

*Updated on August 31, 2016

●● Oral Sessions – October 5, 2016 (Wednesday) (tentative)

Plenary Lectures Room: TAMNA A

- Chair: Chang-Sik HA (Pusan National University, Korea)
- PL1** (11:00–11:40)
Precise Characterization of Complex Polymers by HPLC
Taihyun CHANG^{*} (Pohang University of Science and Technology, POSTECH), Korea)
- Chair: Kwang-Sup LEE (Hannam University, Korea)
- PL2** (11:40–12:20)
Graphene Nanoribbons as a New Family of Semiconductors
Klaus MÜLLEN^{*} (Max Planck Institute for Polymer Research, Germany)

S1. Polymer Synthesis Room: 201

- Organizer: Hyun-Jong PAIK (Pusan National University, Korea)
Jong-Chan LEE (Seoul National University, Korea)
- Chair: Jong-Chan LEE (Seoul National University, Korea)
Jianyong JIN (The University of Auckland, New Zealand)
- IL1-1** (14:00–14:30)
Biologically-Responsive Polymeric MRI Agents
Andrew K. WHITTAKER^{*} (The University of Queensland, Australia)
- IL1-2** (14:30–14:50)
Precise Synthesis of Block Polymers Containing Triphenylamine, Carbazole, and Pyridine Derivatives by Living Anionic Polymerization
Jae-Suk LEE^{*} (Gwangju Institute of Science and Technology (GIST), Korea)
- IL1-3** (14:50–15:20)
Synthesis of Carbon Dioxide Stimuli-Responsive Polymers
Jinying YUAN^{*}, Anchao FENG (Tsinghua University, China)
- IL1-4** (15:20–15:40)
Smart Lipopolyptide Materials for Efficient Intracellular Delivery and Targetability
Johnson V. JOHN, Renjith P. JOHNSON, Renjie LIU, Hua JIN, Jaeyeong BAE, Il KIM^{*} (Pusan National University, Korea)
- IL1-5** (15:40–16:10)
Design and Applications of Digital Polymers
Jean-François LUTZ^{*} (Institut Charles Sadron, France)
Chair: Il KIM (Pusan National University, Korea)
Jean-François LUTZ (Institut Charles Sadron, France)
- IL1-6** (16:20–16:40)
Synthesis and Lower Critical Solution Temperature Behavior of Soluble Aromatic Polyimides Containing Trifluoromethyl Groups
Sang Youl KIM^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- IL1-7** (16:40–17:10)
Synthesis of Intrinsically Microporous Polymers and their Membrane Related Applications
Jianyong JIN^{*}, Jian ZHANG, Paam YANARANOP, Bagus SANTOSO, Hong KANG (The University of Auckland, New Zealand)
- IL1-8** (17:10–17:30)
Synthesis of Cross-linked Sulfonated Poly (arylene ether sulfone) Derivatives for Polymer Electrolyte Membrane Fuel Cell Applications
Kihyun KIM, Jong-Chan LEE^{*} (Seoul National University, Korea)
- IL1-9** (17:30–18:00)
Molecular Engineering of Ion-Conducting Polymers for Green Energy Technology
Chulsung BAE^{*} (Rensselaer Polytechnic Institute, USA)

S2. Polymer Physics and Characterization Room: 202

- Organizer: Kwanwoo SHIN (Sogang University, Korea)
Junhan CHO (Dankook University, Korea)
Moon Jeong PARK (Pohang University of Science and Technology (POSTECH), Korea)
Seung Hyun KIM (Inha University, Korea)
- Chair: Kookhen CHAR (Seoul National University, Korea)
Wenbing HU (Nanjing University, China)

- IL2-1** (14:00–14:30)
Effects of Molecular Topology and Interface on Conformations and Dynamics of Polymer Melts from Atomistic Molecular Dynamics Simulations
Do Y. YOON^{1,2,*}, Chul JEONG^{2,3}, Kahyun HUR^{2,4}, Shang-Yik REIGH^{2,5}, Sanghun LEE^{2,6}, Curtis W. FRANK¹, Alexey V. LYULIN¹ (Stanford University, USA, ²Seoul National University, Korea, ³National Institute of Standards and Technology, USA, ⁴Korea Institute of Science and Technology, Korea, ⁵Cambridge University, UK, ⁶Gachon University, Korea, ⁷Technische Universiteit Eindhoven, The Netherlands)
- IL2-2** (14:30–15:00)
Understanding the Non-linear Deformation of Polymer Glasses through Experimental Measurements of Enhanced Segmental Mobility
Mark D. EDIGER^{*} (University of Wisconsin-Madison, USA)
- IL2-3** (15:00–15:30)
Flow-induced Polymers with Different Topologies Translocation through Nanopores
Mingming DING, Tongfei SHI^{*} (Institute of Applied Chemistry, Chinese Academy of Sciences, China)
- IL2-4** (15:30–15:50)
A New Strategy of Fine Tuning of a Polymer Melt Rheology
Youngwook P. SEO, Yongsok SEO^{*} (Seoul National University, Korea)
- IL2-5** (15:50–16:10)
Structural Details of Functional Polymer Systems in Nanoscale Thin Films and Nanoparticles
Moanhor REE^{*} (Pohang University of Science and Technology (POSTECH), Korea)
Chair: Mark D. EDIGER (University of Wisconsin-Madison, USA)
Junhan CHO (Dankook University, Korea)
- IL2-6** (16:20–16:50)
Mechanism of Stress-whitening in Semicrystalline Polymers
Ying LU, Yaotao WANG, Yongliang MEN^{*} (Institute of Applied Chemistry, Chinese Academy of Sciences, China)
- IL2-7** (16:50–17:10)
Novel Liquid Crystal-based Biosensors
Soo-Young PARK^{*} (Kyungpook National University, Korea)
- OR2-1** (17:10–17:25)
Untethered Photo-Fueled Soft Robots by Liquid Crystalline Polymers
Jeong Jae WIE^{1,*}, M. Ravi SHANKAR², Timothy J. WHITE³ (Inha University, Korea, ²University of Pittsburgh, USA, ³Air Force Research Laboratory, USA)
- OR2-2** (17:25–17:40)
Lyotropic Liquid-Crystalline Behavior of Poly (amic ester)s as Precursors for Fully Aromatic Polyimides and Control of Orientation by Shear Flow
Ryohei ISHIGÉ^{*}, Kazuyuki TANAKA, Shinji ANDO (Tokyo Institute of Technology, Japan)
- IL2-8** (17:40–18:10)
Strain-induced Polymer Crystallization: Theory and Simulations
Wenbing HU^{*} (Nanjing University, China)

S2. Polymer Physics and Characterization Room: 303

- Chair: Christopher L. SOLES (The National Institute of Standards and Technology (NIST), USA)
Kwanwoo SHIN (Sogang University, Korea)
- IL2-9** (14:00–14:30)
Differential Dynamic Microscopy: Finding the Polymer Limit
Paul S. RUSSO^{*}, Jinxin FU, Xujun ZHANG, Rachel BORRELLI, Mohan SRINIVASARAO (Georgia Institute of Technology, USA)
- OR2-3** (14:30–14:45)
High-throughput *in-situ* Characterization using Synchrotron X-ray Scattering
Hyeong Joo CHOI¹, Young Duck YUN², Sangho JEON¹, Tae Joo SHIN^{1,*} (Ulsan National Institute of Science and Technology (UNIST), ²Pohang Accelerator Laboratory, Korea)
- OR2-4** (14:45–15:00)
Molecular Aggregation States of Unoriented Polymer Films under Bulge Test using a Synchrotron Radiation X-ray Scattering Technique
Ken KQJIO, Aya FUJIMOTO, Chigusa NAGANO, Shuhei NOZAKI, Kazutaka

- KAMITANI, Hirohmi WATANABE, Aitsushi TAKAHARA*^{*} (Kyushu University, Japan)
- IL2-10** (15:00–15:30)
Quantitative Analysis of Growth Kinetics of Polymer Brushes by Quartz Crystal Microbalance
Hideaki YOKOYAMA^{*} (The University of Tokyo, Japan)
- IL2-11** (15:30–16:00)
Conformational Analysis of Single Polymer Chain in Thin Films by Super-resolution Fluorescence Microscopy
Hirovuki AOKI^{*} (Japan Atomic Energy Agency, Japan)
Chair: Hideaki YOKOYAMA (The University of Tokyo, Japan)
Bongjune SUNG (Sogang University, Korea)
- IL2-12** (16:20–16:50)
Dynamics and Transport in Polymer Membrane: The Relationship Between Fast Dynamics and Water Transport
*Bradley R. FRIEBERG*¹, *Jacob D. TARVER*¹, *Cheol JEONG*¹, *Madhusudan TYAGI*², *Edwin P. CHAN*¹, *Christopher M. STAFFORD*¹, *Tsung-Han TSAI*², *WenXu ZHANG*³, *Bryan COUGHLIN*¹, *Christopher L. SOLES*^{1,4} (¹The National Institute of Standards and Technology (NIST), ²NIST Center for Neutron Research, ³University of Massachusetts, USA)
- IL2-13** (16:50–17:20)
Design of Dynamic Interface of Polymers for Bio-applications
Keiji TANAKA^{*}, *Yukari ODA*, *Hisao MATSUNO* (Kyushu University, Japan)
- IL2-14** (17:20–17:40)
Manipulating Extracellular Matrix Fibers, from Large Scale Network to Multicomponent Assembly in a Single Fiber
Kwanwoo SHIN^{*}, *Seungkuk AHN*, *Sejung NAM*, *Keelyong LEE* (Sogang University, Korea)
- OR2-5** (17:40–17:55)
Application of Polymer Concepts to Biological Systems
Rakwoo CHANG^{*} (Kwangwoon University, Korea)
- OR2-6** (17:55–18:10)
Hydrodynamic Analysis of Novel Linear Cationic Polymers for Gene Delivery Applications
Igor PEREVYAZKO^{1,2}, *Anne-K. TRÜTZSCHLER*^{2,3}, *Elena LEBEDEVA*¹, *Ulrich S. SCHUBERT*^{2,3,4}, *Nikolay TSVETKOV*¹ (¹St. Petersburg State University, Russia, ²Friedrich Schiller University, Germany, ³Friedrich Schiller University Jena, Germany)

S3. Polymer Rheology and Processing

Room: 301

- Organizer: Kyung Hyun AHN (Seoul National University, Korea)
Hyun Wook JUNG (Korea University, Korea)
Chair: Seong Jae LEE (The University of Suwon, Korea)
Hyun Wook JUNG (Korea University, Korea)
- IL3-1** (14:00–14:30)
Dielectric Investigation of Entanglement Dynamics of Bulk Polyisoprene: Two Coarse-grained Length Scales due to Constraint Release
Hiroshi WATANABE^{*}, *Yumi MATSUMIYA* (Kyoto University, Japan)
- IL3-2** (14:30–14:50)
Rheology of Graphene Oxide based Smart Suspensions
Hyoungh Jin CHOI^{*} (Inha University, Korea)
- IL3-3** (14:50–15:10)
Conformational Rheology of a Polyelectrolyte Polymer Chain in Confined Channels by Mesoscale Simulations
Myung-Suk CHUN^{1,2}, *Min Sun YEOM*², *Kyu YOON*^{1,3}, *Hyun Wook JUNG*³ (¹Korea Institute of Science and Technology (KIST), ²Korea Institute of Science and Technology Information (KISTI), ³Korea University, Korea)
- IL3-4** (15:10–15:30)
Lateral Particle Migration in the Microchannel Flow of Polymer Solutions and Its Biomedical Applications
Ju Min KIM^{*} (Ajou University, Korea)
- IL3-5** (15:30–15:50)
Effects of Viscoplasticity in Slot Coating Flow
Jaewook NAM^{*} (Sungkyunkwan University, Korea)
Chair: Kwang Soo CHO (Kyungpook National University, Korea)
Ju Min KIM (Ajou University, Korea)
- IL3-6** (16:20–16:50)

- Strain-hardening and Softening of Polymer Melts and its Application
Masataka SUGIMOTO^{1,2}, *Eiichi NISHI*², *Takashi KATO*^{1,3}, *Hideyuki UEMATSU*^{1,4}, *Sathish K. SUKUMARAN*¹, *Kiyohito KOYAMA*¹ (¹Yamagata University, ²Asahi Glass Co. Ltd., ³Sekisui Chemical Co., Ltd., ⁴Fukui University, Japan)
- IL3-7** (16:50–17:10)
Injection Molding of an UV-curable LSR by LED-embedded Mold
*J. S. TAE*¹, *D. H. KIM*¹, *J. B. KWAK*², *H. H. YEOM*¹, *K. G. YIM*¹, *B. O. RHEE*^{1,2} (¹Ajou University, ²Samsung Electronics, Korea)
- IL3-8** (17:10–17:30)
Numerical Study on Screw and Die Characteristics in the Rubber Extrusion Process
See Jo KIM^{1,2}, *Jun Ho MUN*¹, *Ju Hyun KIM*¹, *In Young KIM*², *Su Joung KIM*², *Hyeon JiKKWON*², *Min Hyeon HAN*² (¹Andong National University, ²NEXEN TIRE Co., Korea)
- IL3-9** (17:30–17:50)
Stability Analysis of Two-Dimensional Viscoelastic Film Casting Process Using Transient Frequency Response Method
Ilyoung KWON, *Hyun Wook JUNG*^{*}, *Jae Chun HYUN* (Korea University, Korea)
- OR3-1** (17:50–18:05)
Rheological Characteristics and Spinning Behavior of Low Polydispersity Polyacrylonitrile based Polymers for Carbon Fibre Precursors
Jasjeet KALUR^{*}, *Keith MILLINGTON*, *Jackie Y. CAI*, *Colin BRACKLEY* (CSIRO Manufacturing, Australia)

S4. Hybrid Materials and Composites

Room: 203

- Organizer: Sang Soo LEE (Korea Institute of Science and Technology (KIST), Korea)
Unyong JEONG (Pohang University of Science and Technology (POSTECH), Korea)
Chair: Woo Soo KIM (Simon Fraser University, Canada)
Unyong JEONG (Pohang University of Science and Technology (POSTECH), Korea)
- IL4-1** (14:00–14:30)
Relating the Phase Behaviour of Ionic Liquid – Block copolymer Hybrids to Mechanical Properties and Conductivity
Idriss BLAKEY^{*}, *Thomas BENNETT*, *Kevin S. JACK*, *Kristopher J. THURECHT* (The University of Queensland, Australia)
- IL4-2** (14:30–14:50)
Soft Electronics in Medicine
Dae-Hyeon KIM^{*} (Seoul National University, Korea)
- IL4-3** (14:50–15:10)
Polymer Based Bionanocomposites
Chang-Sik HA^{*} (Pusan National University, Korea)
- IL4-4** (15:10–15:30)
Synergistic Incorporation of Hybrid Heterobimetal Nitrogen Atom for Oxygen Electroreduction Performance
Wansoo HUH^{1,2}, *Young-Woo LEE*², *Kyung-Won PARK*¹, *John HONG*² (¹Soongsil University, Korea, ²University of Oxford, UK)
- IL4-5** (15:30–15:50)
2D Nanosheet-based Hybrid Materials with Tailorable Functionalities
Seong-Ju HWANG^{*} (Ewha Womans University, Korea)
Chair: Sang-Soo LEE (Korea Institute of Science and Technology (KIST), Korea)
Hyunjoon KONG (University of Illinois at Urbana-Champaign, USA)
- IL4-6** (16:20–16:50)
Polymer Hybrid Nanomaterials from Self-Assembly
Ulrich WIESNER^{*} (Cornell University, USA)
- IL4-7** (16:50–17:10)
Chemical and Physical Modifications of Exfoliated Graphite Nanoplatelets with Liquid Rubber and the Composites
Donghwan CHO^{*} (Kumoh National Institute of Technology, Korea)
- OR4-1** (17:10–17:25)
Fabrication and Tuning the Nanoporous Channel in Nanoporous Membranes derived using Crystallization Induced Phase Separation in Polymeric Blends
Maya SHARMA, *Giridhar MADRAS*, *Suryasarathi BOSE*^{*} (Indian Institute of Science, India)
- OR4-2** (17:25–17:40)

Adhesion Force Study between Vinyl Monomers and Graphene Surfaces and Preparation of Stable Graphene Dispersion
Suguna PERUMAL, Hyang Moo LEE, In Woo CHEONG* (Kyungpook National University, Korea)

OR4-3 (17:40–17:55)

Efficient Manufacturing of Carbon Fiber Reinforced Thermoplastic Composites using Multi-step Impregnation
Won-Seock KIM, Young-Koan KO, Hogun JEONG (Lotte Chemical, Korea)

OR4-4 (17:55–18:10)

Dispersion of Nano-SiO₂ Sand Particles In GFRP Composite via Hand Lay-Up Technique
Zuhaib JAMIL^{1,*}, Shahab KHUSHNOOD¹, Sirjeel ISAAC¹, Kamran GHAFOR¹, Salman SHAHID¹, Muhammad ASIF², Imran Abdul SHAKOOR² (¹University of Engineering & Technology Taxila, ²University of the Punjab, Pakistan)

S5. Smart Functional Polymers Room: SAMDA A

Organizer: Cheol Min PARK (Yonsei University, Korea)
Young Jong KANG (Hanyang University, Korea)

Chair: Gi-Ra YI (Sungkyunkwan University, Korea)

IL5-1 (14:00–14:30)
Zhibo LI (Qingdao University of Science and Technology, China)

Biomimetic Self-Templating Materials and Application
Seung-Wuk LEE^{*} (University of California, USA)

IL5-2 (14:30–14:50)

Oligopeptide Complex for Targeted Non-viral Gene Delivery to Adipocytes
Yong-Hee KIM^{*} (Hanyang University, Korea)

IL5-3 (14:50–15:10)

Fluorescent Hydrogels That Contains Glucose Oxidase and That Immobilized on Conjugated Polymer Dots
Taek Seung LEE^{1,*}, Yongkyun KIM^{1,2}, Ho NAMGUNG¹ (¹Chungnam National University, ²Samyang Corporation, Korea)

IL5-4 (15:10–15:40)

Enzyme Inspired Catalysts
Luke A CONNALL^{*} (The University of Melbourne, Australia)

IL5-5 (15:40–16:00)

Stimuli-Responsive Self-Folding of Polymeric Bilayers toward Programmable Microactuator
Tae Soup SHIM¹, Daeyeon LEE², So-Jung PARK³, John C. CROCKER² (¹Ajou University, Korea, ²University of Pennsylvania, USA, ³Ewha Womans University, Korea)

Chair: Luke A. CONNALL (The University of Melbourne, Australia)
Taek Seung LEE (Chungnam National University, Korea)

IL5-6 (16:20–16:40)

High-Density DNA Brushes on Polymer Particles and Clusters
Joon Suk OH, Inseong JO, David J. PINE, Gi-Ra YI^{*} (Sungkyunkwan University, Korea)

IL5-7 (16:40–17:10)

Thermal and Oxidation Responsive Polypeptide Materials
Zhibo LI^{*} (Qingdao University of Science and Technology, China)

IL5-8 (17:10–17:40)

Photo-responsive Dynamic Polymers and Their Applications
Kei SAITO^{*} (Monash University, Australia)

IL5-9 (17:40–18:00)

Synthesis and Electro-Optical Property in Polymeric Bent-Core Liquid Crystals
E-Joon CHOI^{*} (Kumoh National Institute of Technology, Korea)

S6. Polymer Nanomaterials and Nanotechnology Room: HALLA B

Organizer: Pil Jin YOO (Sungkyunkwan University, Korea)
Sang Ouk KIM (Korea Advanced Institute of Science & Technology (KAIST), Korea)

Chair: Sang Ouk KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
Paul NEALEY (University of Chicago and Argonne National Lab, USA)

IL6-1 (14:00–14:30)

Self-assembled Block Copolymers as Fouling Resistant Materials
Brandon WENNING, Amanda LEONARDI, Christopher K. OBER^{*} (Cornell University, USA)

IL6-2 (14:30–15:00)

Directed Self-Assembly (DSA) of Performance Materials
Paul F. NEALEY^{*} (University of Chicago and Argonne National Lab, USA)

IL6-3 (15:00–15:30)

"Living" Crystallization-Driven, Seeded Growth Approaches to Functional Supramolecular Materials
Ian MANNERS^{*} (University of Bristol, UK)

IL6-4 (15:30–15:50)

Fabrication of High Performance Antimicrobial Polymer Nanostructures
Jyongsik JANG^{*} (Seoul National University, Korea)

IL6-5 (15:50–16:10)

Directed Self-Assembly of Block Copolymers on Chemically Modified Graphene
Sang Ouk KIM^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)

Chair: Kyoung Taek KIM (Seoul National University, Korea)

Jaeup KIM (Ulsan National Institute of Science and Technology (UNIST), Korea)

IL6-6 (16:20–16:50)

Driving Toward Sub-10 nm Features
Z. SUN¹, W. ZHANG¹, G. JEONG¹, E. B. COUGHLIN¹, J. RAZAYEV², T. P. RUSSELL^{1,3,*} (¹University of Massachusetts, ²University of New York at Buffalo, ³Lawrence Berkeley National Laboratory, USA)

IL6-7 (16:50–17:20)

Well-Ordered Nanonetwork Materials from Templating of Self-Assembled Chiral Block Copolymers
Rong-Ming HO^{*} (National Tsing Hua University, Taiwan)

OR6-1 (17:20–17:35)

Interaction between Brush Coated Particles in Polymer Nanocomposites
Jaeup U. KIM^{*}, Sojung PARK (Ulsan National Institute of Science and Technology (UNIST), Korea)

OR6-2 (17:35–17:50)

Periodic Minimal Surfaces of Block Copolymer Bilayers
Kyoung Taek KIM^{*} (Seoul National University, Korea)

OR6-3 (17:50–18:05)

A Novel Nanoparticle Platform for Efficient Delivery of Labile Biologics
Won Il CHOI^{*} (Korea Institute of Ceramic Engineering and Technology (KICET), Korea)

S6. Polymer Nanomaterials and Nanotechnology Room: 402

Chair: Sung Gap IM (Korea Advanced Institute of Science and Technology, Korea)
Georgina SUCH (The University of Melbourne, Australia)

IL6-8 (14:00–14:30)

PHLexparticles: Harnessing the Power of pH to Tune Cellular Behaviour
Georgina K. SUCH^{1,*}, Nachnicha KONGKATIGUMJORN¹, Christina CORTEZ-JUGO², Katie FANG¹, Ewa CZUBA², Adelene S. M. WONG^{1,2}, Angus P. R. JOHNSTON² (¹The University of Melbourne, ²Monash University, Australia)

IL6-9 (14:30–15:00)

Development of Polymeric Theranostics: Understanding Nanomaterial Behaviour *in vivo*
Aditya ARDANA¹, Adrian V FUCHS¹, Zachary HOUSTON¹, Nicholas FLETCHER¹, Christopher HOWARD¹, Cameron ALEXANDER², Kristofer J. THURECHT^{1,*} (¹The University of Queensland, ²The University of Nottingham, UK)

IL6-10 (15:00–15:30)

Some Surprises and Research Opportunities with Single-molecule Polymer Study
Steve GRANICK^{*} (IBS Center for Soft and Living Matter and UNIST, Korea)

IL6-11 (15:30–15:50)

2D/3D Micro Structures Fabricated Two-Photon Stereolithography for Photonic and Biophotonic Applications
Kwang-Sup LEE^{*} (Hannam University, Korea)

IL6-12 (15:50–16:10)

3D-Printed Monolithic SiCN Ceramic Systems Derived from Single

Pre-ceramic Resin

Wonjae LEE, Dong-Pyo KIM^{*} (Pohang University of Science and Technology (POSTECH), Korea)

Chair: Eunji LEE (Chungnam National University, Korea)
Stefano SACANNA (New York University, USA)

IL6-13 (16:20–16:50)

Shape Reconfigurable Colloids

Zhe GONG, Theodore HUECKEL, Mena YOUSSEF, Stefano SACANNA^{*} (New York University, USA)

IL6-14 (16:50–17:10)

Initiated Chemical Vapor Deposition, a Versatile Tool to Generate Functional Polymer Films

Sung Gap IM^{*} (Korea Advanced Institute of Science and Technology, Korea)

OR6-4 (17:10–17:25)

Cancer Specific MicroRNA as an Initiator of Drug Release System for Fluorescence Imaging Guided Photodynamic Therapy in Vivo

Ji-Seon LEE^{*}, Seongchan KIM, Dal-Hee MIN (Seoul National University, Korea)

OR6-5 (17:25–17:40)

DNA Origami as a Programmable Molecular Pegboard for Nanoparticle-Based Digital Metamaterials

Seungwoo LEE^{*} (Sungkyunkwan University (SKKU), Korea)

OR6-6 (17:40–17:55)

Multi-Responsive Polysulfone and Polysulfobetaines: Encapsulation and Stabilization

Vivek Arjunan VASANTHA^{*}, Anbanandam PARTHIBAN (Agency for Science, Technology and Research (A*STAR), Singapore)

S7. Energy Conversion and Storage

Room: SAMDA B

Organizer: Taiho PARK (Pohang University of Science and Technology, Korea)
Soojin PARK (Ulsan National Institute of Science and Technology (UNIST), Korea)

Chair: Jin Young KIM (Ulsan National Institute of Science and Technology (UNIST), Korea)
Zhixiang WEI (National Center for Nanoscience and Technology, China)

IL7-1 (14:00–14:30)

Molecular Design of Photovoltaic Polymers for Efficient Organic Solar Cells

Jianhui HOU^{*}, Wenchao ZHAO, Shaoqing ZHANG, Hui Feng YAO (Institute of Chemistry, Chinese Academy of Sciences, China)

IL7-2 (14:30–15:00)

Charge Transport in Single Crystals of Conjugated Polymers

Huanli DONG^{1,*}, Wenping HU^{2,*} (¹Chinese Academy of Sciences, ²Tianjin University, China)

IL7-3 (15:00–15:20)

LbL Assembled Composite Films based on Nafion for Proton Exchange Membrane Applications

Chang Gi CHO^{*}, Alam HEO, Hyeon Seon RYU (Hanyang University, Korea)

IL7-4 (15:20–15:40)

Nanogenerators for Self-Powering Small Electronics

Sang-Woo KIM^{*} (Sungkyunkwan University (SKKU), Korea)

IL7-5 (15:40–16:00)

Development of New Organic Semiconducting Polymers Using Coupling Reaction

Yun-Hi KIM^{*} (Gyeongsang National University, Korea)

Chair: Sang-Woo KIM (Sungkyunkwan University (SKKU), Korea)

Jianhui HOU (Institute of Chemistry, Chinese Academy of Sciences, China)

IL7-6 (16:20–16:50)

Polymeric Photocells Using Unmodified Fullerene Prepared with Halogen-free Solvent

Kazuya TADA^{*} (University of Hyogo, Japan)

IL7-7 (16:50–17:20)

Ternary Blends for Large Area Flexible Organic Solar Cells

Zhixiang WEI^{*} (National center for nanoscience and technology, China)

IL7-8 (17:20–17:40)

Structure and Properties of Polymer Electrolyte Membranes based on

Poly (arylene ether ketone) for Fuel Cell Application

Dukjoon KIM^{*} (Sungkyunkwan University (SKKU), Korea)

IL7-9

(17:40–18:00)

Investigation of Charge Carrier Behavior in High Performance Ternary Blend Polymer Solar Cells

Tack Ho LEE¹, Mohammad Alsar UDDIN^{2,3}, Chengmei ZHONG^{4,5}, Seo-Jin KO^{1,5}, Bright WALKER¹, Taehyo KIM¹, Yung Jin YOON¹, Song Yi PARK¹, Alan J. HEEGER^{5,*}, Han Young WOO^{2,*}, Jin Young KIM^{1,*} (¹Ulsan National Institute of Science and Technology (UNIST), Korea, ²Korea University, Korea, ³Pusan National University, Korea, ⁴South China University of Technology, China, ⁵University of California Santa Barbara, USA)

S8. Polymers for Electronics and Photonics

Room: HALLA A

Organizer: Soo Hyoun LEE (Chonbuk National University, Korea)

Han Young WOO (Korea University, Korea)

Chair: Jinsang KIM (University of Michigan, USA)

Rigoberto ADVINCULA (Case Western Reserve University, USA)

IL8-1

(14:00–14:30)

Molecular Design, Characterization, and Implementation of Organic Semiconductor Oligothiophenes

Alejandro L. BRISEÑO^{*} (University of Massachusetts, USA)

IL8-2

(14:30–14:50)

Semi-crystalline Conjugated Polymers for Fullerene and Nonfullerene OPVs

Han Young WOO^{*}, Mohammad Alsar UDDIN, Thanh Luan NGUYEN, Yuxiang LI (Korea University, Korea)

IL8-3

(14:50–15:10)

Development of Flexible Polymer Complementary Integrated Circuits

Yong-Young NOH^{*} (Dongguk University, Korea)

IL8-5

(15:10–15:30)

Highly Efficient Organic Hole Transporting Materials for Perovskite and Organic Solar Cells with Long-Term Stability

Sung-Ho JIN^{*} (Pusan National University, Korea)

Chair: Yong-Young NOH (Dongguk University, Korea)

Alejandro L. BRISEÑO (University of Massachusetts, USA)

IL8-6

(16:20–16:50)

Lytotropic Liquid Crystalline Conjugated Polymers with Directed Self-assembly and Alignment Capability for Plastic Electronics

Jinsang KIM^{1,*}, Bong-Gi KIM¹, Kyeongwoon CHUNG¹, Da Seul YANG¹, Eun Jeong JEONG¹, Sungbaek SEO¹, Jong Won CHUNG², Bonwon KOO² (¹University of Michigan, USA, ²Samsung Advanced Institute of Technology, Korea)

IL8-7

(16:50–17:20)

Dendritic Pi-Conjugated Polymer Materials and Solid State Devices

Rigoberto C. ADVINCULA^{*} (Case Western Reserve University, USA)

IL8-8

(17:20–17:50)

A Robust Strategy for Multifunctional Organic-Inorganic Nanocomposites for Energy Conversion and Storage

Zhiqun LIN^{*} (Georgia Institute of Technology, USA)

IL8-9

(17:50–18:10)

Synaptic Transistor Fabricated from Core-sheath Polymeric Nanowires

Tae-Woo LEE^{*} (Pohang University of Science and Technology, (POSTECH), Korea)

S8. Polymers for Electronics and Photonics

Room: 401

Chair: Eunyoung KIM (Yonsei University, Korea)

Kenichi OYAZU (Waseda University, Japan)

IL8-10

(14:00–14:20)

Interface Engineering for Optimizing Organic Semiconductor Devices

Changhee LEE^{1,*}, Jeongkyun ROH¹, Chan-mo KANG² (¹Seoul National University, ²Electronics and Telecommunications Research Institute, Korea)

IL8-11

(14:20–14:40)

Importance of Intermolecular Interaction to Boost Charge Transportation in Conducting Polymers and Application to Energy Devices

Taiho PARK^{*} (Pohang University of Science and Technology (POSTECH), Korea)

- II.8-12** (14:40–15:00)
All-Polymer Phototransistors Based on Polymer/Polymer Bulk Heterojunctions
Youngkyoo KIM^{1,}, Hyemi HAN¹, Sungho NAM^{1,2}, Hwajeong KIM¹, Donal D. C. BRADLEY²* (¹Kyungpook National University, Korea, ²University of Oxford, United Kingdom)
- II.8-13** (15:00–15:30)
Recent Advances in Non-Fullerene Polymer Solar Cells
Samson A. JENEKHE^{}* (University of Washington, USA)
- II.8-14** (15:30–16:00)
Solution-Processable Molecular Donors & Nonfullerene Acceptors for High-Efficiency Bulk-Heterojunction Solar Cells
Pierre M. BEAUJUGE^{}* (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
Chair: Youngkyoo KIM (Kyungpook National University, Korea)
Pierre M. BEAUJUGE (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
- II.8-15** (16:20–16:40)
Photothermal Effect in Conductive Polymer Layers for Energy Conversion
Eunkyoung KIM^{}, Hanwhuy LIM, Jongbeom NA, Byeongwan KIM, Haijin SHIN, Younghoon KIM* (Yonsei University, Korea)
- II.8-16** (16:40–17:00)
Bilayer Organic Photovoltaics Prepared by Sequential Solution Deposition
Kyungkon KIM^{}* (Ewha Womans University, Korea)
- II.8-17** (17:00–17:30)
Operational Stability of Organic Semiconductors for Photovoltaic Application
Ji-Seon KIM^{}* (Imperial College London, United Kingdom)
- II.8-18** (17:30–18:00)
Polymers for Electrochemical Energy-Storage and Signal-Amplification Devices
Kenichi OYAIZU^{}* (Waseda University, Japan)

S9, Bio-related Polymers

Room: TAMNA A

- Organizer: Byeongmoon JEONG (Ewha Womans University, Korea)
Giyoung TAE (Gwangju Institute of Science and Technology (GIST), Korea)
Chair: Insup NOH (Seoul National University of Science and Technology, Korea)
Giyoung TAE (Gwangju Institute of Science and Technology (GIST), Korea)
- II.9-1** (14:00–14:20)
Design of Polymeric Gene Carriers for Highly Efficient Gene Expression through Regulation of Cellular Uptake
C. S. CHO^{1,}, M. ISLAM², T. E. PARK³, S. K. KANG¹, Y. J. CHOI¹* (¹Seoul National University, Korea, ²Brigham and Women's Hospital & Harvard Medical School, ³Harvard Medical School, USA)
- II.9-2** (14:20–14:50)
Responsive Polymeric Carriers for Biologic Drug Delivery
Patrick S. STAYTON^{}* (University of Washington, USA)
- II.9-3** (14:50–15:10)
Nanoparticles for Targeted Cancer Therapy
Soon Hong YUK^{}* (Korea University, Korea)
- II.9-4** (15:10–15:40)
Bubble-Generating Carrier Systems for Localized Controlled Release
Hsing-Wen SUNG^{1,}, Chieh-Cheng HUANG¹, Ming-Fan CHUNG¹, Ko-Jie CHEN¹, Wei-Tso CHIA², Kun-Ju LIN^{3,4}* (¹National Tsing Hua University, ²National Taiwan University Hospital Hsinchu Branch, ³Chang Gung Memorial Hospital, ⁴Chang Gung University, Taiwan)
- II.9-5** (15:40–16:00)
Metal Carbonate-Mineralized Nanoparticles for Multimodal Imaging of Cancers
Sang Cheon LEE^{}* (Kyung Hee University, Korea)
Chair: Hyuk Sang YOO (Kangwon National University, Korea)
Yeu-Chun KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- II.9-6** (16:20–16:50)
3D Polymeric Neural Electrodes for Brain Recording
John S. FORSYTHE^{1,}, Jason Marroquin REYES^{1,2}, Bjorn WINTHER-JENSEN², Harold A. COLEMAN¹, Helena C. PARKINGTON¹* (¹Monash University, Australia, ²Waseda University, Japan)

- II.9-7** (16:50–17:10)
Antibacterial Polymer Films Obtained by Thiol-Ene Photocuring of Antimicrobial Imidazolium Salts
Kwang-Duk AHN^{}* (Korea Institute of Science and Technology, Korea)
- II.9-8** (17:10–17:40)
The Role of Polymer Physics and Polymer Processing in a Category III Anti-Adhesion Surgical Membrane
Charles C. HAN^{}, Shanshan XU* (Shenzhen University, China)
- II.9-9** (17:40–18:00)
Development of Reinforced Polylactide Composite Resin for Micro Surgery Bone Plate
Dong June CHUNG^{1,}, Jun Woo CHUN¹, In Kyu JANG², Jin Woo BAE², Seung Woo SEO², In Kwon JUNG², Sung Min JUNG²* (¹Sungkyunkwan University, ²Genos Co., Ltd., Korea)

S10, Advanced Industrial Technology

Room: 302

- Organizer: Jeong-Ik LEE (Electronics and Telecommunications Research Institute (ETRI), Korea)
Dong Woo LEE (Lotte Chemical, Korea)
Chair: Kyu-Soon SHIN (Dongjin Semichem, Korea)
Inwook KIM (Doosan Corporation Electro-Materials BG, Korea)
- II.10-1** (14:00–14:30)
Organic and Printed Electronics: Materials, Technologies, Opportunities and Challenges
Stephan KIRCHMEYER^{}* (Pioneering Work, Germany)
- II.10-2** (14:30–14:50)
Displaying Futures
Seung-Eun LEE^{}* (Merck Performance Materials, Korea)
- II.10-3** (14:50–15:10)
Polymeric Films and Laminates in Electronic Packaging Industry
In-Sung SOHN¹, Duck-Ha PARK, Jung-Min KWON (Innox Corp., Korea)
- II.10-4** (15:10–15:30)
Computational and Experimental Approaches for Understanding Solubility and Ion Exchange of Organic Ionic Compounds in Chemically Amplified Resist (CAR) System
Eui-Hyun RYU^{1,}, Myung-Yeol KIM¹, Yoo Jung YOON¹, Min-Kyung JANG¹, Hankyul LEE², Hyungjun KIM²* (¹DOW Electronic Materials, ²Korea Advanced Institute of Science and Technology (KAIST), Korea)
- II.10-5** (15:30–16:00)
Thermal Degradation Chemistry of Ruthenium Complexes in the Dye-sensitized Solar Cell and Strategies for Reducing the Dark Current
Torben LUND^{1,}, Phuong Tuyet NGUYEN^{1,2}* (¹Roskilde University, Denmark, ²Vietnam National University, Vietnam)
Chair: Stephan KIRCHMEYER (Pioneering Work, Germany)
In-Sung SOHN (Innox Corp., Korea)
- II.10-6** (16:20–16:40)
Introduction of Global Company SOLVAY
Soon Ho CHANG^{}* (Solvay Korea)
- II.10-7** (16:40–17:00)
Low Loss Material Technology for High Speed & Frequency Application in IoT Era
Inwook KIM^{}, Kyeongwoon CHO, Beomjae HAN, Euita CHOI, Jihye PARK* (Doosan Corporation Electro-Materials BG, Korea)
- II.10-8** (17:00–17:20)
Photoaligning Polymer and Its Applications
Sung-Ho CHUN^{}* (LG Chem Research Park, Korea)
- II.10-9** (17:20–17:40)
Commercialization Issues of Renewable Energy in the Field of Research and Development (from Benchtop to Pilot Production Line)
Kyusoon SHIN^{}* (Dongjin Semichem, Korea)
- II.10-10** (17:40–18:00)
Polymer Registration System in Main Countries and Understanding of the Registration System in K-REACH
Seok-Jong JEON^{1,}, Hee-June SHIN¹, Byung Wook JO²* (¹Nam & Nam International Co., Ltd., ²Chosun University, Korea)
- OR10-1** (18:00–18:15)
Effect of Molecular Design and Catalyst on Elongation Property of

Polypropylene

Jung-Guk HA^{}, Yong Sung CHUN, Chang-Hyun CHOI (Hanwha–Total Petrochemicals Co., Ltd., Korea)*

●● Oral Sessions – October 6, 2016 (Thursday) (tentative)

Plenary Lectures Room: TAMNA A

Chair: Jin Kon KIM (Pohang University of Science and Technology (POSTECH), Korea)

PL3 (10:30–11:10)

Smart Interfacial Materials from Super–Wettability to Binary Cooperative Complementary Systems

Lei JIANG^{1,2,} (1Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, 2Beihang University, China)*

Chair: Ji Young CHANG (Seoul National University, Korea)

PL4 (11:10–11:50)

Stimuli–Responsive Smart Soft Materials

Takuzo AIDA^{1,2,} (1The University of Tokyo, 2Riken Center for Emergent Matter Science, Japan)*

S1. Polymer Synthesis Room: 201

Chair: Sung Chul HONG (Sejong University, Korea)
Takeshi SHIONO (Hiroshima University, Japan)

IL1-10 (14:00–14:30)

Polymeric Nanoparticles of Controlled Morphology via Emulsion–based Synthetic Approaches

Per B. ZETTERLUND^{} (University of New South Wales (UNSW), Australia)*

IL1-11 (14:30–14:50)

Synthesis of Monolithic and Compressible Microporous Polymers

Jong Gil KIM, Jeongmin LEE, Ji Young CHANG^{} (Seoul National University, Korea)*

IL1-12 (14:50–15:20)

Controlled Coordination Polymerization by Using Reversible Chain Transfer Reaction

Xuequan ZHANG^{}, Yanming HU (Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China)*

IL1-13 (15:20–15:40)

Supramolecular Nanotubes and Nanoparticles with Multifunctional Stimuli–Responsive Surfaces

Jeonghun LEE, Chulhee KIM^{} (Inha University, Korea)*

IL1-14 (15:40–16:10)

More Than a Traditional RAFT: Direct Light Induced Controlled Polymerization using Trithiocarbonates

Greg G. QIAO^{} (The University of Melbourne, Australia)*

Chair: Jae–Suk LEE (Gwangju Institute of Science and Technology (GIST), Korea)

Per B. ZETTERLUND (University of New South Wales (UNSW), Australia)

IL1-15 (16:20–16:40)

Structural Evolution of Architecture Controlled Poly (acrylonitrile–co–itaconic acid) during Thermal Oxidative Stabilization for Carbon Materials

Sung Chul HONG^{} (Sejong University, Korea)*

IL1-16 (16:40–17:10)

Synthesis of Polyolefin In–Reactor Alloys by Periodic Switching Polymerization Process

Zhiqiang FAN^{}, Biao ZHANG, Zhisheng FU, Junting XU (Zhejiang University, China)*

IL1-17 (17:10–17:30)

Synthesis and Applications of Ionic Conjugated Polymers via the Catalyst–Free Polymerization of Ethynylpyridines

Yeong–Soon GAL^{} (Kyungil University, Korea)*

IL1-18 (17:30–18:00)

Synthesis and Properties of Well–Defined Norbornene–1–Alkene Copolymers Using Titanium–Based Single–Site Catalysts

Takeshi SHIONO^{} (Hiroshima University, Japan)*

IL1-19 (18:00–18:20)

Cyclopolymerization using Grubbs Catalyst

Tae–Lim CHO^{} (Seoul National University, Korea)*

S1. Polymer Synthesis Room: 302

Chair: Kyung–Youl BAEK (Korea Institute of Science and Technology (KIST), Korea)
Zhiqiang FAN (Zhejiang University, China)

IL1-20 (14:00–14:20)

Synthesis and Analysis of Multi–Cyclic Polystyrenes

Hyun–jong PAIK^{} (Pusan National University, Korea)*

IL1-21 (14:20–14:40)

Shape Controllable Polyimide Microspheres by Surface Imidization Reaction

Yong Seok KIM^{1,}, Hyun Min JUNG² (1Korea Research Institute of Chemical Technology, 2Kumoh National Institute of Technology, Korea)*

ORI-1 (14:40–14:55)

Investigation and Polymerization Behavior of Structurally Different Benzoxazine Monomers

V. P. UBAL^{1,}, R. A. PATIL¹, A. A. GHANWAT², N. N. MALDAR² (1DBF Dayanand College of Arts and Science, 2Solapur University, India)*

ORI-2 (14:55–15:10)

Synthesis and Characterization of New Aromatic Transparent Poly (ester imide)s with Low Coefficients of Thermal Expansion Derived from Bis (4–amino–3,5–dimethylphenyl) Terephthalate

Ki–Ho NAM¹, Haksoo HAN², Bon–Cheol KU¹, Nam–Ho YOO^{1,} (1Korea Institute of Science and Technology (KIST), 2Yonsei University, Korea)*

ORI-3 (15:10–15:25)

Glycerol–Modified Poly (ε–caprolactone): An Approach to Modify the Properties of Poly (ε–caprolactone)

Soma CHAKRABORTY^{}, James Nicole PAGADUAN (Ateneo de Manila University, Philippines)*

ORI-4 (15:25–15:40)

Synthesis of Clickable Poly[2–(3–butenyl)–2–oxazoline]/Nylon–6,6 Fiber

Wu Bin YING, Sohee KIM, Min Woo LEE, Kyung Jin LEE^{}, Bum Jae LEE^{*} (Chungnam National University, Korea)*

ORI-5 (15:40–15:55)

Synthesis and Characterization of of Anion & Cation – Exchange Membranes via Pore – Filling Polymerization for Membrane – Capacitive Deionization

Oneeb ul HAQ, Youn–Sik LEE^{} (Chonbuk National University, Korea)*

Chair: Hyung–il LEE (University of Ulsan, Korea)

Greg QIAO (The University of Melbourne, Australia)

ORI-6 (16:20–16:35)

Surface Based Techniques for Analysis of Gradient Structured Nanoparticles

Victoria L. TEO^{1,}, Florent JASINSKI¹, Monique MBALLA MBALLA², Richard BRINKHUIS², Stuart C. THICKETT³, William WEAVER², Per B. ZETTERLUND¹ (1The University of New South Wales, Australia, 2Nuplex Innovation Centre, The Netherlands, 3University of Tasmania, Australia)*

ORI-7 (16:35–16:50)

Alginate Based Nanocapsules for Encapsulation

Jatin N. KUMAR^{} (Institute of Materials Research & Engineering (IMRE), Singapore)*

ORI-8 (16:50–17:05)

Chemical Modifications and Potential Applications of Liquid Natural Rubber

Siti Fairus M. YUSOFF^{}, Ibrahim ABDULLAH (Universiti Kebangsaan Malaysia, Malaysia)*

ORI-9 (17:05–17:20)

Synthesis and Characterization of Three Components Hybrid Nano Composite System for Improved Mechanical and Dielectric Properties

Syed Saïd Ali SHAH, Habib NASIR^{}, (National University of Sciences and Technology Islamabad, Pakistan)*

S2. Polymer Physics and Characterization Room: 202

Chair: Moon Jeong PARK (Pohang University of Science and Technology (POSTECH), Korea)
Yongfeng MEN (Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China)

IL2-15 (14:00–14:30)

Self–Assembled Block Copolymer Membranes

- IL2-16** (14:30–14:50)
Highly Asymmetric Lamellar Nanopatterns based on Block Copolymer Self-Assembly
Jin Kon KIM^{*} (Pohang University of Science and Technology, Korea)
- IL2-17** (14:50–15:10)
Solid-State Structure and Crystallization in Polydisperse Polyolefin Block Copolymers
Sheng LI^{1,*}, Richard A. REGISTER^{2,*}, Phillip D. HUSTAND³, Brian G. LANDES³, Jeffrey D. WEINHOLD³ (¹Korea Advanced Institute of Science and Technology (KAIST), Korea, ²Princeton University, USA, ³The Dow Chemical Company, USA)
- OR2-7** (15:10–15:25)
Log-rolling Block Copolymer Cylinders
So Youn KIM^{1,*}, Ye Chan KIM¹, Dong Hyup KIM¹, Se Hun JOO¹, Na Kyung KWON¹, Tae Joo SHIN¹, Richard A. REGISTER², Sang Kyu KWAK¹ (¹Ulsan National Institute of Science and Technology (UNIST), Korea, ²Princeton University, United States)
- OR2-8** (15:25–15:40)
Highly Ordered Self-Assembly of Triblock Copolymers in Aqueous Solution by Controlling the External Conditions
Tae-Hwan KIM^{*}, Eunhye KIM, Jong-Dae JANG, Ki-Jung PARK, Young-Soo HAN (Korea Atomic Energy Research Institute, Korea)
- OR2-9** (15:40–15:55)
Directed Self-Assembly of Block Copolymers on Uniaxially Aligned Polymer Nanostripes
Dong Hyun LEE^{*}, Dong-Eun LEE, Jin Woong KIM (Dankook University, Korea)
- OR2-10** (15:55–16:10)
Control over Microphase Separation, Crystallization and Molecular Orientation of AII-Conjugated Diblock Copolymers
Yanchun HAN^{*}, Hua YANG, Xinhong YU (Chinese Academy of Sciences, China)
- Chair: Dong Hyun LEE (Dankook University, Korea)
Sheng LI (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- IL2-18** (16:20–16:50)
Exciton Management in Polymer/non Fullerene Bulk Heterojunction Organic Photovoltaics
Kenan GÜNDÜĞÜ^{*} (North Carolina State University, USA)
- IL2-19** (16:50–17:10)
Enhancing Device Performance of Organic Photovoltaics with Various Approaches
O Ok PARK^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- IL2-20** (17:10–17:30)
Ion Transport in Nanostructured Phosphonated Polymers
Moon Jeong PARK^{*} (Pohang University of Science and Technology (POSTECH), Korea)
- IL2-21** (17:30–17:50)
Synthesis of Sulfur-Rich Polymer Nanoparticles from Aqueous Inorganic Polysulfides
Kookheon CHAR^{*} (Seoul National University, Korea)
- IL2-22** (17:50–18:10)
Thermally Induced Healing of Styrene-based Ionomers
Eun-Hee KIM, Kwang-Hwan KO, Joon-Seop KIM^{*} (Chosun University, Korea)

S3. Polymer Rheology and Processing

Room: 301

Chair: Hyun Wook JUNG (Korea University, Korea)
Jaewook NAM (Sungkyunkwan University, Korea)

- IL3-10** (14:00–14:20)
Polymer Powder Sintering by CO₂ laser for SLS 3-D
Jeongbin PARK, Jaek KIM, Beom soon CHOY, Dong Hyun LEE, Ho-Jong KANG^{*} (Dankook University, Korea)
- IL3-11** (14:20–14:40)
All Biomass Polymeric Composites: Recycled Lignin Compatibilization

in Poly (Lactic-acid)

- IL3-12** (14:40–15:00)
Novel Method of Measuring High Viscous Material using the Screw Rheometer
Myung-Ho KIM^{1,2,3,*}, Sengmin LEE⁴, Moonsung KIM³, Bo-kyung KIM³, Kun Sup HYUN⁵ (¹Hannam University, Korea, ²Center for nano-structured Polymer Processing Technology, Korea, ³MKE (Myung Kim Extrusion) Co., Korea, ⁴DongAh Tire & Rubber Co., LTD., Korea, ⁵Polymer Processing Institute/NUIT, USA)
- IL3-13** (15:00–15:20)
Uniform Shape and High Yield Preparation Method to Generate Spheroidal Polymer Particles via Film Extension and Squeezing Processes
Sang Jae AHN, Jae Phil SONG, Jun Young KIM, Seong Jae LEE^{*} (The University of Suwon, Korea)
- IL3-14** (15:20–15:40)
The Application of the Fuoss-Kirkwood Relations to the Rheological Characterization of Polymers
Kwang Soo CHO^{*} (Kyungpook National University, Korea)
- OR3-2** (15:40–15:55)
Enhanced Mechanical Strength and Blood-Compatibility of Poly (L-Lactic Acid) with Oriented Micro-Valley Structure Induced by Solid-State Drawing
Seung Hyuk IM^{1,2}, Youngmee JUNG^{2,3}, Soo Hyun KIM^{1,2,*} (¹Korea University, ²Korea Institute of Science and Technology (KIST), ³Korea University of Science and Technology, Korea)

S2. Polymer Physics and Characterization

Room: 301

Chair: Soo-Young PARK (Kyungpook National University, Korea)
Hiroyuki AOKI (Japan Atomic Energy Agency, Japan)

- IL2-23** (16:20–16:40)
Self-Propelling Organic Systems and their Potential Sensor Applications
Seung Hyun KIM^{*}, Jung Ki LEE (Inha University, Korea)
- OR2-11** (16:40–16:55)
Visualizing Polymer Spherulites in 3D
Zhenzhen WEI¹, Pantea KAZEMI¹, Hina SABA², Goran UNGAR^{1,2,*}, Ruibin ZHANG^{1,2} (¹University of Sheffield, U.K., ²Zhejiang Sci-Tech University, China)
- OR2-12** (16:55–17:10)
Structural Analyses of Low Density Polyethylene and Ethylene Vinyl Acetate Copolymers under Process Conditions
Hyo Soon CHO^{*}, Seung Ho PARK, Yeon Beom CHOI, Jaeyong HYUN, Chang-Hyun CHOI (Hanwha-Total R&D Center, Korea)
- OR2-13** (17:10–17:25)
Characterization of Branching in Poly (Acrylic Acid) by 13C NMR Spectroscopy and Capillary Electrophoresis
Jean-Baptiste LENA^{1,2,3}, Alexander K. GORONCY¹, Gregory T. RUSSELL^{1,*}, Allison R. MANIEGO^{2,3}, Joel J. THEVARAJAH^{2,3}, Patrice CASTIGNOLLES², Marianne GABORIEAU^{2,3} (¹University of Canterbury, New Zealand, ²Western Sydney University, Australia, ³Western Sydney University, Australia)
- OR2-14** (17:25–17:40)
Characteristics of E-beam Sterilized PP/EPDM blends for Medical Applications
Anand Bellam BALAJI¹, Mohammad KHALID^{1,*}, Chantara Thevy RATNAM¹ (¹University of Nottingham Malaysia Campus, ²Malaysian Nuclear Agency, Malaysia)
- OR2-15** (17:40–17:55)
Synthesis and Characterization of Three-Phase Polymer-Graphene Oxide-Ceramic Composites
Mohammad Saleem KHAN^{*}, Mohammad SOHAIL (University of Peshawar, Pakistan)

S4. Hybrid Materials and Composites

Room: 203

Organizer: Sang Soo LEE (Korea Institute of Science and Technology (KIST), Korea)
Unyong JEONG (Pohang University of Science and Technology (POSTECH), Korea)

Chair: Unhyong JEONG (Pohang University of Science and Technology (POSTECH), Korea)
Darren LIPOMI (Jacobs School of Engineering, University of California, San Diego, USA)

- IL4-8** (14:00–14:30)
Hydrogel Transformer for Controlled Molecular Transportation
*Hyunjoon KONG** (University of Illinois at Urbana–Champaign, USA)
- IL4-9** (14:30–15:00)
Flexible and Stretchable Nanocomposite Conductors for Interactive Devices
*Pooi See LEE** (Nanyang Technological University, Singapore)
- IL4-10** (15:00–15:30)
Electromagnetic Interaction of 3D Printed Conductive Composite Materials
*Woo Soo KIM** (Simon Fraser University, Canada)
- IL4-11** (15:30–15:50)
Biomimetic Hybrid Microstructures for Multifunctional Electronic Skins
*Hyunhyub KO** (Ulsan National Institute of Science and Technology (UNIST), Korea)
- IL4-12** (15:50–16:10)
Highly Stretchable, Transparent Ionic Touch Panel
*Jeong-Yun SUN** (Seoul National University, Korea)
Chair: Jeong-Yun SUN (Seoul National University, Korea)
Pooi See LEE (Nanyang Technological University, Singapore)
- IL4-13** (16:20–16:50)
Molecularly Stretchable Electronics for Energy and Healthcare
*Darren J. LIPOMI** (University of California, USA)
- IL4-14** (16:50–17:10)
Wearable Electronics Using 1D–2D Hybrid Nanostructures
*Jang-Ung PARK** (Ulsan National Institute of Science and Technology (UNIST), Korea)
- IL4-15** (17:10–17:30)
Advanced Research in the Fully Return-to-Nature Poly (lactide)
*Seong Hun KIM** (Hanyang University, Korea)
- OR4-5** (17:30–17:45)
Effect of Incorporation of ZnS Nanoparticles in MEH–PPV for MEH–PPV:ZnS Hybrid Photovoltaic Applications
*Varun Singh NIRWAL, Joginder SINGH, Swati SHARMA, P. K. BHATNAGAR, K. R. PETA** (University of Delhi South Campus, India)
- OR4-6** (17:45–18:00)
Improved Thermal Conductivity of Pressure Sensitive Adhesives using Surface-modified Graphene Oxide and Particulate Filler
*Minh Canh VU, Gyu-Dae PARK, Sung-Ryong KIM** (Korea National University of Transportation, Korea)

S5. Smart Functional Polymers

Room: SAMDA A

Chair: Byeong-Hyeok SOHN (Seoul National University, Korea)
Padma GOPALAN (University of Wisconsin, USA)

- IL5-10** (14:00–14:20)
Polymeric Inverse Opals for Colorimetric Thermo-Recorders
*Joon Seok LEE, Seung Yeol LEE, Shin-Hyun KIM** (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- IL5-11** (14:20–14:50)
Periodic Polymers: For Photonics, Phononics and Mechanics
*Edwin L. THOMAS** (Rice University, USA)
- IL5-12** (14:50–15:10)
Opal Templating for Fabrication of Stimuli-responsive Color Tunable Photonic Gels
*Wonmok LEE** (Sejong University, Korea)
- IL5-13** (15:10–15:40)
Stimuli-Responsive Polymer-Based Sensors, Muscles, and Drug Delivery Platforms
*Michael J. SERPE** (University of Alberta, Canada)
- IL5-14** (15:40–16:00)
Controlled Solvent Vapor Annealing for Long-range Perpendicular Lamellae in High-molecular-weight Block Copolymer Films
Du Yeol RYU, Kyunginn KIM, Sungmin PARK, Yeongsik KIM* (Yonsei University, Korea)
Chair: Teruaki HAYAKAWA (Tokyo Institute of Technology, Japan)

Shin-Hyun KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)

- IL5-15** (16:20–16:50)
Isomeric Effect Enabled Thermally Driven Self-Assembly of Hydroxystyrene-Based Block Copolymers
Catherine KANIMOZHI, Myungwoong KIM*, Steven R. LARSON*, Jonathan W. CHOI*, Daniel P. SWEAT*, Padma GOPALAN** (¹University of Wisconsin, USA, ²Inha University, Korea)
- IL5-16** (16:50–17:10)
Supracolloidal Chains of Diblock Copolymer Micelles Functionalized with Fluorophores and Nanoparticles
*Kyungtae KIM, Sukwoo JANG, Jonghyuk JEON, Heejung KANG, Donghui KANG, Byeong-Hyeok SOHN** (Seoul National University, Korea)
- IL5-17** (17:10–17:40)
An Alcohol Polymer for Safe and Clean Hydrogen-Storage and -Release
*Hirovuki NISHIDE** (Waseda University, Japan)
- IL5-18** (17:40–18:00)
Responsive Functional Polymers as Useful Platforms for Plasmonic-coupling-based Advanced Properties
Dong Ha KIM, Ji-Eun LEE, Minji YOON* (Ewha Womans University, Korea)

S5. Smart Functional Polymers

Room: 303

Chair: Jongok WON (Sejong University, Korea)

- Chong Min KOO (Korea Institute of Science and Technology, Korea)
- OR5-1** (14:00–14:15)
Soft Colloids as Building Blocks for Polymer Architectures and Stimuli-responsive Plasmonic Colloids
*Ji Eun SONG, Eun Chul CHO** (Hanyang University, Korea)
- OR5-2** (14:15–14:30)
Mechanical Properties and Morphology of Fungi – Resistant Rubber Wood Polymer Composites
Azizah BAHARUM, Nurul Izzaty KHALID, Nurul Izzah ABU BAKAR* (Universiti Kebangsaan Malaysia, Malaysia)
- OR5-3** (14:30–14:45)
Mechanochromic Behavior of Maltiarlymethane-based Dynamic Covalent Polymers
*Raita GOSEKI, Toshikazu SUMI, Hideyuki OTSUKA** (Tokyo Institute of Technology, Japan)
- OR5-4** (14:45–15:00)
Temperature Responsive Physical and Delayed Chemical Dual Crosslinkable Hydrogel for Injectable Stem Cell Scaffold to Induce Tissue Regeneration
Young-Min KIM, Thirumoorthy POTTA*, Keun-Hong PARK*, Soo-Chang SONG** (¹Korea Institute of Science and Technology, Korea, ²Arizona State University, USA, ³CHA University, Korea)
- OR5-5** (15:00–15:15)
Electrostatic Swelling Transitions in Surface-bound Microgels
Lina NYSTRÖM, Rubén ÁLVAREZ-ASENCIO*, Göran FRENNING*, Brian R. SAUNDERS*, Mark W. RUTLAND*, Martin MALMSTEN** (¹Uppsala University, Sweden, ²KTH Royal Institute of Technology, Sweden, ³IMDEA Nanoscience, Spain, ⁴The University of Manchester, United Kingdom, ⁵SP Technical Research Institute of Sweden)
- OR5-6** (15:15–15:30)
Photoinduced Topographical Feature Development in Blueprinted Azobenzene-Functionalized Liquid Crystalline Elastomers
*Suk-kyun AHN** (Pusan National University, Korea)
- OR5-7** (15:30–15:45)
Preparation and Aggregation of Mussel-inspired Gel Particles
*Shinji ABE, Shingo TAMESUE, Norio TSUBOKAWA, Takeshi YAMAUCHI** (Niigata University, Japan)
- OR5-8** (15:45–16:00)
Formation of Hyperbranched Amphiphilic Terpolymers and Unimolecular Micelles in One-pot Copolymerization
Xu WANG, Lianwei LI*, Weidong HE*, Chi WU** (¹University of Science and Technology of China, China, ²The Chinese University of Hong Kong, Shatin N. T., Hong Kong)
Chair: Eun Chul CHO (Hanyang University, Korea)
Raita GOSEKI (Tokyo Institute of Technology, Japan)

- OR5-9** (16:20–16:35)
Influence of Different Polymeric Architectures on the Efficiency of the Triplet-triplet Annihilation
Manuel HOLLAUF¹, David BEICHEL¹, Martin TSCHERNER², Stefan KÖSTLER², Paul HARTMANN², Astrid C. KNALL¹, Gregor TRIMMEL^{1,*}
(¹Graz University of Technology, ²Materials – Institute for Surface Technologies and Photonics, Austria)
- OR5-10** (16:35–16:50)
Hydrophobic Photocatalytic Metal–Oxide Surfaces
Sanghyuk WOOH^{*}, Noemi Encinas GARCÍA, Doris VOLLMER, Hans-Jürgen BUTT (Max Planck Institute for Polymer Research, Germany)
- IL5-19** (16:50–17:10)
Novel Composite Membrane with Semi-IPN Coating Layer for Non-aqueous Redox-flow Battery
Jongok WON^{*}, Eun Hae CHO (Sejong University, Korea)
- OR5-11** (17:10–17:25)
Self-initiated Surface Graft Polymerization of 2-(methacryloyloxy) Ethyltrimethylammonium Chloride on Poly (ether ether ketone) for Aqueous Lubrication
Patcharada COUWATAI, Tomoyasu HIRAI, Yuji HIGAKI, Atsushi TAKAHARA^{*} (Kyushu University, Japan)
- OR5-12** (17:25–17:40)
Thermosensitive/Superparamagnetic Iron Oxide Nanoparticle-loaded Nanocapsule Hydrogels for Multiple Cancer Hyperthermia
Zhi-Qiang ZHANG^{1,2}, Soo-Chang SONG^{1,2,*} (¹Korea Institute of Science and Technology, ²University of Science and Technology (UST), Korea)
- IL5-20** (17:40–18:00)
EMI Shielding of Polymer Composites with 2D Nanomaterials including Sulfur-Doped Graphenes and Transition Metal Carbides (MXene)
Chong Min KOO^{*} (Korea Institute of Science and Technology, Korea)
- S6. Polymer Nanomaterials and Nanotechnology Room: HALLA B**
Chair: Pil Jin YOO (Sungkyunkwan University (SKKU), Korea)
Xiao 'Matthew' HU (Nanyang Technological University, Singapore)
- IL6-15** (14:00–14:30)
Programmed Self-Assembly of DNA-Coated Colloids: Reconfigurable Chains and Sheets and New Photonic Crystals
David J. PINE^{1,2,*}, Joon-Suk OH¹, Étienne DUCROT¹, Gi-Ra Yi² (¹New York University, USA, ²Sungkyunkwan University, Korea)
- IL6-16** (14:30–15:00)
Modulating Biological Responses through Engineered Polymer Particles
Frank CARUSO^{*} (The University of Melbourne, Australia)
- IL6-17** (15:00–15:30)
Nanostructured Liquid-Crystalline Assemblies Designed for Energy and Environmental Applications
Takashi KATO^{*} (The University of Tokyo, Japan)
- IL6-18** (15:30–15:50)
Microfluidic Design and Synthesis of Shape-Variant Functional Droplets and Bubbles
Pil Jin YOO^{*} (Sungkyunkwan University (SKKU), Korea)
- IL6-19** (15:50–16:10)
Functional Nanomaterials through Self-Assembly of Amphiphilic Block Copolymers
So-Jung PARK^{*}, Chan-Jin KIM, Sae-Jin OH, Seulki KANG (Ewha Womans University, Korea)
Chair: David PINE (New York University, USA)
So-Jung PARK (Ewha Womans University, Korea)
- IL6-20** (16:20–16:50)
Structural, Mechanical and Functional Properties of Polymer Nanocomposites Containing Carbonaceous Nanofillers
Liying ZHANG, Sunanda ROY, Xiao 'Matthew' HU^{*} (Nanyang Technological University, Singapore)
- IL6-21** (16:50–17:10)
Supramolecular Polydiacetylene-Based Sensors
Jong-Man KIM^{*} (Hanyang University, Korea)
- IL6-22** (17:10–17:30)
Fabrication of Spatially Aligned Silicon Nanotubes and Palladium

Nanogaps and their Applications

Hee Soo JEONG, Yu Sin PAK, Gun Young JUNG^{*} (Gwangju Institute of Science and Technology (GIST), Korea)

OR6-7 (17:30–17:45)
Probing the Internal Structure and Morphology of Fiber-like Polythiophene-based Block Copolymer Micelles
Dominic W HAYWARD, Robert R RICHARDSON, Ian MANNERS^{*} (University of Bristol, UK)

OR6-8 (17:45–18:00)
Self-Emulsion Polymerization (SEP): Mechanism, Synthesis & Applications
Santosh KUMAR, Jae-Suk LEE^{*} (Gwangju Institute of Science and Technology (GIST), Korea)

OR6-9 (18:00–18:15)
Recent Advances in the Synthesis and Application of Conducting Polymer Solutions
Sunghun CHO^{*} (Yeungnam University, Korea)

S7. Energy Conversion and Storage Room: SAMDA B
Chair: Soojin PARK (Ulsan National Institute of Science and Technology (UNIST), Korea)
Wenping HU (Tianjin University, China)

IL7-10 (14:00–14:30)
Controlling the Configuration of Nanofillers in Polymer for Energy Storage Application
Yong Lak JOO^{*} (Cornell University, USA)

IL7-11 (14:30–14:50)
Beyond Polyolefin Battery Separator Membranes
Sang-Young LEE^{*} (Ulsan National Institute of Science and Technology (UNIST), Korea)

IL7-12 (14:50–15:10)
Highly Efficient, Stable and Printable Polymer Solar Cell Modules
Kwanghee LEE^{*} (Gwangju Institute of Science and Technology, Korea)

IL7-13 (15:10–15:30)
3,7-Dithiophen-2-yl-1,5-dialkyl-1,5-naphthyridine-2,6-dione (NTDT): Novel Electron-Accepting Building Block for High Performance Conjugated Polymers
Won Sik YOON, Dong Won KIM, Soo Young PARK^{*} (Seoul National University, Korea)

OR7-1 (15:30–15:45)
Polyimide-based Porous Polymer Networks (PPNs) as Cathode-Active Materials in Lithium-Ion Batteries for Improved Rate Performance and Cyclability
Ji Eun KWON^{*}, Soo Young PARK^{*} (Seoul National University, Korea)

OR7-2 (15:45–16:00)
Sulfonated Poly (arylene ether ketone) based on Proton Exchange Membranes for Vanadium Redox Flow Battery Applications
Yeonho AHN, Sunhee YANG, Dukjoon KIM^{*} (Sungkyunkwan University, Korea)

Chair: Kwanghee LEE (Gwangju Institute of Science and Technology, Korea)
Yong Lak JOO (Cornell University, USA)

IL7-14 (16:20–16:40)
Nanocomposite Membranes to Make Breakthrough in Performance of PEMFC
Hee-Woo RHEE^{*} (Sogang University, Korea)

OR7-3 (16:40–16:55)
Functionalized Nanocellulose-Integrated Heterolayered Nanomembranes: From Renewable Resources to Sustainable Energy Storages
Jung-Hwan KIM, Sang-Young LEE^{*} (Ulsan National Institute of Science and Technology (UNIST), Korea)

OR7-4 (16:55–17:10)
Origin of High Open-Circuit Voltage in Solid State Dye Solar Cells with Polymer Electrolyte
Tea-Yon KIM^{1,2}, Donghoon SONG¹, Young Rae KIM¹, Eva M. BAREA², Juan BISQUERT², Yong Soo KANG¹ (¹Hanyang University, Korea, ²Universitat Jaume I, Spain)

OR7-5 (17:10–17:25)
Recent Trend of Quantum Dot Solar Cell and Combination of Perovskite
Gi-Hwan KIM^{1,2}, Edward, H. SARGENT², Jin Young KIM¹ (¹Ulsan National

Institute of Science and Technology (UNIST), Korea, ²University of Toronto, Canada)

OR7-6 (17:25–17:40)

Synthesis of Interconnected Platinum Nanoparticles on Ionic polymer-doped Graphene Porous Electrocatalysts for Oxygen Reduction Reaction

Kie Yong CHO^{1,2}, Yong Sik YEOM¹, Heun Young SEO¹, Kyung-Youl BAEK², Ho Gyu YOON^{1,} (¹Korea University, ²Korea Institute of Science and Technology, Korea)*

SP (17:40–17:55)

Publishing in Wiley Materials Science Journals
Duoduo LIANG (Wiley, China)

S8, Polymers for Electronics and Photonics Room: HALLA A

Chair: Dong June AHN (Korea University, Korea)

Xiaoniu YANG (Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China)

IL8-19 (14:00–14:30)

Electroactive Polymers for Energy, Electronic and Photonic Applications
Young-Gi KIM (Delaware State University, USA)

IL8-20 (14:30–14:50)

PAN-based Block Copolymers for Next Generation Energy Conversion and Storage

Hwan Kyu KIM^{1,}, Boo Jae JANG¹, Chang Ki KIM¹, Krzysztof MATYJASZEWSKI² (¹Korea University, Korea, ²Mellon University, USA)*

IL8-21 (14:50–15:10)

Bulk Heterojunction Films Formed on a Water Substrate for Highly Efficient Organic Solar Cells

Jung-Yong LEE¹ (Korea Advanced Institute of Science and Technology (KAIST), Korea)

IL8-22 (15:10–15:30)

Development of New Materials and Device Engineering for High Performance Organic Field-Effect Transistors

Dong-Yu KIM¹ (Gwangju Institute of Science and Technology (GIST), Korea)

OR8-1 (15:30–15:45)

Photonic Crystal Hydrogel Beads with Inverse-opal Structure and Multi-responsiveness

Chengnian LI, Hong WANG, Qin WANG, Jintao ZHU¹, Yajiang YANG² (Huazhong University of Science and Technology, China)

OR8-2 (15:45–16:00)

Star-Shaped Polymers with a Functional Core for Nonvolatile Organic Memory Device Applications

Junko AIMI^{1,}, Po-Hung WANG², Chih-Feng HUANG², Chien-Chung SHIH², Wen-Chang CHEN³ (¹National Institute for Materials Science, Japan, ²National Chung Hsing University, Taiwan, ³National Taiwan University, Taiwan)*

Chair: Dong-Yu KIM (Gwangju Institute of Science and Technology (GIST), Korea)
Bai YANG (Jilin University, China)

IL8-23 (16:20–16:40)

DNA-Doped π -Organic Semiconductors in Light-Emitting Diodes
Dong June AHN¹ (Korea University, Korea)

IL8-24 (16:40–17:10)

Large-Area Polymer Solar Cells with High thermal stability and Performance

Xiaoniu YANG^{1,}, Xiaoli ZHAO¹, Zidong LI^{1,2}, Dalei YANG^{1,2}, Tong ZHANG^{1,2}, Feng YE¹ (¹Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China, ²University of Chinese Academy of Sciences, China)*

IL8-25 (17:10–17:40)

The Preparation, Fluorescence Mechanism and Applications of High Efficiency Polymer Carbon Dots

Bai YANG¹, Shoujun ZHU¹, Siyu LU¹, Yubin SONG¹, Xiaohuan ZHAO¹ (Jilin University, China)

OR8-3 (17:40–17:55)

Toward High-performance Graphene-based Flexible Organic Solar Cells via Interface Engineering

Seungho JUNG, Junghyun LEE, Yunseong CHOI, Hyesung PARK¹ (Ulsan National Institute of Science and Technology (UNIST), Korea)

OR8-4 (17:55–18:10)

High Capacitance Self-healing Polymer Dielectric for Self-healable Thin Film Transistors

Young-Jae KIM¹, Jieun KO¹, Youn Sang KIM^{1,2,} (¹Seoul National University, ²Advanced Institutes of Convergence Technology, Korea)*

S9, Bio-related Polymers Room: TAMNA A

Chair: Byeongmoon JEONG (Ewha Womans University, Korea)
Jonghwi LEE (Chung-Ang University, Korea)

IL9-10 (14:00–14:20)

pH-Triggered Targeting Polymeric Nanocarriers: Theranostic Applications
Doo Sung LEE¹ (Sungkyunkwan University, Korea)

IL9-11 (14:20–14:50)

Polymer Materials to Enhance DNA and Peptide Functions
Atsushi MARUYAMA¹ (Tokyo Institute of Technology, Japan)

IL9-12 (14:50–15:10)

In-vitro Detection of Cancer Cells Using Ligand-Anchored Liquid Crystal Microdroplets

Inn-Kyu KANG¹, Yuri CHOI¹, Kyubae LEE¹, Wang DING¹, Soo-Young PARK¹ (Kyungpook National University, Korea)

IL9-13 (15:10–15:40)

Rapid Non-Crosslinking Aggregation of DNA-Functionalized Gold Nanoparticles for Colorimetric Single-Nucleotide Discrimination

Mizuo MAEDA¹ (RIKEN, Japan)

IL9-14 (15:40–16:00)

Dual Ligand-conjugated Nanogel for Targeted Delivery of Proteins
Giyoonng TAE¹, Jong Hyun LEE¹, Ja-Young KIM¹, Won Il CHOI¹, Abhishek SAHU¹, Manse KIM¹ (Gwangju Institute of Science and Technology (GIST), Korea)

Chair: Yoonkyung KIM (Korea Research Institute of Bioscience and Biotechnology, Korea)
Dong Yun LEE (Hanyang University, Korea)

IL9-15 (16:20–16:50)

Polysulfonamide: From Antibiotic Sulfa Drug to Ultra pH-Responsive Biomedical Polymers

You Han BAE^{1,2,} (¹University of Utah, USA, ²Utah-Inha DDS and Advanced Therapeutics Research Center, Korea)*

IL9-16 (16:50–17:10)

Nanofibrous Electrospun Heart Decellularized Extracellular Matrix-based Hybrid Scaffold as Scarless Wound Dressing

Soo Hyun KIM^{1,2,}, Tae hee KIM^{1,2}, Yongmee JUNG^{2,3} (¹Korea Institute of Science and Technology, ²KU-KIST Graduate School of Converging Science and Technology, Korea University, ³Korea University of Science and Technology, Korea)*

IL9-17 (17:10–17:40)

Light Responsive Hydrogels in Biomedical Applications

Vinh X. TRUONG¹, Kelly TSANG¹, Yue SHI¹, John S. FORSYTHE¹ (Monash University, Australia)

IL9-18 (17:40–18:00)

In Situ Hybrid Biomaterial for 3D Bioprinting and Its Evaluation for Bone and Cartilage Regeneration

Insup NOH^{1,}, Sumi BANG¹, Kyu-Eon KIM¹, Jae-Hoo LEE¹, Chi-Bum LEE¹, Sung Soo KIM² (¹Seoul National University of Science and Technology, ²Korea Research Institute of Chemical Technology, Korea)*

IL9-19 (18:00–18:20)

Preparation of Porous Polymers by Crystallization of Solvents

Jonghwi LEE¹ (Chung-Ang University, Korea)

S9, Bio-related Polymers Room: 401

Chair: Nathaniel S HWANG (Seoul National University, Korea)
Se Heang OH (Dankook University, Korea)

OR9-1 (14:00–14:15)

Site-Specific PEGylation vs. Site-Specific Albumination for the Prolonged Serum Half-life of a Therapeutic Protein In Vivo

Inchan KWON^{1,}, Byeongsup YANG¹ (Gwangju Institute of Science and Technology (GIST), Korea)*

OR9-2 (14:15–14:30)

X-ray Visible and Drug-eluting Microspheres Based on Inherently

- OR9-3** (14:30–14:45)
Radiopaque Polyurethane for Chemoembolization Therapy
L. SANG, ZY WEI[†], M. QI (Dalian University of Technology, China)
- OR9-4** (14:45–15:00)
Lactoferrin Protein-conjugated Macromolecules for Targeting Glioblastoma via Oral Delivery
Dong Yun LEE[†] (Hanyang University, Korea)
- OR9-5** (15:00–15:15)
Interaction between Poloxamer Micelles and Quorum Sensing Signals for Controlling Gene Expression in Bacteria
Chigusa OKANO[†], Eri NASUNO, Tomohiro MOROHOSHI, Ken-ichi IIMURA, Norihiro KATO (Utsunomiya University, Japan)
- OR9-6** (15:15–15:30)
Collective Impact of Inner Functional Groups, PEG Density, and Avidity on Tumor Targeting of 10–nm-sized Dendritic Carriers Based on Multivalent or EPR Effect
Yoonkyung KIM^{1,*}, Ju Young HEO¹, Se Hun KANG², Young-Hwa KIM², June-Key CHUNG³, Seok-ki KIM² (¹Korea Research Institute of Bioscience and Biotechnology, ²National Cancer Center, ³Seoul National University College of Medicine, Korea)
- OR9-7** (15:30–15:45)
Sequential Drug Release from Hollow Mesoporous Silica Nanoparticle with Non-covalent Polymer Gatekeepers
Ja-Hyoung RYU[†] (Ulsan National Institute of Science and Technology (UNIST), Korea)
- OR9-8** (15:45–16:00)
Intra-articular Drug Delivery Strategy for Osteoarthritis Treatment
Chaekyu KIM[†] (Ulsan National Institute of Science and Technology (UNIST), Korea)
- OR9-9** (16:00–16:15)
Preparation and Evaluation of Modified Gelatin Sponge Particle, EGgel as Embolic Agent using Rabbit Renal Model
Ji-Young LEE, Seung Eun JUNG, Jung Eun KIM, Junhoe CHA^{*} (ENGAIN Co., Ltd., Korea)

S8. Polymers for Electronics and Photonics Room: 401

- Chair: Jung-Yong LEE (Korea Advanced Institute of Science and Technology (KAIST), Korea)
Ji Seon KIM (Imperial College London, United Kingdom)
- IL8-26** (16:20–16:40)
Molecule-Based Flexible Sensors for Wearable Electronics
Joan Hak OH[†] (Pohang University of Science and Technology (POSTECH), Korea)
- IL8-27** (16:40–17:00)
High-performance Organic Electrochemical Transistors with Long-term Operational Stability
Myung-Han YOON[†], Seong-Min KIM, Chang-Hyun KIM, Youngseok KIM (Gwangju Institute of Science and Technology, Korea)
- IL8-28** (17:00–17:20)
Regioregular Terpolymers Comprising of Two Electron-rich and One Electron-deficient Segments for High-efficiency Polymer Solar Cells
Youngee LEE[†] (Daegu Gyeongbuk Institute of Science & Technology (DGIST), Korea)
- OR8-5** (17:20–17:35)
Understanding and Controlling of Ordered Structures of p-Conjugated Polymers for High-Performance Organic Electronics
Hoichang YANG[†] (Inha University, Korea)
- OR8-6** (17:35–17:50)
Conductive Fiber Networks and Electrodes Based on Electrospun Polymer Fibers
Han-Hsuan CHENG, Hung-Tao CHEN, Yu-Yu CHO, Ingann CHEN, Changshu KUO[†] (National Chang Kung University, Taiwan)
- IL8-29** (17:50–18:10)
Donor-acceptor π -Conjugated Polymers for Electronics and Optoelectronics
Dong Hoon CHOI^{†*} (Korea University, Korea, Korea)

S11. Polymer Research at Korean National Laboratories (KIST & KRICT) Room: 402

Organizer: Sang Soo LEE (Korea Institute of Science and Technology (KIST), Korea)

- Chair: Yong Soo KANG (Hanyang University, Korea)
Ick Chan KWON (Korea Institute of Science and Technology (KIST), Korea University, Korea)
- IL11-1** (14:00–14:20)
Pioneering Research of Polymer in KIST
Young Ha KIM[†] (Korea Institute of Science and Technology (KIST), Korea)
- IL11-2** (14:20–14:40)
R&D Initiatives in Polymer Composites at KIST
Chul Rim CHOE[†] (Korea Institute of Science and Technology (KIST), Korea)
- IL11-3** (14:40–15:00)
Innovative Developmental Researches on Man-Made Fibers in the Fiber & Polymer Research Laboratory of KIST
Byoung Chul KIM^{1,*}, Tae Won SON², Byung Gil MIN³, Sung Mu JO⁴, Wha Seop LEE⁴ (¹Hanyang University, ²Yeuungnam University, ³Kumoh National Institute of Technology, ⁴Korea Institute of Science & Technology (KIST), Korea)
- IL11-4** (15:00–15:20)
Applications of Facilitated Transport Membranes in the Solid State: Separation Membranes and Dye-sensitized Solar Cells
Yong Soo KANG[†] (Hanyang University, Korea)
- IL11-5** (15:20–15:40)
Expanding the Horizons for Polysilsesquioxane Materials
Seung Sang HWANG^{1,2,*}, Albert S. LEE¹ (¹Korea Institute of Science and Technology (KIST), ²University of Science and Technology, Korea)
- IL11-6** (15:40–16:00)
Polymer Nanoparticles for Theragnosis
Ick Chan KWON[†] (Korea Institute of Science and Technology (KIST), Korea University, Korea)

S11. Polymer Research at Korean National Laboratories (KRICT) Room: 402

- Organizer: Yong Seok KIM (Korea Research Institute of Chemical Technology (KRICT), Korea)
- Chair: Kil-Young CHOI (Korea Research Institute of Chemical Technology (KRICT), Korea)
Jae Heung LEE (Korea Research Institute of Chemical Technology (KRICT), Korea)
- IL11-7** (16:20–16:40)
IUPAC-PSK40: Polymer Research at Korean National Laboratories (KIST and KRICT): Commemorating the 40th Anniversary of the Polymer Society of Korea (PSK)
Hyuk YU[†] (University of Wisconsin, USA)
- IL11-8** (16:40–17:00)
Foundation of KRICT in 1976 & Its Polymer Chemistry Division
Jin Chul JUNG[†] (Pohang University of Science and Technology (POSTECH), Korea)
- IL11-9** (17:00–17:20)
Past, Present, and Future Activities of KRICT in Polymer Researches
Kil-Young CHOI[†] (Korea Research Institute of Chemical Technology (KRICT), Korea)
- IL11-10** (17:20–17:40)
Database and Roll-to-Roll Coating Technology of Chemical Materials
Woo Jin CHOI, Seong Keun CHO, Sang-Jin LEE, Dong Seok HAM, Jae Seong PARK, Kwang Je KIM, Jae Heung LEE[†] (Korea Research Institute of Chemical Technology (KRICT), Korea)
- IL11-11** (17:40–18:00)
Dynamic Nanopores from Aqueous Assembly
Myongssoo LEE[†] (Jilin University, China)
- IL11-12** (18:00–18:20)
PEO-Based Network Solid Polymer Electrolytes Prepared by In-Situ Cross-linking for All-Solid-State Li Polymer Batteries
Jungdon SUK, Dong Wook KIM, Do Youb KIM, Yongku KANG[†] (Korea Research Institute of Chemical Technology (KRICT), Korea)

Oral Sessions – October 7, 2016 (Friday) (tentative)

Plenary Lecture Room: TAMNA A

- Chair: Hwan Kyu KIM (Korea University, Korea)
- PL5** (11:40–12:20)
Macromolecular Engineering by Taming Free Radicals
Krzysztof MATYJASZEWSKI[†] (Carnegie Mellon University, USA)

Lei JIANG^{1,2}* (¹Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, ²Beihang University, China)

S1. Polymer Synthesis Room: 201

Chair: Myungeun SEO (Korea Advanced Institute of Science and Technology (KAIST), Korea)
Jeffrey PYUN (University of Arizona, USA)

- IL1-22** (9:00–9:20)
Synthesis of Smart Star Polymer Photo-catalyst by Controlled Radical Polymerization
Kyung-Youl BAEK^{}* (Korea Institute of Science and Technology (KIST), Korea)
- IL1-23** (9:20–9:50)
Monomer Sequence Control via Precision Radical Polymerization Combined with Iterative Methods
Masami KAMIGAITO^{}*, *Kotaro SATOH* (Nagoya University, Japan)
- IL1-24** (9:50–10:10)
Photoinitiated RAFT Process of Non-conjugated Monomers
Young-Je KWARK^{}*, *Junhee CHO*, *Jisun YU*, *Nam-Jae SHIN* (Soongsil University, Korea)
- IL1-25** (10:10–10:40)
The Synthesis of Vinyl Acetate Block Copolymers via the Combination of CMRP and ATRP
Chi-How PENG^{}* (National Tsing Hua University, Taiwan)
- IL1-26** (10:40–11:00)
Stimuli-Responsive Polymers for Sensing Applications
Hyung-il LEE^{}* (University of Ulsan, Korea)
- IL1-27** (11:00–11:30)
Controlled/Living Radical Polymerizations for Polymer Topology Control and Syntheses of Block Copolymers/Functional Nanomaterials
Chih-Feng HUANG^{}* (National Chung Hsing University, Taiwan)
Chair: Chi-How PENG (National Tsing Hua University, Taiwan)
Hyun-jong PAK (Pusan National University, Korea)
- IL1-28** (14:00–14:30)
Synthesis of Electroactive Polymers and Nanocomposite Materials for Electrochemical Energy Storage and Photocatalysis
Kookheon CHAR¹, *Jeffrey PYUN^{1,2,*}* (¹Seoul National University, Korea, ²University of Arizona, USA)
- IL1-29** (14:30–14:50)
Two-Dimensional Networks with Uniformly Distributed Heteroatoms
Javeed MAHMOOD, *Jong-Beom BAEK^{*}* (Ulsan National Institute of Science and Technology (UNIST), Korea)
- IL1-30** (14:50–15:10)
Synergy between Epoxy and Oxetane Monomers in the Cationic Photopolymerization
Chang Yeol RYU^{}*, *Liubomir IORDANOV*, *Jananee NARAYANAN* (Rensselaer Polytechnic Institute, USA)
- IL1-31** (15:10–15:30)
Controlled Crosslinking Polymerization towards Tailored Porous Polymers
Myungeun SEO^{}* (Korea Advanced Institute of Science and Technology (KAIST), Korea)

S2. Polymer Physics and Characterization Room: 202

Chair: Voler ABETZ (Helmholtz-Zentrum Geesthacht, University of Hamburg, Germany)
Seung Hyun KIM (Inha University, Korea)

- IL2-24** (9:00–9:30)
Complex Ordered Phases of Multiblock Copolymers
An-Chang SHI^{}* (McMaster University, Canada)
- OR2-16** (9:30–9:45)
Molecular Dynamics Study on Static/Dynamic Properties of Diblock Copolymer Melts
Ji Ho RYU, *Won Bo LEE^{*}* (Seoul National University, Korea)
- IL2-25** (9:45–10:05)
Self-Assembly of Bottle-Brush Copolymers
June HUH^{}*, *Ji Hoon PARK*, *Joona BANG* (Korea University, Korea)
- IL2-26** (10:05–10:25)
Understanding of Pressure-responsive Polymer Mixtures: from Macroscopic to Nanoscopic Scale

Junhan CHO^{}* (Dankook University, Korea)

- IL2-27** (10:25–10:55)
Polymers in Ionic Liquids
Arun YETHIRAJ^{}* (University of Wisconsin, USA)
- OR2-17** (10:55–11:10)
Facile Non-destructive Nanoscale Characterization of Polymer Surfaces and Interfaces
Will MORRISON¹, *Katherine PARK¹*, *Derek NOWAK¹*, *Sung PARK^{1,*}*, *Euitae KIM²*, *Kookheon CHAR²* (¹Molecular Vista, Inc., USA, ²Seoul National University, Korea)
- OR2-18** (11:10–11:25)
Enhanced Transport of DNA in More Crowded Environment
Fan-Tso CHIEN, *Po-Keng LIN*, *Wei CHIEN*, *Yeng-Long CHEN^{*}* (Institute of Physics, Academia Sinica, Taiwan)
- OR2-19** (11:25–11:40)
Molecular Dynamics Simulation Study on De-swelling Mechanisms of Surface-grafted Poly (N-isopropylacrylamide) Brush
Seung Geol LEE^{}* (Pusan National University, Korea)

S1. Polymer Synthesis Room: SAMDA B

Chair: Yeong-Soon GAL (Kyungil University, Korea)
Chih-Feng HUANG (National Chung Hsing University, Taiwan)

- ORI-10** (14:00–14:15)
Cu-Catalyzed Multicomponent Polymerization
Hyunseok KIM, *Ki-Taek BANG*, *Inho CHOI*, *Jin-Kyung LEE*, *Tae-Lim CHOI^{*}* (Seoul National University, Korea)
- ORI-11** (14:15–14:30)
Synthesis and Characterization of Novel Cardo Poly (ether-azomethine)s Containing Cyclohexylidene Moiety
A. A. GHANWAT^{1,}*, *V. P. UBALE²*, *N. N. MALDAR¹* (¹Solapur University, ²DBF Dayanand College of Arts and Science, India)
- ORI-12** (14:30–14:45)
Polymerizations of Ionic Liquid Monomers: Structure-Property Relationships of Poly (ionic liquid)s
Minjae LEE^{1,}*, *U Hyeok CHO²*, *Seung-Joon OH¹*, *Yong-Hoon LEE¹* (¹Kunsan National University, ²Korea Institute of Materials Science (KIMS), Korea)
- ORI-13** (14:45–15:00)
Features of Non-linear Polymerization in Resins Applied in Laser Stereolithography
Anatoly N. NIKITIN^{}* (Russian Academy of Sciences, Russia)
- ORI-14** (15:00–15:15)
Preparation of Graphene/MgCl₂-supported Ti-based Ziegler-Natta Catalyst by Coagglomeration Method and its Application in Olefin Polymerization
He-Xin ZHANG^{1,2}, *Dong-ho LEE¹*, *Xue-Quan ZHANG²*, *Keun-Byoung YOON^{1,*}* (¹Kyungpook National University, Korea, ²Changchun Institute of Applied Chemistry, Chinese Academy of Science, China)

S4. Hybrid Materials and Composites Room: 203

Chair: Hyunhyub KO (Ulsan National Institute of Science and Technology (UNIST), Korea)
Seong Hun KIM (Hanyang University, Korea)

- IL4-16** (9:00–9:30)
Advanced Polymeric Materials: Synthesis, Optoelectronic Properties, Highly Selective Dispersion of SWCNTs and Solar Energy Applications
Der-Jang LIAW^{}*, *Chou-Yi TSAI*, *Po-I WANG*, *Qiang ZHANG*, *Ying-Chi HUANG* (National Taiwan University of Science and Technology, Taiwan)
- IL4-17** (9:30–9:50)
Preparation and Optical and Electronic Applications of Functional Organic-Inorganic Hybrid Materials
Kyungsun LEE, *Seowon CHOI*, *Daehyeon HWANG*, *Kyungbok EO*, *Myoem KIM*, *Yong Ku KWON^{*}* (Inha University, Korea)
- IL4-18** (9:50–10:10)
Printable Inorganic-Carbon Hybrid Materials for Electronics and Energy Applications
Sunho JEONG^{}*, *Yejin JO*, *Eun Jung LEE*, *Changju CHE*, *Tae Gon KIM*,

- IL4-19** (10:10–10:30)
Three-dimensional Vertically Stacked Complementary Organic Field-Effect Transistors and Logic Circuits
*Jimin KWON, Sujeong KYUNG, Sungjune JUNG** (Pohang University of Science and Technology (POSTECH), Korea)
- OR4-7** (10:30–10:45)
Photopolymerizable Semiconductor Nanomaterials: Synthesis and Applications
Prem PRABHAKARAN, Kwang-Sup LEE, Seung-Kyu PARK, Minki RYU* (Hannam University, Korea)
- OR4-8** (10:45–11:00)
An Adhesive Gel for Establishing Stable Contact Between Machine/Biological Tissue
*Sungwon LEE** (Daegu Gyeongbuk Institute of Science & Technology (DGIST), Korea)
- OR4-9** (11:00–11:15)
Use of Functionalized Polyolefins in Composite of Polymers and Inorganic Fillers
*John YUN** (Addviant, USA)
- OR4-10** (11:15–11:30)
Charge Generation in Polymer Semiconductor Films Triggered by Plasmon-Conversion Coupling
Yu Jin JANG¹, Eunah KIM¹, Sunghyun AHN², Kyungwha CHUNG¹, Jihyeon KIM¹, Heejun KIM¹, Huan WANG¹, Yoon Hee JANG^{1,3}, Jiseok LEE³, Dong-Wook KIM², Dong Ha KIM^{1,}* (¹Ewha Womans University, ²Ulsan National Institute of Science and Technology (UNIST), ³Korea Institute of Science and Technology (KIST), Korea)
- Chair: Sunho JEONG (Korea Research Institute of Chemical Technology (KRICT), Korea)
Yong Ku KWON (Inha University, Korea)
- OR4-11** (14:00–14:15)
Electrochemical Sensing of Cd(II) Ions Using Polypyrrole Hybrid with Meso-tetra (4-carboxyphenyl) porphyrin
*Shruti PESHORIA, Anudeep Kumar NARULA** (Guru Gobind Singh Indraprastha University, India)
- OR4-12** (14:15–14:30)
Poly(ϵ -caprolactone)/graphene Oxide Honeycomb-patterned Porous Films from a Water Soluble Solvent by Breath Figure Method and their Reduction to Poly(ϵ -caprolactone)/reduced Graphene Oxide Films
*Umashankar MALE, Bokyoung SHIN, Do Sung HUH** (Inje University, Korea)
- OR4-13** (14:30–14:45)
Greatly Improved Toughness of Chitin Nanofibrous GBR Membrane by Alternative Metalation
Seunghwan CHOY¹, Seung-Mo LEE², Sang-Ho JUN², Jin-Soo AHN⁴, Dong Soo HWANG^{1,}* (¹Pohang University of Science and Technology (POSTECH), ²Korea Institute of Machinery & Materials (KIMM), ³Anam Hospital, Korea University Medical Center, ⁴Seoul National University, Korea)
- OR4-14** (14:45–15:00)
Study on Properties of Poly (L-Lactic Acid) Based Biocomposite Reinforced with Natural Fiber from Rice Straw Biomass
Hikmatun N' MAH¹, Dwila Nur RIZKIYAH, I Gusti Agung Gede Chandra DIVTA, SUMARNO (Sepuluh Nopember Institute of Technology, Indonesia)
- OR4-15** (15:00–15:15)
Synthesis and Characterization of MOFs Anchored onto Cotton Fabrics with Antibacterial Potential Applications
Cristian Andrés CANO BENÍTEZ¹, César Augusto SIERRA ÁVILA (National University of Colombia, Colombia)

S5. Smart Functional Polymers

Room: SAMDA A

- Chair: Byeong-Su KIM (Ulsan National Institute of Science and Technology (UNIST), Korea)
Teruaki HAYAKAWA (Tokyo Institute of Technology, JST-PRESTO, Japan)
- IL5-21** (9:00–9:30)
Supramolecular Materials: Tough, Stimuli-Resopnsive and Self-Healing Polymers with Host-Guest Interactions
*Akira HARADA** (Osaka University, Japan)

- IL5-22** (9:30–9:50)
Design of Multifunctional Copolymers for High-Performance Energy Storage
*Soojin PARK** (Ulsan National Institute of Science and Technology (UNIST), Korea)
- IL5-23** (9:50–10:10)
Stretchable Conducting Polymer Composites for Deformable Electronics
Unyong JEONG, Insang YU, Sunghwan CHO, Junhyuk SONG* (Pohang University of Science and Technology, Korea)
- IL5-24** (10:10–10:40)
Inducing Responsive Functions under Controlled Structure Benzoxazines
*Nantinee MANTARANON, Nattawat YENPECH, Sorapat NIYOMSIN, Choltirosn SUTAPIN, Suwabun CHIRACHANCHAI** (Chulalongkorn University, Thailand)
- IL5-25** (10:40–11:00)
Long-range Order of Supramolecular Dendrimer
*Ki-Ok KWON, Kang Ho PARK, Hee-Tae JUNG** (KAIST, Korea)
- IL5-26** (11:00–11:20)
High-resolution Nanotransfer Printing for Nanoscale-sensing and Energy-conversion Applications
*Yeon Sik JUNG** (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- IL5-27** (11:20–11:40)
Organic Nanoparticles as Structure Directing Agent for Block Copolymer Ordering
Joona BANG, Hyun Suk WANG, Seyong KIM, Anzar KHAN, June HUH* (Korea University, Korea)
- Chair: Suwabun CHIRACHANCHAI (Chulalongkorn University, Thailand)
Yeon Sik JUNG (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- IL5-28** (14:00–14:30)
Block Copolymer Templated Wholly Aromatic Condensation Polymer Films
Teruaki HAYAKAWA^{1,2,}* (¹Tokyo Institute of Technology, ²JST-PRESTO, Japan)
- IL5-29** (14:30–15:00)
Surface-grafted Polymer Brushes Having *In situ* Generated Gold Nanoparticles for Peptide Detection
*Arunee SANGSUWAN, Benjaporn NARUPAI, Panittha DAMSONGSANG, Natsima RATTANAPONGSATHORN, Nadrudda RODTHONGKUM, Voravee P. HOVEN** (Chulalongkorn University, Thailand)
- IL5-30** (15:00–15:20)
Multifunctional Thin Films from the Lyotropic Chromonic Liquid Crystal Reactive Mesogens
*Kwang-Un JEONG** (Chonbuk National University, Korea)
- IL5-31** (15:20–15:40)
Conjugated Polymer Nanomaterials: Preparation and Aqueous-Based Applications
*Juhyun PARK** (Chung-Ang University, Korea)
- IL5-32** (15:40–16:00)
Empowering Inert Polyethers: Stimuli-Responsive Polyglycerols
*Byeong-Su KIM** (Ulsan National Institute of Science and Technology (UNIST), Korea)

S6. Polymer Nanomaterials and Nanotechnology Room: HALLA B

Chair: Tae-il KIM (Sungkyunkwan University, Korea)
Cheol PARK (NASA Langley Research Center, USA)

- IL6-23** (9:00–9:30)
Boron Nitride Nanotube and BNNT Nanocomposites for Aerospace Applications
Cheol PARK^{1,}, Samuel HOCKER¹, Sang-Hyon CHU², Catharine FAY¹* (¹NASA Langley Research Center, ²National Institute of Aerospace, USA)
- IL6-24** (9:30–10:00)
Dual Targeting-Integrated Nanogel with On-Demand Drug Delivery Inhibits Progression of Highly Metastatic Malignancy
*Jianxun DING, Jinjin CHEN, Weiguo XU, Xiuli ZHUANG, Xuesi CHEN** (Chinese Academy of Sciences, China)
- IL6-25** (10:00–10:20)
Synthesis and Characterization of Metal Containing Organic-inorganic Hybrid Copolymers and their Applications for the Metal Patterning

- IL6-26** (10:20–10:40)
Temperature-Controllable Nanoscale Molds for Unconventional Lithography
Jong-Uk KIM, Hyo Won TAK, Tae-il KIM (Sungkyunkwan University, Korea)
- IL6-27** (10:40–11:00)
Hierarchically Ordered Three-dimensional Network of Carbon Nanotubes for A Noble Sensor Platform
Chung Kil SONG, Min Sung KANG, Bum Seok SHIN, Haedong LEE, Haiwon LEE (Hanyang University, Korea)
- IL6-28** (11:00–11:20)
Direct Carbonization of 3D Polymeric Patterns for Energy Device Applications
Jun Hyuk MOON (Sogang University, Korea)
Chair: Jun Hyuk MOON (Sogang University, Korea)
- Sang Ouk KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- OR6-10** (14:00–14:15)
Electro-active Multilayer Film for On-Demand Activation of DNA Nanodevice
Hyeyeong JEONG¹, Simona RANALLO², Marianna ROSSETTI², Jiwoong HEO¹, Sohyeon PARK¹, Jooseok SHIN¹, Kwangyong PARK¹, Francesco RICCI², Jinkee HONG^{1,}* (¹Chung-Ang University, Korea, ²University of Rome, Italy)
- OR6-11** (14:15–14:30)
Determination of Caffeic Acid using Fabricated Nano-bio-hybrid Films Electrode
Salma KHAN, Anudeep K NARULA (Guru Gobind Singh Indraprastha University, India)
- OR6-12** (14:30–14:45)
Mechanical and Dielectric Properties of Three Component Hybrid Nanocomposite of polyvinyl alcohol/polyaniline/Few Layer Graphene
Ahmad Nawaz KHAN¹, Munawar KHAN (National University of Sciences and Technology, Pakistan)
- OR6-13** (14:45–15:00)
On-Demand Macromolecular Delivery and NIR-Imaging Using Photodegradable Hydrogel-Coated Upconverting Nanoparticles
Ghulam JALANI^{1,2,}* (¹McGill University, ²Université du Québec, Canada)
- OR6-14** (15:00–15:15)
Dimensional Control of Graphene Oxide via Solvent-assisted Selective Self-sorting
Ungsoo KIM, Hyesung PARK (Ulsan National Institute of Science and Technology (UNIST), Korea)

S6. Polymer Nanomaterials and Nanotechnology Room: 303

- Chair: Ji-Woong PARK (Gwangju Institute of Science and Technology (GIST), Korea)
Huanli DONG (Institute of Chemistry, Chinese Academy of Sciences, China)
- IL6-29** (9:00–9:30)
Multi-level Investigation of Charge Transport in Conjugated Polymers for High Performance Electronic Devices
Huanli DONG (Institute of Chemistry, Chinese Academy of Sciences, China)
- IL6-30** (9:30–10:00)
Polymer Particles with Tunable Shapes and Internal Structures
Renhua DENG, Jiangping XU, Jintao ZHU (Huazhong University of Science and Technology, China)
- IL6-31** (10:00–10:20)
Fabrication of Porous and Interconnected Structures for Efficient Energy Devices via Diverse Coating Methods
Hyunjuung LEE (Kookmin University, Korea)
- IL6-32** (10:20–10:40)
Organic Sol-Gel Approach to Bicontinuous Nanoporous Covalent Frameworks
Ji-Woong PARK (Gwangju Institute of Science and Technology (GIST), Korea)
- IL6-33** (10:40–11:00)
Supramolecular Nanohybrids based on the Crystallization-driven

Assembly of Amphiphilic Polymers

- IL6-34** (11:00–11:20)
Clustering and Recovery of High Aspect Ratio Polymeric Nanopillars
Seon-mi JIN, Inhye KIM, Eunji LEE (Chungnam National University, Korea)
- Hyunsik YOON* (Seoul National University of Science & Technology, Korea)

Chair: Hyun Jung LEE (Kookmin University, Korea)
Pil Jin YOO (Sungkyunkwan University (SKKU), Korea)

- OR6-15** (14:00–14:15)
Structure-property Relationship in Peptoid Polymers
Jing SUN (Qingdao University of Science and Technology, China)
- OR6-16** (14:15–14:30)
A Novel Strategy of Lactide Polymerization Leading to Stereocomplex Poly(lactide) Nanoparticles using Supercritical Fluid Technology
Gulnaz BIBI^{1,2}, Youngmee JUNG^{2,3}, Jong-Choo LIM^{1,}, Soo Hyun KIM^{2,3,4,*}* (¹Dongguk University, ²Korea Institute of Science and Technology, ³Korea University of Science and Technology, ⁴Korea University, Korea)
- OR6-17** (14:30–14:45)
Handspinning Enabled Highly Concentrated Carbon Nanotubes with Controlled Orientation in Nanofibers
Hoik LEE¹, Ick Soo KIM (Shinshu University, Japan)
- OR6-18** (14:45–15:00)
Synthesis of Modified Nanosilica and Its Application as Photoanode Material for Dye-sensitized Solar Cells
Rachel Fran MANSA¹, Stephanie Chai Tying LAU, Jedol DAYOU, Coswald Stephen SIPAUT (Universiti Malaysia Sabah, Malaysia)
- OR6-19** (15:00–15:15)
Enhancing the Adhesion Capability of Functionalized Graphene Oxide with ALUMINIUM SUBSTRATE through Polydopamine Treatment for Self-cleaning Applications
Tanya DAS^{1,}, Sunanda ROY², Hayden TAYLOR³* (¹Berkeley Education Alliance for Research in Singapore (BEARS), Singapore, ²Nanyang Technological University, Singapore, ³University of California, Berkeley USA)

S7. Energy Conversion and Storage Room: SAMDA B

Chair: Taiho PARK (Pohang University of Science and Technology (POSTECH), Korea)
Mahesh K. MAHANTHAPPA (University of Minnesota, USA)

- IL7-15** (9:00–9:30)
"Bottom Up" Self-Assembly Approaches to Nanoporous Ion Transporting Polymer Membranes
Mahesh K. MAHANTHAPPA (University of Minnesota, USA)
- OR7-7** (9:30–9:45)
Carbon-Nitrogen Bond Formation by Ultrasonic Chemical Reaction for Energy Storage System
Hyun-Tak KIM, HyeonOh SHIN, Tae-Hyuk KWON (Ulsan National Institute of Science and Technology (UNIST), Korea)
- OR7-8** (9:45–10:00)
Urchin Shaped MnO₂ Nanowires for Rechargeable Aqueous Sodium-air Battery
Ziyaeddin KHAN, Seungyoung PARK, Soo Min HWANG, Juchan YANG, Youngsu LEE, Hyunkon SONG, Youngsik KIM, Hyunhyub KO (Ulsan National Institute of Science and Technology (UNIST), Korea)
- OR7-9** (10:00–10:15)
Safer DFOB Anion Based Ternary Ionic liquid Polymer Electrolytes (ILPEs) For Rechargeable Lithium Ion Batteries: An Efficient Approach to Attain High Ionic Conductivity and Electrochemical Stability
K. KARUPPASAMY¹, Dong Kyu KIM, Hee Woo RHEE (Sogang University, Korea)
- OR7-10** (10:15–10:30)
Synergetic Effect of MoS₂ and WS₂ in a Hybrid Nanostructure for Hydrogen Evolution Reaction
Seong Ku KIM¹, Seulgi Ji, Yirang LIM, Yeong Bum LEE, Woosik SONG, Sung MYUNG, Jongsun LIM, Ki-Seok AN, Sun Sook LEE (Korea Research Institute of Chemical Technology, Korea)
- OR7-11** (10:30–10:45)
Quinoidal and Steric Effect of Dithienothiophene-based Dyes for Thin Film Photoactive Devices
Jeong Soo KIM, Byung-Man KIM, Un-Young KIM, Hyeonoh SHIN, Jung

- Seung NAM, Deok-Ho ROH, Tae-Hyuk KWON^{*} (Ulsan National Institute of Science and Technology (UNIST), Korea)*
- OR7-12** (10:45–11:00)
Micro/Mesoporous NetOnNet-based Hybrid Architecture for Polysulfides Chemical Trapping in Lithium–Sulfur Batteries
Sung-Ju CHO, Seok-Kyu CHO, Sang-Young LEE^{} (Ulsan National Institute of Science and Technology (UNIST), Korea)*
- OR7-13** (11:00–11:15)
Organic Photovoltaics with Enhanced Efficiency and Long-term Stability using Block Copolymer Additives
Ming JING¹, Heejun KIM², Yu Jin JANG², Kyung Kon KIM², Feng QIU¹, Dong Ha KIM^{2,}, Juan PENG^{1,*} (¹Fudan University, China, ²Ewha Womans University, Korea)*

S8. Polymers for Electronics and Photonics

Room: HALLA A

Chair: Jin-Woo OH (Pusan National University, Korea)
Soo-Hyoung LEE (Chonbuk National University, Korea)

- IL8-30** (9:00–9:30)
Design and Synthesis of Organic and Polymeric Conjugated Materials for Organic Photovoltaics and Transistors
Yen-Ju CHENG^{} (National Chiao Tung University, Taiwan)*
- IL8-31** (9:30–9:50)
Supramolecular Interactions in Organic Acentric p-Conjugated Crystals for Photonic Applications
O-Pil KWON^{} (Ajou University, Korea)*
- IL8-32** (9:50–10:10)
Metallically Conducting Fibers by in-situ Hybridization of Polymer and Metal Nanoparticle during Wet Spinning
Jun Young LEE^{}, Hyungseok LEE, Taeho LEE (Sungkyunkwan University, Korea)*
- IL8-33** (10:10–10:30)
Hole Transporting Materials for Efficient Inorganic–organic Hybrid Perovskite Solar Cells
Jangwon SEO^{} (Korea Research Institute of Chemical Technology (KRICT), Korea)*
- OR8-7** (10:30–10:45)
Design of Small Molecule Acceptors for Fullerene-free Organic Photovoltaic Cells
Eunhee LIM^{} (Kyonggi University, Korea)*
- OR8-8** (10:45–11:00)
Enhanced Hole Extraction by Interaction between CuI and MoO₃ in the Hole Transport Layer of Organic Photovoltaic Devices
Sangcheol YOON¹, Hyebin KIM¹, Eul-Yong SHIN², In-Gon BAE¹, Byoungchoo PARK¹, Yong-Young NOH², Inchan HWANG^{1,} (¹Kwangwoon University, ²Dongguk University, Korea)*
- OR8-9** (11:00–11:15)
Efficient and Hysteresis-Free Planar Heterojunction Perovskite Solar Cells Using Self-Assembled Organic Nanocomposites
Jinho LEE, Hongkyu KANG, Kwanghee LEE^{} (Gwangju Institute of Science and Technology (GIST), Korea)*
- OR8-10** (11:15–11:30)
Mussel-Inspired Anisotropic Nanocellulose and Silver Nanoparticle Composite with Improved Mechanical Properties, Electrical Conductivity and Antibacterial Activity
Hoang-Linh NGUYEN, Dong Soo HWANG^{} (Pohang University of Science and Technology (POSTECH), Korea)*
- Chair: O-Pil KWON (Ajou University, Korea)
Yen-Ju CHENG (National Chiao Tung University, Taiwan)
- IL8-34** (14:00–14:20)
Virus based Novel Colorimetric Sensor for Cancer Cell Detection
Jin-Woo OH^{} (Pusan National University, Korea)*
- OR8-11** (14:20–14:35)
Monolithic Metal Oxide Transistors
Yongsuk CHO^{1,}, Won-Young PARK¹, Moon Sung KANG², Gi-Ra Yi¹, Jun-Young LEE¹, Yong-Hoon KIM¹, Jeong Ho CHO^{1,*} (¹Sungkyunkwan University, ²Soongsil University, Korea)*
- OR8-12** (14:35–14:50)

Boosting Performance of Perovskite Solar Cells Using Conjugated Polyelectrolyte Hole Transport Layer

Sanghun MOON^{1,}, Cheng-Kang MAI^{2,*}, Hyosung CHOI¹ (¹Hanyang University, Korea, ²University of California Santa Barbara, USA)*

- OR8-13** (14:50–15:05)
Large-area Printed Organic Photovoltaic Modules using a New Series Connection Architecture
Soonil HONG^{}, Hongkyu KANG, Geunjin KIM, Seonkyu LEE, Seok KIM, Jong-Hoon LEE, Jinho LEE, Kwanghee LEE (Gwangju Institute of Science and Technology (GIST), Korea)*
- OR8-14** (15:05–15:20)
Electron Accumulation at Polymeric Interlayer for Efficient Homo-Junction Perovskite Solar Cells
Seulki SONG, Taiho PARK^{} (Pohang University of Science and Technology (POSTECH), Korea)*
- OR8-15** (15:20–15:35)
Efficient and Stable Polymeric Hole Transporting Material in Perovskite Solar Cells
Gyeongho KANG, Guan-Woo KIM, Taiho PARK^{} (Pohang University of Science and Technology (POSTECH), Korea)*

S8. Polymers for Electronics and Photonics

Room: 401

Chair: Han Young WOO (Korea University, Korea)

Yongu LEE (Daegu Gyeongbuk Institute of Science & Technology (DGIST), Korea)

- IL8-35** (9:00–9:20)
The Importance of Molecular Packing, Orientation and Morphology Control in All-Polymer Solar Cells
Bumjoon J. KIM^{} (Korea Advanced Institute of Science and Technology (KAIST), Korea)*
- IL8-36** (9:20–9:50)
The Photophysics of Non-Fullerene Acceptors in Organic Photovoltaic Devices
Frédéric LAQUAI^{} (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)*
- IL8-37** (9:50–10:20)
Electroluminescent Polymers for Solution-processed PLEDs
Lixiang WANG^{} (Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China)*
- IL8-38** (10:20–10:40)
Highly Photostable Donor–Acceptor Polymers for Stable Organic Solar Cells
BongSoo KIM^{} (Ewha Womans University, Korea)*
- OR8-16** (10:40–10:55)
Modeling the Mechanical Behavior of Semiconducting Polymers and Composites
Samuel ROOT, Gaurav ARYA, Suchol SAVAGATRAP, Darren LIPOMI^{} (University of California, USA)*
- OR8-17** (10:55–11:10)
Highly Conductive All-Plastic Electrodes Fabricated Using a Novel Chemically Controlled Transfer-Printing Method
Nara KIM, Hongkyu KANG, Jong-Hoon LEE, Seyoung KEE, Seoung Ho LEE, Kwanghee LEE^{} (Gwangju Institute of Science and Technology (GIST), Korea)*
- OR8-18** (11:10–11:25)
Selective Ligand Exchange Process with Amine-Functionalized Polymers for Charge Injection Control with Improved Electroluminescence Performance on Quantum-dot Light-Emitting Diodes
Ikjun CHO, Jinhan CHO^{} (Korea University, Korea)*
- OR8-19** (11:25–11:40)
Positional Effects of Fluorination in Conjugated Side Chains with Conformational Symmetry for Organic Solar Cells
Jisoo SHIN^{}, Min KIM, Kilwon CHO (Pohang University of Science and Technology (POSTECH), Korea)*
- Chair: BongSoo KIM (Ewha Womans University, Korea)
Frédéric LAQUAI (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
- IL8-39** (14:00–14:30)
Non-fullerene Electron Acceptors for Efficient Organic Solar Cells

- Iain MCCULLOCH^{*}* (Imperial College, UK)
- OR8-20** (14:30–14:45)
Charge Transport through DPP–DTT Confined in Organosilane Interpenetrated Network
Jihye SHIN, Jeehye YANG, Hae Jung HWANG, Han Wool PARK, Do Hwan KIM, Moon Sung KANG^{}* (Soongsil University, Korea)
- OR8-21** (14:45–15:00)
An Orthogonal Semiconducting Polymer Gel for Solution Tandem Electronics
Han Wool PARK^{}, Keun–Yeong CHO², Boseok KANG³, Hee Jun YOON⁴, Haejung HWANG¹, Yun–Hi KIM⁴, Kilwon CHO³, Hojin LEE^{2,*}, Do Hwan KIM^{1,*}* (¹Soongsil University, ²Soongsil University, ³Pohang University of Science and Technology (POSTECH), ⁴Gyeongsang National University, Korea)
- OR8-22** (15:00–15:15)
Controlled Crystallinity and Mutual Diffusion of Conjugated Polymers under Nanoconfinement for Pillar–Based Organic Solar Cells
Jongkuk KO¹, Jiyun SONG², Hyunsik YOON³, Changhee LEE², Ruediger BERGER², Kookheon CHAR^{1,}* (¹Seoul National University, Korea, ²Seoul National University, Korea, ³Seoul National University of Science & Technology, Korea, ⁴Max Planck Institute for Polymer Research, Germany)
- OR8-23** (15:15–15:30)
Enhancement of Triboelectric Nanogenerator through Conformal Contact with Thin–Film Covered Pillar Structure
Ju Hyun LEE, Unyong JEONG, Jin Kon KIM^{}* (Pohang University of Science and Technology (POSTECH), Korea)

S9. Bio-related Polymers Room: TAMNA A

Chair: Sei Kwang HAHN (Pohang University of Science and Technology (POSTECH), Korea)
Kang Moo HUH (Chungnam National University, Korea)

- IL9-20** (9:00–9:30)
Hierarchically Aligned Fibrillar Fibrin Hydrogel Designed for Nerve Regeneration
Xiumei WANG^{}, Shenglian YAO, Jinrong DU, Zheng CAO* (Tsinghua University, China)
- IL9-21** (9:30–9:50)
Polymer Matrices with Functional Gradients in Tissue Engineering
Jin Ho LEE^{}* (Hannam University, Korea)
- IL9-22** (9:50–10:20)
DNA–Polymer Hybrids and Supercharged Polypeptides for Nanomedicine and Beyond
Andreas HERRMANN^{}* (University of Groningen, The Netherlands)
- IL9-23** (10:20–10:40)
In situ Forming Hydrogels Generating ROS for Therapeutic Applications
Ki Dong PARK^{}* (Ajou University, Korea)
- IL9-24** (10:40–11:10)
Self–Oscillating Polymer Gels as Smart Functional Materials
Ryo YOSHIDA^{}* (The University of Tokyo, Japan)
- IL9-25** (11:10–11:30)
Polypeptide Thermogel As a 3D Scaffold for Stem Cells
Byeongmoon JEONG^{}, Madhumita PATEL, Du Young KO, Hyung Jung LEE* (Ewha Womans University, Korea)
- Chair: Jaeyoung LEE (Gwangju Institute of Science and Technology (GIST), Korea)
Chaenyung CHA (Ulsan National Institute of Science and Technology (UNIST), Korea)
- IL9-26** (14:00–14:30)
Targeted, Cell–specific Direct Reprogramming of Somatic Cells Through Combining Tissue–integrating Hydrogels with Stimuli–Responsive, Self–Assembling Polymeric Nanoparticles
J. J. COOPER–WHITE^{}, Li–Yen WONG, Marcos SOTO, Joan Li, Vijayan MANOHARAN, Zhibing MA, Guannan SU, Ernst J. WOLVETANG, Enzo PORRELLO* (University of Queensland, Australia)
- IL9-27** (14:30–14:50)
Smart Polymer Hydrogels for Theranostic Applications
Sei Kwang HAHN^{}, Byung Woo HWANG, Dohee KEUM* (Pohang University of Science and Technology (POSTECH), Korea)
- IL9-28** (14:50–15:20)
Host–Guest Interaction Induced Supramolecular Polymers as Functional

Biomaterials

- Jun Li^{*}* (National University of Singapore, Singapore)
- IL9-29** (15:20–15:40)
Highly Stabilized Injectable Pluronic F127 Hydrogel with Host–Guest Interaction Mediated Micelle Packing Mechanism
Cheol–Hee AHN^{}, Seung Yong LEE, Sung Bo SIM, Muhammad R. HAQUE, Youngro BYUN* (Seoul National University, Korea)

S9. Bio-related Polymers Room: 402

Chair: Inchan KWON (Gwangju Institute of Science and Technology (GIST), Korea)
Ja–Hyoung RYU (Ulsan National Institute of Science and Technology (UNIST), Korea)

- OR9-9** (9:00–9:15)
Versatile Underwater Adhesive with Microarchitecture Triggered by Solvent Exchange
Dong Woog LEE^{1,2,}, Qiang ZHAO², B. Kolbe AHN², Sungbaek SEO², Yair KAUFMAN², Jacob N. ISRAELACHVILI², J. HERBERTWAITE²* (¹Ulsan National Institute of Science and Technology (UNIST), Korea, ²University of California, USA)
- OR9-10** (9:15–9:30)
Controlling Thermoresponsive Swelling/Deswelling and Drug Release Properties of Poly (N–isopropylacrylamide) Hydrogels using Hydrophilic Polymer Crosslinkers
Suntae KIM, Kangseok LEE, Chaenyung CHA^{}* (Ulsan National Institute of Science and Technology (UNIST), Korea)
- OR9-11** (9:30–9:45)
Controlled Degradation of Hyaluronic Acid Conjugations with Natural Polyphenols
Kantappa HALAKE, Jonghwi LEE^{}* (Chung–Ang University, Korea)
- OR9-12** (9:45–10:00)
Green Recovery of Precious Gold from Aqueous Solutions by Modified Cellulose
Amarendra Dhar DWIVEDI, Dong Soo HWANG^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- OR9-13** (10:00–10:15)
Quantitative Study of Kinetics of Neuron–degenerative Related Protein Oligomerization
Yanjing WANG^{}, Chi WU* (The Chinese University of Hong Kong, Hong Kong)
- OR9-14** (10:15–10:30)
Cyclodextrins–incorporated Gelatin Glue: an Effective Path to Improve the Tissue Adhesiveness
Thai Thanh HOANG THI¹, Yunki LEE¹, Kyung Min PARK², Ki Dong PARK^{1,}* (¹Ajou University, ²Incheon National University, Korea)
- OR9-15** (10:30–10:45)
Enhanced Encapsulation of bFGF in Layer–by–layer Assembled Multilayer Repeated Polycation/Polyanion/bFGF Tri–layer Structure for Human iPS Cell Culture
Uiyoung HAN¹, Hee Ho PARK², Ju Hyun PARK³, Tai Hyun PARK², Jinkee HONG^{1,}* (¹Chung–Ang University, ²Seoul National University, ³Kangwon National University, Korea)
- OR9-16** (10:45–11:00)
Controlled Surface Retention of Osteogenic Peptide Derived from BMP–2 on Functionalized Electrospun Nanofibers for Bone Tissue Engineering
Jinkyu LEE, Sajeesh Kumar M.P., Heungsoo SHIN^{}* (Hanyang University, Korea)
- OR9-17** (11:00–11:15)
Alginate Nanofiber 3D Tissue Scaffold for Easy Cell Infiltration
Young Ju SON, Myun Koo KANG, Hyuk Sang YOO^{}* (Kangwon National University, Korea)
- OR9-18** (11:15–11:30)
Hyaluronate – Death Receptor 5 Antibody Conjugates for Targeted Treatment of Liver Metastasis
Hwiwon LEE, Sei Kwang HAHN^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- Chair: Dong Woog LEE (Ulsan National Institute of Science and Technology (UNIST), Korea)
Junhoe CHA (ENGAIN Co. Ltd., Korea)
- OR9-19** (14:00–14:15)

Intra-mitochondrial Assembly of Peptide Amphiphiles for Cancer Therapy
Jeena M T¹, Palanikumar L¹, Sooham PARK¹, Huyeon CHOI¹, Eun Min GO¹, Hye-kyeong LEE¹, Lee Seon IK², In-Hae KIM¹, Chaekyu KIM¹, Sung Cheol BAE^{1,*}, Hyun Woo RHEE^{1,*}, Eunji LEE^{2,*}, Sang-Kyu KWAK^{1,*}, Ja Hyoung RYU^{1,*} (¹Ulsan National Institute of Science and Technology (UNIST), ²Chungnam National University, Korea)

OR9-20 (14:15–14:30)

Colorimetric Contact Lens Sensor Containing Cerium Oxide Nanoparticles and Glucose Oxidase for Monitoring Glucose Levels in Tear
Woo Ri BAE, Si Jin PARK, Dong Yun LEE^{*} (Hanyang University, Korea)

OR9-21 (14:30–14:45)

Treatment of High-fat Diet-induced Diabetes using Oral Absorbable GLP-1 Gene Therapy
Seung Ah LEE¹, Yong Hwa HWANG¹, Chang Woo LEE¹, Yong-kyu LEE^{2,*}, Dong Yun LEE^{1,*} (¹Hanyang University, ²Korea National University of Transportation, Korea)

OR9-22 (14:45–15:00)

High Molecular Weight Bio Furan-based Co-polyesters for Food Packaging Applications: Synthesis, Characterization and Solid-state Polymerization
Sungmin HONG^{1,2}, O Ok PARK^{2,*} (¹Lotte Chemical Research Institute, ²Korea Advanced Institute of Science and Technology (KAIST), Korea)

OR9-23 (15:00–15:15)

Complexation and Coacervation of Like-charged Polyelectrolytes: A New Mussel-inspired Underwater Adhesion Mechanism
Sangsik KIM^{1,*}, Dong Soo HWANG (Pohang University of Science and Technology (POSTECH), Korea)

OR9-24 (15:15–15:30)

Covalent Immobilization of Stem Cell Inducing/Recruiting Factor and Heparin on Cell-free Small-diameter Vascular Graft for Accelerated In Situ Tissue Regeneration
Muhammad SHAFIQ^{1,2,*}, Chang-Yong KIM^{2,3}, Jongyoon RHEE^{2,3}, Seung Hyuk IM^{2,3}, Youngmee JUNG^{1,2}, Soo Hyun KIM^{1,3} (¹Korea University of Science and Technology (UST), ²Korea Institute of Science and Technology, ³Korea University, Korea)

Poster Session (I) – October 5, 2016 (Wednesday) (tentative)

(9:00 ~ 10:30)

Chair: Joon Hak OH (Pohang University of Science and Technology (POSTECH), Korea)
 Seokhoon AHN (Korea Institute of Science and Technology (KIST), Korea)

1. Polymer Synthesis

1PS-1 Diels-Alder Crosslinking Reaction And Its Application in Novel Nonlinear Optical Materials
Jialei LIU¹, Zhen ZHEN, Xinhou LIU (Technical Institute of Physics and Chemistry, China)

1PS-2 Novel Binder Polymers for High Resolution Dry Film Resists
Kyoungok JUNG, Jin-Baek KIM¹ (Korea Advanced Institute of Science and Technology (KAIST), Korea)

1PS-3 Analysis of Developed Polyurethane Foam for Improvement of Indoor Air Quality (IAQ)
Hong-eun LEE¹, Jong-hun YOON², Sung-ho LEE², Do-hwan KIM¹, Ki-soo KIM^{1,*} (¹Fine Chemical and Material Technical Institute, Ulsan Techno Park, ²Mitsui Chemicals & SKC Polyurethanes Institute, Korea)

1PS-4 The Synthesis and Properties of Polyester Polyol / Poly (propylene carbonate) Blend Waterborne Polyurethane Adhesives
Min-Ji CHOI^{1,2}, Boo-Young JEONG², Jung-Mi CHEON², Jae-Hwan CHUN^{2,*} (¹Pusan National University, ²Korea Institute of Footwear and Leather Technology (KIFLT), Korea)

1PS-5 Study of Waterborne Polyurethane with Monomeric Diol Structure
Boo-Young JEONG, Jung-Mi CHEON, Min-Ji CHOI, Jae-Hwan CHUN^{*} (Korea Institute of Footwear & Leather Technology, Korea)

1PS-7 The Application of Waste Tire Rubber Powder for The Thermoplastic Polyurethane
Sin Hye KANG, Ur Ryong CHO^{*} (Korea University of Technology and Education, Korea)

1PS-8 Study On Preparation of Thermal Conductive Pressure-Sensitive

Adhesive with a Various Thermal Conductive Materials

Ji Hwan OH, Ur Ryong CHO^{*} (Korea University of Technology and Education, Korea)

1PS-9 Sulfonated Chitosan with Carbon-based Solid Acid and its Application in the Reinforcement of Natural Rubber

Xiang Xu LI, Xin GE, Yin Hang ZHANG, Ur Ryong CHO^{*} (Korea University of Technology and Education, Korea)

1PS-10 Structures, Thermal and Mechanical Properties of New *p*-Aramids Containing Ester Linkages Prepare by Phosphorylation-Assisted Polycondensation

Seong Jun YU, Doo Hyun BAIK, Young Gyu JEONG^{*} (Chungnam National University, Korea)

1PS-11 Ethylene-Propylene-Diene Terpolymer with Improved Oil Resistance Through a Modification with Polar Functional Polymers

Joon Hwi JO, Hong Kyu JANG, Sung Chul HONG^{*} (Sejong University, Korea)

1PS-12 Carbon Dioxide based Polycarbonate Polyol as Sustainable Feedstock for Thermoplastic Polyurethane

Prakash ALAGI, Ye Jin CHOI, Ravindra GHORPADE, Sung Chul HONG^{*} (Sejong University, Korea)

1PS-13 Stabilization Behavior of Poly (Acrylonitrile-Co-Itaconic Acid) with Different Compositions by Electron Beam Irradiation

Dong Won CHO, Ravindra V. GHORPADE, Sung Chul HONG^{*} (Sejong University, Korea)

1PS-14 Efficient Chemical Transformation of Castor Oil and Soybean Oil to Polyols Through a Thiol-Ene Reaction for Thermoplastic Polyurethanes

Prakash ALAGI, Ye Jin CHOI, Sung Chul HONG^{*} (Sejong University, Korea)

1PS-15 Monosaccharide-Responsive Polymers of Boronic acid Derivatives for Smart Drug Delivery Vehicles under Physiological Conditions

Eun Sun JEONG^{1,*}, Hyun Ji MA², Jeongeun SONG², Kyoung Taek KIM¹ (¹Ulsan National Institute of Science and Technology (UNIST), ²Seoul National University, Korea)

1PS-16 Superabsorbent Polymers according to the Type of Crosslinking Agent and Solid Content

Jin Hoon KIM^{1,2}, Jung Soo KIM^{1,3}, Min Seong KIM^{1,2}, Byeong Kwan KANG¹, Young-Wook CHANG², No-hyung PARK¹, Joon Chul LEE¹, Dong Hyun KIM^{1,*} (¹Korea Institute of Industrial Technology (KITECH), ²Hanyang University, ³Yonsei University, Korea)

1PS-17 Super Absorbent Polymer Using Bio-based Carboxylic Monomer with Various Inorganic Filler

Byeong Kwan KANG¹, Jung Soo KIM^{1,3}, Jin Hoon KIM^{1,2}, Min Seong KIM^{1,2}, Hae Chan KIM¹, No Hyung PARK¹, Dong Hyun KIM^{1,*} (¹Korea Institute of Industrial Technology (KITECH), ²Hanyang University, ³Yonsei University, Korea)

1PS-18 Synthesis Of Fluorosulfonylimide Acid Poly (Isatin-Biphenylene) for Fuel Cell Electrolyte

Hohyoun JANG¹, Taewook RYU, Jiho YOO, Sabuj Chandra SUTRADHAR, Hanmo YANG, Whangi KIM (Konkuk University, Korea)

1PS-19 Synthesis, Characterization Electrochromic Material and Properties of Polyamides based on Triphenylamine

Ji Hun SEO, Young Jun KWAK, Ki Seung KIM, Seung Woo LEE^{*} (Yeungnam University, Korea)

1PS-20 Synthesis and Characterization of Aromatic Disulfonated Co-Poly (Arylene Thioether Sulfone)s for Proton Conducting Electrolyte Membranes

Seok Ho SON, Young Jun KWAK, Hae Kyoung KIM, Seung Woo LEE^{*} (Yeungnam University, Korea)

1PS-21 Synthesis and Characterization of Epoxy Resins Containing 2D Mesogen Moiety

Do Hee LEE^{1,2}, Seung Hee LEE¹, Seokhoon AHN^{2,*} (¹Chonbuk National University, ²Korea Institute of Science and Technology, Korea)

1PS-22 Poly (acrylonitrile-co-itaconic acid) with Controlled Tacticity for Improved Thermal Oxidative Stabilization Behavior

Ravindra V. GHORPADE, Dong Won CHO, Sung Chul HONG^{*} (Sejong University, Korea)

1PS-23 Poly (ethylene glycol)-Poly (sulfamethazine-ester-urethane) based Ph-/Temperature-Sensitive, Biodegradable and Injectable Hydrogel for

- Cationic Protein Delivery
Le Thai MINH DUY, V.H Giang PHAN, Doo Sung LEE^{} (Sungkyunkwan University, Korea)*
- 1PS-24** Comparison of Linear and Branched Sulfonated Poly (phenylene) PEMFC Membranes
Ahmed FAIZ^{}, Banik NIPA, Jaeseong HA, Chaekyun LEE, Sujin YOON, Whangi KIM (Konkuk University, Korea)*
- 1PS-25** Synthesis and Self-assembly Behaviors of Heteroarm Core Cross-linked Star Polymers
Nam Young AHN, Myungeun SEO^{} (Korea Advanced Institute of Science and Technology (KAIST), Korea)*
- 1PS-26** Characteristics of PEI-crosslinked Copolymer from Wheat Husk for CO₂ Adsorption
Hyuk Jun KWON^{1,2}, Kiseob HWANG¹, Jung Hyun KIM², Jun-Young LEE^{1,} (¹Korea Institute of Industrial Technology (KITECH), ²Yonsei University, Korea)*
- 1PS-27** A Study on the Synthesis and Application of Core-Shell Rubber Particles as Toughening Agent of Epoxy Resin
Sunghee KANG^{1,2}, Sang-Mok CHANG², Choong-Sun LIM¹, Bongkuk SEO^{1,} (¹Korea Research Institute of Chemical Technology, ²Dong-A University, Korea)*
- 1PS-28** A Study on the Chemical Properties of the Polyurea Microcapsule According to the Type of Isocyanate
Jong-jin PARK^{}, Kyu won KO, Ho chung RYU, Sang Ki PARK, Seoung Woong PARK (Chonnam National University, Korea)*
- 1PS-29** Electrosynthesis of Bithiophene-EDOT Copolymers by Bipolar Electrochemistry
Jonghee LEE, Yuki KOIZUMI, Hiroki NISHIYAMA, Ikuyoshi TOMITA, Shinsuke INAGI^{} (Tokyo Institute of Technology, Japan)*
- 1PS-30** Synthesis of Polyimide having Spiropyran Group and Optoelectrical Properties
DeokGi HONG, YoungJun GWAK, JiHun SEO, Seong Woo LEE^{} (Yeungnam University, Korea)*
- 1PS-31** Synthesis and Characterization of Azido-thermoplastic Polyurethane
Da Som MOON, Hee Sang YANG, Na Young GO, Kyung Jin LEE, Bum Jae LEE^{} (Chungnam National University, Korea)*
- 1PS-32** Synthesis of Conjugated Polymer using Suzuki Coupling Reaction
Hyung-Il KIM^{}, Juhan YOUN (Chungnam National University, Korea)*
- 1PS-33** OFETs with Low-Voltage and Electrical Stability by Fluorinated Polymer-Grafted Organic Dielectrics
Hyek-jin KWON, Kyunghoon KIM, Chan Eon PARK^{} (Pohang University of Science and Technology, Korea)*
- 1PS-34** Synthesis and Analysis Of 18-arm star-shaped Block Copolymer and Effect of Propagating Arm Ratio to Phase Behavior
Ye seong SEO, Sangshin JANG, Jin Kon KIM^{} (Pohang University of Science and Technology, Korea)*
- 1PS-35** Solvent-Mediated Assembly of Block Copolymer at Droplet Surface for Tuning Shape and Internal Morphology
Jae Man SHIN¹, Yong Joo KIM¹, Kin LIAO^{2,}, Bumjoon J. KIM^{1,*} (¹Korea Advanced Institute of Science and Technology, Korea, ²Khalifa University, United Arab Emirates)*
- 1PS-36** Synthesis of Star-shaped PMMA-*b*-PS Containing π -stacking Feasible Core
So Yeong PARK, K.L.V. JOSEPH, Kyu Seong LEE, Ji Cheol PARK, Jin Kon KIM^{} (Pohang University of Science and Technology, Korea)*
- 1PS-37** Synthesis and Properties of Poly (arylene ether sulfone) with Heterocyclic Amine Pendant Groups on Aems for Alkaline Water Electrolysis
Nak-Won LEE, Dukjoon KIM^{} (Sungkyunkwan University, Korea)*
- 1PS-38** Synthesis and Characterization of Various Pentablock Copolymers with Different Length Scales of PLGA Blocks and PEO-PPO-PEO Copolymers
Sora SIM, Eun-Bum CHO^{} (Seoul National University of Science and Technology, Korea)*
- 1PS-39** Dual Stimuli-responsive Amphiphilic ABC Triblock Poly(*N*-isopropylacrylamide)-*block*-poly(L-lysine)-*block*-poly(L-histidine) Chimeric Copolymers for Theranostic Delivery
Rimesh AUGUSTINE, Hua Jin, Il KIM^{} (Pusan National University, Korea)*
- 1PS-40** Fabrication of Pr Doped Nano TiO₂ Film on Titanium Matrix as an Electrode

for Electro Catalytic Reduction of Oxalic Acid
Wenliang SONG, Il KIM^{} (Pusan National University, Korea)*

- 1PS-41** Synthesis and Hydrolysis Behavior of Waterborne Polyurethanes Based on Isophorone Diisocyanate, Polytetramethylene Ether Glycol/Polycarbonate Diol, and Dimethylol Butanoic Acid
Seon Yeong MUN, Sun A LEE, Young Ho KIM^{} (Soongsil University, Korea)*
- 1PS-42** Synthesis of Alkyne-Terminated Polyisocyanide and End-group Functionalization Using CuAAC Click Coupling Reaction
Jisun YU, Min-su CHO, Young-Je KWARK^{} (Soongsil University, Korea)*
- 1PS-43** Preparation of Partially Hydroxyethylated Cotton Fibers by the Reaction with 2-Monochloroethanol in Aqueous Media
Hea Bin PARK, Yeon Seok PARK, Dae Hyuk YANG, Young Ho KIM^{} (Soongsil University, Korea)*
- 1PS-44** Multi-Responsible Supramolecule with Chiral Naphthyl and Azobenzene Moieties
Minwook PARK, Kwang-Un JEONG^{} (Chonbuk National University, Korea)*
- 1PS-45** Optically Isotropic Liquid Crystal Media Formulated by Doping Cyclic Oligosiloxane Liquid Crystal Surfactants in Twin Nematic Liquid Crystals
Minwook PARK, Kwang-Un JEONG^{} (Chonbuk National University, Korea)*
- 1PS-46** Synthesis and Characterization of Hydroxyethyl Cellulose (HEC) Non-woven by Heterogeneous Etherification System
Young-Jae LEE¹, Jun-Seong HWANG¹, Sung-Jun LEE¹, Hyun-Chul KIM¹, Sang-Won JEONG¹, Tae-Hwan OH², Se-Geun LEE^{1,} (¹Daegu Gyeongbuk Institute of Science & Technology (DGIST), ²Yeungnam University, Korea)*
- 1PS-47** Synthesis and Properties of the Water-Oil Repellency for Fluorinated acrylate Copolymer Coated Cellulose Paper
Yong Soo KIM¹, Jun-Won KOOK¹, Ki seob HWANG¹, Jeong ho AN², Jun-Young LEE^{1,} (¹Korea Institute of Industrial Technology (KITECH), ²Sungkyunkwan University, Korea)*
- 1PS-48** Structural Requirements of Block Copolymers for Self-Assembly into Inverse Bicontinuous Cubic Mesophases in Solution
Arah CHO^{1,}, Yunju LA¹, Tae Joo SHIN¹, Chiyoun PARK^{1,2}, Kyoung Taek KIM³ (¹Ulsan National Institute of Science and Technology (UNIST), ²Korea Institute of Science and Technology (KIST), ³Seoul National University, Korea)*
- 1PS-49** Preparation the 'Dendrimer-type' Hyperbranched Macromolecules on a Silica Core
Min-Ji SIM, Jun-Young CHOI, Sang-Ho CHA^{} (Kyeonggi University, Korea)*
- 1PS-50** Optimized Synthetic Conditions for the Super Absorbent Polymer using Taguchi Method
Min Seong KIM^{1,2}, Jung Soo KIM^{1,3}, Jin Hoon KIM^{1,2}, Ji Eun JANG¹, Byeong Kwan KANG¹, Hae Chan KIM¹, Young-wook CHANG², No-hyung PARK¹, Dong Hyun KIM^{1,} (¹Korea Institute of Industrial Technology (KITECH), ²Hanyang University, ³Yonsei University, Korea)*

2. Polymer Physics and Characterization

- 1PS-51** Understanding of Crystallization Behavior under Low Melt Temperatures of Propylene-ethylene Copolymer with Different Initial Polymorphs
Jiayi ZHAO¹, Yingying SUN¹, Yongfeng MEN^{1,} (¹Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, ²ExxonMobil Asia Pacific Research & Development Co., Ltd, China)*
- 1PS-52** Solid-state NMR Structure Analysis of Alginate Beads Cross-linked by Different Ions
Martina URBANOVA^{1,}, Miroslava PAVELKOVA², Jiri BRUS¹, Katerina KUBOVA², Jakub VYSLOUZIL² (¹Institute of Macromolecular Chemistry, ²Veterinary and Pharmaceutical University, Czech Republic)*
- 1PS-53** Powder NMR Crystallography of New Polyanhydride Injectable Microbead Formulations of Decitabine
J. BRUS^{1,}, J. CZERNEK¹, M. HUSAK², M. HRUBY¹ (¹Institute of Macromolecular Chemistry, ²University of Chemistry and Technology, Czech Republic)*
- 1PS-54** Poly (methyl methacrylate)/ Graphene Microparticles of Core-shell Structure Prepared with Poly (vinyl alcohol) Functionalized Graphene as Pickering Stabilizer
Hee Sung LEE, Gansukh ERDENEDELGER, Trung Dung DAO^{}, Han Mo JEONG^{*} (University of Ulsan, Korea)*

- 1PS-55** Preparation of Core-shell Composite Phase Change Material using Pickering Emulsion Method
Baek Beom SEO, Trung Dung DAO, Han Mo JEONG (University of Ulsan, Korea)
- 1PS-56** The Compatibility and Physical Properties of Graphene Composites/Styrene-isoprene-styrene Block Copolymer
Eun Jae JUNG, Ki Suk LEE, Han Mo JEONG (University of Ulsan, Korea)
- 1PS-57** Photodegradation Behavior of Ethylene/Vinyl Acetate Copolymer (EVA) Film for Solar Cell Encapsulant
Jinwoo KIM¹, Hyo Sang EOM², Doo-Jin BYUN², Kil-Yeong CHO², Mun Ho KIM^{1,}* (¹Pukyong National University, ²Korea Research Institute of Chemical Technology, Korea)
- 1PS-58** Flame Retardancy of Poly (methyl methacrylate) Nanocomposites Filled with Zinc Oxalate and Carbon Nanotube
Jin Woo KIM, Mun Ho KIM (Pukyong National University, Korea)
- 1PS-59** Thermal and Mechanical Properties of PET/PEN copolymer containing Fluorenylidene bis (2-phenoxyethanol)
Lee Seong KONG¹, Byung Gil MIN¹, Hyo Bin NAM¹, Kwan Han YOON^{1,}, Wonjun KANG²* (¹Kumoh National Institute of Technology, ²Kolon Plastics Inc., Korea)
- 1PS-60** Mechanical Properties and Transparency of PET Copolymer Containing Fluorenylidene bis (2-phenoxyethanol)
Seung Ho JEONG¹, Jun Hyeon KIM¹, Kwan Han YOON^{1,}, Sung-Keun PARK²* (¹Kumoh National Institute of Technology, ²Kolon Plastics Inc., Korea)
- 1PS-61** Polypropylene Composites with Low Gravity and High Stiffness using by Various Inorganic Fillers and Compatibilizer
Hogun JEONG¹, Young-Koan KO, Min hyeok HWANG, Heyjin HAN (Lotte Chemical, Korea)
- 1PS-62** Tough and Biocompatible Hydrogels based on Oppositely Charged Polyelectrolytes
Dae Sung LEE¹, Yang Ho NA (Hannam University, Korea)
- 1PS-63** Effect of Graphene Oxide Sheets on Dynamics of Polymer thin Films
Ki-In CHO^{1,2}, Tea-Ho KIM³, Hyeri KIM¹, Jae-Hak CHOI², Jaseung KOO^{1,}* (¹Korea Atomic Energy Research Institute (KAERI), ²Chungnam National University, ³Korea University of Technology and Education, Korea)
- 1PS-64** Controlling the Mechanical Stiffness of Hyaluronate-g-Alginate Hydrogels
Hyun Ji LEE, HyoSeok AN, Kuen Yong LEE (Hanyang University, Korea)
- 1PS-65** A Research on Crystallization Behaviors of MWCNTs and Poly (Vinylidene Difluoride) Nanocomposites
Jun Young LIM, Jihun KIM, Yongsok SEO (Seoul National University, Korea)
- 1PS-66** Structures, Crystallization/Melting Behavior and Rheological Property of a New Type of Aromatic Polyester
Jun Gyu CHOI, Young Gyu JEONG (Chungnam National University, Korea)
- 1PS-67** Mechanical Properties of Solvent-exchanged Tough Hydrogels
Seo-Yeun LEE¹, Yang Ho NA (Hannam University, Korea)
- 1PS-68** Effects of the Carboxylated PP Compatibilizer and Ethylene Content of EVOH on the Barrier Properties of the PP/EVOH Blends
Jung Soo KIM^{1,2}, Hae Chan KIM^{1,3}, Ki Bum KIM^{1,4}, Hong Joo YANG^{1,4}, Sung Chul HA^{1,4}, Jin Hoon KIM^{1,3}, Min Seong KIM^{1,3}, Youn Suk LEE², Dong Hyun KIM^{1,}* (¹Korea Institute of Industrial Technology (KITECH), ²Yonsei University, ³Hanyang University, ⁴SRTECHNOPACK CO., LTD, Korea)
- 1PS-69** Reducing Defect Density with Solvent Vapor Annealing on Shear-aligned Block Copolymer thin Films
Ye Chan KIM, So Youn KIM (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 1PS-70** Rheology and Microstructure of Polymer Nanocomposites with Dopamine-derived Polymer Adsorption onto Nanoparticles
Na Kyung KWON, Hyunhong KIM, Jongnam PARK, So Youn KIM (Ulsan National Institute of Science and Technology, Korea)
- 1PS-71** Change of Nanoscopic Structures in Tricomponent Polymeric Systems through Varying Effective Interactions and Volume Fractions
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- 1PS-73** Properties of Sulfonated Graphene Oxide/Ceria/Nafion composite for Proton Exchange Membrane Fuel Cell
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- 1PS-75** A Study on the Mechanical Properties of Hybrid Epoxy Resin as the Marine Applications
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- 1PS-76** Macropore Control of Spherical Furan Bead
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- 1PS-84** Synthesis of Carbon Sphere-Fe₂O₃ and SiO₂-Fe₂O₃ Core-Shell Particles for Improvement of Anti-sedimentation Property of Magnetorheological Fluids
Jun Seok CHOI, Yongsok SEO (Seoul National University, Korea)
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Han Su CHO¹, Min-A LEE¹, Christophe MONDON¹, Min-Young LYU^{1,*}, Tae Gyun KIM², Dong Jin SIN³ (¹Seoul National University of Science and Technology, ²Hyunjo In-Tech, ³Desco co., Ltd, Korea)
- 1PS-93** Fabrication and Characterization of Olefin based TPE/PLA Composites Applicable to Sound Insulation Materials in Vehicle
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Jaewook HA¹, SeongMin KIM², Jin-Baek KIM^{1,*} (¹Korea Advanced Institute of Science and Technology, ²Samsung Electronics Co., Ltd., Korea)
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Myoung-Uk KIM¹, Jung-Min LEE¹, Hyun-Gyoo ROH¹, Hyeon-Jeong KANG¹, Soo-Hee PARK¹, Da-Hyun KIM¹, Ju-Hee BYEON¹, Se-Jun OH², Jong-Su LEE², Jong-Shin PARK^{1,*} (¹Seoul National University, ²KOPLA CO., LTD., Korea)
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- LTD., Korea)
- 1PS-122** Effects of Interface Structures on Graphene in Polyethylene/Graphene Composites
*Seho KIM, Yoon-jeong KIM, Yanghee KIM, Seokhoon AHN*¹ (Korea Institute of Science and Technology (KIST), Korea)
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- 1PS-124** Amine-Functionalized Graphene Oxide/Polyimide Composites with Adjusted Glass Transition Temperature
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Seung Kyoo PARK¹, Beom-Jin PARK¹, Jae-Sung PARK^{1,2}, Gunhye JEON¹, Seung HYUN¹, Kwang S. KIM¹, Byung Hee HONG², Jin Kon KIM^{1,}* (¹Pohang University of Science & Technology, ²Seoul National University, Korea)
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Daewon KIM, Geunseok JANG, Taek Seung LEE^{*} (Chungnam National University, Korea)
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Moonyoung JANG^{1,2}, Ilha HWANG³, Hyeon KIM¹, Eunyeong JIN¹, Kimoon KIM^{1,3}, Joon Hak OH^{1,}* (¹Pohang University of Science and Technology (POSTECH), ²Ulsan National Institute of Science and Technology (UNIST), ³Center for Self-assembly and Complexity Institute for Basic Science (IBS), Korea)
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Eun Kwang LEE^{1,2}, Cheol Hee PARK¹, Yonghee KIM¹, Joon Hak OH^{1,}* (¹Pohang University of Science and Technology (POSTECH), ²Ulsan National Institute of Science and Technology (UNIST), Korea)
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- Jihun CHEON, Kyoungok JUNG, Jin-Baek KIM** (Korea Advanced Institute of Science and Technology (KAIST), Korea)
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*Sohee KIM, Jaemin LEE, Kyung Jin LEE** (Chungnam National University, Korea)
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Jong-Jin PARK, Si Young PARK, Seoung Woong PARK, Da In KWAK, Seung Hyeon YOO, Su Min HA, Sang Ki PARK* (Chonnam National University, Korea)
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Yunju LA, Kyoung Taek KIM** (¹Ulsan National University, ²Seoul National University, Korea)
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*Eunsu LEE, Dowan KIM, Eunmin KIM, Jinhwan YOON** (Dong-A University, Korea)
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*Dongwan KIM, Taeju SHIN, Jinhwan YOON** (Dong-A University, Korea)
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Sung-Hyun HWANG, Jin-Mook JUNG*, Chan-Hee JUNG*, Jae-Hak*

*CHOI** (¹Chungnam National University, ²Korea Atomic Energy Research Institute, Korea)

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Jang-Yong LEE, Won Keun Sor*, Jae-Hak CHOI** (¹Chungnam National University, ²Siontech Inc., Korea)
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*Da-Sol KWON, Jang-Yong LEE, Jae-Hak CHOI** (Chungnam National University, Korea)
- 1PS-175** Ion Sensitive Monodolein Cubic Phase Containing Alginate and Calcium Chloride
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*Ho NAMGUNG, Geunseok JANG, Daewon KIM, Taek Seung LEE** (Chungnam National University, Korea)

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*Seungmin SHIN, Jin-Baek KIM** (Korea Advanced Institute of Science and Technology (KAIST), Korea)
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Sanghyuk CHEONG, Jinhan CHO* (Korea University, Korea)
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*Joo-Kyoung HWANG, Kwang-Un JEONG** (Chonbuk National University, Korea)
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Hongkun TIAN¹, Yu JIANG, Lixiang WANG (Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China)
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- 1PS-285** Dioxazine-Containing Organic Semiconducting Materials: Properties and Applications in Organic Thin Film Transistors
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Byoungwook PARK, Kilho YU, Garam PARK, Kwanghee LEE^{}* (GIST, Korea)
- 1PS-289** Constructing AgNW Embedded Transparent Conductive Electrodes with Minimum Thickness Variation
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- 1PS-292** Electrically Tunable Full Color Reflective Display with Charged Microsphere Polymers in i-Paraffin solvent
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Hui-Gyun NAM, Jin-Mook JUNG, Seong Jun YU, Young-Gyu JEONG, Jae-Hak CHOI^{} (Chungnam National University, Korea)*
- 1PS-294** Chemically Robust Organic Field-Effect Transistor Array with Graphene Electrodes for Enhanced Ambipolarity
Cheol Hee PARK¹, Eun Kwang LEE^{1,2}, A-Reum HAN^{1,2}, Hae Rang LEE¹, Eun Yeob PARK², Sang Jin LEE¹, Joon Hak OH^{1,2} (Pohang University of Science and Technology, ²Ulsan National Institute of Science and Technology (UNIST), Korea)
- 1PS-295** Highly Flexible Electrospun Nanofiber Transistors Prepared on an Elastic Polymer Composite for Chemical Sensors
Oyoung KWON, Moo Yeol LEE, Joon Hak OH^{} (Pohang University of Science and Technology (POSTECH), Korea)*
- 1PS-296** Novel Polymer-metal Hybrid Transparent Electrodes for Flexible Organic Electronics
Suhyun JUNG, Hongkyu KANG, Soyeong JEONG, Geunjin KIM, Kwanghee LEE^{} (Gwangju Institute of Science and Technology (GIST), Korea)*
- 1PS-297** p-doped Anionic Conjugated Polyelectrolytes for Efficient Plastic Electronics
Jong-Hoon LEE¹, Byoung Hoon LEE², Song Yi JEONG¹, Geunjin KIM¹, Seong Ho LEE³, Kwanghee LEE^{1,2} (Gwangju Institute of Science and Technology (GIST), Korea, ²University of Santa Barbara, USA, ³Daegu University, Korea)
- 1PS-298** Modulation of Electrostatic Interaction in Conducting Polymer Complexes using Ionic Liquids for Highly Ordered Nanostructure
Seoyoung KEE¹, Nara KIM¹, Bong Seong KIM¹, Seongjin PARK¹, Yun Hee JANG¹, Seoung Ho LEE¹, Sooncheol KWON¹, Jehan KIM¹, Junghwan KIM¹, Kwanghee LEE^{1,2} (Gwangju Institute of Science and Technology (GIST), ²Pohang University of Science and Technology (POSTECH), Korea)
- 1PS-299** Triboelectric Nanogenerators Using Robust Silver Nanowires Network
Hyungseok KANG¹, Han KIM¹, Seongsu KIM¹, Hyeon Jin SHIN², Siuk CHEON¹, Ji-Hyeok HUH¹, Dong Yun LEE³, Seungwoo LEE¹, Sang-Woo KIM^{1,2}, Jeong Ho CHO^{1,2} (Sungkyunkwan University, ²Samsung Advanced Institute of Technology, ³Kyungpook National University, Korea)
- 1PS-300** Organic Field-effect Transistors and Inverters based on Polysaccharide in Red Algae
Dongmyung YANG, Jisun KIM, Seungmoon PYO^{} (Konkuk University, Korea)*
- 1PS-301** Organic Microcrystal Array-Embedded Diimide Active Layer for Field-Effect Devices with Balanced Charge Transport
Uijin JEONG, Seungmoon PYO^{} (Konkuk University, Korea)*

9. Bio-related Polymers

- 1PS-302** Highly Stable and Thiol-Responsive Poly (gemini) Micelles for Site-specific Controlled Release as an Intracellular Drug Delivery Nanocarrier
Hyun-Chul KIM^{}, Eunjo KIM, Se Guen LEE, Sung Jun LEE, Sang Won JEONG (Daegu Gyeongbuk Institute of Science & Technology (DGIST), Korea)*
- 1PS-303** Injectable Hydrogel for Therapy of Mouse Bone Marrow MSCs for Renal Dysfunction
Sun-Hee CHO, Van-Vuong DINH, Montri MEESEEPONG, Hong-Guen LEE, Il Woo SHIN, Sun-Young KIM, Chanyoung SONG, Yong Taik LIM^{}*

(Sungkyunkwan University, Korea)

- 1PS-304** Mesoporous Silica Nanocarrier with Multifunctional Peptide Gatekeepers for Improved Tumor Therapy by Enhanced Deep Tumor Tissue Penetration
Jeonghun LEE, Jinyoung LEE, Eun-Taeh OH, Heon Joo PARK, Chulhee KIM^{} (Inha University, Korea)*
- 1PS-305** Antibiotic/Antifungal Drug-Loaded Asymmetrically Porous Membrane/3D-Printed Mesh Hybrid Tube as Trachea Substitute
So Ri LEE¹, Tae Ho KIM¹, Seong Keun KWON², Su A PARK³, Se Heang OH⁴, Jin Ho LEE^{1,2} (Hannam University, ²Seoul National University Hospital, ³Korea Institute of Machinery and Materials, ⁴Dankook University, Korea)
- 1PS-306** Simultaneous Treatment of Osteomyelitis and Bone Defect Using Dual Antibiotic/Growth Factor-loaded Alginate/HA Hydrogel
Sun Woo JUNG¹, Tae Ho KIM¹, Se Heang OH², Jin Ho LEE^{1,2} (Hannam University, ²Dankook University, Korea)
- 1PS-307** In Vitro Osteogenic Differentiation of Bone Marrow Stem Cells on BMP-2-immobilized Polycaprolactone/Hyaluronic Acid Microspheres
Tae Ho KIM¹, Se Heang OH², Jin Ho LEE^{1,2} (Hannam University, ²Dankook University, Korea)
- 1PS-308** Sustained Delivery of BMP-2 from Porous Beads with Leaf-Stacked Structure for Osteogenic Differentiation and New Bone Formation
Ho Yong KIM¹, Jin Ho PARK², June-Ho BYUN², Jin Ho LEE³, Se Heang OH^{1,2} (Dankook University, ²Gyeongsang National University School of Medicine, ³Hannam University, Korea)
- 1PS-309** Sustained Release of BMP-2 from GBR Membrane with Leaf-Stacked Structure for Effective Bone Regeneration
Jin Hyun PARK¹, Tae Ho KIM², Jin Ho LEE², Jun-Ho BYUN², Ho Yong KIM¹, Se Heang OH^{1,2} (Dankook University, ²Hannam University, ³Gyeongsang National University School of Medicine, Korea)
- 1PS-310** Processing Method Free Highly Reproducible Organic Field-effect Transistors
Gil Jo CHAE^{1,2}, Young-Min OH², So-Huei KANG³, Myung Joo CHA⁴, Jung Hwa SEO⁴, Changduk YANG³, Tae-dong KIM², Shinuk CHO¹ (University of Ulsan, ²Hannam University, ³Ulsan National Institute of Science and Technology, ⁴Dong-A University, Korea)
- 1PS-311** Cationic Poly (Ethylene Glycol)/Poly (L-lysine) Miktoarm Copolymer as a New Gene Delivery Carrier
Yu Gyeong KIM¹, Md NURUNNABI¹, Eun Ji LEE¹, Han Chang KANG², Yong-kyu LEE³, Kang Moo HUH^{1,2} (Chungnam National University, ²The Catholic University of Korea, ³Korea National University of Transportation, Korea)
- 1PS-312** Quantification of Cation-u03c0 Interactions in Like-charged Polyelectrolytes Inspired by Mussels
Sohee PARK¹, Dong Soo HWANG (Pohang University of Science and Technology (POSTECH), Korea)
- 1PS-314** Albumin based Injectable Hydrogel for Protein Delivery
V.H. Giang PHAN, Doo Sung LEE^{} (Sungkyunkwan University, Korea)*
- 1PS-316** In-situ Cross-linkable Thermogel System based on Glycol Chitosan Derivatives
Hye Min OH¹, Da Eun KIM¹, Ik Sung CHO¹, Myeong Ok CHO², Sun-Woong KANG², Kang Moo HUH^{1,2} (Chungnam National University, ²Korea Institute of Toxicology, Korea)
- 1PS-317** Efficient Delivery of Hydrophilic Drugs through pHEMA-based Hydrogel Contact Lenses for Treatment of Glaucoma
Dasom LEE, Inchan KWON^{} (Gwangju Institute of Science and Technology (GIST), Korea)*
- 1PS-318** Thermosensitive and Rheological Properties of Blend Thermogels based on Poloxamer 407 and Acyl Glycol Chitosans
Da Eun KIM, Hye Min OH, Chan Yang JOO, Ik Sung CHO, Kang Moo HUH^{} (Chungnam National University, Korea)*
- 1PS-319** Cytotoxicity of Different Surface charged Gold Nanoparticles (AuNPs) on Bacterial Cells
Gyeong Tae LEE^{1,2}, Jeong Chan PARK², Jeong Hyun SEO¹ (Yeungnam University, ²Korea Atomic Energy Research Institute, Korea)
- 1PS-320** Promotes Osteoblast Cell Adhesion and Proliferation by Mussel-based Recombinant Proximal Thread Matrix Protein
Young Hoon SONG^{1,2}, Hee Young YOO², Dong Soo HWANG², Jeong Hyun

- SEO¹ (¹Yeungnam University, ²Pohang University of Science and Technology (POSTECH), Korea)
- 1PS-321** Role of Calcium Ion in Sugar-calcium Complex as a Binder of Sawdust Pellet
Go Eun JEON^{*}, Young Hoon SONG, Do Hyeon KIM, Jeong Hyun SEO (Yeungnam University, Korea)
- 1PS-322** Antibacterial Effect of Silver Nanoparticle (Agnp) Depending on its Size and Shape
Do Hyeon KIM^{1,*}, Go Eun JEON¹, Gyeong Tae LEE¹, Young Hoon SONG¹, Jeong Chan PARK², Jeong Hyun SEO¹ (¹Yeungnam University, ²Korea Atomic Energy Research Institute, Korea)
- 1PS-323** A Temperature-Responsive Carrier System That Can Form Micellar Depots Containing Nitric Oxide Bubbles In Situ for Reversing Osteoporosis
Yu-Jung LIN¹, Nai-Wen CHI¹, Trang NGUYEN¹, Chun-Chieh CHEN^{1,2}, Hung-Lin LU¹, Hsing-Wen SUNG^{1,*} (¹National Tsing Hua University, ²Chang Gung Memorial Hospital, Taiwan)
- 1PS-324** An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy
Wen-Yu PAN, Po-Ming CHEN, Yi-Hsuan TSAI, Hsing-Wen SUNG^{*} (National Tsing Hua University, Taiwan)
- 1PS-325** Synthesis of Zwitterionic Copolymers Containing Calcium binding Moiety to Prevent Oral Bacterial Adhesion on Hydroxyapatite Surface
Myoungjin LEE, Ji-Hun SEO^{*} (Korea University, Korea)
- 1PS-326** Polymer Particle-loaded Alginate Ferrogels for Controlled Drug Release
Chunggu KIM^{*}, Eunseok KO, Hwi KIM, Kuen Yong LEE (Hanyang University, Korea)
- 1PS-327** Motility of Diatoms on the Surface of Polyampholyte Hydrogel
Seon Ho HWANG^{*}, Yang Ho NA (Hannam University, Korea)
- 1PS-328** Neural Differentiation Originated Human Pluripotent Stem Cells in 3D Hydrogel
Sang-Hyeon BOK^{*}, You-Kyung LEE, Jin-A LEE, Yang Ho NA (Hannam University, Korea)
- 1PS-329** Flocculation and Removal of Harmful Algae according to the Molecular Weight of Chitosan
Jae-Woon NAH^{*}, Hyun-Su LEE, Sun-Ju CHOI, Woong-Gil HONG, Jun-Hyuk AHN, Won-Seok KIM, Changyong CHOI (Sunchon National University, Korea)
- 1PS-330** Preparation of Ebselen-loaded Nanoparticles using Copolymer for Radio-protection
Jae-Woon NAH^{*}, Changyong CHOI, Gyeong-Won JEONG (Sunchon National University, Korea)
- 1PS-331** Hydrogels Modified with Cadherin-Binding Peptide for a Control of Stem Cell Phenotype
Sang Woo KIM, Jae-Won LEE, Kuen Yong LEE^{*} (Hanyang University, Korea)
- 1PS-332** pH-responsive 3D Scaffold for Stem Cell Culture
Tepeng WU, V. H. Giang PHAN, Jaeseung LYM, Doo Sung LEE^{*} (Sungkyunkwan University, Korea)
- 1PS-333** Particles with Two Compartmental Systems and their DNA Modification
Jihyun CHOI, Kyung Jin LEE^{*} (Chungnam National University, Korea)
- 1PS-334** Synthesis and GFP Capturing Behavior of Hydrogel with NTA-Modified Acrylic Monomer
Youngjin KIM, Kyung Jin LEE^{*} (Chungnam National University, Korea)
- 1PS-335** The Drug Release Behavior of Electrosprayed Silk Fibroin Microparticles
Munju SHIN, Haesung YUN, Ji Eun JU, KiHoon LEE^{*} (Seoul National University, Korea)
- 1PS-336** Topographically Defined Biomaterials for Bone Regeneration
Byung-Soo KIM^{1,*}, Jeong-Kee YOON¹, Hong Nam KIM² (¹Seoul National University, ²Korea Institute of Science and Technology (KIST), Korea)
- 1PS-337** Development of the Potential Carrier based on Cyclodextrin Conjugated Maleic Anhydride Derivatives as a Novel Cyclic Oligosaccharide for pH Sensitive Drug Release
Sunyoung KANG, Yan LEE^{*} (Seoul National University, Korea)
- 1PS-338** Preparation of Biocompatible Cover for Cartilage Repair
So Hyeon LEE^{*}, Yang Ho NA (Hannam University, Korea)
- 1PS-339** Chondrogenic Differentiation in 3D Hydrogel with Negative Charged Group

Kyu-Duck KIM^{*}, Yang Ho NA (Hannam University, Korea)

- 1PS-340** An Acid-treated Chitosan for Swellable Microneedles Patches
Young Jun HWANG, Keum-Yong SEONG, Seung Yun YANG^{*} (Pusan National University, Korea)
- 1PS-341** Large scale Polymer Filler Development for Breast Reconstruction
Sujin KIM^{1,3}, Kangwon LEE^{1,2,*}, Chanyeong HEO^{3,*} (¹Seoul National University, ²Advanced Institutes of Convergence Technology, ³Seoul National University College of Medicine, Korea)
- 1PS-342** Charge- and Shape-Specific Cellular Uptake of Au Colloids and Application in Photothermal Cancer Therapy
Mijin KIM, Nguyen Van PHUC, Hyun Wook KANG, Minseok KWAK^{*} (Pukyong National University, Korea)
- 1PS-343** Silver Nanoparticles (Ag NPs)-Incorporated, and Heparin Immobilized Surfaces to Prevent Thrombosis and Infection
Phuong Le THI¹, Yunki LEE¹, Kyung Min PARK², Ki Dong PARK^{1,*} (¹Ajou University, ²Incheon National University, Korea)
- 1PS-344** Mechanical Stability Improvement of Cell Sheet through Layer-by-Layer Technique Application
Miso YANG, Jinkee HONG^{*} (Chung-Ang University, Korea)
- 1PS-345** HMGB1 Modulation using Glycyrrhizin-chitosan Bioconjugate for Successful Outcomes of Transplanted Pancreatic Islets
Dong Hoon KANG, Tae Heon KIM, Soo Bin JANG, Dong Yun LEE^{*} (Hanyang University, Korea)
- 1PS-346** Mechanical Reinforcement of Regenerated Chitin with Dopamine-Mediated Sclerotization
Suyoung LEE¹, Dongyeop X. OH², Chanoong LIM¹, Dong Soo HWANG^{1,*} (¹Pohang University of Science and Technology (POSTECH), ²Korea Research Institute of Chemical Technology (KRICT), Korea)
- 1PS-347** Bio-based Tunicate-mimetic Hydrogel Adhesive with Improved Wet Adhesion
Bich Ngoc TRAN^{*}, Dongyeop X. OH², Sangsik KIM, Dohoon LEE, DongSoo HWANG (Pohang University of Science and Technology (POSTECH), Korea)
- 1PS-348** Cellulose Nanofibers for Magnetically-separable Enzyme Immobilization
Hwa Heon JE¹, Sora NOH², Sung-Gil HONG², Dong Soo HWANG^{1,*}, Jungbae KIM² (¹Pohang University of Science and Technology (POSTECH), ²Korea University, Korea)

10. Advanced Industrial Technology

- 1PS-349** Synthesis of Eco-friendly Biosurfactants from Vegetable Oil Sources and Characterization of Their Interfacial Properties for Cosmetics and Household Product Applications
JongChoo LIM^{*}, SooMin LEE, JuYeon LEE (Dongguk University, Korea)
- 1PS-350** A Numerical Analysis on Flow Characteristic by Drying Nozzles Geometry in a Tire cord Yarn Dryer
Hwan-Kuk KIM^{*}, Kyu-Hoi DO (Korea Textile Machinery Research Institute, Korea)
- 1PS-351** The Effect of Antifouling Modified PMMA for Automotive Rear Reflector
Jin Uk HA^{1,*}, Ye Jin HWANG¹, Hyun Wook LEE¹, Myong Sik AHN², Do Ho LEE² (¹Korea Automotive Technology Institute, ²Il Heung Co. Ltd., Korea)
- 1PS-352** Study on Inorganic Pickering Emulsifier for Preparation of Thermally Expandable Microcapsule
Jin Uk HA^{1,*}, Sun Kyoung JEOUNG¹, Ye Jin HWANG¹, Sung Bok KWAK² (¹Korea Automotive Technology Institute, ²Duckyang Ind. Co., Ltd, Korea)
- 1PS-353** Study on Automotive Interior Parts featuring Homogeneous Emission using Light Diffusing Polycarbonate and Transparent Poly (methyl methacrylate)
Pyoung-Chan LEE^{1,*}, Bo-Ram KIM¹, Sun-Kyoung JEOUNG¹, Yun-Sup HWANG², Jae Wook JUNG² (¹Korea Automotive Technology Institute, ²NIFCO KOREA Inc., Korea)
- 1PS-354** A Study of Real Pad Printing Process for Surface Treatment on the Automotive Interior Parts
Pyoung-Chan LEE^{1,*}, Bo-Ram KIM¹, Sun Kyoung JEOUNG¹, Sin Sung KANG² (¹Korea Automotive Technology Institute, ²Mainvis Co., Korea)
- 1PS-355** A Well-ordered Tin Oxide 3D-nanostructures for Chemical Sensor

- Fabricated via Nanotransfer Printing
Hyuk Jin HAN, Jong Min KIM, Yoon Hyung HUR, Yeon Sik JUNG (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 1PS-356** Formability Prediction of PET Based IMD Film in In-Mold Decoration Process for Automotive Interior Parts
Youn Ki KO^{1,}, Jin Uk HA¹, Sun Kyoung JEOUNG¹, Jae Uk JUNG², Yun Sup HWANG², Kyung In LEE³, Sung Jung PARK³* (¹Korea Automotive Technology Institute, ²NIFCO Korea Inc., ³SAMU DIES Corp., Korea)
- 1PS-357** Novel Fabrication of Microfluidic Capacitive Sensors with Ionic Liquids Electrodes and CNT/PDMS Composites
Sun Geun YOON, Suk Tai CHANG (Chung-Ang University, Korea)
- 1PS-358** Surface Energy Guided Patterning Technology for Application of Electronic Device
Sung Min LEE, Suk Tai CHANG (Chung-Ang University, Korea)
- 1PS-359** High Precision Temperature-Controlled Versatile Rigid Mold for Site-Selective Dewetting and Hierarchical Nanostructure Generation
Kwang Su KIM¹, Jong Uk KIM^{1,2}, Pil J. YOO^{1,}, Tae-il KIM^{1,2,*}* (¹Sungkyunkwan University (SKKU), ²Institute of Basic Science (IBS), Korea)
- 1PS-360** Study of Silica-zirconia Composite Membrane for Removal of Water During Epoxy Resin Synthesis Process
Hye-Ryun NA^{1,2}, Hye-Ryeon LEE¹, Eui Jung KIM², Bongkuk SEO^{1,}* (¹Korea Research Institute of Chemical Technology (KRICT), ²University of Ulsan, Korea)
- 1PS-361** The Effect of Alkaline Hydrolysis on the Chemical and Thermal Properties of Polyacrylonitrile (PAN) Nanofibers
So Yeon JIN, Won Ho PARK (Chungnam National University, Korea)
- 1PS-362** Enhanced Thermal Stability of Poly (Vinyl Alcohol) Nanofibers Capping with polyDOPA
Ja Young CHEON, Young Il YOON, Won Ho PARK (Chungnam National University, Korea)
- 1PS-363** Blue-Emitting Heteroleptic Iridium (III) Complexes with Near-Unity Quantum Yield for Highly Efficient PhOLEDs
Ganguri SARADA¹, Yeong-Soon GAL², Sung-Ho JIN^{1,}* (¹Pusan National University, ²Kyungil University, Korea)
- 1PS-364** Series of New Bipolar Deep-Blue Fluorescent Organic Light-Emitting Diodes with an External Quantum Efficiency of 5.1% and CIEY ≤ 0.09
Sree Vijaya GOPALAN¹, Yeong-Soon GAL², Sung-Ho JIN^{1,}* (¹Pusan National University, ²Kyungil University, Korea)
- 1PS-365** Improving the Performance of Solution-Processable Phosphorescent Organic Light-Emitting Diodes using Heteroleptic Multifunctional Iridium (III) Complexes
Woosum CHO¹, Ganguri SARADA¹, Yeong-Soon GAL², Sung-Ho JIN^{1,}* (¹Pusan National University, ²Kyungil University, Korea)
- 1PS-366** Synthesis and Properties of Photoinduced Refractive Index Change Polymers
Inhye JEON^{1,2}, Mijin CHOI¹, Jinsoo KIM¹, Mi Hye YI¹, Hak Rin KIM², Jinhan CHO², Jae-won KA^{1,}* (¹Korea Research Institute of Chemical Technology, ²Korea University, ³Kyungpook National University, Korea)
- 1PS-367** Acetylene Containing Large Refractive Index Changing Azobenzene Polymers for Rewritable Hologram
Ae-Jin YEON^{1,2}, In-hye JEON¹, Hae-min SEO¹, Jin-soo KIM¹, Mi Hye YI¹, Kang-Moo HEO², Hak-Rin KIM², Jae-won KA^{1,}, Jimae IL², Kug Jung IM^{1,*}* (¹Korea Research Institute of Chemical Technology, ²Chungnam National University, ³Kyungpook National University, Korea)
- 1PS-368** Effect of Polyethylene Glycol Blend on Permeation Properties of PEBAX Thin Film Composite Membrane
Jeong-gu YEO^{1,}, Yun Pyo LEE^{1,2}, Jung Hyun LEE¹* (¹Korea Institute of Energy Research, ²The Graduate School of the University of Seoul, Korea)
- 1PS-369** Differences of Biological Activity and Capsular Contracture Severity by Surface Type of Silicone Implant
Byung Hwi KIM¹, Byung Ho SHIN¹, Chan Young HEO^{1,2,}* (¹Seoul National University College of Medicine, ²Seoul National University, ³Seoul National University Bundang Hospital, Korea)
- 1PS-370** Environmentally-Friendly Recycling Technology of Carbon Fiber Reinforced Polymers using Supercritical Fluid
Young Nam KIM^{1,2}, Yumi HA^{1,3}, Yong Chae JUNG^{1,4,}* (¹Korea Institute

of Science and Technology (KIST), ²Jeonbuk National University, ³Gwangju Institute of Science and Technology (GIST), ⁴Korea University of Science and Technology (UST), Korea)

- 1PS-371** Recycling Of Poly (Amic Acid) Gels through Microwave Irradiation
Hwan-Chul YU, Ju-Young CHOI, Jin-Won JEONG, Beom-Jun KIM, Chan-Moon CHUNG (Yonsei University, Korea)
- 1PS-372** Aqueous Dispersion of Single-walled Carbon Nanotubes with High Aspect Ratio
Subramani DEVARAJU¹, Jong Hun HAN², Kwan Han YOON³, Young Sil LEE², Hyun-jong PAIK^{1,}* (¹Pusan National University, ²Chonnam National University, ³Kumoh National Institute of Technology, Korea)
- 1PS-373** Printing Properties of Acrylic UV Adhesive by Kinds of Nano-particle and Content
Min Jeong CHO, Ho Jong KANG, Dong Bok KIM (Dankook University, Korea)
- 1PS-374** Research of Adhesive Properties : Eco-Friendly Car Seat Olefin-based Materials using Modified EVA Hotmelt Film
Il-Jin KIM¹, Min Soep SONG, Jung Hee LEE, Dong Jin LEE (Korea Institute of Footwear and Leather Technology, Korea)
- 1PS-375** Effect of SEBS Mixture on Adhesion Strength Between Aluminum Attached PET Film and VCM
Semi HAN, Beak-Jin KIM (Korea Institute of Industrial Technology, Korea)
- 1PS-376** Study on Mechanical and Thermal Properties of Adhesives for Mobile Phone
Semi HAN¹, Dong Wook KIM^{1,2}, Byoung-Ju CHO¹, Beak-Jin KIM^{1,}* (¹Korea Institute of Industrial Technology, ²Sungkyunkwan University, Korea)
- 1PS-377** Study on Corrosion Inhibition Behavior of Polymers with Highly Electron Density
Semi HAN, Baek-Jin KIM (Korea Institute of Industrial Technology, Korea)
- 1PS-378** Study into Laser Sintering Process of Polyketone
Chang-Ho LEE², S. H. JOO, K. S. BYUN (Korea Engineering Plasti Co., Ltd., Korea)
- 1PS-379** Polyketone & Polyamide 6I Alloy Research
Yunho CHO¹, S. H. JOO, K. S. BYUN (Korea Engineering Plastic Co., Ltd., Korea)

● ● Poster Session (II) – October 6, 2016 (Thursday) (tentative)

(9:00 ~ 10:30)

Chair: Do Hwan KIM (Soongsil University, Korea)

Song Yun CHO (Korea Research Institute of Chemical Technology (KRICT), Korea)

1. Polymer Synthesis

- 2PS-1** Living Anionic Polymerization of Poly (propylene glycol) Glycidyl Ether Macromonomer and Its Ion Conduction Behavior
Dong-Woo SHIN, Sang-Woog RYU (Chungbuk National University, Korea)
- 2PS-2** Synthesis of Acrylate Functionalized Hyperbranched Polyglycerol and UV-curing Behavior
A-Rang YOO, Sang-Woog RYU (Chungbuk National University, Korea)
- 2PS-3** Antibacterial and Biocompatible ABA-Triblock Copolymers Containing Perfluoropolyether and Cardanol
Na Kyung KIM¹, Yong-Seok CHOI¹, Jin Seok KIM¹, Hyo KANG², Hyun-Ki JANG¹, Da-Jung SHON¹, Byung-Soo KIM¹, Jong-Chan LEE^{1,}* (¹Seoul National University, ²Dong-A University, Korea)
- 2PS-4** Synthesis of Water-Soluble Ion Conducting Polymer Binders for Lithium Ion Battery
Seung-Taek OH, Sang-Woog RYU (Chungbuk National University, Korea)
- 2PS-5** The Preparation and Properties of Waterborne Polyurethane/Paraffin Wax Blends
Hye-Lin KIM, Young-Hee LEE, Ae-Li KIM, Joo-Yeong CHE, Hyun PARK, Han-Do KIM (Pusan National University, Korea)
- 2PS-6** Synthesis of UV-Curable Polymers having Poly (ethylene glycol) and Cardanyl Moieties and their Application to Solid Polymer Electrolytes for All-Solid-State Lithium Secondary

- Ji-Hoon BAIK, Dong-Gyun KIM, Jimin SHIM, Jin Hong LEE, Yong-Seok CHOI, Jong-Chan LEE*^{*} (Seoul National University, Korea)
- 2PS-7** Preparation and Properties of Emulsifier-/NMP-Free Waterborne Polyurethane/Crosslinkable Acrylic Copolymer Emulsion for Paint Binder - Effect of 2-Hydroxyethyl Methacrylate (HEMA)/Pentaerythritol Triacrylate (PETA) Content
Seong-Ho SON, Do-Young HA, Chang-Heon KIM, Young-Hee LEE, Hyun PARK, Han-Do KIM^{*} (Pusan National University, Korea)
- 2PS-8** Soybean Oil-based Polyol with Predetermined Number of Primary Hydroxyl Functionalities for Thermoplastic Polyurethane
Prakash ALAGI, Ye Jin CHOI, Jeong Hyeon JANG, Sung Chul HONG^{*} (Sejong University, Korea)
- 2PS-9** Synthesis of Perfluoro Acrylate-Silane Derivatives Core-Shell Nanoparticles by Seed Emulsion Polymerization using Two Stage Shot Growth Method
Jun-Wan KOOK^{1,2}, *Yong Soo KIM*¹, *Ki Seob HWANG*¹, *Jung Hyun KIM*², *Jun-Young LEE*^{1,*} (¹Korea Institute of Industrial Technology, ²Yonsei University, Korea)
- 2PS-10** Insertion of Oligosulfide Linkages into Dynamic Covalent Polymers with Bis (dialkylamino)disulfide
Koki IKUTA, Akira TAKAHASHI, Raita GOSEKI, Hideyuki OTSUKA^{*} (Tokyo Institute of Technology, Japan)
- 2PS-11** Bulk and Thin Film Morphological Studies of Fluorine-containing Block Copolymers Synthesized via RAFT
*Alvin CHANDRA*¹, *Ryuichi NAKATANI*¹, *Teruaki HAYAKAWA*^{1,2,*} (¹Tokyo Institute of Technology, ²Japan Science and Technology Agency, (JST), Japan)
- 2PS-12** Conjugated Polymers Composed of 6-(2-thienyl)-4H-thieno[3,2-b] Indole (TTI) and Isoindigo for Organic Photovoltaics
Juae KIM, Dasom GU, Jinwon JANG, Juntae YUN, Dongjun KIM, Younghyun KIM, Minji KIM, Hongsuk SUH^{*} (Pusan National University, Korea)
- 2PS-13** Conjugated Polymers on the Basis of 6-(2-thienyl)-4H-thieno [3,2-b]Indole and Fluorinated Benzothiadiazole for Organic Solar Cells
Juae KIM, Dasom GU, Jinwon JANG, Juntae YUN, Dongjun KIM, Younghyun KIM, Minji KIM, Hongsuk SUH^{*} (Pusan National University, Korea)
- 2PS-14** Competitive Hydrogen-Bonding-Induced Microphase Separation in Thermosets with Triblock Copolymer
Chen-Yu LIAO^{1,*}, *Wen-Hua CHEN*¹, *Yeo-Wan CHIANG*², *Chih-Feng HUANG*¹ (¹National Chung Hsing University, ²National Sun Yat-Sen University, Taiwan)
- 2PS-15** Chain-growth Condensation Polymerization to Synthesize Polybenzamide (PBA) and Introduce PBA into Polyimide
Zih-Syuan LIU, Chih-Feng HUANG^{*} (National Chung Hsing University, Taiwan)
- 2PS-16** Fabrication and Characterization of UV-Curable Soft Contact Lens based on PHEMA Hydrogels
*Jung Hyun LEE*¹, *Ji Hye JANG, Geon U KIM, Jeong Woong JOE, Yang Il HUH* (Chonnam National University, Korea)
- 2PS-17** Preparation and Properties of PHEMA Hydrogels for Color Soft Contact Lens Containing Reactive Dye
JiHye JANG, JungHyun LEE, GeonU KIM, JiHoon PARK, Yang-Il HUH^{*} (Chonnam National University, Korea)
- 2PS-18** Synthesis of Mainchain-type Polyesters by Atom Transfer Radical Polyaddition
Jyun-Ci LIAO, Ya-An HSIEH, Yu-Min HAN, Chih-Feng HUANG^{*} (National Chung Hsing University, Taiwan)
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Cheng-Han YANG, Po-Hung WANG, Chih-Feng HUANG^{*} (National Chung Hsing University, Taiwan)
- 2PS-20** Boronic acid-functionalized Hierarchical Porous Polymer Microspheres for the Sensitive Detection of Diols by Electrochemical Sensing and Dye Displacement Assay
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- 2PS-21** New Methodology for C-N Bond Containing Polymers by C-H Activation
Yoon-Jung JANG, Tae-Lim CHOI^{*} (Seoul National University, Korea)
- 2PS-22** Effect of Complexing Agents of Double Metal Cyanide Catalyst for

- Ring-Opening Polymerization of Propylene Oxide
Thuy Linh PHAM, Hoang Chinh TRAN, Il KIM^{*} (Pusan National University, Korea)
- 2PS-23** Ring-opening Polymerization of Propylene Oxide Using Highly Active Double Metal Cyanide Catalyst
Hoang Chinh TRAN, Thuy Linh PHAM, Il KIM^{*} (Pusan National University, Korea)
- 2PS-24** Copolymerization of Propylene Oxide with Allyl Glycidyl Ether by Using Double Metal Cyanide Complex Catalyst: Synthesis, Characterization and Reactivity Ratio
Yu Na KIM, Il KIM^{*} (Pusan National University, Korea)
- 2PS-25** Preparation and Properties of Carbon Nanotube Complexes Covalently Functionalized by Substituted Phthalocyanine Derivatives
Sun Mi HONG, Anil Kumar MUTYALA, Ho Seung SON, Da hye KIM, Jong Seung PARK^{*} (Pusan National University, Korea)
- 2PS-26** Synthesis and Self-Assembly of Polycarbazole Based Rod-Coil Copolymers with Graft Architecture for Producing Well-Ordered Nanostructures
Hyeon-Jeong KIM, Youngkwon KIM, Jee-Eun CHOI, Bumjoon J. KIM^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-27** Dual Ionic Copolymer for Injection of DNA Vaccines via Multilayer Polymer Microneedle
Huu Thuy Trang DUONG, Nak Won KIM, Vu Hoang Giang PHAN, Ji Hoon JEONG, Doo Sung LEE^{*} (Sungkyunkwan University, Korea)
- 2PS-28** Study on Synthesis and Application of Poly (cyclotriphosphazene) in Green Flame Retardant Poly(lactide)
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- 2PS-29** Preparation of Chemically Modified Poly (ester-amide) Fibers Exhibiting Lyotropic Behavior in Organic Solvents
Eun Ho KHO, Jun Sik SUH, Won Ho JO, Cheol-Hee AHN^{*} (Seoul National University, Korea)
- 2PS-30** Effects of Grafted Functional Groups on Conductivity for Anion Exchange Membranes: Based on Well-Defined Poly (styrene-block-isoprene)
*SoJeong KIM*¹, *Soo-Hyung CHOI*², *Won Bo LEE*^{1,*} (¹Seoul National University, ²Hongik University, Korea)
- 2PS-31** Selective Sensing Materials for Cupric Ion using Nile Red Polyethylene Imine/Poly (styrene-co-maleic anhydride) Core Shell Nanoparticle
*Jae Jung PARK*¹, *Ki-Seob HWANG*², *Jung Hyun KIM*¹, *Jun-Young LEE*^{2,*} (¹Yonsei University, ²Korea Institute of Industrial Technology, Korea)
- 2PS-32** Double Metal Cyanide Catalyzed Ring Opening Copolymerization of Propylene Oxide with Carbon Dioxide using Polypropylene Glycol
*Jae Hwa LIM*¹, *Joon Hyun BAIK*², *Sung Chul HONG*³, *Il KIM*^{1,*} (¹Pusan National University, ²Research Institute of Industrial Science & Technology (RIST), ³Sejong University, Korea)
- 2PS-33** The Helical Axis Inversion of Binaphthyl-azobenzene Chiral Dopant by Light and their Synthesis
Hye In JUNG, Eunok LEE, Yun-Ho KIM, Jinsoo KIM, Jae-Won KA^{*} (Korea Research Institute of Chemical Technology, Korea)
- 2PS-34** Construction and Characterization of Polylactic Acid Coated Bridged Polysilsesquioxane Nanoparticles
Dae-Young JO, Yong-Pyo LEE, Kyung-Min KIM, Jung-Hyurk LIM^{*} (Korea National University of Transportation, Korea)
- 2PS-35** Synthesis of Poly (phenylene sulfide) (PPS) Containing Spiro Group
Bo Mi MAENG^{1,2}, *Kang Moo HUH*², *Youngjae YOO*¹, *Yong Seok KIM*¹, *Byoung Gak KIM*^{1,*} (¹Korea Research Institute of Chemical Technology (KRICT), ²Chungnam National University, Korea)
- 2PS-36** Fabrication of Network Structure of PCD/Silsesquioxane by Sol-Gel Reaction
Ji-min JOUNG, Kyung-Min KIM, Jung-Hyurk LIM^{*} (Korea National University of Transportation, Korea)
- 2PS-37** Preparation and characterization of Bismaleimide for Self-healing Materials via Diels-Alder Reaction
Ha-Young LEE, Da-Jeong KIM, Sang-Ho CHA^{*} (Kyonggi University, Korea)
- 2PS-38** Synthesis of Poly (t-butylacrylamide-co-N-isopropylacrylamide) as a Gas Hydrate Inhibitor

- Ye Won BAE, Mi Kang KIM, In Woo CHEONG^{*}, Kyu Chul SHIN^{*}* (Kyungpook National University, Korea)
- 2PS-39** Post-metalation of Carboxylated Polymers of Intrinsic Microporosity (PIMs)
Jun Woo JEON, Seoungwook LEE, Jinyoung LEE, Youngjae YOO, Young Seok KIM, Byoung Gak KIM^{}* (Korea Research Institute of Chemical Technology (KRICT), Korea)
- 2PS-40** Fabrication of CO₂ Gas Sensors based on Photonic Crystals based on Block Copolymers
Dong Hyun KIM^{1,2}, Sung Woo HONG¹, Jeong Ho ANN², Ki Seob HWANG², Jun-Young LEE^{2,}* (¹Sungkyunkwan University, ²Korea Institute of Industrial Technology, Korea)
- 2PS-41** pH Responsive Polymer Coated Iron Nanoparticle for Long Accumulation in the Tumor Tissue by Nanoparticle Aggregation
Kibeom KIM, Hyunhong KIM, Jongnam PARK, Ja-Hyoung RYU^{}* (Ulsan National Institute of Science and Technology (Unist), Korea)
- 2PS-42** Synthesis and Properties of Highly Pure Poly (arylene sulfide)s by Oxidative Polymerization of Disulfide
Minato AOKI^{}, Kenichi OYAZU, Hiroyuki NISHIDE* (Waseda University, Japan)
- 2PS-43** Solvent Free Oxidative Coupling Polymerization for 3-hexylthiophene Using Iron (III) Chloride Particles in Porous Materials
Yusuke NAGAE^{}, Tomoyasu HIRAI, Atsushi TAKAHARA* (Kyushu University, Japan)
- 2PS-44** Synthesis of Sulfur-Rich Polymer Nanoparticles through Interfacial Polymerization in Water and Their Surface Modification
Jeewoo LIM¹, Bansuk LEE¹, Jeongmin PARK¹, Jeffrey PYUN², Kookheon CHAR^{1,}* (¹Seoul National University, Korea, ²The University of Arizona, USA)
- 2PS-45** A Novel Self-healing Material Application by using Retro-Diels-Alder Click Chemistry
Weng PENG, Chih-Feng HUANG^{}* (National Chung Hsing University, Taiwan)
- 2PS-46** Enhancement of Dispersibility and Processability of Polyaniline in Aqueous Media by using Various Surfactants
S. K. JANG, F. S. KIM^{}* (Chung-Ang University, Korea)
- 2PS-47** High-performance Planar-structured Perovskite Solar Cells with Carbon based Interfacial Layers
Jai-Hoon YU¹, Jun-Ho BAE¹, Yong-Jin NOH¹, Sung-Nam KWON¹, Jun-Seok YEO^{2,}, Seok-In NA^{1,*}* (¹Chonbuk National University, ²Korea Institute of Science and Technology, Korea)
- 2PS-48** Facile Synthesis of Nanoporous Organic Frameworks via Coupled Phase Separation and Gelation of Covalent Network/Polymer Mixture
Wangsuk OH, Jae-Sung BAE, Ji-Woong PARK^{}* (Gwangju Institute of Science and Technology (GIST), Korea)
- 2PS-49** Simple One-Shot Synthesis and Light Driven Self-Assembly of PPV Block Copolymers
Suyong SHIN¹, Florian MENK², Tae-Lim CHOI^{1,}* (¹Seoul National University, ²Johannes Gutenberg University, Germany)

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- 2PS-50** General Mechanism of Morphology Transition and Spreading Area-dependent Phase Diagram of Block Copolymer Self-assembly at the Air/Water Interface
Dong Hyup KIM, So Youn KIM^{}* (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-51** Decoupling of Polymer Loop Formation Rate from Liquid Viscosity in a Glass-forming Liquid
Seulki KWON, Hyun Woo CHO, Jeongmin KIM, Bong June SUNG^{}* (Sogang University, Korea)
- 2PS-52** Analysis of the Vibrational Transitions in ZEKE/MATI Spectrum of 2-C₃H₅Br and VUV/MATI Spectrum of C₃H₆S (thietane) by 1 Dimensional Quantum-Calculation
Jungbin PARK¹, Yu Ran LEE², Jiye HWANG¹, Taejin KWON¹, Chan Ho KWON², Hong Lae KIM², Bong June SUNG^{1,}* (¹Sogang University, ²Kangwon National University, Korea)
- 2PS-53** Spatial Distribution of a Nanoparticle Determines the Dynamics of the

Nanoparticle in a Polymer thin Film

Hesang IM, Hyun Woo CHO, Jeongmin KIM, Bong June SUNG^{}* (Sogang University, Korea)

- 2PS-54** Photochemical and Topochemical Engineering of the Amphiphilic Supramolecules
Dae-Yoon KIM, Kwang-Un JEONG^{}* (Chonbuk National University, Korea)
- 2PS-55** Separation and Characterization of Branching of Water-Soluble Polyelectrolytes by Capillary Electrophoresis in the Critical Conditions
Jean-Baptiste LENA^{1,2}, Gregory T. RUSSELL¹, Alison R. MANIEGO², Joel J. THEVARAJAH², Patrice CASTIGNOLLES^{2,}, Marianne GABORIEAU²* (¹University of Canterbury, New Zealand, ²Western Sydney University, Australia)
- 2PS-56** Molecular Dynamics Simulation of the Translation and Rotation Decoupling Using Tracers of Locally Favorable Structures in Binary Glass Formers
Yoonjae PARK, Bong June SUNG^{}* (Sogang University, Korea)
- 2PS-57** Lateral Buckling of Asymmetric Janus Nanowalls
Jung Gun BAE¹, Dong Hyun KIM^{1,}, JiWoong YU¹, Kookheon CHAR¹, Won Bo LEE¹, Hyunsik YOON^{2,*}* (¹Seoul National University, ²Seoul National University of Science & Technology, Korea)
- 2PS-58** Transesterification Reaction with the Mixing Time of PET/PEN Copolymer and Fluorenylidene bis (2-phenoxymethanol)
Seul Ki LEE, Sang Cheol LEE, Byung Gil MIN, Kwan Han YOON^{}* (Kumoh National Institute of Technology, Korea)
- 2PS-59** Thickness Estimation of UVO-Treated PDMS Thin Layer via Swelling-Induced Wrinkling
Ha Ryeung CHO, Da Song JEONG, Myunghwan BYUN^{}* (Keimyung University, Korea)
- 2PS-60** Effective and Selective MALDI-TOF MS Analysis of Polystyrene with Functional Groups via CuAAC Click Chemistry
Joongsuk OH, Taihyun CHANG^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- 2PS-61** Retention Behavior of Polymers at the Critical Absorption Point of Liquid Chromatography
Junyoung AHN, Youncheol JEONG, Taihyun CHANG^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- 2PS-62** Evaluation of the Microstructure at a Butt-Fusion Joint in High-Density Polyethylene Pipes Using Wide and Small Angle X-ray Scattering
Min Kwan KANG, Pashupati POKHAREL, Sunwoong CHOI, Hyun Hoon SONG^{}* (Hannam University, Korea)
- 2PS-63** Precise Analysis of a Polystyrene-*g*-polyisoprene Graft Block Copolymer
Sanghoon LEE¹, Taihyun CHANG^{1,}, Akira HIRAO²* (¹Pohang University of Science and Technology (POSTECH), Korea, ²Graduate School of Science and Engineering, Japan)
- 2PS-64** Solvent Size Dependent Structure of Diblock Copolymer Micelles in *n*-Alkanes
Sang-Ho LEE, Soo-Hyung CHOI^{}* (Hongik University, Korea)
- 2PS-65** Dynamics of a Single Polymer Chain in Slit Confinements
Taegyung PARK, Davin JEONG, Bong June SUNG^{}* (Sogang University, Korea)
- 2PS-66** Theoretical Studies of Substituent Effects of Polyaniline on CO Sensing
Jeongmin LEE, Rakwoo CHANG^{}* (Kwangju National University, Korea)
- 2PS-67** Phase Behavior of Acid-bearing Block Copolymers Containing Ionic Liquids
Ha Young JUNG, Moon Jeong PARK^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- 2PS-68** Control of DNA Conformation by Binding with Positively Charged Nanoparticles
Suehyun PARK^{}, Jun Soo KIM* (Ewha Womans University, Korea)
- 2PS-69** Separation of Histone-complexed DNA Molecules using a Dense Array of Nanoposts
Heesun JOO^{}, Jun Soo KIM* (Ewha Womans University, Korea)
- 2PS-70** Dynamic Transitions of a Single Poly (N-isopropylacrylamide) Chain in Water
Yunwon KANG^{}, Jun Soo KIM* (Ewha Womans University, Korea)
- 2PS-71** In-situ Monitoring of the Thiol-epoxy coupling Reaction with Respected to Various Multi-functional Thiols
Tae Hee LEE¹, Young Il PARK², Seung Man NOH^{2,}, Jin Chul KIM^{2,*}*

(¹Ulsan National Institute of Science and Technology (UNIST), ²Korea Research Institute of Chemical Technology (KRICT), Korea)

- 2PS-72** Phase Behavior of Adenine-containing Styrenic Block Copolymers
Eunseol KIM, A. K. Mishra K. L., Suk Won KANG, Jin Kon KIM* (Pohang University of Science and Technology (POSTECH), Korea)

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- 2PS-73** Adhesion Strength between Polymer and Metal According to the Surface Treatment of Metal
Se Lyn KIM¹, Chang Hoon KANG¹, Seung Jae CHOI¹, Myung Geun SHIN¹, Min-Young LYU^{1,2}, Sung Woong JANG², Jin Soo JEONG², Sang Hoon LEE² (¹Seoul National University of Science and Technology, ²Samsung Electronics, Korea)
- 2PS-74** Preparation of Batch Process Microcellular Polylactide (PLA)/Silica Nanocomposite Foams
Eun Jin JEONG, Seong Hun KIM* (Hanyang University, Korea)
- 2PS-75** Effects of Cycloaliphatic Diols on the Crosslinked Polyurethane Elastomers
Cho Rong OH, Dai Soo LEE* (Chonbuk National University, Korea)
- 2PS-76** Effect of Process Method on the Thermal Conductivity of EVA/BN Composite Sheet
Young-Hyun CHOI¹, Su Kyung KIM², Jeong Cheol KIM^{1,2} (¹Korea Institute of Industrial Technology, ²Chonnam University, Korea)
- 2PS-77** A Novel Method for Graded Doping in Graphene using Microfluidic Channels
Mina PARK^{1,2}, Tae-Wook KIM¹, Sukang BAE¹, Yeon-Ho IM², Sang Hyun LEE^{1,2} (¹Korea Institute of Science and Technology (KIST), ²Chonbuk National University, Korea)
- 2PS-78** A Study on the Physical Properties and Flame Retardancy of Polyolefin Elastomer for a Car Mat Backing Material
Pil Jun CHOI¹, Suk Hun SUR, Jae Wang KO, Bo Ram KIM, Jae Yeon LEE (Korea Institute of Footwear & Leather Technology, Korea)
- 2PS-79** Dyeing Properties of PE Textile by Physical Treatment (plasma&Electron beams)
Jae Wang KO¹, Suk Hun SUR, Pil Jun CHOI, Bo Ram KIM, Jae Yeon LEE (Korea Institute of Footwear & Leather Technology, Korea)
- 2PS-80** A Study on the Dyeing Properties and Flame-Retardant of Automobile Indoor Fabrics
Bo Ram KIM¹, Suk Hun SUR, Pil Jun CHOI, Jae Wang KO, Jae Yeon LEE (Korea Institute of Footwear & Leather Technology, Korea)
- 2PS-81** Effect of Thermoplastic Elastomer on the Foaming of Polypropylene with Chemical Blowing Agent
Kwan Ho SEO^{1,2}, Do Young KIM¹, Gi Hong KIM¹, Eun Ho SEO¹, Dong Gug KANG² (¹Kyungpook National University, ²Pyunghwa Industry Co., Ltd., Korea)
- 2PS-82** Quantitative Spectral Analysis of Polymer Blend Dispersion in Microcompounder
Hee-Yeon JEONG¹, Won-Taek OH¹, Bo-Kyung KIM, Myung-Ho KIM, Tae-Dong KIM^{1,2} (Hannam University, Korea)
- 2PS-83** Fabrication of Elastic Silicone Thin Film of Self-adhesive, Transparent, and Free-standing Properties based on Hydrosilylation Reaction
Ha-Rim KIM, Seokyun KANG, Do-hyun KIM, Jin Young BAE* (Sungkyunkwan University, Korea)
- 2PS-84** Development of pH-Indicating Films for Rapid Detection of Toxic Gases
Seon-Gyeong YANG, Tae-Woo OH, Young-Woon KIM, Jin-Young BAE* (Sungkyunkwan University, Korea)
- 2PS-85** Adhesion Properties of Overmolded Composite on Nylon based Unidirectional Tape
Gyoung Seok YU^{1,2}, Suna JO¹, Youngjae YOO¹, Jae Hak CHOI², Yong Seok KIM^{1,2} (¹Korea Research Institute of Chemical Technology, ²Chungnam National University, Korea)
- 2PS-86** Study on Mechanical Properties of PP/Elastomer Composites for Automobile Bumpers
Hyeongsu LEE, Yuri PARK, Rami LEE, Daesuk BANG* (Kumoh National Institute of Technology, Korea)

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- 2PS-87** Organic/Inorganic Hybrid Hollow Microcapsules with High Elasticity
Raja RAJAMANICKAM¹, Siyeon BAEK², Kihak GWON¹, Youngmin HWANG¹, Kwanwoo SHIN², Giyoung TAE^{1,2} (¹Gwangju Institute of Science and Technology (GIST), ²Sogang University, Korea)
- 2PS-88** Directed Self-assembly of Ultra-high Resolution Sub-5 nm Nanoparticles using High- χ Block Copolymer as a Topographic Template
Tae Won NAM¹, Seung Won SONG, Jong Min KIM, Kwang Min BAEK, Gun Ho LEE, Yeon Sik JUNG (Korea Advanced Institute of Science and Technology, Korea)
- 2PS-89** Preparation of Poly (Phenylene Sulfide) Nano-fillers Composite Materials as Engineering Plastic
Kyung Hwa JUNG¹, Hee Joong KIM, Jong-Chan LEE (Seoul National University, Korea)
- 2PS-90** Synthesis and Characteristics of a Biobased Poly (ethylene furanate) using Various Zeolite as Heavy Metal-free Catalyst
Min Ji JEONG¹, Mi Hee RYU¹, Dong Yeop X. OH¹, Hyun Sung KIM², Jonggeon JEGAL¹, Jae Young PARK^{1,2}, Sung Yeon HWANG^{1,2} (¹Korea Research Institute of Chemical Technology, ²Pukyong National University, Korea)
- 2PS-91** Increased Vertical Thermal Conductivity of Magnetically Aligned PI/BN Composite Films
Hee Seok SONG^{1,2}, DoHyun IM¹, Yong Seok KIM¹, Byoung Gak KIM¹, Youn-Sang BAE², Youngjae YOO^{1,2} (¹Korea Research Institute of Chemical Technology, ²Yonsei University, Korea)
- 2PS-92** Enhancing the Water Permeance of Thin-film Composite Membrane for Desalination by Incorporating MWNTs in Polysulfone Support Layer
Tae Hoon LEE, Hee Dae LEE, Seul Ki LEE, Ho Bum PARK* (Hanyang University, Korea)
- 2PS-93** Solution-Processable Electrical Conductors Using Percolation-Regulated Metal/Polyelectrolyte Complexation
Min Jun OH, Pil J. YOO* (Sungkyunkwan University, Korea)
- 2PS-94** Potassium Salts Incorporated Polymer Electrolyte Membrane for Facilitated CO₂ Transport
J. H. LEE¹, S. C. PARK², S. W. KANG³, Y. S. KANG^{2,*} (¹Korea Institute of Energy Research, ²Hanyang University, ³Sangmyung University, Korea)
- 2PS-95** Preparation of P-N Junction Thermoelectric Device Made of GNP/SWNT and Measurement of Power Generation
Jin Mi KIM^{1,2}, O Hwan KWON², Sung goo LEE², Sung Yun CHO², Youngjae YOO^{1,2} (¹University of Science & Technology, ²Korea Research Institute of Chemical Technology, Korea)
- 2PS-96** Enhanced Thermal Conductivity and EMI Shielding Performance in Multi-functional Hybrid Films based on Polyvinyl Alcohol
TaeYong HA^{1,2}, Hwan Seok CHOI¹, Byoung Gak KIM¹, Yong Seok KIM¹, Won-Gun KOH², Youngjae YOO^{1,2} (¹Korea Research Institute of Chemical Technology, ²Yonsei University, Korea)
- 2PS-97** A Study on CO₂ Capture of PAN/PVDF Composites Based-porous Carbons
Ye-Ji HAN, Soo-Jin PARK* (Inha University, Korea)
- 2PS-98** Effect of Chemical Treatment on Thermal and Mechanical Behaviors of Graphene Oxide/Epoxy Composites
Ye-Ji HAN, Soo-Jin PARK* (Inha University, Korea)
- 2PS-99** Preparation and Mechanical Behaviors of Sodium Carboxymethyl Cellulose/Polyethyleneimine Composites
Tae-Woong KIM, Soo-Jin PARK* (Inha University, Korea)
- 2PS-100** A Study on Mechanical Behaviors of Electroless Nickel-plated Graphene Oxide/Epoxy Composites
Tae-Woong KIM, Soo-Jin PARK* (Inha University, Korea)
- 2PS-101** Influence on Mechanical Properties of Epoxy Composites with Graphene Oxide from Pitch-based Carbon Fibers
Myung-Seok KIM, Soo-Jin PARK* (Inha University, Korea)
- 2PS-102** Effect of Silicon Carbide Contents in Thermal Stabilities and Mechanical Properties of Pitch-carbonized Glass Fibers-reinforced Composites
Myung-Seok KIM, Soo-Jin PARK* (Inha University, Korea)
- 2PS-103** Synthesis and Electroluminescent Property of Highly Efficient Phosphorescent Red Dopants based on changing Main Ligands
Seoyun LEE, Dongmyung SHIN* (hongik university, Korea)

- 2PS-104** A Study on Thermal and Mechanical Properties of Polyketone-reinforced Epoxy Resin
Min-Joo KANG, Soo-Jin PARK (Inha University, Korea)
- 2PS-105** Graphene Oxide/BIOCl Hereostructured Polyacrylonitrile Nanofibers : Synthesis and Solar Light Photocatalytic Performance Investigation
Min-Joo KANG, Soo-Jin PARK (Inha University, Korea)
- 2PS-106** Highly Enhanced Optoelectronic Properties in MoSe₂ with Reduced Organic Dye Molecular N-Dopant
Eun Kwang LEE^{1,2}, Hanum ABDULLAH¹, Joon Hak OH^{1,}* (¹Pohang University of Science and Technology (POSTECH), ²Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-107** Durable Superhydrophobic Mesh with Carbon Nanofibers Network Inlay-Gated Structure for High-Flux Water-in-Oil Emulsion Separation
Xiangde LIN, Junjira TANUM, Jinkee HONG (Chung-Ang University, Korea)
- 2PS-108** Preparation of Biomass based Polymer Composites for CO₂ Capture and their Characteristics
Seonghwan PARK¹, Ki-Seob HWANG², Hanna KIM¹, Yeo-Kyung YANG¹, KiRyong HA^{1,}* (¹Keimyung University, ²Korea Institute of Industrial Technology, Korea)
- 2PS-109** Periodic Mesoporous Organosilicas Prepared with PLGA-Containing Pentablock Copolymers
Eunji CHOI, Eun-Bum CHO (Seoul National University of Science and Technology, Korea)
- 2PS-110** Structure and Properties of Waterborne Polyurethane-Acrylate/Silica Nanocomposites Prepared via Sol-Gel Process
Min-Young LEE, Ki Chan SONG, Su Kyung KIM (Chonnam National University, Korea)
- 2PS-111** Effects of Reactive Compatibilizers on the Morphology and Properties of SBR/NdBR/SiO₂ Composites Prepared via Sol-Gel Process
Jin-Young PARK, Ki Chan SONG, Su Kyung KIM (Chonnam National University, Korea)
- 2PS-112** Preparation of Homogeneous Acetoxy-Polyimide/Silica Nanohybrid Films using Silsesquiazane Precursor
Tae-Hwan HUH¹, So-Yoon LEE¹, Seung Koo PARK², Young-Je KWARK^{1,}* (¹Soongsil University, ²Electronics and Telecommunications Research Institute, Korea)
- 2PS-113** Malignancy Mitochondrial Targeting Near-infrared Fluorophores for Diagnosis and Photodynamic Therapy
Ilkoo NOH, DaeYong LEE, Chan-Uk JEONG, Yeu-Chun KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-114** The Study on the Weathering Properties of MWCNT Filled Composites by Accelerated Thermal Cycle and Aging Test
Jae-Yeong LEE¹, Yong-sik YEOM, Heun-Young SEO, Se-Jin HAN, Ho-Gyu YOON (Korea University, Korea)
- 2PS-115** Multifunctionalized Cell Penetrating Peptide Coated Nanoparticles for Simultaneous Imaging and Drug Delivery to Cancer Cells
N. Sanoj REJINOLD, Yunho HAN, Jisang YOO, Seok Hae YONG, Ji Ho PARK, Yeu-Chun KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-116** Phase Behavior of Poly (2-vinyl pyridine)-block-Poly (4-vinyl pyridine) Copolymer with Inorganic Nanoparticles
Jae Yong LEE², Sung Hyun HAN¹, Jin Kon KIM^{2,}* (¹Pohang Institute of Metal Industry Advancement, ²Pohang University of Science and Technology, Korea)
- 2PS-117** Transparent and Hydrophobic Properties of Polyurethane Chemically-incorporated Polydimethylsiloxane
Pilho HUH¹, Chanhyuk JEE, Kyung Seok KANG, Min Jeong PARK, Eun Young KIM (Pusan National University, Korea)
- 2PS-118** Graphene Quantum Dots as effective dispersants for Carbon Nanotubes
Dong Jin KANG¹, Sang Woo KIM^{1,}, Hongseok YUN¹, Jeong Hwan KIM¹, Hyunseung YANG¹, Kin LIAO², Bumjoon J. KIM¹* (¹Korea Advanced Institute of Science and Technology (KAIST), Korea, ²Khalifa University, United Arab Emirates)
- 2PS-119** Novel Ultra-thin Metal Electrodes using an Amine-containing Nonconjugated Polyelectrolytes for Organic Electronics
Soyeong JEONG¹, Suhyun JUNG¹, Hongkyu KANG², Dasol LEE¹, Seonghee KIM¹, Kwanghee LEE^{1,2,}* (¹Gwangju Institute of Science and Technology, ²Heeger Center for Advanced Materials & Research Institute for Solar and Sustainable Energies, Korea)
- 2PS-120** Effect of Molecular Weight and Graphene Oxide on Polyurethane/Graphene Oxide Nanocomposite Series
Pilho HUH¹, Kyung Seok KANG, Chan Hyuk JEE, Min Jeong PARK, Eun Young KIM (Pusan National University, Korea)
- 2PS-121** Extrusion/Injection Processing and Properties of Chopped Carbon Fiber/ABS Composites for Potential Automobile and Sports/Leisure Applications
Daekyun HWANG¹, Heesook LEE¹, Won-il SON², Donghwan CHO^{1,}* (¹Kumoh National Institute of Technology, ²Kangwon National University, Korea)
- 2PS-122** Preparation and Characterization of Polyimide Reinforced Carbon Fiber Composites by Vacuum Assisted Resin Infusion
Si-hoon JANG, Boram LEE, Ki-young KIM, Dae-young LIM, No-hyung PARK (Korea Institute of Industrial Technology (KITECH), Korea)
- 2PS-123** Transparent Polyimide/Al₂O₃ Hybrid Films and their Barrier Properties
Pilho HUH¹, Min Jeong PARK, Chan Hyuk JEE, Kyung Seok KANG, Eun Young KIM (Pusan national university, Korea)
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Veerasikku Gopal DEEPAGAN, Jae Hyung PARK (Sungkyunkwan University, Korea)
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Sun-Mi JIN^{1,2}, Ji Yeong SUNG^{1,}, Nam-Ju JO², Euh Duck JEONG¹, Jong Sung JIN¹* (¹Korea Basic Science Institute, ²Pusan National University, Korea)
- 2PS-126** Structure and Properties of Hybrid Nanofiber Prepared by Electrospinning of Iodophor Compound
Yu Ri LEE, Young Ah KANG (Dong-A University, Korea)
- 2PS-127** Fabrication of Superporous Polycarbonate having Surface-embedded Particles
Sangwon CHH, Jonghui LEE (Chung-Ang University, Korea)
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Sung-Hwan LIM¹, Taehoon LEE¹, Younghoon OH², Theyencheri NARAYANAN³, Sung-Min CHOI^{1,}* (¹Korea Advanced Institute of Science and Technology, Korea, ²Sogang University, Korea, ³European Synchrotron Radiation Facility, France)
- 2PS-129** Change of Glass Transition Temperature and Cross-Linking Density using Polymer-Functionalized Fumed Silicon Dioxides in Epoxy Resins
Jin-San JUNG¹, Suk-Woo KANG, Kie-Yong CHO, Ho-Gyu YOON (Korea University, Korea)
- 2PS-130** Synthesis of Biocompatible Alginate-Based Highly Porous Hydrogel Micro-bead through Incorporation of Calcium Carbonate as a Sacrificial Particle
Soohyun KIM, Tian QIAO, Hyunjung LEE (Kookmin University, Korea)
- 2PS-131** Formation of ZnO Nano-Network on the Surface of CVD Graphene
Dabin SON^{1,2}, Sang Jin KIM¹, Tae-Wook KIM¹, Sukang BAE¹, Jae-Wook KANG², Sang Hyun LEE^{1,}* (¹Korea Institute of Science and Technology (KIST), ²Chonbuk National University, Korea)
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Suk-Woo KANG¹, Jin-San JUNG, Kie-Yong CHO, Ho-Gyu YOON (Korea University, Korea)
- 2PS-133** Development of Liquid Crystals Based on Calcium Minerals/Polymer Composites
Masanari NAKAYAMA, Satoshi KAJIYAMA, Tatsuya NISHIMURA, Akihito KUMAMOTO, Yuichi IKUHARA, Takashi KATO (The University of Tokyo, Japan)
- 2PS-134** Investigations on Shear-Induced Alignment and Phase Behavior of SWNT Superstructure in Polymeric System
Sang-Jo LEE, Sung-Hwan LIM, Jae-Min HA, Sung-Min CHOI (Korea Advanced Institute of Science and Technology, Korea)
- 2PS-135** Layer-by-Layer Assembly of Flame Retardant Thin Films on Cotton Fabric

- Kyungwho CHOI¹, Seongmin SEO², Hyeongan KWON², Yong Tae PARK^{2,*}*
(¹Korea Railroad Research Institute, ²Myongji University, Korea)
- 2PS-136** Highly Efficient Human Hair Support for Copper Nanoparticles
Dian DENG¹, Mayakrishnan GOPIRAMAN^{2,}, Ick-Soo KIM^{1,*}* (¹Shinshu University, Japan, ²Konkuk University, Korea)
- 2PS-137** Highly Thermal Conductive Composites with Three-Dimensional Percolative Networks of Cu Shell
Seunggun YU, Seung Hwan LEE, Jun Pyo HONG, Soon Man HONG, Chong Min KOO (Korea Institute of Science and Technology (KIST), Korea)
- 2PS-138** Mussel Inspired Dental Adhesives: Catechol and Thiol Containing Adhesives
Dohoon LEE¹, Hyogeun BAE¹, Taegon KANG², Deoggyu SEO³, Hee Young YOO¹, Dong Soo HWANG^{1,}* (¹Pohang University of Science and Technology (POSTECH), ²Samsung SDI Inc., ³Seoul National University, Korea)

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Long REN, Young-Wook NOH, Hathaichanok PHUENGKHAM, Sohyun KIM, Inho LEE, Yong Taik LIM (Sungkyunkwan University, Korea)
- 2PS-140** Multi-Agent Drug Delivery Using Polymeric Hollow particles
Hyun Jin OH, Ju Hyang PARK, Se jeong HWANG, Dong Choon HYUN (Kyungpook National University, Korea)
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Kazuki CHIBA, Tomonari KIRYU, Bungo OCHIAI (Yamagata University, Japan)
- 2PS-142** Synthesis and Mechanochromic Properties of Dynamic Covalent Polymers with Diarylbibenzothiophenonyl Units
Kuniaki ISHIZUKI, Hironori OKA, Raita GOSEKI, Hideyuki OTSUKA (Tokyo Institute of Technology, Japan)
- 2PS-143** Full Color Tactile Sensor Fabrication
Seonghyeon AHN¹, Dajeong KIM, Inkyu JEON, Jiseok LEE (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-144** Novel Polydiacetylene Microstructure Synthesis Platform for Label Free on-chip Biosensor
Jongwon OH¹, Sanggyun JEONG, Younghoon YOU, Jiseok LEE (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-145** High-throughput Emissive Glass Microcomponents Synthesis via Contact Flow Lithography
Subeen SHIN, Changil SON, Jiseok LEE (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-146** Synthesis and Properties of Rigid or Elastic Organic-Inorganic Composites with Dynamic Covalent Mechanochromophore
Takahiro KOSUGE, Keiichi IMATO, Raita GOSEKI, Hideyuki OTSUKA (Tokyo Institute of Technology, Japan)
- 2PS-147** pH-Tunable Thermoresponsive PEO-based Functional Polymers with Pendant Amine Groups
Joonhee LEE, Byeong-Su KIM (Ulsan National Institute of Science and Technology (UNIST), Korea)
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Junpei KIDA¹, Keiichi IMATO¹, Raita GOSEKI¹, Masakazu MORIMOTO², Hideyuki OTSUKA^{1,}* (¹Tokyo Institute of Technology, ²Rikkyo University, Japan)
- 2PS-149** Real-Time Colorimetric Detection of Volatile Aromatic compounds Based on 1D Photonic Polymer Films
Ja-Young BAE, Seo-Hyun JUNG, Ho-Youl KONG, Sung-Soo PARK, Jong Mok PARK (KRICT, Korea)
- 2PS-150** Fabrication of Uniform Sized Cholesteric Liquid Crystal Microparticle via Capillary Microfluidics System
Hyeon Jin SEO^{1,3}, Sang Seok LEE², Aryeon KIM¹, Tae Wook HA¹, Jae-Won KA¹, Jinsoo KIM¹, Shin-Hyun KIM², Cheolmin PARK², Yun Ho KIM^{1,}* (¹KRICT, ²KAIST, ³Yonsei University, Korea)
- 2PS-151** Fluorescent Block Copolymer Integrated MoS₂ Nanosheets as Imageable Photothermal Agents
Chan Ho PARK^{1,}, Hongseok YUN¹, Junhyuk LEE¹, Kin LIAO¹, Bumjoon J. KIM¹* (¹Korea Advanced Institute of Science and Technology (KAIST), Korea, ²Khalifa University, United Arab Emirates)
- 2PS-152** Reduction of Line Edge Roughness of Polystyrene-block-Poly(methylmethacrylate) Copolymer Nanopatterns by Introducing Hydrogen Bonding at the Junction Point of Two Block Chains
Kyu Seong LEE¹, Jaeyong LEE¹, Jongheon KWAK¹, Junyoung LEE¹, Hong Chul MOON², Jin Kon KIM^{1,}* (¹Pohang University of Science and Technology (POSTECH), ²University of Seoul, Korea)
- 2PS-153** Sensitive Immunoassay for Determination of Platelet Functional State Using Polydiacetylene based Microarray
Deokwon SEO¹, Do Hyun KANG², Terry C. MAJOR³, Robert H. BARTLETT³, Kangwon LEE¹, Jinsang KIM^{2,}* (¹Seoul National University, Korea, ²University of Michigan, USA)
- 2PS-154** Mesoporous Silica Nanoparticles Gated by Stimuli-Responsive Peptide for Selective Triggering of Intracellular Anti-Cancer Drug Release
Jinyoung LEE, Jeonghun LEE, Eun-Taeh OH, Haery YOUN, Hyunmi KIM, Heon Joo PARK, Chulhee KIM (Inha University, Korea)
- 2PS-155** Polydiacetylene-Based Colorimetric Chemosensor for the Detection of Food Spoilage
Sangwan KIM^{1,2}, Sun-Young KIM¹, Sunjong LEE^{1,}, Sung-Dong KIM², Bong-Gi KIM^{2,*}* (¹Korea Institute of Industrial Technology, ²Konkuk University, Korea)
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Yu-Jin CHOI, Kwang-Un JEONG (Chonbuk National University, Korea)
- 2PS-157** Tolerant and Durable Hydrogel Adhesive Utilizing Intercalation of Cationic Substituents into Layered Inorganic Compounds
Kento YASUDA, Shingo TAMESUE, Takeshi YAMAUCHI (Niigata University, Japan)
- 2PS-158** Preparation of a Novel Biomedical Surface-modifier with Phosphorylcholine and Catechol
Yucheng ZHANG, Tomoyasu HIRAI, Yuji HIGAKI, Atsushi TAKAHARA (Kyushu University, Japan)
- 2PS-159** Ethylene Glycol based Temperature Responsive Gel Films for Keloid Therapy
Sin Han LIOU¹, Yohei KOTSUCHIBASHI^{2,}, Wei Chih LIN^{1,*}* (¹National Sun Yat-sen University, Taiwan, ²Shizuoka Institute of Science and Technology, Japan)
- 2PS-160** Osmotic Pressure-Controlling System Based on Lower Critical Solution Temperature (LCST) Phase Transition of Acylated Branched Polyethylenimine and CO₂ Absorption-Release
Jeongseon PARK¹, Yan LEE (Seoul National University, Korea)
- 2PS-161** Dual Responsive Nanoparticles Developed by Tandem Post-polymerization Modification of Poly (pentafuorophenyl methacrylate) for Controlled Release Applications
Susita NOREE, Varawut TANGPASUTHADOL, Voravee P. HOVEN (Chulalongkorn University, Thailand)
- 2PS-162** Preparation of Long-term Sustained Release Drug Carrier by Electrostatic Interaction with in situ-Forming Hydrogel and Drug for Rheumatoid Arthritis
Ji Hoon PARK, Seung Hun PARK, Hye Yun LEE, Bo Keun LEE, Jin Woo LEE, Hai Bang LEE, Jae Ho KIM, Moon Suk KIM (Ajou University, Korea)
- 2PS-163** Mechanochemistry of Anthracene Photodimer-Linked Polymers
Mina PARK, Hye-In YANG, Hwan-Chul YU, Chan-Moon CHUNG (Yonsei University, Korea)
- 2PS-164** Injectable Biodegradable Hyaluronic Acid/Gelatin (HA/Gel) Hydrogel via Schiff-base Reaction For Cartilage Tissue Engineering
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Ga Hee KIM, Yeongseon BYEON, Min Gi KIM, Hee Dong HAN, Yeong-Min PARK (Konkuk University, Korea)

- 2PS-166** Gold Cluster-labeled Thermosensitive Liposomes Enhance Triggered Drug Release in the Tumor Microenvironment by a Photothermal Effect
Yeongseon BYEON¹, Hyung Gun JI², Su Jin HEO², Ga Hee KIM¹, Min Gi KIM¹, Hee Dong HAN^{1,}, Byung Cheol SHIN^{2,*}* (¹Konkuk University, ²Korea Research Institute of Chemical Technology, Korea)
- 2PS-167** Laser Writing Assembly of Block Copolymer on Graphene based Light Absorbing Layer
Hyeong Min JIN, Seung Hyun LEE, Ju Young KIM, Seung Keun CHA, Sang Ouk KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-168** Reduction Triggered Self-Cross-Linked Hyperbranched Polyglycerol Nanogel
Haere PARK, Youngkyu CHOI, Eungjin AHN, Yuri CHOI, Byeong-Su KIM (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-169** Linalool-incorporated Nanoparticles as a Novel Anticancer Agent for Epithelial Ovarian Carcinoma
Min Gi KIM^{1,}, Yeongseon BYEON¹, Ga Hee KIM¹, Jeong Won LEE², Yeong Min PARK¹, Hee Dong HAN¹* (¹Konkuk University, ²Sungkyunkwan University School of Medicine, Korea)
- 2PS-170** Cancer Specific MicroRNA as an initiator of drug release system for fluorescence imaging guided photodynamic therapy in vivo
Ji-Seon LEE, Seongchan KIM, Dal-Hee MIN (Seoul National University, Korea)
- 2PS-171** Direct Fabrication of Micro/Nano Patterned Surfaces by Vertical-Directional Photofluidization of Azobenzene Materials
Jaeho CHOI, Wonhee-CHO, Hee-Tak KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-172** Activated Macrophage-Targeted Photoactivatable Theranostic Nanoagents for Photodynamic Therapy
Bong Gu Yi^{1,2}, Myeong Seon JEONG¹, Seung Hae KWON¹, Seongsoo LEE¹, Sungwoo RYOO², Jin Won KIM², Won-Jin MOON¹, Kyeongsoon PARK^{1,}* (¹Korea Basic Science Institute Chuncheon Center, ²Kangwon National University, ⁴Korea University Guro Hospital, Korea)
- 2PS-173** Artificial Chemical Receptor-Targeting Strategy Using Metabolic Glycoengineering and Bioorthogonal Click Chemistry for Cancer Treatment
Min Lee SHIN^{1,2}, Hong Yeol YOON², Kuen Yong LEE¹, Kwangmeyung KIM^{2,}* (¹Hanyang University, ²Korea Institute of Science and Technology (KIST), Korea)
- 2PS-174** Influence of Polymer Molecular Weight on the Microscopic Behavior of Graphene Oxide in Polymer Solution
Yul Hui SHIM^{1,}, Kyung Eun LEE², Sang Ouk KIM², So Youn KIM^{1,*}* (¹Ulsan National Institute of Science and Technology (UNIST), ²Korea Advanced Institute of Science and Technology (KAIST), Korea)
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So Young LEE, Seung Bin LEE, Gyu Jin YOON, Ga Young PARK, Jin Hyun CHOI (Kyungpook National University, Korea)
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Seong Baek YANG, Hyun Ji LEE, Yeasmin SABINA, Jeong Hyun YEUM (Kyungpook National University, Korea)
- 2PS-177** Poly (vinyl alcohol)/Alginate/Medicinal Plant Extract Electrospun Nanofibers for Cosmeceutical Applications
Seong Baek YANG¹, Sung Min PARK², Il Jun KWON², Sung Hun YOO¹, Dae Won JEONG¹, Hyun Ji LEE¹, Jeong Hyun YEUM^{1,}* (¹Kyungpook National University, ²Korea Dyeing and Finishing Technology Institute, Korea)
- 2PS-178** Stabilization of Oil-in-water Emulsions Using PCL-PEG-PCL Triblock Copolymers
Trang Huyen Le KIM, Hwiseok JUN, Yoon Sung NAM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-179** Development of Size-convertible Nanoparticles for Deep Tumor Penetration
Eunseong CHOI, Hyeon CHOI, L. PALANIKUMAR, Ja-Hyoung RYU (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-180** High-Flux Carbonized Nanofiltration Membranes Based on Polymer of Intrinsic Microporosity (PIM)
Kyuchul LEE¹, Hee Joong KIM², Dong-Gyun KIM¹, Jong-Chan LEE^{2,}, Byoung Gak KIM^{1,*}* (¹Korea Research Institute of Chemical Technology (KRICT), ²Seoul National University, Korea)
- 2PS-181** Ordering Behavior of Block copolymers on Uniaxially Aligned Nano-strips of Polymers
Dong-Eun LEE, Jinwoong KIM, Dong Hyun LEE (Dankook University, Korea)
- 2PS-182** Drying-mediated Assembly of DNA Strands into Large Area Patterned Arrays
Seok Hee KANG, Young Woo KWON, Suk Won HONG (Pusan National University, Korea)
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Choongho KIM, Geunseok JANG, Youngjin GWON, Taek Seung LEE (Chungnam National University, Korea)
- 2PS-184** High Density Silver Accordion Nanostructure for Ultra-Sensitive SERS Substrate
Mooseong KIM, Dusik BAE, Gumhye JEON, Seungkyu PARK, Beomjin PARK, Sanghoon KIM, Jin Kon KIM (Pohang University of Science and Technology (POSTECH), Korea)
- 2PS-185** Performance of Functional Polymer Filters for Preventing the Ultrafine Particles by Electrospinning
Su-Bin LEE¹, Cheong-Min MIN¹, Min-Kyoon AHN¹, Yu-Mi HA^{1,3}, Boram KIM¹, Won Keun SON², Kyung Seok KANG³, Hee-Joo CHO¹, Seo-Jeong KIM¹, Yong Chae JUNG², Kihong PARK¹, Jae-Suk LEE^{1,}* (¹Gwangju Institute of Science and Technology (GIST), ²Korea Institute of Science and Technology (KIST), ³Siontech Inc., Korea)
- 2PS-186** New 2D-Nanostructures Formation of Self-Assembly of Fully Conjugated Homopolymers by Introducing Multiple Crystallinities via INCP
Sanghee YANG, Suyong SHIN, Inho CHOI, Jaeho LEE, Tae-Lim CHOI (Seoul National University, Korea)
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Dong-hyun KIM, Seong KIM (Hanyang University, Korea)
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Hong-Joon LEE¹, Yong-Ryun JO¹, Santosh KUMAR¹, Seung Jo YOO², Jin-Gyu KIM², Youn-Joong KIM², Bong-Joong KIM¹, Jae-Suk LEE^{1,}* (¹Gwangju Institute of Science and Technology (GIST), ²Korea Basic Science Institute (KBSI), Korea)
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Sungkwon JEON, Seon Oh HWANG, Wansuk CHOI, Jung-Hyun LEE (Korea University, Korea)
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Young Hyun KIM, Hyang Moo LEE, In Woo CHEONG (Kyungpook National University, Korea)
- 2PS-191** Silicon Nanoparticles Coated with Chitosan Polymer for Using Anode of a Lithium Secondary Ion Battery
Sun-Mi JIN^{1,2,}, Ji Yeong SUNG², Nam-Ju JO¹, Euh Duck JEONG², Jong Sung JIN²* (¹Pusan National University, ²Korea Basic Science Institute, Korea)
- 2PS-192** Converting Waste Papers to Luminescent Carbon Nanodots in the Recycling Process and Bioimaging Applications
Yoon JEONG¹, Deokwon SEO¹, Chungmo YANG¹, Yun-Min KOOK³, Kangwon LEE^{1,2,}* (¹Seoul National University ²Advanced Institutes of Convergence Technology ³Yonsei University, Korea)
- 2PS-193** Hydrophilized Titanium Dioxide Nanoparticles as Sonosensitizers for Cancer Eradication
Wooram UM^{1,2}, Dong Gil YOU^{1,2}, Veerasikku Gopal DEEPAGAN¹, Jae Hyung PARK^{1,}* (¹Sungkyunkwan University, ²Korea Institute of Science and Technology (KIST), Korea)
- 2PS-194** Efficacy of Inhibition of Drug Resistance and Therapeutic Effect with Poly-p53-siRNA / Deoxycholic Acid-modified Polyethyleneimine Complex Treatment

- Wonyong LEE^{1,2}, Beom Suk LEE¹, Yeon Kyung LEE¹, Min Ju KIM^{1,3}, Dongkyu KIM¹, Hyuncheol KIM², Sun Hwa KIM^{1,*} (¹Korea Institute of Science and Technology (KIST), ²Sogang University, ³Korea University, Korea)
- 2PS-195** Biostable Gold-Crosslinked Polymeric Nanoparticles for Anticancer Drug Delivery
Sangmin JEON, Hyewon KO, Jae Hyung PARK^{*} (Sungkyunkwan University, Korea)
- 2PS-196** Tumor-targeted Near-Infrared Fluorescence Imaging Using Cathepsin-B Specific Metabolic Precursor and Bioorthogonal Click Chemistry
Man Kyu SHIM^{1,2}, Ho Kyung KO^{1,4}, Yongwhan CHO^{1,3}, Mun Kyeong JO^{1,2}, Jooho PARK¹, Jong-Ho KIM², Kwangmeyung KIM^{1,*} (¹Korea Institute of Science and Technology (KIST), ²Kyung Hee University, ³Korea University, ⁴Seoul National University, Korea)
- 2PS-197** RNAi Therapy with Tumor-targeted Delivery of Polymerized VEGF siRNA using Thiolated Glycol Chitosan Nanoparticles to Overcome Avastin Resistance in Cancer Treatment
Myung Goo KIM^{1,2}, Sung Duk JO¹, So Jin LEE¹, Gi Jung KWAK^{1,3}, Hyosuk KIM^{1,3}, Ji Hoon JEONG², Sun Hwa KIM^{1,*} (¹Korea Institute of Science and Technology (KIST), ²Sungkyunkwan University, ³Korea University, Korea)
- 2PS-198** Preparation of Iron Oxide Nanoparticles Coated with Biocompatible Polymer
Seong Gon RYU, In Woo CHEONG^{*} (Kyungpook National University, Korea)
- 2PS-199** Simulation Study on the Graphene-like Nanoplates in a Liquid State
Inhyuk JANG, Bong June SUNG^{*} (Sogang University, Korea)
- 2PS-200** Investigation of Thiolated Poly (ethylene glycol) Induced Self-Assembly of Gold Nanoparticles into Highly Pure Mesoporous Gold Sponges
Min-Jae LEE, Sung-Hwan LIM, Jae-Min HA, Sung-Min CHO^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-201** Self-Assembly of Stable Radical Block Copolymers for Charge Transport Studies
Alicia CINTORA¹, Clemens LEIDEL², Christopher K. OBER^{1,*} (¹Cornell University, USA, ²Max Planck Institute, Germany)
- 2PS-202** Buckling of Patterned Top Films
Dokyong KWON¹, Hyoseon SUH², Kookheon CHAR^{1,*} (¹Seoul National University, Korea, ²University of Wisconsin-Madison, USA)
- 2PS-203** Fabricating Sub-10 nm Nanostructures by Using PS-*b*-PMMA based Triblock Copolymer
Sanghoon WOO¹, June HUH¹, Soo-Hyoung CHO², Joona BANG^{1,*} (¹Korea University, ²Hongik University, Korea)
- 2PS-204** Functional siRNA Delivery and Bioimaging System based on Highly Biocompatible Carbon Dot in Vitro and in Vivo
Seongchan KIM, Dal-Hee MIN^{*} (Seoul National University, Korea)
- 2PS-205** Cooperative Self-Assembly of Amphiphilic Polymers and Nanoparticles
Seulki KANG, So-Jung PARK^{*} (Ewha Womans University, Korea)
- 2PS-206** Self-Assembly of Conjugated Block Copolymers at Water-Air Interface
Saejin OH, Jean BOUFFARD, So-Jung PARK^{*} (Ewha Womans University, Korea)
- 2PS-207** Formation of MBCn Film Composed of Multi-ligands on COOH Terminated Au Substrate
Jae-Min KIM, Jeong-Uk KWEON, Eun-Young CHO^{*}, O-Pil KWON^{*} (Korea Science Academy of KAIST, Korea)
- 2PS-208** The Effect of [RMI]X (R=alkyl; X=halide) Ionic Liquids on the Formation of M-H₂BTC Metal Organic Frameworks
Il-Ju KO, Hyun-Chang OH, Eun-Young CHO^{*} (Korea Science Academy of KAIST, Korea)
- 2PS-209** Development of Gold Nanorods Stabilized with Drug-conjugated Polymer for Synergistic Cancer Therapy
Phim-on KHUNSUKE, Supattra CHAWALITPONG, Pritsana SAWUTDEECHAIKUL, Tanapat PALAGA, Voravee P. HOVEN^{*} (Chulalongkorn University, Thailand)
- 2PS-210** Versatile Bioconjugated Affibody-glutathione Transferase Protein Gate Keeper for Drug Delivery Nanoparticle
Jun Yong OH¹, L. PALANIKUMAR¹, Yunmee LHO², Han Sol KIM¹, Ho-young KIM¹, Sang Hoon JOO¹, Eunyoung HA^{2,*}, Se-Byung KANG^{1,*}, Ja-Hyoung

RYU^{1,*} (¹Ulsan National Institute of Science and Technology (UNIST), ²Keimyung University, Korea)

- 2PS-211** Polyaniline/manganese Dioxide Functionalized Poly (ϵ -caprolactone) Honeycomb-patterned Films by Combination of Breath Figure and Interfacial Polymerization Methods
Bokyoung SHIN, Umashankar MALE, Do Sung HUH^{*} (Inje University, Korea)
- 2PS-212** Nanodiamond-Gold Nanocomposite with Peroxidase-like Biomimicking Oxidative Catalytic Activity
Dukhee LEE¹, Min-Chul KIM², Eunah KANG^{1,*}, Sang-Yup LEE^{2,*} (¹Chung-Ang University, ²Yonsei University, Korea)
- 2PS-213** Virus based Self-assembled Porous Nano Structure
Jiye HAN, Inhong KIM, Yujin LEE, Jin-Woo OH^{*} (Pusan National University, Korea)
- 2PS-214** Filamentous Bacteriophage-based Full Color Pixels
Won-Geun KIM, Chuntae KIM, Jung-Tae AHN, Yujin LEE, Jin-Woo OH^{*} (Pusan National University, Korea)
- 2PS-215** Control of Polymer Patterning with Various Shapes Induced dewetting via Flow Coating
Kibeom NAM, Hye Ran KIM, Dong Yun LEE^{*} (Kyungpook National University, Korea)
- 2PS-216** Size Control of Monodisperse Siloxane-based PDMS Nanoparticles for Biomedical Applications
Phornsawat BAIPAYWAD, Taejong PAK^{*}, Hansoo PARK^{*} (Chung-Ang University, Korea)
- 2PS-217** Receptor Mediated Endocytosis of Hyper Osmotic Folate Conjugated Poly-sorbitol Mediated Transporter with siOPA1 for Lung Cancer Therapy
Kye Soo CHO, Ah Young LEE, Rohidas B. AROTE^{*} (Seoul National University, Korea)
- 2PS-218** Improvement of Dielectric Properties in DC of Natural Rubber/BaTiO₃-OH Composites
Neudys GONZÁLEZ^{1,2}, Maria del Angels CUSTAL², Daniel RODRÍGUEZ², Elaine ARMELIN^{1,3,*}, Jordi-Roger RIBA¹ (¹Universitat Politècnica de Catalunya, ²Sicame Company, ³Universitat Politècnica de Catalunya, Spain)
- 2PS-220** The Release Properties of Insect-repellent Nanoapsules with the types of Halloysite
So-Ri JANG^{1,2}, Si-Hoon JANG¹, Bo Ram LEE, No-Hyung PARK^{1,*} (¹Korea Institute of Industrial Technology (KITECH), ²Inha University, Korea)

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- 2PS-221** Relaxing Interfacial Dipole by Inducing PEDOT:PSS in Colloidal Quantum Dot Photovoltaics to Improve Efficiency
Hunhee LIM, Min-Jae CHOI, Yeon Sik JUNG^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-222** Colloidal Quantum Dot Solar Cells Based on Directly Spray-deposited Large-scale Quantum Dot Films
Min-Jae CHOI¹, Hunhee LIM¹, Jin Young KIM², Yeon Sik JUNG^{1,*} (¹Korea Advanced Institute of Science and Technology (KAIST), ²Korea Institute of Science and Technology (KIST), Korea)
- 2PS-223** Nonfullerene Organic Solar Cell with Three Dimensional Structure
Hwa Sook RYU, Han Young WOO^{*} (Korea University, Korea)
- 2PS-224** Uniaxial Alignment of poly (vinylidene fluoride-co-trifluoroethylene) Nano Fibers for Ultra High Sensitive Pressure Sensor
Do Hyeon KIM¹, Ju Ran LEE¹, Aming CHA¹, Jonghwa PARK¹, Hyunhyub KO¹, Jungho JIN², Seok Ju KANG^{1,*} (¹Ulsan National Institute of Science & Technology (UNIST), ²University of Ulsan, Korea)
- 2PS-225** Highly Reinforced Pore-filling Membranes based on Cross-linked Benzoxazine-benzimidazole Copolymers for Fuel Cell Applications Operating at High Temperature and Low Humidity Conditions
Kihyun KIM, Won Jae CHOI, Juseung HAN, Jeonghwan KIM, Jong-Chan LEE^{*} (Seoul National University, Korea)
- 2PS-226** PEDOT:PSS Coated Tellurium Nanocrystal and Polyelectrolyte Composite for Thermoelectric Applications
Jiyeon HONG, Chingu KIM, Ji-Woong PARK^{*} (Gwangju Institute of Science and Technology (GIST), Korea)
- 2PS-227** Ion/Electron-Conductive Protective Layer based on Carbon

- Nanotube-Embedded, Dual-Doped Mesoporous Carbon Shell for Li-Ion Battery Electrode Materials
Ye-Ri JANG, Ju-Myung KIM, Sung-Ju CHO, JongTae YOO, Sang-Young LEE^{*} (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-228** Charge Transport and Light Absorption Properties of Thermally Induced Crystallization of Perovskite Solar Cells
Byung Su KIM, Tea-Yon KIM, Tae Kyung LEE, Yong Soo KANG^{*} (Hanyang University, Korea)
- 2PS-229** Design and Synthesis of New Small Molecule Cathode Interfacial Materials for Organic Solar Cell Application: Effect of Interfacial Dipole Inducing Groups on the Device Performance
Chakravarthi NALLAN¹, Gunasekar, K¹, Yeong-Soon GAL², Sung-Ho JIN^{1}* (¹Pusan National University, ²Kyungil University, Korea)
- 2PS-230** A Simple and Robust Route to Crack-Free, Thickness-Controllable PLZT Films for Flexible Piezoelectric Nanogenerators
Myunghwan BYUN^{*} (Keimyung University, Korea)
- 2PS-231** 3D-network of Carbon Nanotube/polyaniline for Supercapacitor
Rui CHEN, Chanwoo LEE, Jongman KIM, Haiwon LEE^{*} (Hanyang University, Korea)
- 2PS-232** Enhancement of Proton Conductivity at Low Humidity of Proton Conducting Membranes with Triazole moieties in the Side Chains
Min-Kyoon AHN, Su-Bin LEE, Cheong-Min MIN, Yong-Guen YU, Joseph JANG, Jae-Suk LEE^{*} (Gwangju Institute of Science and Technology (GIST), Korea)
- 2PS-233** Metal-free Photocatalyst for Solar Fuel Production from Water under Visible Light
Ji-Yoon SONG, Young-Si JUN^{*} (Chonnam National University, Korea)
- 2PS-234** Silicon/Phloroglucinol-forMaldehyde Resol (carbon)@rGO for Better & Higher Performance of LIBs
Inbo KANG, Myeong Gyun NAM, Pil J. YOO^{*} (Sungkyunkwan University, Korea)
- 2PS-235** Reversible Li-Oxygen battery based on Liquid Crystal Electrolyte
Ju Ran LEE¹, Aming CHA¹, Byoung Gue JUNG², Seokhoon AHN², Seok Ju KANG^{1,}* (¹Ulsan National Institute of Science & Technology (UNIST), ²Korea Institute of Science and Technology (KIST), Korea)
- 2PS-236** Porphyrin Sensitizers with Bulky Fluorene Donor Moiety for Dye-Sensitized Solar Cells and Tandem cells for Water Splitting Applications
Sung Ho KANG, Hwan Kyu KIM^{*} (Korea University, Korea)
- 2PS-237** Engineered Doping of Carbon Materials for Enhanced Thermoelectric Properties of Tellurium-PEDOT:PSS Hybrid Composite
Eun Jin BAE, Young Hun KANG, Changjin LEE, Song Yun CHO^{*} (Korea Research Institute of Chemical Technology (KRICT), Korea)
- 2PS-238** Flavor Activation of Cellulose: Rebirth of Coffee-wiped Waste Paper toward Energy-storage Devices
Donggwe LEE, Sang-Young LEE^{*} (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-239** Fabrication of High Thermal Stable Silicon Emitter for Thermophotovoltaic Devices
Younghoe KIM, Sungmin LEE, Hynjung LEE^{*} (Kookmin University, Korea)
- 2PS-240** Nanocomposite Solid Polymer Electrolytes for Rechargeable Lithium ion batteries – A Way to Achieve High Ionic Conductivity and Mechanical Stability
Dong Kyu KIM¹, Yong Hee KANG, Hee Woo RHEE^{1,}* (Sogang University, Korea)
- 2PS-241** Heteroatom Doped Graphene as a Metal-Free Cathode Material Compared to Pt over a Co (II)/Co (III) Electrolyte for Dye-Sensitized Solar Cell
Sun-Min JUNG¹, In Taek CHO², Kimin LIM², Jaejung KO², Jae Cheon KIM², Jae-Joon LEE^{2,}, Myung Jong JU^{1,*}, Hwan Kyu KIM^{2,*}, Jong-Beom BAEK^{1,*}* (¹Ulsan National Institute of Science and Technology (UNIST), ²Korea University, ³Konkuk University, Korea)
- 2PS-242** Nanostructured Liquid-Crystalline Electrolytes: A Molecular Approach for Tuning Thermal and Photovoltaic Properties of Dye-Sensitized Solar Cells
Daniel HÖGBERG¹, Bartolome SOBERATS¹, Satoshi UCHIDA¹, Masafumi YOSHIO¹, Lars KLOÖ², Hiroshi SEGAWA¹, Takashi KATO^{1,}* (¹The University

of Tokyo, Japan, ²KTH Royal Institute of Technology, Sweden)

- 2PS-243** Ionic Conductivity and Young's Modulus of Epoxy-based Solid Electrolytes Containing Ionic Liquid and Inorganic Nanoparticle
Sook Jin KWON, U Hyeok CHOI, Byung Mun JUNG, Sang Bok LEE^{*} (Korea Institute of Materials Science (KIMS), Korea)
- 2PS-244** Polyelectrolyte Diode: Grand Canonical Monte Carlo Simulation Studies Using Primitive Polymer Models
Donghyuk LEE, Rakwoo CHANG^{*} (Kwangju University, Korea)

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- 2PS-245** Triumphant over Charge Transfer Limitation of PEDOT Nanofiber with Polysulfide Mediator by 1,2-Ethanedithiol Doping at Redox Reduction Catalyst for Quantum Dot Solar Cells and H₂ Evolution
Tae Kyung LEE, Tea-Yon KIM, Byung Su KIM, Yong Soo KANG^{*} (Hanyang University, Korea)
- 2PS-246** Optimization of Spin-coating Time in Solidification of Polymer Solution onto Substrate with Different Surface Energy
Jin Yeong NA, Hye Su KIM, Yeong Don PARK^{*} (Incheon National University, Korea)
- 2PS-247** Effect of Spin-coating Time on the Small Molecules Films with Controlling Solvent Evaporation Rate
Hye Su KIM, Jin Yeong NA, Yeong Don PARK^{*} (Incheon National University, Korea)
- 2PS-248** Highly Facile Fabrication of Embedded-type Metal Mesh Flexible Transparent Conducting Electrode via Selective-Area Lift-off Process
Seunghee YU, Yeon Sik JUNG^{*} (Korea Advanced Institute of Science and Engineering, Korea)
- 2PS-249** Highly Reliable Memristive-Switching Memory Devices Enabled by Nanotransfer Printing based on Self-Assembled Nanotemplate
Jong Min KIM, Byoung Kuk YOU, Keon Jae LEE^{}, Yeon Sik JUNG^{*}* (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-250** Synthesis of Conjugated Polymer with High Planarity and Extended Conjugation via Quinoid Structure
Hansu HWANG, Yunseul KIM, Minji KANG, Min-Hye LEE, Ga-In SHIN, Dong-Yu KIM^{*} (Gwangju Institute of Science and Technology (GIST), Korea)
- 2PS-251** Plasticized Polymer Interlayer for Low Temperature Fabrication of High Quality Silver Nanowire-based Flexible Transparent and Conductive Film
Wonhee CHO, Jaeho CHOI, Heetak KIM^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-252** Biomimetic Photonic Crystal Film by Photo-polymerization of Chiral Monomers
Dae-Yoon KIM, Kwang-Un JEONG^{*} (Chonbuk National University, Korea)
- 2PS-253** Flexible Conductive Polymer Micropatterns on Biocompatible Hydrogels
Da Bum KIM, Youngsang KO, Jungmok YOU^{*} (Kyung Hee University, Korea)
- 2PS-254** New M- and V-shaped N-type Small Molecules Containing Perylene Diimide for High-Performance Nonfullerene Polymer Solar Cells
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- 2PS-255** Electrical and Optical Properties of Conjugated Polymers by Doping
Jiae LEE, Han Young WOO^{*} (Korea University, Korea)
- 2PS-256** Highly Effective Versatile Multiple-Patterned Plasmonic Nanostructures for Organic Optoelectronic Devices
Yoon Ho LEE¹, Tae Kyung LEE², Inho SONG¹, Hongki KIM¹, Jiwon LEE², Hyunhyub KO², Sang Kyu KWAK², Joon Hak OH^{1,}* (¹Pohang University of Science and Technology (POSTECH), ²Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-257** Electrically Tunable 1D Structure Block Copolymer Photonic Crystal in Aqueous System
Han Sol KANG, Taehyun PARK, Minju KIM, Cheolmin PARK^{*} (Yonsei University, Korea)
- 2PS-258** Investigation of Parallel-like Bulk Heterojunction in High Performance Ternary Blend Polymer Solar Cells
Tack Ho LEE¹, Mohammad Afsar UDDIN^{2,3}, Chengmei ZHONG^{4,5}, Seo-Jin

- KO^{1,4}, Bright WALKER¹, Alan J. HEEGER^{4,*}, Han Young WOO^{2,*}, Jin Young KIM^{1,*} (¹Ulsan National Institute of Science and Technology (UNIST), ²Korea University, ³Pusan National University, Korea, ⁴University of California Santa Barbara, USA, ⁵South China University of Technology, China)
- 2PS-259** Organic Field-Effect Transistors Using a Polymer Binary Blend System for Ubiquitous Applications
Kilho YU, Byoungwook PARK, Kwanghee LEE^{*} (Gwangju Institute of Science and Technology, Korea)
- 2PS-260** Capillary Printing Of Highly Aligned Silver Nanowires Electrodes for High Efficient Polymer Optoelectronic Devices
Taehyo KIM, Jin Young KIM^{*} (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-261** Transparent Electrodes of Silver Networks Fabricated by Using Cracks of Polymers as Templates
Jeong Hui LEE, Dong Hyun LEE^{*} (Dankook University, Korea)
- 2PS-262** Improvement of Photovoltaic Performances by the Combination of Hole Transport Materials in Organic Solar Cells
Hyebin KIM, Kyoungyeon GO, Sanghun LEE, Inchan HWANG^{*} (Kwangju University, Korea)
- 2PS-263** Crosslinked Ultra High Molecular Polymeric Binder using Boronic Acid for Si Anode in Li Battery
Jimin KIM, Taesoo BOK, M. T. JEENA, Soojin PARK^{*}, Ja-Hyoung RYU^{*} (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-264** Solution-Processable Blue Emitting Electrochemiluminescent Ion Gels for Flexible, Low-Voltage, Emissive Displays on Plastic Substrates
Heedong HWANG¹, Hong Chul MOON², Jin Kon KIM^{1,*} (¹Pohang University of Science and Technology, ²University of Seoul, Korea)
- 2PS-265** Selective Crystallization of Regioregularity Controlled Polythiophene through Solution Assembly for Coexistence of Mechanical Resilience and Electronic Performance
Hyeong Jun KIM¹, Moo Yeol LEE², Joon Hak OH², Bumjoon J. KIM^{1,*} (¹KAIST, ²Pohang University of Science and Technology (POSTECH), Korea)
- 2PS-266** A Versatile Self-organization Printing Method to Simplify Tandem Organic Photovoltaics with Four-Layer Structure
Seok KIM, Hongkyu KANG^{*}, Soonil HONG, Jinho LEE, Soyeong JEONG, Kwanghee LEE^{*} (Gwangju Institute of Science and Technology, Korea)
- 2PS-267** Epitaxial Grown Thin Ferroelectric Polymer on Graphene Layer
Kang Lib KIM, Cheolmin PARK^{*} (Yonsei University, Korea)
- 2PS-268** A Selection Rule of Solvent to Achieve Highly Aligned Conjugated Polymer Films for High Performance Organic Field Effect Transistors by binary solvent system
Eun-Sol SHIN, Yong-Young NOH^{*} (Dongguk University, Korea)
- 2PS-269** Ternary Approach for Enhancing Performance of Highly-Efficient All-Polymer Solar Cells
Gibok HAN¹, Wonho LEE¹, Bhoj GAUTAM², Robert YOUNTS², Taesu KIM¹, Changyeon LEE¹, Hanhee CHO¹, Jiho OH¹, Kenan GUNDOGU², Bumjoon J. KIM^{1,*} (¹Korea Advanced Institute of Science and Technology (KAIST), ²North Carolina State University, United States)
- 2PS-270** Wavelength-Selective Enhanced Detectivity in Polymer Photodetectors Mediated by Surface Plasmon Resonance
Huan WANG, Dong Ha KIM^{*} (Ewha Womans University, Korea)
- 2PS-271** Fabrication of Nanopatterned Bulk-heterojunction (BHJ) Using by Polyurethane Acrylate (PUA) Transfer Film based on Colloidal Crystal Arrays for Efficient Organic Solar Cells
So Yun PARK¹, Woongsik JANG¹, Sunyong AHN¹, KeumHwan PARK², Hyungbin SON^{1,*}, Dong Hwan WANG^{1,*} (¹ Chung-Ang University, ²Korea Electronics Technology Institute, Korea)
- 2PS-272** Degradation Behavior of Perovskite Layer by Different Solvent Treatment
Sunyong AHN, Woongsik JANG, So Yeon PARK, Dong Hwan WANG^{*} (Chung-Ang University, Korea)
- 2PS-273** Self-Assembly Behavior of Conjugated Polymer Containing Rod-Coil Block Copolymers: Phase Transition by Structural Modification
Jin-Seang KIM¹, Yongjoo KIM¹, Hyeon-Jeong KIM¹, Hyeong Jun KIM¹, Hyunseung YANG¹, Gila E. STEIN², Bumjoon J. KIM^{1,*} (¹Korea Advanced Institute of Science and Technology (KAIST), Korea, ²University of Houston, United States)
- 2PS-274** Control of Crystalline Behavior of Naphthalene Diimide-based Terpolymers and Their Effects on Performance of All-Polymer Solar Cells
Youngeung KIM, Han-Hee CHO, Taesu KIM, Bumjoon J. KIM^{*} (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 2PS-275** A Self-Assembly Printing Method for Soluble Organic Light-Emitting Diodes
Ahyun KIM, Soyeong JEONG, Suhyun JUNG, Hongkyu KANG, Kwanghee LEE^{*} (Gwangju Institute of Science and Technology, Korea)
- 2PS-276** External Force-assisted Porous Semiconducting Layers to Enhance the Sensitivity and Selectivity of Organic Field-effect Transistor Based Sensors
Mingyuan PEI, Mi JANG, Joongyu AHN, Joongse KO, Hoichang YANG^{*} (Inha University, Korea)
- 2PS-277** Fabrication of Green-selective Polymer Photodiodes by using Sol-gel Derived Indium Oxide as an Acceptor Material
Jaewon HA, Min Su JANG, Min Gyun KANG, Dae Sung CHUNG^{*} (Chung-Ang University, Korea)
- 2PS-278** Low Paracrystalline Disorder Polymer : PCBM Blend for Low Noise and High Detectivity Polymeric Photodiode
Kyu Min SIM, Min Gyun KANG, Kyoungwhan KIM, Dae Sung CHUNG^{*} (Chung-Ang University, Korea)
- 2PS-279** Facile Dielectric Surface-modification Method for High-performance Organic Field-effect Transistors via Thermal Evaporation of Polydimethylsiloxane
Seong Hoon YU, Min Gyun KANG, Min Su JANG, Dae Sung CHUNG^{*} (Chung-Ang University, Korea)
- 2PS-280** Highly Sensitive Flexible Pressure Sensor with AAO-patterned Elastomeric Layers
JunBeom HEO, Hwasung LEE^{*} (Hanbat National University, Korea)
- 2PS-281** Study on Operational Mechanisms of Polymer Light-Emitting Electrochemical Cells Based on Polymer and Liquid Ion Conductors
Daisuke TAKIZAWA^{1,*}, Hiroyuki NISHIDE¹, Yoshinori NISHIKITANI¹, Soichi UCHIDA², Suzushi NISHIMURA² (¹Waseda University, ²JX Nippon Oil & Energy Co., Japan)
- 2PS-282** Flexible, Transparent Crack-based Strain Sensor for Direction-Selective Detecting
Myung Kyun LEE, Hwasung LEE^{*} (Hanbat National University, Korea)
- 2PS-283** Fabrication of Strip-Modules Flexible Organic Photovoltaic Based on Metal-Embedded Transparent Conducting Electrodes
Won-Yong JIN, Jae-Wook KANG^{*} (Chonbuk National University, Korea)
- 2PS-284** Electron-Accepting Conjugated Polymers for All-Polymer Phototransistors and Their Role in Polymer/Polymer Bulk Heterojunctions
Hyemi HAN¹, Sungho NAM^{1,2}, Jooyeok SEO¹, Chulyeon LEE¹, HwaJeong KIM¹, Youngkyoo KIM^{1,*} (¹Kyungpook National University, Korea, ²University of Oxford, United Kingdom)
- 2PS-285** Short-Channel Organic Field Effect Transistor Using Solution-Grown Organic Crystal
Bogyeong CHOI¹, Hanah NA², Seungmoon PYO^{1,*} (¹Konkuk University, Korea, ²University of Houston, United States)
- 2PS-286** Development of New Random Copolymers: Non-covalent Intramolecular Interaction for Highly Efficient Polymer Solar Cells
You-Sun LEE¹, Ji Young LEE², Su-Mi BANG¹, Yong-Jin NOH¹, Sung-Nam KWON¹, Jaechol LEE², Bogyu LIM², Seok-In NA^{1,*} (¹Chonbuk National University, ²LG Chem Research Park, Korea)
- 2PS-287** Study on the Formation of Chemically Derived Perhydropolysilazane Coating Layer and their Barrier Properties
Jeong-Ju BAEK, Han-Sol BACK, Chang-Sup KIM, Young-Hun KIM, Ki-Cheol CHANG, Kyung-Ho CHOI, Gyo-Jic SHIN^{*} (Korea Institute of Industrial Technology, Korea)
- 2PS-288** A study on Electrical and Morphology Properties for Conducting Polymers by Chemical Treatment Method
Young-Hun KIM^{1,2}, Chang-Sub KIM¹, Han-Sol BACK¹, Jeong-Ju BAEK¹, Ki-Cheol CHANG¹, Won-Gun KOH², Gyo-jic SHIN¹, Kyung-Ho CHOI^{1,*} (¹Korea Institute of Industrial Technology, ²Yonsei University, Korea)
- 2PS-289** Non-functionalized Soluble Diketopyrrolopyrrole based Molecular Semiconductor for Organic Electronic Devices

- Gergely TARSOLY, Akshaya PALAI, Seungmoon PYO** (Konkuk University, Korea)
- 2PS-290** Physically Crosslinked High Capacitance Ion Gels by Partial Crystallization Route
Hae Min YANG¹, Dong Hui LEE¹, Kihyon HONG^{2,}, Keun Hyung LEE^{1,*}* (¹Inha University, ²Korea Institute of Materials Science (KIMS), Korea)
- 2PS-291** Balancing Charge Carrier Injection on Polymer Electrochemical Light Emitting Cells
*Seunghan KIM, Seok Hwan KONG, Moon Sung KANG** (Soongsil University, Korea)
- 2PS-292** A Novel Donor Polymer with Deep HOMO Level for P-N Heterojunction Solar Cells
Eun Soo AHN¹, Yu Jin KIM², Chan Eon PARK², Yun-Hi KIM^{1,}* (¹Gyeongsang National University, ²Pohang University of Science and Technology, Korea)
- 2PS-293** Synthesis and Photovoltaic Application of a Conjugated Polymer
Yeon-Hee HA¹, Chan Eon PARK², Yun-Hi KIM^{1,}* (¹Gyeongsang National University, ²Pohang University of Science and Technology, Korea)
- 2PS-294** Light Out-coupling Efficiency Enhancement in Fiber-shape Organic Light Emitting Diodes
*Keum-Jin KO, So-Ra SHIN, Jae-Wook KANG** (Chonbuk National University, Korea)
- 2PS-295** A New High Efficient Alternating Copolymer with Properties of the Bipolar for Solar Cells
Xinwei WU¹, Yu Jin KIM², Xianqing LIU¹, Chan Eon PARK², Yun-Hi KIM^{1,}* (¹Gyeongsang National University, ²Pohang University of Science and Technology, Korea)
- 2PS-296** Synthesis of PDD-TVT Polymer based Dithienophosphole (DTP) as the Acceptor and Thienylenevinylene (TVT) as the Donor for OFET (Organic Field-Effect Transistors)
Ji Eun LEE¹, Tae Kyu AN^{2,}, Yun-Hi KIM^{1,*}* (¹Gyeongsang National University, ²Korea National University of Transportation, Korea)
- 2PS-297** Considerable Influence of Molecular Weight of PSS on PEDOT:PSS Synthesis and Characterization
*Minseok JEONG, Youngno KIM, Soyeon KIM, Jung Hyun KIM** (Yonsei University, Korea)
- 2PS-298** Organic Semiconductor Polymer Strategy for High-Performance Organic Transistors
Sang Bong LEE¹, Jangwhan CHO², Soon-Ki KWON¹, Dae Sung CHUNG², Yun-Hi KIM^{1,}* (¹Gyeongsang National University, ²Chung-Ang University, Korea)
- 2PS-299** Naphthalene Diimide-Based Small Molecule Acceptors for Fullerene-Free Organic Solar Cells with High Fill Factors
Minjuan HUANG^{1,}, Minjae SUNG², Yun-Hi KIM², Hyosung CHOI¹* (¹Hanyang University, ²Gyeongsang National University, Korea)
- 2PS-300** Synthesis and Characterization of New Tercopolymer for Organic Thin-Film Transistors
*Cheng SUN, Jong Man PARK, Jae Yeol MA, Yun-Hi KIM** (Gyeongsang National University, Korea)
- 2PS-301** Enhancing Efficiency and Maintaining Effective Mobility by using a Blend System in Solution-processed Organic Field-effect Transistors
Seong Jong PARK¹, Yun-Hi KIM^{1,}, Se Hyun KIM^{2,*}, Tae Kyu AN^{3,*}* (¹Gyeongsang National University, ²Yeungnam University, ³Korea National University of Transportation Korea)
- 2PS-302** High-performance Polymeric Photovoltaic Cells by using Novel Random Terpolymers
Su-Mi BANG¹, You-Sun LEE¹, Jun-Ho BAE¹, Bo-Gyu LIM², Seok-In NA^{1,}* (¹Chonbuk National University, ²LG Chem Research Park, Korea)
- 2PS-303** Highly Sensitive Artificial Skin Based on Stretchable Ionic Mechanotransducer
Eunsong JEE¹, Sangsik PARK¹, Ming Linag JIN², Younghoon LEE³, Ji Hye LEE⁴, Junho CHUNG¹, Joo Sung KIM¹, Jong-Seon KIM², Dae Woo KIM², Jae Woo CHUNG¹, Seung Geol LEE⁴, Dukhyun CHOI³, Hee-Tae JUNG^{2,}, Do Hwan KIM^{1,*}* (¹Soongsil University, ²Korea Advanced Institute of Science and Technology (KAIST), ³Kyung Hee University, ⁴Pusan National University, Korea)
- 2PS-304** High Resolution Self-aligned Patterning Process for Printed Electronics

*Won-Tae PARK, Yong-Young NOH** (Dongguk University, Korea)

- 2PS-305** Newly Designed Copolymers for Organic Photovoltaics Investigating the Structure-Property Relations
Ye Seul LEE¹, Seyeong SONG², Soon-Ki KWON¹, Jin Young KIM², Yun-Hi KIM^{1,}* (¹Gyeongsang National University, ²Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-306** Low-Crystallinity Conjugated Polymers Exhibiting High Field-Effect Mobility
*Sung Yun SON, Taiho PARK** (Pohang University of Science and Technology (POSTECH), Korea)

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- 2PS-307** Effective Treatment of Atopic Dermatitis Using Drug-loaded PVA/Alginate Hydrogel
Hye Ri LEE¹, Tae Ho KIM¹, Se Heang OH², Jin Ho LEE^{1,}* (¹Hannam University, ²Dankook University, Korea)
- 2PS-308** Vocal Fold Regeneration Using Injectable Plasmid DNA-loaded Bulking Agent System
Mi Ri PARK¹, Tae Ho KIM¹, Hee-Jin AHN², Seong Keun KWON², Se Heang OH², Young Joo JANG³, Jin Ho LEE^{1,}* (¹Hannam University, ²Seoul National University Hospital, ³Dankook University, Korea)
- 2PS-309** Accelerated Skin Wound Healing by Heparin-based Hydrogel with Epidermal Growth Factor
MeelChyn GOH¹, Youngmin HWANG, Giyoong TAE (Gwangju Institute of Science and Technology, Korea)
- 2PS-310** Development of Anti-thrombogenic Zwitterionic Polyurethane Additives for Implantable Medical Device Applications
Dong Heon GA^{1,3}, Sung Bin PARK¹, Tae Il SON², Dong Keun HAN^{1,2,}, Yoon Ki JOUNG^{1,2,*}* (¹Korea Institute of Science and Technology, ²Korea University of Science and Technology, ³Chung-Ang University of Biotechnology, Korea)
- 2PS-311** Mechanical and Biological Properties of Poly (lactic-co-glycolic acid) Composites with Various Shapes of Mg (OH)₂ Particles
Hye Jung JANG^{1,3}, Sung-Bin PARK¹, Min Kyu OH², Dong June AHN², Yoon Ki JOUNG^{1,2}, Dong Keun HAN^{1,2,}* (¹Korea Institute of Science and Technology, ²Korea University of Science and Technology, ³Korea University, Korea)
- 2PS-312** Anti-CD146 Antibody Immobilized Coronary Stent Modified by Silicone Nanofilament for Endothelial Progenitor Mediated Re-endothelialization
Dae Hwan KIM^{1,2}, Kwang-Sook PARK¹, Kyu Back LEE^{1,2}, Dong Keun HAN^{1,3}, Yoon Ki JOUNG^{1,3,}* (¹Korea Institute of Science and Technology, ²Korea University, ³Korea University of Science and Technology, Korea)
- 2PS-313** Preparation and Characterization of Schizophyllan Derivatives and Schizophyllan Derivatives-based Hydrogels Formed by Thiol-norbornene Photopolymerization
*Hyunhyuk TAE, Sora LEE, Minchae KIM, Chang Seok Ki** (Seoul National University, Korea)
- 2PS-314** Modulation of Encapsulated Macrophage Behavior in Three-dimensional Hydrogel Niches
*Minchae KIM, Sora LEE, Hyunhyuk TAE, Chang Seok Ki** (Seoul National University, Korea)
- 2PS-315** Control of Detection Range in ATP Assay by Modifying the Stem-Stability and Ionic Density of Molecular Beacon Aptamer/Conjugated Polyelectrolyte Complex
Ji-Eun JEONG¹, In Hwan JUNG³, Mijeong KANG², Boram KIM², Han Young WOO^{1,}* (¹Korea University, ²National University, ³Korea Research Institute of Chemical Technology (KRICT), Korea)
- 2PS-316** Fabrication of Anti-biofouling Microfiltration Membrane by Electrospinning Method Using Photo-Crosslinkable Zwitterionic Polymers
*Jiae SEO, Ji-Hun SEO** (Korea University, Korea)
- 2PS-317** Cell heterogeneity and Anisotropic Movement are Critical In Cancer Metastasis
Tae Jin KWON, Ok-Seon KWON, Hyuk-Jin CHA, Bong June SUNG** (Sogang University, Korea)
- 2PS-318** Diffusion Mechanism of Lipid Molecules in Gel Phase Bilayers
*Younghoon OH, Bong June SUNG** (Sogang University, Korea)

- 2PS-319** Anti-Biofilm Activity of Immobilized Enzyme Prepared by Electrospinning
Daichi MUROTA, Shun YAMANOCHI, Chigusa OKANO, Eri NASUNO, Tomohiro MOROHOSHI, Ken-ichi IIMURA, Norihiro KATO (Utsunomiya University, Japan)
- 2PS-320** In vitro Three-Dimensional Vascularized Beds Based on Decellularized Extracellular Matrix Hydrogels
Tae Hee KIM^{1,2}, Jung Hwa LEE^{1,2}, Soo Hyun KIM^{1,2}, Youngmee JUNG^{1,3,}* (¹Korea Institute of Science and Technology, ²Korea University, ³Korea University of Science and Technology, Korea)
- 2PS-321** Investigating the Conformational Dynamics of a Polymer Translocation Process into a Jammed Capsid using Langevin Dynamics Simulation
Seulgi LEE¹, Jun Soo KIM^{2,}, Bong June SUNG^{1,*}* (¹Sogang University, ²Ewha womans University, Korea)
- 2PS-322** Inhibitory Effects of Polymer Micelles on N-Acylhomoserine Lactone-Dependent Quorum Sensing
Takumi KAMIMURA, Chigusa OKANO, Eri NASUNO, Ken-ichi IIMURA, Norihiro KATO (Utsunomiya University, Japan)
- 2PS-323** Backfilling-Free Strategy for Biopatterning on Intrinsically Dual-Functionalized Poly[2-Aminoethyl Methacrylate-co-Oligo(Ethylene Glycol) Methacrylate] Films
Sangwon KO¹, Jungkyu K, LEE², Insung S, CHOI³, Bong Soo LEE^{3,}* (¹Korea Railroad Research Institute, ²Kyungpook National University, ³KAIST, Korea)
- 2PS-324** 3D Printed Customized Scaffold Using PLCL/Self-assembling Peptide Hydrogel Coupled with Substance P for Skin Regeneration
HeeJung IM^{1,2,}, Soo Hyun KIM^{1,2,3}, Youngmee JUNG^{2,3}* (¹Korea University, ²Korea Institute of Science and Technology, ³Korea University of Science and Technology, Korea)
- 2PS-325** Wound Healing Effects of Water-absorptive Polyurethane Nanoweb Produced by Coaxial Electrospinning
Ga Young PARK¹, Hyun Young LEE¹, Hanna KIM¹, Seung Bin LEE¹, So Young LEE¹, Woo Jin KIM¹, Jong Pil YOON², Ho Yun CHUNG², Jin Hyun CHOI^{1,}* (¹Kyungpook National University, ²Kyungpook National University Hospital, Korea)
- 2PS-326** Localized and Sustained Release of TGF- β from Calcium Alginate-based Composite Sponge for Tendon Regeneration
Ga Young PARK¹, Chang-Hwa LEE², Jong Pil YOON^{2,}, Jin Hyun CHOI^{1,*}* (¹Kyungpook National University, ²Kyungpook National University Hospital, Korea)
- 2PS-327** Physical Characterization and Wound Healing Effect of Hyaluronic Acid Hydrogel Patch
Ga Young PARK¹, Gyeong-Sik HONG^{1,2}, Jean-Young KANG², Jeong Yeon CHOI¹, Jin Hyun CHOI^{1,}* (¹Kyungpook National University, ²Sambo Co, Ltd, ³Korea Institute of Industrial Technology (KITECH), Korea)
- 2PS-328** Fabrication of Nerve Graft with Biodegradable Hydrogels and Nanofibers Releasing Growth Factors for Guidance of Axonal Growth
Haejeong PANG, Sang Won HAN, Minsu KIM, Hye Jin HONG, Won-Gun KOH (Yonsei University, Korea)
- 2PS-329** Effect of Different Cater Shape Pore Size and Depth on Cellular Behavior
Byoungyong YOO, Ji Hong MIN, Kanghee CHO, Hye jin HONG, Won-Gun KOH (Yonsei University, Korea)
- 2PS-330** Development of Decellularized Heart ECM Hydrogel with SC CO₂ Detergent Free System to Improve Angiogenesis Effect for Tissue Repair
Yujin SEO^{1,2}, Youngmee JUNG^{2,3,}, Soo Hyun KIM^{1,2,3,*}* (¹Korea University, ²Korea Institute of Science and Technology, ³Korea University of Science and Technology, Korea)
- 2PS-331** Charge-Dependent Cellular Uptake of Spherical Polymeric Nanoparticles
Juhyoung HWANG¹, Seong-Jin KIM², Peter C. W. LEE², Minseok KWAK^{1,}* (¹Pukyong National University, ²University of Ulsan College of Medicine, Korea)
- 2PS-332** Rylene Dye-Loaded Probe Nanoparticles for Visible-Infrared Imaging
Mingyeong KANG¹, Chen LF, Klaus MÜLLEN², Minseok KWAK^{1,}* (¹Pukyong National University, ²Max Planck Institute for Polymer Research, Germany)
- 2PS-333** Active vs Passive Targeting: Preparation and Cellular Uptake of Nanoparticles with Folic Acid and/or Charges
Haejoo KIM¹, Jun-O JIN², Seong-Jin KIM³, Peter C.W. LEE³, Minseok KWAK^{1,}* (¹Pukyong National University, ²Shanghai Public Health Clinical Center Fudan University, China, ³University of Ulsan College of Medicine, Korea)
- 2PS-334** 3D Culture of Tonsil-Derived Mesenchymal Stem Cells in LDH Polypeptide Hydrogel Composite Systems
Seon Sook LEE, Hae An KIM, Ja Hye HONG, Seo Hee CHANG, Byeongmoon JEONG (Ewha Womans University, Korea)
- 2PS-335** Polarized Light Emitting Diode Enhanced Neuronal Differentiation In Tonsil Derived Mesenchymal Stem Cell
Madhumita PATEL, Du Young KO, Hyeon Jeong LEE, So Hee PARK, Byeongmoon JEONG (Ewha Womans University, Korea)
- 2PS-336** Detection and Identification of Proteins based on Aggregation Induced Emission (AIE) Properties
Huyeon CHOI, Sangpil KIM, Ja-Hyoung RYU (Ulsan National Institute of Science and Technology, Korea)
- 2PS-337** Study on the Migration of Residual and Decomposed Monomers from a Biodegradable Packaging into Food Simulants
Jae Yun LEE, Soo Byoung LEE, Tae Hyun KIM, Mo Beom KOO, Jin Kyoung LEE, Sang Won KIM, In-Joo CHIN (Inha University, Korea)
- 2PS-338** Inducing Myogenic Differentiation of C2C12 Myoblasts Using Aligned Nanofibrous Poly (ethylene glycol) Hydrogel Micropatterned Scaffolds
Sung Ho CHA, Ui Seok CHUNG, Kang Hee CHO, Haejeong PANG, Byung Ju YUN, Won-Gun KOH (Yonsei University, Korea)
- 2PS-339** 3D Co-culture of Human Mesenchymal Stem Cells and Rodent C2C12 Myoblasts on Dual-patterned Hydrogel Scaffold for Efficient Myogenic Differentiation
Hye Jin HONG, Ui Seok CHUNG, Kanghee CHO, Haejeong PANG, Won-Gun KOH (Yonsei University, Korea)
- 2PS-340** A pH-Sensitive Ester Linkage Carboxymethyl Dextran-Docetaxel Conjugate for Specificity Cancer Therapy
Hansang LEE, Hwa Seung HAN, Minchang LEE, Jae Hyung PARK (Sungkyunkwan University, Korea)
- 2PS-341** Light-Induced Targeted Delivery of Anticancer Therapeutics Using ROS-Sensitive Block Copolymer
Geok Leng SEAH¹, Jee Seon KIM, Jeong Heon YU, Yoon Sung NAM (Korea Advanced Institute of Science and Technology, Korea)
- 2PS-342** PEG/PLGA Nanoparticles for Topical Delivery of Dexamethasone to the Eye
Se-Na KIM, Ji Min KWAK, Song Ah KO, Beom Kang HUH, Seung Ho LEE, Young Bin CHOY (Seoul National University, Korea)
- 2PS-343** THREE-dimensional Vascularized Beds based on Decellularized Extracellular and Dense Collagen Gel
Jeong Hwa LEE^{1,2}, Soo Hyun KIM^{1,2}, Young Mee JEONG^{1,3,}* (¹Korea Institute of Science and Technology, ²Korea University, ³Korea University of Science and Technology, Korea)
- 2PS-344** Preparation and Characterization of Catechol-modified Chitosan/uf067-PGA Nanoparticles
Min Hee KIM, Won Ho PARK (Chungnam National University, Korea)
- 2PS-345** In situ Synthesis of Silver Nanoparticles in Methylcellulose Hydrogel
Hanna PARK, Hee Chul KIM, Won Ho PARK (Chungnam National University, Korea)
- 2PS-346** A Dual-ligand Approached Graphene Oxide for Active Tumor Targeting Selectivity and Photothermal Therapy
Jong Hyun LEE, Cheol JANG, Abhishek SAHU, Giyoung TAE (Gwangju Institute of Science and Technology, Korea)
- 2PS-347** Fabrication of Enzyme-Mediated Injectable Hydrogel by Reforming Alginate for Wound Healing
Soohyeon JEON, Oh Hyeon KWON (Kumoh National Institute of Technology, Korea)
- 2PS-348** Fabrication of Hydrogel through Reforming of CMC as Anti-Tissue Adhesion
Soohyeon JEON¹, Teagyun YEO¹, Won Il KIM², Oh Hyeon KWON^{1,}* (¹Kumoh National Institute of Technology, ²Wonbiogen Ltd., Korea)
- 2PS-349** Intracellular Self Assembly of Small Probe through Condensation Reacting for Imaging Mitochondria in Cancer Cell
Sangpil KIM, L. PALANIKUMAR, Huyeon CHOI, Ja-Hyoung RYU (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 2PS-350** Host-guest Interaction Mediated Injectable Hydrogel by Supporting

Micelle Packing of Pluronic F127

Sung Bo SIM, Cheol-Hee AHN[†], Seung Yong LEE, Muhammad R. HAQUE, Yongro BYUN (Seoul National University, Korea)

- 2PS-351** Comparison of Thermal and Optical Properties of Fossil-based PC and Bio-based PC

Jung Hyun PARK¹, Seong Je PARK¹, Sang Bum LEE¹, Myung Sool KOO², Sung Hwan CHO², Jean Ho PARK³, Min-Young LYU^{1,*} (¹Seoul National Univ. of Science and Technology, ²Samyang Central R & D Center, ³Korea Institute of Industrial Technology, Korea)

- 2PS-352** Hyaluronate – Gold Nanorod / Anti DR5 Antibody for the Treatment of Skin Cancer

Jeong Ho LEE, Hwiwon LEE, Sei Kwang HAHN[†] (Pohang University of Science and Technology (POSTECH), Korea)

- 2PS-353** Development of Mitochondria-destabilizing Polypeptide for Cancer Therapy

JongHoon HA, DaeYong LEE, SeongDong JEONG, Yeu-chun KIM[†] (Korea Advanced Institute of Science and Technology (KAIST), Korea)

- 2PS-354** Cyclic Mitochondria-penetrating Peptides with Histidin-Ir(III) Coordination as Mitochondria-targeted Theranostic and Photodynamic Anticancer
Jae-Hyeon PARK, L. PALANIKUMAR, JungSeung NAM, TaeHyuk KWON[†], Ja Hyoung RYU[†] (Ulsan National Institute of Science and Technology (UNIST), Korea)

- 2PS-355** Fabrication and Characterization of Heparin Immobilized PCL Nanofibers for Vascular Tissue Engineering using Gamma-ray Irradiation

Da-Eun SEO^{1,2}, Sung-In JEONG¹, Hun HEO¹, Jin-oh JEONG¹, Jong-Seok PARK¹, Hui-Jeong GWON¹, Heungsoo SHIN², Youn-Mook LIM^{1,*} (¹Korea Atomic Energy Research Institute, ²Hanyang university, Korea)

- 2PS-356** Influence of NaOH Pretreatment of Ti on Size-controlled Calcium Phosphate/Chitosan Coating

Kyung Hee PARK, Seok-Jae KIM, Woon-Young LEE, Young-Hwa JEONG, Ho-Jun SONG, Yeong-Joon PARK[†] (Chonnam National University, Korea)

- 2PS-357** Effects of Stoichiometry of Neurofilament Proteins on Neurofilament Structure

Yunju CHO, Rakwoo CHANG[†] (Kwangwoon University, Korea)

- 2PS-358** Cytotoxic Study of Polyhexamethylene Guanidine (PHMG) Adsorption on Model Cell Membranes: Molecular Dynamics Simulations

Wontae KIM, Rakwoo CHANG[†] (Kwangwoon University, Korea)

- 2PS-359** Hyaluronic Acid-Based Foreign Antigen Conjugates as Novel Immunotherapeutics for Targeted Cancer Therapy

Minchang LEE¹, Jung Min SHIN¹, Hong Yeol YOON², Tae Woo KIM³, Jae Hyung PARK^{1,*} (¹Sungkyunkwan University, ²Korea Institute of Science and Technology, ³Korea University, Korea)

- 2PS-360** Fabrication of mPEG-PLGA Nanocarriers for STABLE and Sustained Release of Nitric Oxide to Promote Angiogenesis

Chungmo YANG¹, Jin-Kyung JEON², Doekwon SEO¹, Yoon JEONG¹, Myoung-Ryul OK², Kangwon LEE^{1,3,*} (¹Seoul National University, ²Korea Institute of Science & Technology, ³Advanced Institutes of Convergence Technology, Korea)

- 2PS-361** Preparation and Properties of PLA/byproduct Composite with Chain Extender

Sun-Jong KIM^{1,2,*}, Myung-Je YOO², Hyun-Seung CHO², Jae-Hwan LEE², Moghimi NASTARAN¹, Geung-Ho PANG², Ho-Dong LEE², Si-Young PANG², Su-Il PARK¹ (¹Yonsei University, ²HPM global inc., Korea)

- 2PS-362** Labeling and Tracking of Chondrocytes Using Bioorthogonal Copper-Free Click Chemistry

Seung Ho LIM^{1,2}, Sangmin LEE¹, Youngji KO^{1,3}, Woojun KIM^{1,3}, Sojeong KIM^{1,4}, Byung-Soo KIM², Kwangmeyung KIM^{1,*} (¹Korea Institute of Science and Technology, ²Seoul National University, ³Korea University, ⁴Seoul National University, Korea)

- 2PS-363** Multifunctional Supramolecular Nanomaterials by Co-Assembly of Peptide Amphiphiles: Theranostic 1D Nanoplatfoms

Inhye KIM¹, Jooyeon RYU¹, Eun Hee HAN², Eunji LEE^{1,*} (¹Chungnam National University, ²Korea Basic Science Institute, Korea)

- 2PS-364** A Development of Soft Tubular Microfluidic Device made of Biocompatible and Stimuli-responsive Hydrogel for Mimicking Tubular Organ under Pathological Condition

Kwangin SHIN[†], Hyeonji YU, Dongwon KANG, Jihye RYU, Jungwook KIM (Sogang University, Korea)

- 2PS-365** Cell-Penetrating Peptide Conjugated Gemcitabine for Treatment of Cancer Cell

Dongwook JUNG, Yumin KIM, Sunyoung KANG, Sohee NAM, Yan LEE[†] (Seoul National University, Korea)

- 2PS-366** Prediction of Chlorosulfolipid (Danicalipin A) Membrane Structure Using Hybrid Molecular Dynamics Simulations

Junyeol LEE, Rakwoo CHANG[†] (Kwangwoon University, Korea)

- 2PS-367** Characterization and Preparation of Silicon Hydrogel with Ionic-conductivity using Gamma-ray Irradiation

Hun HEO^{1,2}, Sung-Jun AHN¹, Jong-Seok PARK¹, Hui-jeong GWON¹, Sung In JEONG¹, Seung-hyun HWANG¹, Mi-Kyeong JANG², Youn-Mook LIM^{1,*} (¹Korea Atomic Energy Research Institute, ²Sunchon National University, Korea)

- 2PS-368** Effects of Protein Transduction Domain (PTD) Selection and Position for Improved Intracellular Delivery of PTD-Hsp27 Fusion Protein Formulations

Qurraat Ul AIN, Ye-Ji LEE, Hyung-Jin KIM, Yeon-Ji CHUN, Jong Hwan LEE, Young Sun WOO, Yong-Hee KIM[†] (Hanyang University, Korea)

- 2PS-369** Preparation of Protoporphyrin IX-Grafted Cellulose Monolith for Nerve Regeneration

JiHye LEE¹, Ju-Young CHA¹, Hiroshi UYAMA², Young-Jin KIM^{1,*} (¹Catholic University of Deagu, Korea, ²Osaka University, Japan)

- 2PS-370** In Vitro Detection of IgG using Liquid Crystal Microdroplets Anchored on a Slide Cover Glass

Huan YUE, HanByeol SHIN, Inn-Kyu KANG[†] (Kyungpook National University, Korea)

- 2PS-371** β -cyclodextrin Conjugated Injectable Gelatin Hydrogels for Controlled Release of Hydrophobic Drug

Si Min LEE, Ki Dong PARK[†] (Ajou University, Korea)

- 2PS-372** Synthesis and Characterization of Bio-functional Poly (vinyl alcohol) (PVA) Microparticles Prepared using Gamma-ray Irradiation

Seung-hyun HWANG^{1,2}, Sung-Jun AHN¹, Jong-Seok PARK¹, Sung In JEONG¹, Hui-jeong GWON¹, Dong Yun LEE², Youn-Mook LIM^{1,*} (¹Korea Atomic Energy Research Institute, ²Hanyang University, Korea)

- 2PS-373** Tunicate-inspired Gallic Acid/Metal Ion Complex for Facile, Instant and Efficient Dental Sensitivity Treatment

Ekavianty PRAJATELISTIA, Dong Soo HWANG[†] (Pohang University of Science and Technology (POSTECH), Korea)

10. Advanced Industrial Technology

- 2PS-374** AgNW/MWCNT/Cellulose Hybrid Papers for EMI Shielding Applications
Hyeon Yeol CHOI¹, Tae-Won LEE¹, Sang-Eui LEE^{2,*}, Young Gyu JEON^{1,*} (¹Chungnam National University, ²Samsung Electronics Company, Ltd., Korea)

- 2PS-375** Multi-functional Highly Efficient Bipolar 9,9-Dimethyl-9,10-dihydroacridine/Imidazole- based Materials for Solution-Processed Organic Light-Emitting Diode Applications

Saripally Sudhaker REDDY¹, Yeong-Soon GAL², Sung-Ho JIN^{1,*} (¹Pusan National University, ²Kyungil University, Korea)

- 2PS-376** Janus-faced, Multifunctional Separator Membranes for Lithium Ion Batteries

Yeon-Su OH, Sang-Young LEE[†] (National Institute of Science and Technology (UNIST), Korea)

- 2PS-377** Biindole-based Thermally Activated Delayed Fluorescence Emitter for Highly Efficient Organic Light-emitting Diode

Chi Hyun RYOO, Illhun CHO, Soo Young PARK[†] (Seoul National University, Korea)

●● Poster Session (III) – October 7, 2016 (Friday) (tentative)

(15:50 ~ 17:20)

Chair: Kwang-Un JEONG (Chonbuk National University, Korea)
Yeong Don PARK (Incheon National University, Korea)

1. Polymer Synthesis

- 3PS-1** Photoinitiator-free Azido-Functionalized Ladder-Like Polysilsesquioxanes as Gate Dielectric
Bomin KIM^{1,2}, Albert S. LEE¹, Seung Sang HWANG¹, Ho Gyu YOON², Kyung-Youl BAEK^{1}* (¹Korea Institute of Science and Technology, ²Korea University, Korea)
- 3PS-2** Preparation and Characterization of Bio-based Polyurethane Film Derived from Chemical Modified Cardanol via Two-step Reaction
Sung-Hyun KIM, Sang-Ho CHA^{}* (Kyonggi University, Korea)
- 3PS-3** Synthesis of Biocompatible Hyperbranched Interlocked Hydrogel
Jea Yeong BAE, Il KIM^{}* (Pusan National University, Korea)
- 3PS-4** Preparation of Pore-filled Polyethylene Membrane for Membrane Capacitive Deionization
Qiu QUAN, Ji-Hoon CHA, Dae-Jung KIM, Youn-Sik LEE^{}* (Chonbuk National University, Korea)
- 3PS-5** Synthesis and Characterization of Semi-crystalline Poly (arylene ether ketone)s Polymer for Proton Exchange Membrane
Jong-Eon JEONG, Dong-Hoon LEE^{}* (Uiduk University, Korea)
- 3PS-6** Synthesis and Characterization of Curing Agent for Advanced Epoxy Resin Containing Ester-type Mesogenic Units
Hyeonil KIM^{1,2}, Hyeonuk YEO¹, Munju GOH¹, Seokhoon AHN¹, Se Gyu JANG¹, Jae Ryang HAHN², Nam-Ho YOU^{1}* (¹Korea Institute of Science and Technology, ²Jeonbuk National Univ., Korea)
- 3PS-7** Synthesis and Characterization of Meltable Acrylonitrile Copolymers as Carbon Fiber Precursors
Jeong-un JIN^{1,2}, Dong-hoon LEE², Nam-ho YOU^{1}* (¹Korea Institute of Science and Technology, ²Uiduk University, Korea)
- 3PS-8** γ -Irradiated Polyethylene Membranes Filled with Crosslinked Sulfonated Polystyrene: Synthesis and Application for Membrane Capacitive Deionization Cells
Qian QIU, Saurabha BHATTARAI, Youn-Sik LEE^{}* (Chonbuk National University, Korea)
- 3PS-9** Synthesis and Characterization of Benzotriazole Bearing Donor-Acceptor Conjugated Polymer
Sivalingam SUGANYA, Namhyeon KIM, Jihoon MOON, Jong S. PARK^{}* (Pusan National University, Korea)
- 3PS-10** Mechanical and Electrical Behavior of Polymer Nanocomposites using Defect-Healing Reduced Graphene Oxide
Kyeong Min KIM^{1,2}, Jae Kwan LEE², Nam-Ho YOU^{1}* (¹Korea Institute of Science and Technology, ²Chosun University, Korea)
- 3PS-11** Synthesis and Characterization of Colorless Polyimides Containing Ester Groups
Sehwa BONG, Nam-Ho YOU^{}* (Korea Institute of Science and Technology (KIST), Korea)
- 3PS-12** Synthesis and Characterization of Fluorenyl-containing Sulfonated Poly (arylene ether ketone)s for Proton Exchange Membrane
Dong-Hyeon KIM, Dong-Hoon LEE^{}* (Uiduk university, Korea)
- 3PS-13** Reversible Addition-Fragmentation Chain Transfer Emulsion Block Copolymerization of Poly (methyl methacrylate) and Poly (n-Butyl Acrylate)
Daehyeon HWANG, Kyungbok EO, Yong Ku KWON^{}* (Inha University, Korea)
- 3PS-14** Synthesis of Aminated Polyketone-g-Vinylbenzyl Chloride Ion Exchange Membrane via Irradiation
Seung-Mi HYEON, In Sik KIM, Yong Joung KIM, Taek Sung HWANG^{}* (Chungnam National University, Korea)
- 3PS-15** Synthesis and Characterization of Organic-Inorganic Hybrid Polymer with Self-Healing behavior via Diels-Alder Reaction
Jae-Ik LEE, Dong-Wook KIM, Jung-Hyur LIM, Kyung-Min KIM^{}* (Korea National University of Transportation, Korea)
- 3PS-16** Preparation and Characterization of Bipolar Membrane for Water Treatment and their Electrical Properties
Young Joong KIM, In sik KIM, Taek Sung HWANG^{}* (Chungnam National University, Korea)
- 3PS-17** Preparation of Ethylene Vinyl Acetate (EVA) Heterogeneous Cation Ion Exchange Membrane of Electrodialysis
In Sik KIM, Young Joong KIM, Seung Mi HYEON, Taek Sung HWANG^{}*

(Chungnam National University, Korea)

- 3PS-19** The Influence Of Surface Modified SNT on the Mechanical Properties of PMMA/SNT Composite
Kwang-Yong NA^{1,3}, Sang-Cheol HAN², Yang-il HUH¹, Jeong-Cheol KIM^{1}* (¹Chonnam University, ²Korea Innotech, ³Korea Institute of Industrial Technology, Korea)
- 3PS-20** Tuning of the Physical Properties of Thermoplastic Poly (ether ester) Elastomers Using Castor Oil as Soft Segment Modifier
Jae Ryeon KANG¹, Joon Il PARK², Ju Ho YUN¹, Byoung Hoon LEE⁴, Yeong Nam HWANG⁵, Il KIM^{1}* (¹Pusan National University, ²Yooil rubber company, ³Korea Automotive Technology Institute, ⁴Kangnam Chemical Co.,Ltd, ⁵Kolon Industries, Inc, Korea)
- 3PS-21** Soluble Aromatic Polyamides Derived from Asymmetrical Diamine with Two Trifluoromethyl Groups
Tae Joon BYUN¹, Sun Dal KIM², Im Sik CHUNG³, Sang Youl KIM^{1}* (¹KAIST, ²Agency of Defense Development, ³KRIBB, Korea)
- 3PS-22** RAFT Polymerization of Poly (pAcOS-b-NVF) Diblock Copolymer, by using Switchable RAFT Agent
Jun Hyok YOON, Sang Youl KIM^{}* (KAIST, Korea)
- 3PS-23** Synthesis of Polyamide-imides Containing Alicyclic Units
Seong Jong KIM, Byungyong LEE, Sang Youl KIM^{}* (KAIST, Korea)
- 3PS-24** Temperature-Responsive Amphiphilic Diblock Copolymers Containing P3HT
Byungyong LEE¹, Sun Dal KIM, Sang Youl KIM (KAIST, Korea)
- 3PS-25** Micro-hydrogel Particles of Hyperbranched Polyamidoamine: Utilization of Heavy Metal Adsorption
Sanghwa LEE, Inah KANG, Sang Youl KIM^{}* (KAIST, Korea)
- 3PS-26** Synthesis and Characterization of A Thermally Curable Trifluorovinyl Substituted Polyimide for Gate Insulator in Thin Film Transistor
Euichan KIM, Taek AHN^{}* (Kyuysung University, Korea)
- 3PS-27** Synthesis and Characterization of Novel Crosslinked Polyimide Gate Insulators for Thin-Film Transistor with Ultra-Low Leakage Current Density
Euichan KIM^{1}, Yun Ho KIM², Taek AHN^{1*}* (¹Kyuysung University, ²Korea Research Institute of Chemical Technology, Korea)
- 3PS-28** Soluble Aromatic Poly (amide-imide)s Containing Trifluoromethyl Groups
Sumin LEE, Tae Joon BYUN, Byungyong LEE, Sang Youl KIM^{}* (KAIST, Korea)
- 3PS-29** Triphenylamine-Based Supramolecular Polymers for Conductive Gel
Changjun PARK, Jisung KIM, Jinhee LEE, Sang Youl KIM^{}* (KAIST, Korea)
- 3PS-30** Influence of Temperature and Methods of Synthesis on the Poly-aniline Properties
Abdelhafid MERZOUKI^{}* (University F. Abbas Sétif-1, Algeria)
- 3PS-31** Synthesis and Analysis of Figure-Eight- and Cage-Shaped Cyclic Polystyrene
Taeheon LEE¹, Joongsuk OH², Jonghwa JEONG¹, Haeji JUNG¹, June HUH³, Taihyun CHANG^{2}, Hyun-jong PAIK^{1*}* (¹Pusan National University, ²Pohang University of Science and Technology, ³Korea University, Korea)
- 3PS-32** Synthesis of a Polyorganosiloxane by Ring Opening Polymerization
Seok Hwa YOO^{}, Gyu Nam KIM, Tao ZHANG, Hyun-Su KIM, Seung Woo HAN, Doo Whan KANG, Ho-Jong KANG* (Dankook University, Korea)
- 3PS-33** Electron Spin Resonance Study on Radical Polymerization of Furfuryl Methacrylate
KyoungHo KIM¹, Taeheon LEE¹, Aitsushi KAJIWARA^{2}, Hyun-jong PAIK^{1*}* (¹Pusan National University, Korea, ²Nara University of Education, Japan)
- 3PS-34** Facile Preparation of Bicyclic Polystyrene Using ATRP and Click Chemistry by One-Pot
Jihwa YE, Taeheon LEE, Hyerin CHOI, Jonghwa JEONG, Hyun-jong PAIK^{}* (Pusan National University, Korea)
- 3PS-35** Degradation and Reuse of Epoxy Resin of Carbon Fiber Reinforced Polymer Composites
Daehyeon KIM, Ji-Hoon CHA, Dai-Soo LEE, Youn-Sik LEE^{}* (Chonbuk National University, Korea)
- 3PS-36** A Study on the Synthesis and Physical Properties of Wet-Polyurethane with MPD based Polyol
Suk Hun SUR^{}, Pil Jun CHOI, Jae Wang KO, Bo Ram KIM, Jae Yeon LEE* (Korea Institute Of Footwear & Leather Technology, Korea)

- 3PS-37** Preparation and Characterization of Low Density Polyethylene (LDPE) and Zinc Oxide (ZnO) Composite Films based on Surface Modified ZnO
Insoo KIM, Hojoon LEE, Dowan KIM, Jongchul SEO (Yonsei University, Korea)
- 3PS-38** One-pot Synthesis of a Polyimide in an Aqueous Medium
Hwan-Chul YU, Jin-Won JEONG, Ju-Young CHOI, Beom-Jun KIM, Chan-Moon CHUNG (Yonsei University, Korea)
- 3PS-39** Synthesis and Characterization of Co-polycarbonates Based on Bio-based Diol
Ji Mok LEE^{1,2}, Gyoung Seok YU¹, Byoung Gak KIM¹, Ho Gyu YOON², Yong Seok KIM^{1,}* (¹Korea Research Institute of Chemical Technology (KRICT), ²Korea University, Korea)
- 3PS-40** Synthesis and Characterization of Poly (ether sulfone) Block Copolymers Containing Pendent Quaternary Ammonium- and Imidazolium Groups as Anion Exchange Membranes
Aruna Kumar MOHANTY¹, Nowon KIM², Hyun-jong PAIK^{1,}* (¹Pusan National University, ²Dong-eui University, Korea)
- 3PS-41** Melt Polymerization Behaviors of Poly (phenylene sulfide) using New Aromatic Monomers
Yoon-Hyung CHOI^{1,2}, Ji Mok LEE¹, Gyoung Seok YU¹, Young Jae YOO¹, Yong Seok KIM^{1,}* (¹University of Science Technology, ²Korea Research Institute of Chemical Technology, Korea)
- 3PS-42** Thermoresponsive Polymers for the Selective Sensing of Cu (II) ions in Aqueous Media and their Tunable Thermosensitivities Driven by Copper Coordinate Interaction
Jae Min BAK, Hyung-il LEE^{}* (University of Ulsan, Korea)
- 3PS-43** Water-soluble Polymers for the Selective Sensing of Mercury Ions with pH-driven Controllable Detection Sensitivity and Time
Sul-Kyung KIM, Hyung-il LEE^{}* (University of Ulsan, Korea)
- 3PS-44** Preparation and Properties of Hybrids of Epoxy Resin and Non-isocyanate Polyurethanes based on Glycerol Carbonates
Sang Hyub LEE, Dai Soo LEE^{}* (Chonbuk National University, Korea)
- 3PS-45** A pH- Tunable Pyrene Based Turn-on Fluorescent Polymeric Probe for the Detection of Nerve Agent Mimics
Moumita GUPTA, Hyung-il LEE^{}* (University of Ulsan, Korea)
- 3PS-46** Synthesis of Poly (itaconic acid) Superabsorbent Polymers Using Inverse Suspension Polymerization
So-Yeon KO, Nam-Jae SHIN, Arpit SAND, Young-Je KWARK^{}* (Soongsil University, Korea)
- 3PS-47** A Study on Hydrophobic Polyurethanes based on Castor Oil to Enhance the Slip Resistance in Wet Surface
Se-Ra SHIN, Sang-Won KIM, Ji-Wun KIM, Joong-Min LEE, Soo-kyung SHIN, Dai-Soo LEE^{}* (Chonbuk National University, Korea)
- 3PS-48** Synthesis of Bio-based Polyol using Soybean Oil
Han-Eol KIM, Byeong-Uk NAM^{}* (Korea university of technology and education, Korea)

2. Polymer Physics and Characterization

- 3PS-49** Effects of Propylene Carbonate Addition on the Thermal and Mechanical Properties of Poly (L-Lactic Acid) Films
Gang Gook LEE, Hyo Sung CHOI, Hwa Yeong JEONG, Young Ho KIM^{}* (Soongsil University, Korea)
- 3PS-50** Preparation and Properties of Chitosan-Sugar acid Electrolyte Complex
Hyo-Lin SOUNG^{}, Ji Hyeon KIM, Tae Won SON* (Yeungnam University, Korea)
- 3PS-51** Characteristics of Polyethersulfone Membranes Functionalized by Sulfonfyl acid and Grafted with Multi-walled Carbon Nanotube
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Albert S. LEE¹, Jin Hong LEE¹, Chong Min KOO^{1,2}, Seung Sang HWANG^{1,2,}* (¹Korea Institute of Science and Technology, ²University of Science and Technology, Korea)
- 3PS-129** Synthesis of Water-Soluble and Stable Poly (aminopropyl)silsesquioxane by 3-Step Reaction
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- 3PS-137** Effect of Natural Fiber Size in PP Matrix on Soundproofing Properties
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Myoung-Hwan PARK (Sahmyook University, Korea)
- 3PS-140** Studies on Microwave Shielding Composites Based on FeCo Hollow Fiber Filled Polymer in the X-Band Frequency

- Jae Ryung CHOI, Ka Hyun PARK, Byung Mun JUNG, Sang-Kwan LEE, Sang Bok LEE* (Korea Institute of Materials Science (KIMS), Korea)
- 3PS-141** Highly Anisotropic Copper Oblate Ellipsoids Incorporated Polymer Composites with Excellent Performance for Broadband Electromagnetic Interference Shielding
Seung Hwan LEE^{1,3}, Seunggun YU¹, Faisal SHAHZAD^{1,2}, Jun Pyo HONG¹, Chong Min KOO^{1,2,}* (¹Korea Institute of Science and Technology (KIST), ²University of Science and Technology, ³Korea University, Korea)
- 3PS-142** High Temperature Lithium Ion Capacitors Fabricated with PEO functionalized Polysilsesquioxane Ionogel Polymer Electrolytes *Wonjun NA^{1,2}, Albert S. LEE¹, Jin Hong LEE¹, Eunyoung KIM², Chong Min KOO^{1,*}* (¹Korea Institute of Science and Technology (KIST), ²Yonsei University, Korea)
- 3PS-143** The Study of Compatibilized Poly (2,6-dimethyl-1,4-phenylene ether) / Nylon 66 Composites: Flame Retardancy, Morphology, and Mechanical Property
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- 3PS-144** Preparation of Conductive Polyurethane-Polypyrrole Electrospun Composite Fibers by In-situ Process
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- 3PS-147** Ion and Temperature Responsive MO Cubic Phase Containing PEI/CA Salt Bridge Conjugate
Dan-Bi PARK, Jin-Chul KIM (Kangwon National University, Korea)
- 3PS-148** Preparation and Characterization of Carbon/Graphene Composite Films
Ga Young BAEK¹, Hwa Su LEE¹, Jin-Mook JUNG¹, Chan-Hee JUNG², In-Tae HWANG², Junhwa SHIN², Jae-Hak CHOI^{1,}* (¹Chungnam National University, ²Korea Atomic Energy Research Institute, Korea)
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Se-Yeong LEE^{1,2}, Seo-Hyun JUNG¹, Ho-Youl KONG¹, Do-Hoon HWANG², Jong-Mok PARK^{1,}* (¹Korea Research Institute of Chemical Technology, ²Pusan National University, Korea)
- 3PS-150** Smart AAO Membrane for Multiple Gating System
Bom-yi LEE, Jin Kon KIM (Pohang University of Science and Technology, Korea)
- 3PS-151** Detection of Metal Ion Using Ethylene Glycol Chain Containing Polydiacetylene
Young-Jin GWON, Choong-Ho KIM, Taek Seung LEE (Chungnam National University, Korea)
- 3PS-152** Preparation of Hierarchical Porous Carbon Membranes from Polyacrylonitrile by Ion Beam Irradiation and Carbonization
Hwa Su LEE¹, Ga Young BAEK¹, Ji-Hyun HONG^{1,2}, Chan-Hee JUNG², In-Tae HWANG², Junhwa SHIN², Jae-Hak CHOI^{1,}* (¹Chungnam National University, ²Korea Atomic Energy Research Institute, Korea)
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Seungjong HAN¹, Jeonghun LEE¹, Eun-Taeh OH², Heon Joo PARK², Chulhee KIM^{1,}* (¹Inha University, ²Inha University College of Medicine, Korea)
- 3PS-154** APN (CD13) Targeting Mesoporous Silica Nanocapsules with Multifunctional CNGRC Peptide
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- 3PS-155** Stimuli-Responsive Mesoporous Silica with Surface Multifunctional Peptide Gatekeeper for Targeted Drug Delivery
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- 3PS-156** Stimuli-Responsive Mesoporous Silica Nanocarrier with Dendron as Gatekeeper
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Hyunchul PARK¹, Soon Man HONG^{1,2}, Jun Pyo HONG¹, Chong Min KOO^{1,2,}* (¹Korea Institute of Science and Technology (KIST), ²University of Science and Technology, Korea)
- 3PS-158** Photo-responsive Phase Transition Behaviors of a Ribbon-shaped Chiral Liquid Crystal
Yu-Jin CHOI, Dae-Yoon KIM, Kwang-Un JEONG (Chonbuk National University, Korea)
- 3PS-159** Self-healing Acrylate Polymer based on the Diels-Alder Reaction
So Young KIM^{1,2}, Seung Man NOH¹, In Woo CHEONG^{2,}, Jin Chul KIM^{1,*}* (¹Korea Research Institute of Chemical Technology, ²Kyungpook National University, Korea)
- 3PS-160** Investigation of Methylated Polyethylenimine Halide Salts Exhibiting Upper Critical Solution Temperature (UCST) Phase Transition in Aqueous Solution
Minwoo NOH¹, Yan LEE (Seoul National University, Korea)
- 3PS-161** Biologically Relevant Polymeric Materials Based on the Azobenzene Motif
Taejun EOM¹, Junki OH, Ji-Hyeon HWANG, Anzar KHAN (Korea University, Korea)
- 3PS-162** Microcapsule-type Self-healing Materials having Secondary Cracking Preventing Functionality
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Hyunwoo BARK¹, Hosun LIM², Hyunjung LEE^{1,}* (¹Kookmin University, ²Soekmyung Women's University, Korea)
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Ming Yu JIN¹, Byung-Man KIM², Hyun Sil JUNG¹, Jun-Hyeok PARK², Deok-Ho ROH², Dong Guk NAM¹, Tae-Hyuk KWON^{2,}, Do Hyun RYU^{1,*}* (¹Sungkyunkwan University, ²Ulsan National Institute of Science and Technology (UNIST), Korea)
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Taeheon KWON^{1,2,}, Youngjong KANG², Soon Man HONG¹, Chong Min KOO¹* (¹Korea Institute of Science and Technology (KIST), ²Hanyang University, Korea)

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Chunhee SEO, Youngjong KANG², Jihye NAM, Haneen Hassan SOWLIH (Hanyang University, Korea)
- 3PS-258** Schottky Barrier-gated high Performance Photodetector via an Environmentally Benign Fabrication Process
Jangwhan CHO, Kyoungwan KIM, Min Su JANG, Dae Sung CHUNG (Chung-Ang University, Korea)
- 3PS-259** Highly Stable Low-Voltage Organic Memory Transistors with Polymeric Multi-Gate-Insulating Layers
Chulyeon LEE, Jooyeok SEO, Myeonghun SONG, Hwajeong KIM, Youngkyoo KIM (Kyungpook National University, Korea)
- 3PS-260** Perylene Diimide-Based Small Molecule Acceptors For Efficient Fullerene-Free Organic Photovoltaics
In Hwan JUNG^{1,}, Wisnu Tantiyo HADMOJO², So Youn NAM¹, Tae Joo SHIN², Jaemin LEE¹, Sung Cheol YOON¹, Sung-Yeon JANG^{2,*}* (¹Korea Research Institute of Chemical Technology (KRICT), ²Kookmin University,

- ³Ulsan National Institute of Science and Technology (UNIST), Korea)
- 3PS-261** High Dielectric Constant and Low Dielectric Loss Material for Laser Direct Structuring Process
Shijie SONG^{1,}, Jian WANG¹, Kogure MASARO², Dongcheon YOO¹* (¹Saudi Arabia Basic Industries Corporation (SABIC) Technology Center, China²SABIC, Tokyo, Japan)
- 3PS-262** Different Photoelectric behavior of Flexible Organic Solar Cells Depending on Surface Properties and Electrical Conductivity in PEDOT:PSS Electrode
Woongsik JANG, Sunyong AHN, So Yeon PARK, Dong Hwan WANG^{}* (Chung-Ang University, Korea)
- 3PS-263** Importance of Tuning D-A Composition in Random Copolymer for Efficient Polymer Solar Cells
Joonghyeon CHOI^{}, Tae-eui KANG, Bumjoon KIM* (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-264** Conjugated Side Chain Engineering of Naphthalenediimide (NDI)-Based n-Type Polymer
Han-Hee CHO, Bumjoon J. KIM^{}* (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-265** Toward Thermally Stable Ternary Blend All-Polymer Solar Cells: The Importance of Morphological Stability in All-Polymer Blends
Taesu KIM, Joonghyeon CHOI, Wonho LEE, Bumjoon J. KIM^{}* (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-266** Optimization of Pen Printing Technique for Scale Down of Printed Organic Electronics
Singu HAN, Hwasung LEE^{}* (Hanbat National University, Korea)
- 3PS-267** Poly (2-vinylpyridine) (P2VP) to Enhance the Efficiency and Stability of Polymer Solar Cells
Wonho LEE, Bumjoon J. KIM^{}* (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-268** Control of Epitaxy Growth Affording High Electrical Performance of Organic Semiconductors
Heejeong JEONG, Hwasung LEE^{}* (Hanbat National University, Korea)
- 3PS-269** Low-Temperature Electroluminescence Analysis of Lead Iodide-based Perovskite Light-Emitting Diodes
Munsik OH, Seungil JO, Bhaskar PARIDA, KwangJae LEE, Jae-Wook KANG, Hyunsoo KIM^{}* (Chonbuk National University, Korea)
- 3PS-270** Ferroelectric Memory Cell Coupling Two Identical Transistors with Gate-controlled Dual Function Operation
Ji Hoon PARK, Pradipta K. NAYAK, Husam N. ALSHAREEF^{}* (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
- 3PS-271** Effect of Carbon Contents on O₂ Plasma-induced Damage to Nanoporous Ultralow Dielectrics
Sung-Min CHO, Tae-Kyung YANG, Hee-Woo RHEE^{}* (Sogang University, Korea)
- 3PS-272** Efficient Ternary Organic Photovoltaic Devices Containing Small Molecule Donors
Hye-Kyung JANG¹, Wisnu Tantiyo HADMOJO², Du Yeol RYU^{1,}, Sung-Yeon JANG^{2,*}* (¹Yonsei University, ²Kookmin University, Korea)
- 3PS-273** Liquid Crystal-Integrated-Organic Field-Effect Transistors: A Smart Platform for Artificial Sensation
Jooyeok SEO, Myeonghun SONG, HwaJeong KIM, Youngkyoo KIM^{}* (Kyungpook National University, Korea)
- 3PS-274** Highly Efficient Organic Solar Cells Fabricated on Textured Flexible Transparent Conducting Electrodes
Eun-Bi JEON, Won-Yong JIN, Jae-Wook KANG^{}* (Chonbuk National University, Korea)
- 3PS-275** Highly Transparent Conducting Substrate Based on Nanocellulose Paper
Kwang-Jae LEE, Jae-Wook KANG^{}* (Chonbuk National University, Korea)
- 3PS-276** Flexible, Pressure-Sensitive Organic Transistors Based on Centro-Apically Self-Organized Organic Semiconductor Microstructures for Arterial Stiffness Monitoring
So Young YEO¹, Min Jung KYE¹, Do Hwan KIM^{2,}, Jung Ah LIM^{1,*}* (¹Korea Institute of Science and Technology (KIST), ²Soongsil University, Korea)
- 3PS-277** Tuning Optical Properties of Fluorescent Polymers through Photo Retro Diels-Alder Reactions
Donghyo HAHM, Jeewoo LIM, Kookheon CHAR^{}* (Seoul National University,

- Korea)
- 3PS-278** Diketopyrrolopyrrole-Based Conjugated Polymers Covalently Linked with a Carbazole Moiety
Young-Min OH¹, Jong Hyun KIM², Tae-Dong KIM^{1,}* (¹Hannam University ²Chungnam National University, Korea)
- 3PS-279** Characterization on the Different Type of Solvents on all Polymer Solar Cells
Hyeseung JUNG¹, Seon-Mi JIN², Eunji LEE², BongSoo KIM^{1,}* (¹Ewha Womans University, ²Chungnam National University, Korea)
- 3PS-280** Flexible OLEDs based on Transparent Conducting Paper
So-Ra SHIN, Kwang-Jae Lee, Jae-Wook KANG^{}* (Chonbuk National University, Korea)
- 3PS-281** Oxygen-Permeation-Controlled Metal Electrodes for Stable Organic Solar Cells
Hansol LEE, Hyo Chan LEE, Min KIM, Dong Hun SIN, Hyomin KO, Kilwon CHO^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- 3PS-282** Predicting the Morphology of Perovskite Thin Films Produced by Sequential Deposition Method: a Crystal Growth Dynamics Study
Hyomin KO, Dong Hun SIN, Min KIM, Kilwon CHO^{}* (Pohang University of Science and Technology (POSTECH), Korea, Korea)
- 3PS-283** Synthesis and Characterization of Methyl Substituted Diketopyrrolopyrrole Based Conjugated Polymers for Organic Thin Film Transistor
Hee Su KIM¹, Eunjo SONG², Kilwon CHO², Do-Hoon HWANG^{1,}* (¹Pusan National University, ²Pohang University of Science and Technology (POSTECH), Korea)
- 3PS-284** N-Channel Organic Field-Effect Transistors and Structure-Property Relationship
Min Jae SUNG¹, Alessandro LUZIO², Won-Tae PARK³, Ran KIM⁴, Eliot GANN⁵, Francesco MADDALENA², Giuseppina PACE², Yong XU³, Dario NATALI^{2,6}, Carlo de FALCO², Long DANG³, Christopher R. MCNEILL⁵, Mario CAIRONI^{2,}, Yong-Young NOH^{3,*}, Yun-Hi KIM^{4,*}* (¹Gyeongsang National University, Korea, ²Center for Nano Science and Technology, Italy, ³Dongguk University, Korea, ⁴Gyeongsang National University, Korea, ⁵Monash University, Australia, ⁶Politecnico di Milano, Italy)
- 3PS-285** Alkyl Spacer Length Engineering of the Diketopyrrolopyrrole-based Organic Field-Effect Transistors
Kwang Hun PARK¹, Hojeong YU^{2,3}, Myeong-Jong KIM¹, Eun Soo AHN⁴, Inho SONG², Joon Hak OH², Yun-Hi KIM^{1,}* (¹Gyeongsang National University, ²Pohang University of Science and Technology (POSTECH), ³Ulsan National Institute of Science and Technology (UNIST), ⁴Gyeongsang National University, Korea)
- 3PS-286** Correlation between Molecular Orientation and Bias Stress Stability in N-type Organic Transistors
Byungho MOON, Boseok KANG, Hyun Ho CHO, Eunjo SONG, Kilwon CHO^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- 3PS-287** Benzotriazole-Contained Small Conjugated Molecules for Bulkheterojunction Solar Cells
Taek-Jin KIM, Gyu Hyeon JANG, Hee Yeon JEONG, Tae-Dong KIM^{}* (Hannam University, Korea)
- 3PS-288** Synthesis and Optoelectronic Properties of Diketopyrrolopyrrole-Based Conjugated Polymers Containing Oxadiazole Side Chains
Juho KIM, Won-Taek OH, Young-Min OH, Tae-Dong KIM^{}* (Hannam University, Korea)
- 3PS-289** Photocurrent Enhancement of Polymer Solar Cell using Large Band Gap Polymer Incorporating Benzodithiophene and Pyrrolopyrrole Derivatives via the Insertion of a Strong Electron Accepting Thienothiophene Unit
Jihoon LEE¹, Vellaiappillai TAMILAVAN², Keun Nyeong OH¹, Danbi KIM¹, Myung Ho HYUN², Sung Heum PARK^{1,}* (¹Pukyong National University, ²Pusan National University, Korea)
- 3PS-290** Synthesis and Electrical Properties of PEDOT:P (SS-co-TFPMMA) for Control of Work Function
Soeun IM, Wonseok CHO, Jung Hyun KIM^{}* (Yonsei University, Korea)
- 3PS-291** Enhanced Thermoelectric Behavior of PEDOT:PSS/RTCD Graphene Hybrid Film
Chanil PARK, Dohyuk YOO, Jung Hyun KIM^{}* (Yonsei University, Korea)
- 3PS-292** Polymer Nanowire Solar Cell using Highly Crystalline Low-Bandgap

Conjugated Polymer Exceeding 10% with a 350 nm Thick Active Layer
Jaewon LEE, Dong Hun SIN, Kilwon CHO^{*} (Pohang University of Science and Technology, Korea)

- 3PS-293** Characterization and Electrical Modeling of an Extended-Gate Type OFET-based Biochemical Sensor for Lactate Detection
Sanghoon BAEK, Jimin KWON, Sungjune JUNG^{*} (Pohang University of Science and Technology (POSTECH), Korea)
- 3PS-294** Neutralization of PEDOT:PSS with Various Imidazole for Stable Conducting Polymer Films and Its Applications
Ahra CHO, Seyul KIM, Yunyeol KIM, Jung Hyun KIM^{*} (Yonsei University, Korea)
- 3PS-295** Control of the PEDOT:PSS Ratio through to Tune the Work Function and Its Application
Soyeon KIM, Hangeol CHO, Minseok JEONG, Youngno KIM, Junghyun KIM^{*} (Yonsei University, Korea)
- 3PS-296** Enhanced Light Extraction of OLED Devices with Diffraction Gratings
Tae-Bin LIM, Yong-Cheol JEONG^{*} (KITECH, Korea)
- 3PS-297** Fabrication of Micro/Nano Complex Grating by Light Interference Lithography
Yong-Cheol JEONG^{*} (KITECH, Korea)
- 3PS-298** Synthesis and Properties of Novel Small Molecules
Hyung Gun SONG¹, Yebyeol KIM², So-Min PARK¹, Tae Kyu AN³, Soon-Ki KWON^{1}, Chan Eon PARK^{2*}, Yun-Hi KIM^{1*}* (¹Gyeongsang National University, ²Pohang University of Science and Technology, ³Korea National University of Transportation Korea)
- 3PS-299** Polarity Engineering of Conjugated Polymers by Variation of Chemical Linkages Connecting Conjugated Backbones for Organic Field-Effect Transistors
Hui-Jun YUN¹, Hyun Ho CHOI², Yun-Hi KIM^{1}, Kilwon CHO^{2*}, Soon-Ki KWON^{1*}* (¹Gyeongsang National University, ²Pohang University of Science and Technology, Korea)
- 3PS-300** Control of Porous Organic Semiconducting Layers for Organic Field-Effect Transistor Based Sensor Applications
Joongyu AHN, Mingyuan PEI, Kyu-dong KIM, Mi JANG, Hoichang YANG^{*} (Inha University, Korea)
- 3PS-301** Molecular Orientation of a Small Molecule based on Anthracene Core for Blue Fluorescence OLEDs
Myeong-Jong KIM¹, Sunyoung SOHN², Sungjune JUNG², Tae Joo SHIN², Han-Koo LEE², Yun-Hi KIM^{1}* (¹Gyeongsang National University, ²Pohang University of Science and Technology, Korea)
- 3PS-302** Benzodithiophene Derivative for High Performance Solution-processed Solar Cell
Jang Yeol BAEK¹, Yu Jin KIM², Jong-jin HA¹, Dae Sung CHUNG^{3}, Soon-Ki KWON^{1*}, Chan Eon PARK^{2*}, Yun-Hi KIM^{1*}* (¹Gyeongsang National University, ²Pohang University of Science and Technology (POSTECH), ³Chung-Ang University, Korea)
- 3PS-303** Synthesis of *N*-phenylindole-diketopyrrolopyrrole-containing Materials and Comparison of Aggregation-type Dependent Electrical Properties
Seolhee JEON¹, Ujwal Kumar THAKUR², Daehee LEE¹, Yin WENPING³, Dasom KIM³, Sunjong LEE⁴, Tae Kyu AHN³, Hui Joon PARK^{2,5}, Sung DongKIM¹, Bong-Gi KIM^{1}* (¹Konkuk University, ²Ajou University, ³Sungkyunkwan University, ⁴Korea Institute of Industrial Technology, ⁵Ajou University, Korea)
- 3PS-304** High-Speed Electroactive Polymer Actuator Modulated by Nanostructured Ion Channel for Artificial Muscle
So Young KIM, Yongchan KIM, Eunah HEO, Sangsik PARK, Hojin LEE^{}, Do Hwan KIM^{*}* (Soongsil University, Korea)
- 3PS-305** Fabrication of Semi-Transparent and Flexible Organic Solar Cells
Yeongjin LEE, Kwanghee LEE² (Gwangju Institute of Science and Technology (GIST), Korea)
- 3PS-306** Origin of the Performance Degradation in Graphene-based Schottky Junction Solar Cells
Yunseong CHOI, Junghyun LEE, Ungsoo KIM, Hyesung PARK^{}* (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 3PS-307** Weather Proof of Solar-cell Sheet
Jae Myoung YOO^{}, Jinwoo KIM, Youn Kung KIM, Suim SON, Bo Sang YOON* (LOTTE CHEMICAL CORPORATION, Korea)

9. Bio-related Polymers

- 3PS-308** Biocompatible Chitosan-based Nanoparticles For Effective Delivery of Anticancer Drugs
Dae Gun CHOI¹, Jayachandran VENKATESAN¹, Eun Ji HONG¹, Min Suk SHIM^{1}* (Incheon National University, Korea)
- 3PS-309** Synthesis and Property Enhancement of Biopolyol Based Waterborne Polyurethanes (WPU)
Eunyoung KIM, Min Jeong PARK, Chan Hyuk JEE, Kyung Seok KANG, Pilho HUH^{}* (Pusan National University, Korea)
- 3PS-310** PEG Crosslinked Pluronic Nanoparticles Encapsulating Perfluorocarbon and Dye for Bioimage-Guided High-Intensity Focused Ultrasound Therapy
Hyun Sik CHOI, Sei Kwang HAHN^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- 3PS-311** Electrospinning of Silk Fibroin/Fish Gelatin Fibrous Mat from Full Water Solvent system
Ji Eun JU, Moonju SHIN, Hee Chang WOO, Ki Hoon LEE^{}* (Seoul National University, Korea)
- 3PS-312** Synthesis of Poly (Histidine)-based Micelles for Cancer-targeted Therapy
Eun Ji HONG¹, DaeYong LEE², Dae Gun CHOI¹, Yeu-Chun KIM^{2}, Min Suk SHIM^{1*}* (¹Incheon National University, ²Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-313** EGF-functionalized Gold-melanin Nanoparticles for Cancer-targeted Photothermal Treatment
Ghasidit PORNNOPADOL^{}, Jeong Heon YU, Shin Hyun KIM, Yoon Sung NAM* (Korea Advanced Institute of Science and Technology, Korea)
- 3PS-314** Hyaluronic Acid Conjugated Molybdenum Disulfide As A Fluorescent Contrast Agent for Photoacoustic Tomography
Myeong Hwan SHIN, Sei Kwang HAHN^{}* (Pohang University of Science and Technology (POSTECH), Korea)
- 3PS-315** Scar-reducing Surgical Suture with Sustained, Local Delivery of Tranilast
Beom Kang HUH¹, Byung Hwi KIM², Sung Yoon CHOI¹, Hyo Jin PARK³, Ji-Ho PARK⁴, Chan Yeong HEO^{2,3}, Young Bin CHOY^{1,2*}* (¹Seoul National University, ²Seoul National University College of Medicine, ³Seoul National University Bundang Hospital, ⁴Korea Advanced Institute of Science and Technology, Korea)
- 3PS-316** Preparation and Characterization of Lignin/Alginate Beads for Removal of Hexavalent Chromium
Hee Chang WOO, Hyo Wan KWAK, Jeong Yun LEE, Haesung YUN, Jungsoo KIM, Ji Eun JU, Mun Ju SHIN, Ki Hoon LEE^{}* (Seoul National University, Korea)
- 3PS-317** Reactive Oxygen Species (ROS) and Protease-responsive Activable Cell-penetrating Peptide for the Anticancer Drug Delivery Platform
Jisang YOO¹, DaeYong LEE², Yeu-Chun KIM (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-318** Hypoxia-Sensitive Fluorescence Imaging Probe by Cascade-Release Dendrimer
In Jae CHUNG, Ju Hyeong LEE, Cheol-Hee AHN^{}* (Seoul National University, Korea)
- 3PS-319** Antibody Mediated Delivery of therapeutic DNA via Cell-surface Receptors
Seungbin CHA^{1}, Eun-Ju HYUN², Young Jun KIM¹, Young-kyu LEE²* (¹Konkuk University, ²Korea University of Transportation, Korea)
- 3PS-320** Formation of Radiopaque and Biodegradable Polymeric Microparticle for Transarterial Embolization
Seong Ik JEON^{1}, Myung Su LEE², Young Il KIM², Hwan Jun JAE², Cheol-Hee AHN¹* (¹Seoul National University, ²Seoul National University College of Medicine, Korea)
- 3PS-321** Surface Modification of a Fluorescent Nanoassembly with cycloRGD for High Contrast *in vivo* Fluorescence Imaging of Tumors
Wonjae YOO^{1,2}, Yong-Deok LEE¹, Keonsoo JEONG¹, Jae Hyung PARK^{2,3}, Sehoon KIM^{1*}* (¹Korea Institute of Science and Technology (KIST), ²Sungkyunkwan University, ³Samsung Advanced Institute for Health Sciences and Technology (SAIHST), Korea)

- 3PS-322** Sugar-based Polymeric Nanocarriers for Tumor-targeted Drug Delivery
Hyeonjong PARK^{1,2}, Keunsoo JEONG¹, Jungahn KIM², Sehoon KIM^{1,*}
(¹Korea Institute of Science and Technology (KIST), ²Kyung Hee University, Korea)
- 3PS-323** Enhancement of Mechanical Properties of Poly (L-lactide) Bone Implants with Solid-state Extrusion
Chang-Yong KIM^{1,*}, Young-Mee JUNG², Soo-Hyun KIM^{1,2} (¹Korea University, ²Korea Institute of Science and Technology, Korea)
- 3PS-324** Biodegradable Microneedle Patches for Tissue Adhesion and Controlled Drug Delivery
Keum-Yong SEONG, Seung Yun YANG* (Pusan National University, Korea)
- 3PS-325** Thermo-sensitive Hydrogels with Controlled Mechanical Properties and Expansion Rates for Cell Separation
Eun Mi KIM, Yu Bin LEE, Se-jeong KIM, Hayeon BYUN, Heungsoo SHIN* (Hanyang University, Korea)
- 3PS-326** Nitrogen and Chlorine Doped Graphene Quantum Dots with High Quantum Yield for Bioimaging
Md NAFIUJJAMAN, Dong Hee WOO, Yong-kyu LEE* (Korea National University of Transportation, Korea)
- 3PS-327** Bile Acid Mediated Nano-complex for Oral siRNA Delivery
Eun-Ju HYUN¹, Sung Hun KANG¹, Vishnu REVURI², Nurunnabi MD², Young-Kyu LEE^{1,*} (¹Korea University of Transportation, ²Korea National University of Transportation, ³Chungnam National University, Korea)
- 3PS-328** H2O2-responsive Antioxidant Polymeric Nanoparticles as Therapeutic Agents for Peripheral Arterial Disease
Eunkyung JUNG, Jinsub KIM, Donghyuck YOO, Changsun KHANG, Dongwon LEE* (Chonbuk National University, Korea)
- 3PS-329** pH-controllable Helical Polypeptide Accomplishing Selective Cancer Targeting
DaeYong LEE, Ilkoo NOH, Jisang YOO, Yeu-Chun KIM* (Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-330** Preparation and Characterization of PVC/Bio-polyurethane Blends
Jun Hyuk JUNG*, Seong Hun KIM* (Hanyang University, Korea)
- 3PS-331** Promotion of Functional 3D Spheroid Organization of Human Salivary Gland Cells using Hydrogel-micropatterned Nanofibrous Microwells
Yun-Min KOOK¹, Sang Won HAN¹, Min Su KIM¹, Byung Ju YUN¹, Hyun-Soo SHIN², Jae-Yol LIM^{2,*}, Kangwon LEE^{3,4,*}, Won-Gun KOH^{1,*} (¹Yonsei University, ²Inha University College of Medicine, ³Seoul National University, ⁴Advanced Institutes of Convergence Technology, Korea)
- 3PS-332** Stimuli-Responsive Mesoporous Nanocontainer with Multifunctional A6 Peptide for Improved Drug Delivery Efficiency
Min-hyuek CHOI¹, Jeonghun LEE¹, Eun-Taeh OH², Heon Joo PARK², Chulhee KIM^{2,*} (¹Inha University, ²Inha University College of Medicine, Korea)
- 3PS-333** Targeted and Localized Delivery of Protamine/Heparin-S-S-Taurocholic Acid based Oral Gene Delivery Systems to Treat Type-2 Diabetes
V. REVURI, Sung Hun KANG, Joeng-man AN, Yong-Kyu, LEE* (Korea National University of Transportation, Korea)
- 3PS-334** DSC/TG Analysis and Thermoplasticity Assessment of Injectable Gutta-percha Endodontic Obturation Materials
Hyun-Joo MOON, Moon-Jin HWANG, Ho-Jun SONG, Yeong-Joon PARK* (Chonnam National University, Korea)
- 3PS-335** Bioabsorbable Nanofibers Sheets Containing Blood Coagulation Accelerating Agents for Efficient Control Hemorrhage
Byung Nam KIM¹, Sun Jong KIM², Eun Jin KIM², Insu BAEK², Oh Hyeon KWON^{1,*} (¹Kumoh National Institute of Technology, ²M.I. Tech Co., Ltd., Korea)
- 3PS-336** Biomass-based Anti-microbial Dressing made of Silver Nanoparticles u2013 Activated Carbon Composite for Wound Healing
Seo Hee HAN¹, Young-Gwang KO¹, Donghwan CHO¹, Won Ho PARK², Oh Hyeon KWON^{1,*} (¹Kumoh National Institute of Technology, ²Chungnam National University, Korea)
- 3PS-337** Syntheses and Adhesion Properties of Novel Mussel-Inspired Copolymers
Na-Rae CHO, Jae-Kon CHOI, Jeong-Sun SOHN* (Chosun University, Korea)
- 3PS-338** Preparation of Visible Light-cured Glycol Chitosan Hydrogels with a Controlled Release of EGF for Wound Healing Acceleration In Vivo
Dae Hyeok YANG¹, Heung Jae CHUN^{1,*}, Bon Kang KU², Sang Jun PARK², Chun Ho KIM², Chaul Min PAI¹ (¹Catholic University of Korea, ²Korea Institute of Radiological & Medical Sciences, Korea)
- 3PS-339** Preparation of Hydroxyapatite/BMP-2 Surface-modified Resorbable PLLA Screw for Biomedical Applications
Dae Hyeok YANG, Young Jin YUN, Heung Jae CHUN*, Jae Kwang KIM (The Catholic University of Korea, Korea)
- 3PS-340** 3D Printing of Macroporous Tough Hydrogel
Hyojin KO, Minjeong KIM, Kwanwoo SHIN* (Sogang University, Korea)
- 3PS-341** A Long Circulating Polymeric Nanoparticle for Efficient siRNA Delivery in Cancer Therapy
Jiyeon SON*, Sanghee KIM, Sanhoon KIM, Jihye CHOI, Hyeoung NAM (Samyang Biopharmaceuticals Corporation, Korea)
- 3PS-342** Nanothin and Highly Porous Coculture Membranes for Stem Cell-Derived Cardiac Sheets and Chondrogenic Cells-Laden Complexes
Jin YOO, Seungmi RYU, Jin HAN, Yeongseon JANG, Byung-Soo KIM*, Kookheon CHAR* (Seoul National University, Korea)
- 3PS-343** Examination of Phase Transition Behavior of Polyester Diblock Copolymers with Ion Group for Thermo-Responsive Hydrogel
Bo Keun LEE, Jin Seon KWON, Ji Hoon PARK, Seung Hun PARK, Jae Ho KIM, Moon Suk KIM* (Ajou University, Korea)
- 3PS-344** Electrospun Nanofibrous Sheets as a Drug Delivery System for Controlled Release
Jin Woo LEE¹, Hye Yun LEE¹, Seung Hun PARK¹, Ji Hoon PARK¹, Jae Ho KIM¹, Byoung Hyun MIN², Moon Suk KIM^{1,*} (¹Ajou University, ²Ajou University Medical Center, Korea)
- 3PS-345** Preparation and Characterization of Porcine Articular Cartilage as an Anti-adhesive Film
Joon Yeong PARK¹, Seung Hun PARK¹, Ji Hoon PARK¹, Byoung Hyun MIN^{1,2}, Moon Suk KIM^{1,*} (¹Ajou University, ²Ajou University medical center, Korea)
- 3PS-346** Formulation Development and Characterization of Zwitterionic Sulfobetaine End-functionalized Poly (ethylene glycol)-b-poly (caprolactone) Diblock Copolymers
Hye Yun LEE, Bo Keun LEE, Ji Hoon PARK, Hai Bang LEE, Moon Suk KIM* (Ajou University, Korea)
- 3PS-347** Synthesis of Poly (lactide-co-glycolide-co-ε-caprolactone) Block Copolymers and Evaluation as Drug Delivery Carriers
Malgeum KIM, Seung Hun PARK, Bo Keun LEE, Ji Hoon PARK, Jae Ho KIM, Moon Suk KIM* (Ajou University, Korea)
- 3PS-348** Injectable Extracellular Matrix Hydrogel using Small Intestine Submucosa as a Stem Cell Carrier
Ji Yeon HEO, Ji Hoon PARK, Seung Hun PARK, Bo Keun LEE, Moon Suk KIM* (Ajou University, Korea)
- 3PS-349** Synthesis of Biocompatible Nanogels with Encapsulated Poly I:C by Inverse Miniemulsion ATRP
Dong-Woo KIM, Chae-Yeon LEE, Eun-Ju HA*, Hyun-Jong PAIK* (Pusan National University, Korea)
- 3PS-350** Study of 3D Bio-inks for Biomedical Scaffolds: Improved Mechanical Properties with Layering Stability
Minjeong KIM, Hyojin KO, Giyoung TAE, Kwanwoo SHIN* (Sogang University, Korea)
- 3PS-351** Biofunctionalization of PEEK for Bone Tissue Engineering
Giwan KWON¹, Sojung PARK¹, Hun KIM², Inn-Kyu KANG^{1,*} (¹Kyungpook National University, ²Jeil Medical Corporation, Korea)
- 3PS-352** Isosorbide based Bio-polyester for Powder Coatings
Junseop IM*, Seung Hyun YOO, Hoon RYU (Samyang Corporation, Korea)
- 3PS-353** Synthesis of Hydroxyapatite Surface Coating with Zwitterionic MPC Polymer Containing Calcium-Binding Moieties for Prevention of Oral Bacterial Adhesion
Minji KANG^{1,*}, Sunah KANG¹, Myoungjin LEE², Minwoo NOH¹, Joohee JEON¹, Ji-Hun SEO², Yan LEE¹ (¹Seoul National University, ²Korea University, Korea)
- 3PS-354** An in Vitro Cytotoxicity Evaluation on the Stage of Collagen Extraction Process from Pig Skin
Ga Hyun LEE, Hyung Jin Na* (Gyeongbuk Technopark, Korea)

- 3PS-355** 3D Multicellular Aggregate as Alternative to Experimental Animal Testing
*Hye-Eun SHIM, Soo-Wang HYUN, Ji-Eun JEONG, Joung-Wook SEO, Sun-Woong KANG*¹ (Korea Institute of Toxicology, Korea)
- 3PS-356** The Effect of Acetylation on Physical Properties of Hyaluronic Acid
Eun-juo LEE^{1,2}, *Hye-Eun SHIM*¹, *Ji-eun JEONG*¹, *Kang-Moo HUH*², *Sun-Woong KANG*^{1,*} (¹Korea Institute of Toxicology, ²Chungnam National University, Korea)
- 3PS-357** Silk Sericin Attachment onto Chitosan Nonwoven Fabrics
*Jung Soo KIM, Jung Eun KIM, Ki Hoon LEE*¹ (Seoul National University, Korea)
- 3PS-358** Preparation of Isosorbide based Bio-Isocyanate Prepolymer for Polyurethane Foam
*Seung Hyun YOO*¹, *Hoon RYU*¹, *Junseop IM*^{1,*}, *Dai Soo LEE*², *SeRa SHIN*¹ (¹Samyang Corporation, ²Chonbuk National University, Korea)
- 3PS-359** Characterization of Pepsin-Solubilized Collagen from Nomurai Jellyfish (Nemopilema nomurai) using Gamma-Ray Irradiation and Alkali Treatment
Su-Min KIM^{1,2}, *Semi YOON*^{1,3}, *Sung-Jun AN*¹, *Hui-Jeong GWON*¹, *Sung In JEONG*¹, *Jong-Seok PARK*¹, *Dong Yun LEE*², *Youn-Mook LIM*^{1,*} (¹Korea Atomic Energy Research Institute, ²Hanyang University, ³Yonsei University, Korea)
- 3PS-360** Synthesis of Urethane Acrylate with Isosorbide and Their Film Property
*Byoung-Ju CHO*¹, *Hyong-Jun KIM*², *Back-Jin KIM*^{1,*} (¹Korea Institute of Industrial Technology, ²Kongju National University, Korea)
- 3PS-361** Stimuli-responsive Dendrimers with Triazine Core Synthesized from Amino Acids for siRNA Delivery
Hayoon SHIN, Ju Hyun SONG, Dai-il JUNG, Soo Kyung CHO^{*} (Dong-A University, Korea)
- 3PS-362** Synthesis of 1,3,5-Trisubstituted-Hexahydro-1,3,5-Triazine Dendrimers from Various Amino Acids for siRNA/Dendrimer Complexation
*Eun-bi KIM*¹, *Seong Jin CHO*², *Dai-il KIM*¹, *Soo Kyung CHO*^{1,*} (¹Dong-A University, ²Kyungsung University, Korea)
- 3PS-363** Hydrogels Produced from Multi-armed Polymer Compounds Allow Tunable Properties for Drug Delivery and Tissue Engineering
Hyun Seok SONG^{*} (Korea Basic Science Institute (KBSI), Korea)
- 3PS-364** Extraction and Characterization of Acid-soluble Collagen and Pepsin-solubilized Collagen from the Nomura's Jellyfish (Nemopilema nomurai) using Gamma-ray Irradiation
Semi YOON^{1,2}, *Su-Min KIM*^{1,3}, *Seung-Hyun HWANG*^{1,3}, *Hun HEO*^{1,4}, *Jae-Min LEE*^{1,5}, *Hui-Jeong GWON*¹, *Sung-Jun AHN*¹, *Sung In JEONG*¹, *Jong-Seok PARK*¹, *Won-Gun KOH*², *Youn-Mook LIM*^{1,*} (¹Korea Atomic Energy Research Institute, ²Yonsei University, ³Hanyang university, ⁴Sunchon National University, ⁵Chungnam National University, Korea)
- 3PS-365** H2O2-responsive Antioxidant Polymeric Nanoparticles as Therapeutic Agents for Peripheral Arterial Disease
Eunkyoung JUNG, Jinsub KIM, Donghyuck YOO, Changsun KHANG, Dongwon LEE^{*} (Chonbuk National University, Korea)
- 3PS-366** Synthesis and Characterization of Bioreducible Polypropylenimine Dendrimers for Gene Delivery Systems and Their Cytotoxic Behavior
*Gyeong Jin LEE, Kila RYU, Joo Hyeon JEON, Jaehong PARK, Tae-il KIM*¹ (Seoul National University, Korea)
- 3PS-367** Self-assembling Multifunctional Peptide Dimers for Gene Delivery Carriers
*Kila RYU, Gyeong Jin LEE, Joo Hyeon JEON, Jaehong PARK, Tae-il KIM*¹ (Seoul National University, Korea)
- 3PS-368** Redox and pH Responsive Switched Drug Release from Noncovalent Polymer Gatekeeper In Hollow Mesoporous Silica Nanoparticles for Sequential Therapy
*L. PALANIKUMAR, M. T. JEENA, Kibeom KIM, Jun Yong OH, Chaekyu KIM, Ja-Hyoung RYU*¹ (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 3PS-369** Generation of Biomimetic Gradient Substrates by Controlling Dopamine Polymerization for Cell and Tissue Engineering
Saieesh Kumar MP, Young Min SHIN, Heungsoo SHIN^{*} (Hanyang University, Korea)
- 3PS-370** Hyaluronic Acid-Heptamethine Dye nanoparticle for Theranostic Applications
*Ajesh P. THOMAS, L. PALANIKUMAR, Ja-Hyoung RYU*¹ (Ulsan National Institute of Science and Technology (UNIST), Korea)
- 3PS-371** Development of New Orally Absorbable Lactoferrin-heparin Conjugate to Cure Brain Cancer
Hae Hyun HWANG, Hae Jin KIM, Young Hoon KIM, Dong Yun LEE^{*} (Hanyang University, Korea)
- 3PS-372** Attenuation of HMGB1 Release by HO-1 Gene Delivery for Enhancement of Islet Graft Survival
*Min Jun KIM*¹, *Sang Bong LEE*¹, *Dong Yun LEE*² (Hanyang University, Korea)
- 3PS-373** Chiral Nematic Chitin Assembly under a Mild Condition
*Rega PERMANA*¹, *Dongyeop X. OH*², *Yun Jeong CHA*³, *Hoang-Linh NGUYEN*¹, *Hwa Heon JE*¹, *Yong Seok JHO*¹, *Dong Soo HWANG*^{1,*}, *Dong Ki YOON*² (¹Pohang University of Science and Engineering (POSTECH), ²Korea Research Institute of Chemical Technology (KRICT), ³Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 3PS-374** Lactoferrin-conjugated Gold Nanoparticle for Targeting Glioblastoma via Oral Delivery
Hyung Shik KIM, Seung Jae LEE, Dong Yun LEE^{*} (Hanyang University, Korea)
- 3PS-375** Injectable Hydrogel based on Pluronic-hyaluronic Acid Complex with Poly (U03b3-glutamic acid)
*Manse KIM, Youngmin HWANG, Giyoung TAE*¹ (Gwangju Institute of Science and Technology, Korea)
- 3PS-376** Cell Surface Engineering with Lipid-conjugated Heparin for Stem Cell Transplantation
*Jong Chul KIM, Eunsol KIM, Kiyeon MIN, Giyoung TAE*² (Gwangju Institute of Science and Technology, Korea)
- 3PS-377** Protein Stabilized Prussian Blue Nanoparticle for Imaging Guided Cancer Therapy
*Abhishek SAHU*¹, *Jong Hyun LEE*¹, *Hye Gyeong LEE*², *Yong Yeon JEONG*², *Giyoung TAE*^{1,*} (¹Gwangju Institute of Science and Technology, ²Chonnam National University Medical School and Chonnam National University Hwasun Hospital, Korea)