derived from curcumin  
Kenta Onishi, Hirito Kudo
- 10:30 2E07 Passerini Polymerization of Naturally Occurring Lipoic Acid for Dynamically Crosslinking 1,2-Dithiolane-functionalized Polymers  
Yasuyuki Nakamura, Yi-Shen Huang, Chih-Feng Huang

**Tetsuya Kambe, presiding**

- 10:45 2E08ILY Challenge to Atomic Resolution Observation of Polymeric Materials  
Tomohiro Miyata

**Tomohiro Miyata, presiding**

- 11:15 2E10 Creation of Functional Composite Materials Using Powderized Gallium-Indium Liquid Metal  
Christopher Hiromi SHIMAMURA, Shunichiro ITO, Kazuo TANAKA

- 11:30 2E11 Synthesis and properties of two-dimensional boron-based atomic layers  
Tetsuya Kambe

**Hideyuki Otsuka, presiding**

- 12:45 2E13 Synthesis of Polymers Featuring Strong Acidity based on the reactivity of 1,1-bis(triflyl)ethylene.  
Takuma Oguchi, Hikaru Yanai, Ryohei Kakuchi
- 13:00 2E14 Post-polymerization modification of  $\alpha,\alpha$ -difluoroacetic acid ester group-containing polymers  
Koki Kasai, Hideki Amii, Ryohei Kakuchi
- 13:15 2E15 Post-polymerization modification by direct arylation of a polymer having 1,2,3-triazole side chains  
Yuki Kitagawa, Shotaro Hayashi
- 13:30 2E16 Synthesis and Applications of Intramolecular Charge Transfer  $\pi$ -Conjugated Polymers Containing Electron-acceptor Thiophene Dioxide Units  
Shin Ogino, Ryoyu Hifumi, Ikuyoshi Tomita
- 13:45 2E17 Polymer Chemistry of Main-Chain Stiff-Stilbene Photoswitches in Solutions, in Bulk, and at Surfaces  
Naoki Kaneda, Keiichi Imato, Ayane Sasaki, Ichiro Imae, Yousuke Ooyama

**Shotaro Hayashi, presiding**

- 14:00 2E18 Synthesis of Fiber Materials by Combination of Radiation-induced Graft Polymerization and Kabachnik-Fields Reaction.  
Minoru Kuroiwa, Kiho Matsubara, Masaaki Omichi, Hiroyuki Hoshina, Noriaki Seko, Ryohei Kakuchi
- 14:15 2E19 Graft-copolymerization of styrenesulfonic acid onto the surface of natural rubber particles  
Yoshimasa Yamamoto, Seiichi Kawahara
- 14:30 2E20 Preparation of Enzyme Molecular-Dispersed Polymers via Nanofibrillation for Accelerated Degradation  
Mikako Tachioka, Mikiko Tsudome, Maki Tokuda, Shigeru Deguchi
- 14:45 2E21 Mechanochromic polymer particles: The relationship between particle structure and mechanoresponsiveness  
Daisuke Kuromiya, Takumi Yamamoto, Akira Takahashi, Hideyuki Otsuka

**Ryohei Kakuchi, presiding**

- 15:00 2E22 Selective cage opening and closing of boratrane moieties in

- polymers and concomitant glass transition temperature changes  
Akira Takahashi, Hideyuki Otsuka
- 15:15 2E23 Lewis Adduct-formation/dissociation and LCST Properties of Triethanolamine-pendant Amphiphilic Polymers  
Shio Uebo, Akira Takahashi, Hideyuki Otsuka
- 15:30 2E24 Design of Anthracene-Naphthoquinone Adducts for Reversible Crosslinking/Material Recycling of Polymers at High Temperatures  
Ryunosuke Tanaami, Kenichi Oyaizu, Takeo Suga
- 15:45 2E25 Material Recycling of Cross-linked Polyethylene Based on Diels-Alder Chemistry  
Yohei Yasuda, Naoya Yamauchi, Sachie Nagano, Ryunosuke Tanaami, Kenichi Oyaizu, Takeo Suga
- Takeo Suga, presiding**
- 16:00 2E26 Synthesis and mechanochemical reactions of polymers with diarylacetonitrile- $\alpha$ -carboxylic esters  
Yuto Uchida, Hajime Sugita, Akira Takahashi, Hideyuki Otsuka
- 16:15 2E27 Synthesis and Mechanochromism of Crystalline Polymers with Mechanochromophore at Center of Main Chains  
Ko Onuma, Akira Takahashi, Hideyuki Otsuka
- 16:30 2E28 Development and evaluation of non-symmetric radical type mechanophores that show heat-resistance and mechanofluorescence  
Kaito Hosono, Tatsuki Sato, Takumi Yamamoto, Akira Takahashi, Hideyuki Otsuka
- 16:45 2E29 Analysis of radical oxidations of 1,1-diarylethylene derivatives using polymeric mechanoradicals  
Akira Kodaka, Yuto Uchida, Takumi Yamamoto, Hajime Sugita, Akira Takahashi, Hideyuki Otsuka

**Fri. Jun 7**

**A. POLYMER CHEMISTRY: SYNTHESIS AND REACTIONS**

**Mikihiro Hayashi, presiding**

- 9:30 3E03 Synthesis and physical properties of degradable cross-linked polybutadiene using polycysteine as a cross-linker  
Kousuke Tsuchiya, Kayo Terada, Yui Tsuji, Keiji Numata, Takuya Katashima, Takamasa Sakai
- 9:45 3E04 Preparation and degradation of covalently crosslinked alginate networks containing disulfide bonds  
Hiromitsu Sogawa, Riko Ikezumi, Fumio Sanda
- 10:00 3E05 Underwater degradation of hindered diaminodisulfide and its use for polymer degradation  
Masashi Yamauchi, Hirogi Yokochi, Gota Tomono, Akira Takahashi, Hideyuki Otsuka

**Fumio Sanda, presiding**

- 10:15 3E06ILY Synthesis and degradation of polymers using carboxy-exchange in conjugate substitution reaction and its application to vitrimer-like elastomer  
Yasuhiro Kohsaka

- 10:45 3E08 Main-chain Scission and Repolymerization of Polyesters through a Carboxylic Acid Exchange by Conjugate Substitution Reaction  
Kinari Tsurumi, Sae Tezuka, Takumi Noda, Yasuhiro Kohsaka
- 11:00 3E09 Synthesis of polyesters bearing hydroxy side groups via click reaction and transformation into vitrimers through intermolecular transesterification  
Mikihiro Hayashi, Taketo Isogai
- 11:15 3E10 Synthesis and properties of cross-linked polymers with dynamic bisarylcynoacetates  
Jihye Jeon, Rikito Takashima, Akira Takahashi, Hideyuki Otsuka
- Kotaro Satoh, presiding**
- 13:00 3E14 Thermal degradation behavior of BOC-containing methacrylate polymers including thermally latent acid monomer units  
Ryotaro Akahori, Yasuhito Suzuki, Akikazu Matsumoto
- 13:15 3E15 Synthesis and ammonolysis of network polymers based on aliphatic polycarbonates  
Rikuto Niki, Kazuaki Rikiyama, Tatsuo Taniguchi, Daisuke Aoki
- 13:30 3E16 Polymer additives that can be converted to fertilizers after use and those recycle systems  
Shunsuke Fujimata, Kazuaki Rikiyama, Tatsuo Taniguchi, Daisuke Aoki
- 13:45 3E17 Modification of sugar-based polycarbonates via bond exchange reactions  
Tomoya Sakagami, Kazuaki Rikiyama, Tatsuo Taniguchi, Daisuke Aoki
- Daisuke Aoki, presiding**
- 14:00 3E18 Analysis of Gelation Mechanism by Structural Analysis Using Degradation  
Junichiro Takahashi, Satoshi Sakai, Tomohiro Kubo, Kotaro Satoh
- 14:15 3E19 Controlled/Living Click Polymerization for the Synthesis of Self-Immolative Polymers  
Yuto Nakauchi, Satoshi Sakai, Sota Yamamoto, Tomohiro Kubo, Kotaro Satoh
- 14:30 3E20 Direct thionation of polyesters to enhance their degradability  
Masayuki Okamoto, Tomohiro Kubo, Kotaro Satoh
- 14:45 3E21 Degradation behavior of ABS studied by isothermal in-situ infrared spectroscopy combined with principal component analysis  
Ryota Watanabe, Akihiro Oishi, Sayaka Nakamura, Hideaki Hagihara, Hideyuki Shinzawa

<b>Room F</b>
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**Wed. Jun 5**

**D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Yui Tsuji, presiding**

- 10:00 1F05 Study on the structural changes in the crystalline and non-

crystalline regions of <sup>13</sup>C labeled silk due to stretching treatment,  
as investigated by <sup>13</sup>C solid-state NMR  
tetsuo asakura,akio nishimura,akira naito

10:15 1F06 Structure and properties of fullerene-containing protein cages  
Taiga Suzuki,Yuki Hishikawa,Yumie Nishiyama,Kazunori  
Motai,Yuhei Hayamizu,Takafumi Ueno

10:30 1F07 Molecular interface engineering of in-cell protein crystals for  
dynamical change of the crystal lattices  
Misaki Nagama,Junko Tanaka,Tiezheng Pan,Maity  
Basudev,Satoshi Abe,Takafumi Ueno

**Takafumi Ueno, presiding**

10:45 1F08 Evaluation of Enzymatic Activities and Substrate Specificity of  
Modular Units 8 and 9 in the Polymyxin B Non-Ribosomal Peptide  
Synthetase  
Wataru Ando,Taichi Mano,Mai Nemoto,Toshihisa Mizuno

11:00 1F09 Evaluation of the enzymatic activity of the module 1 in polymyxin  
B synthase and study on the substrate recognition site of the  
several modules for L-Dab in polymyxin B synthase  
Mai Nemoto,Wataru Ando,Taichi Mano,Toshihisa Mizuno

11:15 1F10 Synthesis of rotaxane from cyclic peptide with an alternating  
sequence of Pro and Gly  
Taichi Kurita,Joan Gimenez-Dejoz,Hiroataka Uji,Keiji Numata

**Toshihisa Mizuno, presiding**

13:15 1F15 Oxygen-responsive viscoelasticity of hemoglobin-PEG gel  
Takashi Matsuhira,Hiromi Sakai

13:30 1F16 Development of a new mitochondrial targeting peptide sequence  
for plants based on the secondary structure prediction  
Naoya Abe,Masaki Odahara,Shamitha Rao Yagi,Keiji Numata

13:45 1F17 Construction of microtubule superstructures by presentation of  
Tau-derived peptide on the outer surface of microtubules  
Hiroshi Inaba,Daichi Kageyama,Akira Kakugo,Kazunori Matsuura

**Yoshiaki Hirano, presiding**

14:00 1F18 Creation of corona virus replica equipped with spike protein and  
its binding analysis to ACE2  
Kazunori Matsuura,Hiroto Furukawa,Hiroshi Inaba,Yoshihiro  
Sasaki,Kazunari Akiyoshi

14:15 1F19 Identification of Peptides Recognizing SARS-CoV-2 Spike Proteins  
by Biopanning in Acoustically Levitated Droplets.  
Manaka Kawai,Toshinori Sato,Teruhiko Matsubara

14:30 1F20 Construction and Evaluation of Cancer Cell Selective Drug  
Delivery System IV: Synthesis of oligonucleotide therapeutics  
conjugates aimed at suppressing malignant progression of  
pancreatic cancer  
hirari kato,ryota azuma,yasuyuki araki,masaki nishijima,mitsuyo  
matsumoto,asako yamayoshi,kazuhiko igarashi,mika  
omura,ikuhiko nakase,takehiko wada

**Kazunori Matsuura, presiding**

14:45 1F21 Inner-membrane synthesis of oriented transmembrane DNA units  
Haruna TAKEHARA,Takumi NISHIDA,Akinori KUZUYA

15:00 1F22 Binding analysis of DNA Origami to liposome membranes  
Mikano KAWAI,Akinori KUZUYA

15:15 1F23 Development of long range energy transmission system utilizing

- DNA-scaffolded BRET system  
Asuka TATEDORI, Yuki MINAMIDE, Koichi TANIMOTO, Fumiaki TAKANO, Akinori KUZUYA
- 15:30 1F24 DNA conjugates with cationic comb-type copolymer for triplex DNA stabilization  
 Raito Hayashi, Minako Saito, Naohiko Shimada, Atsushi Maruyama
- Shoichiro Asayama, presiding**
- 15:45 1F25 Photoregulation of nanostructure composed of L-aTNA triplex carrying artificial nucleobase  
Keiji Murayama, Keito Hirano, Hiroyuki Asanuma
- 16:00 1F26 Development of Chimeric Artificial Nucleic Acids (CANA) Toward Pancreatic Cancer Therapeutics Targeting Vasohibin 2 I: - Design, Synthesis, and in vitro Property Study.  
Kosuke Machida, Masahito Inagaki, Mitsuyo Matsumoto, Yasuyuki Araki, Yasushi Sato, Takehiko Wada
- 16:15 1F27 Development of Chimeric Artificial Nucleic Acids (CANA) toward Pancreatic Cancer Therapeutics Targeting BACH1 V – Investigation of CANA–Target RNA Complex Stability and Its Effect on Cleavage Efficiency-  
Yuki Igarashi, Yuto Horiuchi, Mitsuyo Matsumoto, Masahito Inagaki, Yasuyuki Araki, Masaki Nishijima, Yu Mikame, Asako Yamayoshi, Kazuhiko Igarashi, Takehiko Wada
- 16:30 1F28 Construction of Chimeric Artificial Nucleic Acids (CANA) toward Pancreatic Cancer Treatments by Inhibition of Transcription Factor BACH1 V: Establishment of Molecular Design Strategy Based on in vitro /in vivo Analysis  
 Yuto Horiuchi, Kazutoshi Fujita, Yuki Igarashi, Nozomu Ishiwata, Masahito Inagaki, Mitsuyo Matsumoto, Hironori Hayash, Yu Mikame, Yasuyuki Araki, Masaki Nishijima, Asako Yamayoshi, Eiichi Kodama, Takehiko Wada

**Thu. Jun 6**

### AWARD LECTURES

**Masato Ikeda, presiding**

- 10:00 2F05AL Preparation and Characterization of Two-dimensional Sheet-shaped Poly(methyl methacrylate) Synthesized via  $\gamma$ -Ray Polymerization in Nanoclay Template  
Yuya Doi

**Takeshi Serizawa, presiding**

- 10:30 2F07AL Observation of Molecular Motions in Polymer Thin Films by Laboratory Grazing Incidence Diffracted X-ray Blinking  
Rena Inamasu, Hiroki Yamaguchi, Tatsuya Arai, Jaewon Chang, Masahiro Kuramochi, Kazuhiro Mio, C.Yuji Sasaki

**Takuma Yasuda, presiding**

- 11:00 2F09AL Stretchable  $\pi$ -Conjugated Polymer Electrets for Mechanoelectric Generators  
Akira Shinohara, Manabu Yoshida, Chengjun Pan, Takashi Nakanishi

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

### **Koichi Shiraishi, presiding**

- 13:00 2F14ILI Leveraging  $\beta$ -Adrenergic Receptor Signaling Blockade for Improved Cancer Immunotherapy Through Biomimetic Nanovaccine  
Zheng Wang
- 13:30 2F16 Regulation of macrophages polarization by fluorescein-conjugation for iron-oxide MR contrast agent  
Raghav Soni, Xin Tian, Atsushi Mahara
- 13:45 2F17 In vivo whole tissue imaging of tumor microvasculature by supramolecular MR contrast agents.  
Xin Tian, Raghav Soni, Atsushi Mahara

### **Atsushi Mahara, presiding**

- 14:00 2F18 Molecular cooperativity plays crucial roles for immunogenicity  
Koichi Shiraishi, Masayuki Yokoyama
- 14:15 2F19 Binding specificity of Anti-PEG antibody to PEG depends on molecular behavior of PEG  
Debabrata Maiti, Koichi Shiraishi, Masayuki Yokoyama
- 14:30 2F20 Self-Immolative Behavior of Reduction-Responsive DNA-Based Nanostructures Containing Poly(carbamate) Core  
Ren Ishiyama, Taichi Fukumori, Syuuhei Komatsu, Akihiko Kikuchi, Yoshitsugu Akiyama
- 14:45 2F21 Design and Characterization of Artesunate-containing Polymers  
Natsumi Ito, Taishu Iwase, Gyeongwoo Lee, Nabil Ahmed, Koichiro Uto, Mitsuhiro Ebara

### **Tsuyoshi Kimura, presiding**

- 15:00 2F22 Hydration analysis of a lactose-containing glycopolymer  
Shohei Shiomoto, Masaru Tanaka
- 15:15 2F23 Synthesis of Cholinephosphate-type Poly(meth)acrylate and Characterization of Their Hydration Water  
Yasutada Ohta, Raita Goseki, Motoyasu Kobayashi
- 15:30 2F24 Control of Temperature-Responsive Gold Nanorod Assembly with Uniform Orientation on dsDNA Brush Substrate  
Jingyan Yang, Hideyuki Mitomo, Yu Seikizaw, Yusukei Yonamine, Kuniharu Ijiro
- 15:45 2F25 Smart enrichment and purification strategy of SARS-CoV-2 viruses in real biological samples from 166 patients to avoid misdiagnosis of RT-PCR  
Ahmed Nabil, Erika Yoshihara, Ayman A. Hassan, Gamal Shiha, Mitsuhiro Ebara

### **Mitsuhiro Ebara, presiding**

- 16:00 2F26 Effect of 8-arm PEG functionalized porcine pericardium as the antiadhesion membrane in vivo  
Sreypitch Say, Mika Suzuki, Yoshihide Hashimoto, Tsuyoshi Kimura, Akio Kishida
- 16:15 2F27 Gluing blood into gel using a water-soluble polymer as an embolic agent  
Hailong Fan, Toshiya Osanai, Jian Ping Gong
- 16:30 2F28 Development of fluid interfacial phospholipid membranes with tunable mechanical properties as dynamic cell-interactive

scaffolds  
Junhong ZHOU, Hongxin WANG, Jun NAKANISHI

- 16:45 2F29 Structure and properties of phosphomimic N-terminal domain of spider dragline silk proteins and its implications for spider silk synthesis.  
Nur Alia Oktaviani, Hamish Craig, Mami Goto, Fumiaki Hayashi, Masaru Mori, Kazuharu Arakawa, Keiji Numata

## D. BIOPOLYMERS AND BIORELATED POLYMERS

### **Mineo Hashizume, presiding**

- 9:30 3F03 Characterization of thiol-ene reaction products using fully methacrylated D-glucopyranose and 1,2-ethanedithiol  
Maiki Kubota, Ryuji Sugiura, Atsushi Kobayashi
- 9:45 3F04 synthesis of alternating glyco-copolymers for synthesizing polysaccharides  
Shuji Zenke, Yuto Nakanishi, Ryo Omikawa, Tomonari Tanaka
- 10:00 3F05 Preparation of chitosan beads using polyanions as crosslinkers and investigation of their application as pH-responsive protein carriers.  
Satoshi Tanimoto, Takumi Morita, Shokyoku Kanaoka, Makoto Anraku
- 10:15 3F06 Preparation of chitosan/starch blend beads as protein carriers and evaluation of pH-responsibility  
Takumi Morita, Shokyoku Kanaoka, Satoshi Tanimoto
- 10:30 3F07 Synthesis of mixed chitin esters with thermoplasticity  
Yuki Shigenobu, Masayasu Totani, Jun-ichi Kadokawa

### **Kazuo Sakurai, presiding**

- 10:45 3F08 Synthesis of Glucosamino-2-Deoxyglucan by Enzymatic Copolymerization  
Yuta Miyahara, Masayasu Totani, Jun-ichi Kadokawa
- 11:00 3F09 Fabrication of Photo-Responsive Polysaccharide Composite Films Using Azobenzene-Conjugated Hyaluronic Acid and Their Evaluation  
Takuya Sagawa, Riho Nakama, Mineo Hashizume
- 11:15 3F10 Structural Reinforcement of Polysaccharide Composite Films in Swollen State Using Biomolecule-Derived Cross-Linking Agents  
Yui Sakai, Takuya Sagawa, Mineo Hashizume
- 11:30 3F11 Development of Chitosan gel as a near-infrared fluorescent dye  
Kaho Morinaga, Yuki Akagi

### **Jun-Ichi Kadokawa, presiding**

- 12:45 3F13 Surface modification of cellulose fibers via self-assembly of alkylated cellulose oligomers and bacterial adhesion properties  
Sayaka Okamoto, Yuuki Hata, Takeshi Serizawa
- 13:00 3F14 Evaluation of Self-Folding Behavior of Amphiphilic Glycopolymers in Water  
Yoko Kitsuki, Hikaru Matsumoto, Masanori Nagao, Yoshiko Miura
- 13:15 3F15 Precise Synthesis of Cyclic Glycopolymers by Click Chemistry  
Yusuke Kumon, Hikaru Matsumoto, Masanori Nagao, Yosiko Miura

### **Takeshi Serizawa, presiding**



13:30	3F16	Hydrophobization of cellulose nanofiber by enzymatic copolymerization of D-glucal with $\alpha$ -D-glucose 1-phosphate <u>Masayasu Totani</u> , Tomoya Anai, Jun-ichi Kadokawa
13:45	3F17	Quantitative evaluation of the interactions between glycopolymers in the presence of metal ions <u>Tomoya Sumura</u> , Hikaru Matsumoto, Masanori Nagao, Yoshiko Miura
14:00	3F18	Evaluation of binding of synthetic polymers whose motility is controlled by folding structure to target proteins. <u>Daichi Yoshimatsu</u> , Hikaru Matsumoto, Masanori Nagao, Yoshiko Miura
14:15	3F19	Changes in the uptake behavior of natural polysaccharide/nucleic acid complexes by Dectin-1 expression level <u>Sota Yoshitake</u> , Kazuki Sumiya, Hiroto Izumi, Kazuo Sakurai

<b>Room G</b>
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**Wed. Jun 5**

**INVITED LECTURES “English Session”**

**Yukio Nagasaki, presiding**

10:00	1G05IL	Advanced Wearable Organic Electrochemical Transistors Utilizing Poly(3,4-Ethylenedioxythiophene) Derivatives within Channel Layers for Biomedical Applications <u>Yu-Sheng Hsiao</u>
10:30	1G07IL	Development of antiviral copper-plated polypropylene non-woven fabric filter <u>Yu-I Hsu</u>
11:00	1G09IL	Controlling Circular Polarization Luminescence of Stereoregular Poly(methyl methacrylate) <u>Ming-Chia Li</u> , Tsz-Ming Yung, Hinari Sakai, Tomoyasu Hirai

**Hiroyuki Aoki, presiding**

13:30	1G16IL	Analysis of the molecular interaction in structure-controlled polymer interface and construction of machine learning model <u>Tsukuru Masuda</u>
14:00	1G18IL	Semiconducting Polymers with Conjugation Breakers for Stretchable Field-Effect Transistors <u>Yan-Cheng Lin</u> , Ping-Hong Chen, Megumi Matsuda, Tomoya Higashihara
14:30	1G20IL	Synthetic development on Two-dimensional polymers and their use for water purification <u>Michio Matsumoto</u>

**Yukio Nagasaki, presiding**

15:00	1G22IL	Progress on the Waste Polycarbonate Recycling <u>Chien-Hsin Wu</u> , Ying-Chi Huang, Ru-Jong Jeng
15:30	1G24IL	Polymersomes-based activable therapeutic nanoreactors for tumor-specific cancer therapy

Junjie Li

16:00 1G26IL A study on extending the scope of reagents in inverse vulcanization for preparation of sulfur-rich polymers  
Ying-Ling Liu, Yue-Sheng Lai, Ho-Keng Lin

**Thu. Jun 6**

## **F. INDUSTRIAL POLYMERS AND TECHNOLOGY “English Session”**

**Yuji Shibasaki, presiding**

9:30 2G03 Thermal diffusion of carbon into polytetrafluoroethylene  
Masayuki ITO

9:45 2G04 Evaluation of Water Resistance of Adhesive Joints Using Open-Faced Specimens  
keiji houjou, Kazumasa Shimato, Horiuchi Shin, Nao Terasaki, Haruhisa Akiyama

10:00 2G05 Fabrication of water-system silicone-modified polyurethane nanofibers for waterproof and breathable membranes  
FANG LI, Toshihisa Tanaka, Daisuke Noda, Shinji Irifune, Hiromasa Sato

10:15 2G06 Effect of Different Soaking Solvents on the Structure and Properties of P(3HB) Copolymers Drawn films in Microcrystalline Nucleation Extension Method  
KAI WENG, Yumiko Takayama, Motomu Nishijo, Toshihisa Tanaka

10:30 2G07 Multiscale structural analysis of solid electrolytes using iMATERIA  
Nana Fukaya, Haruyuki Takahashi, Satoshi Koizumi

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

**Yoshiko Miura, presiding**

10:45 2G08 Synthesis and functional evaluation of amino acid-bearing polymers that bind to lignin  
Tomonari Tanaka, Rika Hinohara

11:00 2G09 Biocompatibility of copolymer composed of zwitterionic vinyl ethers and maleimides with various side chains  
Tadashi Nakaji-H., Tomoyuki Yamaguchi, Michio Urushisaki, Toshikazu Sakaguchi, Tamotsu Hashimoto

11:15 2G10 Development of hierarchical polyion complex structures obtained via phase separation driven by rationally designed polymers  
Takumi Yamada, Biplab KC, Hiroshi Kamizawa, Teruki Nii, Takeshi Mori, Yoshiki Katayama, Akihiro Kishimura

11:30 2G11 Microphase separation of aqueous polymer blends: Self-generation of periodically aligned uniformly-sized binary-droplets  
Mayu Shono, Koki Aburatani, Miho Yanagisawa, Kenichi Yoshikawa, Akihisa Shioi

**Kuniharu Ijiri, presiding**

12:45 2G13ILY Fabrication of soft materials based on biomolecules  
Kazuki Murai

- 13:15 2G15 Membrane fusion by oligopeptide-polymer conjugates facilitating adhesion between bilayer membranes  
Yuya Sato, Ung-il Chung, Yuji Teramura
- 13:30 2G16 Synthesis of Amino Acid-Derived Zwitterionic Polymer and Evaluation of Their Ice-Binding Abilities  
Shuya Tanaka, Hikaru Matsumoto, Masanori Nagao, Yoshiko Miura
- 13:45 2G17 Folding behaviors of amino acid-derived vinyl polymers containing anionic and cationic blocks  
Shuhei Hiroe, Shin-nosuke Nishimura, Tomoyuki Koga
- Tomonari Tanaka, presiding**
- 14:00 2G18 Structural changes of template peptides progressing on hydroxyapatite mineralization  
Yusuke Hattori, Shogo Matsubara, Masahiro Higuchi
- 14:15 2G19 Development of Bio-Synthetic Fusion Materials Formed by Mucin-Boronic Acid Interaction and Application to Biomaterials  
Masaki Nakahata, Satoru Kawakami, Akihito Hashidzume
- 14:30 2G20 Structure induced food texture printed by food 3D printing  
Kaei Furuya, Makoto Takemasa
- 14:45 2G21 Encapsulation in coacervates induced by cooling augments DNA enzyme activity  
Takuya Komachi, Shunya Kawai, Yuki Hirayama, Atsushi Maruyama, Naohiko Shimada
- 15:00 2G22 Control of rolling circle transcription of an RNA polymerase with gold nanoparticles mimicking a repressor protein  
Yusuke Yonamine, Wei Jie Cheah, Tomoki Ikemizu, Hideyuki Mitomo, Kuniharu Ijro
- 15:15 2G23 Polydopamine modification of polypropylene for improved adhesion.  
Akane Odagaki, Yu-I Hsu, Hiroshi Uyama
- Kazunari Akiyoshi, presiding**
- 15:30 2G24ILY Multi-Functionalize Silk Protein-Based Drug-Carriers via Coalescence with Noble Metallic Nanostructures  
Anh T.N. Dao
- 16:00 2G26ILY Polymers containing metal complexes toward drug designs  
Shigehito Osawa
- 16:30 2G28 Synthesis of amphiphilic block copolymers and particles possessing kidney cell recognition  
Haruki ITO, Syuuhei KOMATSU, Yoshitsugu AKIYAMA, Akihiko KIKUCHI
- 16:45 2G29 Interactions of thermosensitive shape-deformable polymer particles having macrophage targeting moieties and macrophages  
Tomohiro OIZURU, Syuuhei KOMATSU, Akihiko KIKUCHI

**Fri. Jun 7**

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

**Takahiro Muraoka, presiding**

- 9:30 3G03 Characterization and regulation of 2D-3D convertible lipid membrane transformation

ancheng Zhang, Yuta Uei, Tomoaki Matsuura, Atsushi Maruyama  
9:45 3G04 Formation of lipid cubic phase with organic-inorganic hybrid structure  
Kazuma Yasuhara, Miki Kariya, Kenichiro Omoto, Kaoru Nomura, Kento Yonezawa, Hironari Kamikubo, Toshio Nishino, Tomomi Inoie, Gwenaël Rapenne

10:00 3G05 Creation of Artificial Cytoskeleton by Photoresponsive Peptide Nanofibers  
Yingbing Liang, Hiroshi Inaba, Kazunori Matsuura

10:15 3G06 Evaluation of up-conversion in cholesterol-containing liposomes  
Hideki Kawai, Urara Hioki

**Atsushi Maruyama, presiding**

10:30 3G07 Fabrication of single-enzyme nanogels with zwitterionic polymers  
JINCAI LI, YINAN LUAN, XUEJIN HUANG, MADOKA TAKAI

10:45 3G08 Extraction and Characterization of Membrane-based nanoparticles derived from Petal Apoplast  
Mizuki Yoshihara, Haruka Iida, Rina Shimizu, Asuka Yamashita, Yoshihiro Sasaki, Masataka Yoshimoto, Hikaru Takaya

11:00 3G09 Creation of Artificial Membrane Proteins with Catalytic activity Based on Amphiphilic Random Copolymers  
Chieri Inada, Tomoki Nishimura

11:15 3G10 Synthesis and unction of Artificial Ion Channels Based on Amphiphilic Block Copolymers  
Shunji Kosaka, Tomoki Nishimura

11:30 3G11 Fabrication of graft copolymer micelles with different shapes and their recognition by macrophages  
Yusuke Sakamoto, Shota Fujii, Shin Takano, Ando Mitsuru, Noriyuki Kodera, Tomoki Nishimura

**Kenichi Niikura, presiding**

12:45 3G13 Controlled interaction of polyoxazolines with biomembranes based on their temperature responsiveness  
Kazuki Nakamura, Yoshihiro Sasaki, Tomoki Nishimura, Kazunari Akiyoshi

13:00 3G14 Phase transition of anisotropic nanostructures constructed by amphiphilic diblock peptoid with a crystalline segment  
Renya Fukuda, Yota Okuno, Tomoki Nishimura, Akinori Kuzuya, Yasuhiko Iwasaki

13:15 3G15 Specificity of Cononsolvency Induced Microphase Separation  
Yuji Higaki, Takumi Masuda, Nakamura Mai, Takahashi Masaya

**Tomoki Nishimura, presiding**

13:30 3G16 Material Science of Membrane Deformation (1): Development of a One-sided Membrane Expanding Molecular Machine and Its Applications for Manipulation of Membrane Deformation  
Ken Yoshizawa, Noriyuki Uchida, Takahiro Muraoka

13:45 3G17 Material Science of Membrane Deformation (2): Structurally Stable Phospholipid Membrane Tube Induced by Self-assembly of Peptide Receptors  
Noriyuki Uchida, Ryu Ishizaka, Anju Kawakita, Masaki Okumura, Takahiro Muraoka

14:00 3G18 Azacrown ether/Tannic acid-based supramolecular conjugation with the protein-encapsulation functionality  
Chisaki Nakaji, Akihiko Hatano, Kenichi Niikura

14:15 3G19 Structural Investigation of Cyclic Poly(Ethylene Glycol)-Gold Nanoparticle Adsorption Complexes  
Tomohisa Watanabe, Hiroki Iwase, Akiyuki Ryoki, Akira Takatsuka, Masato Yamasaki, Yoko Kinoshita, Takuya Yamamoto

## Room H

**Wed. Jun 5**

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

#### Hiroharu Ajiro, presiding

- 10:00 1H05ILI Controlled Synthesis of Dynamic Covalent Poly(disulfide)s  
Tianyi Du, Miaomiao Zhang, Boming Shen, Yuming Su, Cheng Wang, Peiyuan Yu, Yun Liu
- 10:30 1H07 Controlled/Living Click Polymerization of Conjugated AB Monomers  
Seiichiro Uchida, Satoshi Sakai, Tomohiro Kubo, Kotaro Satoh
- 10:45 1H08 Synthesis and Controlled/Living Click Polymerization of Monodisperse PCL Oligomers  
Yasuaki Kobayashi, Satoshi Sakai, Tomohiro Kubo, Kotaro Satoh

#### Shin-Ichi Yusa, presiding

- 11:00 1H09 Polymerization of monodisperse poly(butylene succinate) oligomers and their degradation studies  
Ravi Teja ANANTHU, Tomohiro KUBO, Masami KAMIGAITO, Takako KIKUCHI, Kotaro SATOH
- 11:15 1H10 Exploration on synthesis of unique topologies bearing polymer via dynamic bond formation of phenylboronic acid and diol  
Tojo Fenosoa ANDRIANALY, Tsuyoshi ANDO, Hiroharu AJIRO
- 11:30 1H11 A New Coordination Induced In Situ Electropolymerization Approach for the Synthesis of Metallosupramolecular Polymers (MSPs) and its Electrochromic Application  
Satya Ranjan Jena, Jian Zhang, Masayoshi Higuchi

#### Takanori Iwasaki, presiding

- 12:45 1H13 Controlled Ring-Opening Polymerization of a Cyclic Carbonate Monomer with ortho-Nitrobenzyl Group and Photo-degradation of the Resulting Polymers  
Jiade WU, Masatoshi TOSAKA, Shigeru YAMAGO
- 13:00 1H14 Polymerization of Various 1-Phenyl-1,3-Butadiene Derivatives from Plant-Based Compounds  
Yasunobu Isobe, Shiho Tanizaki, Tomohiro Kubo, Kotaro Satoh
- 13:15 1H15 Photocontrolled RAFT polymerization for the preparation of catechol-containing polymers  
Rui Guo, Shiho Tanizaki, Tomohiro Kubo, Kotaro Satoh
- 13:30 1H16 Exploring the Potential of Organomediator Tropone and its Derivatives for Reversible-Deactivation Radical Polymerization in Aqueous Medium  
I-Hsiang Chang, Ting-Yu Lin, Po-Tsun Lai, Chi-How Peng
- 13:45 1H17 Reversible-Deactivation Radical Polymerization of Vinyl Monomers

Mediated by Schiff-Bases  
Wachara Benchaphanthawee, Chi-How Peng

**Ikuyoshi Tomita, presiding**

- 14:00 1H18 Machine learning based evaluation for radiation-induced graft polymerization in green solvents  
Kiho Matsubara, Tooru Niradsuka, Masaaki Omichi, Noriaki Seko, Takashi Matsuda, Kei Takahashi, Ryouhei Kakuchi
- 14:15 1H19 Catalytic hydrogenolysis of ureas for chemical recycling of plastics  
Takanori Iwasaki, Kazuki Tsuge, Naoki Naito, Kyoko Nozaki
- 14:30 1H20 Synthesis of Alternating Copolymers Possessing the Dense Triazole Backbone through Copper(I)-Catalyzed Azide-Alkyne Cycloaddition Polymerization  
Akihito Hashidzume, Yuri Kamon, Masaki Nakahata
- 14:45 1H21 Fluorine-driven amorphous solid-state polycondensation: Phosgene-free synthesis of high-molecular weight polycarbonate from fluorinated carbonate  
Taihei Tanigu, Naoko Shirota, Takashi Okazoe, Shin-ichi Matsuoka, Katsuhiko Yamamoto, Masato Suzuki

**Akihito Hashidzume, presiding**

- 15:00 1H22ILI New sp-carbon-rich backbones enabled by condensation polymerization of propargylic electrophiles  
Rong Zhu
- 15:30 1H24 BINOL-Based Bimetallic Main Group Complexes for Lactide Polymerization  
Maxym Tansky, Robert J. Comito

**Shin-Ichi Matsuoka, presiding**

- 15:45 1H25 synthesis of biobased poly(ester amide)s by acyclic diene metathesis polymerization of oligopeptide-derived diene monomers and tandem hydrogenation  
Mohamed Mehawed Abdellatif, Kotohiro Nomura
- 16:00 1H26 Precise Synthesis of bottlebrush conjugated polymer based on poly(fluorene vinylene) by olefin metathesis  
Daisuke Shimoyama, Hiroki Chino, Mikiko Kunisawa, Kotohiro Nomura
- 16:15 1H27 Coordination Copolymerization Behavior of Norbornene and Allene Derivatives with Highly Active Nickel Catalysts  
Taidong Yao, Ryoyu Hifumi, Ikuyoshi Tomita

**D. BIOPOLYMERS AND BIORELATED POLYMERS**

**Akihiko Kikuchi, presiding**

- 9:30 2H03 Cilostazol-releasing acellular tissue for suppressing the vascular graft stenosis  
Atsushi Mahara, Kaito Shimizu, Hue Le, Raghav Soni, Yoshiaki Hirano, Tetsuji Yamaoka
- 9:45 2H04 Electrochemical detection of sialic acid using conducting polymers with phenylboronic acid-containing dopants  
Lingxuan Chen, Tatsuro Goda
- 10:00 2H05 Fabrication of Electrospun Nanofibers for Removal of Indoxyl Sulfate from Blood  
Makoto Sasaki, Mitsuhiro Ebara

10:15 2H06 Synthesis and Properties of Polymers Bearing Betaine Structures Based on Polyallylamines  
Yasuyuki Mori, Yoshio Furusho

**Mitsuhiro Ebara, presiding**

10:30 2H07 Characterization of polymer nanoparticles responding to glucose for possible usage in visual diagnosis of diabetes mellitus  
Fumihide INOUE, Syuuhei KOMATSU, Taka-Aki ASOH, Akihiko KIKUCHI

10:45 2H08 Preparation of pigment-encapsulated polymer particles with DNA corona layer for visual diagnosis  
Shunsuke HATTORI, Syuuhei KOMATSU, Yoshitsugu AKIYAMA, Taka-Aki ASOH, Akihiko KIKUCHI

11:00 2H09 Surface modification of cellulosic fibrous materials via self-assembly of cello-oligosaccharides for microorganism control  
Yuuki Hata, Yudai Mizuuchi, Sayaka Okamoto, Hiromi Miyazaki, Shingo Nakamura, Toshiki Sawada, Takeshi Serizawa

11:15 2H10 Distinguishment of Anti-PEG Antibodies by Molecularly Designable Cello-oligosaccharide Assemblies  
Kai Sugiura, Yuuki Hata, Toshiki Sawada, Hiroshi Tanaka, Takeshi Serizawa

**Shoichiro Asayama, presiding**

13:00 2H14ILY Development of a multi-functional nucleic acid delivery system using phenylboronic acid -from medicine to agriculture-  
Naoto Yoshinaga

13:30 2H16 Cytosolic delivery of proteins using phospholipid polymer bioconjugates exhibiting cell permeability  
Yuta Yoshizaki, Koki Onoda, Tomohiro Konno

13:45 2H17 Design of Self-Assembled Nanoparticles Composed of Branched-Chain Amino Acid Polymers and Improvement of Exercise Performance  
Takuto Toriumi, Yukio Nagsaki, Nobuyuki Morimoto

14:00 2H18 Live imaging analysis with mitochondria-localized sulfobetaine polymers  
Sayaka Toita, Nobuyuki Morimoto

**Nobuyuki Morimoto, presiding**

14:15 2H19 Design of Proximal Enzymes-Targeted Polymer that Synergistically and Selectively Inhibits Cancer Cell Proliferation  
Yuki Koba, Masahiko Nakamoto, Michiya Matsusaki

14:30 2H20 Tumor Microenvironment-sensitive Cancer Cell Death Induction Based on Regulating Aggregation Property of Ursodeoxycholic Acid Modified Molecular Block  
Kazuki Moroishi, Masahiko Nakamoto, Michiya Matsusaki

14:45 2H21 Emergence of Target Enzyme Inhibition Triggered by Bioorthogonal Reaction between Polymeric Self-Assemblies  
Masahiko Nakamoto, Rentaro Sakamoto, Yuki Koba, Michiya Matsusaki

15:00 2H22 Anti-inflammatory Effect of Poly(cysteine)-Based Polymer Antioxidant Drugs on Nonalcoholic Steatohepatitis  
Yuta Koda, Yukio Nagasaki

**Masahiko Nakamoto, presiding**

15:15 2H23 Cytosolic siRNA delivery using peptide-lipid hybrid vesicle via membrane fusion pathway

- Motoki Ueda, Mohammed Abosheasha, Afnan Elgowily, Yoshihiro Ito
- 15:30 2H24 Different tumor accumulation properties between PEGylated dendrimers and PEGylated liposome after the second injection  
Chie Kojima, Junjie Yao, Akikazu Matsumoto
- 15:45 2H25 Controlled release of benzoxaborole-based drugs by polymeric carriers having diol groups  
Yohei Kotsuchibashi, Yumika Unno, Sayuki Iwai, Kota Katsube
- 16:00 2H26 Suppression of hepatic insulin clearance by Zn-porphyrin-beta-galactose conjugates  
Shoichiro ASAYAMA, Shoma YOKOYAMA
- 16:15 2H27 Synthesis of Photoresponsive Polymers with Phenylboronic Acid Groups and Their Applications for Killing Tumor Cells  
Takashi Miyata, Yoshitaka Hattori, Akifumi Kawamura
- Sayaka Toita, presiding**
- 16:30 2H28 Gold nanoparticle composites for improved retention time in blood for micro-sized angiography  
Narufumi Kitamura, Takumu Takase, Tomoya Inose, Kohsuke Gonda
- 16:45 2H29 Cellular uptake and anticancer activity study of DOX-loaded DNA quadruplex mesogels  
Maria HASHIMOTO, Haruki TANAKA, Daichi INUI, Kohei TATSUMI, Kana TERAGAMI, Yuichi OHYA, Akinori KUZUYA

**Fri. Jun 7**

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

**Akifumi Kawamura, presiding**

- 9:30 3H03 PEGylation of anti-PD-L1 antibodies for the treatment of immunotherapy-resistant malignant brain tumors  
Yuki Mochida, Tao Yang, Xueying Liu, Hiroaki Kinoh, Horacio Cabral, Kazunori Kataoka
- 9:45 3H04 Development of hydrophobic boron cluster integrated extracellular vesicle and their application for BNCT  
Riku Kawasaki, Ayano Oshige, Keita Yamana, Yu Sanada, Takeshi Nagasaki, Minoru Suzuki, Ryosuke Mizuta, Yoshihiro Sasaki, Kazunari Akiyoshi, Atsushi Ikeda
- 10:00 3H05 Structural analysis of monodisperse polymeric nanoparticles encapsulating anticancer  
Takuma Kojima, Shin Takano, Kazuo Sakurai

**Yuki Mochida, presiding**

- 10:15 3H06 Controlled On-demand Drug Release by Diels-Alder-polymers Modified with Magnetic Nanoparticles  
Nanami Fujisawa, Mitsuhiro Ebara, James Lai
- 10:30 3H07 Preparation of thermo-responsive nanocapsule for DDS carriers  
Akifumi Kawamura, Tatsuya Miyoshi, Takashi Miyata

**Yuichi Ohya, presiding**

- 10:45 3H08 Evaluation of capsule-forming capabilities of the GP-ZIP mutants  
Honami Yamazaki, Kousuke Takahashi, Toshihisa Mizuno



- 11:00 3H09 Penetration and targeting abilities into tissue model gels of CaCO<sub>3</sub>-coated vesicles as DDS carriers  
Wakana Nishiyama, Shogo Matsubara, Masahiro Higuchi
- 11:15 3H10 Preparation of poly( $\gamma$ -glutamic acid)/starch/hydroxyapatite hydrogels with self-healing ability  
Rina Kugimiya, Yu-I Hsu, Akihide Sugawara, Hiroshi Uyama
- 11:30 3H11 Bone formation analysis of drug loaded polymer-inorganic composite materials for bone defect treatment  
Takuro AIKAWA, Syuuhei KOMATSU, Taka-Aki ASOH, Akihiko KIKUCHI
- Akihiro Nishiguchi, presiding**
- 12:45 3H13 Novel cell culture system created with water-soluble bioinert polymer showing immediate photo-crosslinking  
Kimio Sumaru, Ayaka Tomoda, Kana Morishita, Toshiyuki Takagi
- 13:00 3H14 Development of Photo-responsive Cell Culture Scaffolds Using Coumarin-Modified Shellac Derivatives.  
Kouki Ando, Yurino Sunakawa, Toshihisa Mizuno
- 13:15 3H15 Creation of a visible light responsive azobenzene-bearing scaffold for the regulation of integrin-mediated mechanotransduction  
Itsuki Miyaguni, Kenta Homma, Michiya Matsusaki
- 13:30 3H16 Analysis of collective cell migration on a novel photo-responsive hydrogel with a specific cell adhesion ligand on its surface  
Kazuhiro Tatematsu, Shota Yamamoto, Masao Kamimura, Kazuo Yamaguchi, Jun Nakanishi
- 13:45 3H17 Fabrication and evaluation of the hydrogel containing cancer spheroids for the construction of cancer microenvironment  
Mako Kobayashi, Keito Tsutahara, Ryosuke Kawabata, Yoshihide Hashimoto, Tsuyoshi Kimura, Akio Kishida, Masaya Yamamoto
- Masaya Yamamoto, presiding**
- 14:00 3H18 Preparation and differentiation of mesenchymal stem cell aggregates using its inducing peptides  
Masaki Iwamoto, Hiroaki Kadobayashi, Yoshiaki Hirano
- 14:15 3H19 Development of porous injectable gels by liquid-liquid phase separation and reconstruction of blood capillary networks  
Akihiro Nishiguchi, Shima Ito, Debabrata Palai, Tetsushi Taguchi
- 14:30 3H20 Tissue regeneration using biodegradable temperature-responsive injectable polymer and platelet rich plasma (PRP)  
Yuichi Ohya, Keisuke Sasaki, Itsuki Kasatani, Yuki Miyaji, Nobuo Murase, Motogi Tamai, Noriyuki Taguchi, Yoshio Tanaka, Tomohisa Nagasao
- 14:45 3H21 Design of Hydrogel Spray System with Tissue Adhesiveness and Instant Solidification  
Shohei Ishikawa, Hiroyuki Kamata, Takamasa Sakai

<b>Room J</b>
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**Wed. Jun 5**

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

**Kazushi Enomoto, presiding**

- 10:00 1J05 Daytime radiative cooling materials consisting of inorganic microparticle-dispersed polymer sheet  
Tsunenobu Onodera, Makoto Shimizu, Hiroo Yugami, Hidetoshi Oikawa, Junichi Koike
- 10:15 1J06 Highly selective anion-exchange of a two-dimensional bis(terpyridine)cobalt(II) polymer  
Kenji Takada, Hiroshi Nishihara
- 10:30 1J07 Photo-induced luminescence enhancement of ZnO Nanoparticles Assembled by Catechol-Functionalized Polycyclosiloxane Nanofilm  
Qian Zhou, Huie Zhu, Masaya Mitsuishi

**Huie Zhu, presiding**

- 10:45 1J08ILI Manipulating Nanosheets Orientation for Advanced Materials  
Xiang Wang, Yasuhiro Ishida
- 11:15 1J10 Stress-strain sensor fabricated with movable cross-linked carbon composites  
Ryohei Ikura, Kajimoto Kota, Park Junsu, Yoshinori Takashima
- 11:30 1J11 The hybrid material of thermal responsive copolymer gel with homogeneous network and gold nanoparticles  
Yian Wang, Mitsuo Hara, Yukikazu Takeoka

**Masayoshi Higuchi, presiding**

- 12:45 1J13ILI Silicon Containing Functional Materials for Advanced Applications  
Huie Zhu
- 13:15 1J15 Development of Organic-Inorganic Hybrid Materials for 6th Generation Mobile Communication System  
Seisuke Ata

**Shunsuke Yamamoto, presiding**

- 13:30 1J16 Correlation between the Molecular Structures and Frequency-Dependent Dielectric Properties of Aromatic Polyimides in the 25–330 GHz Range  
Haonan Liu, Ririka Sawada, Shana Yanagimoto, Yoshiyuki Yanagimoto, Shinji Ando
- 13:45 1J17 Highly sensitive analyses of sub-bandgap absorption in conjugated polymer films  
Mizuki Yamazaki, Hyung Do Kim, Hideo Ohkita
- 14:00 1J18 Electrochromic printing using metallosupramolecular polymer  
Masayoshi Higuchi, Jain Zhang, Ranjan Jena

**Kozo Matsumoto, presiding**

- 14:15 1J19 Surface Modification of Polypropylene by Azide-terminated Polysulfobetaine-grafted Silica Nanoparticles  
Ryuto Honda, Raita Goseki, Motoyasu Kobayashi
- 14:30 1J20ILY Reliability evaluation of adhesively bonded joints and application to structural parts  
Yu Sekiguchi

**Khoa Le, presiding**

- 15:00 1J22 Adhesion control using orientation control of photo-reactive polymer liquid crystals  
Mizuho Kondo, Tatsuki Nagata, Nobuhiro Kawatsuki

- 15:15 1J23 Eco-friendly Photolithography Technology Using Water-soluble Photoresist Materials  
Yuna Hachikubo,Mano Ando,Sayaka Miura,Rio Yamagishi,Satoshi Takei
- Marine Louis, presiding**
- 15:30 1J24 Development of highly sensitive laser ultrasonics using photorefractive liquid crystals  
Takeo Sasaki,Van Khoa Le,Yumiko Naka
- 15:45 1J25 Correlation between the Photophysical Properties and Structural Changes of Thianthrene-Containing Imide Compound and Polyimide Generated by High Pressure  
Liangkang Yu,Hiroka Yamamatsu,Ryuichi Isoda,Haonan Liu,Shinji Ando
- 16:00 1J26 Fast colour switching of chiral electrochromic conjugated polymer devices  
Masashi Otaki,Hiromasa Goto
- 16:15 1J27 Nanofabrication of chiral nanostructures and its optical properties under modal coupling conditions  
Tomoya Oshikiri,Yasutaka Matsuo,Hiromasa Niinomi,Masaru Nakagawa

**Thu. Jun 6**

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

**Takashi Miyata, presiding**

- 9:30 2J03 Strain Sensing by Orientational Change in Chiral Nematic Liquid Crystal Polymer Particles  
Maki Ogata,Ryota Morimoto,Kohsuke Matsumoto,Osamu Tsutsumi
- 9:45 2J04 Reversible changes in gold nanorod orientation on polymer brush substrates via their thickness changes  
Hideyuki Mitomo,Yu Sekizawa,Yuka Hasegawa,Yusuke Yonamine,Kuniharu Ijro
- 10:00 2J05 Self-oscillating Polymer Coacervate  
Haowei SUN,Takafumi Enomoto,Aya Akimoto,Ryo Yoshida
- 10:15 2J06 Hierarchical Assembly of Self-oscillating Polymer Materials  
Zhouna Tang,Takafumi Enomoto,Takeshi Ueki,Ryota Tamate,Aya Mizutani Akimoto,Ryo Yoshida

**Hideyuki Mitomo, presiding**

- 10:30 2J07 Phase separation induced glass transition with critical miscible condition  
Takayuki Nonoyama,Mayu Watanabe,Jian Ping Gong
- 10:45 2J08 Design of Temperature-responsive Polymers Undergoing Liquid-liquid Phase Separation and Observation of Formation of Coacervate Droplets  
Takashi Miyata,Ryo Mashiba,Akifumi Kawamura
- 11:00 2J09 Development of Rotaxane-based Supramolecular Mechanophores Using Acenes as Fluorophores  
Keigo Nonaka,Yoshimitsu Sagara
- 11:15 2J10ILI Stimuli-Controlled Supramolecular Assemblies of

Photoresponsive Molecular Amphiphiles in Aqueous Media  
Franco King-Chi Leung

**Ji Ha Lee, presiding**

- 12:45 2J13 Preparation of Dual Stimuli-Responsive Gels with Properties Controllable by Light and Temperature for Cell Regulation  
Jared Travers Finch, Akifumi Kawamura, Takashi Miyata
- 13:00 2J14 Response Evaluation and Functionalization of Temperature-responsive Hydrogels with Different Side Chain Lengths  
Taichi Nishi, Takuma Kureha
- 13:15 2J15 Design of self-oscillating gel systems with built-in polymer reductant  
Bokyoung JEON, Takafumi ENOMOTO, Aya M. AKIMOTO, Ryo YOSHIDA
- 13:30 2J16 Regulation of Self-oscillating Gels via Electrochemical Reaction  
TSAI NING HU, Takafumi Enomoto, Aya M. Akimoto, Ryo Yoshida
- 13:45 2J17 Highly stretchable, conductive zwitterionic polymer hydrogels composed with cellulose/carbon nanomaterials  
Tinghui Zhao, Tsukuru Masuda, Madoka Takai

**Jin Gong, presiding**

- 14:00 2J18 Design and Optimization of a Photo-Responsive Hydrogel Inducing Pesticide Release via UV Stimulation  
Ji Ha Lee, Wataru Kanda, Tomoyuki Tachibana, Riku Kawasaki, Isamu Akiba, Akihiro Yabuki
- 14:15 2J19 Organic-inorganic hybrid soft material exhibiting a sol-to-gel transition upon cooling and heating  
Shoma Kondo, Tomoki Nishimura, Yasuo Ebina, Takayoshi Sasaki, Koki Sano
- 14:30 2J20 Inorganic supramolecular nanosheets formed from highly oriented nanofibers  
Daisuke Ogawa, Tomoki Nishimura, Koki Sano

**Masahiro Funahashi, presiding**

- 14:45 2J21 Development of Liquid-Crystalline Interfaces Exhibiting Biorecognition Functions  
Junya Uchida, Mina Hasome, Rie Makiura, Takashi Kato
- 15:00 2J22 Multiresponsive Azobenzene-Containing Chiral Liquid Crystal Elastomers for Advanced Applications  
Zhengdan Lin, Shangsong Li, Yinding Chi, Yaoye Hong, Baohong Chen, Kan Hatakeyama, Yuta Nabae, Teruaki Hayakawa, Shu Yang
- 15:15 2J23 Controlling Helical Axis Orientation in Chiral Liquid-crystalline Polymers by Photo-gradient Polymerization  
Yuki Shikata, Shohei Sugiyama, Maki Yanagihara, Kohsuke Matsumoto, Osamu Tsutsumi
- 15:30 2J24 Crosslinking Effect on Material Properties of Chiral Nematic Liquid Crystal Polymer Particles  
Kohsuke Matsumoto, Kazuki Kawai, Tomoki Shigeyama, Osamu Tsutsumi

**Junya Uchida, presiding**

- 15:45 2J25 Sensitive Color Change of Chiral Liquid Crystal Elastomer Introducing Kirigami Structure  
Kohsuke Matsumoto, Mina Matsuda, Osamu Tsutsumi
- 16:00 2J26 Fine structure and electrochemical properties of a liquid crystalline perylene bisimide derivative bearing a crown ether ring

Tatsuaki Kajiwara, Shinobu Uemura, Masahiro Funahashi

**Koki Sano, presiding**

- 16:15 2J27 Modification of the surface of pseudo-polyrotaxane nanosheet with protein/enzyme  
Tomoya Iizuka, Uenuma Shuntaro, Ito Kohzo
- 16:30 2J28 Combustion fabrication and levitation of ultralight carbon nanotube aerogels below air density  
Tomonaga Ueno, Reo Yanagi, Airi Okuno, Toko Hattori

**Fri. Jun 7**

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

**Yosuke Okamura, presiding**

- 9:30 3J03 Developing Molecular Descriptor of High Chemical Interpretability and Actual Demonstration with Anion Exchange Membrane  
Yin Kan Phua, Tsuyohiko Fujigaya, Koichiro Kato
- 9:45 3J04 Preparation and characteristics of ion-gel electrolytes using cationic cellulose  
Masahiro Fujita, Yutaro Hayashi, Yuko Takeoka, Masahiro Rikukawa

**Tomoya Higashihara, presiding**

- 10:00 3J05 Development of Novel Semiconducting Polymers Based on Quinoxalines and Their Application to Organic Photovoltaic Cells  
Hiroki Mori, Hiroki Yamane, Rin Kotani, Yasushi Nishihara
- 10:15 3J06 Charge carrier dynamics in photocatalysts based on organic semiconductor nanoparticles  
Kazuki Kohzuki, Tsubasa Mikie, Itaru Osaka, Hideo Ohkita
- 10:30 3J07 Charge generation and recombination dynamics in fullerene- and nonfullerene-based polymer solar cells  
Jihun Jeon, Hyung Do Kim, Hideo Ohkita

**Dongwook Kim, presiding**

- 10:45 3J08 High density redox-targeting flow battery with potential-tuned polymer mediators  
Kenichi Oyaizu, Yuto Igarashi
- 11:00 3J09 Magnesium, zinc and aluminum secondary batteries based on layered electrolyte structure  
Akira Watanabe, Takao Miwa
- 11:15 3J10 Highly conductive and durable piperidinium-based anion exchange membranes by super-acid promoted polycondensation  
Ahmed Mohamed Ahmed Mahmoud, Kenji Miyatake
- 11:30 3J11 Effect of semi-fluoroalkyl pendant length on the properties of poly(arylene piperidinium) anion conductive terpolymer membranes  
Vikrant Yadav, Kenji Miyatake

**Kan Hatakeyama, presiding**

- 12:45 3J13 Latent Porosity of a Tris(methoxyphenylisoxazolyl)benzene  
Takehiro Hirao, Yudai Ono, Naomi Kawata, Takeharu Haino
- 13:00 3J14 CO<sub>2</sub> selectivity enhancement of PDMS membrane by post

- molecular modification  
Kosuke Taketsuna, Takeo Nakano, Shigenori Fujikawa
- 13:15 3J15 Direct growth of a MOF thin layer on a chemically-modified polydimethylsiloxane membranes  
Ryuki Moriyasu, Kosuke Taketsuna, Roman Selyanchyn, Xin Zheng, Shinichiro Noro, Shigenori Fujikawa
- 13:30 3J16 Plasmon-induced heating to enhance gas permeability of separation membranes  
Yuka Hashimoto, Kodai Matsumoto, Shigenori Fujikawa
- Masahiro Fujita, presiding**
- 13:45 3J17 Evaluation of carbon dioxide (CO<sub>2</sub>) transport behavior in poly(fluoroalkyl acrylate) and poly(fluoroalkyl methacrylate)  
Sinan FENG, Yucheng ZHANG, Roman SELYANCHYN, Shigenori FUJIKAWA, Shinichi MURATA, Atsushi TAKAHARA
- 14:00 3J18 Application of a one-handed helical poly(diphenylacetylene) derivatives to polymer-type chiral adsorbent  
 Shota Sona, Daisuke Hirose, Katsuhiko Maeda
- 14:15 3J19 Self-assembly and carbonization of poly(4-vinyl pyridine)-b-poly(2,2,2-trifluoroethyl methacrylate) for fabrication of nitrogen-doped mesoporous carbons  
Youngwon Kong, Yuta Miyamori, Haruna Sasaki, Hitomi Kawahara, Kan Hatakeyama, Teruaki Hayakawa, Yuta Nabae
- 14:30 3J20 Highly sensitive detection of heavy metal ions by using a polythiophene-printed paper-based chemical sensor  
Yui Sasaki, Xiaojun Lyu, Takayuki Kawashima, Yijing Zhang, Kohei Ohshiro, Kiyosumi Okabe, Kazuhiko Tsuchiya, Tsuyoshi Minami

<b>Room K</b>
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**Wed. Jun 5**

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

**Masaya Mitsuishi, presiding**

- 10:00 1K05 Reversible formation of pseudo-crown ether structure in hydrogel driven by hydrophobic interaction  
Hongyao Zhou, Sakuya Nakagawa, Hideo Ando, Teppei Yamada
- 10:15 1K06 Effects of side chain length on hydrogel network by probe diffusion technique  
Keita Namba, Takuma Kureha
- 10:30 1K07 The changes in mechanical properties of hydrogels with different terminal functional groups of polymer side chain  
Yuka Wakayama, Takuma Kureha
- 10:45 1K08 Relation between fracture properties and cycle rank for networks of star prepolymer mixtures with different functionalities  
Yuichi Masubuchi

**Yuichi Masubuchi, presiding**

- 11:00 1K09 AFM-nDMA for characterizing mechanical dynamics of epoxy resins at nanoscale

Kim Hung Nguyen,Ken Nakajima

11:15 1K10 Strain- and load-dependent drive properties of photo-responsive nematic elastomers  
Takuya Ohzono,Emiko Koyama

11:30 1K11 Fatigue fracture of composite hydrogel with anisotropic lamellar bilayer structure  
Most Laboni BEGUM,Milena LAMA,Xueyu LI,Md. Anamul HAQUE,Jian Ping GONG

**Keiji Tanaka, presiding**

12:45 1K13 Double network gel with nearly ideal first network structure  
Naohiro Kashimura,Yiran Cui,Xiang Li,Tasuku Nakajima,Tsutomu Indei,Jian Ping Gong

13:00 1K14 Theoretical study for hysteretic stress-strain behavior of highly-stretched double-network gels  
Tsutomu Indei,Takahiro Matsuda,Tasuku Nakajima,Tatiana B. Kouznetsova,Stephen L. Craig,Jian Ping Gong

13:15 1K15 Double-network gel as a tool for structural analysis of polymer network  
Tasuku Nakajima,Nanami Sato,Jian Ping Gong

13:30 1K16 Effect on strain-induced crystallization of protein addition into natural rubbers  
Yui Tsuji,Takato Matsui,Hiroyasu Masunaga,Keiji Numata

**Tasuku Nakajima, presiding**

13:45 1K17 Network Structure and physical properties of mixed gelatin gels  
Shingo Matsukawa,Hazuku Takagi,Yumika Hayano,Lester Geonzon

14:00 1K18 Relationship between Fluctuation of Cross-linking Points and Rubbery Plateau Modulus in Rotaxane-type Elastomers  
Osamu Urakawa,Seigo Hirai,Tadashi Inoue

14:15 1K19 Mechanical Properties of Epoxy Resin with One-Time Rearrangeable Network  
Kazuma Kumamoto,Atsuomi Shundo,Satoru Yamamoto,Keiji Tanaka

**Takuma Kureha, presiding**

14:30 1K20 Cross-linking Effect on Time-temperature Scaling for Creep Rupture Behavior of Epoxy Resins  
Atsuomi Shundo,Mika Aoki,Keiji Tanaka

14:45 1K21 Solution conformation of polysaccharides from jasmine tea processing waste  
Hai Huang,Wenqing Zhang,Ken Terao

15:00 1K22 Complex formation behavior of nanoparticles with collagen in aqueous solution  
Ken Terao,Kota Sagawa,Nanaka Kamishima

**Ken Terao, presiding**

15:15 1K23 Side chain effects on the polymer conformation in water by light scattering method  
Sakyo Hiraizumi,Takuma Kureha

15:30 1K24 Polymerization-induced vitrification and chemical reaction kinetics at the vicinity of vitrification  
Yasuhito Suzuki,Akikazu Matsumoto

15:45 1K25 Effect of Residual Water on Electro-Rheological Effect and

Electrical Properties of Nano-suspensions  
Katsufumi Tanaka, Shingo Shingo Yonezumi, Kawaguchi  
Masahiro, Xin Lin, Midori Takasaki, Haruki Kobayashi, Masami  
Nakano

**Seigou Kawaguchi, presiding**

- 16:00 1K26 Dynamic analysis of interface shape evolution during the drying process of polymer solution  
Reina Hagiwara, Kosuke Okeyoshi
- 16:15 1K27 Evaluation of lamellar crystal axis orientation in polyethylene by melting and large static shear deformation using a combination of MD and NEMD  
Mohammed Althaf Hussain, Takashi Yamamoto, Shigeru Yao
- 16:30 1K28 Chiral liquid crystalline water implied by dynamics of homoiimmiscible water at the interface between water and chiral ice III  
Hiromasa Niinomi, Tomoya Yamazaki, Hiroki Nada, Tetsuya Hama, Akira Kouchi, Tomoya Oshikiri, Masaru Nakagawa, Yuki Kimura

**Thu. Jun 6**

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

**Shuntaro Uenuma, presiding**

- 9:30 2K03 Preparation and characterization of monodisperse polystyrene-based microspheres by RAFT precipitation polymerization  
Liangzi Zhi, Naoki Haraguchi
- 9:45 2K04 Synthesis and characterization of sulfonic acid-fuctionalized hollow polymer microsphere via precipitation polymerization  
MD RABIUL ALAM, Naoki Haraguchi

**Naoki Haraguchi, presiding**

- 10:00 2K05 Synthesis of Nanocomposite microgels for stabilization of gelfoams  
Yuichiro Nishizawa, Yuto Shimada, Kazuyoshi Murata, Haruka Minato, Daisuke Suzuki
- 10:15 2K06 Changes in Amount and Composition of Pseudo-Polyrotaxane Nanosheets Formed with  $\alpha$ -Cyclodextrin  
Haruki Kazumi, Shuntaro Uenuma, Hideaki Yokoyama, Kohzo Ito
- 10:30 2K07 Design of Supramolecular Liquid Crystals Enabled by Rotaxane Structure Formation  
Gosuke Washino, Suzushi Nishimura, Atsushi Shishido

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

**Masashi Mizukami, presiding**

- 10:45 2K08 Viscoelasticity of monolayers of stearic acid at the air-water  
Taizo Mori, Takeshi Hasegawa
- 11:00 2K09 Mechanism and Structural Requirements for Spontaneous Polymer Infiltration into MOF Nanopores  
Haruaki Suzuki, Nobuhiko Hosono, Takashi Uemura



- 11:15 2K10 Aggregation States and Surface Wettability in Films of Copolymers Containing a Relatively High Content of Perfluorovinylether  
Daisuke Kawaguchi, Mizuki Okuda, Junki Masuda, Ai Kohata, Shintaro Nakagawa, Kimiaki Kashiwagi, Norihide Sugiyama, Takashi Okazoe, Midori Akiyama
- 11:30 2K11 Synthesis and Thin Film Properties of Highly Fluorinated Polynorbornenes  
Makoto Uno, Takashi Okazoe, Daisuke Kawaguchi
- Tomohiro Konno, presiding**
- 12:45 2K13 Local Heterogeneous Aggregation States of Epoxy Product at Adherend Interfaces  
Satoru Yamamoto, Keiji Tanaka
- 13:00 2K14 Thermal Motion of Epoxy Segments by Fluorescence Spectroscopy  
Honori Tajima, Yuji Yasukochi, Tatsuki Abe, Keiji Tanaka
- 13:15 2K15 Pulling and Recovery Behaviors of Isolated Polystyrene Strings on Substrate  
Yuma Morimitsu, Keiji Tanaka
- 13:30 2K16 Impact of Polystyrene Adsorption on Its Adhesion Properties  
Reiki Eto, Hidenobu Taneda, Tatsuki Abe, Satoru Yamamoto, Keiji Tanaka
- Osamu Urakawa, presiding**
- 13:45 2K17 Fluidity of Polystyrene in Interfacial Region with Silicon Substrate  
Shintaro Saeki, Hidenobu Taneda, Keiji Tanaka
- 14:00 2K18 Conformational Anisotropy of Polystyrene Chains in Interfacial Region with Silica Substrate  
Rinoa Fujii, Satoru Yamamoto, Keiji Tanaka
- 14:15 2K19 Two-dimensional Mapping of Local Conformation of Polymer Chains at the Solid Interface  
Tatsuki Abe, Keiji Tanaka
- Daisuke Kawaguchi, presiding**
- 14:30 2K20 Direct Observation of Thermal Motion of Isolated Poly(Styrene-r-Vinyl Catechol) Chains at Al<sub>2</sub>O<sub>3</sub> Substrate  
Shuji Morita, Yuma Morimitsu, Shiho Tanizaki, Satoru Yamamoto, Kotaro Satoh, Keiji Tanaka
- 14:45 2K21 Enhanced Premelting of Ice in Contact with Hydrophilic Polymer Films  
Jon Pallbo, Homette Sylvain, Masashi Mizukami, Kazue Kurihara
- 15:00 2K22 Surface properties of hydrogel microspheres evaluated by electrophoresis  
Yuichiro Nishizawa, Ryuji Namioka, Daisuke Suzuki
- Yuichiro Nishizawa, presiding**
- 15:15 2K23 Concentrated PMMA Brush Layers Characterized by Surface Forces and Resonance Shear Measurement  
Yutaka Takahashi, Masashi Mizukami, Yoshinobu Tsujii, Kazue Kurihara
- 15:45 2K25 Colorimetric Assay of Tumor Markers Using Sugar-Protruding Double-Stranded DNA-Functionalized Gold Nanoparticles  
Taichi Fukumori, Yudai Takahashi, Ren Ishiyama, Syuuhei Komatsu, Tohru Takarada, Mizuo Maeda, Akihiko Kikuchi, Yoshitsugu Akiyama
- 16:00 2K26 Self-assembly of rod-coil multiblock polyimides into flower-like

microparticles through precipitation polymerization  
Yuqian Chen, Kan Hatakeyama, Yuta Nabae, Teruaki Hayakawa

**Teruaki Hayakawa, presiding**

- 16:15 2K27 STM Observation of Dynamics of Poly(3-hexylthiophene) Monolayers at Solution/Graphite Interfaces  
Daisuke Takajo, Hiroyasu Katsuno, Koichi Sudoh
- 16:30 2K28 Single-Chain Structure Analysis of Polymers by AFM Nanofishing from Nanopores  
Yu Kono, Nobuhiko Hosono, Takashi Uemura
- 16:45 2K29 Development of an MRI methodology for polymeric films by ex-situ solid-state NMR with needle-like ferromagnet  
Natsuki Kawabata, Naoki Asakawa

**Fri. Jun 7**

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

**Mikihito Takenaka, presiding**

- 9:30 3K03 Unlocking Unconventional Mechanical Enhancements: Pseudo Polyrotaxane Nanosheets for Precision Polymer Orientation  
Cong Liu, Shuntaro Uenuma, Hideaki Yokoyama, Kohzo Ito
- 9:45 3K04 Small-angle neutron scattering method combined with heavy water contrast variation to understand dyeing silk fibers  
Satoshi Koizumi, Nagai Haruka, Noda Yohei
- 10:00 3K05 In-situ observation of PET by depolymerization -Understanding of the higher-order structures for chemical recycling-  
Haruka Nagai, Satoshi Koizumi, Yohei Noda, Ryuichirou Tamochi, Toshie Yaguchi

**Satoshi Koizumi, presiding**

- 10:15 3K06 Verification of the hierarchical structures of fibers from virgin and recycled polypropylene copolymers high-speed melt spun at different temperatures  
Mohammad A. Barique, Wataru Takarada, Takao Kameda, Takeshi Kikutani
- 10:30 3K07 Differences in internal structural changes between P(3HB) and its copolymers under stretching  
Masato Arakawa, Taizo Kabe, Tadahisa Iwata, Mikihito Takenaka
- 10:45 3K08 Crystal Phase Transition of 1,2-Difluoroethylene (VLF)-vinylidene fluoride (VDF) Copolymers and its VDF-Content Dependence  
Ryouichi Yano, Daisuke Ota, Kohji Tashiro, Hiroyasu Masunaga, Sono Sasaki

**Taizo Kabe, presiding**

- 11:00 3K09 Solvent Casting-Induced Core-Shell Gyroid Structures of ABC Triblock Terpolymers  
Yuta Miyamori, Yuta Nabae, Kan Hatakeyama, Teruaki Hayakawa
- 11:15 3K10 Investigating single-chain structure during the crystallization process by atomic force microscopy  
Dingrui Wang, Xiaobin Liang, Ken Nakajima
- 11:30 3K11 Deformation mechanisms of polyethylene revealed by the visualization of molecular chain orientations

Shusuke Kanomi, Kai Chen, Tomohiro Miyata, Hiroshi Jinnai

**Katsuhiro Yamamoto, presiding**

- 12:45 3K13 Additional effects of paraffins with different branched structures on the supermolecular structure and mechanical properties of HDPE  
Asae Ito, Akid Ropandi, Koichi Kono, Yusuke Hiejima, Koh-hei Nitta
- 13:00 3K14 Dissolution-crystal precipitation phase diagrams of pi-conjugated molecules in ionic liquids  
Satoshi Watanabe, Rinsuke Nakayama, Kaho Tajiri, Shun Inouchi, Keigo Ono, Shotaro Hayashi, Masashi Kunitake
- 13:15 3K15 Covalent Introduction of Plasma-Treated Carbon Nanotubes into Polyimide  
Seira Morimune-Moriya, Yuuki Iwamura, Haruto Fujikawa, Daisuke Ogawa, Keiji Nakamura

**Ken Nakajima, presiding**

- 13:30 3K16 Development of Carbon Nanotubes Reinforced Polyamide 66 Nanocomposites  
XINDI HU, Seira Morimune-moriya
- 13:45 3K17 In-situ Polymerization of Resol Phenolic Resin Nanocomposites Based on Cellulose Nanofibers  
Tsubasa Kondo, Seira Morimune-Moriya
- 14:00 3K18 The effect of silane coupling treatment on the properties of silicone rubber/nanodiamond nanocomposites  
Noah Ukai, Seira Morimune-Moriya

**Hiroshi Jinnai, presiding**

- 14:30 3K20 Observation of orientational order fluctuations in rod-like colloidal particles near the liquid crystal phase transition by coherent X-ray scattering  
Taiki Hoshino, Takahiro Mikami, Yoshiaki Honjo, Yoshifumi Amamoto, Kyosuke Ozaki, Toshiyuki Hiraki, Haruki Nishino, Yasumasa Joti, Takaki Hatsui, Takashi Kato
- 14:45 3K21 Formation of an Organized Structure and Improved Ion Conductivity of Sulfonated Polyimide Thin Films by Organic Solvent Used in Li-ion Battery  
Kentaro Aoki, Suwansontorn Athchaya, Mitsuo Hara, Nobuyuki Zettsu, Katsuhiro Yamamoto, Taborosi Attila, Michihisa Koyama, Shusaku Nagano, Yuki Nagao
- 15:00 3K22 Synthesis of Liquid-Crystalline Polyimide Designed Using Data Science  
Hayato Maeda, Rika Marui, Erina Yoshida, Kan Hatakeyama, Yuta Nabae, Shiori Nakagawa, Meguya Ryu, Junko Morikawa, Stephen Wu, Yoh Noguchi, Yoshihiro Hayashi, Ryo Yoshida, Teruaki Hayakawa

**Room L**

**Wed. Jun 5**

**E. POLYMERS AND ENVIRONMENT**

**Yoshinori Takashima, presiding**

- 10:00 1L05 Development and LCA of UV-cured polymers derived from non-edible phenolic compound  
Shinji Kanehashi, Kan Kato, Kenji Ogino
- 10:15 1L06 Decomposition of plastics by supercritical water: in situ observations by small-angle neutron scattering and elucidation of its physicochemical mechanisms  
Motoki Shibata, Yohei Nakanishi, Jun Abe, Hiroshi Arima-Osonoi, Hiroki Iwase, Mitsuhiro Shibayama, Ryuhei Motokawa, Takayuki Kumada, Shin-ichi Takata, Katsuhiko Yamamoto, Mikihito Takenaka, Tsukasa Miyazaki
- 10:30 1L07 Effect of Nano-MgO on Vulcanization of Natural Rubber  
Seiichi Kawahara, Huyen Thanh Luu, Masaki Yamano, Yoshimasa Yamamoto
- 10:45 1L08 Non-close-packed arrangement of colloidal particles using particle softness  
Yuma Sasaki, Seina Hiroshige, Masaya Takizawa, Yuichiro Nishizawa, Takayuki Uchihashi, Haruka Minato, Daisuke Suzuki

**Shinji Kanehashi, presiding**

- 11:00 1L09 Identification and classification of polymeric nanoparticles using peptide sensors  
Shion Hasegawa, Toshiki Sawada, Yuzo Kitazawa, Takuya Kaneda, Takeshi Serizawa
- 11:15 1L10 Effect of non-laminar flow on plastic recycling characteristics  
Shigeru Yao, Patchiya Phantong, Nobuhisa Takayama, Hideaki Obuchi
- 11:30 1L11 Higher-order structural analysis and creep properties of recycled polypropylene  
Ko Hashimoto, Yutaka Kobayashi, Shotaro Nishitsuji, Hisao Matsuno, Hiroshi Ito

**Yukiko Enomoto, presiding**

- 12:45 1L13 Micropatterned microplastic generation through degradation of polymeric films with micropattern structures  
Haruki Uchida, Wakako Uchiyama, Erika Kurita, Masayuki Kirihara, Yohei Kotsuchibashi
- 13:00 1L14 Evaluation of cellular responses to decomposed/degraded LDPE nano/microplastics  
Naoto Washihira, Suphatra Hiranpinyophat, Mako Kobayashi, Sho Fuji, Tadao Tanabe, Tsuyoshi Kimura, Masaya Yamamoto
- 13:15 1L15 The chemistry of 3-methylene phthalide as a recyclable vinyl monomer: Effects of substitution of aromatic ring on the polymer solubility and recyclability  
Yota Chiba, Yasuhiro Kohsaka
- 13:30 1L16 Synthesis of Biodegradable Polyester from Methacrylates  
Shinnosuke Nishimura, Ryosuke Kanai, Tomoyuki Koga
- 13:45 1L17 Synthesis of Novel Polyesters from Cellulose-Derived Epoxide and Cyclic Anhydrides  
Hiroto Ayakawa, Tianle Gao, Feng Li, Takuya Yamamoto, Takuya Isono, Toshifumi Satoh

**Shinnosuke Nishimura, presiding**

- 14:00 1L18 Stereocomplex of polylactide copolymer bearing gallic acid at both chain end  
Hiroharu AJIRO, Shuga KATAYAMA, Nalinthip CHANTHSET

- 14:15 1L19ILY Enhancing Polyester Degradability via Tailored Backbone Modifications  
Tomohiro Kubo
- 14:45 1L21 Synthesis of divanillic acid-derived biodegradable polyesters with phenolic hydroxyl group and mechanical properties of their films  
Yoshihiro Minegishi,Yukiko Enomoto,Tadahisa Iwata
- 15:00 1L22 Investigating Marine Biodegradability through BOD: The Effects of Poly(L-lactic acid)'s Molecular Weight  
Jin Ho Seok,Tadahisa Iwata
- Tomohiro Kubo, presiding**
- 15:15 1L23 Development of biodegradation trigger for biodegradable plastics by chemical surface modification and introduction of antimicrobial cations  
Jobu Tateiwa,Yu-i Hsu,Hiroshi Uyama,Tadahisa Iwata
- 15:30 1L24 Investigation of Thermal Cross-linking Mechanism and Evaluation of Properties Of Microbial Polyesters with Unsaturated Bonds in Their Side Chains  
Sumire Ogura,Jobu Tateiwa,Taizo Kabe,Yuki Miyahara,Takeharu Tsuge,Tadahisa Iwata
- 15:45 1L25 Evaluation of catalytic activity of phosphate ceramics for biodegradable polymers (I) -Comparison of catalytic ability of various hydroxyapatite-  
Misaki Okamura,Masahiro Fujita,Yuko Takeoka,Masahiro Rikukawa
- 16:00 1L26 Hydrolyzable Aliphatic Polycarbonates by Amide Group  
Kazuki Fukushima,Rongjian Lang,So Nakai,Masaru Tanaka,Takashi Kato
- 16:15 1L27 Study of the effect of PEGylation on the degradation behavior of enzyme embedded polylactic acid  
Qiuyuan Huang,Kimura Satoshi,Iwata Tadahisa

**Thu. Jun 6**

## **E. POLYMERS AND ENVIRONMENT**

**Daisuke Aoki, presiding**

- 9:30 2L03 Synthesis of cellulose ester derivatives having 4-(chloromethyl)benzoyl groups and their application to functionalization  
Yuma Ito,Tsuyoshi Taniguchi,Shoji Yoshioka,Shafiqur Rahman,Shunsuke Taka,Kuo Hong Wong,Asami Mashio,Hiroshi Hasegawa,Tatsuya Nishimura,Katsuhiko Maeda
- 9:45 2L04 Differential Effects of Aliphatic and Aromatic Fatty Side Chains in Cellulose Modification  
Lease Jacqueline,Yoshito Andou
- 10:00 2L05 Synthesis, characterization and seawater biodegradability of paramylon mix ester derivatives with different DS  
Ruiqi Li,Jin Ho Seok,Tadahisa Iwata
- 10:15 2L06ILY Development of Oligosaccharide-derived Biobased Polymer Materials  
Takuya Isono

**Takuya Isono, presiding**

- 10:45 2L08 Development of environmentally-friendly carbonate resin using resveratrol  
Iku Yamashita, Tatsuki Watanabe, Kozo Matsumoto
- 11:00 2L09 Synthesis of self-immolative bio-based polymers derived from vanillyl alcohol and their degradation behavior  
Yushi Miki, Yukiko Enomoto, Tadahisa Iwata
- 11:15 2L10 Functionalization of sugar-based polycarbonate by copolymerization and decomposition behavior in aqueous ammonia  
Kazuaki Rikiyama, Takayuki Yoshida, Tatsuo Taniguchi, Shotaro Nishitsuji, Daisuke Aoki
- 11:30 2L11 Preparation of sulfur-containing polymers using surplus sulfur as raw material  
Yuichiro Kobayashi, Shun Hashimoto, Ryunosuke Kamioka, Ryuto Nishimura, Hiroyasu Yamaguchi

**Yuichiro Kobayashi, presiding**

- 12:45 2L13 Synthesis and biodegradability of bio-based poly(ester-thioether)s by click reaction  
Ryota Imamura, Akinori Takasu
- 13:00 2L14 Synthesis and Characterization of Poly(ethylene succinate) based Block Copolymers Containing Poly(amino acid)  
Sumito Kumagai, Yasumasa Takenaka, Senri Hayashi, Atsushi Katsuragi, Motosuke Imada, Kaoko Sato, Hideki Abe, Noriyuki Asakura
- 13:15 2L15 The thermal properties of the disyndiotactic polycrotonates prepared by the group-transfer polymerization  
Yasumasa Takenaka, Motosuke Imada, Hideki Abe
- 13:30 2L16 Synthesis of end-functionalized polypropylenes and their adhesive property with carbon fibers for the development of high-performance thermoplastic CFRP  
Katsutaka Kai, Michio Urushisaki, Toshikazu Sakaguchi, Tamostu Hashimoto, Atsushi Takamura, Daisuke Sasaki
- 13:45 2L17 Seawater degradability of aliphatic polyesters with C4-C12 dicarboxylic acids  
Tomoka Shuto, Yuushou Nakayama, Ryo Tanaka, Takeshi Shiono, Shodai Hino, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama

**Yasumasa Takenaka, presiding**

- 14:00 2L18 Study on Biodegradation Behavior of Poly(3-hydroxybutyrate), Poly( $\epsilon$ -caprolactone), and Polyamide 4 with Seawater  
Atsuyoshi Nakayama, Norioki Kawasaki, Shodai Hino, Naoko Yamano, Hideo Okamura
- 14:15 2L19 Evaluation of bond dissociation behavior of anthracene photo dimers containing imino group aiming for the application to degradable polymers  
Fumiki Sakashita, Eriko Sato
- 14:30 2L20 Machine learning approach for design and understanding of biodegradable polymers  
Yoshifumi Amamoto, Ken Kojio, Atsushi Takahara, Kei Terayama, Jun Kikuchi
- 14:45 2L21 Effect of Water Pressure on Nanostructural Changes in Polycaprolactone Thin Films Treated by Seawater Immersion

Hiroto Osakaki, Keito Shimakawa, Ryu Miyajima, Mamiko Takigawa, Hiroyasu Masunaga, An Yingjun, Atsushi Takahara, Sono Sasaki

**Eriko Sato, presiding**

- 15:00 2L22 Marine PHBH-degrading bacteria and their degrading enzymes  
Tomohiro Hiraishi, Senri Hayashi, Momoko Kitamura, Noriyuki Asakura, Hideki Abe
- 15:15 2L23 Visualization of Marine Degradation Process of Biodegradable Polyester by Raman Mapping Analysis  
Masahiro Hatayama, Harumi Sato
- 15:30 2L24 Preparation and functionality of microbial-polyester porous material  
taizo kabe, rintaro suzuki, tadahisa iwata
- 15:45 2L25 Effect of pentaerythritol as nucleation agent on PHA crystallization  
Masahiro Fujita, Noboru Ohta, Kiyoshi Yagi, Hideki Abe

**Ken Kojio, presiding**

- 16:00 2L26 Crystallization enhancement effect of microbially produced lactate-based copolyester on poly(lactate)  
Yusuke Imai, Yuichi Tominaga, Shinji Tanaka, Shinji Tanaka, Masaru Yoshida, Sho Furutate, Toshihiko Kanda, Shunsuke Sato, Sangho Koh, Seiichi Taguchi
- 16:15 2L27 Development of Oil/Water Separation Materials by Hydrophobization of Polysaccharide Polyion Complexes  
Misaki Hayashi, Takuya Sagawa, Mineo Hashizume
- 16:30 2L28 Gas barrier properties and their mechanisms in alginic acid and alginates mono-material membranes  
Hiroki Takachi, Takahiro Hori, Sky Amakawa, Kazukiyo Nagai
- 16:45 2L29 UV cut transparent films with moisture barrier nature consisting of clay mineral/polyvinyl alcohol/lignin  
Kazuhiro Shikinaka, Asami Suzuki, Yuichiro Otsuka

**Fri. Jun 7**

**E. POLYMERS AND ENVIRONMENT**

**Kohei Iritani, presiding**

- 9:30 3L03 Enhancement of strength and toughness of movable cross-linking network materials by incorporation of poly( $\epsilon$ -caprolactone)  
Sota Nakagawa, Akihide Sugawara, Yoshinori Takashima, Junsu Park, Ryohei Ikura, Hiroshi Uyama
- 9:45 3L04 Strain-hardening and toughening of polyrotaxane glass  
Kazuaki Kato, Kohzo Ito, Taiki Hoshino
- 10:00 3L05 Bond-exchange properties of vitrimer resin with low inclusion ratio polyrotaxane  
Shota Ando, Lisa Watakabe, Masaki Hirano, Hideaki Yokoyama, Kohzo Ito
- 10:15 3L06 Toughening of polymer nanoparticle-based elastomers  
Yuma Sasaki, Yuichiro Nishizawa, Takuma Kureha, Kazuya Uenishi, Kazuko Nakazono, Toshikazu Takata, Daisuke Suzuki

**Kazuaki Kato, presiding**

- 10:30 3L07 Effect of PEG addition on various properties of biobased polyimides containing isosorbide moieties.  
Yoshiyuki Tsurusaki, Ririka Sawada, Haonan Liu, Shinji Ando
- 10:45 3L08 Quantitative Assessment of Humidity Dependence of GHz Dielectric Properties and Moisture Absorption in Bio-based Polyimides Using Variable Humidity Infrared Spectroscopy  
Ririka Sawada, Haonan Liu, Shinji Ando
- 11:00 3L09 Mechanical Properties of Silicone Composite Rubber Utilizing Glycol-Lignin Derivative as a Filler  
Ryoma Amanuma, Ayumi Kobayashi, Kohei Iritani, Thi Thi Nge, Tatsuhiko Yamada, Takashi Yamashita

**Yuichiro Nishizawa, presiding**

- 12:45 3L13 Mechanical Property Control of Green Alga/Polymer Composites Affected by Extraction of Fats  
Kohei Iritani, Yuki Emura, Ayumi Kobayashi, Takashi Yamashita
- 13:00 3L14 Preparation and physical properties of porous elastic PHBH fibers with P(3HB) as an additive  
Kohei Toyosaki, Taizo Kabe, Tadahisa Iwata
- 13:15 3L15 High toughness blends of poly(lactic acid) and elastomers with unsaturated bonds by using dynamic vulcanization  
Shunya Kubo, Akihide Sugawara, Yu-I Hsu, Hiroshi Uyama
- 13:30 3L16 High-performance stretched poly(lactic acid) films using rosin-modified phenolic resin  
Maoko Hayashi, Yu-I Hsu, Akihide Sugawara, Takashi Konishi, Hiroshi Uyama

**Akihide Sugawara, presiding**

- 13:45 3L17 Structural Change of PBS/PBSA Blend Films during Tearing  
Keito Shimakawa, Hiroto Osakaki, Ryu Miyazima, Hiroyasu Masunaga, Sono Sasaki
- 14:00 3L18 Environmental Degradation Behaviors of Poly(ether-block-amide) Multi-block Copolymers  
Yingiun AN, Adchara PADERMSHOKE, Think Van NGUYEN, Hiroyasu MASUNAGA, Sono SASAKI, Atsushi TAKAHARA
- 14:15 3L19 Crystallization Behavior of Novel Bio-Based Polyesters Synthesized from Plant Oils and Saccharide Compounds  
Aki Nishiyama, Hiroki Takeshita, Takumitsu Kida, Katsuhisa Tokumitsu, Kotohiro Nomura
- 14:30 3L20 Climeworks - removing CO<sub>2</sub> from the Earth's atmosphere through direct air capture (DAC)  
Tomohide Yoshida

**Room M**

**Wed. Jun 5**

**E. POLYMERS AND ENVIRONMENT**

**Tomoyasu Hirai, presiding**



- 12:45 1M13 Characterization of composite materials containing indible biomasses resources  
Hiroshi Wada
- 13:00 1M14 Evaluation of Adhesive Performance and Recyclability in Elastomers with Movable Cross-Links  
Sho Kosaba, Ryohei Ikura, Kenji Yamaoka, Takayuki Arai, Yoshinori Takashima
- 13:15 1M15 Depolymerization process of nylon 6 under low-energy conditions  
Yuka Matsumoto, Naoto Aoyagi, Teruo Kamura
- Hiroshi Wada, presiding**
- 13:30 1M16 Depolymerization of super engineering plastics to form bisphenols and their analogues  
Yasunori Minami, Tomoo Tsuyuki, Rena Honobe, Yuuki Inagaki, Kazuhiko Sato, Yumiko Nakajima, Masaru Yoshida
- 13:45 1M17 Preparation of membranes with high gas permeability and high CO<sub>2</sub> selectivity based on spray-coating method.  
Yakumo Kinoshita, yoshinobu Nakamura, syuuji Fujii, Tomoyasu Hirai
- 14:00 1M18 Novel Plastic Re-extrusion Process for Regeneration of Mechanical Properties of Low-density Polyethylene  
Patchiya Phanthong, Shigeru Yao

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

### **Yu-I Hsu, presiding**

- 14:15 1M19 Selecting Bacterial Strains and Establishing Detection Methods of Monomers toward the Improvement of the Biochemical Monomer Recycling System  
Pin-Fang Li, Ya-Yen Chang, Jane Wang
- 14:30 1M20 Natural Cellulose Microfibers as Adsorbants for Waste Water Treatment  
Olaf Karthaus, Konoha Ueda, Shinon Takahashi, Yoshihiko Omura, Chiharu Hayashida, Hiroshi Kunimori
- 14:45 1M21 Extraction of Fibers from Hagfish Exudate and Characteristics of These Fibers  
Shunsuke Kondo, Aoi Ichinoseki, Koki Suzuki, Jin Gong
- 15:00 1M22 Mechanism of plasticizing effect of block copolyester for polylactide  
Neha Sharma, Tsuyoshi Koga, Shigeru Deguchi, Ikuo Taniguchi
- 15:15 1M23 Photooxidation-induced Conformational Changes and Degradation Behaviors of Poly(butylene succinate) and Poly(butylene succinate-co-adipate)  
Adchara Padermshoke, Yingjun An, Tomoko Kajiwara, Hiroyasu Masunaga, Yutaka Kobayashi, Hiroshi Ito, Sono Sasaki, Hiroshi Noguchi, Atsushi Kusuno, Atsushi Takahara

### **Jin Gong, presiding**

- 15:30 1M24 Effect of pH on recyclability of TEMPO-oxidized cellulose nanofiber-reinforced starch films  
Izzah Durrati Hamid, Raghav Soni, Yu-I Hsu, Hiroshi Uyama
- 16:00 1M26 Chitin-calcium carbonate hydrogels with tunable strength  
Naliharifetra Ranaivoarimanana, Keiko Tanaka, Noriyuki Isobe

- 16:15 1M27 Exploring Enzymatic Reactions of Tough Poly(ester)s-Poly(urethane) with Movable Crosslinks: Degradation, Reinforcement, Recycling and Upcycling  
Jiaxiong Liu, Ryohei Ikura, Kenji Yamaoka, Akihide Sugawara, Yuya Takahashi, Bunsho Kure, Naomi Takenaka, Junsu Park, Hiroshi Uyama, Yoshinori Takashima
- 16:30 1M28 Surface Oxidation of Porous Poly(lactic acid) (PLA) Microspheres via Light-activated Chlorine Dioxide Radicals.  
Hasinah binti Mohamed Rafiq, Yu-I Hsu, Hiroshi Uyama