

| 기조강연장_10월 21일(목)       |                                                                                   | 300A호   |
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| 기조강연   Plenary Lecture |                                                                                   |         |
| PL-1                   | (10:30-11:10)<br>Covid 19 이후 Global Megatrend와 Innovation 전략<br>황윤일, CJ제일제당 바이오부문 | 좌장: 원종찬 |

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| 한화고분자학술상 수상기념강연  <br>Commemorative Lecture: Hanwha Polymer Award |                                                                                                                                           |         |
| PL-2                                                             | (11:10-11:50)<br>Biodegradable Thermogels and Their Biomedical Applications<br>최보규, 고두영, 주민경, 박민희, Usha P. Shinde, 문효정, 정유리, 정병문, 이화여자대학교 | 좌장: 진성호 |

| 제1회장_10월 21일(목)                                                                             |  | 300A호 |
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| 분자전자 부문위원회 I   Molecular Electronics Division I<br>Organizer: 김선주(중앙대), 이승구(울산대), 윤명한(GIST) |  |       |

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| 1L1-1 | (14:00-14:25)<br>Applications Using Ontorted-Hexabenzocoronene Derivatives<br>안석훈, KIST                                                          | 좌장: 오진우 |
| 1L1-2 | (14:25-14:50)<br>Strategic Approaches for Enhancing Electrical Conductivity in Molecular Doping<br>한지민, 윤상은*, 김종현*, 김봉기, 건국대학교; *아주대학교           |         |
| 1L1-3 | (14:50-15:15)<br>Multi-Functional Conductive Nanocomposites from Naturally Derived Melanin Materials<br>심봉섭, 인하대학교                               |         |
| 1L1-4 | (15:15-15:40)<br>The Role of Polymer Crystalline Domain for Polaron Generation<br>박재홍, 이화여자대학교                                                   |         |
| 1L1-5 | (16:00-16:25)<br>Small Molecules and Polymers for Solution-Processed Thermally Activated Delayed Fluorescence OLEDs<br>최동훈, 황진호, 김형중, 조민주, 고려대학교 | 좌장: 우한영 |
| 1L1-6 | (16:25-16:50)<br>Conjugated Polymer-Assisted Visible Light Absorption of Titania Nanoparticles and Nanofibers<br>이택수, 충남대학교                      |         |
| 1L1-7 | (16:50-17:15)<br>3D Transformation Based on Membrane-Type Electronic Devices and Supportive Plastic Frameworks<br>고흥조, 광주과학기술원                   |         |
| 1L1-8 | (17:15-17:40)<br>Compliant Thermoelectric Generators Toward Self-Powered Flexible Electronics<br>정승준, 한국과학기술연구원                                  |         |
| 1L1-9 | (17:40-18:05)<br>Machine Learning 모델과 Flow Chemistry 실험을 통한 고분자 물성예측과 합성 최적화: Polarizability & Electro-Optic Property<br>김성덕, 삼성전자 종합기술원         |         |

| 제2회장_10월 21일(목)                                                                               |                                                                                                                                                                            | 300B호   |
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| 의료용 고분자 부문위원회 I   Biomedical Polymers Division I<br>Organizer: 정윤기(KIST), 최성욱(가톨릭대), 김기수(부산대) |                                                                                                                                                                            |         |
| 1L2-1                                                                                         | (14:00-14:25)<br>Photocrosslinkable Biopolymers for Enhanced Tissue Adhesion and Local Drug Delivery<br>양승윤, 부산대학교                                                         | 좌장: 최성욱 |
| 1L2-2                                                                                         | (14:25-14:50)<br>Comparing the Cytotoxic Effect of Light-Emitting and Organic Light-Emitting Diodes Based Light Therapy on Human Adipose-Derived Stem Cells<br>방석호, 성균관대학교 |         |
| 1L2-3                                                                                         | (14:50-15:15)<br>"Bundle-like" Cell Penetrating Peptides that Help Biological Modulators Get into Cells and Improve Their Efficacies<br>유재훈, 서울대학교 화학교육과                   |         |
| 1L2-4                                                                                         | (15:15-15:40)<br>Biomimetic Approaches with Stretchable Ionics<br>선정윤, 서울대학교                                                                                               |         |
| 1L2-5                                                                                         | (16:00-16:25)<br>The Power of Graphene on Induction of Spontaneous Myogenesis<br>한동욱, 박기동*, 박경민**, 부산대학교; *아주대학교; **인천대학교                                                  | 좌장: 양승윤 |
| 1L2-6                                                                                         | (16:25-16:50)<br>Oral Delivery of Parathyroid Hormone Using a Triple-Padlock Nanocarrier for Osteoporosis<br>안정만, 이용규*, 한양대학교; *한국교통대학교                                    |         |
| 1L2-7                                                                                         | (16:50-17:15)<br>Therapeutic Evaluation of a Mannose Receptor Targetable Nanodrug in Atherogenic Foam Cells and Atherosclerosis Animal Models<br>박경순, 중앙대학교                |         |

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| 1L2-8 | (17:15-17:40)<br>A Biphasic Osteovascular Biomimetic Scaffold for Rapid and Self-Sustained Endochondral Ossification<br>김 환, 한국교통대학교 |  |
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| 제3회장_10월 21일(목)                                                                                                     |  | 300C호 |
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| 콜로이드 및 분자조립 부문위원회 I  <br>Division of Colloid & Molecular Assembly I<br>Organizer: 강영중(한양대), 전석진(금오공대), 김연수(POSTECH) |  |       |

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| 1L3-1 | (14:00-14:25)<br>Peptidesomes: from Design to Applications<br>임용범, 연세대학교                                                                                            | 좌장: 강영중 |
| 1L3-2 | (14:25-14:50)<br>Intracellular Polymerization and Self-Assembly for Supramolecular Approach to Control Cellular Fate<br>유자형, 울산과학기술원                                |         |
| 1L3-3 | (14:50-15:15)<br>Colloidal Porous Polymers with Rapid and High Adsorption Capability for Aqueous Organic Micropollutants<br>박치영, DGIST                              |         |
| 1L3-4 | (15:15-15:40)<br>Universal Alignment of Graphene Oxide in Suspension and Fibers<br>김소연, 서울대학교                                                                       |         |
| 1L3-5 | (16:00-16:25)<br>Hydrolysis-Driven Viscoelastic Transition in ABA Triblock Copolyether Hydrogels with Acetal Pendants<br>김병수, 연세대학교                                 | 좌장: 유자형 |
| 1L3-6 | (16:25-16:50)<br>3D DNA Origami: Practical Limits and Perspectives<br>이승우, 고려대학교                                                                                    |         |
| 1L3-7 | (16:50-17:15)<br>Generation of Ion-Selective Artificial Membranes<br>유혜빈, 오승수, 포항공과대학교(POSTECH)                                                                     |         |
| 1L3-8 | (17:15-17:40)<br>Factory-on-a-chip: Scaling-Up Droplet Microfluidics for Large-Scale Materials Synthesis<br>Daeyeon Lee, David Issadore, University of Pennsylvania |         |

| 제4회장_10월 21일(목)                                                                                                 |  | 201-202호 |
|-----------------------------------------------------------------------------------------------------------------|--|----------|
| 자동차 부품용 표면 처리 신기술  <br>New Technologies for Surface Finishing of Automotive Components<br>Organizer: 최치훈(현대자동차) |  |          |

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| 1L4-1 | (14:00-14:25)<br>자동차 내외장 플라스틱부품 표면처리 기술 동향<br>이훈수, 현대자동차 재료개발센터       | 좌장: 최치훈 |
| 1L4-2 | (14:25-14:50)<br>차세대 모빌리티 경량화 소재 적용에 따른 최신 도료기술 동향<br>안재범, (주)노루비케미칼  |         |
| 1L4-3 | (14:50-15:15)<br>미래모빌리티 대응을 위한 차체 도장재료의 현재와 미래<br>형우찬, (주)케이씨씨        |         |
| 1L4-4 | (15:15-15:40)<br>친환경 고내후성 TGIC Free 분체도료<br>서인철, AkzoNobel            |         |
| 1L4-5 | (16:00-16:25)<br>자동차 부품용 고기능성 도금 소재<br>박정은, 롯데케미칼                     | 좌장: 이훈수 |
| 1L4-6 | (16:25-16:50)<br>Adhesion Behavior of Electroplated ABS<br>서재식, 현대자동차 |         |
| 1L4-7 | (16:50-17:15)<br>자동차 내, 외장 리얼소재 표면처리 기술<br>손정일, LX하우시스                |         |
| 1L4-8 | (17:15-17:40)<br>자동차 실내 무드조명 검증 프로세스 구축 연구사례<br>윤혜순, 서연이화             |         |

| 제5회장_10월 21일(목)                                                                                    |  | 203-204호 |
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| 미래소재: 태양광 에너지 활용 소재 기술  <br>Advanced Materials for Solar Energy Utilization<br>Organizer: 진성호(부산대) |  |          |

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| 1L5-1 | (14:00-14:25)<br>Ternary Organic Solar Cells Based on a Wide-Bandgap Polymer with Enhanced Power Conversion Efficiency Over 17%<br>진성호, 타바마니 구굴라하트, 부산대학교 | 좌장: 윤진환 |
| 1L5-2 | (14:25-14:50)<br>Impact of Symmetry-Breaking of Non-Fullerene Acceptors for Efficient and Stable Organic Solar Cells<br>김봉수, 울산과학기술원                      |         |

- 1L5-3 (14:50-15:15)  
Machine Learning-Assisted Development Of Organic Photovoltaics *via* High-Throughput *in Situ* Formulation  
김진영, 안나경, 울산과학기술원
- 1L5-4 (15:15-15:40)  
Intrinsically Stretchable Organic Solar Cells with High Efficiency  
이정용, 한국과학기술원

미래소재: 인공 공감각 일렉트로닉스 소재 |  
Artificial Synesthesia Electronic Materials

Organizer: 박철민(연세대)

- 1L5-5 (16:00-16:25) **좌장: 박철민**  
Clip Induced Self-Assemblies of Organic Fluorophores for Low Voltage Driven Ferroelectric Polarization in Thin Films  
김은경, 연세대학교
- 1L5-6 (16:25-16:50)  
Design of Hybrid Piezoelectric Materials toward Plasco-Phototronics  
김동하, 이화여자대학교
- 1L5-7 (16:50-17:15)  
Crystal Structures of Fluoropolymers and Their Piezoelectric Properties: A Molecular Simulation Approach  
허준, 박철민\*, 고려대학교; \*연세대학교
- 1L5-8 (17:15-17:40)  
Polyfluorene-based PVDF Graft Copolymers Possessing Light-Emitting and Piezoelectric Properties  
이진균, 김지연\*, 이세진, 임병진\*, 인하대학교 고분자공학과; \*인하대학교 고분자환경 융합공학전공

## 제6회장\_10월 21일(목)

205-206호

미래소재: 반데르발스 층상 소재용 전구체 합성 |  
Synthesis of Precursors for van der Waals Layered Materials

Organizer: 임종선(KRICT)

- 1L6-1 (14:00-14:25) **좌장: 임종선**  
밴드갭 제어된 반데르발스 층상 소재용 전구체 개발 및 용액공정에 의한 광/전자 소자 기술 소회  
이태우, 송다송, 박성환, 이재은, 신로사, 최희남, 조형구, 김보현, 한성호, 송우석, 명성, 김창균, 정택모, 임종선, 한국화학연구원
- 1L6-2 (14:25-14:50)  
Growth of 2D Layered Metal Chalcogenides and Oxides Using MOCVD  
강기범, 한국과학기술원
- 1L6-3 (14:50-15:15)  
High Performance Solution-processed WSe<sub>2</sub> Transistors  
노용영, 포항공과대학교
- 1L6-4 (15:15-15:40)  
Thickness-dependent Electronic Structures of PdSe<sub>2</sub> and PtSe<sub>2</sub>  
김용성, 한국표준과학연구원

미래소재: 휴먼 인터페이스 고분자 소재 및 소자 기술 |  
Human Interface Materials and Devices

Organizer: 조정호(연세대), 고현협(UNIST)

- 1L6-5 (16:00-16:25) **좌장: 고현협**  
Organic Artificial Peripheral Nerves Interfacing with Biological Nerves  
이태우, 서울대학교
- 1L6-6 (16:25-16:50)  
A New Energy Solution with Triboelectric Nanogenerator for Powering Body-implantable Electronics  
김상우, 성균관대학교
- 1L6-7 (16:50-17:15) **좌장: 조정호**  
Soft, Resorbable Bioelectronics  
황석원, 고려대학교
- 1L6-8 (17:15-17:40)  
Adaptive Damage-Durable Electronic Epineurium for Long-Term Stable Soft Neuroprosthetics  
손동희, 성균관대학교

## 제7회장\_10월 21일(목)

101-102호

Korea-Taiwan Joint Symposium: Emerging Technology in Polymer Science and Engineering (English)

Organizer: Hong Kyoan Choi (Kongju Natl. Univ.), Dong Ki Yoon (KAIST)

- 1L7-1 (14:00-14:25) **Chair: Dong Ki Yoon**  
Direct Writing of Structural-Color Patterns Using Colloidal Inks  
김신현, 한국과학기술원
- 1L7-2 (14:25-14:50)  
Delivery the Chemotherapeutic Drug through Redox Sensitive Polymeric Nano-carrier for Cancer Treatment  
Hsieh-Chih Tsai, National Taiwan University of Science and Technology
- 1L7-3 (14:50-15:15)  
Preparation of Self-Healing Polymers by Controlling Hydrogen Bond Array  
박계영, KRICT

- 1L7-4 (15:15-15:40)  
Bioinspired Hierarchical Layer-within-network Structure of Polymer Nanocomposites for High-performance All-solid-state Flexible Supercapacitors  
Rong-Hao Guo, Che-Min Chou, Chun-Chieh Wang, Ming-Jay Deng\*, Jhih-Min Lin, Chun-Yu Chen, Yao-Chang Lee, Wei-Tsung Chuang\*\*, National Synchrotron Radiation Research Center; \*Providence University; \*\*National Synchrotron Radiation Research Center/National Taiwan University of Science and Technology
- 1L7-5 (16:00-16:25) **Chair: Hong Kyoan Choi**  
Functional Biodegradable Polylactide and Polycarbonate for Biomedical Applications  
Chih-Kuang Chen, Zheng-lan Lin, National Sun Yat-sen University
- 1L7-6 (16:25-16:50)  
Self-Assembly of Architecture Controlled Copolymers in Solution Using DPD Simulation  
김용주, 국민대학교
- 1L7-7 (16:50-17:15)  
Crystallization and Physical Properties of Novel Blends and Composites Containing Biodegradable Polymers  
Li-Ting Lee, Feng Chia University
- 1L7-8 (17:15-17:40)  
Solution-Processable p-n Coaxial Nanoheterojunction Driven by Polymer Crystallization  
이은지, 광주과학기술원

## 제8회장\_10월 21일(목)

103-104호

Korea-Australia Joint Symposium: Functional Macromolecules for Advanced Applications (English)

Organizer: Sangwon Kim (Inha Univ.), Bongjun Yeom (Hanyang Univ.)

- 1L8-1 (14:00-14:25) **Chair: Bongjun Yeom**  
Using Polymers to Promote Stem Cell Differentiation for Musculoskeletal Tissue-engineering  
Jessica E Frith, Monash University
- 1L8-2 (14:25-14:50)  
Brain-on-a-Chip Technology for Mimicking Brain Microvasculature Physiology and Pathology  
김홍남, 한국과학기술연구원
- 1L8-3 (14:50-15:15)  
Dendronised Polymers as a Delivery Platform  
Cameron W. Evans, The University of Western Australia
- 1L8-4 (15:15-15:40)  
Nanocomplex-Mediated *in vivo* CAR-M1 Macrophage Therapy for Solid Tumors  
박희호, 한양대학교
- 1L8-5 (16:00-16:25) **Chair: Sangwon Kim**  
Stealth Poly(2-oxazoline) Nanoparticles for Biomedical Applications  
Kristian Kempe, Monash University
- 1L8-6 (16:25-16:50)  
Multifunctional Heteroscaled Hydrogel Integrated with Dispersible Hybrid Nanofibers  
차태녕, 울산과학기술원
- 1L8-7 (16:50-17:15)  
Polydiacetylene-based Colorimetric Sensors to Detect Food Spoilage  
Rona Chandrawati, The University of New South Wales (UNSW Sydney)
- 1L8-8 (17:15-17:40)  
Plant-Inspired Phenyl Chemistry to Engineer Injectable and Electro-conductive Hydrogels for Biomedical Applications  
신미경, 성균관대학교

우주논문발표상 응모

## 제9회장\_10월 21일(목)

106호

Graduate Student Oral Session (I) (English)

Organizer: Moon Sung Kang (Sogang Univ.), Jeong Ho Cho (Yonsei Univ.)

- 109-1 (14:00-14:15) **Chair: Moon Sung Kang**  
Redox -Sensitive Polyglycerol Nanogels Stimulate the Photo-Responsive Cytotoxicity of a Ir(III) Complex  
이채규, 김병수\*, 권태혁, 울산과학기술원; \*연세대학교
- 109-2 (14:15-14:30)  
Fast-Curable Tissue Adhesives for Corneal Wound Healing  
이혜선, 양승운, Ajeesh Chandrasekharan, 성금용, 조연지\*, 이종수\*, 부산대학교; \*부산대학교 병원
- 109-3 (14:30-14:45)  
Artificial Stimuli-Response System Capable of Conscious Response  
김성찬, 노동규\*, 최윤영\*, 우희재, 박종필, 이종익\*\*, 최용석\*, 조새벽\*, 강문성\*\*, 송영재, 정소희, 조정호\*, 성균관대학교; \*연세대학교; \*\*서강대학교
- 109-4 (14:45-15:00)  
Perfect Optical Fourier Surfaces by Holographic Inscription of Azopolymer  
임용준, 이승우, 고려대학교
- 109-5 (15:00-15:15)  
Work Function Tunable Conducting Polymers for Hole Transport Layer Free Polymer Solar Cells  
김재영, 이광희, 광주과학기술원

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| 109-6  | (15:15-15:30)<br>Strategic Approach for Enhancing Sensitivity of Ammonia Gas Detection: Molecular Design Rule and Morphology Optimization for Stable Radical Anion Formation of Rylene Diimide Semiconductors<br>오병민, 박성하, 이정현*, 김진철*, 이중범, 은형주, 이윤상, 서보은, 윤우진, 권지연**, 윤호섭, 박상규*, 권오필, 김중현, 아주대학교; *UNIST; **KIST |                   |
| 109-7  | (15:30-15:45)<br>Single-Crystalline InP Nano-Tetrapod Using Surface Energy-Driven Growth<br>김영식, 조은혜, 박성민, 최만민, 신지빈, 김효인, 정소희, 성균관대학교                                                                                                                                                                             |                   |
| 109-8  | (15:45-16:00)<br>Tailoring Molecular Structures of Hybrid Membranes for High Performance Natural Gas Separation<br>유현정, 이종석, 서강대학교                                                                                                                                                                                |                   |
| 109-9  | (16:10-16:25)<br>Single-Step Naked-Eye Detection of Glucose Based on Biomarker-Triggered Quinone Tanning Reaction<br>이지수, 홍선기, DGIST                                                                                                                                                                              | Chair: Jeewoo Lim |
| 109-10 | (16:25-16:40)<br>An Alleviation of Initial Solvent-Driven Nonequilibrium Effect in Chemically Grafted Polymer Nanocomposites<br>오솔민, 김예찬*, 김소연*, UNIST; *서울대학교                                                                                                                                                    |                   |
| 109-11 | (16:40-16:55)<br>Symmetry-Breaking of Gyroid Structures in PS- <i>b</i> -PMMA Films by Non-affine Distortion<br>조승연, 전태석, 류두열*, 연세대학교; *연세대학교 화공생명공학과                                                                                                                                                             |                   |
| 109-12 | (16:55-17:10)<br>Semi-Flexible Colloidal Chains Consisting of Patchy Micelles of Block Copolymers as a Nanoscale Analogue of Conventional Polymers<br>이경현, 손병혁, 서울대학교                                                                                                                                             |                   |
| 109-13 | (17:10-17:25)<br>The Stabilization Mechanism of Self-Assembled Low Symmetry Structure in Charged Block Copolymer Comprising Ionic Liquids<br>정승원, 손창윤, POSTECH                                                                                                                                                    |                   |
| 109-14 | (17:25-17:40)<br>A Deep Learning-Based Defect Detection and Inverse Design of Block Copolymer System<br>안지훈, Vikram Thapar, 허수미, 전남대학교                                                                                                                                                                            |                   |
| 109-15 | (17:40-17:55)<br>Block Copolymer-based Nanostructured Carbon Substrate for Anchoring Pt-Single Atom as Highly Efficient Electrocatalysts<br>Mohammad Aftabuzzaman, 김환규, Korea University                                                                                                                          |                   |

: 우수논문발표상 응모

제10회장\_10월 21일(목)

105호

### 대학원생 구두발표 (I) | Graduate Student Oral Session (I) (Korean)

Organizer: 고현협(UNIST), 이상규(KRICT)

|         |                                                                                                                                                                          |         |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1010-1  | (14:00-14:15)<br>High Durable and Protective Polyurethane Coatings for Safeguarding Against Infectious Agents<br>최문현, 이미래, 홍진기, 연세대학교                                    | 좌장: 이상규 |
| 1010-2  | (14:15-14:30)<br>Bionic Synaptic Tactile Transistor Based on Piezo-modulated Ion Dynamics<br>인치훈, 김주성, 권혁민, 최한빈, 김도환, 한양대학교                                              |         |
| 1010-3  | (14:30-14:45)<br>Natural Plant Extract-Coating on Titanium Implants and Its Enhanced Osseointegration<br>정재원, 서성백, 최윤주, 부산대학교                                            |         |
| 1010-4  | (14:45-15:00)<br>Mechanically Durable, Superomniphobic Artificial Leather Surfaces with Biofouling-Resistant Properties by Dip-Coating Technique<br>이한나, 오준균, 조동익, 단국대학교 |         |
| 1010-5  | (15:00-15:15)<br>Local Segmental Dynamics of Polyelectrolyte in Complex Coacervates<br>김소정, Nicolas de Souza*, 이원보, 최수형**, 서울대학교; *ANSTO; **홍익대학교                        |         |
| 1010-6  | (15:15-15:30)<br>Alternative Methodologies to Determine the Water Affinity of Hydrophilic Films for Antifogging and Antifouling Applications<br>윤종선, 이효민, 포항공과대학교        |         |
| 1010-7  | (15:30-15:45)<br>Polyamide Thin Film Composites with Nanochanneled Structure for Desalination<br>정승엽, 구자승, 충남대학교                                                         |         |
| 1010-8  | (15:45-16:00)<br>Hyperbola Structures for Robust Superomniphobic Surface<br>김재경, 류예린, 허성길, 윤현식, 서울과학기술대학교                                                                |         |
| 1010-9  | (16:10-16:25)<br>Silver-Incorporated Carbon Quantum Dots with Downshifted Workfunction for Efficient Perovskite Hole Extraction<br>김병기, 강웅식, 왕동환, 중앙대학교                  | 좌장: 홍성우 |
| 1010-10 | (16:25-16:40)<br>NIR-Responsive Poly(N-isopropylacrylamide-co-acrylic acid)/Prussian Blue Nanocomposite as a Potential Drug Delivery System<br>김시현, 이택승, 충남대학교           |         |

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|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1010-11 | (16:40-16:55)<br>Physical Exfoliation of Graphene Sheets by Nanoparticulate Polypyrrole for Capacitive Electrode Materials<br>조혜미, 윤현석*, 전남대학교 대학원 고분자공학과; *전남대학교 대학원 고분자공학과/전남대학교 고분자융합소재공학부                         |
| 1010-12 | (16:55-17:10)<br>Solidified Gelatin Films Based on Densely Triple-Stranded Helix for Skin-Attachable Electronics<br>강병철, 하태준, 광운대학교                                                                                   |
| 1010-14 | (17:25-17:40)<br>Hydrophobic Barrier Assisted Formation of Metal Electrodes within a Single Layer of Paper for Highly Efficient Flexible Supercapacitor<br>오인혁, 이성민, 김연우, 남인호*, 장석태*, 중앙대학교 화학신소재공학과; *중앙대학교 화학신소재공학부 |
| 1010-15 | (17:40-17:55)<br>The Effect of Alignment through Vacuum Filtration of Carbon Fiber on Thermal Conductivity of Composite<br>이성권, 최성용, 경상국립대학교                                                                          |

: 신진연구자 특별 심포지움

제1회창\_10월 22일(금)

300A호

### 분자전자 부문위원회 II | Molecular Electronics Division II

Organizer: 김선주(중앙대), 이승구(울산대), 윤명한(GIST)

|       |                                                                                                                                                                                                                                     |                |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 2L1-1 | (10:30-10:55)<br>Vertically Stacked Graphene-Semiconductor Heterostructures for Large-Area Electronics<br>조경호, 연세대학교                                                                                                                | 좌장: 손해정        |
| 2L1-2 | (10:55-11:20)<br>Designing Organic Electrode Materials for Next-Generation Rechargeable Batteries<br>박수영, 민동주, 이규남, 박현지, 권지연*, 서울대학교; *KIST                                                                                         |                |
| 2L1-3 | (11:20-11:45)<br>Designing of Micro/Nanostructured Materials for Functional Biointerfaces<br>전상현, 정정화, 박로운, 홍석원, 부산대학교                                                                                                              |                |
| 2L1-4 | (11:45-12:10)<br>Photonic Cholesteric Liquid Crystal Elastomers with Reprogrammable Helical Pitch and Handedness<br>박수영, 경북대학교                                                                                                      |                |
| 201-1 | (13:30-13:50)<br>Molecular Doping Routes in Organic Semiconductors<br>강기훈, 연세대학교                                                                                                                                                    | 좌장: Steve Park |
| 201-2 | (13:50-14:10)<br>Highly Deformable and Transparent Optoelectronics Based on All-Conducting-Polymer Electrodes<br>기세영, 부경대학교                                                                                                         |                |
| 201-3 | (14:10-14:30)<br>Photophysical Study on Energy Materials for Optoelectronic Applications<br>차효정, 경북대학교                                                                                                                              |                |
| 2L1-5 | (14:50-15:15)<br>Chemistry of Ionic Endohedral Fullerenes<br>Hiroshi UENO, Tohoku University                                                                                                                                        | 좌장: 정성준        |
| 2L1-6 | (15:15-15:40)<br>Robust Organic Memristors for Neuromorphic Computing<br>Wen Li, Jiayu Li, Ye Chen, Yangzhou Qian, Jia Zhou, Mingdong Yi, Institute of Advanced Materials (IAM), Nanjing University of Posts and Telecommunications |                |
| 2L1-7 | (15:40-16:05)<br>Advanced Polymer Materials for Wearable Energy Devices<br>송우진, 충남대학교                                                                                                                                               |                |
| 2L1-8 | (16:05-16:30)<br>유기트랜지스터용 고성능 고분자 절연층 소재 개발<br>안태균, 한국교통대학교                                                                                                                                                                         |                |

: 신진연구자 특별 심포지움

제2회창\_10월 22일(금)

300B호

### 의료용 고분자 부문위원회 II | Biomedical Polymers Division II

Organizer: 정윤기(KIST), 최성욱(가톨릭대), 김기수(부산대)

|       |                                                                                                                          |         |
|-------|--------------------------------------------------------------------------------------------------------------------------|---------|
| 2L2-1 | (10:30-10:55)<br>Polysaccharide-based Nano-PAMP Technology for Cancer Immunotherapy<br>Sejin Son, University of Michigan | 좌장: 김기수 |
| 2L2-2 | (10:55-11:20)<br>Some Biological Applications of Pluronic-Based Nanoreactor<br>태기용, 광주과학기술원                              |         |
| 2L2-3 | (11:20-11:45)<br>Micro/Nanotechnology for Cancer Immunotherapy<br>도준상, 서울대학교                                             |         |
| 2L2-4 | (11:45-12:10)<br>Biomaterials for Muscle Reprogramming<br>조승우, 연세대학교                                                     |         |
| 202-1 | (13:30-13:50)<br>Disturbed Flow-Targeting Nanovesicles for Anti-Atherogenic Theragnosis<br>윤정기, 중앙대학교                    | 좌장: 방석호 |

|       |                                                                                                                                                                    |         |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 202-2 | (13:50-14:10)<br>Therapeutic Applications of Stem Cell-Engineered Nanovesicles Endowed with Magnetic Properties<br>김한영, 가톨릭대학교                                     |         |
| 202-3 | (14:10-14:30)<br>Polymeric Biomaterials Inspired by Mussel Adhesion<br>이규의, 경북대학교                                                                                  |         |
| 2L2-5 | (14:50-15:15)<br>Functional Polymer Thin Films and Nanostructures for Designing Brain-Interfaced Electronics<br>성혜정, 한국과학기술연구원                                     | 좌장: 정윤기 |
| 2L2-6 | (15:15-15:40)<br>Photothermal Therapy and Neoantigen Vaccine for Cancer Nano-immunotherapy<br>남주택, 전남대학교                                                           |         |
| 2L2-7 | (15:40-16:05)<br>Injectable Nanoparticle-Hydrogel-Nanoparticle System Based on Polyphosphazene Hydrogel for Biomedical Applications<br>김영민, 한국과학기술연구원/과학기술연합대학원대학교 |         |
| 2L2-8 | (16:05-16:30)<br>3D Reconstructed Stem Cell Environment for Pancreatic Tissue Engineering<br>양기석, 인천대학교                                                            |         |

: 신진연구자 특별 심포지움

제3회장\_10월 22일(금)

300C 호

### 콜로이드 및 분자조립 부문위원회 II | Division of Colloid & Molecular Assembly II

Organizer: 강영종(한양대), 전석진(금오공대), 김연수(POSTECH)

|       |                                                                                                                                                                                                      |         |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2L3-1 | (10:30-10:55)<br>Interface Engineering <i>via</i> Ionovoltic Phenomena<br>김연상, 서울대학교                                                                                                                 | 좌장: 최효성 |
| 2L3-2 | (10:55-11:20)<br>Spatial and Temporal Control of Quinone Tanning for Rapid and Convenient Bioassays<br>홍선기, 대구경북과학기술원                                                                                |         |
| 2L3-3 | (11:20-11:45)<br>Design of Interactive Meta-Holographic Display Using Liquid Crystallinity<br>김영기, 김원식, 최진강, 김혜인, 임준형, 포항공과대학교                                                                       |         |
| 2L3-4 | (11:45-12:10)<br>Synthesis Method of $\beta$ -NaYF <sub>4</sub> : Yb <sup>3+</sup> /Er <sup>3+</sup> Upconversion Nanoparticles for High Stable Monodisperse Colloidal<br>김동환, 박보인, 문병석, 노원우, 성균관대학교 |         |
| 203-1 | (13:30-13:50)<br>Removal of Microplastics <i>via</i> Natural Phenolics-Mediated Coagulation and Health Risk Assessment<br>서성백, 부산대학교                                                                 | 좌장: 김연수 |
| 203-2 | (13:50-14:10)<br>Functional Protein-Based Hydrogels: Understanding of Structure-Process-Property Relationships<br>최재원, 경북대학교                                                                         |         |
| 203-3 | (14:10-14:30)<br>Biomimetic Bionano-materials Integrated System<br>이주현, 한양대학교 에리카캠퍼스                                                                                                                 |         |
| 2L3-5 | (14:50-15:15)<br>Soft Sensors Inspired by Biological Sensations and Functions<br>고현철, 울산과학기술원                                                                                                        | 좌장: 전석진 |
| 2L3-6 | (15:15-15:40)<br>Dynamic Assemblies of DNA Block Copolymers<br>박소정, Chan-Jin Kim, Shine K. Albert, 이화여자대학교                                                                                           |         |
| 2L3-7 | (15:40-16:05)<br>Eco-Friendly Photovoltaics Based on Stabilized AgBiS <sub>2</sub> Nanocrystal Inks<br>최효성, 한양대학교                                                                                    |         |
| 2L3-8 | (16:05-16:30)<br>In-situ Liquid Phase TEM for Studying Crystallization of Colloidal Nanocrystals<br>양지웅, 대구경북과학기술원 (DGIST)                                                                           |         |

제4회장\_10월 22일(금)

201-202호

### 친환경 고분자 소재: 생분해 및 재활용을 중심으로 | Eco-friend Polymers: Toward Biodegradation and Recycle

Organizer: 홍성우(KITECH), 방석호(성균관대)

|       |                                                                                    |         |
|-------|------------------------------------------------------------------------------------|---------|
| 2L4-1 | (10:30-10:55)<br>PET의 순환 경제 기술 동향 및 전망<br>남경우, (주)삼양패키징                            | 좌장: 방석호 |
| 2L4-2 | (10:55-11:20)<br>Bio Platform of GS Caltex for Eco-Friendly Polymers<br>송효학, GS칼텍스 |         |
| 2L4-3 | (11:20-11:45)<br>바이오매스 기반 소재를 이용한 생분해성 플라스틱의 개발<br>임준섭, 송광석, 유승현, 장민정, (주)삼양사      |         |
| 2L4-4 | (11:45-12:10)<br>Bio-based Production and Upcycling of Polymers<br>박시재, 이화여자대학교    |         |

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|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2L4-5 | (14:50-15:15)<br>Synergistic Effect of Additives on Poly(lactic acid) Based Biodegradable Polymers: Properties and Their Applications<br>이동윤, 경북대학교 | 좌장: 홍성우 |
| 2L4-6 | (15:15-15:40)<br>Biodegradable Polymers and Devices in Biomedical Field<br>고영주, 중소기업기술정보진흥원/삼양바이오팜                                                  |         |
| 2L4-7 | (15:40-16:05)<br>Natural Polymer-based Functional Biocomposites & Green Electronics<br>진정호, 울산대학교                                                   |         |
| 2L4-8 | (16:05-16:30)<br>Biodegradable Plastic's Applications and Fate in the Environment<br>오동엽, 한국화학연구원                                                   |         |

: 신진연구자 특별 심포지움

제5회장\_10월 22일(금)

203-204호

### 기능성 고분자 | Functional Polymer

Organizer: 김용주(고려대), 윤현석(전남대)

|       |                                                                                                                                                                                      |         |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2L5-1 | (10:30-10:55)<br>Polymer Chains in a Mesophase: To Be Folded or Not to Be?<br>서명은, KAIST                                                                                             | 좌장: 김용주 |
| 2L5-2 | (10:55-11:20)<br>UV-Assisted Oxidative Crosslinking for Efficient Manufacturing of Lignin-Derived Carbon Fibers<br>김성수, 한국과학기술연구원                                                    |         |
| 2L5-3 | (11:20-11:45)<br>Humidity-dependent Electrical Conductance of Carbon/Polymer Composite Micro-Fibers<br>구형준, 서울과학기술대학교                                                                |         |
| 2L5-4 | (11:45-12:10)<br>1D/2A Terpolymers for High-Efficiency and Long-lived Polymer Solar Cells<br>이윤규, 대구경북과학기술원                                                                          |         |
| 205-1 | (13:30-13:50)<br>Dynamic Behavior of PEG-based Hydrogels in Biological Environment<br>배세원, 제주대학교                                                                                     | 좌장: 김용주 |
| 205-2 | (13:50-14:10)<br>Narrow Bandgap Conjugated Polymers and Molecular Semiconductors for Near-Infrared Photovoltaics and Photodetectors<br>이재원, 충남대학교                                    |         |
| 205-3 | (14:10-14:30)<br>고분자 중공사 기반 금속-유기 골격체 기체 분리막에 관한 연구<br>엄기원, 숭실대학교 화학공학과                                                                                                              |         |
| 2L5-5 | (14:30-15:15)<br>Cellulose Acetate Containing CaO Coated on Polypropylene for Stable Battery Separator<br>강상욱, 상명대학교                                                                 | 좌장: 윤현석 |
| 2L5-6 | (15:15-15:40)<br>Piezo-Ionic Effect of Ions in Polymer Matrix-Applications in Electro-chemiluminescence Device<br>강문성, 서강대학교                                                         |         |
| 2L5-7 | (15:40-16:05)<br>Controlling Morphology and Charge Transport of Conjugated Polymer Thin Films for Gas Sensor Applications<br>장민철, 전남대학교                                              |         |
| 2L5-8 | (16:05-16:30)<br>Malleable and Recyclable Network Polyurethanes Using a Biomass-Derived Furan Diol for Self-Healing and Shape-Memory Applications<br>차인환, 김현우, 윤영성, 양지원, 송철식, 성균관대학교 |         |

: 신진연구자 특별 심포지움

제6회장\_10월 22일(금)

205-206호

### 고분자 가공/복합재료 | Polymer Processing/Composites

Organizer: 김태안(KIST), 위정재(인하대)

|       |                                                                                                                                                                                  |         |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2L6-1 | (10:30-10:55)<br>Researches on the Sizing Agents (or binders) for Enhanced Performance of Glass Fiber-Based Composite Materials<br>임태욱, 이정인, 정영기, 신민정, 홍승민, 최승엽, KCC 중앙연구소       | 좌장: 김태안 |
| 2L6-2 | (10:55-11:20)<br>Functional Materials for Improving Processability and Properties in Thermoplastic Resin Transfer Molding<br>설동기, 부산대학교                                          |         |
| 2L6-3 | (11:20-11:45)<br>Hydrophilic Channel Alignment of PFSA Membranes through Mechanical Drawing for Energy Storage/Conversion Devices and Shape Morphing Applications<br>소순용, KRRICT |         |
| 2L6-4 | (11:45-12:10)<br>해양 인프라 분야에서 복합재료의 활용<br>최성용, 경상국립대학교                                                                                                                            |         |
| 206-1 | (13:30-13:50)<br>Nanomaterial-enabled Sustainable Advanced Composite Manufacturing<br>Jeonyoon Lee, Massachusetts Institute of Technology                                        | 좌장: 김태안 |
| 206-2 | (13:50-14:10)<br>Engineering Lipid Membranes for Biomedical Applications                                                                                                         |         |

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|-------|---------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 206-3 | 김호준, 한국과학기술연구원<br>(14:10-14:30)<br>Thermally-Induced Mechanical Switching in Fibrin/PNIPAM Hydrogel Composite                               | 좌장: 김상엽 |
|       | 강진규, 한국과학기술연구원<br>(14:50-15:15)<br>The Recent Trend of FCEV Market and the Development of Composite Overwrapped Pressure Vessels            |         |
| 2L6-5 | 김세훈, 롯데케미칼 연구소<br>(15:15-15:40)<br>Development of CNT Fiber Reinforced Plastic                                                              |         |
| 2L6-6 | 김태훈, 이균배, 정연수, 이상복, 한국재료연구원<br>(15:40-16:05)<br>Valorization of Fly Ash as a Harmless Flame Retardant via Carbonation Treatment             |         |
| 2L6-7 | 심상은, 김용하, 인하대학교<br>(16:05-16:30)<br>Monolayer 2D Materials-Based Composite Membranes for Water Electrolysis and Hydrogen Isotope Separation |         |
| 2L6-8 | 박찬우, 김태은, 신영호, 윤인호, 한국원자력연구원                                                                                                                |         |

: 신진연구자 특별 심포지움

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101-102호

## 고분자구조 및 물성 | Polymer Structure and Property

Organizer: 이원보(서울대), 장세규(KIST)

|       |                                                                                                                                                                           |         |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2L7-1 | (10:30-10:55)<br>Design and Synthesis of Bottlebrush Copolymers as Functional Additives for Various Applications<br>발준하, 고려대학교                                            | 좌장: 이원보 |
| 2L7-2 | (10:55-11:20)<br>Liquid Phase TEM Observation for Conformational Dynamics of Single Polymer Chains<br>박정원, 서울대학교                                                          |         |
| 2L7-3 | (11:20-11:45)<br>Crystallization of Stereo-Irregular Polymers by Using Entropy Diluent<br>강영중, 한양대학교                                                                      |         |
| 2L7-4 | (11:45-12:10)<br>Emerging Applications of Gallium-Based Liquid Metals<br>박성준, 전북대학교                                                                                       |         |
| 207-1 | (13:30-13:50)<br>Light-Driven, Reversible Shapeshifting of Block Copolymer Particles Using Azobenzene-Coated Nanoparticle Surfactants<br>윤홍석, 권승호*, 김범준*, 한양대학교; *한국과학기술원 | 좌장: 장세규 |
| 207-2 | (13:50-14:10)<br>Two-Dimensional Melting of a Single Crystalline Monolayer of Block Copolymer Spheres Over a Large Area<br>김예찬, 권석준*, 허수미**, 김소연, 서울대학교; *성균관대학교; **전남대학교 |         |
| 207-3 | (14:10-14:30)<br>Tailoring Surface Properties of Polymers by Laser-Induced Nanocarbon Direct Texturing<br>남기호, 경북대학교                                                      |         |
| 2L7-5 | (14:50-15:15)<br>Eco-friendly Solution Process-based Porous Polyimide Foam and Emerging Applications<br>김윤호, 원종찬, 박종민, 소유진, 김선규, 김진수, 한국화학연구원                             | 좌장: 장세규 |
| 2L7-6 | (15:15-15:40)<br>Programmable Liquid Crystal Network for Adjustable Mechanical Properties<br>윤동기, 한국과학기술원                                                                 |         |
| 2L7-7 | (15:40-16:05)<br>Hierarchical Hybrid Nanostructures Constructed by Liquid Crystal Self-Assembly<br>정광운, 전북대학교                                                             |         |
| 2L7-8 | (16:05-16:30)<br>Boron Nitride Nanotube Liquid Crystals: Preparation, Characterization, and Application<br>임홍진, 김영경, 장세규, 한국과학기술연구원                                       |         |

: 신진연구자 특별 심포지움

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103-104호

## 고분자합성 | Polymer Synthesis

Organizer: 김정곤(전북대), 임지우(경희대)

|       |                                                                                                                                                         |         |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2L8-1 | (10:30-10:55)<br>Stille Polycondensation of Conjugated Polymers in Flow<br>황예진, 진승환, 김영록, 인하대학교                                                         | 좌장: 김철재 |
| 2L8-2 | (10:55-11:20)<br>비료성분을 포함하는 유-무기 하이브리드 생분해성 폴리메스터 합성<br>이분열, 이현주*, 이홍철*, 아주대학교; *아주대학교 분자과학기술학과                                                         |         |
| 2L8-3 | (11:20-11:45)<br>Efficient Synthesis of Random-, Block-, and Gradient Polymers for Lactide and Caprolactone Using Aluminum-based Catalyst<br>김영조, 충북대학교 |         |

|       |                                                                                                                                                                                                                      |         |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 2L8-4 | (11:45-12:10)<br>Synthesis of Well-defined Poly(arylene ether)s by Chain Growth Condensation Polymerization <i>via</i> Nucleophilic Aromatic Substitution Reaction<br>김상율, 한국과학기술원                                   |         |
| 208-1 | (13:30-13:50)<br>Nitrophenylene Polymers: Photodegradable Backbones <i>via</i> Ring-opening Metathesis Polymerization<br>김철재, 충북대학교                                                                                  | 좌장: 임지우 |
| 208-2 | (13:50-14:10)<br>Defining Kinetic Principles of Living Anionic Polymerization of Isocyanates towards Advanced Control of Monomer Sequence in Synthetic Helical Polyisocyanates<br>채창근, 박인규*, 이재석*, 한국화학연구원; *광주과학기술원 |         |
| 2L8-5 | (14:50-15:15)<br>Cascade Polymerization<br>최태림, 서울대학교                                                                                                                                                                | 좌장: 채창근 |
| 2L8-6 | (15:15-15:40)<br>Palladium Catalyzed Coordination-Insertion Copolymerization of Olefins with Polar Monomers<br>홍석원, 광주과학기술원                                                                                          |         |
| 2L8-7 | (15:40-16:05)<br>Direct Ring-Opening Metathesis Polymerization of Cyclopentadiene Enabled by Highly Active Ruthenium Olefin Metathesis Catalysts<br>홍순현, 한국과학기술원                                                     |         |
| 2L8-8 | (16:05-16:30)<br>Selectivity and Oxygen Tolerance in PET-RAFT Polymerization<br>권민상, 서울대학교                                                                                                                           |         |

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

Organizer: Moon Sung Kang (Sogang Univ.), Jeong Ho Cho (Yonsei Univ.)

|        |                                                                                                                                                                                                                                             |                     |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 209-1  | (10:30-10:45)<br>Catalase-Immobilized Syringes to Create Hyperoxic Oxygen-Releasing Hydrogels for <i>in situ</i> Tissue Regeneration<br>강전일, 박경민, 인천대학교                                                                                     | Chair: Dong Yun Lee |
| 209-2  | (10:45-11:00)<br>Clustered CTLA-4 siRNA and CpG Nanoplexes for Cancer Immunotherapy<br>모 미, 유혁상*, 박재근*, Oanh-Vu Pham-Nguyen*, 이미소*, 조완호*, 강원대학교; *강원대학교 의생명과학과                                                                              |                     |
| 209-3  | (11:00-11:15)<br>Enzymatic Single-Cell Nanoencapsulation: Formation of Melanin-Like Species from <i>ortho</i> -Diphenols<br>김남영, 최인성, 한국과학기술원                                                                                               |                     |
| 209-4  | (11:15-11:30)<br>Multi-Tuning of Structural Color by Protonation and Conjugate Bases<br>김동현, 황기섭, 한국생산기술연구원                                                                                                                                 |                     |
| 209-5  | (11:30-11:45)<br>Enhanced Catalytic Glycolysis Conditions for Chemical Recycling of Glycol-Modified poly(ethylene terephthalate)<br>민 주, 정현민, 심규원, 금오공과대학교                                                                                  |                     |
| 209-6  | (11:45-12:00)<br>Colloid Syringeless Electrospinning for Nonwoven Mat Containing Massive Amount of Inorganic Fillers<br>이재유, 이경진, 충남대학교                                                                                                     |                     |
| 209-7  | (12:00-12:15)<br>Directed and Continuous Jumping of Soft Robots <i>via</i> Instantaneous Topological Conversion<br>전지수, 최준찬*, 이 혁**, 조웅비, 이광석**, 조맹효**, 김학린*, 위정재, 인하대학교; *경북대학교; **서울대학교                                                   |                     |
| 209-8  | (13:30-13:45)<br>Artificial Muscles Based on Liquid Crystal Elastomers with Exchangeable Thiourea Bonds<br>이진형, 김동균*, 김용석*, 안석균, 부산대학교; *한국화학연구원                                                                                            | Chair: Hwasung Lee  |
| 209-9  | (13:45-14:00)<br>Soft Artificial Electoreceptors for Non-contact Spatial Perception<br>송원준, 선정윤, 서울대학교                                                                                                                                      |                     |
| 209-10 | (14:00-14:15)<br>The Effect of Different backbone of Conjugated Polymer Electrolytes as the Interlayer on Polymer Solar Cell<br>Sabrina Afar Salma, 아날리아 도라지오 켈만, 손동환, Rahmatia Fitri Binti Nasrun, Seong-Soo Hong, 김주현, Lee Gun Dae, 부경대학교 |                     |
| 209-11 | (14:15-14:30)<br>Highly Sensitive NO <sub>2</sub> Gas Sensor through Strong Interaction between NO <sub>2</sub> Target Molecule and Nitrided Zeolite in Active Layer<br>함예은, 박영돈, 인천대학교                                                     |                     |
| 209-12 | (14:30-14:45)<br>Block Copolymer/Homopolymer Blend Electrolytes with Tailored End-Functional Groups<br>김지훈, 박문경, 포항공과대학교                                                                                                                    |                     |
| 209-13 | (14:45-15:00)<br>Improved Anti-Inflammatory and Angiogenic Properties by Nitric Oxide Released from Gelatin Hydrogel in Chronic Wound Therapy<br>Dieu Linh Tran, Soi Kim, Thi Phuong Le, 박기동, Ajou University                               |                     |

- 209-14 (15:00-15:15)  
Molecular Dynamics Study of Static and Dynamic Structure of Single Polymer Chain Under Spherical Confinement  
윤지웅, 이원보, 서울대학교
- 209-15 (15:15-15:30)  
Efficiency Enhancement with Band Engineering in AgBiS<sub>2</sub> Colloidal Quantum Dot Solar Cells  
Irem Kozakci, 이정용, KAIST

: 우수논문발표상 응모

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## 대학원생 구두발표 (II) | Graduate Student Oral Session (II) (Korean)

Organizer: 고현협(UNIST), 이상규(KRICT)

- 2010-1 (10:30-10:45) 좌장: 고현협  
Improved Network Formation in Polyelectrolyte Complex Hydrogels *via* Suppression of Micellization  
한지훈, 김연수, 포항공과대학교
- 2010-2 (10:45-11:00)  
Interfacial Control between Polymeric Binder and Ni-rich Cathode of Lithium-ion Battery *via* Plasma-assisted Mechanochemistry  
고해인, 손정곤, 한국과학기술연구원
- 2010-3 (11:00-11:15)  
Stabilization of Low Symmetry Morphology in Block Copolymer Electrolytes  
민재민, 박문경, 포항공과대학교
- 2010-4 (11:15-11:30)  
Organocatalyzed Synthesis and Degradation of Functionalized Poly (4-Allyloxymethyl- $\beta$ -Propiolactone)s  
유예지, 김민성\*, 이효원\*\*, 김정근\*\*, 김병수, 연세대학교; \*울산과학기술원; \*\*전북대학교
- 2010-5 (11:30-11:45)  
A Photochemical Approach to Spatiotemporally Controlling Network Exchange Kinetics of Vitrimers  
박진영, 전두표, 최경환, 서한열, 김채빈, 부산대학교
- 2010-6 (11:45-12:00)  
Development of Low Temperature Self-Healable Materials from Molecular Design Based on Weak Molecular Interaction  
김혜진, 박희정\*, 홍성우\*, 이동현, 단국대학교; \*한국생산기술연구원
- 2010-7 (12:00-12:15)  
Development of Hydrogel Fiber-coated Stent for Methotrexate Releasing  
왕성록, 윤명환, 광주과학기술원
- 2010-8 (13:30-13:45) 좌장: 유자형  
Design of DNA Origami Photonic/Phononic Crystals  
박성훈, 이승우, 고려대학교
- 2010-9 (13:45-14:00)  
Thermo-responsive Smart Films for Solar Control Containing Acrylic

- Adhesive Layer  
김보경, 윤진환, 부산대학교
- 2010-10 (14:00-14:15)  
Interfacial Adhesion and Self-Healing Kinetics of Multi-Stimuli Responsive Colorless Polymer Bilayer Structure  
김영남, 남기호\*, 정용재\*\*, 한학수\*, 한국과학기술연구원/연세대학교; \*연세대학교; \*\*한국과학기술연구원
- 2010-11 (14:15-14:30)  
Deep-Blue Thermally Activated Delayed Fluorescence Materials for Organic Light-Emitting Diodes  
김희재, 황동렬, 한남대학교
- 2010-12 (14:30-14:45)  
Preparation and Analysis of Polymeric Composite with Function of Carbon Dioxide Adsorption Using Modified Cellulosic Waste Materials  
권혁준, 이준영\*, 황기섭\*, 연세대학교/한국생산기술연구원; \*한국생산기술연구원
- 2010-13 (14:45-15:00)  
Poly(vinylidene fluoride)-based Cationic Polymers and Their Antibacterial Film Application  
한동재, 김선우\*, 허현준\*, 강홍석\*, 김주현\*, 박인준\*, 백지훈\*, 소원욱\*, 이상구\*, 장병준\*, 이종찬\*\*, 손은호\*, 서울대학교/한국화학연구원; \*한국화학연구원; \*\*서울대학교
- 2010-14 (15:00-15:15) 좌장: 김기수  
Multicolor Patterning of Perovskite Nanocrystals for High Resolution Display  
고재완, 방준하, 고려대학교
- 2010-15 (15:15-15:30)  
Light Absorption Improvement in Nanostructured Backside Perovskite Quantum Dot Photovoltaics  
한상훈, 김영훈, 최종민, 대구경북과학기술원
- 2010-16 (15:30-15:45)  
Electro-Optical Gas Sensor of Hydroxyl Groups Using 0D Lead-Free Halide Perovskites  
이다슬, 김건국\*, 최진우\*, 송명관\*, 한국재료연구원/부산대학교; \*한국재료연구원
- 2010-17 (15:45-16:00)  
Preparation and Characterization of a Pore-Size-Controlled Cellulose Acetate/Cellulose Graft Copolymer Blend Membrane for Improvement of Ultrafiltration Performance  
이현지, 광승엽, 서울대학교
- 2010-18 (16:00-16:15)  
Extremely Fast Electrochromic Supercapacitors Based on Mesoporous WO<sub>3</sub> Prepared by an Evaporation-Induced Self-Assembly  
김건우, 김진곤, 포항공과대학교
- 2010-19 (16:15-16:30)  
Solvent Free Dual-Cure Adhesives with Epoxy Acrylate Oligomer Using Carboxylized Monomer  
김해찬, 김정수, 문석규, 권용록, 김종호\*, 김동현, 한국생산기술연구원; \*한양대학교



- 1PS-54 Ion & Electron Conductive Cross-Linked Polymer Coated Carbon-Sulfur Composite for Lithium Sulfur Battery  
궁찬영, 정다운, 이종찬, 서울대학교
- 1PS-55 Surface Modification of PP Filter with Silver Nanoparticles for Anti-bacterial Properties  
권대혁, 정서연, 김경민, 임정형, 한국교통대학교
- 1PS-56 Dimensionally Confined Molybdenum Oxide as an Efficient and Stable Hole Transporting Layer in Organic Photovoltaics  
기태윤, 이광희, 광주과학기술원
- 1PS-57 Thermochromic Non-Dripping Coating for Greenhouse Film  
김가은, 주성환, 이찬민, 황기섭, 김중현\*, 이준영, 한국생산기술연구원; \*연세대학교
- 1PS-58 Preparation and Properties of Polyimide Composite Aerogels  
김건우, 하연희, 김혜선, 김승현, 인하대학교 화학공학과
- 1PS-59 4D Printing of Water- and Humidity-Responsive Liquid Crystal Elastomer Actuators  
김금비, 권위연\*, 배재희, 최수비, 안석균, 부산대학교 고분자공학과; \*당송
- 1PS-60 Rod 형태의  $\gamma$ - $\text{Fe}_2\text{O}_3$ 를 첨가제로 사용한 Carbonyl Iron 기반 PDMS Elastomer 제조 및 자기유변학적 특성 연구  
김기웅, 최형진, 인하대학교
- 1PS-61 Finding Optimum Dielectric Properties of the  $\text{SiO}_2$ @Graphene/PDMS Composite by Controlling the Thickness of the Silica Layer  
김도현, 인하대학교
- 1PS-62 Fabrication of Ordered Network Structure of Poly(3,4-ethylenedioxythiophene) (PEDOT) Thin Film via Colloidal Lithography and Vapor Phase Polymerization  
김동환, 최홍균, 공주대학교
- 1PS-63 Antimicrobial PEGtides: A Modular Poly(ethylene glycol)-Based Peptidomimetic Approach to Combat Bacteria  
김민성, 문원식, 정우혁\*, 이준희\*\*, 조가령, 권지수, 안동준\*, Robert J. Mitchell, 김병수\*\*, 울산과학기술원; \*고려대학교; \*\*연세대학교
- 1PS-64 Single-Layered Coatable Compensation Film Fabricated by Photopolymerizable Host-Guest Molecular Alignment  
김민욱, 정광운\*, 전북대학교; \*전북대학교 공과대학
- 1PS-65 Bilayer Structured Soft Actuator Based on Photothermally-Responsive Hydrogel and Their Applications  
김민채, 김소연, 충남대학교
- 1PS-66 Fabrication of High Stretchable and Flexible Hydrogel with Reduced Graphene Oxide for Soft Actuator  
김민채, 이승화, 김소연, 충남대학교
- 1PS-67 A Highly Stretchable Ionic Conductive Elastomer Formed by the Supramolecular Cross-Linker  
김빛가람, 박태성, 오승주, 서지훈, 고려대학교
- 1PS-68 Developing High Ion Conductivity and High Transference Number Lithium Acrylate Polymer Electrolyte for All-Solid-State Li-Ion Batteries  
김선호, 제지향, 최우혁, 인하대학교
- 1PS-69 Effective Liquid Phase Exfoliation of Hexagonal Boron Nitride Nanosheets via Dual Functionalization with Pyrene-Tethered Poly(4-vinyl-pyridine)  
김소희, 이혁중, 박철민, 연세대학교
- 1PS-70 Photoalignment Properties of Photopolymer Based on Chlacone Groups for Negative Dispersion Optical Retarder Film  
김영람, 신교직, 최경호, 배근열, 백정주, 장기철, 박성만, 김영훈, 한국생산기술연구원
- 1PS-71 Preparation and Properties of Polyimide-Based Epoxy Resins  
김영래, 객기섭, 경북대학교
- 1PS-72 Ubiquitous Material-Based Solar Vapor Generators for Water Purification and Desalination  
김예진, 최원산, 한밭대학교 화학생명공학과
- 1PS-73 Efficient Preparation of 3D Layered Multicomponent Nanohybrids Consisting of Graphene, Molybdenum Disulfide Sheets and Polyaniline  
김유경, 노선명\*, 윤현식\*, 한국소방산업기술원; \*전남대학교 고분자공학과
- 1PS-74 The Influence of Interlayer Distance on Blocking Chemical Warfare Agents of Graphene Oxide-Based Multilayer Membrane  
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| 2PS-171 | Material Extrusion 4D Printing of Epoxy Vitrimers<br>조성준, 최선희, 박범수, 김용석, 박성민, 한국화학연구원                                                                                                                                                                                   |
| 2PS-172 | Energetic Nano-scale Coordination Polymers in the Solid State: Interplay between Structure and Explosive Properties<br>조현수, 김영진, 이수찬, 최원영, 울산과학기술원(UNIST) 화학과                                                                                                           |
| 2PS-173 | High Heat Resistant Polyimide Monomer Molecular Structure Design and Polyimide Characteristics Analysis<br>채다정, 이승우, 영남대학교                                                                                                                                              |
| 2PS-174 | Fabrication of External Stimulus-Sensitive Mechanochromic Films<br>최문석, 강명권, 김예진*, 류가연*, 황도훈**, 공호열*, 임보규*, 한국화학연구원/부산대학교; *한국화학연구원; **부산대학교                                                                                                                            |
| 2PS-175 | Effective Strategy to Achieve Mechanically Robust Gel Electrolytes by Designing Configuration of Copolymer Gelators<br>최원영, 김용민, 안형주*, 문홍철, 서울시립대학교; *포항가속기연구소                                                                                                          |
| 2PS-176 | Synthesis of Polyaniline-Polypyrrole Composites with Core-Shell Structure<br>최진순, 박지웅, 광주과학기술원                                                                                                                                                                          |
| 2PS-177 | Fabrication of 3D Anisotropic Nano-Metal Structure and Application in Fuel Cell<br>하경원, 김진곤, 포항공과대학교                                                                                                                                                                    |
| 2PS-178 | Preparation and Properties of Polyurethane Aerogels<br>하연희, 김건우, 김혜선, 김승현, 인하대학교 화학공학과                                                                                                                                                                                  |
| 2PS-179 | Preparation of Multi-Layered Hydrogel for Vertical Water Transport and Evaporation<br>한지원, 이종휘, 중앙대학교                                                                                                                                                                   |
| 2PS-180 | Molecular Exchange Kinetics in Complex Coacervate Core Micelles: Role of Associative Interaction<br>허태영, 김소정*, Liwen Chen**, Anna Sokolova***, 이상우**, 최수형, 홍익대학교; *서울대학교; **Rensselaer Polytechnic Institute; ***Australian Nuclear Science and Technology Organisation |

 : 우수논문발표상 응모

## 포스터발표(III) \_ 10월 21일(목)

(16:00 ~ 17:30)

좌장: 성동기, 손정곤

### 고분자가공/복합재료

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| 3PS-1  | Highly Conductive and Glassy Quasi-graphitic Carbon from Supramolecular Eutectic Organic Materials for Flexible Conductors Applications<br>Dhita Azzahra Pancorowati, 박지영, DGIST        |
| 3PS-2  | Study on the Granting Demolding Ability through Polymerization on the Metal Mold Surface<br>강승인, 권민호, 김민경, 백현중, 성동기, 부산대학교                                                              |
| 3PS-3  | Novel Transfer-Printing Process for Block Copolymer Nanopatterns Using Chemically Modified Graphene<br>고영천, 김은지, 선승원, 김시문, 오영택, 황준표, 김봉훈, 숭실대학교                                         |
| 3PS-4  | Fabrication Process of CFRP with Anisotropic Conductivity<br>김민경, 강승인, 성동기, 부산대학교                                                                                                       |
| 3PS-5  | Soft Magnetic Circuit Boards with Enhanced Water Repellency Using Liquid Metal Ferrofluid Core-Shell Particles<br>김서연, 김시현, 홍경민, 김은선, 배예진, 박성준, 전북대학교                                   |
| 3PS-6  | High Performance Field-Effect Transistors Based on Partially Suspended 2D Materials via Block Copolymer Lithography<br>김시문, 이수연, 박준현, 선승원, 유태상, 김승희, 김봉훈, 숭실대학교                         |
| 3PS-7  | Poly(N-isopropylacrylamide)/Polydimethylsiloxane Composites for Solar Evaporator<br>김호연, 이종휘, 중앙대학교                                                                                     |
| 3PS-8  | Multi-Hydroxy Polyaspartamide Derivative-Based Biodegradable Adhesive Composite Hydrogel<br>박노리, 김지홍, 김재운, 성균관대학교 화학공학과                                                                 |
| 3PS-9  | Poly(lactic acid)/Cellulose Composites from Refined Coffee Grounds<br>박예진, 이종휘, 중앙대학교                                                                                                   |
| 3PS-10 | Effect of Functional Heterocyclic Surfactant on the Mechanical Properties of Biodegradable and Sustainable Bio-Nanocomposite<br>배성호, 고동원, 홍평화, 홍성우, 한국생산기술연구원                           |
| 3PS-11 | Nanostructure via Solvent Vapor Annealing of Conjugated Polymer Thin Films to Improve Volatile Organic Compound Sensing Performance<br>신서영, 장민철, 전남대학교                                  |
| 3PS-12 | Fabrication of Poly(Hydroxyethyl acrylate- $\alpha$ -Methyl methacrylate)/Laponite Hydrogels with Outstanding Mechanical, Electrical, and Anti-freezing Properties<br>안교진, 김연수, 포항공과대학교 |

|        |                                                                                                                                                                                                                                                                 |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3PS-13 | Effects of Magnetic and Viscous Torques on Underwater Swimming of Magnetic Soft Robots<br>양기준, 위경재, 원수경, 제형민*, 김산하*, 인하대학교 첨단소재연구실; *한국과학기술원                                                                                                                    |
| 3PS-14 | Graphene and Cellulose Nanocrystal-Incorporated Poly(vinyl alcohol) Composite Films for Improving Barrier Properties<br>남정민, 윤주희, 진형준, 인하대학교                                                                                                                    |
| 3PS-15 | Fabrication of Carbon Nanotube Aerogel/Polyamide 6 Composites with Structural Stability via Reactive In-Situ Polymerization<br>이수연, 정아람, 정민주*, 오영석*, 성동기, 부산대학교; *한국재료연구원                                                                                       |
| 3PS-16 | Linear Low Density Poly(ethylene) (LLDPE)-Based Nanofibrous Matrices for Effective Removal of Oils<br>이재욱, 이효민, 남창우*, 포항공과대학교; *전북대학교                                                                                                                           |
| 3PS-17 | A Study on the Fungi-Derived Leatherette Using Biorefinery Process<br>임아영, 김은정*, 이승구, 충남대학교; *고려대학교                                                                                                                                                             |
| 3PS-18 | Manufacture of Fungal Antiadhesion Fabrics by Spray Coating: Improving Hygiene and Sanitation Safety through Nanoparticle-Based Surface Energy Control<br>정주현, 오준균, 송상하, 단국대학교                                                                                  |
| 3PS-19 | Vitriimer-CNT Composites for Highly Sensitive Temperature-Resistance Sensor<br>조완수, 박지영, 디지털스트                                                                                                                                                                  |
| 3PS-20 | Enhancement of Particle Dispersy and Interfacial Bonding Strength of Ceramic Nanoparticle Reinforced Nanocomposites<br>하진수, 김현우, 이두진, 전남대학교                                                                                                                     |
| 3PS-21 | 말레산 무수물로 그래프트된 고분자량의 폴리락트산 상용화제가 폴리락트산 기반의 합성목재에 미치는 영향<br>한동현, 오승주, 윤재욱, 우인선, 배진우, 한국기술교육대학교                                                                                                                                                                   |
| 3PS-22 | A Subaquatic Electronically Sensory Octopus Sucker<br>황귀원, 김다완, 전승환, 김진형, 방창현, 성균관대학교                                                                                                                                                                           |
| 3PS-23 | Polyphosphoric acid-은 나노입자의 제조 및 응용<br>황인성, 박정호*, 이재상*, 최윤성*, 김찬중*, 최진현*, 경북대학교; *경북대학교 바이오 섬유소재학과                                                                                                                                                              |
| 3PS-24 | Highly Flexible Poly Butadiene Blended Ca <sub>0.8</sub> Sm <sub>0.133</sub> TiO <sub>3</sub> Composites for Microwave Substrate Applications<br>Abhishek Viswanath, 김 현, 명지대학교                                                                                 |
| 3PS-25 | Ionothermal Synthesis of Porous Carbon from Waste Paper Aerogel for Electrochemical Carbon Dioxide Reduction<br>Atul Pawar, 김 현, 명지대학교                                                                                                                          |
| 3PS-26 | Prussian Blue Intercalated Chitosan-Grafted-Polyaniline Conductive Ink for Electrochemical Sensing of Caffeine in Coffee<br>Anteneh Fufa Baye, 김 현, 명지대학교                                                                                                       |
| 3PS-27 | Dual-Pore Network Valorize PP Mask-Filter/Sodium Alginate-Based Aerogel for Broadband Sound Absorption, Thermal Insulation, and Fire Repellant Application<br>Arni Pornea, 김 현, 명지대학교                                                                           |
| 3PS-28 | Highly Active and Durable Polymer Supported Electrocatalysts for Electrochemical Water Splitting<br>Harsharaj Jadhav, 김 현, 명지대학교                                                                                                                                |
| 3PS-29 | Ultra-Wideband Acoustic Absorption of a Multifunctional Composite Fibrous Panel with Dual-Pore Structure<br>James Laurence Ruello, 김 현, 명지대학교                                                                                                                   |
| 3PS-30 | Nanofibrous Aerogels Derived from Waste PET Bottles for Enhanced Acoustic Absorption and Insulation<br>John Marc Puguang, 김 현, 명지대학교                                                                                                                            |
| 3PS-31 | 3D Network of Graphene Fluoride in Epoxy Composites for Significantly Improved Thermal Conductivity and Electrical Insulation<br>Mani Dineshkumar, Vu Minh Canh, Nguyen Vo Anh Thao, 경태형, 김준범, 김성룡, Korea National University of Transportation                 |
| 3PS-32 | Superamphiphilic Hydrogel Membranes with Dual Porous Structures by Scaffolding and Picking and Their Applications in Oil-Water Separation<br>Manoj Rajpure, 김 현, 명지대학교                                                                                          |
| 3PS-33 | Form Stable Polyethylene Glycol/ Hydrated Salt Eutectic Composite for Lowered Supercooling and High-Density Thermal Energy Storage<br>Medhen Wondwossen Abebe, 김 현, 명지대학교                                                                                       |
| 3PS-34 | Sustainable, Flexible and Hydrophobic Amine Functionalized Waste Plastic Aerogel for Selective and Versatile Carbon Dioxide Absorption<br>Pratap Ganje, 김 현, Myongji University                                                                                 |
| 3PS-35 | Ultrastretchable Electronics Utilized by Liquid metal and Highly Soft Elastomer<br>Priyanuj Bhuyan, 박성준*, 이상민*, 박수진**, Jeonbuk National University; *전북대학교 나노융합공학과; **전북대학교 고분자나노공학과                                                                            |
| 3PS-36 | Fluorescein Isothiocyanate/Poly-Ionic Liquid (FITC-PIL): A Viologen-Free Electrochromic Material with Promising Applications<br>Richard Appiah Ntiamoah, 김 현, Myongji University                                                                                |
| 3PS-37 | TitleFerroelectric PVDF Nanofiber Membrane for High Efficiency PM0.3 Air Filtration with Low Air Flow Resistance<br>Tan Tan Bui, Min Kyoung Shin*, Seung Yong Jee**, Jongin Hong*, Myung Gil Kim, Sungkyunkwan University; *Chung Ang University; **Lemon Corp. |
| 3PS-38 | Preparation of Edge-Propylene Graphitic Nanoplatelets Figuring a New Reinforcing Additive for Polypropylene (PP)<br>강영아, 전인엽, 원광대학교                                                                                                                             |
| 3PS-39 | Microstructural and Property Characterization of Ternary Nanocomposites Based on Thermotropic Liquid Crystal Polyester/Polycarbonate Blend and Carbon Nanotube<br>강하은, 장윤주*, 정영규, 충남대학교; *(주)삼양사                                                                |

- 3PS-40** Scalable Fabrication of Heat-Tolerant Titanium Nitride Broadband Absorbers in the Visible to Near-Infrared with Multiple-Patterning Colloidal Lithography  
고명철, 김진곤, 포항공과대학교
- 3PS-41** Hydrocarbon-Based Marine Environment Recovery System in Case of Oil Spill  
공승모, 나양호, 한영배\*, 원남일\*\*, 한남대학교; \*육군사관학교; \*\*한국수자원공사
- 3PS-42** 지방족 폴리케톤/폴리아미드 6 블렌드에서 성분 고분자 간 반응과 겔화 반응이 블렌드의 물성에 미치는 영향  
권홍규, 최홍균, 손영곤, 공주대학교 천안공과대학
- 3PS-43** Controlled Selenium Infiltration of Cobalt Phosphide Arrays Derived from Metal-Organic Framework for Flexible Asymmetric Supercapacitors  
기선 제트리, 김학용, 전북대학교
- 3PS-44** Effects of Fiber Coated with MWCNT and ABS Filled with MCF on the Interfacial and Mechanical Properties of Unidirectional Carbon Fiber/ABS Composites  
김기영, 조동환, 금오공과대학교
- 3PS-45** 사출 성형 기술을 이용한 박막 스핀 적용 자동차 내장부품 개발  
김광섭, 이동주, 윤성현\*, 이재용, 덕양산업; \*주은테크
- 3PS-46** 친환경 자동차 부품 개발을 위한 나노 셀룰로스 기반 복합소재 개발  
김광섭, 이동주, 정훈섭, 이동기, 덕양산업
- 3PS-47** 자동차 전장품용 다양한 형상 구현 가능 전도성 투명 전자 소재 연구  
김광섭, 이동주, 이재용, 광성복, 덕양산업
- 3PS-48** Physical Properties of Thermoplastic Polyolefin Elastomer (TPE) Containing Oyster Shell  
김나영, 최필준\*, 박소현\*\*, 홍경민\*\*, 이무정\*\*, 서석훈\*, 부산대학교; \*한국신발과학연구원; \*\* (주) 화승소재
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- 3PS-60** Eco-Friendly Alkaline Lignin/Cellulose Nanofiber Drying System for Efficient Redispersion Behavior  
김정규, 방준식, 김윤진, 광효원, 서울대학교
- 3PS-61** Effect of Adhesive Viscosity and Thickness on the Transfer Level of Silver Nanoparticles on PET Film to PC Film  
김정수, 한국생산기술연구원
- 3PS-62** Thick Graphene Film with Co-Continuous Nano-Channels for a Separator on Li-S Battery  
김준, 김진곤, 포항공과대학교
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- 3PS-64** Modification of Lignin for Epoxy Composites  
김태윤, 정일두\*, 서봉국\*\*, 성균관대학교; \*부산대학교; \*\*한국화학연구원
- 3PS-65** 화염 표면처리에 따른 접착 특성 연구  
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- 3PS-67** Fabrication of Color-Converting Layer Using Perovskite-Polymer Composite Films for White OLEDs  
김현기, 김성수, 경희대학교
- 3PS-68** PDMS 표면 처리를 이용한 용액공정 기반 고성능 ITO 전극 제조 연구  
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- 3PS-69** Electromagnetic Interference (EMI) Shielding Effectiveness of Sandwich-structured Polyimide (PI)/EGaN/PI Films  
김현우, 최윤제, 이준서, 정찬문\*, 연세대학교; \*연세대학교 과학기술대학
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김형준, 유혜진\*, 안철희, 서울대학교; \*포스코 광양기술원 표면처리그룹
- 3PS-71** Mechanical Properties of Polyolefin Elastomer Composites with Cellulose Nanofiber  
남기범, 이동운, 경북대학교
- 3PS-72** Improved Mechanical Properties of Recycled ABS via Polymer Compounding  
남연서, 방준하\*, 박종혁, 한국과학기술연구원; \*고려대학교
- 3PS-73** Study on the Effects of Crystallinity and Cooling Rate to Breakdown strength of PP/SEBS blend as an Insulating Material of Power Cable  
남채윤, 임도현, 양형규, 윤호규, 고려대학교
- 3PS-74** Electrophoretic WO<sub>3</sub>-Deposited Nanofiber-Based Flexible Transparent Composite Electrodes for Supercapacitors  
노재현, 이민국, 고태훈, 김병석, 전북대학교
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- 3PS-76** 화학적, 광학적 표면 기능화된 폴리카보네이트기반 복합소재 계면 제어 연구  
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- 3PS-79** DMA를 활용한 케이블 노화상태감시  
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박성균, 고승현, 윤유상, 이이재, 김선준, 성혜정, 한국과학기술연구원
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박우경, 조동환, 금오공과대학교
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- 3PS-86** Hybridization of Hard Magnetic Nanorods with Soft Magnetic Microspheres for Enhancements of Magnetic Bending Actuation of Micropillar Arrays  
박정은, 권승혁\*, Qi Lu\*, 최형진\*, 위정재, 인하대학교 첨단소재연구실; \*인하대학교 스마트고분자재료연구실
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조동균, 신동호, 홍경민, 최민재, 라스쿠마리 린트이나인비, 은원티구에, 박성준, 전북대학교
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- 3PS-160** Multicolor, Dual-Image, Printed Electrochromic Displays Based on Tandem Configuration  
최예정, 김진근, 포항공과대학교
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김태욱, 최호광\*, 전북대학교; \*연세대학교 유연인쇄전자전문대학원
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- 3PS-172** Collapse-Induced Multimer Formation of Self-Assembled Nanoparticles for Surface Enhanced Raman Scattering  
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□ : 우수논문발표상 응모

## 포스터발표(IV) \_ 10월 22일(금)

(09:00 ~ 10:30)

좌장: 임호선, 전석진

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고현주, 이승구, 울산대학교

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김동준, 김주성, 박준재, 김준호\*, 임준우\*\*, 정재현\*\*, 박성민\*, 김도환, 한양대학교; \*포항공과대학교; \*\*숭실대학교

**4PS-4** Reversed Surface Morphology of Photoelectric Conversion Layer *via* Adhesion Optimized Decal-Coating for Efficient Multi-Functional Organic  
김민수, 강웅식, 왕동환, 중앙대학교

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김진오, 스티브 박, KAIST

**4PS-7** Octopus-Inspired Adhesive Patches for Bio-signal Monitoring  
김채련, 이승구\*, 울산대학교; \*울산대학교 화학과

**4PS-8** Stretchable High-Performance N-type Region-Isomeric Polymers Based on Asymmetric Electron-Accepting Repeat Unit  
김현옥, 박하영, 박종민, 조용준\*, 정성훈\*, 오준학, 양창덕\*, 서울대학교; \*울산과학기술원

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**4PS-12** Optimized Selection of Doping Solvents for Improving the Sequential Doping Efficiency of Conjugated Polymers  
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- |        |                                                                                                                                                                                                                                            |
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| 4PS-24 | Slot-Die Coated Organic Solar Cells with Improved Device Performance and Stability by Introduction of Water Processing<br>한나란, 허윤정*, 양동성, 최연수, 김동유, 광주과학기술원; *한국생산기술연구원                                                                    |
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| 4PS-26 | Effect of Electron Withdrawing Groups on Triphenylamine-Substituted Quinoxaline-Based D-A type Conjugated Polymers<br>Dinda Fariesta Nugraha, 김은영, 강동욱, Pukyong National University                                                        |
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| 4PS-30 | The Effectiveness of PAN-Based Polymers for Quasi-Solid-State Dye-Sensitized Solar Cells<br>MASUD, 김환규, 고려대학교                                                                                                                              |
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| 4PS-33 | Reversible Colorimetric Chemosensor Based on Octa-diethylaminophenol Decorated CuPc for Protic Acid-HCl Gas, under Versatile Conditions: Solution, Solids, Dyed Textiles and Paper Products<br>Qianqian Huang, 오병민, 전해원, 김종현, 아주대학교        |
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| 4PS-35 | End-Group Alkylation of Diarylethene to Enhance Photo-Switchability of Organic Transistors<br>Syed Zahid Hassan, 유성훈, 소찬, 문도현*, 정대성, Pohang University of Science & Technology; *Pohang Accelerator Laboratory                             |
| 4PS-36 | Switchable Junction Organic Photodiode Based on Light-Intensity-Dependent Molecular Switch<br>강민균, Syed Zahid Hassan, 고성민*, 최창원**, Santosh Kumar Reddy Parumala***, 강윤희**, 윤진환***, 지동우*, 정대성, 포항공과대학교; *아주대학교; **대구경북과학기술원; ***부산대학교       |
| 4PS-37 | Electrochemically Fabricated NiOx for Efficient Hole Transport in Inverted Perovskite Solar Cells<br>고선경, 김수관, 최종민, 대구경북과학기술원                                                                                                              |
| 4PS-38 | Water-Splitting Textile Electrodes Using Metal Nanoparticle Assembly-Assisted Electroplating<br>고윤지, 조진한, 고려대학교                                                                                                                            |
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| 4PS-44 | Nanocrystal-Incorporated Strategies for Improving Stability of Perovskite Solar Cells<br>김 민, 전북대학교                                                                                                                                        |
| 4PS-45 | Completely Foldable Electronics Based on Homojunction Polymer Transistors and Logics<br>김민재, 유화숙*, 최윤영, 호동해, 이윤주*, Ayushi Tripathi*, 손재훈*, 김승한**, 강문성**                                                                                    |

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- 4PS-71 Engineering Aggregation-Resistant MXene Nanosheets as Highly Conductive and Stable Inks for All-Printed Electronics  
박성민, 이성은, 이희영, 군타린다 무랄리, 인인식, 한국교통대학교
- 4PS-72 Effect of Fused Thiophene Bridges on the Efficiency of Non-Fullerene Polymer Solar Cells made with Conjugated Donor Copolymers  
박수훈, 권나연, Hong Diem Chau, 조승욱, 최동훈, 고려대학교
- 4PS-73 Polymer-Metal-Composite-Type Electrodes for Flexible Solar Cell Applications  
박종진, 최강서, 신소정, 윤상은, 서보은, 김종현, 아주대학교
- 4PS-74 Optimizing Crystallinity and Hole Mobility of Benzodithiophene-Based Polymer Donor for Highly Efficient Nonfullerene Organic Solar Cells  
박진수, 김건우, 이동찬\*, 이송진, 조신욱\*, 김범준, KAIST; \*울산대학교
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박태욱, 정대성\*, 유성훈, 남건희, 강만균, 포항공과대학교; \*포항공과대학교화학공학과
- 4PS-76 Siloxane-Functionalized Side Chains Conjugated Polymer with Thieno [3,2-b]thiophene for Non-fullerene Organic Solar Cells  
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- 4PS-77 Evaluation of the Electrochemical Performance of Polymeric Binders for High Performance Silicon Anode in Lithium-Ion Batteries  
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서경욱, 은형주, 김태동\*, 김종현, 아주대학교; \*한남대학교
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- 4PS-108** High-Performance of Near-Infrared Organic Photodetectors Using Side-Chain Engineering  
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이윤상, 신명훈, 유인철\*, 김원태\*, 윤우진, 윤호섭, Fabian Rotermond\*, 권오필, 아주대학교; \*카이스트
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이은혜, Qianqian Huang\*, 오병민, 전해원, 조나영, 김중현, 아주대학교; \*Lingnan Normal University
- 4PS-111** Polymeric Ion Conductors Based on Sono-Polymerized Zwitterionic Polymers for Electrochromic Supercapacitors with Improved Shelf-Life Stability  
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이진우, Cheng Sun\*, 마부수, 김택수, 권순기\*, 김윤희\*, 김범준, KAIST; \*경상대학교
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전승준, 노유진\*, 고지영\*, 노용영\*, 황도훈\*\*, 임보규\*\*\*, 한국화학연구원/부산대학교; \*포항공과대학교; \*\*부산대학교; \*\*\*한국화학연구원
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진선미, 아은지, Gwangju Institute of Science and Technology
- 4PS-135** Controlled Fabrication of Polyaniline Nanostructure and Chemical Structure  
최강서, 박종진, 신소정, 윤상은, 김중현, 아주대학교
- 4PS-136** Photoacid Generator가 포함된 광경화성 전구체 기반 자가패턴 가능한 용액 공정형 Zinc Tin 산화물 트랜지스터 연구  
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최기석, 김건우, Cheng Sun\*, 박진수, 김윤희\*, 김범준, 한국과학기술원; \*경상대학교
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- 4PS-139** Molecular Engineering of Donor-Acceptor Organic Dye Sensitizer for Highly Efficient Hybrid CO<sub>2</sub> Reduction Catalytic System  
최민수, 이대환, 이상훈, 최성환, 강상욱, 손호진, 고려대학교
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최민준, 김준태\*, 이민우\*\*, 윤상은, 신소정, 윤재성\*\*, 장동욱\*, 김중현, 아주대학교; \*부경대학교; \*\*UNSW
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- 4PS-143** The Effect of Cl-Substituent for Morphological Control with High Efficiency over 15% in Organic Solar Cells  
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- 4PS-144** Suppression of Oxidative Degradation of Tin-Lead Hybrid Organometal Halide Perovskite Solar Cells by Ag Doping  
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- 4PS-145** Eco-Friendly Water-Borne Polyimide Gate Insulators for Large Area OFETs Array Using Simple Bar-Coating Method  
한진하, 박현진\*, 유성미\*, 소유진\*\*, 박노균\*, 김진수\*, 원찬찬\*, 김윤호\*, 한국화학연구원/과학기술원대학원대학교; \*한국화학연구원; \*\*한국화학연구원/한국과학기술원
- 4PS-146** Controlled Neutral Plane Structure for Rollable OLED Display Using Finite Element Method  
한상현, 최수석, 포항공과대학교
- 4PS-147** Photomultiplication-type Organic Photodiodes with Fast Response Enabled by Controlling Charge Trapping Dynamics of Quantum Dot Interlayer  
한세교, 조길원, 포항공과대학교
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한대희, 한용희, 김범준, 한국과학기술원
- 4PS-150** Probing Interfacial Interactions of Ions with Molecular Layers at the Electrolyte-Semiconductor Interface by Using an Ionic Diffusion-Driven Ionvoltic Transducer  
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(13:30 ~ 15:00)

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- 5PS-162** 천연 항균물질 및 생분해성 고분자를 이용한 항균 및 오염방지의 이중기능을 가지는 환경 친화적 식품포장재료의 제조  
 최하영, 오준균, 이서영, 단국대학교
- 5PS-163** Phytic Acid Mediated Polypyrrole Hierarchical Porous Self-Assembled Networks as the Cathode and Porous Three-Dimensional Carbonaceous Networks as the Anode Materials for Asymmetric Supercapacitor  
 프라카쉬, 김학용, 전북대학교
- 5PS-164** Synthesis and Characterization of Highly Stretchable Polyurethane Polyrotaxane Crosslinked Polymer Gel  
 하 산, 경일두, Pusan National University
- 5PS-165** Preparation of Hydrogel Adhesive Using m-CNF and Silica Nanoparticles  
 하재명, 이동운, 경북대학교
- 5PS-166** Study on Preparation of Rubber and Their Contact Force for Robot Reducer  
 한세미, 모정일, 최연지, 문서영, 송기형, 조정산, 김백진, 한국생산기술연구원
- 5PS-167** Curvature Reversal of Monolithic Liquid Crystal Elastomer Film for Smart Sorting Valve Application  
 한웅찬, 김대석, 김영빈, 심건우, 부경대학교
- 5PS-168** Highly Luminescent and Ambient Stable Perovskites with Hierarchical Structure *via* Guided Self-Assembly of Block Copolymer  
 한효원, 박철민, 연세대학교
- 5PS-169** Integration of a Fiber-Based Cell Culture and Biosensing Platform for *in situ* Monitoring of Protein Markers Secreted from Stem Cells  
 고재한, 황정호\*, 이화경\*, 김태현\*, 이강원, 고원건\*, 서울대학교; \*연세대학교
- 5PS-170** Copper-Adhesive Poly(ether ether ketone) with Low Dielectric Loss *via* Self UV-Initiated Surface Modification  
 허 준, 김보영\*, 유명재\*, 서지훈, 고려대학교; \*한국전자기술연구원
- 5PS-171** Fabrication of Optical Fourier Surfaces and Augmented Reality Devices on Films of Synthesized Azopolymers  
 홍승재, 방중하, 고려대학교
- 5PS-172** Effect of Tannic Acid Coating on Heavy Metal Ion Adsorption of Waste Silk Fabric  
 황선민, 여용호, 박원호, 충남대학교
- 5PS-173** Water-Dispersible Photo-Initiator for Digital Light Processing 3D Printing of Double Network Hydrogel  
 조정민, 여주연, 전석진, 금오공과대학교

## 포스터발표(Virtual Lightning Talk Session)

10월 20일(수) ~ 10월 22일(금)

- VPS-1** Essential oil from the Ngai Camphor Plant Incorporated in Cellulose Acetate Electrospun Nanofibers as a Potential Bioactive Wound Dressing  
 Azeem Ullah, Ick Soo Kim, Shinshu University
- VPS-2** On the Impact of Siloxanated Side Chains on the Properties of Semiconducting Polymers  
 Benoit Heinrich, Thomas Heiser, Patrick L  v  que, Nicolas Leclerc, St  phane M  ry, CNRS-Universit   de Strasbourg
- VPS-3** Spatial Raman Mapping to Probe Size Dependent Electron-phonon Interaction in Silicon Nanostructures  
 Chanchal Rani, Manushree Tanwar, Rajesh Kumar, Indian Institute of Technology Indore
- VPS-4** TiO<sub>2</sub> Nanotube Photocatalysts Decorated with Perovskite Quantum Dots for CO<sub>2</sub> Conversion  
 Chen-Chin Lee, Yun-Ju Liu, Hyeonsek Lee, National Sun Yat-sen University
- VPS-5** Tropylium Derivatives as New Entrants that Sense Quadruplex Structures  
 Daisuke Hori, Ji Hye Yum, Hiroshi Sugiyama, Soyoung Park, Kyoto University
- VPS-6** Photoactive Organic/Inorganic Hybrid Materials with Nanosegregated Donor-Acceptor Arrays

- VPS-7** Preparation and Properties of WS<sub>2</sub>/CoS<sub>2</sub> Core-Shell Nanocrystals@Hollow-porous Carbon Fiber (HCF) for Water Electrolysis  
 Fei-fei Wang, Ping Wang\*, Ick Soo Kim, Shinshu University; \*Soochow University
- VPS-8** Molecular Targeting-Mediated Mild-Temperature Photothermal Therapy with a Smart Albumin-Based Nanodrug  
 Ge Gao, Yao-Wen Jiang, Wei Sun, Yuxin Guo, Hao-Ran Jia, Xin-Wang Yu, Guang-Yu Pan, Fu-Gen Wu, Southeast University
- VPS-9** Novel Cathode Interfacial Layer Using Creatine for Enhancing the Photovoltaic Properties of Perovskite Solar Cells  
 Guan-Woo Kim, Yelim Choi\*, Hyuntae Choi\*, Ji Hyun Min\*, Taiho Park\*, Istituto Italiano di Tecnologia; \*Pohang University of Science and Technology (POSTECH)
- VPS-10** Improving the Stability of Chitosan Hydrogel  
 Hijiri Wadamori, Akihiro Yabuki, Ji Ha Lee, Hiroshima University
- VPS-11** Structure-Mechanical Property Relationships of 3D-Printed Porous Polydimethylsiloxane  
 Jiayu Zhao, Rebekah Woo, Grace Chen, Jinhye Bae, University of California San Diego
- VPS-12** Ice-Templated Large-Scale Preparation of Two-Dimensional Sheets of Conjugated Polymers: Thickness-Independent Flexible Supercapacitance  
 Jie Zhang, Jianxin Geng, Beijing University of Chemical Technology
- VPS-13** Liquid Crystal Shells for Artificial Pollen Grains  
 Jinming Zhou, Hebei Normal University
- VPS-14** Cell Patterning on a Poly(2-hydroxyethyl methacrylate) Film Based on Interfacial Dynamics  
 Kento Kawabata, Masayasu Totani, Hisao Matsuno, Keiji Tanaka, Kyushu University
- VPS-15** Curing Reaction Kinetics of Epoxy/Amine at a Quartz Interface  
 Ko Yamaguchi, Daisuke Kawaguchi, Satoru Yamamoto, Keiji Tanaka, Kyushu University
- VPS-16** Off-stoichiometry Effect on Network Structure and Tensile Properties of an Epoxy Resin  
 Kosuke Mitsuki, Atsuumi Shundo, Satoru Yamamoto, Keiji Tanaka, Kyushu University
- VPS-17** Electro-optic Response in Polymer Stabilized Cholesteric Liquid Crystals  
 Kyung Min Lee, Timothy J. Bunning\*, Michael E. McConney\*, Nicholas Godman\*, Air Force Research Laboratory/Azimuth Corporation; \*Air Force Research Laboratory
- VPS-18** Incorporating Reduced Graphene Oxide with Magnetic Nanoparticles to Boost Microwave Absorption Properties  
 Lei Sun, Yingying Cai, Ick Soo Kim, Qilong Sun\*, Shinshu University; \*Nantong University
- VPS-19** Direct Observation of Thermal Motion for Isolated Poly(*tert*-butyl methacrylate) Chains on Solid Surfaces  
 Masayuki Kawano, Yuma Morimitsu, Yukari Oda, Daisuke Kawaguchi, Keiji Tanaka, Kyushu University
- VPS-20** Lignin-mediated CuO Coating on Electrospun Cellulose Nanofibers for Wound Care  
 Md. Kaiser Haider, Ick Soo Kim, Shinshu University
- VPS-21** Tunable Swelling and Deswelling of Temperature- and Light-responsive Graphene Oxide-Poly(*N*-isopropylacrylamide) Composite Hydrogels  
 Minghao Li, Jinhye Bae, University of California San Diego
- VPS-22** Fabrication of PAN Nanofibers Loaded with Diclofenac Sodium Salt for Antibacterial and Anti Inflammatory Applications  
 Muhammad Nauman Sarwar, Ick Soo Kim, Shinshu University
- VPS-23** Conformational Change of Polystyrene at Film Surface after Contact with a Different Surface  
 Rei Harada, Daisuke Kawaguchi, Keiji Tanaka, Kyushu University
- VPS-24** Nanofibers Based Reusable Facemasks for Efficient Protection against Coronavirus  
 Sana Ullah, Ick Soo Kim, Shinshu University
- VPS-25** Aluminum-Lithium Alloy as a Stable and Reversible Anode for Lithium Batteries  
 Shang Chen, Jianxin Geng, Beijing University of Chemical Technology
- VPS-26** Aggregation States of Polyamide 4 Thin Films under an Aqueous Environment  
 Shunta Tamura, Haruki Mokudai\*, Takashi Masaki\*, Norifumi L. Yamada\*\*, Hisao Matsuno, Keiji Tanaka, Kyushu University; \*KUREHA Corp.; \*\*High Energy Accelerator Research Organization
- VPS-27** Thermocleavage of Partial Side Chains in Polythiophenes Offers Significant Stability  
 Sung Yun Son, Wei You, University of North Carolina at Chapel Hill
- VPS-28** Polymer Incorporated Electrochromic Device (ECD)  
 Suchita Kandpal, Tanushree Ghosh, Rajesh Kumar, Indian Institute of Technology
- VPS-29** Synthesis of Supercapacitor Electrode by Thermal Decomposition of Manganese Formate Complex  
 Tomoya Ashida, Akihiro Yabuki, Ji Ha Lee, Hiroshima University
- VPS-30** Development of Gel  
 Tomoyuki Tachibana, Akihiro Yabuki, Ji Ha Lee, Hiroshima University

- VPS-31** Assembly and Structure of Primitive Membraneless DNA Liquid Crystal Coacervates  
Tony Z. Jia, Tommaso P. Fraccia\*, Tokyo Institute of Technology/Blue Marble Space Institute of Science; \*Institut Pierre-Gilles de Gennes, CBI, ESPCI Paris, Université PSL, CNRS
- VPS-32** Development of Proton Exchange Membrane Based on Trifluoro-methanesulfonylimide-Grafted Polybenzimidazole  
Hiroto Miura, Yuki Motoishi, Naoki Tanaka, Tsuyohiko Fujigaya, Kyushu University
- VPS-33** Polymer Nanoparticle Derived Substrates for Colorimetric Sensor Array  
Virendra Patil, Gi-Ra Yi\*, Sungkyunkwan University/MIT Art, Design and Technology University; \*Sungkyunkwan University/Pohang University of Science and Technology (POSTECH)
- VPS-34** Facile, Efficient Liquid Exfoliated Cyanoethylated Cellulose Nanofibrils and Their Application  
Weihua Zhang, Mingjie Li\*, Chunlin Xu\*\*, Chaoyu Li\*, Chinese Academy of Sciences/Åbo Akademi University; \*Chinese Academy of Sciences; \*\*Åbo Akademi University
- VPS-35** Synthesis and Application of a 19F-labeled Fluorescent Nucleoside as a Dual-mode Probe for i-Motif DNA Structures  
Wen Ann Wee, Ji Hye Yum, Shingo Hirashima, Hiroshi Sugiyama, Soyoung Park, Kyoto University
- VPS-36** Enzymatically-Triggered Peptide Nanocarrier Transformation and Autophagy Inducer Release for Selectively Killing Cancer Cells  
Xiaotong Cheng, Ge Gao, Wenjun Zhan, Gaolin Liang, Southeast University
- VPS-37** A Conjugated Porous Polymer Complexed with a Single-Atom Cobalt Catalyst as an Electrocatalytic Sulfur Host for Enhancing Cathode Reaction Kinetics  
Xueying Fan, Jianxin Geng, Beijing University of Chemical Technology
- VPS-38** Tunable Photonic Microspheres of Comb-Like Supramolecules  
Yi Yang, Tae-Hui Kang\*, Gi-Ra Yi\*, Jintao Zhu, Huazhong University of Science and Technology; \*Sungkyunkwan University
- VPS-39** Ligand Design for Directly Patterning of Nanocrystals  
Yuan Yuan Wang, Nanjing University
- VPS-40** Self-healing Corrosion Protective Coating Using Nanofibers for Controlled Release of Inhibitor  
Yusuke Takimoto, Ji Ha Lee, Akihiro Yabuki, Hiroshima University
- VPS-41** n-Doping of Single-walled Carbon Nanotubes Using Pyridine-boryl Radicals  
Naoki Tanaka, Aoi Hamasuna, Tsuyohiko Fujigaya, Kyushu University
- VPS-42** Mechanistic Understanding of Monovalent Cation Transport in Eumelanin Pigments  
Zhen Tian, Young Jo Kim, University of New Hampshire
- VPS-43** Melanin-Based Poly(vinylidene fluoride) Membrane to Reduce Bacterial Growth  
Tahmineh Rahmani Eliato, Young Jo Kim, University of New Hampshire