

기조강연장\_ 10월 10일(목)

기조강연

- PL-1** (10:40–11:20) **좌장: 박기동**  
Some Surprises and New Research Opportunities in Polymer Research  
Steve Granick, IBS Center for Soft and Living Matter/Department of Chemistry, UNIST

한화고분자학술상 수상기념강연

- PL-2** (11:20–12:00) **좌장: 이미혜**  
How to Design Polymer Electrolytes for EV and FCV Applications  
이희우, 서강대학교

삼다올A\_ 10월 10일(목)

Korea–Taiwan Joint Symposium: Emerging Technology in Polymer Science (English)

Organizer: Taeshik Earmme (Hongik Univ.), Doo-Hyun Ko (Kyung Hee Univ.)

- 1L1-1** (13:30–13:55) **Chair: Taeshik Earmme**  
UV Light Triggered Self-Healing Composites and Multi-functional Self-healing Polymers  
안석훈, KIST
- 1L1-2** (13:55–14:20)  
Bifunctionalized POSS Relatd Polymr Nanocomposites  
Shiao-Wei Kuo, Department of Materials and Optoelectronic Science, National Sun Yat-Sen University
- 1L1-3** (14:20–14:45)  
Theoretical and Experimental Analysis on Preform Deformation in Automotive Carbon Fiber Reinforced Composite Molding Processes  
성동기, 부산대학교
- 1L1-4** (14:45–15:10)  
The Development and Characterization of Biodegradable, DLP-Printable, Glycerol-Based Copolymers  
June-Yo Chen, Joanne V. Hwang, Jane Wang, Department of Chemical Engineering, National Tsing Hua University
- 1L1-5** (15:30–15:55) **Chair: Doo-Hyun Ko**  
Generating Reactive Functional Groups from Mechanochemically Responsive Polymers  
Chia-Chih Chang, Department of Applied Chemistry, National Chiao Tung University
- 1L1-6** (15:55–16:20)  
Impact of 3D Morphology on the Photovoltaic Property of All-Polymer Solar Cells Processed by Non-halogenated Solvents  
김복수, 울산과학기술원
- 1L1-7** (16:20–16:45)  
Solution-Processable Organic Semiconductors for Thin Film Transistor Application  
Cheng-Liang Liu, Department of Chemical and Materials Engineering, National Central University
- 1L1-8** (16:45–17:10)  
An Engineering Approach for Sustainable Peptide Synthesis  
Sheng-Sheng Yu, Chen-Yu Chien, Chun-Wei Lai, Department of Chemical Engineering, National Cheng Kung University

삼다올B\_ 10월 10일(목)

Korea–Australia Joint Symposium: Next Generation Polymer Science and Technology (English)

Organizer: Joonwon Bae (Dongduk Women's Univ.), Bongjun Yeom (Hanyang Univ.)

- 1L2-1** (13:30–13:55) **Chair: Bongjun Yeom**  
Salt Modulated Thermoresponsive Brushes  
Erica J. Wanless, Discipline of Chemistry, Faculty of Science, University of Newcastle
- 1L2-2** (13:55–14:20)  
Anisotropic Hydrogels with Superior Mechanical Properties for Mimicking Tendon  
김재윤, 성균관대학교

- 1L2-3** (14:20–14:45)  
The Long and the Short of Polymer Grafting – Exploring the Limits and Quantification of the 'Grafting-to' Approach  
Leonie Barner, School of Chemistry, Physics and Mechanical Engineering, Institute for Future Environments, Queensland University of Technology (QUT)
- 1L2-4** (14:45–15:10)  
Ultrasonic Chemical Reactions for Carbon–Heteroatom Bond Formation and Conjugated Microporous Polymer  
권태형, 울산과학기술원
- 1L2-5** (15:30–15:55) **Chair: Joonwon Bae**  
Stimuli-Responsive Hydrogels for Advanced Tissue Engineering Applications  
Vinh Truong, Department of Materials Science and Engineering, Monash University
- 1L2-6** (15:55–16:20)  
Development of Functional Hydrogels by Tuning Internal Structures  
김연수, 포항공과대학교
- 1L2-7** (16:20–16:45)  
Synthesis of Gradient Copolymers Based on One-pot Cationic Copolymerization of Aliphatic and Aromatic 2-Oxazolines  
Juraj Kronek, Jiwon Jeong\*, Zuzana Kroneková, Shubhashis Datta\*\*, Daniel Jancura\*\*, Daewon Sohn\*, Polymer Institute of the Slovak Academy of Sciences; \*Department of Chemistry, Hanyang University; \*\*Center for Interdisciplinary Biosciences, Technology and Innovation Park, P. J. Safarik University in Kosice

한라올A\_ 10월 10일(목)

의료용 고분자 부문위원회(I): Recent Advances in Theranostic Macromolecules

Organizer: 박재형(성균관대)

- 1L3-1** (13:30–13:55) **좌장: 김성완**  
Dual-Ionic pH-sensitive Copolymers for Versatile Biomedical Applications  
이두성, 성균관대학교
- 1L3-2** (13:55–14:20)  
Professor Doo Sung Lee: A Pioneer in Environment-Sensitive Polymers  
Kinam Park, Department of Biomedical Engineering, Purdue University
- 1L3-3** (14:20–14:45)  
Nanoparticle-Based Photodynamic Imaging and Therapy of Cancer  
권익찬, 한국과학기술연구원
- 1L3-4** (14:45–15:10)  
Enhanced Intra-tumoral Blood Perfusion by Orally Active Low Molecular Weight Heparin  
변영로, 서울대학교 약학대학
- 1L3-5** (15:30–15:55) **좌장: 이두성**  
Enhanced Transdermal Delivery of Poorly Soluble Active Ingredients  
심우선, LG생활건강
- 1L3-6** (15:55–16:20)  
Bioinspired Nucleobase-driven Adhesive, Tough and Conductive Hydrogels for Underwater Sensing  
Xin Liu, Qin Zhang, Guanghui Gao, Polymeric and Soft Materials Laboratory, School of Chemical Engineering and Advanced Institute of Materials Science, Changchun University of Technology
- 1L3-7** (16:20–16:45)  
Synthesis of pH- and Temperature-Sensitive Biodegradable Hydrogel and Micro-, Nano-Particles for Paclitaxel and Insulin Sustained Release  
Dai Phu Huynh, HoChiMinh University of Technology
- 1L3-8** (16:45–17:10)  
Polymeric Conjugates to Modulate Immune Responses in Cancer  
박재형, 성균관대학교

한라올B\_ 10월 10일(목)

Molecular Electronics Division (I): Convergence of 4th Industrial Revolution and Next-Generation Molecular Electronics (English)

Organizer: Song Yun Cho (KRICT), Joon Hak Oh (Seoul Natl. Univ.), Do Hwan Kim (Hanyang Univ.)

- 1L4-1** (13:30–13:55) **Chair: Ye-Jin Hwang**  
Versatile Photochemical Tailoring of Organic and Inorganic Materials for Electronic Thin Film Device Application  
김재균, 한양대학교

- 11.4-2** (13:55-14:20)  
High-Performance Flexible Organic Solar Cells Exceeding 12% Enabled by High-Purity Transfer-Free Graphene Electrode Produced via Direct Polyimide Integration  
박혜성, UNIST
- 11.4-3** (14:20-14:45)  
Charge-reversed Electro-jet Writing (CREW) for Micro-scaled 3D Printing  
이경진, 충남대학교
- 11.4-4** (14:45-15:10)  
Optical and Chemical Engineering of Polymer Semiconductors to Realize Color Filter Free Organic Image Sensor  
정대성, DGIST
- 11.4-5** (15:30-15:55) **Chair: Seojin Ko**  
Bias-Stress-Induced Charge Trapping in Organic Transistors-A Molecular Structure Perspective  
조길원, 포항공과대학교
- 11.4-6** (15:55-16:20)  
Unraveling the Origin of Operational Instability of Quantum Dot Based Light-Emitting Diodes  
배완기, 성균관대학교
- 11.4-7** (16:20-16:45)  
Printing Transfer of the Layer-by-Layer Nanofunctional Films with Photoreflexive Properties  
염봉준, 정아름, 하나리, 한양대학교
- 11.4-8** (16:45-17:10)  
Flow Chemistry: Synthesis of Conjugated Polymer Semiconductors in Flow  
황예진, 신우진, 고원영, 인하대학교

## 201호\_10월 10일(목)

## 콜로이드 및 분자조립 부문위원회(I)

Organizer: 김산현(KAIST), 문준혁(서강대)

- 11.5-1** (13:30-13:55) **좌장: 문준혁**  
Self-Transformation under Confinement in 2-D Pore Assembly  
Myongssoo Lee, College of Chemistry, Jilin University
- 11.5-2** (13:55-14:20)  
Polymer Cubosomes: New Entities of Self-assembled Structures of Block Copolymers in Solution  
김경택, 서울대학교
- 11.5-3** (14:20-14:45)  
Facet Specific Surface Chemistry of Colloidal Quantum Dots  
정소희, 성균관대학교
- 11.5-4** (14:45-15:10)  
Multiscale Architected Core/Shell Colloidal Particle Assemblies for Optical and Electrochemical Applications  
유필진, 성균관대학교
- 11.5-5** (15:30-15:55) **좌장: 김산현**  
All-Water-based Solution Processed Transparent Nano-mesh Conductors and Electrocatalytic Films  
장석태, 이성민, 송승근, 김진, 중앙대학교 화학신소재공학부
- 11.5-6** (15:55-16:20)  
자극응답성 콜로이드를 활용한 금속구조체의 광특성 조절 및 이차원 패턴 제조  
조은철, 송지은, 이브, 편승범, 한양대학교 화학공학과
- 11.5-7** (16:20-16:45)  
All Organic Full Color Electrophoretic Reflective Display Using Core-Shell Polymeric Microspheres  
이원목, 세종대학교
- 11.5-8** (16:45-17:10)  
Colloidal Crystal Based Soft Lithography Nano-patterning and Its Applications  
박오옥, 한국과학기술원 생명화학공학과

## 202호\_10월 10일(목)

## Korea-Germany Joint Symposium: Self-Organized Materials for Optoelectronics (English)

Organizer: Tae-Dong Kim (Hannam Univ.), Wan Ki Bae (Sungkyunkwan Univ.), So-Jung Park (Ewha Womans Univ.)

- 11.6-1** (13:30-13:55) **Chair: Wan Ki Bae**  
Single Molecule Spectroscopy of a Ladder-type Conjugated Polymer: On the Origin of the Green Emission  
Stefan Thoms, Klaus Müllen, Thomas Basché, Institute of Physical

Chemistry, Johannes-Gutenberg University

- 11.6-2** (13:55-14:20)  
Can Exciplex Diffuse?  
김장주, 김황범, 서울대학교

- 11.6-3** (14:20-14:45)  
Nanozymes for Bioanalysis and Beyond  
Wolfgang Tremel, Institute of Inorganic Chemistry and Analytical Chemistry, Johannes Gutenberg-Universität Mainz

- 11.6-4** (14:45-15:10)  
Sulfur Plastics: Is It Good for Optical Applications?  
차국현, Jeffrey Pyun\*, Department of Chemical & Biological Engineering, Seoul National University; \*Department of Chemistry & Biochemistry, University of Arizona, USA/The WCU Program of Chemical Convergence for Energy & Environment, Seoul National University

- 11.6-5** (15:30-15:55) **Chari: Tae-Dong Kim**  
Controlling the Size, Shape, and Function of Micelles by Secondary Structure Directed Self-assembly  
Matthias Barz, Institute of Organic Chemistry, Johannes Gutenberg-Universität Mainz

- 11.6-6** (15:55-16:20)  
In Situ Nanoparticlization of Conjugated Polymers  
최태림, 서울대학교

- 11.6-7** (16:20-16:45)  
The Potential of Polymer Coated Quantum Dots in a Semiconducting Polymer Matrix for QD-LEDs  
Kookheon Char, Changhee Lee, Paul W. M. Blom\*, Jasper J. Michels\*, Rudolf Zentel\*\*, Department of Engineering, Seoul National University; \*Max-Planck Institute for Polymer Research; \*\*Department of Chemistry, Univ. of Mainz

- 11.6-8** (16:45-17:10)  
Polymers and Organic-Inorganic Hybrid Materials with Optoelectronic Functions: A Personal Journey from Fundamentals to Applications  
이광섭, 한남대학교

## 203호\_10월 10일(목)

## 고분자구조 및 물성: 다성분계 고분자의 미세구조 및 물성

Organizer: 장세규(KIST), 최시영(KAIST)

- 11.7-1** (13:30-13:55) **좌장: 장세규**  
Universal Perpendicular Orientation of Block Copolymer Microdomains for Directed Self-assembly Applications  
오진우, 손정근, 한국과학기술연구원
- 11.7-2** (13:55-14:20)  
High-Performance Piezoelectric Nanogenerators Based on Block Copolymer Composite Films  
이수연, 한국화학연구원
- 11.7-3** (14:20-14:45)  
High Performance Graphitic Carbon from Waste Polyethylene: Thermal Oxidation as a Stabilization Pathway Revisited  
최달수, 이성호\*, 고동연, KAIST; \*KIST 전북분원
- 11.7-4** (14:45-15:10)  
Functional Polymers for Electrical Wires & Cables  
안대열, 넥상스
- 11.7-5** (15:30-15:55) **좌장: 최시영**  
Understanding How to Tune Microstructure and Polymer Properties via Reaction Conditions for Low-Density Polyethylene  
Kristina Pflug, Markus Busch\*, Institute for Technical and Macromolecular Engineering, University of Hamburg; \*Institute for Technical and Macromolecular Engineering, Technical University of Darmstadt
- 11.7-6** (15:55-16:20)  
Quantification of Polymer:Fullerene Blend Morphologies Based on Soft and Hard X-ray Scattering Techniques in Organic Solar Cells  
김주현, 한국과학기술연구원
- 11.7-7** (16:20-16:45)  
Interdiffusion Dynamics of Polymer Melts Confined Between Immiscible Polymer Walls  
조경일, 오영훈\*, 성봉준\*, Sushil Satija\*\*, 구자승\*\*\*, 한국원자력연구원; \*서강대학교; \*\*National Institute of Standard and Technology; \*\*\*충남대학교
- 11.7-8** (16:45-17:10)  
Radical Polymer Glass For High Electrical Conductivity  
주용호, 한국과학기술연구원

402호\_ 10월 10일(목)

기능성 고분자

Organizer: 송창식(성균관대), 차상호(경기대)

11L8-1	(13:30-13:55)	<b>좌장: 최용석</b> Eco-friendly Process for Facile Pore Control in Thermally Stable Cellulose Acetate for Application to Battery Separator 강상욱, 상명대학교 화학에너지공학과
11L8-2	(13:55-14:20)	Incorporating Nanocarbon Species into Polymers: A Route to Functional Nanohybrids 윤현식, 전남대학교 고분자융합소재공학부/전남대학교 대학원 고분자공학과
11L8-3	(14:20-14:45)	그래핀 전사를 위한 기능성 고분자 홍진용, 한국화학연구원
11L8-4	(14:45-15:10)	Evaporation Driven Surface-Templated Supraparticle Synthesis 우상혁, 중앙대학교
11L8-5	(15:30-15:55)	<b>좌장: 윤현식</b> Synthesis and Characterization of Polymers and Composites Containing Cardanol for Water Treatment and Anti-Fouling Applications 최용석, KIST
11L8-6	(15:55-16:20)	Supramolecular Chirality of Organic Semiconductors for High-Performance Chiral Optoelectronics 오준학, 서울대학교
11L8-7	(16:20-16:45)	Deformation-based Formation of Polymeric 3D Structure for Special Functions 윤현식, 이혜민, 김재경, 서윤지, 서울과학기술대학교
11L8-8	(16:45-17:10)	Novel Transparent Flexible Conductor with Enhanced Mechano-Electric Stability 손희상, 광운대학교

401호\_ 10월 10일(목)

신진연구자 특별 심포지움(I)

Organizer: 김소연(UNIST), 이호민(POSTECH)

11L9-1	(13:30-13:55)	<b>좌장: 조정호</b> Toward Soft Organic Electronics Using Strengthened Graphene Electrodes 강보석, 성균관대학교
11L9-2	(13:55-14:20)	Understanding Microstructure-Dependent Charge Transport Mechanisms of Conjugated Molecules via High-Resolution Hall-Effect Measurement 최현호, 경상대학교
11L9-3	(14:20-14:45)	Ultrathin Optoelectronic Devices for Wearable/Implantable Applications 최문기, 울산과학기술원 (UNIST)
11L9-4	(14:45-15:10)	Designed Synthesis of Colloidal Nanocrystals for Optoelectronic Devices 양지웅, 대구경북과학기술원 (DGIST)
11L9-5	(15:30-15:55)	<b>좌장: 이호민</b> Advanced Strategies for Quantum Dot Solar Cells 최종민, 대구경북과학기술원
11L9-6	(15:55-16:20)	Chemically Actuated Nano- and Microscale Polymer Printer Based on Liquid Crystals 김영기, 포항공과 대학교
11L9-7	(16:20-16:45)	Supramolecular Dendrimer for Fabrication of Sub-5 nm Nanostructure 권기욱, 한국생산기술연구원
11L9-8	(16:45-17:10)	Soft Crystal Martensites: An In-Situ study of a Liquid Crystal Martensitic Transformation by Resonant Soft X-Ray Scattering 진형민, 한국원자력연구원 중성자과학연구부

303호\_ 10월 10일(목)

열전변환 고분자 및 나노소재

Organizer: 김선주(중앙대), 장재영(한양대)

11L10-1	(13:30-13:55)	<b>좌장: 이현정</b> Carbon Nanotube Yarns for Flexible Thermoelectric Generators 김희순, 한국과학기술연구원
11L10-2	(13:55-14:20)	Carbon Nanotube/Polymer Thermoelectric Papers and Fibers 장광석, 한양대학교 ERICA
11L10-3	(14:20-14:45)	Improved Crystalline Morphologies of Crosslinked Polypyrroles for Enhanced Electrical Conductivities, Thermoelectric Performances, and Air Stabilities 우한영, 고려대학교
11L10-4	(14:45-15:10)	Thermoelectric and Charge Transport Properties of Polymer Semiconductors 곽정훈, 서울대학교
11L10-5	(15:30-15:55)	<b>좌장: 장광석</b> Thermoelectric Properties of two Dimensional Materials Observed by Tuning Energy States 이현정, 국민대학교
11L10-6	(15:55-16:20)	Flexible Thermoelectric Generators Using Organic Materials by Solution Process 조성윤, 한국화학연구원
11L10-7	(16:20-16:45)	Ink Processing for Thermoelectric Materials and Modules 손재성, 조승기, 김민석, 허승희, 울산과학기술원
11L10-8	(16:45-17:10)	Diffusion-Controlled Molecular Doping for Conjugated Polymers and Its Thermoelectric Applications 김종현, 아주대학교

302호\_ 10월 10일(목)

대학원생 구두발표(I)

Organizer: 정대성(DGIST), 임은희(경기대)

10I11-1	(13:30-13:45)	<b>좌장: 임은희</b> Searching Effective Polymer-Dopant Pairs for Preparing High Performance Organic Thermoelectric Materials via One-Step Solution Mixing Process 서의현, 오종규, 이규민, 정재민, 정용진, 장재영, 한양대학교
10I11-2	(13:45-14:00)	Magnetically Guided Implantation of Stem Cell Spheroids into Specific Lobe of Liver Organ using Nanohybrid System 이상준, 이동윤, 한양대학교
10I11-3	(14:00-14:15)	Mechanically Triggered Synaptic Transistor with an Ionic Composite Inspired by Sensory Nervous System 정윤선, 김주성, 권혁민, 김윤아, 김도환, 한양대학교
10I11-4	(14:15-14:30)	The Development of the Facile ITO Coating Method on Flexible Substrates Using PDMS (Polydimethylsiloxane) Polymer and the Spin-coating Approaches 서현정, 이승희, 설순희, 채수상*, 정종진, 한남대학교 화학과; *Leibniz Institute of Polymer Research Dresden
10I11-5	(14:30-14:45)	Self-Assembled Vesicular Nanostructure of Gold/Polymer Complex by Hydrophobic Interaction 장종대, 최수형*, 방준환**, 한영수, 김태환***, 한국원자력연구원; *홍익대학교; **고려대학교; ***전북대학교
10I11-6	(14:45-15:00)	In-situ Aerogel 합성법을 적용한 Aerogel/Perlite 복합소재 특성 분석 심지수, 강영정*, 이영철*, 한국생산기술연구원/부산대학교; *한국생산기술연구원
10I11-7	(15:00-15:15)	Polydiacetylene (PDA) Based Liposome Sensor for Exosome Detection 김창현, 이강원, 서울대학교 융합과학기술대학원

- 1011-8** (15:15-15:30)  
pH Sensitivity Microgel with Methacrylic Acid for highly Efficient Targeted Drug Delivery  
이현아, 노혜란, 김명지, 서울과학기술대학교
- 1011-9** (15:40-15:55) **좌장: 양승윤**  
Acquisition and Enhancement of Cancer Stem Cell-like Properties in Functional Poly Thin Film-Induced Tumor Spheroids  
이민석, 임성갑, 유승정, 한국과학기술원
- 1011-10** (15:55-16:10)  
Synthesis of Chemically-bound Conjugated Polymer on TiO<sub>2</sub> for Visible-light-driven Photocatalyst: Changeable Surface Wettability  
김현철, 이택승, 충남대학교
- 1011-11** (16:10-16:25)  
Split Ligand Mediated Re-precipitation Technique of CH<sub>3</sub>NH<sub>3</sub>PbX<sub>3</sub> (X = Br, I) Perovskite Quantum Dots with Narrow FWHM and High Stability  
김민석, 장웅식, 왕동환, 중앙대
- 1011-12** (16:25-16:40)  
Economical Patterning Method for Silver Nanowire-based Transparent Electrode by Selective Surface Treatment of Substrate  
고동욱, 김종복, 금오공과대학교
- 1011-13** (16:40-16:55)  
Robust Nanoplatfrom with Protein Corona Shield System for Highly Efficient Targeted Drug Delivery  
오준용, 유자형, 울산과학기술원
- 1011-14** (16:55-17:10)  
Effect of Side-Chain Structure on Crystallinity of Alkyl Acrylate Polymers for Middle Distillate Flow Improver  
김상완, 백지훈\*, 홍동기, 김우현\*\*, 정광섭, 이종찬, 서울대학교; \*한국화학연구원; \*\*\*(주)신일
- 1011-15** (17:10-17:25)  
Understanding Swelling Hysteresis of Polymer Hydrogel upon Drying  
송광호, 김정옥\*, 서강대학교 산학협력단; \*서강대학교
- 1011-16** (17:25-17:40)  
Anisotropic Thermal Conductive Composite by the Guided Assembly of Boron Nitride Nanosheets for Flexible and Stretchable Electronics  
홍해린, 김태일, 성균관대학교

## 301호\_10월 10일(목)

## Graduate Student Oral Session (I) (English)

Organizer: Su-Mi Hur (Chonnam Natl. Univ.), Jeong Gon Son (KIST)

- 1012-1** (13:30-13:45) **Chair: Joon Hak Oh**  
Universal Surface Modification via Polymeric Nanomosaic Coating to Control Domain Orientations in Block Copolymer Thin Films  
김동철, 김소연, UNIST
- 1012-2** (13:45-14:00)  
Irreversible Physical Adsorption of PS-b-PMMA Directs the Perpendicular Orientation of Microdomains of PS-b-PMMA Thin Films of Its Own  
이우섭, 김영식, 조승연, 안형주\*, 류두열, 연세대학교 화공생명공학과; \*포항가속기연구소
- 1012-3** (14:00-14:15)  
Nonequilibrium Monte Carlo Simulations of Entangled Polymer Melts Under Steady Shear Flow  
노은정, 백충기, 울산과학기술원
- 1012-4** (14:15-14:30)  
Large-Scale Alignment of Conjugated Polymer Nanowires via Controlled Evaporation of Confined Fluids  
조경렬, 최솔임, 장민철, 전남대학교
- 1012-5** (14:30-14:45)  
Antifreezing Gold Colloids as a Deterministic Platform for Unveiling Ice-water Interface Augmentation  
이재원, 이상엽, 임동권, 안동준, 이승우, 고려대학교
- 1012-6** (14:45-15:00)  
A Photoimageable Copolymer System Enabling Perovskite Pattern Formation  
안솔, 김기민, 형석기\*, 이승기\*, 신내철, 김명웅, 인하대학교; \*KIST
- 1012-7** (15:00-15:15)  
Phase Behavior of Multi-arm Star-shaped Polystyrene-block-poly(methyl methacrylate) Copolymers Depending on Degrees of Second Block Initiations  
서예성, 김진곤, 포항공과대학교

- 1012-8** (15:15-15:30)  
Synthesis of Hierarchically Porous Polymers by Hyper-cross-linking of Block Polymer Precursors  
김수빈, 서명은, KAIST
- 1012-9** (15:40-15:55) **Chair: Jaewook Nam**  
Improved Electron Injection and Transport in Polyimide-Based Resistive Memories via Tip-Enhanced Electric Fields  
최한형, 박종혁\*, 한국과학기술연구원/서울대학교; \*한국과학기술연구원
- 1012-10** (15:55-16:10)  
Deformation-Insensitive Flexible Temperature Sensor based on Thermoresponsive Semi-Crystalline Polymer Microdomains  
이영오, 박종화, 최아영, 신영은, 고현협, 울산과학기술원
- 1012-11** (16:10-16:25)  
Humidity-Sensing Composite Microfibers Containing Conducting Nanofillers and Impedance Study on their Opposite Humidity Response  
박예진, 이양우, 소주화\*, 김성근\*\*, 염봉준\*\*\*, 구형준, 서울과학기술대학교; \*한국생산기술연구원; \*\*전북대학교; \*\*\*한양대학교
- 1012-12** (16:25-16:40)  
Instantaneous Detection of Explosive and Toxic Nitroaromatic Compounds via Donor-Acceptor Complexation  
이안근, 권지연\*, 유충석, 김민선, 강영권, 김봉기, 건국대학교; \*서울대학교
- 1012-13** (16:40-16:55)  
Hierarchical Thermochromic Nanoscale Crack-Based Sensor for Strain-Visualization  
박병화, 김태일\*, 성균관대학교; \*성균관대학교 화학생공학과
- 1012-14** (16:55-17:10)  
Heteroatom Doped Carbon Nanomaterials by Ultrasonic Spray Chemistry for Electrochemical Applications  
김현탁, 권태혁, 울산과학기술원
- 1012-15** (17:10-17:25)  
Electrospun Nanofiber Webs Piezocapacitive/Piezoelectric Materials for Tactile/Pressure Sensor  
Reza Mohammad Shamim, 김흥두, Kyung Hee University
- 1012-16** (17:25-17:40)  
Functional Electrochromic Supercapacitors Directly Showing Real-Time Capacity in Color  
윤태용, 문홍철, 서울시립대학교

## 삼다홀A\_10월 11일(금)

## 고분자 가공/복합재료 기반 물성 제어 및 응용기술

Organizer: 남재욱(서울대), 왕동환(중앙대)

- 21.1-1** (10:30-10:55) **좌장: 왕동환**  
Pore Selective Functionalization in Porous Honeycomb-patterned Films: Breath Figure Process Accompanying Interfacial Chemical Reaction  
최도성, 인제대학교
- 21.1-2** (10:55-11:20)  
Block Copolymer Self-assembly in 2D Confined Geometries  
최홍균, 공주대학교
- 21.1-3** (11:20-11:45)  
Collective Behaviors of Magnetic Soft Robots by Polymeric Nanocomposites  
원수경, 위정재, 인하대학교
- 21.1-4** (11:45-12:10)  
Aluminum Based Amorphous Alloy Electrode with Excellent Oxidation Resistance and Super Elastic Properties  
송예슬, 조재상\*, 정웅식\*, 왕동환\*, 박금환, 전자부품연구원; \*중앙대학교
- 21.1-5** (13:50-14:15) **좌장: 남재욱**  
Recent Progress in Viscoelastic Microfluidics  
Ju Min Kim, Department of Chemical Engineering, Ajou University/Department of Energy Systems Research, Ajou University
- 21.1-6** (14:15-14:40)  
선형 및 비선형 유변물성을 이용한 열성형공정 시뮬레이션  
차재명, 고정상, 송형용\*, 현교\*, 부산대학교 기계공학부; \*부산대학교 화공생명공학부
- 21.1-7** (14:40-15:05)  
Self-organization of End-functionalized Semiflexible Polymer Suspensions at Equilibrium and Under Shear Flow  
명진석, 한국화학연구원
- 21.1-8** (15:05-15:30)  
Non-homogeneous Flow of a Thixotropic Fluid Around a Sphere



- 201-1** 박준동, 김재광\*, 금오공과대학교; \*University of Illinois at Urbana Champaign (15:30-15:50)  
도어 임팩트 빔에 적용된 열가소성 탄소섬유 복합소재의 이종재료 접합 특성에 관한 연구  
윤여성, 오미혜, 문동준, 장은진, 정우철\*, 자동차부품연구원; \*(주)캠스

### 삼다올B\_ 10월 11일(금)

#### 고분자합성: 현대 고분자 합성의 최전선에서

Organizer: 김병수(연세대), 이경진(충남대)

- 212-1** (10:30-10:55) 좌장: 김병수  
Confinement-Entitled Morphology and Ion Transport in Ion-Containing Polymers  
박문정, 포항공과대학교
- 212-2** (10:55-11:20)  
Utilization of Multiple Cloning Site as a Versatile Platform for DNA Triblock Copolymer Synthesis  
Sheng Li, Jeehae Shin, KAIST
- 212-3** (11:20-11:45)  
Therapeutic Peptide Nanoagent by Supramolecular Polymerization  
김민혜, 이은지, 광주과학기술원
- 212-4** (11:45-12:10)  
Preparation of Active Hydrogels and Their Applications to Biosensors  
신동식, 숙명여자대학교
- 212-5** (13:50-14:15) 좌장: 이경진  
Design of Conjugated Polymers for Directed Macroscopic Alignment  
정경운, 재료연구소 (KIMS)
- 212-6** (14:15-14:40)  
Metal-Free Cationic Ring Opening Polymerization of Glycidol: Structure Control of Polymer Topologies and Terminal groups  
이상호, 김시은\*, 양현지, 박영일, 김진철, 백현중\*\*, 김병수\*\*\*, 한국화학연구원; \*한국화학연구원/부산대학교; \*\*부산대학교; \*\*\*연세대학교
- 212-7** (14:40-15:05)  
Development of Highly Refractive Polyimides for Optical Applications  
유남호, 한국과학기술연구원(KIST)
- 212-8** (15:05-15:30)  
Synthesis and Characterization of Heat Resistant Polycarbonate-polyester Copolymer  
정승필, 김지은, 최진식, 신경무, 허성현, 삼양사
- 202-1** (15:30-15:50)  
Controlled Living Cascade Metathesis Polymerization To Make Fully Degradable Sugar-Based Polymers from Glucose and Galactose  
Gregory Peterson, Atanu Bhaumik, Cheol Kang, Tae-Lim Choi, Seoul National University

### 한라올A\_ 10월 11일(금)

#### 의료용 고분자 부문위원회(II): Recent Trends on Emerging Healthcare Materials

Organizer: 한동욱(부산대), 이응규(한국교통대), 양승윤(부산대)

- 213-1** (10:30-10:55) 좌장: 박인규, 이응윤  
Allogeneic Cell Sheet Therapy  
Kyungsook Kim, University of Utah
- 213-2** (10:55-11:20)  
Mitochondria Localization-induced Polymerization for New Cancer Therapy  
윤자형, 울산과학기술원
- 213-3** (11:20-11:45)  
Silk 단백질의 구조적 특성과 의료용 소재로서의 활용  
이지훈, 서울대학교
- 213-4** (11:45-12:10)  
Bile Acid-Based Therapeutic Approach for Tissue Regeneration  
이수홍, 동국대학교
- 213-5** (13:50-14:15) 좌장: 허강무, 정지훈  
Recent Trends in Human Microbiome Researches  
윤상선, 연세대학교 의과대학 미생물학과
- 213-6** (14:15-14:40)  
3D Hybrid Bioprinting for Tissue Engineering  
강현욱, 울산과학기술원

- 213-7** (14:40-15:05)  
Heparan Sulfate Analogues as Pharmaceutical Polymers  
황승림, 조선대학교
- 213-8** (15:05-15:30)  
Smart Nano-surfaces for Biomedical Applications  
서정목, 연세대학교
- 213-9** (15:30-15:55)  
Well-defined Nucleic Acids-based Nanostructures for Drug Delivery and Sensing Applications  
홍철암, 영남대학교

### 한라올B\_ 10월 11일(금)

#### 분자전자 부문위원회(II): 4차 산업혁명과 차세대 분자전자 기술과의 만남 Organizer: 조성윤(KRICT), 오준학(서울대), 김도환(한양대)

- 214-1** (10:30-10:55) 좌장: 최수석  
High-Performance Biosensors with *N*-Heterocyclic Carbene Ligands  
권오석, 한국생명공학연구원
- 214-2** (10:55-11:20)  
Ionovoltaic Phenomena and Applications  
김연상, 서울대학교
- 214-3** (11:20-11:45)  
Difference in Voltage Loss between Polymer Solar Cells and Perovskite Solar Cells  
Hyung Do Kim, Takuya Ide, Hideo Ohkita, Kyoto University
- 214-4** (11:45-12:10)  
Chemical Mechanisms of Degradation of Organic Electroluminescence Devices  
유영민, 이화여자대학교
- 214-5** (13:50-14:15) 좌장: 김연상  
A New Architecture for Fibrous Electronic Devices Based on a Double-Stranded Assembly of Electrode Microfibers for Electronic Textile Applications  
임정아, 한국과학기술연구원
- 214-6** (14:15-14:40)  
Large Area Thin Film Process Technology Using Organometallic Precursor for Transition Metal Dichalcogenides  
임종선, 임이랑, 한진규, 송우석, 명 성, 김창균, 정택모, 한국화학연구원
- 214-7** (14:40-15:05)  
Directing Quantum Dots by Nano/Micro-frameworks for Optoelectronic Applications  
정연식, KAIST
- 214-8** (15:05-15:30)  
Molecular Tunable Deformation for New UI/UX Electronics and Photonic Applications  
최수석, 포항공과대학교

### 201호\_ 10월 11일(금)

#### Division of Colloid & Molecular Assembly (II) (English) Organizer: Shin-Hyun Kim (KAIST), Jun Hyuk Moon (Sogang Univ.)

- 215-1** (10:55-11:20) Chair: Gi-Ra Yi  
Graphene Oxide Liquid Crystal  
김상욱, Materials Science & Engineering, KAIST
- 215-2** (11:20-11:45)  
Luminogenic Polymers with Aggregation-induced Emission Characteristics  
Anjun Qin, South China University of Technology
- 215-3** (11:45-12:10)  
Molecular Interactions and Nanoscale Self-assembly Behaviors of Polymeric Surfactants and Their Mixtures  
조준환, 단국대학교
- 215-4** (13:50-14:15) Chair: Youngjong Kang  
Design of Mechanochromic Polymers Based on Dynamic Covalent Chemistry  
Hideyuki Otsuka, Tokyo Institute of Technology
- 215-5** (14:15-14:40)  
Investigation of Self-assembly of Anisotropic Particles at Single and Two Phase  
이창수, 충남대학교

- 21.5-6** (14:40-15:05)  
Femtometer Meniscus-guided Crystallization for 3D Printing  
Ji Tae Kim, The University of Hong Kong
- 21.5-7** (15:05-15:30)  
High-Resolution Patterning and Tandem Processing of Colloidal Quantum Dots Crosslinked with Photoinduced-Ligand Binding Agents  
강문성, 서강대학교

## 202호\_ 10월 11일(금)

## 미래 자동차용 고분자 소재 아이디어 공모전

- 206-1** (10:40-10:55) **좌장: 김성진**  
Green Diesel Engine: Hydrogen Oxygen Mixing System Using Two-Dimensional Polymer Structure as Electrochemical Catalyst  
김석진, 백종범, 울산과학기술원
- 206-2** (10:55-11:10)  
Bioinspired 2D-Microplatelet-Reinforced Structural Hybrid Polymer Composites  
지동환, 김재윤, 성균관대학교
- 206-3** (11:10-11:25)  
Application of Phosphoric Acid/Al Ceramic Hybridized Nanocomposite Flame Retardant on Artificial Leather for Carseat and Its Alkaline Weight Reduction Monitoring and Flame Retardancy Properties  
윤상현, 고준석, 건국대학교 화학공학부
- 206-4** (11:25-11:40)  
Development of Heat Managing Materials Using Thermal Conducting Liquid Crystal Polymer for Futuristic Automobiles  
강동규, 고혜윤, 임민우, 정광운, 전북대학교
- 206-5** (11:40-11:55)  
Inverted Hierarchical Structures for Multi-functional Optical Coatings  
윤종선, 이효민, 포항공과대학교
- 206-6** (11:55-12:10)  
Core-shell Fabrication of Reduced Graphene Oxide-AlN/Poly(phenylene sulfide) Composite for High Thermal Conductivity With Effect of Electrical Insulation  
김세민, 조지현, 박종진, 서울대학교

## 자동차용 전기-전자 재료

Organizer: 최치훈(현대자동차)

- 21.6-1** (13:50-14:15) **좌장: 최치훈**  
미래 모빌리티를 위한 자동차 전장부품 소재 개발 동향  
김성진, 권경춘, 현대자동차
- 21.6-2** (14:15-14:40)  
차량 Radome용 전파흡수신 성능 향상 소재 개발  
홍승수, 방상호, 이동창, 조병규\*, 현대첨단소재; \*현대자동차
- 21.6-3** (14:40-15:05)  
수소전기차 고전압 정션박스용 전자파 노이즈 차단 복합소재 개발  
한진수, 박병철, 성하경, 한화컴파운드
- 21.6-4** (15:05-15:30)  
전장품용 고내열 열노화 차단 나일론 소재 개발  
이상화, 롯데첨단소재

## 203호\_ 10월 11일(금)

## 생분해성 고분자의 합성 및 산업적 응용

Organizer: 홍성우(KITECH), 정영미(KIST)

- 21.7-1** (10:30-10:55) **좌장: 정영미**  
Control of Biodegradation of Multiscale Scaffolds and Their Application to Cardiovascular Tissue Regeneration  
이강원, 서울대학교
- 21.7-2** (10:55-11:20)  
Polycation-based Delivery Platforms for Tissue Regeneration  
김교범, 인천대학교
- 21.7-3** (11:20-11:45)  
Production of New Polyhydroxyalkanoates (PHAs) from Engineered Microbes  
양영현, 건국대학교
- 21.7-4** (11:45-12:10)  
Nano-polysaccharides and Their Applications  
노상철, (주)에이엔폴리

- 21.7-5** (13:50-14:15) **좌장: 홍성우**  
Functional Epoxide Monomers: From Degradable Polyether Micelles to Electrolyte Additives  
김병수, 연세대학교
- 21.7-6** (14:15-14:40)  
이산화탄소를 활용한 생분해성 폴리카보네이트 합성  
이분열, 이분열, 아주대학교
- 21.7-7** (14:40-15:05)  
바이오회학 소재를 이용한 친환경 플라스틱 개발 및 응용  
류 훈, 임준섭, 유승현, 삼양사 화학연구소
- 21.7-8** (15:05-15:30)  
The Evolution of Bio-based Plastics Beyond Petrochemical Plastics  
오동연, 황성연, 박제영, 한국화학연구원
- 207-1** (15:30-15:50)  
A New Era of 3D Bioprinting with Polymers  
김지희, ROKIT HEALTHCARE

## 402호\_ 10월 11일(금)

## 플러블 디스플레이용 기능성 고분자 소재

Organizer: 홍성우(KITECH), 임호선(숙명여대)

- 21.8-1** (10:30-10:55) **좌장: 홍성우**  
Fabrication of Coatable Polarizers and Coatable Compensators with Programmed Reactive Mesogens For Anti-Reflection Thin Films of Flexible Displays  
정광운, 전북대학교
- 21.8-2** (10:55-11:20)  
Polyimide for Flexible Organic Electronic Device Substrates  
이승우, 영남대학교
- 21.8-3** (11:20-11:45)  
Flexible Displays and Biocompatible Functional Devices from Natural Polymer Nanofibers  
진정호, 울산대학교
- 21.8-4** (11:45-12:10)  
Wearable and Foldable OLED Display Enabled by MoS<sub>2</sub> Backplane TFT  
안종현, 연세대학교 전기전자공학부
- 21.8-5** (13:50-14:15) **좌장: 임호선**  
Flexible but Durable Cover Window for Foldable Display  
정용철, 한국생산기술연구원
- 21.8-6** (14:15-14:40)  
Development of Transparent Polyimide, CPI® Film and Its Commercial Production for Flexible Electronics  
송상민, 코오롱인더스트리(주)
- 21.8-7** (14:40-15:05)  
플러블 디스플레이 제조를 위한 고탄성 점접촉소재 연구 동향  
박지원, 에이앤지
- 21.8-8** (15:05-15:30)  
Chemical Treatment of Electronically Active Polymers for Low-Voltage Driving Components in Displays  
김선주, 중앙대학교

## 401호\_ 10월 11일(금)

## 신진연구자 특별 심포지움 (II)

Organizer: 김소연(UNIST), 이효민(POSTECH)

- 21.9-1** (10:30-10:55) **좌장: 김소연**  
Formation of Freestanding Colloidal Particle Multilayers at an Air/Water Interface via Depletion Attraction  
김규한, 서울과학기술대학교
- 21.9-2** (10:55-11:20)  
Polymers and Composite Materials for Organic Solar Cells and Li-ion Batteries  
이원호, Enrique D. Gomez\*, 김범준\*\*, 금오공과대학교; \*The Pennsylvania State University; \*\*한국과학기술원
- 21.9-3** (11:20-11:45)  
Measuring the Interfacial Tension of Immiscible Fluids Through Microfluidics  
이두진, 전남대학교
- 21.9-4** (11:45-12:10)  
Surface Modification of Material Surfaces to Improve Antifouling and Bacteria-repellent Properties  
오준균, 단국대학교

- 209-1** (13:50-14:10) **좌장: 홍진기**  
Understanding the Self-Assembly Behavior of Polymer-Coated Nanocrystals  
윤홍석, 이영준, 김범준, 한국과학기술원
- 209-2** (14:10-14:30)  
An Implantable Fibrous Platform Modified with Multiple Stimuli-responsive Conjugated Polymer for Synergistic Cancer Therapy  
티와리 아준 프리차스, 김학용, 전북대학교
- 209-3** (14:30-14:50)  
Ice Surface Chemistry Enabling High-conductivity 2D Polymers for Optoelectronic Devices  
DIPANKAR BARPUZARY, 박문정, Pohang University of Science and Technology (POSTECH)

### 303호\_10월 11일(금)

#### 대학원생 구두발표(II)

Organizer: 정대성(DGIST), 임은희(경기대)

- 2010-1** (10:30-10:45) **좌장: 김윤경**  
Strategic Design and Synthesis of Conjugated Polymer for Facile Charge Carrier Generation and High Doping Efficiency  
박재홍, 윤상은\*, 황동렬\*\*, 이대운\*, 계호진, 한지민, 황수지, 김종현\*, 김봉기, 건국대학교; \*아주대학교; \*\*Linz Institute for Organic Solar Cells (LIOS)/Institute of Physical Chemistry, Johannes Kepler University Linz
- 2010-2** (10:45-11:00)  
Enhanced Magnetic Actuation of Micropillar Arrays by Concentrated Magneto-momentum  
박정은, 전지수, 위정재, 인하대학교 첨단소재연구실
- 2010-3** (11:00-11:15)  
Polymer Electrolyte Membrane with High Performance for Fuel Cell and Hydrogen Purification Applications  
서광원, 한학수, 연세대학교 화공생명공학과
- 2010-4** (11:15-11:30)  
Interfacial Engineering of the Electron Transporting Layer by Self-Assembled Monolayers for High Performance Perovskite Solar Cells  
한진영, 손해정\*, 김도하, 이화여자대학교; \*한국과학기술연구원
- 2010-5** (11:30-11:45)  
Functional Polymeric Gels for Next-Generation Electrochemical Devices  
김용민, 문홍철, 서울시립대학교
- 2010-6** (11:45-12:00)  
High-Performance Transparent Supercapacitor Using Multidentate Molecular Linker and Conductive Transparent Nanoparticle Assembly  
최지민, 조진한, 고려대학교
- 2010-7** (12:00-12:15)  
유기박막트랜지스터 기반 가스센서의 패턴화 공정을 통한 결정 어레이의 형성 및 가스 감지 특성 분석  
곽도훈, 이위형, 건국대학교
- 2010-8** (13:50-14:05) **좌장: 이상규**  
High-yield and Facile Green Fabrication of Polyimide Gate Dielectric via Aqueous Solution  
정유리, 소유진\*, 유성미\*, 박현진\*, 원준찬\*\*, 김윤호\*\*, 과학기술연합대학원 대학교/한국화학연구원; \*한국화학연구원; \*\*한국화학연구원/과학기술연합대학원대학교
- 2010-9** (14:05-14:20)  
Star-Shaped Block Copolymers: Effective Polymer Gelators of High-Performance Gel Electrolytes for Electrochemical Devices  
황희동, 김진곤, 포항공과대학교
- 2010-10** (14:20-14:35)  
Polydispersity Stabilized Complex Morphologies in Diblock Copolymers  
김인호, Sheng Li, 카이스트
- 2010-11** (14:35-14:50)  
All-dielectric Colloidal Mie Resonator for Soft Meta Optics  
조용덕, 허지혁, 이승우, 고려대학교
- 2010-12** (14:50-15:05)  
Highly Stable Colloidal Quantum Dots by Polymeric Brush Encapsulation  
고재원, 방준하, 고려대학교
- 2010-13** (15:05-15:20)  
Synthetic Route-Dependent Intramolecular Segregation in Heteroarm Core Cross-Linked Star Polymers

안남영, 서명은, KAIST

- 2010-14** (15:20-15:35)  
Improving the Electrical Connection and Mechanical Stability of *n*-Type Conjugated Polymers Through Fluorine-Induced Robust Aggregation  
류승운, 최경원, 박상아, 최예림, 민지현, 박태호, POSTECH

### 302호\_10월 11일(금)

#### 대학원생 구두발표(III)

Organizer: 정대성(DGIST), 임은희(경기대)

- 2011-1** (10:30-10:45) **좌장: 문홍철**  
Alkyl Conformation and  $\pi$ - $\pi$  Interaction Dependent on Polymorphism in the 1,8-Naphthalimide (NI) Derivative  
조국현, 이시우, 이아라, 홍승연, 이성훈, 안성호, 이현휘\*, 문도현\*, 이승걸, 김효정, 부산대학교; \*포항공과대학교
- 2011-2** (10:45-11:00)  
Novel Quinoid-type Conjugated Molecules and Polymers for High Performance Organic Field-Effect Transistors  
김윤술, 황한수, 김연주, 강민지\*, 허윤정, 묵윤정, 김동유, 광주과학기술원; \*KIST
- 2011-3** (11:00-11:15)  
Controlling Graphene Defects Using Self-assembled Alkane Monolayer Through van der Waals Interaction for Improvement of Gas Barrier Effect  
김윤정, 강영종\*, 안석훈\*\*, KIST/한양대학교; \*한양대학교; \*\*KIST
- 2011-4** (11:15-11:30)  
Engineering Branching Point of Side Chain in Naphthalene Diimide-Based Polymers for Enhancing Electron Mobility and All-PSCs Performance  
유호선, 김범준, KAIST
- 2011-5** (11:30-11:45)  
Orbital Maneuver and Collective Behaviors of Untethered Soft Robots  
원수경, 박정은, 전지수, 위정재, 인하대학교
- 2011-6** (11:45-12:00)  
Structural Bulkiness Effect on the Crystallization Behavior of Supramolecular Polymer  
임새영, 정재우, 숭실대학교
- 2011-7** (12:00-12:15)  
Highly Oxygen-adsorptive, Ultrathin Microporous Nitrogenous Carbon Coated on the Graphene and its High-performance Electrocatalysis for Oxygen Reduction Reaction  
남준식, 박지웅, 광주과학기술원
- 2011-8** (13:50-14:05) **좌장: 정대성**  
Fabrication of Superhydrophobic Polylactide Hollowfiber with Selective Absorption Characteristics  
유연성, 김성훈, 한양대학교
- 2011-9** (14:05-14:20)  
Highly Aligned Semiconducting Polymers by Eutectic Friction Transfer in Solid State  
엄상원, 강영중, 한양대학교
- 2011-10** (14:20-14:35)  
Decreasing Particle Size Promotes Initial Solvent Driven Non-equilibrium Behavior of Polymer Nanocomposites  
오솔미, Mozhdeh Abbasi\*, Kay Saalwächter\*, 김소연, UNIST; \*Martin-Luther University Halle-Wittenberg
- 2011-11** (14:35-14:50)  
Gel Polymer Electrolyte Based on Crosslinked Epoxy System for Wearable Electronic Device  
한유경, 권숙진, 이상복, 김양도\*, 정병문, 재료연구소; \*부산대학교
- 2011-12** (14:50-15:05)  
Highly Stable Elastic Electrodes with Bulk Metal-Like Conductivity Using Nanoparticle Assembly-Induced Wrinkling Structure  
이석민, 조진한, 고려대학교 화공생명공학과
- 2011-13** (15:05-15:20)  
Reduced Energy Loss Leads to Efficient Ternary Organic Solar Cells with Polymer and Small Molecule Donors  
김도희, 조신욱, 울산대학교
- 2011-14** (15:20-15:35)  
탄성체의 가교 밀도 및 표면 패턴 제어를 통한 정전용량 식 압력센서의 점탄성 거동 분석  
황진현, 이위형, 건국대학교

301호\_10월 11일(금)

Graduate Student Oral Session (II) (English)

Organizer: Su-Mi Hur (Chonnam Natl. Univ.), Jeong Gon Son (KIST)

- 2012-1** (10:30-10:45) **Chair: Jeong Gon Son**  
Charge Trapping and Release Under Illumination in an Ambipolar Transistor Based on Single Laterally Stacked PTCDI-C<sub>6</sub>/C<sub>6</sub>-BTBT Crystal  
터르쇼이 게르케이, 표승문, Konkuk University
- 2012-2** (10:45-11:00)  
Solid-state Bendable Supercapacitors Based on Three-dimensionally Interconnected Large Mesopores and Polymer Gel Electrolytes  
조경국, 이근형, 인하대학교
- 2012-3** (11:00-11:15)  
Single-ion Conducting Polymer Composite Electrolytes  
김보람, 박문정, 포항공과대학교
- 2012-4** (11:15-11:30)  
Controlling Nanostructures for Enhanced Physicochemical Properties of Proton Exchange Membrane  
최승영, 김상우, 이희우, 서강대학교
- 2012-5** (11:30-11:45)  
From Gelating Covalent Network/Polymer Mixtures Toward Nanoporous Covalent Frameworks  
오왕석, 박지웅, 광주과학기술원
- 2012-6** (11:45-12:00)  
Fine-Tunable and Injectable 3D Hydrogel for On-Demand Stem Cell Niche  
홍기현, 김영민, 송수창, KIST
- 2012-7** (12:00-12:15)  
Annealing Free Solution-processable MoO<sub>x</sub> Hole Transport Layer for Bulk-heterojunction Polymer Solar Cell  
Nhan Tran Hong, 조신욱, University of Ulsan
- 2012-8** (13:50-14:05) **Chair: Jun Hyuk Moon**  
Cell Migration and Anti-inflammation Effects Toward Multilayer Graphene Oxide Films Releasing Long and Sustained Nitric Oxide Gas  
Tanum Junjira, 홍진기, 연세대학교
- 2012-9** (14:05-14:20)  
pH-Triggered Silk Fibroin/Alginate Structures Fabricated in Aqueous Two Phase System  
박도연, Jie Cheng\*, 신성철\*\*, 이상훈\*\*\*, 김수현, 현진호\*\*, Chaoyong James Yang\*\*\*\*, 한국과학기술연구원, \*College of Chemistry and Chemical Engineering, Xiamen University; \*\*서울대학교; \*\*\*고려대학교; \*\*\*\*Xiamen University
- 2012-10** (14:20-14:35)  
Chemiluminescence Resonance Energy Transfer-based Nanoparticles for in vivo ROS Imaging and Enhanced Photodynamic Therapy in Cancer  
전주은, 유동길, 박재형, 성균관대학교
- 2012-11** (14:35-14:50)  
Development of Hybrid Type DES Using 3D Printing Technique for Biliary Application  
장분석, 이민권\*, 임동수\*, 지소미, 박원호\*\*, (주)엠아이텍/충남대학교; \*(주)엠아이텍; \*\*충남대학교
- 2012-12** (14:50-15:05)  
Photo-induced Proton Transfer Polymerization: Robust Synthetic Tool for Patterning Hydrogels  
여현기, Anzar Khan, 고려대학교
- 2012-13** (15:05-15:20)  
A Mechanically Enhanced Electroactive Hydrogel for 3D Printing Using a Multileg Long Chain Crosslinker  
강용우, 선정윤, 서울대학교
- 2012-14** (15:20-15:35)  
Hybrid Anisotropic Plasmonic Nanomaterials as Photo-Nanozymes for Combinational Photodynamic and Photothermal Cancer Treatment  
유수빈, 김동하, 장도협\*, 김세훈\*, 이화여자대학교; \*KIST

포스터발표 \_ 10월 10일(목)

(09:00 ~ 10:30)

좌장: 문홍철, 윤영수

우수논문발표상(I)

| 의료용 고분자 부문위원회 |

- 1PS-1** Anisotropy and Mechanical Gradient are Decisive to Segregated Cell Growth: Arena-Shaped Alginate Hydrogel

- 1PS-2** Surface Modified Ceria-Zirconia Nanoparticles for Targeting Spinal Microglia and Enhanced Analgesic Treatment of Neuropathic Pain  
최부민, 소 민, Yelina Manadhar, 현택환, 이성중, Seoul National University
- 1PS-3** Multilayer Fabrication of Unobtrusive Poly(dimethylsiloxane) Nanobrush for Tunable Cell Adhesion  
이윤형, 서현정, 이승희, 설순희, 정종진, 한남대학교
- 1PS-4** Odorless Glutathione Microneedle Patches for Skin Whitening  
이예찬, 김재린, Sujeet Kumar, 성금용, 이혜선, 양승윤, Pusan National University
- 1PS-5** Dual Crosslinkable Tyramine-modified Methylcellulose Hydrogels for 3-D Bioprinting  
신지연, 박원호, 충남대학교
- 1PS-6** Functionalized PLCL-Laminin Nanofiber for the Benefit in Neuritogenesis Enhancement  
송수진, 이유빈, 강문성, 서희정, 현승휴\*, 한동욱, 부산대학교; \*가고시마대학
- 1PS-7** Efficient Self-assembled MicroRNA Delivery System Using PEGylated Polycationic Polymer and Cholesterol-conjugated MicroRNA  
문병걸, 장은지\*, 한승민\*\*, 손혜영, 최유나, 허용민, 함승주, 연세대학교; \*Novomics Co. Ltd.; \*\*The University of Arizona
- 1PS-8** Cyto-compatible Hyaluronate-hydroxyethyl Acrylate-gelatin Methacryloyl Terpolymeric Hydrogel for Cartilage Tissue Engineering and Drug Delivery Applications  
Dipankar Das, 조하나, 김나혜, Thi Thu Hien Pham, 김인걸\*, 정은재\*, Gopinathan Janarthanan, 노인섭, 서울과학기술대학교; \*서울대학교병원
- 1PS-9** Controlled Co-releasing Behavior of Self-assembled Short Peptide Nanostructures  
Moumita Gupta, 김인혜, 김하연, 이은지, 광주과학기술원
- 1PS-10** In situ Photocrosslinkable Hyaluronic Acid Based Surgical Glue for Wound Closure  
Ajeesh Chandrasekharan, 이혜선, 성금용, 안선영, 박삼대\*, 임상구, 양승윤, Pusan National University; \*SNvia

| 분자전자 부문위원회 |

- 1PS-11** Enhancing the Performance and Stability of Perovskite Solar Cells by Applying Multifunctional Pt(II) Complex  
황은혜, 권태혁, 울산과학기술원
- 1PS-12** Conformer Equilibrium Affects the Longevity of Organic Light-Emitting Devices of Thermally Activate Delayed Fluorescence  
황산주, 문유경, 장호진\*, 김신희, 이준엽\*, 유영민, 이화여자대학교; \*성균관대학교
- 1PS-13** Effect of Polarity of Ionic Molecules on Characteristics of Solid-State Electrolyte-Gated Organic Transistors  
허성민, 노용영, 포항공과대학교
- 1PS-14** Synthesis, Electrochemical and Photophysical Properties of Azaacene-based Green Fluorophores  
허선형, 신혜범, 우한영, 고려대학교
- 1PS-15** Effect of Lead Thiocyanate Ions on Performance of Sn-based Perovskite Solar Cells  
허도연, 김수영, 중앙대학교
- 1PS-16** Soft Transparent Photothermal Heaters Using NIR Absorbing Dyes  
한민수, 장현동, 김은경, 연세대학교
- 1PS-17** High-performance *n*-Type Organic Semiconductor Based on Diketopyrrolopyrrole Copolymers  
한명근, 강소희\*, 노용영, 양창덕\*, 포항공과대학교; \*울산과학기술원
- 1PS-18** Design and Synthesis of Novel Deep-blue-emitting Ir Complexes Containing 2',6'-Difluoro-4-(trimethylsilyl)-2,3'-bipyridine(dfpysip) Ligand  
하연희, 신 현\*, 김현구\*, 김 란, 권순기, 김장주\*, 김윤희, 경상대학교; \*서울대학교
- 1PS-19** Capacitively Coupled Hybrid Ion Gel and Carbon Nanotube Thin-Film Transistors for Low Voltage Flexible Logic Circuits  
최용석, 강주훈\*, Ethan B. Secor\*, Jia Sun\*\*, 김형준\*\*\*, 임정아\*\*\*, 강문성\*\*\*\*, Mark C Hersam\*, 조정호, 연세대학교; \*Northwestern University; \*\*성균관대학교; \*\*\*KIST; \*\*\*\*서강대학교
- 1PS-20** Ultra Low-cost *N*-Doping for Carbon Nanotube Transistors with Baking Soda  
지동섭, 정학순, 노용영, POSTECH



- 1PS-21** Sputtered Amorphous Alloy Electrode for Inverted Organic Solar Cells  
조재삼, 장웅식\*, 박금환\*\*, 왕동환\*, 중앙대학교/전자부품연구원, \*중앙대학교; \*\*전자부품연구원
- 1PS-22** Selective Sorting of Large-diameter Semiconducting Single-walled Carbon Nanotubes by Wrapping of Thiophene-based Conjugated Polymer  
정학순, 지동섭, 노용영, POSTECH
- 1PS-23** Controllable Response-Curves in a Pressure Sensor by Designated Electrodes  
정찬호, 김태일, 성균관대학교
- 1PS-24** Effect of Black TiO<sub>2</sub> Nanoparticle Mixed Electron Transport Layer in Inverted Perovskite Solar Cells  
임지현, 장웅식, 이영민\*, 왕동환, 중앙대학교; \*서울과학기술대학교
- 1PS-25** Efficient Exciton Harvesting in Organic Bilayer Heterojunctions with Non-Fullerene Small Molecular Acceptors  
이택호, 김진영, UNIST
- 1PS-26** Ionic Nanocluster-Evolved Polymers for Organic Nonvolatile Memory Transistors  
이철연, 박지수, 이웅기, 이새봄, 김화정, 김영규, 경북대학교
- 1PS-27** Flexible Nonvolatile Organic Transistor Memory with Low Power Operation Using Ultrathin Bilayer Dielectric Stack  
이창현, 박관용, 최준환, 임성갑, KAIST
- 1PS-28** New Photo Crosslinkable Polymer as Hole Transport Material Applied to Solution-Processed Multi-Layered Organic Light Emitting Diodes  
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- 1PS-29** 탄화 ZIF-8과 폴리티오펜 혼합 박막의 전하이동 증가 및 가스 센싱 능력 향상  
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- 1PS-30** Blue Electroluminescence by Exergonic Harvest of Triplet Excitons  
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- 1PS-31** Efficient Preparation Method of 3D Carbon Nanotube Foam for Freely Shapable and Flexible Thermoelectric Power Generators  
이민혜, 강영훈, 김정원, 이영국, 조성운, 한국화학연구원
- 1PS-32** Novel Orange-red Thermally Activated Delayed Fluorescent Dendritic Luminogen and Its Application to Solution-processed White Organic Light-emitting Diodes  
윤지원, 황진호, 김재영, 조민주, 최동훈, 고려대학교

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- 1PS-33** In situ Forming Chitosan/PEG Hybrid Hydrogels with Tunable Physicochemical Properties  
황진영, 박기동\*, 정하영\*, Le Thi Phuong, 황보경희\*\*, 배진우\*\*, 아주대학교, \*아주대학교 분자과학기술학과; \*\*주제노스
- 1PS-34** Sensor and Soft Actuator from Anion-Responsive Thiourea Gels  
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- 1PS-36** Photomechanical Deformation of Electrically Conducting Azo-LCN/rGO Composites  
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- 1PS-37** Size-dependent Fractionation of Graphene Quantum Dots Using Cross-flow Filtration  
임상근, 강예은, 문병기\*, 정은상, 양승윤, 부산대학교; \*부경대학교
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- 1PS-40** Synthesis and Application of Porous Graphene Nanoribbons with Picket-Fenced-Edge Modification  
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- 1PS-46** A Development of Fluorescent Polymeric Nanoparticles for Ultra-Sensitive Optical Biosensor  
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신지혜, Sheng Li, 한국과학기술원
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- 1PS-56** Synthesis, Thermomechanical and Electrochemical Properties of Poly(acrylic acid)-co-Poly(*n*-butyl acrylate) Binders for Silicon-based Lithium Ion Battery Anodes  
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- 1PS-57** Synthesis of Well-defined Polysilsesquioxane and Application to Robust Antimicrobial Coatings for Dental materials  
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- 1PS-60** Orally Active Nanoparticle Formed with Lactoferrin-chitosan Conjugate with Alginate for Oral Insulin Formulation  
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- 1PS-62** Facile and Scalable Synthesis of Various Architecturally Nanoengineered Polypeptides with Excellent Antimicrobial Activities  
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- 1PS-63** Synthesis of Polyglycerols by Ring-Opening Polymerization of Glycidol Using Heterogeneous Catalysts  
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- 1PS-64** Synthesis of Poly(acrylic acid)-based Bottlebrush Polymers by RAFT and ROMP toward Binders for Silicon Anodes  
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- 1PS-66** Wrinkling Based Flexible and Bendable Surface Enhanced Raman Scattering (SERS) Substrate Decorated with MXene and Au Nanoparticles  
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- 1PS-67** Characteristics of Oxazoline Based Gradient and Block Copolymers by Langmuir-Blodgett Method  
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- 1PS-68** Patternable Magnetic Actuation of Polymer Composites Microarrays  
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정지수, 정종진, 설순희, 연승언, 정희경, 이윤형, 서현정, 박수진, 한남대학교
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- 1PS-79** Orientation Change of Graphene Oxide Liquid Crystal Suspension with Various Shear Rates  
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- 1PS-81** Direct Surface Modification of Metal-Oxide Particles by Ball Milling  
김현진, 우상혁\*, 중앙대학교; \*중앙대학교 화학신소재공학과
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- 1PS-83** Click-derived Supramolecular Vesicular Nanocatalyst for Successive Click Reactions in Water  
김인혜, 이은지, 광주과학기술원
- 1PS-84** Preparation of PLGA Hollow Nanoparticles for Drug Delivery Applications  
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- 1PS-85** The Effect of Swelling Ratio on the Nanoparticle-mediated Adhesion of Hydrogels  
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- 1PS-86** Core-crosslinked Patchy Micelles of Block Copolymers Containing the Poly(vinyl pyridine) Block  
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- 1PS-87** In-situ GIXD Study of Gas-adsorbable Lipid Bilayer Structure with Conjugated Polymer  
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- 1PS-89** Preparation and Evaluation of Tropolone-loaded in Chitosan Nanoparticles  
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\*조선이공대학교 생명환경화공과; \*\* (주)시지바이오

- 1PS-90** Effect of Visible Light Irradiation on Rheological Properties of Tyramine-modified Hyaluronic Acid Hydrogel  
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- 1PS-96** Stimuli-Responsive Conformational Transformation of Pro-Apoptotic Peptide with Cell Penetrating Sequence for Selective Cytotoxicity  
주예은, 김철희\*, 이정훈\*, 인하대학교 고분자공학; \*인하대학교
- 1PS-97** Biocompatible Polymeric Nanoparticles as CT Contrast Agent  
조성훈, 안철희\*, 서울대학교; \*서울대학교 재료공학부
- 1PS-98** Fiber-hydrogel Scaffold with Multi Stimulation Capability for Cell Differentiation  
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- 1PS-99** Exosome Isolation and Measurement System Using Magnetic Separation in Microfluidics for Cancer Diagnosis  
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- 1PS-100** Triggered Specific Microtubule Binding of Self-Assembled  $\beta$ -Sheet Peptide by Tumor Microenvironment for Selective Cytotoxicity  
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- 1PS-101** Development of Hypoxia-Activatable Optical Imaging Probe  
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- 1PS-104** Evaluation of ROS Inhibition and Enhanced Bioavailability Using an Antioxidant-encapsulated Chitosan Microsphere  
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- 1PS-105** Multi-functional Porous PCL Microspheres for Effective Osteogenic Differentiation and Anti-microbial Efficacy  
장희윤, 신준영, 김세현, 김민지\*, 박유진, 이인수, 오세행\*, 이진호, 한남대학교; \*단국대학교
- 1PS-106** Highly Sensitive Detection System of Pandemic Influenza A (H1N1) Virus Infection with Specific MicroRNA as a Biomarker  
임재운, 임은경, 이도경\*, 한국생명공학연구원; \*바이오나노헬스가드연구소
- 1PS-107** Development of Antimicrobial Polyurethane Foam Dressing Containing Silver-Carbon Composite  
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- 1PS-108** Poly(2-isopropenyl-2-oxazoline) for Immunotherapeutical Applications  
Zuzana Kroneková, Monika Majerčíková, Ema Paulovičová\*, Lucia Paulovičová\*, Juraj Kronek, Polymer Institute, Slovak Academy of Sciences; \*Institute of Chemistry, Slovak Academy of Sciences

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- 1PS-110** A Solution-Processed Cathode Interfacial Layer for Efficient Energy Level Alignment in Organic Photovoltaics: Synthesis and Characterization  
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- IPS-112** Stretchable Lithium Ion Battery with Honeycomb Porous Structure  
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- IPS-113** Fabrication of MnO<sub>2</sub>/Edge-selectively Oxidized Graphene Coated Carbon Fiber Supercapacitor  
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- IPS-114** Control of Energy-Transfer Efficiency in a Hybrid System of a Wide-bandgap Conjugated Polymer and Quantum Dots  
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- IPS-118** WO<sub>3</sub> Modified Hole Transport Layer Based Highly Efficiency and Stable Planar Perovskite Solar Cells  
최예림, 김태완, 김태현, 김도현, 민지현, 박태호, 포항공과대학교(POSTECH)
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- IPS-123** Donor-Acceptor Copolymer for Narrow Band Red-selective Organic Photodiode  
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QUYEN VU THI, 손대원, Hanyang University
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- IPS-201** Janus Graphene Oxide Thin Films with Fe<sub>3</sub>O<sub>4</sub> Nanoparticles and Polydopamine for Anode Materials of Lithium Ion Batteries  
장지원, 조경일\*, 구자승, 충남대학교; \*한국원자력연구원
- IPS-202** Polymerized Cyclic Butylene Terephthalate/Multi-walled Carbon Nanotube Composite Film Fabricated by a One-step Process for Electromagnetic Interference Shielding Effect  
장지운, 김성훈, 김성륜\*, 한양대학교; \*전북대학교
- IPS-203** Study of Electrode Performance on Stretchable and Transparency through Defectless Methods  
장준호, 이주현, 김진곤, 포항공과대학교
- IPS-204** Mechanical Studies of Nanodiamond Nanocluster-attached Graphene Oxide/Epoxy Nanocomposites  
장은행, 박수진, 인하대학교



- 1PS-205** Thermal Conductivity and Thermo-physical Property of Nanodiamond-decorated Exfoliated Boron Nitride/Epoxy Nanocomposites  
장은형, 박수진, 인하대학교
- 1PS-206** Thermal Conductivity of Amine-grafted Boron Nitride/Elastomer Nanocomposites for Thermal Management Applications  
장은형, 박수진, 인하대학교
- 1PS-207** Effect of Silane Coupling Agent on Structure and Characterization of PI-silica Composites  
장시훈, 박준철, 서영석, 박수일\*, 박노형, 한국생산기술연구원, \*연세대학교
- 1PS-208** Novel Method for Stereocomplexation with 5-FU Using Emulsion Solvent Diffusion  
임승현, 정영미\*, 김수현\*, 고려대학교; \*한국과학기술연구원
- 1PS-209** Electrical Properties of LDPE/EBA Blend Composites Filled with Multi Walled Carbon Nanotubes and Carbon Blacks  
임도현, 염용식, 서훈영, 정대영, 윤호규, 고려대학교
- 1PS-210** Fabrication and Mechanical Properties of Glass Fiber Reinforced Polyimide Composites with High Thermal Stability  
임다정, 박준철, 윤슬기, 박노형, 한국생산기술연구원
- 1PS-211** Highly Stable and Stretchable Silver Nanowire-SWCNT Hybrid Network Electrode Films Embedded Into a PVA Matrix  
이희재, 김지선, 김진열, 국민대학교
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- 1PS-214** Polyimide/Silicon Carbide Nanocomposite Films with Enhanced Thermal Conductivity  
황규현, 정영규, 충남대학교 유기소재첨유시스템 공학과
- 1PS-215** Binder-free Heat Dissipation Films Assembled with Reduced Graphene Oxide and Alumina Nanoparticles for Simultaneous High In-plane and Cross-plane Thermal Conductivities  
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- 1PS-216** Influence of Inclusion of Sulfonate ( $-SO_3^-$ ) on Surface Sealing of Polystyrene (PS)-based Bowl  
홍삼기, 현동춘, 박주향, 김다인, 문건대\*, 손진호, 경북대학교; \*한국생산기술원
- 1PS-217** Fabrication of Biocompatible Hydrogel Microbeads for Portable Food Sensor  
함미림, 김수현, 이현정, 국민대학교
- 1PS-218** Colorimetric Polydiacetylene for Urease Activity Sensing  
파디라툴진나, 김종만\*, 한양대학교; \*한양대학교 화학공학과
- 1PS-219** Substituent Effect on the Formation of Self-assembled Monolayer of Mussel Inspired Catecholic Acrylate Primers  
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- 1PS-220** Sequestering ATP Inside Mitochondria by Nucleopeptide Inducing Cancer Cell Death  
최후연, 유자형, UNIST (Ulsan National Institute of Science and Technology)
- 1PS-221** Fabrication of AgNW and PEDOT:PSS-based Conductive Adhesive Electrode for Flexible Electrochromic Devices Using Spray Coater  
최혜원, 박종승, 부산대학교
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최진희, 박종승, 부산대학교
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최우진, 홍진기, 연세대학교
- 1PS-224** 기하학적 구조 제어를 통한 가시광-근적외선 차단용 고분자-무기 복합입자 개발  
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- 1PS-225** Fabrication and Electrochemical Characterization of Hybrid Carbon Nanofibers Containing Lanthanum Manganate  
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- 1PS-226** Ultrasound (US) and Glutathione (GSH)-responsive Perfluorocarbon (PFC) Nanocarrier for Dual Nitric Oxide (NO)/Drug Delivery  
최문현, 노승만, 한국화학연구원
- 1PS-227** Electrochemical Property and Structure of Imidazolium Ionic Liquid Polymers  
최경현, 박치영\*, 부경대학교; \*대구경북과학기술원
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천자영, 전준표, 한국원자력연구원
- 1PS-229** HCl Gas Sensor Based on a Quartz Crystal Microbalance Using UV-cured Acrylamide Polymer Coatings  
진영재, 박진영, 경북대학교
- 1PS-230** Silicone Pressure-sensitive Adhesives with Epoxy Functional System  
지찬혁, 허필호, 배지홍, 임원빈, 김병주, 민진규, 서창민, 부산대학교
- 1PS-231** Enhanced Solid-State Emission of Polycyclic Aromatic Hydrocarbons by Edge-Functionalization with Picket-Fence Groups  
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- 1PS-232** Aromatic Coupling Reactions Using New Polymer Reagents  
조진, 한양규, 한양대학교
- 1PS-233** Analysis of Triboelectric Output According to the Photonic Crystal Structure of Peacock Feathers  
조유창, 박상기, 오민선\*, 박종진\*, 전남대학교 고분자공학과; \*전남대학교 고분자융합소재공학부
- 1PS-234** Carbon Structures Formed by Non-catalyst Carbonization of Novel Aromatic Precursors  
조완수, 박치영\*, 부경대학교; \*대구경북과학기술원
- 1PS-235** Magnetic Separable Polymeric Porous Microcapsules Coated with Polyethyleneimine for Adsorption of Heavy Metal Ions  
조승현, 조경렬, 장민철, 전남대학교
- 1PS-236** Comparative Study between Hydroxyapatite and Biological Apatite Incorporated Carboxymethyl Chitosan Scaffolds on Bone Regeneration  
조선미, 한성수, 최순모, 신은주\*, 영남대학교; \*동아대학교
- 1PS-237** Fabrication of Metal Nanocrystals Embedded Hydrogels and Their Application  
정재환, 김문호, 부경대학교
- 1PS-238** Self-healing Property of Glycol Chitosan Hydrogel with Catechol Functionality  
정소윤, 김희철, 박원호, 충남대학교
- 1PS-239** Preparation and Characterization of Carboxylic  $\beta$ -Cyclodextrin with Vitamin E/C  
정미진, 송인준\*, 박수용, 정일두, 부산대학교; \*부산대학교 고분자공학과
- 1PS-240** Preparation and Characterization of  $\beta$ -Cyclodextrin-L-Ascorbic Acid Conjugates  
정미진, 정일두, 송인준, 박수용, 부산대학교
- 1PS-241** Near-infrared Quantum-dot Photodetectors via Improving Interfacial Contact Using Conjugated Polyelectrolytes  
정문기, 정인환, 국민대학교
- 1PS-242** Microstructural and Electrochemical Characterization of Hybrid Carbon Nanofibers Based on Polyimide and Metal Organic Frameworks  
전하빈, 정영규, 충남대학교 유기소재첨유시스템 공학과
- 1PS-243** Design of Robust and Transparent Amphiphilic Metallopolymer Coatings for Antibacterial and Antifogging  
전유빈, 사르와난 나가뵤, 하창식, 부산대학교
- 1PS-244** Sulfonamide-based Chelate Resins Regenerated with Moderate Acidic Conditions for Water Softening  
전성익, 안철희, Research Institute of Advanced Materials (RIAM), Department of Materials Science and Engineering, College of Engineering, Seoul National University
- 1PS-245** A Facile Ultrasonic-assisted Fabrication of Carbon Nitride/Carbon Dots Composites for Photocatalytic Degradation Behaviors of Rhodamine B  
장익범, 박수진, 인하대학교
- 1PS-246** In situ Synthesis of  $BiOCl_3/BiOBr_3/BiOI_3$  Nanofibers for Visible-light Photocatalytic Investigation  
장익범, 박수진, 인하대학교
- 1PS-247** In situ Growth of Graphene Oxide/ $BiOCl$  Composites Nanofibers and Their Application in Photocatalytic Degradation of RhB  
장익범, 박수진, 인하대학교
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임준섭, Avnish Kumar Mishra, 김진근, 포항공과대학교
- 1PS-249** Forming Layered Conjugated Porous BBL Structures  
임윤광, 백종범, 노혁준, Javed Mahmood, UNIST
- 1PS-250** Stacked Multilayer Nanostructures with Chiral Monomer for Flexible Broadband Mirrors  
임석인, 정광운, 전북대학교
- 1PS-251** Coatable Thin Film Polarizer by Peryleneimide-Based Reactive Mesogen  
임민우, 강동규, 정광운, 전북대학교

- 1PS-252** Measurement of Biomarkers Using Optical Properties of Inverse Opal Hydrogels  
이 호, 신무광, 함승주, 연세대학교
- 1PS-253** 수직난연·고내마·내마모 특성이 우수한 자동차 엔진룸용 박육 절연 전선 개발  
이호섭, 강승훈, 경신전선
- 1PS-254** Mechanical Property Enhancement of Self-Healing Polymer via Self-assembled Micellar Structures of Block Copolymer  
이항문, Suguna Perumal, 정인우, 경북대학교
- 1PS-255** A Sponge Ball Decorated with Metal Nanoparticle for Cleanup of Hazardous Materials  
이한비, 한나라, 최원산, 한밭대학교
- 1PS-256** Polymer Cubosomes with High-density Surface Functional Groups  
이재은, 김경택, 서울대학교
- 1PS-257** Biocompatible Redox-Responsive Photosensitizer-Nanogel Complexes to Elucidate Intracellular Mechanisms of Photodynamic Therapy  
이재균, 이재현, 이준희, 김병수\*, 권태혁, 울산과학기술원; \*연세대학교
- 1PS-258** 황을 이용한 가교 고분자의 제조와 광학적 응용  
이지목, 이우하\*, 노국윤\*, 성준호\*, 윤호규\*\*, 김동균\*, 김용석\*, 한국화학연구원/고려대학교; \*한국화학연구원, \*\*고려대학교
- 1PS-259** Fabrication of Porous and Fouling Release Polyurethane Membrane as an Oil Sorbent Materials  
김홍모, 이준범, 서지애, 서지훈, 고려대학교
- 1PS-260** Colorimetric Polydiacetylene Biethiol Sensor Based on Mercury(II) Pyridine Complex  
이종필, Fadilatul Jannah, 배광민, 김종민\*, 한양대학교; \*한양대학교, 나노과학기술연구소
- 1PS-261** A Novel Air Purifier For Low Energy Consumption and Fast PM Removal  
이요섭, 최원산, 한나라, 한밭대학교
- 1PS-262** Flexible Fiber Electrodes for Use in Supercapacitor and Electrochromism  
이승민, 김파도, 김성근, 전북대학교
- 1PS-263** A Three-dimensional PLCL/hydrogel Complex Scaffold for Adipose Tissue Regeneration  
이수진, 정영미, 한국과학기술연구원(KIST)
- 1PS-264** Microfluidic Production of Encoded Microcapsules  
이상민, 김종식\*, 심태섭\*, 김신현, 한국과학기술원; \*아주대학교
- 1PS-265** Preparation and Characterization of Flexible Anode Materials for Lithium-ion Batteries  
이병민, Nurzhan Umirov, 장형석, 홍성권, 김성수, 최재학, 충남대학교
- 1PS-266** Preparation and Characterization of 3-D Sponge-like Anode Material for Lithium-ion Batteries  
이병민, Nurzhan Umirov, 장형석, 홍성권, 김성수, 최재학, 충남대학교
- 1PS-267** Polyurethane-silica Composite Foam for Thermal Insulation  
이동익, 윤광환\*, 김혜선\*, 김승현\*, 인하대학교 화학공학과; \*인하대학교

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- 1PS-268** Synthesis and Characterization of New Acryl Binder Polymers for the Dispersion of Colorants  
황아름, 엄진주, 최재학, 충남대학교
- 1PS-269** Synthesis of Highly Self-healable Heterocyclic Polyurethane  
홍평화, 김진실, 문경민, 김기승, 강정순\*, 최기원\*, 이성규, 고민재\*, 홍성우, 한국생산기술연구원; \*한양대학교
- 1PS-270** Synthesis of Epoxidized 1,4-Cyclohexanedimethanol Bis(oleate) and Its Application as PVC Plasticizer  
한영광, 조민철, 배진영, 성균관대학교
- 1PS-271** Synthesis and Their Physical Properties of Isosorbide-based Copolycarbonate  
한세미, 홍준기\*, 김백진, 한국생산기술연구원; \*한국기술교육대학교
- 1PS-272** Core Cross-linked Block Copolymer Micelles from Ring-opening Metathesis Polymerization  
하정민, 임지우, 경희대학교
- 1PS-273** Synthesis and Metal Ion Removal of Macroporous Hyperbranched Polyamidoamine Particles  
최호중, 강인아, 김상율, KAIST
- 1PS-274** Synthesis of Biomass-derived Furanic Polycarbonates and Controlling Their Glass Transition Temperatures  
최은호, 오창식, 이주현, 송창식, 성균관대학교
- 1PS-275** Supramolecular Assembly of Hydrazone-Incorporated Amino Acid Derivatives  
최은정, 정유경, 송창식, 성균관대학교
- 1PS-276** Preparation of Polyimides Using Water-containing Solvent Mixture for Application to Flexible Substrate Films  
진승원, 최주영, 남경남, 박형주, 김동민, 정찬문, 연세대학교

- 1PS-277** Effect of Structure of Chain Transfer Agents on Photo-initiated RAFT Process of *N*-Vinyl Formamide  
조준희, 광영제, 숭실대학교
- 1PS-278** Well Defined PVA-*b*-PNVAm Block Copolymers via RAFT Polymerization  
조수정, 광영제, 조준희, 이성규, 숭실대학교
- 1PS-279** An Ionic Polyacetylene from the Non-catalyst Polymerization of 2-Ethynylpyridine Using 4-Bromo-1-butene  
제갈영순, 진성호\*, 심상연\*\*, 박종욱\*\*\*, 임권택\*\*\*\*, 경일대학교; \*부산대학교; \*\*강릉원주대학교; \*\*\*경희대학교; \*\*\*\*부경대학교
- 1PS-280** Synthesis and Properties of Poly(*N*-alkylpropargylamine)  
정승환, 진성호\*, 박종욱\*\*, 임권택\*\*\*, 제갈영순, 경일대학교; \*부산대학교; \*\*경희대학교; \*\*\*부경대학교
- 1PS-281** Ring Opening Polymerization of Dithio and Trithio 5-membered Cyclic Carbonates Driven by Adjacent Vinyl Group  
정소민, 도정윤, 신상빈, 부산대학교
- 1PS-282** Synthesis of Zwitterion Functionalized Silica Nanoparticle with Controlled Release of Nitric Oxide for Superior Antibacterial Properties  
정성원, 홍진기, 연세대학교
- 1PS-283** Synthesis and Chiral Self-assembly of Triphenylamine-Fatty Acid Derivatives  
정성욱, 박창준, 김동휘, 김상율, KAIST
- 1PS-284** 폴리올레핀계 폴리올을 사용한 수분산 폴리우레탄의 합성 및 특성 연구  
정부영, 전효원, 황지원, 천정미, 이정삼\*, 천재환, 한국신발과학연구원; \*진광(주)
- 1PS-285** Synthesis and Properties of Self-Healing Microcapsule Using Natural Gum as Surfactant  
전효원, 정부영\*, 천정미\*, 황지원\*, 천재환\*, 이원기\*\*, 한국신발과학연구원/부경대학교; \*한국신발과학연구원; \*\*부경대학교
- 1PS-286** Synthesis of Temperature and Metal Ion Responsive Block Copolymer, Poly(*N*-isopropylacrylamide)-*b*-Poly(dopamine acrylamide)  
전승현, 김태형, 윤준혁, 김상율, KAIST
- 1PS-287** Tunable Engineering of Heparinized Injectable Hydrogels for Affinity-Based Sustained Delivery of Bioactive Factors  
김성환, Thavasyappan Thambi, Jae Seung Lym, V, H, Giang Phan\*, 이두성, Sungkyunkwan University; \*Ton Duc Thang University
- 1PS-288** Bioinspired pH- and Temperature-Responsive Injectable Adhesive Hydrogels with Polyplexes Promotes Skin Wound Healing  
Thai Minh Duy Le, Huu Thuy Trang Duong, Thavasyappan Thambi, V, H, Giang Phan, 정지훈, 이두성, Sungkyunkwan University

## 포스터발표(II) \_ 10월 11일(금)

(09:00 ~ 10:30)

좌장: 박치영, 이준협

우수논문발표상(II)

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- 2PS-1** Continuous Synthesis of Polystyrene Nanoparticles by Flash Nanoprecipitation in a Coaxial Turbulent Jet Mixer  
한현우, 임종민, 순천향대학교 나노화학공학과
- 2PS-2** Functional Microgels formed by Complexation Between Graphene-Oxide Nanosheets and Hydrophilic Polymers in Double-Emulsion Templates  
최예훈, 이상석\*, 이동명\*, 정현수\*, 김신현, KAIST; \*KIST
- 2PS-3** Visible-transparent and UV-reflective Supraballs of Hollow Silica Nanospheres in Solution  
이승현, 이기라, 성균관대학교
- 2PS-4** Behavior and Separation of Janus Particles by Dielectrophoretic  
이민지, 원종빈, 정대호, 이다솜, 구형준, 서울과학기술대학교
- 2PS-5** Electrostatically Assembled Raspberry-like Metamolecules Exhibiting Optical Magnetic Response  
신동인, 이기라, 성균관대학교
- 2PS-6** Versatile Vesicles-Based Artificial Cells via Droplet Microfluidics  
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이승운, 이영관\*, 김백진\*\*, KITECH/성균관대학교; \*성균관대학교; \*\*한국생산기술연구원
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- 2PS-272** Microporous Carbons: Effective Gas and Dye Adsorbent  
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- 2PS-279** Protein Sensors Made of Conductive Polymers and Gold Nanoparticles Using Soft Lithography  
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- 2PS-280** Facile Layer-by-Layer Technique for Non-conducting Polymer/Carbonaceous Thermoelectric Nanocomposite Thin Films  
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- 2PS-287** Hybrid Effects of Surface Treated Pitch-based Short Carbon Fiber and Short Glass Fiber Reinforced Thermoplastic Composites  
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민창희, 김세나, 최영민, 서울대학교
- 3PS-6** DNA Gel Responding to pH in Specific Ranges  
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- 3PS-7** 고분자의 혼합 비율에 따른 PLGA 미립구의 서방출 특성  
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- 3PS-8** Polysaccharide Based Self-healing Hydrogel for 3D Bioprinting  
김현승, 이근용, 최수민, 한양대학교
- 3PS-9** Synthesis and Characterization of PEG-alkyl Carbonate Amphiphiles for Gas-generating Polymer Micelles  
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- 3PS-10** Nanoparticles to Dilate Tumor Vasculature for Efficient Targeted Drug Delivery  
김찬호, 고혜원, 박재형, 성균관대학교
- 3PS-11** Antibacterial and Strongly Adhesive Complex Gel from Biocompatible PHEA-EDA and Tannic Acid  
란원복홍련, 당국덕, 문종렬, 왕 보, 김지흠, 성균관대학교
- 3PS-12** Development and Evaluation of Bioreducible Gene Carrier for Peptide/Gene Co-delivery  
김준수, 홍용길, 안준혁, 정경원\*, 박준규\*\*, 심왕근, 나재은, 순천대학교 고분자공학과; \*조선이공대 생명환경화학공과; \*\*\*(주)시지바이오
- 3PS-13** Functionalized Polycaprolactone-based 3D Printing Scaffold for Enhanced Bone Regeneration  
김민지, 노하연, 박수아\*, 변준호\*\*, 이진호\*\*\*, 오세행, 단국대학교; \*한국기계연구원; \*\*경상대학교병원; \*\*\*한남대학교
- 3PS-14** The Remodeling Effect of Heparin/Substance P Conjugated PLLC Polymer Coating on Bioinert ePTFE  
김동환, 정영미\*, 김수현\*, 고려대학교; \*한국과학기술연구원

- 3PS-15** Regeneration of Bone Tissue Using Silk Fibroin-PGA Hybrid Scaffolds Prepared by Electrospinning and 3D Printing Techniques  
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- 3PS-18** Preparation of Multi-channel Neural Guidance Platform and Axonal Growth Control Using Drug  
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강병호, 함승주\*, 임은경, 한국생명공학연구원; \*연세대학교 화공생명공학과
- 3PS-20** Flexible and Biocompatible Glucose Fuel Cell for Smart Soft Contact Lens  
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- 3PS-21** Fabrication of Hyaluronan-base Nanofibrils by Coaxial Electrospinning  
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- 3PS-23** High Performance Sensing System Based Field-effect Transistor (FET) Integrated with G-protein-coupled Receptor (GPCR)  
박선주, 권오석, 한국생명공학연구원
- 3PS-24** Surface Modification of Electrode for Implantable Device to Store Alkali-ion  
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문찬수, 전남중, 양태열, 서장원, 한국화학연구원
- 3PS-28** Electronic Properties of Conjugated Polymer Consisting Benzimidazole Derivatives with Different Electron Deficient Groups  
명림신, 라쿠엘\*, 서홍석\*, 부산대학교 화학과; \*부산대학교
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말라삼, 윤지원\*, 정지은\*, 우한영\*, 조민주\*, 최동훈\*, 고려대학교 화학과; \*고려대학교
- 3PS-30** Enhanced Performance of Inverted Polymer Solar Cells Using Modified Polyethylenimine Ethoxylated  
류지호, 이동찬, 김소연\*, 임동찬\*, 조신욱, 울산대학교; \*재료연구소
- 3PS-31** Iridium (III) Complexes Containing the Electron Withdrawing/Donating Groups for Efficient Green Phosphorescent Organic Light-emitting Diodes  
라자 쿠마레즈, 아티싼 마헤쉬와란\*, 제갈영순\*\*, 진성호\*, 부산대학교 화학소재학과; \*부산대학교; \*\*경일대학교
- 3PS-32** Facile Solution Shearing Process for Tuning Crystallinity and Alignment of Organic Semiconductor  
남기범, Xinlin Li\*, 김경훈\*\*, 이재빈, 김언지, 김세현\*\*\*, 이동윤, 경북대학교; \*Qingdao University; \*\*포항공과대학교; \*\*\*영남대학교
- 3PS-33** Deep Blue Phosphorescence with High Quantum Efficiency Engaging Trifluoromethylsulfonfyl Group to Iridium Phenyl Pyridine Complexes  
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- 3PS-35** Study on Hot Carrier Relaxation and Extraction of Pb-Sn Binary Perovskites  
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- 3PS-38** Side Chain Modification of Alcohol-soluble Fullerenes for Improving Power Conversion Efficiencies of Aqueously-processed Organic Solar Cells  
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- 3PS-39** Synthesis of Trifluorosulfonyl Substituted Iridium Complexes for Blue Phosphorescence  
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- 3PS-40** Enhanced High Performance of Inverted Polymer Solar Cells Using New Small-molecule Electrolyte Doped ZnO as the Electron Transport Layer  
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- 3PS-41** A Noticeable Li-TFSI Film as a Quasi-solid-state Electrolyte for Fiber-shaped Dye-sensitized Solar Cells with Outstanding Stability  
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- 3PS-42** A New D-D Type Conjugated Polymer Containing a Fused Selenophene Unit for Organic Field Effect Transistors  
김인복, 장수영, 강민지\*, Fei Zhuping\*\*, 정은환\*\*\*, McCarthy-Ward Thomas\*\*, 임대희, 김연주, Mathur Sanjay\*\*\*, Heeney Martin\*\*, 김동유, 광주과학기술원; \*한국과학기술연구원; \*\*Imperial College London; \*\*\*University of Cologne
- 3PS-43** Effect of Mechanical Properties of Active Layer on the Performance of Single-component and Bi-component Polymer Solar Cells  
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- 3PS-44** An Effective Approach for Achieving Long-Term Operational Stability of Perovskite Solar Cells with a Stabilized Efficiency Exceeding 20% after 1,000 h  
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- 3PS-46** Carbon Nanotube FeRAM Cell Based on Omega-Shaped Ferroelectric Gate  
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- 3PS-56** The Influence of Molecular Weight and Copolymer Composition of PAN-based Triblock Copolymers on Gel Electrolyte Dye-sensitized Solar Cells  
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