

## 1. Plenary Lecture October 19 (THU), Convention Hall 2+3

### <Plenary Lecture>

Chair : Jongseung Kim

- 16:00 Conjugated Polyelectrolytes in Biosensing and Disinfection PLEN-1  
**Kirk S. Schanze**  
*Department of Chemistry, University of Texas at San Antonio, United States*

## 2. Award Lecture October 20 (FRI), Room 206+207

### <Award Lecture: Taikyue Ree Academic Award>

Chair : Wonyoung Choe

- 11:00 Recent Advances of Metallosupramolecules of Macrocycles: Networking, Post-Synthetic Modifications, Bioinspiration, and Adaptive Responses AWARD-1  
**Shim Sung Lee**  
*Department of Chemistry, Gyeongsang National University, Korea*

## 3. Human-friendly Polymers and Their Applications October 19 (THU), Room 302+303

### <Polymer Chemistry Symposium 1>

Chair : Byeong-Su Kim

#### <Award Lecture: Outstanding Academic Advancement Award>

- 09:00 Exploration of Novel Ionic Polymers and Their Structure-Property Relationship POLY1-1  
**Minjae Lee**  
*Department of Chemistry, Kunsan National University, Korea*
- 09:30 Coffee Break

- 09:40 Electrochemical surface modification of bioelectrodes using hyaluronic acid derivatives to improve electrode functions and tissue compatibility POLY1-2  
**Jae Young Lee**  
*School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Korea*

- 10:00 Virus based Novel Colorimetric Sensor for Cancer cell detection POLY1-3  
**Jin-Woo Oh**  
*Department of Nanoenergy Engineering, Pusan National University, Korea*

Chair : Jin-Woo Oh

- 10:20 Hydrogel micropatterns incorporating electrospun fibers for biomedical applications POLY1-4  
**Won-Gun Koh**  
*Chemical & Biomolecular Engineering, Yonsei University, Korea*

- 10:40 Reinvent of silk protein as an optical and electrical material POLY1-5  
**Sunghwan Kim**  
*Department of Physics, Ajou University, Korea*

## 4. Special Symposium by Leading Mid-career Polymer Scientists October 19 (THU), Room 302+303

### <Polymer Chemistry Symposium 2>

Chair : Bumjoon Kim

- 13:30 Stable Bulk Heterojunction Prepared by Sequential Deposition Process POLY2-1  
**Kyungkon Kim**  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*

- 13:55 A novel strategy in design of polymeric hole transporting materials for green processable, dopant-free perovskite solar cells POLY2-2  
**Taiho Park**  
*Department of Chemical Engineering, Pohang University of Science and Technology, Korea*

- 14:20 Cellulose paper energy storage electrodes using layer-by-layer assembly POLY2-3  
**Jinhan Cho**  
*Dept of Chemical & Biological Engineering, Korea University, Korea*
- 14:55 Coffee Break

Chair : Kyungkon Kim

- 15:05 P- and N-type Organic Photovoltaic Materials for OPV Devices POLY2-4  
**Han Young Woo**  
*Department of Chemistry, Korea University, Korea*

- 15:30 Impact of Side Chain Engineering and Molecular Weight Control of Polymers in Performance of All-Polymer Solar Cells POLY2-5  
**Bumjoon Kim**  
*Department of Chemical Engineering & Biotechnology, Korea Advanced Institute of Science and Technology, Korea*

- 15:55 Polymer Chemistry Division General Meeting

## 5. Special Symposium for Polymer Research at the Korean National Laboratories October 20 (FRI), Room 302+303

### <Polymer Chemistry Symposium 3>

Chair : Heesuk Kim

- 09:00 Polymerization of Sustainable Bioplastics from Heterocyclic Bio-based Monomers POLY3-1  
**Jeyoung Park**  
*Center for Bio-based Chemistry, Korea Research Institute of Chemical Technology, Korea*

- 09:25 Self-healing Properties of Supramolecular Polymers based on Charge Transfer Complex (CTC) Interaction POLY3-2  
**Sung Woo Hong**  
*Intelligent Sustainable Materials R&D Group, Korea Institute of Industrial Technology, Korea*
- 09:50 Coffee Break

Chair : Jeyoung Park

- 10:00 Development of High Performance Organic Solar Cells by Utilizing e-Donating Random Copolymers POLY3-3  
**Hae Jung Son**  
*Korea Institute of Science and Technology, Korea*

- 10:25 Poly(N-isopropylacrylamide) copolymers for sequential and reversible foldings in ionic liquids POLY3-4  
**Soonyong So**, Ryan Hayward<sup>1\*</sup>

Center for Membranes, Korea Research Institute of Chemical Technology, Korea

<sup>1</sup>Department of Polymer Science and Engineering, University of Massachusetts Amherst, United States

**6. [Inorganic Chemistry - Materials Chemistry Divisions Joint Symposium] Molecules and Materials for Safe and Sustainable Future**

October 19 (THU), Room 211+212+213

**<Inorganic Chemistry - Material Chemistry Divisions Joint Symposium>**

Chair : Kwangyeol Lee

13:30 METAL-OXYGEN INTERMEDIATES IN DIOXYGEN ACTIVATION CHEMISTRY IOMT-1

Wonwoo Nam

Department of Chemistry, Ewha Womans University, Korea

14:00 Organic-Inorganic Halide Perovskite Solar Cell: Disruptive Photovoltaics IOMT-2

Nam-Gyu Park

School of Chemical Engineering, Sungkyunkwan University, Korea

14:30 Designed Chemical Synthesis and Assembly of Uniform-sized Nanoparticles for Medical Applications IOMT-3

Taeghwan Hyeon

Division of Chemical & Biological Engineering, Seoul National University, Korea

Chair : Sang Hoon Joo

15:00 Large-Area Growth of High Quality Hexagonal Boron Nitride Chemical Vapor Deposition and Its Applications IOMT-4

Hyeon Suk Shin

Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

15:25 Nanoparticles with structurally-dictated 3-D arrangement of multiple material phases: precursors to ideally performing nanocatalysts in electrolytic water splitting and fuel cell applications IOMT-5

Kwangyeol Lee

Department of Chemistry, Korea University, Korea

15:50 Inorganic Chemistry Division General Meeting

**7. Recent Trends in Bio-Inorganic Chemistry**

October 20 (FRI), Room 211+212+213

**<Inorganic Chemistry Symposium 1>**

Chair : Seungwoo HONG

09:00 Charge transfer as key principles of C-H bond activation and cross coupling IONR1-1

Kiyong Park

Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

09:25 Metal coordination region of concanavalin A for interaction with human norovirus IONR1-2

Seung Jae Lee

Department of Chemistry, Chonbuk National University, Korea

09:50 Multiple Interconnected Pathological Factors (Metals, Amyloid- $\beta$ , and Reactive Oxygen Species) in Alzheimer's Disease IONR1-3

Mi Hee Lim

Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

10:15 Distinct Reactivity of a Mononuclear Peroxocobalt(III) Species towards Activation of Nitriles IONR1-4

Jaeheung Cho

Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea

10:40 Spin-dependent Mechanism and the Formation of Fe<sup>III</sup>-oxyl radical in C-H Bond Activation by Non-heme Fe<sup>VO</sup> Complexes IONR1-5

YONGHO KIM

Department of Applied Chemistry, Kyung Hee University, Korea

**8. Recent Trends in Organometallic Chemistry**

October 20 (FRI), Room 211+212+213

**<Inorganic Chemistry Symposium 2>**

Chair : Myung Hwan Park

<Award Lecture 1: Young Inorganic Chemist Award>

14:30 Photonic Applications of Organoboron and Boron Cluster Compounds IONR2-1

Min Hyung Lee

Department of Chemistry and EHSRC, University of Ulsan, Korea

<Award Lecture 2: Young Inorganic Chemist Award>

14:55 Flexible Metal-Organic Frameworks IONR2-2

Hoi Ri Moon

Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

Chair : Min Hyung Lee

15:20 Cobalt-Catalyzed C-F Bond Borylation of Aryl Fluorides IONR2-3

Eunsung Lee

Department of Chemistry, Pohang University of Science and Technology, Korea

15:40 Photosensitization Effects of Ir(III) Complexes in Selective Reduction of CO<sub>2</sub> by Re(I)-Complex-Anchored TiO<sub>2</sub> Hybrid Catalyst IONR2-4

Ho-Jin Son

Department of Advanced Materials Chemistry, Korea University, Sejong, Korea

16:00 Luminescent Salen-Based Aluminum and Indium Complexes: Control of Optical Properties by Manipulation of Functional Groups IONR2-5

Myung Hwan Park

Department of Chemistry Education, Chungbuk National University, Korea

**9. Recent Progress in Electronic Structure Theory**

October 19 (THU), Room 208+209+210

**<Physical Chemistry Symposium 1>**

Chair : Young Min Rhee

<Award Lecture: Kim Myung Soo Award>

13:30 Radical-based peptide mass spectrometry and IRMPD spectroscopy PHYS1-1

Han Bin Oh

Department of Chemistry, Sogang University, Korea

14:10 Understanding Nonadiabatic Processes by Quantum Mechanical Nonadiabatic Dynamics PHYS1-2

## Scientific Program

### Cheol Ho Choi

*Department of Chemistry, Kyungpook National University, Korea*

- 14:30 Electronic structures of TiO<sub>2</sub> nanoparticles by DFT approaches  
**JIN YONG LEE**  
*Department of Chemistry, Sungkyunkwan University, Korea*
- Chair: **Yousung Jung**
- 14:50 Development of DFT functional applicable to large molecular and periodic systems  
**Jong-Won Song**  
*Chemistry Education, Daegu University, Korea*
- 15:10 A local exact exchange potential method for accurate excited state calculations  
**WOO YOUN KIM**  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*
- 15:30 Recent progress in nonadiabatic molecular dynamics with multiple nuclear trajectories  
**Seung Kyu Min**  
*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*

### 10. Physical Chemistry of Bioimaging and Biospectroscopy October 20 (FRI), Room 208+209+210

#### <Physical Chemistry Symposium 2>

#### Chair: Nam Ki Lee

- 09:00 RNA Stem Structure Governs Coupling of Dicing and Gene Silencing in RNA interference  
**Hye Ran Koh<sup>1</sup>**, Amirhossein Ghanbariniaki<sup>2</sup>, Sua Myong<sup>1,\*</sup>  
*Department of Chemistry, Chung-Ang University, Korea*  
<sup>1</sup>*Department of Biophysics, Johns Hopkins University, United States*
- 09:20 Tissue clearing, labeling and expansion techniques for the extraction of 3D biological information  
**Sung-Yon Kim**  
*Department of Chemistry, Seoul National University, Korea*
- 09:40 Super-resolution Fluorescence Microscopy For Visualizing Long-term Cellular Dynamics  
**Sang-Hee Shim**  
*Department of Chemistry, Korea University, Korea*
- 10:05 Monitoring state transitions in plants using *in vivo* spectromicroscopy  
**Tae Kyu Ahn**  
*Department of Energy Science, Sungkyunkwan University, Korea*
- 10:30 Reversibly control of enzyme activity by pH-responsive DNA nanocages  
**So Yeon Kim**  
*Institute of Biomedical Engineering Research, Korea Institute of Science and Technology, Korea*

### 11. Recent Trend in Surface and Interface Physical Chemistry October 20 (FRI), Room 208+209+210

#### <Physical Chemistry Symposium 3>

#### Chair: Jaeyoung Lee

#### <Award Lecture: Young Physical Chemist Award>

- 14:30 Accelerating Materials Discovery with Scalable Computations and Machine Learning  
**Yousung Jung**  
*Korea Advanced Institute of Science and Technology, Korea*
- 15:10 Atomic-scale investigations on single molecules by STM  
**Hyung-Joon Shin**  
*School of Materials Science and Engineering, Ulsan National Institute of Science and Technology, Korea*
- 15:30 Ongoing studies and instrumentation activities of ambient pressure X-ray photoelectron spectroscopy in Korea Basic Science Institute  
**Beomgyun Jeong**  
*Advanced Nano-Surface Research Group, Korea Basic Science Institute, Korea*
- 15:50 IR spectroscopy applied to catalysis and adsorption by in-situ and operando system  
**Ji Woong Yoon**, Young Kyu Hwang, Jong-San Chang\*  
*Korea Research Institute of Chemical Technology, Korea*
- 16:10 Direct observation of delayed triplet-state formation through hybrid charge transfer exciton at organic/inorganic interface  
**Heeseon Lim**, Hyuksang Kwon<sup>1</sup>, Jeong Won Kim<sup>1,\*</sup>  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*  
<sup>1</sup>*Korea Research Institute of Standards and Science, Korea*

### 12. [Analytical Chemistry Division - JASIS (Japan) - Life Chemistry Division Joint Symposium] Super-Resolution Optical Microscopy and Single-Cell Analysis October 19 (THU), Room C308+C309

#### <Analytical Chemistry - Life Chemistry Division Joint Symposium>

- Chair: **Seong Ho Kang**
- 09:00 Mechanical bistability of single membrane compartments of live cells  
**Tae-Young Yoon**  
*School of Biological Sciences, Seoul National University, Korea*
- 09:25 Overview of single-genome sequencing technologies for lineage tracing of somatic cells  
**Young Seok Ju**  
*Graduate School of Medical Science and Engineering, Korea Advanced Institute of Science and Technology, Korea*
- 09:50 20-nm resolution brain imaging via next-generation expansion microscopy  
**Jae-Byum Chang**  
*Department of biomedical engineering, Sungkyunkwan University, Korea*
- 10:15 Introduction on JASIS/JAIMA  
TBD
- 10:35 Automated single-molecule imaging and its applications to cell signaling  
**Masahiro Ueda**  
*Graduate School of Frontier Biosciences, Osaka University / Quantitative Biology Center (QBiC), RIKEN, Japan*
- Chair: **Sang-Hee Shim**
- 13:30 Breaking the limit by *IRIS*: the merits of fast exchangeable target-  
ACBI-6

binding probes in super-resolution localization microscopy

**Naoki Watanabe**

*Laboratory of Single-Molecule Cell Biology / Department of Pharmacology, Kyoto University Graduate School of Medicine, Japan*

14:10 Iterative antibody reprobing for optical imaging in nano-scale

**Sunghoe Chang**

*Physiology and Biomedical Sciences, Seoul National University, Korea*

14:35 Single Molecule Nanoparticle Catalysis with Super-resolution Fluorescence Microscopy

**JI WON HA**

*Department of Chemistry, University of Ulsan, Korea*

15:00 Dark-Field Illumination-Based Enhanced Fluorescence-free 3D Super-Resolution Microscopy

**Seong Ho Kang**

*Department of Applied Chemistry, Kyung Hee University, Korea*

Chair : Hye Jin Lee

<Award Lecture: Academic Excellence in Analytical Chemistry>

15:25 Improvement of MALDI-MS performance for various sample analysis

**Jeongkwon Kim**

*Department of Chemistry, Chungnam National University, Korea*

15:50 Analytical Chemistry Division General Meeting

**13. [Analytical Chemistry Division - JASIS (Japan) Joint Symposium] Elemental Analysis Using Plasma Spectroscopy and Mass Spectrometry**  
October 20 (FRI), Room C308+C309

<Analytical Chemistry Symposium>

Chair : Jong-Ho Park

14:30 LA-ICP-MS Analysis for Characterization of Dispersion Fuel

**Jeongmook Lee**, JAI IL PARK, Young-Sang Youn, Yeong Keong Ha, Jong-Yun Kim

*Korea Atomic Energy Research Institute, Korea*

14:50 Purification of 4N Gallium by zone refining and trace by Glow discharge mass spectrometer analysis

**Jasik Yoon**

*Division of Advanced materials engineering, ChungNam National University, Korea*

15:10 Surface-Enhanced Laser-Induced Breakdown Spectroscopy for Liquid Analysis

**Yonghoon Lee**

*Department of Chemistry, Mokpo National University, Korea*

Chair : Yonghoon Lee

15:30 Analysis of chemical reactions in the plasma for quantitative underwater laser-induced breakdown spectroscopy

**Tetsuo Sakka**

*Department of Energy and Hydrocarbon Chemistry, Kyoto University, Japan*

<Award Lecture: Award for a Distinguished Contribution in Analytical Technology>

16:10 The Role and Responsibility of the Analytical Chemists in Industry: The Paradigm Shift

**Sung-Chan Jo**

*Display Research Center, Samsung Display Co., Ltd., Korea*

**14. Frontiers in Chemical Biology & Protein Chemistry**  
October 20 (FRI), Room C311+C312

<Life Chemistry Symposium>

Chair : Jung-Min Kee

09:00 Engineered protein assemblies to utilize biomolecular multivalency

**Yongwon Jung**

*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

09:25 Genetic incorporation of unnatural amino acids biosynthesized from simple starting materials

**HYUNSOO LEE**

*Department of Chemistry, Sogang University, Korea*

09:50 Mitochondria Localization-induced Self-Assembly for New Cancer Therapy

**Ja-Hyung Ryu**

*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*

Chair : Sang Jeon Chung

<Award Lecture: Lee Dae-Sil Prize>

10:15 Structural studies on protein complexes from bacteriophage, flagellum, and divisome

**Hyung Ho Lee**

*Division of Chemistry, Seoul National University, Korea*

**15. Current Trends in Organic Chemistry I: Unexpected Reactivity and Selectivity**

October 19 (THU), Room 304+305+306

<Organic Chemistry Symposium 1>

Chair : Woo-Dong Jang

<Award Lecture: Chang Sae Hee Award>

13:00 Development of synthetic methods using decarboxylative coupling of alkynoic acids

**Sunwoo Lee**

*Department of Chemistry, Chonnam National University, Korea*

Chair : Kyungsoo Oh

13:30 Total Synthesis of Natural Products via Nitrogen-to-Carbon Chirality Transfer

**Sanghee Kim**

*College of Pharmacy / Department of Pharmacy, Seoul National University, Korea*

14:00 Engaging Alkynes under Metal- and Non-Metal Catalysis

**Seunghoon Shin**

*Department of Chemistry, Hanyang University, Korea*

14:30 Coffee Break

14:45 Enantioselective Carbon-Carbon Bond-forming Reactions Catalyzed by Vanadium(V) Complexes

**Shinobu Takizawa**, Makoto Sako, Hiroaki Sasai

*The Institute of Scientific and Industrial Research, Osaka University, Japan*

15:15 Site-Selectivity Catalytic C-H Functionalization: Design, Synthesis and

## Scientific Program

Biological Evaluation of Novel Heterocycles

**IN SU KIM**

*School of Pharmacy, Sungkyunkwan University, Korea*

### 16. Current Trends in Organic Chemistry II: Organic Materials & Supramolecular Chemistry October 20 (FRI), Room 304+305+306

#### <Organic Chemistry Symposium 2>

Chair: **Won-jin Chung**

- |   |   |
|---|---|
| <p><b>09:00</b> Bispecific Antibody Conjugates for Cancer Immunotherapy<br/><b>Chan Hyuk Kim</b><br/><i>Department of Life Science, KAIST, Korea</i></p> <p><b>09:25</b> Targeting Diseases-related Trinucleotide Repeat Sequences by Small Organic Molecules<br/><b>Kazuhiko Nakatani</b><br/><i>The Institute of Scientific and Industrial Research, Osaka University, Japan</i></p> <p><b>09:50</b> Coffee Break</p> <p><b>10:00</b> Chemical Posttranslational modification of Proteins: C-C bond formation reaction using radical chemistry<br/><b>hee-yoon lee</b><br/><i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i></p> <p><b>10:25</b> Structure-Activity Relationship Studies of Maitotoxin Based on Chemical Synthesis of Partial Structures<br/><b>Tohru Oishi</b><br/><i>Department of Chemistry, Graduate School of Scienc, Kyushu University, Japan</i></p> | <p>ORGN2-1</p> <p>ORGN2-2</p> <p>ORGN2-3</p> <p>ORGN2-4</p> |
|---|---|

### 17. Current Trends in Organic Chemistry III: New Reactions and Methodology October 20 (FRI), Room 304+305+306

#### <Organic Chemistry Symposium 3>

Chair: **Jung Woon Yang**

- |   |   |
|---|---|
| <p><b>14:30</b> Development of PET radiotracers for Neurobiological Targets<br/><b>Sun-Joon Min</b><br/><i>Department of Chemical &amp; Molecular Engineering, Hanyang University, Korea</i></p> <p><b>15:00</b> Development of Transient Ligands for Palladium-catalyzed <math>sp^3</math> C-H Bond Arylation<br/>Hyojin Park, Kwangho Yoo, Byunghyuck Jung<sup>1,*</sup>, <b>Min Kim</b><sup>*</sup><br/><i>Department of Chemistry, Chungbuk Natioanl University, Korea</i><br/><sup>1</sup><i>School of Basic Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i></p> <p><b>15:30</b> Biosynthetically Inspired Total Syntheses of Complex Natural Products<br/><b>Sunkyu Han</b><br/><i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i></p> <p><b>16:00</b> Construction of Scaffold Diversity in Heterocycle Synthesis<br/><b>Cheol Min Park</b><br/><i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p> | <p>ORGN3-1</p> <p>ORGN3-2</p> <p>ORGN3-3</p> <p>ORGN3-4</p> |
|---|---|

### 18. Recent Drug Discovery Research in Academia and Industry: Some Success Stories October 19 (THU), Room 206+207

#### <Medicinal Chemistry Symposium>

Chair: **Taeho Lee**

- |  |   |
|--|---|
| <p><b>13:30</b> Development of Novel Cyclophilin A Inhibitors for the Treatment of Hepatitis C Virus Infections Based on Structure-based Drug Design<br/><b>WON JEA CHO</b><br/><i>College of Pharmacy, Chonnam National University, Korea</i></p> <p><b>13:55</b> Fragment-Based Design of Kinase Inhibitors to Override Drug Resistance<br/><b>Sungwoo Hong</b><br/><i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i></p> <p><b>14:20</b> Development of a novel 11<math>\beta</math>-hydroxysteroid dehydrogenase type 1 inhibitor for the potential treatment of type 2 diabetes<br/><b>Je Ho Ryu</b>, Hyeung-geun Park<sup>1,*</sup><br/><i>Department of Open Innovation, Huons, Korea</i><br/><sup>1</sup><i>Department of Pharmaceutics, College of Pharmacy, Seoul National University, Korea</i></p> <p>Chair: <b>Minsoo Song</b></p> <p><b>14:45</b> Identification of new small molecules for metabolic disease<br/><b>JIN HEE AHN</b><br/><i>Department of Chemistry, Gwangju Institute of Science and Technology, Korea</i></p> <p><b>15:10</b> Targeted protein degradation for the next small molecule therapeutics<br/><b>Jong Yeon Hwang</b><br/><i>Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea</i></p> | <p>MEDI-1</p> <p>MEDI-2</p> <p>MEDI-3</p> <p>MEDI-4</p> <p>MEDI-5</p> |
|--|---|

### 19. Synthesis and Application of Two-Dimensional Materials October 20 (FRI), Room 214

#### <Material Chemistry Symposium 1>

Chair: **Hyeon Suk Shin**

- |   |   |
|---|---|
| <p><b>09:10</b> Toward Molecular Designing on Nano-materials for Catalytic Applications<br/><b>Sungjin Park</b><br/><i>Department of Chemistry, Inha University, Korea</i></p> <p><b>09:35</b> Ultracapacitive Energy Storage Using 2D Nanomaterials Under Extreme Conditions<br/><b>Ho Seok Park</b><br/><i>Department of Chemical Engineering, Sungkyunkwan University (SKKU), Korea</i></p> <p><b>10:00</b> 2D Nanosheets of Layered Metal Compounds: Efficient Building Blocks for Functional 3D Nanohybrids<br/><b>Seong-Ju Hwang</b><br/><i>Center for Hybrid Interfacial Chemical Structure (CICS), Department of Chemistry and Nanoscience, Ewha Womans University, Korea</i></p> <p><b>10:25</b> Recent Progress in Large-Area Graphene Synthesis and Its Application to Advanced Chemical and Biological Analysis<br/><b>Byung Hee Hong</b></p> | <p>MAT1-1</p> <p>MAT1-2</p> <p>MAT1-3</p> <p>MAT1-4</p> |
|---|---|

Division of Chemistry, Seoul National University, Korea

**20. Current Trends in Energy Nanomaterials**  
**October 20 (FRI), Room 214**

**<Material Chemistry Symposium 2>**

Chair : Hye Ryung Byon

**14:30** Nanostructured Graphene for Supercapacitor Electrodes with High Performance and Stretchability

**Jeong Gon Son**

*Photo-electronic Hybrids Research Center, Korea Institute of Science and Technology, Korea*

**14:50** Tin-based Alloy Anode Materials for Magnesium-ion Batteries

**Seung-Wan Song**

*Dept. of Chem. Eng. & App. Chem., Chungnam National University, Korea*

**15:10** Secondary Transformation of Nanocrystals for Electrochemical Energy Applications

**Don-Hyung Ha**

*School of Integrative Engineering, Chung-Ang University, Korea*

**15:30** Domain- and template-engineered oxide epitaxial thin films as photoanodes for solar water splitting

**Sanghan Lee**

*School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Korea*

**15:50** Fueling the Future: High-Density Hydrogen Storage in Hybrid Nanomaterials

**Eun Seon Cho**

*Department of Chemical & Biomolecular Engineering, Korea Advanced Institute of Science and Technology, Korea*

**21. Current Trends in Electrochemistry for Energy Conversion**  
**October 19 (THU), Room 201+202**

**<Electrochemistry Symposium 1>**

Chair : KI MIN NAM

**13:30** Design of New Materials for Next-Generation Solar Cells

**Hyosung Choi**

*Department of Chemistry, Hanyang University, Korea*

**13:55** High efficiency oxygen evolution from water using elaborately designed hematite photoanodes

**Hyunwoong Park**

*School of Energy Engineering, Kyungpook National University, Korea*

**14:20** Gold Nanoclusters: A New Light Harvesting Antenna for Solar Energy Conversion

**Jin Ho Bang**

*Department of Bionano Technology, Department of Chemical and Molecular Engineering, Hanyang University, Korea*

**14:45** Hydrogen Evolution Reaction using Layered Ternary Transition Metal Chalcogenide and Blue TiO<sub>2</sub> Nanomaterials

Anand prakash Tiwari, **Hyoyoung Lee**<sup>1\*</sup>

*Material science and engineering, Korea Advanced Institute of Science and Technology, Korea*

<sup>1</sup>CINAP-IBS, Department of Chemistry, Korea

**15:10** Strategies for the development of dichalcogenide anode materials for advanced Na ion storage

**Yong-Mook Kang**

*Department of Energy and Materials Engineering, Dongguk University, Korea*

**15:40** Electrochemical Division General Meeting

ELEC1-5

MAT2-1

**22. Recent Advances in Electrochemistry**  
**October 20 (FRI), Room 201+202**

**<Electrochemistry Symposium 2>**

Chair : Jun Hui Park

**09:10** Bringing single-level spectromicroscopy to electrochemical systems : lithium ion batteries and microbial fuel cells

**Jongwoo Lim**

*Division of Chemistry, Seoul National University, Korea*

ELEC2-1

MAT2-2

**09:40** Noble Metal-Based Bimodal Nanocatalysts for Hydrogen Evolution Reaction in an Alkaline Electrolyte

**Sang-II Choi**

*Department of Chemistry, Kyungpook National University, Korea*

ELEC2-2

MAT2-3

MAT2-4

**10:10** Coffee Break

**<Award Lecture: I-SENS Young Electrochemistry Award>**

**10:20** Use of Nanoscale Functional Materials in Electrochemiluminescence: Making Electrochemiluminescence Brighter

**Joohoon Kim**

*Department of Chemistry, Kyung Hee University, Korea*

ELEC2-3

MAT2-5

**23. Current Trends in Chemistry Education**  
**October 20 (FRI), Room 301**

**<Chemistry Education Symposium 1>**

Chair : Sukjin Kang

**09:00** Science Fiction in Science Education

**HyunJu Park**

*Chemistry Education, Chosun University, Korea*

EDU1-1

ELEC1-1

**09:30** Overseas Voluntary Activities and Science Education

**JaeYoung Han**<sup>1</sup>, Sungmin Im<sup>1</sup>

*Department of Chemistry Education, Chungbuk National University, Korea*

<sup>1</sup>Faculty of Science Education, Daegu University, Korea

EDU1-2

ELEC1-2

**10:00** Coffee Break

ELEC1-3

**10:20** Creative convergence science lab: Design and implementation

**Jeongho Cha**

*Faculty of Science Education, Daegu University, Korea*

EDU1-3

ELEC1-4

**24. Chemistry Education for the Science Gifted Students**  
**October 20 (FRI), Room 301**

**<Chemistry Education Symposium 2>**

Chair : JaeYoung Han

**14:30** KSA Experience-Based Learning Programs

**Jinho Oh**

EDU2-1

## Scientific Program

*Chemistry & Biology, Korea Science Academy of KAIST, Korea*

- 14:50 Research & Education Program in Science High School for the Gifted  
**Mi Young Han**  
*Department of Chemistry, Daejeon Science High School for the Gifted, Korea*
- 15:10 Educational significance of R & E activities in university  
**Chang-Hoon Nam**  
*Daegu Gyeongbuk Institute of Science & Technology, Korea*
- 15:30 Coffee Break
- 15:50 Discussion

### 25. R&D beyond Carbon Society I October 19 (THU), Room 301

#### <Environmental Energy Symposium>

Chair : Jaeyoung Lee

<Award Lecture: Young Scientist Award>

- 13:30 Unique chemical processes in ice and its environmental impacts  
**Kitae Kim**  
*Korea Polar Research Institute, Korea*
- 14:10 Electrochemistry at an interface between two immiscible electrolyte solutions for Energy and Environmental Applications  
**Hye Jin Lee**  
*Department of Chemistry, Kyungpook National University, Korea*
- 14:40 Coffee Break
- 14:50 Oxidation of CO, toluene and acetaldehyde catalyzed by mesoporous-template-supported NiO and Fe<sub>2</sub>O<sub>3</sub> nanoparticles prepared by vapor deposition methods  
**Young Dok Kim**  
*Department of Chemistry, Sungkyunkwan University, Korea*
- 15:20 Suggestion on the Energy Industry from Atmospheric Environmental Perspective for Air Quality Improvement  
**Kyung-Eun Min**  
*School of Earth Science and Environmental Engineering, Gwangju Institute of Science and Technology, Korea*

### 26. [Tutorial] NMR Applications in Chemistry October 18 (WED), Room 208+209+210

#### <Tutorial>

Chair : YONGAE KIM

- 15:00 Structure Determination of Small Organic Compounds by Solution NMR Method  
**Jung-Rae Rho**  
*Kunsan National University, Korea*
- Chair : Jung-Rae Rho
- 16:00 Introduction of SOLID-STATE NMR Spectroscopy for Chemicals and Polymer Materials  
**YONGAE KIM**  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*

### 27. Scientific and Technological Talents Aspired by the Government and Industry

### October 19 (THU), Room 206+207

#### <Special Symposium 1>

EDU2-2

Chair : Youngeun Kwon

- EDU2-3 10:00 The Role of Chemists at the heart of the Fourth Industrial Revolution  
**Inho RHA**  
*Vice-president of DONGWOO FINE-CHEM, Korea* KCS2-1

### 28. [IBS Symposium] Developing New Catalytic Organic Reactions and Investigating Their Applications October 18 (WED), Room 211+212+213

#### <Special Symposium 2>

Chair : Sukwon Hong

- 15:00 Development of Direct C-H Amination Reactions  
**Sukbok Chang**  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea* KCS3-1
- 15:20 Decarboxylative C-H Activation for the synthesis of homoisoflavonoids & Decarboxylative trichlorination  
**Sunwoo Lee**  
*Department of Chemistry, Chonnam National University, Korea* KCS3-2
- 15:40 Total Synthesis of Spirocyclic PKS-NRPS-Based Fungal Metabolites  
**Sunkyu Han**  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea* KCS3-3
- 16:00 Coffee Break
- Chair : Sunkyu Han
- 16:20 Development of Bifunctional N-Heterocyclic Carbene Ligands  
**Sukwon Hong**  
*Department of Chemistry, Gwangju Institute of Science and Technology, Korea* KCS3-4
- 16:40 Bidentate Directing Group: Versatile Platform for C-H Activation and Privileged Building Blocks  
**Sungwoo Hong**  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea* KCS3-5

### 29. [SRC Symposium] Biomimetic Catalysis Based on Porous Platform (BCP2)

October 18 (WED), Room 214

#### <Special Symposium 3>

Chair : Ja-Hyung Ryu

- 14:30 Catalytic Site Anchoring in a Tailored Metal-Organic Framework (MOF)  
**Sungeun Jeoung**, SONG HO LEE, Hoi Ri Moon\*  
*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea* KCS4-1
- 14:40 Defect Engineering for Functionalization of Metal-Organic Frameworks  
**Seongwoo Kim**, Hyojin Park, Min Kim\*  
*Department of Chemistry, Chungbuk National University, Korea* KCS4-2
- 14:50 Amino acid functionalized Zr-MOF for heterogeneous catalysis and KCS4-3

	heavy metal adsorption			
	<b><u>Hye Hyun Kim</u></b> , Somi Won, Junmo Seong, Gyoung Hwa Jeong, Myoung Soo Lah* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>			
<b>15:00</b>	A catecholamine neurotransmitter towards pathogenic features found in Alzheimer's disease <b><u>Eunju Nam</u></b> , Mi Hee Lim* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>	<b>KCS4-4</b>	<b>17:00</b> Recombinant protein-MOF hybrid complex <b><u>Joon Yong Oh</u></b> , Palanikumar L, Ja-Hyoung Ryu <sup>1*</sup> , Sebyung Kang <sup>2*</sup> , Wonyoung Choe <sup>1,2*</sup> <i>Department of Chemistry / Department of Chemical E, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>2</sup> <i>Division of Life Science, Ulsan National Institute of Science and Technology, Korea</i>	<b>KCS4-13</b>
<b>15:10</b>	Practical 2D ensemble channels for crystal structure determination of liquid chemicals via SCSC guest exchange <b><u>DAYE CHOI</u></b> , Ok-Sang Jung* <i>Department of Chemistry, Pusan National University, Korea</i>	<b>KCS4-5</b>		
<b>15:20</b>	Coffee Break			
<b>Chair : Min Kim</b>				
<b>15:35</b>	Robust porous superstructure synthesized via solid-state reaction <b><u>Sun-Min Jung</u></b> , Dongwook Kim <sup>1</sup> , Myoung Soo Lah <sup>1</sup> , Jong-Beom Baek <sup>2,3*</sup> <i>Department of Energy Engineering, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>2</sup> <i>Division of Energy Engineering, Ulsan National Institute of Science and Technology, Korea</i>	<b>KCS4-6</b>	<b>17:10</b> Redox-tuning of Small Molecules to Develop Chemical Regulators for Multiple Pathogenic Elements in Alzheimer's Disease <b><u>Jiyeon Han</u></b> , Hyuck Jin Lee <sup>1</sup> , Jaeheung Cho <sup>2</sup> , Junghyun Chae <sup>3*</sup> , Mi Hee Lim* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>School of Life Sciences, Ulsan National Institute of Science and Technology, Korea</i> <sup>2</sup> <i>Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i> <sup>3</sup> <i>Department of Chemistry, Sungshin University, Korea</i>	<b>KCS4-14</b>
<b>15:45</b>	Replaceable Lewis Acid Catalysts in Surface-modified Metal-Organic Frameworks <b><u>Hakyung Yun</u></b> , Jaheon Kim* <i>Department of Chemistry, Soongsil University, Korea</i>	<b>KCS4-7</b>	<b>30. [Laboratory Safety Education] Study on the Psychological Processes Underlying Errors and Laboratory Management Systems for the Improvement of Chemical Laboratories October 19 (THU), Room 214</b>	
<b>15:55</b>	Critical Role of (100) Facets on $\gamma$ -Al <sub>2</sub> O <sub>3</sub> for Ethanol Dehydration: Combined Efforts of Morphology-Controlled Synthesis and TEM Study <b><u>Jaekyoung Lee</u></b> , Ja Hun Kwak <sup>1,2*</sup> <i>School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea</i>	<b>KCS4-8</b>	<b>&lt;Special Symposium 4&gt;</b>	
<b>16:05</b>	Enzymatic responsive multifunctional metal organic structure for on command drug release <b><u>Kibeom KIM</u></b> , Tae-Hyuk Kwon <sup>1</sup> , Wonyoung Choe*, Ja-Hyoung Ryu* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Eco-Friendly Energy Engineering, Ulsan National Institute of Science and Technology, Korea</i>	<b>KCS4-9</b>	<b>Chair : Ik-Mo Lee</b>	
<b>16:15</b>	Solvent-Induced Structural Transitions in a Zn <sub>4</sub> O-Containing Doubly Interpenetrated Metal-Organic Framework <b><u>Jaehwa LEE</u></b> , Hoi Ri Moon* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>	<b>KCS4-10</b>	<b>13:30</b> Psychological Processes Underlying Human Errors <b><u>ChangHo Park</u></b> <i>Department of Psychology, Chonbuk National University, Korea</i>	<b>KCS5-1</b>
<b>16:25</b>	Coffee Break		<b>14:10</b> The Development of Chemical Integrated Management System <b><u>Young Mi Kim</u></b> <i>Korea Research Institute of Chemical Technology, Korea</i>	<b>KCS5-2</b>
<b>Chair : Hoi Ri Moon</b>			<b>14:50</b> KOFWST's Achievements of Safety Management for Women Scientists <b><u>Jiyoung Moon</u></b> <i>Korea Federation of Women's Science &amp; Technology Associations (KOFWST), Korea</i>	<b>KCS5-3</b>
<b>16:40</b>	The observation of drastic change of metal cluster in metal-organic frameworks by transmetalation <b><u>Dongwook Kim</u></b> , Seok Jeong, Myoung Soo Lah* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>	<b>KCS4-11</b>	<b>31. Directions of Basic Research Supports from NRF in Year 2018 and Samsung Research Funding for Future Technology October 20 (FRI), Room 201+202</b>	
			<b>&lt;Special Symposium 5&gt;</b>	
			<b>Chair : Kye Chun Nam</b>	
			<b>13:00</b> Directions of Basic Research Supports from NRF in Year 2018 <b><u>Yong-Hoon Lee</u></b> <i>Department of Mathematics, Pusan National University, Korea</i>	<b>KCS6-1</b>
			<b>13:40</b> Samsung Research Funding for Future Technology <b><u>Sung Hong Kwon</u></b> <i>Samsung Electronics Co., Ltd., Korea</i>	<b>KCS6-2</b>



**32. Oral Presentation for Young Scholars in Polymer Chemistry**  
**October 20 (FRI), Room 302+303**

**<Polymer Chemistry Oral Presentation>**

Chair : Hyeonseok Yoon

- 14:30** Metal-Catalyzed Functionalization of Polymer Surface for Microfluidic Applications  
**chinnadurai satheeshkumar**, Myungeun Seo<sup>\*</sup>  
*Graduate School of Nanoscience and Technology, Korea Advanced Institute of Science and Technology, Korea*
- 14:45** The Study on Asymmetric Alkyl Substitution and Application to Hole Transporting Materials for Perovskite Solar Cells  
**Junwoo Lee**, Gyeong Ho Kang, SUNG YUN SON, Taiho Park<sup>\*</sup>  
*Department of Chemical Engineering, Pohang University of Science and Technology, Korea*
- 15:00** Redesigning the PEG Surface of Nanocarriers for Tumor Targeting  
**Yoonkyung Kim**  
*Korea Research Institute of Bioscience and Biotechnology (한국생명공학연구원), Korea*
- 15:15** Nanocrystalline cellulose-derived stimulus-responsive cholesteric microgels having catalytic properties  
**Sangho Cho**  
*Korea Institute of Science and Technology, Korea*

Chair : Changsik Song

- 15:30** UV-mediated synthesis of thermoresponsive alginate hydrogels and tuning their responsive properties  
**Eun Jung Choi**, Changsik Song<sup>\*</sup>, Ju Hyen Lee, TaeWoo Kim<sup>1</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>1</sup>Sungkyunkwan University, Korea
- 15:45** Diaziridine-based Curing Resins for Overcoming Limitations of Epoxy Materials  
**Seohyun Kang**, Hyo Jae Yoon<sup>\*</sup>  
*Department of Chemistry, Korea University, Korea*
- 16:00** Effects of microwave-assisted polymerization on the photovoltaic performance of PTB7 solar cell  
**Minjun Kim**, HONG IL KIM<sup>1</sup>, Sangwon Kim<sup>1</sup>, Taiho Park<sup>1\*</sup>  
*Chemical engineering, Pohang University of Science and Technology, Korea*  
<sup>1</sup>Department of Chemical Engineering, Pohang University of Science and Technology, Korea
- 16:15** Control of the Donor/Acceptor Interfacial Morphology via Quadrupolar Electrostatic Interactions for All-Polymer Solar Cells  
**HONG IL KIM**, Minjun Kim<sup>1</sup>, Cheol Woong Park, Taiho Park<sup>\*</sup>  
*Department of Chemical Engineering, Pohang University of Science and Technology, Korea*  
<sup>1</sup>Chemical engineering, Pohang University of Science and Technology, Korea

**33. Oral Presentation of Young Inorganic Chemists**  
**October 19 (THU), Room 211+212+213**

**<Inorganic Chemistry Oral Presentation >**

Chair : Won Cheol Yoo

- 09:00** Carbon dioxide Working Capacity Control in Heterodiamine-Functionalized Metal-Organic Frameworks  
**Woo Ram Lee<sup>\*</sup>**, Chang Seop Hong<sup>1\*</sup>  
*Department of chemistry, Sejong University, Korea*  
<sup>1</sup>Department of Chemistry, Korea University, Korea
- 09:30** Methods for Controlling Properties and Functions of Organic and Inorganic Materials  
**Jin Kuen Park**  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*
- 10:00** Application of Electrochemical Methods in Artificial Photosynthesis  
**Hyun Seo Ahn**  
*Department of Chemistry, Yonsei University, Korea*
- 10:30** Inorganic nanoparticle regulates bone metabolism  
**Shin-Woo Ha**  
*Department of Radiology, Seoul National University Bundang Hospital, Korea*

**34. Oral Presentation for Young Scholars in Physical Chemistry**  
**October 19 (THU), Room 208+209+210**

**<Physical Chemistry Oral Presentation>**

Chair : Sang-Yong Ju

- 09:00** High-throughput simulations and single-molecule experiments reveal DNA looping and self-association controlled by sequence and methylation  
**Jejoong Yoo**, Sangwoo Park<sup>1</sup>, Taekjip Ha<sup>1</sup>, Aleksei Aksimentiev<sup>2\*</sup>  
*Center for self-assembly and complexity, Institute for basic science, Korea*  
<sup>1</sup>Johns Hopkins University, USA, United States  
<sup>2</sup>University of Illinois at Urbana-Champaign, United States
- 09:10** Structural transformations on the bond fission dynamics of 2-methoxythiophenol-d<sub>4</sub>  
**Jean Sun Lim**, Sang Kyu Kim<sup>\*</sup>  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*
- 09:20** Finding multiple reaction pathways via global optimization of action  
**Juyong Lee**  
*Department of Chemistry, Kangwon National University, Korea*
- 09:30** A Mechanism at a Molecular Level for the Shear Exfoliation of Nanoplates  
**Inhyuk Jang**, Bong June Sung<sup>\*</sup>  
*Department of Chemistry, Sogang University, Korea*
- 09:40** Preparing Highly Luminescent Gold Nanoclusters via Surface Modification  
**Kyunglim Pyo**, Dongil Lee<sup>\*</sup>  
*Department of Chemistry, Yonsei University, Korea*
- 09:50** Coffee Break
- 10:00** Target-based drug discovery through inverse quantitative structure-activity-lipophilicity relationships and molecular simulation  
**Petar Zuvela**, Jay Liu<sup>1\*</sup>, Myunggi Yi<sup>2</sup>, Paweł Pomastowski<sup>3</sup>, Gulyaim Sagandykova<sup>4</sup>, Tomasz Bączek<sup>5</sup>, Jarosław Sławiński<sup>6</sup>, Ming Wah Wong, Bogusław Buszewski<sup>3</sup>  
*Department of Chemistry, National University of Singapore, Singapore*

	<sup>1</sup> Department of Chemical Engineering, Pukyong National University, Korea				
	<sup>2</sup> Department of Biomedical Engineering, Pukyong National University, Korea				
	<sup>3</sup> Department of Environmental Chemistry and Bioanalytics, Nicolaus Copernicus University, Poland				
	<sup>4</sup> Nicolaus Copernicus University, Department of Environmental Chemistry and Bioanalytics, Poland				
	<sup>5</sup> Department of Pharmaceutical Chemistry, Medical University of Gdańsk, Poland				
	<sup>6</sup> Department of Organic Chemistry, Medical University of Gdańsk, Poland				
10:15	Conformer-specific vibrational spectroscopy of molecular cations by high-resolution VUV-MATI technique <b>Yu Ran Lee</b> , Hong Lae Kim, Chan Ho Kwon* <i>Department of Chemistry, Kangwon National University, Korea</i>	PHYS.0-7			
10:30	A series of DFT studies on TiO <sub>2</sub> nanoparticles with a modified hybrid functional <b>Kyoung Chul Ko</b> , JIN YONG LEE* <i>Department of Chemistry, Sungkyunkwan University, Korea</i>	PHYS.0-8			
10:45	Why is the photo-induced intersystem crossing of ruthenium(II) complex ultrafast and efficient? <b>JUNWOO KIM</b> , Taiha Joo* <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i>	PHYS.0-9			
<div style="background-color: #333; color: white; padding: 5px; margin: 10px auto; width: 80%; border-radius: 5px;"> <b>35. Oral Presentation of Young Analytical Chemists I</b>  <b>October 19 (THU), Room C311+C312</b> </div> <p style="text-align: center; margin: 0;"><b>&lt;Analytical Chemistry Oral Presentation I&gt;</b></p>					
<b>Chair : Wonryeon Cho</b>					
09:00	Application of Powder X-ray Diffraction Technique to Structural Analysis of Self-assembled Structures Consisting of Peptide Foldamers <b>Jintaek Gong</b> , Hee-Seung Lee <sup>1*</sup> <i>Natural Science Research Institute, Korea Advanced Institute of Science and Technology, Korea</i> <sup>1</sup> Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea	ANAL1.0-1			
09:10	Investigation of site-specific water dynamics inside PEMs using Overhauser Dynamic Nuclear Polarization Nuclear Magnetic Resonance <b>Seung-Bo Saun</b> <sup>*</sup> , Oc Hee Han, JiWon Kim <sup>1</sup> <i>Western Seoul Center, Korea Basic Science Institute, Korea</i> <sup>1</sup> Department of Chemistry and Nano Science, Ewha Womans University, Korea	ANAL1.0-2			
09:20	A colorimetric probe to determine NO <sub>2</sub> <sup>-</sup> using label free gold nanocrystals <b>Kyungmin Kim</b> , Yun Sik Nam <sup>1</sup> , Kang-Bong Lee <sup>2*</sup> <i>Department of Chemistry, Korea University, Korea</i> <sup>1</sup> Advanced Analysis Center, Korea Institute of Science and Technology, Korea <sup>2</sup> Green City Technology Institute, Korea Institute of Science and Technology, Korea	ANAL1.0-3			
09:22	Analysis of Correlation between Structure of Linear Surfactants and Acute Eye Irritation Scores <b>Sujin Cho</b> , Tian Tian, Seog Woo Rhee*	ANAL1.0-4			
					<i>Department of Chemistry, Kongju National University, Korea</i>
09:24	Assessment of Phototoxicity Inhibition of Flavone-based Materials <b>Sung Eun Lee</b> , Tian Tian, Seog Woo Rhee* <i>Department of Chemistry, Kongju National University, Korea</i>	ANAL1.0-5			
09:26	Sequential colorimetric detection technology of iron and mercury ions by etching and aggregation of gold nanorods <b>Sujin Yoon</b> , Yun Sik Nam, Kang-Bong Lee <sup>1*</sup> <i>Advanced Analysis Center, Korea Institute of Science and Technology, Korea</i> <sup>1</sup> Green City Technology Institute, Korea Institute of Science and Technology, Korea	ANAL1.0-6			
09:28	Morphological elucidation of porous PCL(Polycaprolactone) microspheres using various analytical methods <b>SUK YEN KO</b> , Wangsoo Shin <sup>1*</sup> , Jinsu Kim <sup>1</sup> , NAJEONG PARK <sup>1</sup> <i>Analytical Science Center, R&amp;D center, Korea</i> <sup>1</sup> MD program, R&D center, Korea	ANAL1.0-7			
09:30	Effect of Adsorbate Molecules on Chemical Interface Damping in Single Gold Bipyramids with Sharp Tips <b>SOYOUNG LEE</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL1.0-8			
09:32	Decontamination of sulfur mustard in sand, concrete, and asphalt matrices <b>Hyunsook Jung</b> <i>CBR Division, Agency for Defense Development, Korea</i>	ANAL1.0-9			
09:34	Surface-Enhanced Raman Scattering of Gold Nanourchins with Sharp and Short Branches <b>MINJUNG SEO</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL1.0-10			
09:36	Defocused Dark-Field Orientation Imaging of Single Gold Microrods on Synthetic Membranes <b>Junho Lee</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL1.0-11			
09:38	Label-free Optical Biosensor Based on Chemical Interface Damping Using Gold-nanorods <b>SeongWoo Moon</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL1.0-12			
09:40	Effect of Adsorbate Electrophilicity and Spiky Uneven Surfaces on Single Gold Nanourchin-based Localized Surface Plasmon Resonance Sensors <b>geunwan kim</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL1.0-13			
09:42	Synthesis and characterization of Li <sub>3</sub> V <sub>2</sub> (BO <sub>3</sub> ) <sub>3</sub> cathode material prepared by a citric acid based sol-gel route <b>Minsoo Ji</b> , YOUNGIL LEE* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL1.0-14			
09:44	Study of electrochemical properties for porous Li <sub>3</sub> V <sub>2</sub> (BO <sub>3</sub> ) <sub>3</sub> /C as a cathode material its characterization using MAS NMR for Li-ion batteries <b>Ji Won Lee</b> , CHAEWON Moon, YOUNGIL LEE* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL1.0-15			
09:46	Chromatographic Enantiomer Separation of Chiral Amines as Nitrobenzoxadiazole Derivatives on Several Polysaccharide-Derived Chiral Stationary Phases by Normal HPLC under Simultaneous	ANAL1.0-16			

## Scientific Program

	<p>Ultraviolet and Fluorescence Detection  <b>Adhikari Suraj</b>, Wonjae Lee*  <i>College of Pharmacy, Chosun University, Korea</i></p>		<p>Asymmetrical Flow Field-Flow Fractionation  <b>Young Beom Kim</b>*, Lee Hye Jin, Myeong Hee Moon*  <i>Department of Chemistry, Yonsei University, Korea</i></p>	
09:48	<p>Forensic Platform for Identification of Human Saliva using MS-based Glycomics  <b>Hantaee Moon</b>, Bum Jin Kim, Hyun Joo An*  <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	ANAL1.0-17	<p>10:13 Profiling of lipoproteins from patients with mild cognition impairment and Alzheimer's disease by asymmetrical flow field-flow fractionation and nUPLC-ESI-MS/MS  <b>SAN HA KIM</b>, JoonSeon Yang, Myeong Hee Moon*  <i>Department of Chemistry, Yonsei University, Korea</i></p>	ANAL1.0-27
09:50	<p>High-throughput Automated Platform for Native Glycan Analysis using Liquid Handling System  <b>Gyeong Mi Park</b>, Hyun Joo An*  <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	ANAL1.0-18	<p>10:15 Lipidomic analysis of blood plasma from patients among five different cancer types by nUPLC-ESI-MS/MS  <b>Gwang Bin Lee</b>, JongCheol Lee, Myeong Hee Moon*  <i>Department of Chemistry, Yonsei University, Korea</i></p>	ANAL1.0-28
09:52	<p>Molecular level characterization of chemical compounds in crude oil deposit from tanks in Artawi oil field (Iraq)  <b>hasanain najm</b>, ARIF AHMED<sup>1</sup>, Sunghwan Kim<sup>1*</sup>  <i>department of chemistry, Kyungpook National University, Iraq</i>  <sup>1</sup><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	ANAL1.0-19	<p>10:17 An investigation on the various internal standards for the accurate determination of the arsenic species in rice  <b>Seong Hun Son</b>, WONBAE LEE, Sang-Ho Nam*  <i>Department of Chemistry, Mokpo National University, Korea</i></p>	ANAL1.0-29
09:54	<p>Quantification of Inorganic Arsenic using Ion Exchange Membrane by Laser Induced Breakdown Spectroscopy  <b>Kwon seul woo</b>, Sang-Ho Nam*, Yonghoon Lee  <i>Department of Chemistry, Mokpo National University, Korea</i></p>	ANAL1.0-20	<p>10:19 LC-MS/MS determination and pharmacokinetic study of Sorafenib in rat and beagle plasma  <b>yoojeong yoon</b>  <i>Analytical Science center, Samyang Corporation, Korea</i></p>	ANAL1.0-30
09:56	<p>Synthesis, dispersion and tribological potential of alkyl functionalized graphene oxide for oil-based lubricant additives  <b>jinyeong choe</b>, yong jae kim, Chang-Seop LEE*  <i>Department of Chemistry, Keimyung University, Korea</i></p>	ANAL1.0-21	<p>10:21 Synthesis and Characterization of Graphene-enclosed TiO<sub>2</sub> Anatase as Anode Materials for Li-Secondary Batteries  <b>Hasan Jamal</b>  <i>Department of Chemistry, Keimyung University, Korea</i></p>	ANAL1.0-31
09:58	<p>Characteristics and electrochemical performance of silica coated carbon nanocoils composite as an anode material for lithium secondary batteries  <b>EunJeong Hwang</b>, Yura Hyun<sup>1</sup>, Heai-Ku Park<sup>2</sup>, Chang-Seop LEE*  <i>Department of Chemistry, Keimyung University, Korea</i>  <sup>1</sup><i>Department of Pharmaceutical Engineering, International University of Korea, Korea</i>  <sup>2</sup><i>Department of Chemical System Engineering, Keimyung University, Korea</i></p>	ANAL1.0-22	<p>10:23 Quantitative analysis of residual lactide in Polylactide by NMR and GC  <b>HYERIM KIM</b>  <i>Samyang Biopharmaceuticals Corp., Analytical Science Center R&amp;D Center, Korea</i></p>	ANAL1.0-32
10:00	Coffee Break		<p>10:25 Equipment for lung cancer diagnosis via breath analysis using IMS  <b>HeeJin Moon</b>  <i>R&amp;D, Sensor Tech, Korea</i></p>	ANAL1.0-33
10:05	<p>On-line proteolysis and glycopeptide enrichment using dual micro-scale porous polymer membrane enzyme reactor (μPPMER) and nanoflow liquid chromatography-tandem mass spectrometry  <b>JoonSeon Yang</b>, Juan Qiao<sup>1</sup>, Liping Zhao<sup>1</sup>, Li Qi<sup>1*</sup>, Myeong Hee Moon*  <i>Department of Chemistry, Yonsei University, Korea</i>  <sup>1</sup><i>Beijing National Laboratory for Molecular Sciences; Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences, China</i></p>	ANAL1.0-23	<p>10:27 [Withdrawal] Study on boron analysis of NCM Anode active material in lithium ion battery by ICP-MS  <b>In Gi Kim</b>, Heung Bin Lim*  <i>Department of Chemistry, Dankook University, Korea</i></p>	ANAL1.0-34
10:07	<p>Effect of high fat diet on mouse brain lipidomes by nUPLC-ESI-MS/MS : Cortex, Hippocampus, Hypothalamus, &amp; Olfactory bulb  <b>JongCheol Lee</b>, Myeong Hee Moon*  <i>Department of Chemistry, Yonsei University, Korea</i></p>	ANAL1.0-24	<p>10:29 Optimization of sample preparation for the identification of GB-tyrosine in rat plasma exposure to GB  <b>JIHYUN KWON</b>, Yong Gwan Byun, Yong Han Lee*  <i>Agency for Defense Development, Korea</i></p>	ANAL1.0-35
10:09	<p>Analysis of HDL from coronary artery disease patients through bottom-up and top-down proteomic approach using flow field-flow fractionation and mass spectrometry  <b>Jae-Hyun Lee</b>, JoonSeon Yang, Myeong Hee Moon*  <i>Department of Chemistry, Yonsei University, Korea</i></p>	ANAL1.0-25	<p>10:31 Anti aging effect of green tea extract and its application to the herb material of emulsion base  <b>Young Jun Park</b>  <i>Cha university, Korea</i></p>	ANAL1.0-36
10:11	<p>Steric Transition Phenomena upon Field Decay Patterns Using Frit-inlet</p>	ANAL1.0-26	<p>10:33 Quantum Dot Dissolution Based Electrochemical Immunosensor for a Post Mortem Interval Biomarker Detection in Serum Sample  <b>BongJin Jeong</b>, RASHIDA AKTER, Jeonghyun Oh, Md. Aminur Rahman*  <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	ANAL1.0-37
			<p>10:35 Graphene Oxide/Polytyramine Nanocomposite Based Immunosensor for Electrochemical Protein Detection  <b>MD. ARIF-UR RAHMAN</b>, RASHIDA AKTER, BongJin Jeong, Jeonghyun Oh, Md. Aminur Rahman*  <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	ANAL1.0-38

National University, Bangladesh

<p><b>10:37</b> Improving Electrochemical Protein Detection through Enhancing Biocatalyzed Precipitation Using Bionzymes Coated Carbon Nanotubes <b>RASHIDA AKTER</b>, MD. ARIF-UR RAHMAN, Jeonghyun Oh, BongJin Jeong, Md. Aminur Rahman* <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL1.0-39</b></p>	<p><b>09:10</b> Changes of Saliva N-glycome after Death: A Proof-of-Concept Study for Determining Time of Death <b>Bum Jin Kim</b>, Hyun Joo An* <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL2.0-2</b></p>
<p><b>10:39</b> Simultaneous Multiplexed Detection of Multiple Cancer Biomarkers using Graphene Oxide Electrode Array and Metal Ion Tagged Dendrimer Label <b>RASHIDA AKTER</b>, BongJin Jeong, Md. Aminur Rahman* <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL1.0-40</b></p>	<p><b>09:20</b> Phytochemical, Pharmacological and Cytotoxic Characteristics of a Bioactive Compound Isolated from the Aerial Part of <i>Stenochlaena palustris</i> <b>Adhikari Suraj</b>, Wonjae Lee* <i>College of Pharmacy, Chosun University, Korea</i></p>	<p><b>ANAL2.0-3</b></p>
<p><b>10:41</b> Synthesis of Silicon-Coated Gold Nanoparticle for Dual Imaging and Therapy <b>Soomin Hwang</b>, Hyeonlim Seo, Hoeil Chung<sup>1</sup>, Seunghyun Lee<sup>2</sup>, Youngbok Lee* <i>Department of Bio-Nano Technology, Hanyang University, Korea</i> <sup>1</sup><i>Department of Chemistry, Hanyang University, Korea</i> <sup>2</sup><i>Department of Advanced Materials Engineering, The University of Suwon, Korea</i></p>	<p><b>ANAL1.0-41</b></p>	<p><b>09:22</b> Electrochemical immunoassay for amyloid-beta 1?42 peptide in biological fluids interfacing with a gold nanoparticle modified carbon surface Hye Jin Lee*, <b>Kyung Min Kim</b>, Suhee Kim <i>Department of Chemistry, Kyungpook National University, Korea</i></p>	<p><b>ANAL2.0-4</b></p>
<p><b>10:43</b> Synthesis of Porous Silicon and Carbon Nano-spheres as Hyperpolarized MRI Probes for Cancer Diagnosis <b>DOKYUNG KIM</b>, Ikjang Choi, Youngbok Lee* <i>Department of Bionano Technology, Department of , Korea</i></p>	<p><b>ANAL1.0-42</b></p>	<p><b>09:24</b> Detection of lung cancer biomarkers using sandwich assay based on surface plasmon resonance <b>Sang Hyeok Lee</b>, Hye Jin Lee* <i>Department of Chemistry, Kyungpook National University, Korea</i></p>	<p><b>ANAL2.0-5</b></p>
<p><b>10:45</b> Determination of Fenpyroximate from Honey by LC-MS/MS <b>JinMun Kim</b>, JUN SEOK KIM<sup>1</sup>, Hyun-Woo Cho<sup>2</sup>, Seung Woon Myung* <i>Department of Chemistry, Kyonggi University, Korea</i> <sup>1</sup><i>Korea Polytechnics, Korea</i> <sup>2</sup><i>Department of Natural Science Chemistry, Kyonggi University, Korea</i></p>	<p><b>ANAL1.0-43</b></p>	<p><b>09:26</b> Analysis of defect mechanism using Micro-IR <b>young woong Ahn</b> <i>Research Team of Total analysis, KCC Central Research institute, Korea</i></p>	<p><b>ANAL2.0-6</b></p>
<p><b>10:47</b> Analytical Platforms Employing LC-MS for Glycosylation Assessment of Therapeutic Glycoprotein <b>Nayoung Yun</b>, Myung Jin Oh, Hyun Joo An* <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL1.0-44</b></p>	<p><b>09:28</b> Study on corrosion mechanism and temperature profile of painted specimens by salt spray test (SST) <b>JAEHEE KIM</b> <i>Analysis Team, KCC central research institute, Korea</i></p>	<p><b>ANAL2.0-7</b></p>
<p><b>10:49</b> Indolocarbazole-Based Receptors: Synthesis, Characterization and Anion Sensor Applications <b>SeungYun Baek</b>, Byeong-Kwan An* <i>Department of Chemistry, The Catholic University of Korea, Korea</i></p>	<p><b>ANAL1.0-45</b></p>	<p><b>09:30</b> On-Chip Direct Diagnostics based on Grating Coupling of Scattered Nanometals in Evanescent Field Layer <b>Seungah Lee</b>, Soyeong Ju<sup>1</sup>, Suresh Kumar Chakkarapani<sup>1</sup>, Seong Ho Kang* <i>Department of Applied Chemistry, Kyung Hee University, Korea</i> <sup>1</sup><i>Department of Chemistry, Kyung Hee University, Korea</i></p>	<p><b>ANAL2.0-8</b></p>
<p><b>10:51</b> Classification of glycoproteins by pattern identification in traditional Korean medicine (TKM) in human plasma from lung cancer patients <b>Jihoon Shin</b>, jinwook lee, Min-gyu youn, miseon jeong, Jeonghoon Kang, Wonryeon Cho* <i>Department of Bio-nanochemistry, Wonkwang University, Korea</i></p>	<p><b>ANAL1.0-46</b></p>	<p><b>09:32</b> Analysis of Famphur in Honey by Solid-Phase Extraction and GC-MS <b>seungho Lee</b>, Hyun-Woo Cho<sup>1</sup>, Seung Woon Myung* <i>Department of Chemistry, Kyonggi University, Korea</i> <sup>1</sup><i>Department of Natural Science Chemistry, Kyonggi University, Korea</i></p>	<p><b>ANAL2.0-9</b></p>
<p><b>36. Oral Presentation of Young Analytical Chemists II</b> <b>October 20 (FRI), Room C308+C309</b></p> <p><b>&lt;Analytical Chemistry Oral Presentation II&gt;</b></p>		<p><b>09:34</b> Near-infrared fluorescent probes for the detection of alkaline phosphatase activity in-vivo imaging <b>Chul Soon Park</b>, Tai Hwan Ha, KyungKwan Lee<sup>1</sup>, Chang-Soo Lee<sup>2,*</sup> <i>Center for Bio Monitoring Research, Korea Research Institute of Bioscience &amp; Biotechnology, Korea</i> <sup>1</sup><i>Center for Bio Nano Research, Korea Research Institute of Bioscience &amp; Biotechno, Korea</i> <sup>2</sup><i>Center for Bio Nano Research, Korea Research Institute of Bioscience &amp; Biotechnology, Korea</i></p>	<p><b>ANAL2.0-10</b></p>
<p><b>Chair : Sang Yun Han</b></p> <p><b>09:00</b> Multimodal analysis of Polymer Blending (ABS/Nylon6) during Reliability Test: Mechanical and chemical analysis <b>Seokwon Jung</b> <i>LG Advanced Research Institute, LG Electronics, Korea</i></p>	<p><b>ANAL2.0-1</b></p>	<p><b>09:36</b> Synthesis of Alkaline Ionic Liquids for electrolytes of fuel cells <b>SONG HA LEE</b>, Hye Jin Lee* <i>Department of Chemistry, Kyungpook National University, Korea</i></p>	<p><b>ANAL2.0-11</b></p>
		<p><b>09:38</b> Contemporary Multispectral Three Dimensional Observation of Intracellular Organelles via Enhanced Dark-field Super-resolution Microscopy <b>Suresh Kumar Chakkarapani</b>, Seungah Lee<sup>1</sup>, Soyeong Ju, Seong Ho Kang<sup>1,*</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i></p>	<p><b>ANAL2.0-12</b></p>

## Scientific Program

	<sup>1</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>			
09:40	High Speed Spiral Scanning Spectrometry for reliable Quantitative Analysis of Ag/GO Nanocomposite SERS substrate <b>Si Won Song</b> , Yejung Choi <sup>1</sup> , changhyun Bae, Chan Ryang Park <sup>2</sup> , Yuanzhe Piao <sup>3</sup> , Hyung Min Kim* <i>Department of Bionano Chemistry, Kookmin University, Korea</i> <sup>1</sup> <i>convergence science and technology, Seoul National University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Kookmin University, Korea</i> <sup>3</sup> <i>Graduate School of Convergence Science and Technol, Seoul National University, Korea</i>	ANAL2.0-13	09:56	Optimization of liquid chromatography mass spectrometry (LC/MS) for the analysis of the ganglioside isomers <b>Soobin Choi</b> , Sangwon Cha* <i>Department of Chemistry, Hankuk University of Foreign Studies, Korea</i>
09:42	The electron transfer interaction between mediator and enzyme onto the electrode <b>Chang Jun Lee</b> , HoJin CHO, Won-Yong Jeon, Young Bong Choi, Hyug-Han Kim* <i>Department of Chemistry, Dankook University, Korea</i>	ANAL2.0-14	09:58	Investigation of sample preparation and analysis methods for profiling organic chemicals and metals in teeth <b>Eunji Seo</b> , Sangwon Cha* <i>Department of Chemistry, Hankuk University of Foreign Studies, Korea</i>
09:44	Simultaneous Detection of Thyroid Hormones based on Multi-Immuno-reaction by Dual-Wavelength Capillary Electrophoresis <b>Nain Woo</b> , Yucheng Sun, Seong Ho Kang <sup>1*</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>1</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>	ANAL2.0-15	10:00	Coffee Break
09:46	Ultra-sensitive Immunodetection of Cancer Antigen 125 based on Enhanced Plasmonic Scattering of Nano Probe by Dual-mode Wavelength-dependent Enhanced Dark-field Super-resolution Microscopy <b>Soyeong Ju</b> , Seungah Lee <sup>1</sup> , Suresh Kumar Chakkarapani, Seong Ho Kang <sup>1*</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>1</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>	ANAL2.0-16	10:05	The structural characterization of disease related human transmembrane proteins using the NMR spectroscopy <b>Seongjin Cho</b> , Ji Sun Kim , YONGAE KIM* <i>Department of Chemistry, Hankuk University of Foreign Studies, Korea</i>
09:48	Size-based fractionation and characterization of starch granules using split flow thin cell (SPLIT) and gravitational field-flow fractionation (GrFFF) <b>In Kang</b> , Catalina Sandra Fuentes Zenteno <sup>1</sup> , Jaeyeong Choi, Mauricio Penarrieta <sup>2</sup> , Lars Nilsson <sup>1</sup> , Seungho LEE* <i>Department of Chemistry, Hannam University, Korea</i> <sup>1</sup> <i>Department of Food Technology, Lund University, Bolivia</i> <sup>2</sup> <i>Food Chemistry Group, Carrera de Ciencias Quimicas, Facultad Ciencias Puras y Naturales, Universidad Mayor San Andres, Bolivia</i>	ANAL2.0-17	10:07	Diverse home-built solid-state NMR probes for specific purposes <b>jiho jung</b> , Ji Sun Kim , YONGAE KIM* <i>Department of Chemistry, Hankuk University of Foreign Studies, Korea</i>
09:50	Variation of separation efficiency of glycogen and pullulan with channel type in field-flow fractionation (FFF) <b>Jaeyeong Choi</b> , Catalina Sandra Fuentes Zenteno <sup>1</sup> , Mauricio Penarrieta <sup>2</sup> , Lars Nilsson <sup>1</sup> , Seungho LEE* <i>Department of Chemistry, Hannam University, Korea</i> <sup>1</sup> <i>Department of Food Technology, Engineering and Nutrition, Lund University, Sweden</i> <sup>2</sup> <i>Food Chemistry Group, Carrera de Ciencias Quimicas, Bolivia</i>	ANAL2.0-18	10:09	Development for simultaneous purification of nerve agent metabolites using MB-Ab complex and affinity gel and application to nerve agent inhibited rhesus monkey plasma <b>JinYoung Lee</b> , JIHYUN KWON, Yong Han Lee <i>Agency for Defense Development, Korea</i>
09:52	Effect of light on size of <i>chlorella sorokiniana</i> and production of glutathione using gravitational field-flow fractionation (GrFFF) <b>Yewoon Koo</b> , Jaeyeong Choi <sup>1</sup> , Seungho LEE <sup>1*</sup> <i>Department of chemistry, Hannam University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Hannam University, Korea</i>	ANAL2.0-19	10:11	Optimization of Preparation Condition for Analysis of Statins and Fibrates Adulterated in Oil type Dietary Supplements <b>Nam-Sook Kim</b> , Ji Hee Kim, Sun Hee Moon, Sung Kwan Park, Ho Il Kang* <i>Advanced Analysis Team, Ministry of Food and Drug Safety, Korea</i>
09:54	Identification of behavior of synthesized Sm <sub>2</sub> O <sub>3</sub> particles in goldfish <b>Bobae Kim</b> , Jaeyeong Choi, Chul-Hun Eum <sup>1</sup> , Seungho LEE <sup>1*</sup> <i>Department of Chemistry, Hannam University, Korea</i> <sup>1</sup> <i>Mineral Resources Research Division, Korea Institute of Geoscience and Mineral Resource, Korea</i>	ANAL2.0-20	10:13	Wide-depth Spatially offset Raman Spectroscopy for Detecting Hazardous Chemicals in Building Materials <b>Youngho Cho</b> , Chan Ryang Park, Hyung Min Kim* <i>Department of Chemistry, Kookmin University, Korea</i>
			10:15	Fast Direct Apolipoprotein E Genotyping for Alzheimer's by Multi-channel Microchip Electrophoresis <b>Yucheng Sun</b> , Nain Woo, Seong Ho Kang <sup>1*</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>1</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>
			10:17	Identification of Diverse Types of Monosaccharide Derivative Isomers By Host-guest Complexation with Cucurbit[7]uril <b>Hyun Hee L. Lee</b> , Hugh Inkon Kim* <i>Department of Chemistry, Korea University, Korea</i>
			10:19	Simultaneous determination of 21 tar colors in lipsticks by ultra-performance liquid chromatography <b>Jun hyoung Kim</b> , GiHaeng Kang, Seongsoo Park, Hoil Kang* <i>Advanced analysis team, Ministry of food and drug safety, Korea</i>
			10:21	Potential biomarkers of diabetic kidney disease detected by NMR-based metabolite profiling <b>Jin Seong Hyeon</b> , Geum-Sook Hwang* <i>Western Seoul Center, Korea Basic Science Institute, Korea</i>
			10:23	Highly sensitive detection of lethal infectious pathogen using SERS-based lateral flow assay <b>Rui Wang</b> , Kihyun Kim, JAEBUM CHOO* <i>Department of Bionano Technology, Hanyang University, Korea</i>
			10:25	Rapid and sensitive detection of highly risk pathogens using SERS-

- based lateral flow assay  
**Kihyun Kim**, Rui Wang, JAEBUM CHOO\*  
*Department of Bionano Technology, Hanyang University, Korea*
- 10:27** Application of gradient generating microdroplet-based chips for rapid and sensitive bioanalysis  
**Jinhyeok Jeon**, JAEBUM CHOO\*  
*Department of Bionano Technology, Hanyang University, Korea*
- 10:29** Investigation of the homo- and hetero-oligomerization of amyloid- $\beta$  1-40 and 1-42 using electrospray ionization mass spectrometry  
**Chae Eun Heo**, Taesu Choi<sup>1</sup>, Hugh Inkon Kim<sup>1</sup>  
*Department of Chemistry, Korea University, Korea*
- 10:31** Developed to Overhauser Dynamic Nuclear Polarization Nuclear Magnetic Resonance Systems for Signal Enhancement  
**JiWon Kim**, Seung-Bo Saun<sup>1</sup>, Oc Hee Han<sup>1\*</sup>  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>Western Seoul Center, Korea Basic Science Institute, Korea
- 10:33** A Method for Quantitative Analysis of Cellular Uptake in Combination Therapy Treating Neuroblastoma  
**Hong Areum**, Min Gyeongseo, Hugh Inkon Kim\*  
*Department of Chemistry, Korea University, Korea*
- 10:35** Metabolic profiling in heart tissue of mice fed atherogenic diet  
**Sunhee Jung**, do hyun ryu, Geum-Sook Hwang<sup>1\*</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>1</sup>Korea Basic Science Institute, Korea
- 10:37** Facile Fabrication of Nanostructured Surfaces Amenable to Laser Desorption/Ionization of Drug Molecules  
**SEUNGMOH LEE**, Sang Jun Son<sup>1\*</sup>, Sang Yun Han<sup>2\*</sup>  
*Nano chemistry, Gachon University, Korea*  
<sup>1</sup>College of Bio Nano Technology, Gachon University Global Campus, Korea  
<sup>2</sup>Department of Nano Chemistry, Gachon University Global Campus, Korea
- 10:39** Metabolomic analysis of polychlorinated biphenyls(PCBs) and organochlorine pesticides(OCPs) exposure in human plasma  
**Seoyoung Jang**, Geum-Sook Hwang<sup>1\*</sup>  
*Chemistry nano science, Ewha Womans University, Korea*  
<sup>1</sup>Korea Basic Science Institute, Korea
- 10:41** Structure Elucidation and Potential Function study of Microcystin-LR  
**GilHoon Kim**, Hoshik Won<sup>1\*</sup>  
*Department of Applied chemistry, Hanyang University, Korea*  
<sup>1</sup>Department of Chemical & Molecular Engineering, Hanyang University, Korea
- 10:43** Feasibility of 3-Phase direct immersion in-tube microextraction comparison with Single drop microextraction coupled with capillary electrophoresis  
**ji eun choi**, Doo Soo Chung\*  
*Division of Chemistry, Seoul National University, Korea*
- 10:45** Investigation on The Stability of Uric Acid and Its Isotope (1,3-15N2) in Ammonium Hydroxide for The Absolute Quantification of Uric Acid in Human Serum  
**Sun Young Lee**, Young Eun Kim<sup>1</sup>, Kwonseong Kim<sup>2</sup>, Han Bin Oh<sup>2</sup>, Jongki Hong<sup>3</sup>, Dukjin Kang<sup>3\*</sup>  
*Department of Pharmacy, Kyung Hee University, Korea*

<sup>1</sup>Metrology for Quality of Life Center for Bioanalysis, Korea Research Institute of Standards and Science, Korea

<sup>2</sup>Department of Chemistry, Sogang University, Korea

<sup>3</sup>Metrology for Quality of Life, Korea Research Institute of Standards and Science, Korea

### 37. Oral Presentations of Young Scholars in Organic Division October 19 (THU), Room 304+305+306

#### <Organic Chemistry Oral Presentation>

Chair : Cheol-Hong Cheon

- 09:00** Introduction of a New Hydroxybenzyne Precursors Induced by 1,3-Brook Rearrangement  
**Yong-Ju Kwon**, Wonsuk Kim<sup>1\*</sup>  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>Chemistry Department of Nano-Science, Ewha Womans University, Korea
- 09:15** Single electron transfer strategy for reductive cyclization and oxidative cycloaddition reactions using iron polypyridyl complexes  
**Joon Young Hwang**, Eun Joo Kang\*  
*Department of Applied Chemistry, Kyung Hee University, Korea*
- 09:30** Pd-catalyzed Regioselective C–H Alkenylation of Pyrazoles  
**HyunTae Kim**, Jung Min Joo\*  
*Department of Chemistry, Pusan National University, Korea*
- 09:45** Coupling between CO<sub>2</sub> and Epoxides Catalyzed by Fe(III) and Al(III) Complexes  
**Yuseop Lee**, Kim Hyunwoo\*  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*
- 10:00** A tandem radical cyclization route to pleuromutilin core structure and unusual ring closure mechanism  
**Rira Kim**, hee-yoon lee\*  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*
- 10:15** Enantioselective Hydroboration of 1,1-Dialkylsubstituted Alkenes by Copper Catalysis  
**Won Jun Jang**, Seung Min Song, Jaesook Yun\*  
*Department of Chemistry, Sungkyunkwan University, Korea*
- 10:30** Umpolung Reactivity of Enynamides: Entry into Gamma-Substituted Carbonyl Compounds  
**Huong Quynh Nguyen**, Seunghoon Shin\*  
*Department of Chemistry, Hanyang University, Korea*
- 10:45** Total Synthesis of  $\alpha$ -Amanitin Derivative: A Novel Cytotoxic Agent for Antibody Drug Conjugate Payload  
**Gangadhar Rao Mathi**, Jong Yeon Hwang, jae du ha<sup>1</sup>, Chang-Soo Yun, Sung Yun Cho<sup>1</sup>, Hyoung Rae Kim<sup>1</sup>, PILHO KIM\*  
*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*  
<sup>1</sup>WCI, Korea Research Institute of Chemical Technology, Korea

### 38. Oral Presentation of Young Material Chemists October 19 (THU), Room 214

## Scientific Program

### <Material Chemistry Oral Presentation>

Chair : Myung-Gil Kim

**09:00** Direct Writing of Molecular Junction Achieved by in situ Encapsulation of Liquid Metal Microelectrode with Photo-curable Polymers  
Seo Eun Byeon, Kim Miso, Hyo Jae Yoon<sup>\*</sup>  
*Department of Chemistry, Korea University, Korea*

MAT.0-1

**09:10** Synthesis of nanocubic photocatalysts composed of gold, silver and silver chloride using semi-sacrificial templates  
Jang Ho Joo, Jae-Seung Lee<sup>\*</sup>  
*Department of Materials Science and Engineering, Korea University, Korea*

MAT.0-2

**09:20** Morphology Tunable Hybrid Carbon Nanomaterials with Solvatochromism  
Yuri Choi, Byeong-Su Kim<sup>\*</sup>  
*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*

MAT.0-3

**09:30** Core-Shell Nanoparticle Clusters with Integrated Plasmonic and Catalytic Functions  
Seunghoon Lee, Sang Woo Han<sup>\*</sup>  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

MAT.0-4

**09:40** Gyromagnetic Plasmonic Nanorods for Shear Force-Induced Biosensing  
Insub Jung, Sungho Park<sup>1\*</sup>  
*Department of Energy Science, Sungkyunkwan University, Korea*  
<sup>1</sup>*Department of Chemistry, Sungkyunkwan University, Korea*

MAT.0-5

**09:50** Magnesium Silicide Utilized as a Reactive Precursor for the Facile Synthesis of Silicon-Based Composite Electrodes for Lithium-Ion Batteries  
Min seok Kang, Won Cheol Yoo<sup>\*</sup>  
*Department of Applied Chemistry, Hanyang University, Korea*

MAT.0-6

**10:00** Asymmetric Growth of Silver Citrate Compounds by Mechanical Stirring and Their Enhanced Antimicrobial Activity  
Jong Kuk Lim  
*Department of Chemistry, Chosun University, Korea*

MAT.0-7

<Award Lecture: Excellent Researcher Award>

**10:20** Unconventional Approaches for Energy Applications  
Min Hyung Lee  
*Department of Applied Chemistry, Kyung Hee University, Korea*

MAT.0-8

**15:50** Material Chemistry Division General Meeting

### 39. Oral Presentation of Young Scholars in Electrochemistry October 19 (THU), Room 201+202

#### <Electrochemistry Oral Presentation>

Chair : JinHo Jang

**09:00** Electrocatalytic Hydrogen Production on Molecular-like Metal Nanoclusters  
woojun choi, Kyuju Kwak, Minseok Kim, Dongil Lee<sup>\*</sup>  
*Department of Chemistry, Yonsei University, Korea*

ELEC.0-1

**09:15** Electrochemical Detection of Dopamine using Conducting Polymer/SrMoO<sub>4</sub> Composite

ELEC.0-2

mahmood hassan akhtar, abhijit pandurang jadhav, Yoon Bo Shim<sup>\*</sup>  
*Department of Chemistry, Pusan National University, Korea*

**09:30** Effect of two dopants on the electronic structure of M<sub>2</sub>Au<sub>36</sub>(SC<sub>6</sub>H<sub>13</sub>)<sub>24</sub> (M=Pt, Pd)

Minseok Kim, Dongil Lee<sup>\*</sup>, Kyuju Kwak  
*Department of Chemistry, Yonsei University, Korea*

ELEC.0-3

**09:45** Iridium-Iridium Oxide Nanofibers as an Improved Electrocatalyst for Hydrogen Evolution Reaction

Su-jin Kim, Myung Hwa Kim<sup>1</sup>, Chongmok Lee, Youngmi Lee<sup>\*</sup>  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>*Chemistry Department of Nano-Science, Ewha Womans University, Korea*

ELEC.0-4

**10:00** Non-Grignard and Lewis acid-free sulfone electrolytes for rechargeable magnesium batteries

Sung-Jin Kang, Seung-Tae Hong, Hochun Lee<sup>\*</sup>  
*Energy Systems Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea*

ELEC.0-5

**10:15** The role of solid electrolyte interphase (SEI) on sodium metal in sodium-oxygen batteries

Younguk Jung, Hye Ryung Byon<sup>\*</sup>  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

ELEC.0-6

<Award Lecture: Q. Won Choi Academic Award>

**10:30** Electrochemistry of Metal Nanoclusters

Dongil Lee  
*Department of Chemistry, Yonsei University, Korea*

ELEC.0-7

### 40. Current Trends in Environmental and Energy Chemistry October 19 (THU), Room 301

#### <Environmental Energy Oral Presentation>

Chair : Dongwook Kim

**09:00** Electrocatalytic Hydrogen Production Using Ligand-Protected Metal Nanoclusters  
Kyuju Kwak, woojun choi, Dongil Lee<sup>\*</sup>  
*Department of Chemistry, Yonsei University, Korea*

ENVR.0-1

**09:15** Free Standing Blue TiO<sub>2</sub> Nanotube Arrays on Transparent Conductive Oxide Electrodes for High-Efficiency Solar Water Splitting  
Hye Won Jeong, Byeong-ju Kim, Hyunwoong Park<sup>\*</sup>  
*School of Energy Engineering, Kyungpook National University, Korea*

ENVR.0-2

**09:30** Heterojunction p-n-p Cu<sub>2</sub>O/S-TiO<sub>2</sub>/CuO: Synthesis and application to photocatalytic conversion of CO<sub>2</sub> to methane  
HyeRim Kim, SU IL IN<sup>\*</sup>  
*Department of Energy Systems Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea*

ENVR.0-3

**09:45** High coke resistance for dry reforming of methane reaction over Ni/BaZrO<sub>3</sub> catalysts by temperature regulated chemical vapor deposition  
Soong Yeon Kim, Uhm Sunghyun<sup>1\*</sup>  
*Environment & Energy Research Team, Institute for Advanced Engineering, Korea*

ENVR.0-4

<sup>1</sup>*Institute for Advanced Engineering, Korea*

**10:00** Coffee Break

<p>10:10 Electrochemical CO<sub>2</sub> conversion in aqueous solution via Copper Cluster <b>Yong-Jin Lee</b>, Dongil Lee* <i>Department of Chemistry, Yonsei University, Korea</i></p>	<p>ENVR.0-5</p>	<p><sup>1</sup>Research and Development, KD Chem CO, Korea</p>	<p>POLY.P-8</p>
<p>10:25 Adsorbents based on Cross-linked Cyclodextrin Hydrogels for Removal of Organic Contaminants in Water <b>Ji Hwan Lee</b>, Seung-Yeop Kwak* <i>Department of Materials Science and Engineering, Seoul National University, Korea</i></p>	<p>ENVR.0-6</p>	<p>Bioinspired Catecholic Primers for Rigid and Ductile Dental Resin Composites <b>Eeseul Shin</b>, Sung Won Ju<sup>1</sup>, Larry An<sup>1</sup>, Jin Soo Ahn<sup>1,2</sup>, Kollbe Ahn<sup>1,2</sup>, Byeong-Su Kim* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup>Marine Science Institute, University of California, Korea</p>	<p>POLY.P-9</p>
<p>10:40 Development of Dynamic Multi-functional Membrane by Thermo-reversible Assembly of Heavy-metal Responsive Materials <b>Seung-Hwan Byun</b>, Seung-Yeop Kwak* <i>Department of Materials Science and Engineering, Seoul National University, Korea</i></p>	<p>ENVR.0-7</p>	<p>3D PRINTING INKS FOR DENTAL MATERIALS APPLICATION <b>Sangwon Park</b>, YOON TAE JEON* <i>New development 2, Aekyung chemical, Korea</i></p>	<p>POLY.P-10</p>
<p>10:55 Removal of Tetrabromobisphenol A in Wastewater using a Sequential System of Bimetallic Nanoparticles and Enzyme <b>YOON-SEOK CHANG</b> <i>Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea</i></p>	<p>ENVR.0-8</p>	<p>Controlled Synthesis of Sodium Polystyrenesulfonate via Atom Transfer Radical Polymerization and Coupling of Polystyrene Beads Selectively at the Terminal Units <b>Ranjit De</b>, Hohjai Lee<sup>1,2</sup>* <i>Department of Chemistry, Gwangju Institute of Science and Technology, Korea</i> <sup>1</sup>Chemistry, Gwangju Institute of Science and Technology, Korea</p>	<p>POLY.P-11</p>
<p><b>41. Polymer Chemistry</b> <b>October 20 (FRI) , Exhibition Hall 2+3</b></p>			
<p><b>&lt;Polymer Chemistry Poster Presentation&gt;</b></p>			
<p>Iron-Catalyzed Direct Azidation of Polybutadiene and Consecutive Click-Reaction <b>Haeji Jung</b>, Yeong Gweon Lim* <i>Agency for Defense Development, Korea</i></p>	<p>POLY.P-1</p>	<p>Fabrication nanoporous structure of M13 virus/PolyDADMAC <b>Jiye Han</b>, Jin-Woo Oh<sup>1,2</sup>* <i>Nano-Convergence Technology, Pusan National University, Korea</i> <sup>1</sup>Department of Nano &amp; Materials Science and Enginee, Pusan National University, Korea</p>	<p>POLY.P-12</p>
<p>One-Pot Synthesis of Hyperbranched Polyamines Based on Novel Amino Glycidyl Ether <b>Songa Kweon</b>, Gyunhyeok Ahn, Byeong-Su Kim* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p>	<p>POLY.P-2</p>	<p>Single-Electron Transfer Living Radical Polymerization and Reactivity Ratios of Functionalized Methacrylate Monomers <b>Jongwon Choe</b>, SOO HYUN LEE<sup>1</sup>, Keewook Paeng<sup>1</sup>, Myungwoong Kim* <i>Department of Chemistry, Inha University, Korea</i> <sup>1</sup>Department of Chemistry, Sungkyunkwan University, Korea</p>	<p>POLY.P-13</p>
<p>Highly Efficient Regioregular Terpolymers Containing Fluorine Atoms on Bithiophene Segment Processed from Halogen-Free Solvent <b>Soyoung Jang</b>, YOUNGU LEE* <i>Department of Energy Systems Engineering, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i></p>	<p>POLY.P-3</p>	<p>A Simple Method to Fabricate a Janus Membrane via Post-Electrospinning Functionalization of Reactive Random Copolymers <b>Sol An</b>, Myungwoong Kim* <i>Department of Chemistry, Inha University, Korea</i></p>	<p>POLY.P-14</p>
<p>Room-Temperature Synthesis of Widely Tunable Formamidinium Lead Halide Perovskite Nanocrystals: A New Candidate for Optoelectronic Devices <b>DUONG NGUYEN MINH</b>, Youngjong Kang* <i>Department of Chemistry, Hanyang University, Korea</i></p>	<p>POLY.P-4</p>	<p>Photoinduced Metal-Free Atom Transfer Radical Polymerization <b>Gyeong Su Park</b>, Kyung-sun Son* <i>Department of Chemistry, Chungnam National University, Korea</i></p>	<p>POLY.P-15</p>
<p>The Eutectic melting process for guiding single crystallization : The Effect on the molecular structure of Poly(9,9-di-n-octylfluorene-alt-benzothiadiazole) by eutectic melting and annealing <b>Sangheon Lee</b>, Youngjong Kang* <i>Department of Chemistry, Hanyang University, Korea</i></p>	<p>POLY.P-5</p>	<p>A Synthesis of Degradable Poly (styrene-block-ethylene glycol) via Staudinger Reaction <b>Suhong Park</b>, Sol An, Haebin Kim<sup>1</sup>, Sang Sik Woo, Myungwoong Kim, Dong Wook Kim* <i>Department of Chemistry, Inha University, Korea</i> <sup>1</sup>Inha University, Korea</p>	<p>POLY.P-16</p>
<p>Photocontrolled Cationic RAFT Polymerization of Vinyl Ethers <b>Soo won Jang</b>, Kyung-sun Son* <i>Department of Chemistry, Chungnam National University, Korea</i></p>	<p>POLY.P-6</p>	<p>Synthesis and Characterization of Poly(amide-imide)s Containing Fastened Alicyclic Rings <b>Seong jong Kim</b>, Sang Youl Kim* <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i></p>	<p>POLY.P-17</p>
<p>Synthesis of quaternized ammonium salt acrylate polymer from 2-dimethylamino ethyl methacrylate and dimethyl sulfate as an antibacterial polymer <b>JI EUN JO</b>, Chang Woo Han<sup>1</sup>, Kyungtae Park<sup>1</sup> <i>Research and Development, KD Chem Co., Korea</i></p>	<p>POLY.P-7</p>	<p>Monodisperse Hyperbranched Polymer Nanoparticles: Surfactant-free Synthesis, Characterization and Functionalization <b>Yesin Lee</b>, Byeong-Kwan An* <i>Department of Chemistry, The Catholic University of Korea, Korea</i></p>	<p>POLY.P-18</p>



## Scientific Program

- Synthesis of pH-responsive Diblock Copolymer poly(4-hydroxystyrene-*b*-*N*-vinylamine) by using RAFT polymerization  
**Jun Hyok Yoon**, Sang Youl Kim<sup>1,\*</sup>  
*Chemistry, Korea Advanced Institute of Science and Technology, Korea*  
<sup>1</sup>*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*
- Photocatalytic Thiol-Ene Click Reaction Using Visible Light for Postpolymerization Modification  
**Dongwan Son**, Myungwoong Kim<sup>\*</sup>, Anna Lee<sup>1\*</sup>  
*Department of Chemistry, Inha University, Korea*  
<sup>1</sup>*Chemistry, Myungji University, Korea*
- Probing kinetic stability of supramolecular polymers in terms of their composition  
**Sung Ho Jung**, Kazunori Sugiyasu<sup>\*</sup>, Masayuki Takeuchi<sup>\*</sup>  
*Supramolecular Design & Function Group, National Institute for Materials Science, Japan*
- Permeation-induced chromatic change of polydiacetylene vesicle  
**Min Jae Shin**, Young Jae Shin<sup>1\*</sup>, Jae Sup Shin<sup>2\*</sup>  
*School of Integrated Oriental Medical Bioscience, Semyung University, Korea*  
<sup>1</sup>*Physics, Harvard University, United States*  
<sup>2</sup>*Department of Chemistry, Chungbuk National University, Korea*
- Chromatic detection of glucose by polydiacetylene vesicle  
**Minhee Kim**, Young Jae Shin<sup>1</sup>, Min Jae Shin<sup>2\*</sup>, Jae Sup Shin<sup>3\*</sup>  
*chemistry, Chungbuk National University, Korea*  
<sup>1</sup>*Physics, Harvard University, United States*  
<sup>2</sup>*School of Integrated Oriental Medical Bioscience, Semyung University, Korea*  
<sup>3</sup>*Department of Chemistry, Chungbuk National University, Korea*
- Photovoltaic properties of conjugated low bandgap polymers having aromatic heterocyclic compounds(thiophene and selenophene) : a comparative study  
**Seongsu Kim**, INTAE KIM<sup>\*</sup>  
*Department of Chemistry, Kwangwoon University, Korea*
- Study of Supramolecular Polymerization of pH-dependent Hydrazone Pyridinium Conjugates  
**Hye Jin Cho**, Kyung-su Kim, Seonggyun Ha, Changsik Song<sup>\*</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*
- Self-healable Norbornene-based Supramolecular Polymer Gels by Metal-Terpyridine Interaction  
**Jookyeong Lee**, Changsik Song<sup>\*</sup>, Dong Cheol Jeong, Hwi Hyun Moon<sup>1</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>1</sup>*Sungkyunkwan University, Korea*
- Study on the diffraction efficiency of the photosensitive polymers using ionic liquid  
**SANGJUN LEE**, INTAE KIM<sup>\*</sup>  
*Department of Chemistry, Kwangwoon University, Korea*
- Interaction Studies between Newly Synthesized epoxy based azo-polymer and Ionic Liquids  
**Jinyeong Jeong**, DongUk LEE, INTAE KIM<sup>\*</sup>  
*Department of Chemistry, Kwangwoon University, Korea*
- Prediction of glass transition temperature of co-polymers based on quantitative structure-property relationship  
**Yeon Ha Lee**, Byeong Hun Lee, Yong Seok Kim<sup>1</sup>, Sung Kwang Lee<sup>\*</sup>  
*Department of Chemistry, Hannam University, Korea*  
<sup>1</sup>*Center for Chemical Materias, Korea Research Institute of Chemical*
- Technology, Korea*
- POLY.P-19 QSPR modeling for solubility parameter of polymers  
**KYUSUNG LEE**, Byeong Hun Lee, Yong Seok Kim<sup>1</sup>, Sung Kwang Lee<sup>\*</sup>  
*Department of Chemistry, Hannam University, Korea*  
<sup>1</sup>*Center for Chemical Materias, Korea Research Institute of Chemical Technology, Korea*
- POLY.P-20 Fabrication of porous PS/PMMA microspheres through pickering emulsion  
**Jeong rae Kim**<sup>\*</sup>, Daewon Sohn<sup>\*</sup>  
*Department of Chemistry, Hanyang University, Korea*
- POLY.P-21 Heavy metal ions adsorption by synthesized HNT/EDTMP nanocomposite  
**Sungho Lim**<sup>\*</sup>, Daewon Sohn<sup>\*</sup>  
*Department of Chemistry, Hanyang University, Korea*
- POLY.P-22 3D printing of hydrogel constructs for tissue fabrication  
**Giho Choi**, Kihoon Kim, Minyoung Kim<sup>1</sup>, Kwanwoo Shin<sup>\*</sup>  
*Department of Chemistry, Sogang University, Korea*  
<sup>1</sup>*Chemistry, Sogang University, Korea*
- POLY.P-23 3D printing of moldless flexible pressure sensor using bingham plastic  
**SOOMIN JO**, Kwanwoo Shin<sup>\*</sup>  
*Department of Chemistry, Sogang University, Korea*
- POLY.P-24 Solubilization of wrinkle-improving functional materials using nanoparticles  
**youngwoo lee**<sup>\*</sup>, Jooyoung Ahn<sup>1</sup>, Seok Hee Kang<sup>2</sup>  
*Development of Drug Development and Discovery, Chungnam National University, Korea*  
<sup>1</sup>*Department of Pharmacy, Korea University Sejong Campus, Korea*  
<sup>2</sup>*Korea Research Institute of Chemical Technology/ M, University of Science & Technology, Korea*
- POLY.P-25 Development of Natural antimicrobial materials encapsulated nanoparticles  
**Jooyoung Ahn**, Soon Hong Yuk<sup>\*</sup>, youngwoo lee<sup>1</sup>  
*Department of Pharmacy, Korea University Sejong Campus, Korea*  
<sup>1</sup>*Development of Drug Development and Discovery, Chungnam National University, Korea*
- POLY.P-26 Catalytic Depolymerization of Polyesters  
**Taeyang Do**, Jeung Gon Kim<sup>\*</sup>  
*Department of Chemistry, Chonbuk National University, Korea*
- POLY.P-27 Mechanochemical Polymerization of Lactide  
**NU RI OHN**, Jeung Gon Kim<sup>\*</sup>  
*Department of Chemistry, Chonbuk National University, Korea*
- POLY.P-28 Synthesis of Covalent Organic Polymers (COPs) by Natural Aldehyde: Application to the Removal of Heavy Metal Ions from Wastewater  
**Hong-Gyu Seong**, JiHyeong Ryu<sup>1</sup>, Jae Il So<sup>2</sup>, Sang Eun Shim<sup>3\*</sup>  
*Chemistry & Chemical Engineering, Inha University, Korea*  
<sup>1</sup>*chemical engineering, Inha University, Korea*  
<sup>2</sup>*Inha University, Korea*  
<sup>3</sup>*Department of Chemical Engineering, Inha University, Korea*
- POLY.P-29 facile synthesis of xanthate porous polyaminals for heavy metal adsorption  
**JiHyeong Ryu**, Hong-Gyu Seong<sup>1</sup>, Jae Il So<sup>2</sup>, Sang Eun Shim<sup>3\*</sup>  
*chemical engineering, Inha University, Korea*  
<sup>1</sup>*Chemistry & Chemical Engineering, Inha University, Korea*  
<sup>2</sup>*Inha University, Korea*  
<sup>3</sup>*Department of Chemical Engineering, Inha University, Korea*
- POLY.P-30 palladium complex immobilized in porous organic polymer based on urea  
**Jae Il So**, Hong-Gyu Seong<sup>1</sup>, JiHyeong Ryu<sup>2</sup>, Sang Eun Shim<sup>\*</sup>
- POLY.P-31
- POLY.P-32
- POLY.P-33
- POLY.P-34
- POLY.P-35
- POLY.P-36
- POLY.P-37
- POLY.P-38
- POLY.P-39
- POLY.P-40
- POLY.P-41

<p><i>Department of Chemical Engineering, Inha University, Korea</i>  <sup>1</sup><i>Chemistry &amp; Chemical Engineering, Inha University, Korea</i>  <sup>2</sup><i>chemical engineering, Inha University, Korea</i></p>		Removal of elemental mercury by activated carbons impregnated with halides	IND.P-52
<p>Synthesis of thermal expansion capsules with high thermal stability using suspension polymerization</p> <p><b>Jae Il So</b>, Hong-Gyu Seong<sup>1</sup>, JiHyeong Ryu<sup>2</sup>, Sang Eun Shim<sup>*</sup>  <i>Department of Chemical Engineering, Inha University, Korea</i>  <sup>1</sup><i>Chemistry &amp; Chemical Engineering, Inha University, Korea</i>  <sup>2</sup><i>chemical engineering, Inha University, Korea</i></p>	POLY.P-42	<p><b>Yoon-Ji Yim</b>, Soo-Jin Park<sup>*</sup>  <i>Department of Chemistry, Inha University, Korea</i></p>	
<p>3D Printing of Surface Area-controlled Polymeric Structures for As(III) Removal</p> <p><b>Kihoon Kim</b>, Giho Choi, Kwanwoo Shin<sup>*</sup>  <i>Department of Chemistry, Sogang University, Korea</i></p>	POLY.P-43	<p>A facile ultrasonic-assisted fabrication of carbon nitride/carbon dots composites for photocatalytic degradation behaviors of rhodamine B</p> <p><b>Yifan Zhang</b>, Soo-Jin Park<sup>1*</sup>  <i>Graduate School of Chemistry &amp; Chemical Engineering, Inha University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-53
<p>Design of electrochromic polymers for high color contrast with a long bistability</p> <p><b>Yeonghwan Heo</b>, younghoon kim, Byeonggwan Kim, Eunkyong KIM<sup>*</sup>  <i>Department of Chemical and Biomolecular Engineerin, Yonsei University, Korea</i></p>	POLY.P-44	<p>In-situ synthesis of BiOClx/BiOBry/BiOIz nanofibers for visible-light photocatalytic investigation</p> <p><b>Yifan Zhang</b>, Soo-Jin Park<sup>1*</sup>  <i>Graduate School of Chemistry &amp; Chemical Engineering, Inha University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-54
<p>Preparation of multilayered DMFC membrane by Lbl self assembly and click reaction</p> <p><b>Yeobin Lee</b>, Chang Gi Cho<sup>*</sup>  <i>Department of Organic And Nano Engineering, Hanyang University, Korea</i></p>	POLY.P-45	<p>In-situ growth of Graphene Oxide/BiOCl composites nanofibers and their application in photocatalytic degradation of RhB</p> <p><b>Yifan Zhang</b>, Soo-Jin Park<sup>1*</sup>  <i>Graduate School of Chemistry &amp; Chemical Engineering, Inha University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-55
<p><b>42. Industrial Chemistry</b>  <b>October 20 (FRI) , Exhibition Hall 2+3</b></p>			
<p><b>&lt;Industrial Chemistry Poster Presentation&gt;</b></p>			
<p>The Synthesis and Characterization of Highly Soluble Scarlet Acid Dyes for Digital Textile Printing</p> <p><b>JIEWON LEE</b>, Jun Choi<sup>*</sup>  <i>Human Convergence Technology Group, Korea Institute of Industrial Technology, Korea</i></p>	IND.P-46	<p>Facile synthesis of nitrogen-doped microporous carbons derived from microporous imine-linked polymer for efficient CO<sub>2</sub> adsorption</p> <p><b>Adeela Rehman</b>, Soo-Jin Park<sup>*</sup>  <i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-56
<p>Synthesis of Mid-range Vinylidene Content Polyisobutylene by Using BF<sub>3</sub>/N-Propanol Catalyst</p> <p><b>Min Sup Park</b>, Yeong-Joon Kim<sup>1*</sup>  <i>Department of Chemistry, Chungnam National University / Daelim Industrial Co. SCT, Korea</i>  <sup>1</sup><i>Department of Chemistry, Chungnam National University, Korea</i></p>	IND.P-47	<p>Designing microporous carbons from melamine-based polyaminals for carbon dioxide adsorption</p> <p><b>Adeela Rehman</b>, Soo-Jin Park<sup>*</sup>  <i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-57
<p>Physical properties analysis of ophthalmic materials with high, medium and low moisture content</p> <p><b>Min-Jae Lee</b>, A-Young Sung<sup>*</sup>  <i>Department of Optometry, Daegu Catholic University, Korea</i></p>	IND.P-48	<p>Facile synthesis of microporous carbonaceous materials through Schiff base polymer for CO<sub>2</sub> capture</p> <p><b>Adeela Rehman</b>, Soo-Jin Park<sup>*</sup>  <i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-58
<p>Characterization of dental resin cement material with antibacterial and high bonding strength</p> <p><b>Duck Hyun Kim</b>, Hui-Su Jung<sup>1</sup>, A-Young Sung<sup>*</sup>  <i>Department of Optometry, Daegu Catholic University, Korea</i>  <sup>1</sup><i>Korea Optics Technology Institute, Korea</i></p>	IND.P-49	<p>Study of nanodiamond/nitrile-butadiene rubber nanocomposites fabricated by one-pot design</p> <p><b>YINHANG ZHANG</b>, Soo-Jin Park<sup>1*</sup>  <i>Chemistry, Inha University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-59
<p>Effect of oxyfluorination on pull-out behavior of carbon-fiber-reinforced epoxy matrix composites</p> <p><b>Yoon-Ji Yim</b>, Soo-Jin Park<sup>*</sup>  <i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-50	<p>Rheological behavior of mercapto-terminated silane-treated rice bran carbon/nitrile butadiene rubber composites</p> <p><b>YINHANG ZHANG</b>, Soo-Jin Park<sup>1*</sup>  <i>Chemistry, Inha University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-60
<p>Electromagnetic Interference Shielding Effectiveness of Metal-plated CNTs/High-density Polyethylene Composites</p> <p><b>Yoon-Ji Yim</b>, Soo-Jin Park<sup>*</sup>  <i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-51	<p>Simple preparation of sponge-like graphene-based carbon frameworks by non-template method for electrodes of supercapacitor</p> <p><b>YEONG-RAE SON</b>, Soo-Jin Park<sup>*</sup>  <i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-61
		<p>Nanodiamond nanocluster decorated-graphene oxide for fabricating epoxy nanocomposites</p> <p><b>YINHANG ZHANG</b>, Soo-Jin Park<sup>1*</sup>  <i>Chemistry, Inha University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Inha University, Korea</i></p>	IND.P-62
		<p>Study on polymerization properties of polyethylene wax with metallocene catalyst</p> <p><b>Ji Woong Han</b>, Jinyeong Jeong, DongUk LEE, INTAE KIM<sup>*</sup>  <i>Department of Chemistry, Kwangwoon University, Korea</i></p>	IND.P-63

## Scientific Program

Prediction of the diffusion coefficient for infinite water based on quantitative structure-property relationship modeling

**YE-EUN KIM**, Byeong Hun Lee, Sung Kwang Lee\*

*Department of Chemistry, Hannam University, Korea*

Development of predictive QSPR model of octanol-air partition coefficient for pollutants

**Byeong Woo Son**, Byeong Hun Lee, Sung Kwang Lee\*

*Department of Chemistry, Hannam University, Korea*

New Solid State Photochemistry of Siloles Driven by ortho-Carborane: Insight on Structure-Property Relationships

**Hyun Wook Cha**, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

Synthesis, and Photophysical Properties of Blue Phosphorescent Heteroleptic Iridium(III) complexes

**Jong-Hoon Kim**, So-Yoen Kim, Yang-Jin Cho, Jin-Hyoung Kim, Won-Sik Han<sup>1</sup>, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

<sup>1</sup>*Department of Chemistry, Seoul Women's University, Korea*

Investigation of the Electrochemical, Photochemical, and Spectroelectrochemical Properties of the Ir (III)/Pt (II) and Ir(III)/Ir(III) Bimetal Complex bridged by Dipyriddyipyrazine

**Bo-Sun Yun**, Yang-Jin Cho, So-Yoen Kim, DAE WON CHO, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

Detailed Investigation of Photophysical Properties of Isomeric Carbene Ir(III) Complexes and their Applications to Deep-blue Phosphorescent Organic Light Emitting Diodes

**Jaehyun Park**, Yang-Jin Cho, So-Yoen Kim, Jin-Hyoung Kim, Won-Sik Han<sup>1</sup>, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

<sup>1</sup>*Department of Chemistry, Seoul Women's University, Korea*

Important role of some ancillary ligand in Blue Phosphorescent Iridium(III) Complexes with Sulfonyl-Substituted ligand

**Jin-Hyoung Kim**, DAE WON CHO, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

Spectroscopic study on the phosphorescence of Pt-complexes

Mi Rang Son, **Pil Soo Kim**, DAE WON CHO, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

Tuning steric and electronic effects in phosphorescent Ir complex with terphenyl-modified phenylimidazolate unit for Blue Organic Light-Emitting Diodes

**So-Yoen Kim**, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

Synthesis of Novel compounds having Ceramide structure and its application

**YUMI KIM**, Hanyoung Kim<sup>1\*</sup>

*Aekyung Industrial Co., Ltd., Korea*

<sup>1</sup>*R&D Center, Aekyung Industrial Co., Ltd., Korea*

Important Role on Intermolecular Charge Transfer and Photoinduced Electron Transfer by  $\pi$ -conjugation in D- $\pi$ -A and D- $\pi$ -Si- $\pi$ -A dyads

**Yang-Jin Cho**, So-Yoen Kim, Minji Cho, Won-Sik Han<sup>1</sup>, Sang Ook Kang, Ho-Jin Son\*

*Department of Advanced Materials Chemistry, Korea University, Korea*

<sup>1</sup>*Department of Chemistry, Seoul Women's University, Korea*

Prediction on the thermal properties of the castable plastic bonded explosive using the thermal analysis data

IND.P-64

**So Jung Lee**, Kuktae Kwon, SeungHee Kim\*, Yeongjin Jeon<sup>1</sup>

*Agency for Defense Development, Korea*

<sup>1</sup>*University of Science & Technology, Korea*

IND.P-65

### 43. Inorganic Chemistry October 19 (THU), Exhibition Hall 2+3

#### <Inorganic Chemistry Poster Presentation>

IND.P-66

Shape and Composition Effects of Palladium Catalysts for Ethanol Oxidation Reaction

INOR.P-1

**kyungsoo kim**, Jong Wook Hong<sup>1\*</sup>

*Department of Chemistry, University of Ulsan, Korea*

<sup>1</sup>*Chemistry, University of Ulsan, Korea*

IND.P-67

Crystal structure of inorganic-organic hybrid perovskite type (C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>3</sub>)<sub>2</sub>ZnCl<sub>4</sub> by X-ray single crystal diffraction: Comparison with (C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>3</sub>)<sub>2</sub>CoCl<sub>4</sub> and (C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>3</sub>)<sub>2</sub>ZnBr<sub>4</sub>

INOR.P-2

**Garam Park**, In-Hwan Oh<sup>1\*</sup>, J. M. Sungil Park<sup>1</sup>, Chang Seop Hong

*Department of Chemistry, Korea University, Korea*

<sup>1</sup>*Korea Atomic Energy Research Institute, Korea*

IND.P-68

Photophysical and electron accepting properties of multi-*o*-carboranylbenzene compounds

INOR.P-3

**Dong Kyun You**, Min Hyung Lee<sup>1\*</sup>, Myung Hwan Park<sup>2\*</sup>, Kang Mun Lee\*

*Department of Chemistry, Kangwon National University, Korea*

<sup>1</sup>*Department of Chemistry, University of Ulsan, Korea*

<sup>2</sup>*Department of Chemical Education, Chungbuk National University, Korea*

IND.P-69

Photophysical changes of Biphenylene Based *o*-Carbonyl Compounds by Distortion of Biphenyl Rings

INOR.P-4

**Nara Shin**, Seokhyeon Yu, Kang Mun Lee\*

*Department of Chemistry, Kangwon National University, Korea*

IND.P-70

Ratiometric emission change by deboronation of 1,3,5-tris-(*o*-carboranyl-methyl)benzene

INOR.P-5

**Dong Kyun You**, Myung Hwan Park<sup>1\*</sup>, Kang Mun Lee\*

*Department of Chemistry, Kangwon National University, Korea*

<sup>1</sup>*Department of Chemical Education, Chungbuk National University, Korea*

IND.P-71

Unprecedented Reactivity of Copper(II)-Alkylperoxo Complexes in Aldehyde Deformylation

INOR.P-6

**bohee kim**, Jaehung Cho\*

*Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea*

IND.P-72

Metal compound filters for disposal of hazardous materials

INOR.P-7

**Hyunsook Jung**

*CBR Division, Agency for Defense Development, Korea*

IND.P-73

Ortho Donor-Appended Triarylboron Emitters for Record-High Efficiency in Pure Blue TADF Organic Light-Emitting Diodes

INOR.P-8

**Young Hoon Lee**, SURENDRAN SUJITH, HeeChai Lee, Jung Jaehoon, Min Hyung Lee\*

*Department of Chemistry, University of Ulsan, Korea*

IND.P-74

Turn-On Fluorescence Sensing of Fluoride Ion by Donor-Antimony(V) Lewis Acids

INOR.P-9

**AJAY KUMAR**, SURENDRAN SUJITH<sup>1</sup>, HeeChai Lee, Min Hyung Lee\*

*Department of Chemistry, University of Ulsan, Korea*

<sup>1</sup>*University of Ulsan, Korea*

IND.P-75

Manipulating the Number of *o*-Carboranyl Ligands of Iridium(III)

INOR.P-10

Cyclometalates for the Improved Photophysical and Electroluminescent Properties	<b>Yoseph kim</b> , Kang Mun Lee <sup>1</sup> , Youngjo Kim* <i>Department of Chemistry, Chungbuk Natioanl University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Kangwon National University, Korea</i>	INOR.P-20
<b>NGHIA NGUYEN</b> , HeeChai Lee, AJAY KUMAR, Min Hyung Lee* <i>Department of Chemistry, University of Ulsan, Korea</i>	Metallacyclodimeric Array Containing Both Channels and Cages: Photoluminescence Recognition of Diiodomethane	INOR.P-11
Strategic Design of 2,2'-Bipyridine Derivatives to Modulate Metal-Amyloid- $\beta$ Aggregation	<b>Jeong Jun Lee</b> , Ok-Sang Jung* <i>Department of Chemistry, Pusan National University, Korea</i>	INOR.P-21
<b>Yongwhan Ji</b> , Hyuck Jin Lee <sup>1</sup> , Jaeheung Cho <sup>2</sup> , Cheol Min Park*, Mi Hee Lim* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Life Science, Ulsan National Institute of Science and Technology, Korea</i> <sup>2</sup> <i>Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i>	Catechol oxidation catalysis and solvent inclusion of 3D copper(II) coordination networks <b>Daseul Lee</b> , Ok-Sang Jung* <i>Department of Chemistry, Pusan National University, Korea</i>	INOR.P-12
Unprecedented nitrile reactivity mediated by a peroxocobalt(III) intermediate	Preparation and Catalytic effect of zinc(II) 3D coordination networks <b>Seo Young Hwang</b> , Ok-Sang Jung* <i>Department of Chemistry, Pusan National University, Korea</i>	INOR.P-22
<b>Hyeonju Noh</b> , Kyungmin Kim <sup>1</sup> , Jaeheung Cho* <i>Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i> <sup>1</sup> <i>School of Undergraduate Studies, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i>	Unusual Rigid 2D Topology of Copper(II) Complexes Effects On Catechol Oxidation <b>minjoo ryu</b> , Ok-Sang Jung* <i>Department of Chemistry, Pusan National University, Korea</i>	INOR.P-13
Synthesis and properties of dinuclear Pd(II) and Pt(II) complexes bearing a bridged $\pi$ -conjugated group Yong-Joo Kim*, <b>yong soung han</b> <sup>1</sup> , Kang Yeoun Jung <sup>1</sup> , Soon W. Lee <sup>2</sup> <i>Department of Chemistry, Kangnung-Wonju National University, Korea</i> <sup>1</sup> <i>Department of Chemical Engineering &amp; Biotechnology, Gangneung-Wonju National University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i>	Construction and photoreaction of 1D Zn(II) suprachannels <b>Haeri Lee</b> , Ok-Sang Jung* <i>Department of Chemistry, Pusan National University, Korea</i>	INOR.P-13
Synthesis and catalytic properties of <i>cis</i> -( <i>R</i> )-(BINAP)bis(azido)palladium(II) Yong-Joo Kim*, <b>Sun Myeong Choi</b> <sup>1</sup> , Soon W. Lee <sup>2</sup> <i>Department of Chemistry, Kangnung-Wonju National University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Gangneung-Wonju National University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i>	Fluorescence Quenching Effect using Sandwich Shape Zn(II) Complex Containing Trisilane Ligand <b>SANGSEOK LEE</b> , Ok-Sang Jung* <i>Department of Chemistry, Pusan National University, Korea</i>	INOR.P-14
Stepwise Synthesis and Selective Sensing of Nitrobenzene Using Copper(I) Coordination Polymers <b>Hyunjin Park</b> , Hansu Im, Tae Ho Kim*, Jineun Kim* <i>Department of Chemistry, Gyeongsang National University, Korea</i>	Theoretical Elucidation of Catalytic Borylation of Methane <b>Seihwan Ahn</b> , Daniel J. Mindiola <sup>1,†</sup> , Mu-Hyun Baik* <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, University of Pennsylvania, Korea</i>	INOR.P-15
Cu(I) Coordination Polymer Based on Thioether Ligands with Pyridine Dicarboxylic Anhydride <b>Juhyeon Park</b> , Hyunjin Park, Hansu Im, Tae Ho Kim*, Myong Yong Choi* <i>Department of Chemistry, Gyeongsang National University, Korea</i>	Simple synthesis of MgCO <sub>3</sub> and Na <sub>2</sub> Mg(CO <sub>3</sub> ) <sub>2</sub> through alkali metal nitrate medium <b>Kyung-Ryul Oh</b> , Kang Yeong Kim, Jin-Su Kwak, YOUNG UK KWON* <i>Department of Chemistry, Sungkyunkwan University, Korea</i>	INOR.P-16
Reversible Crystal Transformation between Cubane and Stairstep Cu <sub>4</sub> I <sub>4</sub> Clusters of Cu(I) Coordination Polymers Base on a mixed N/S Donor Ligand <b>Hansu Im</b> , Hyunjin Park, Tae Ho Kim*, Jineun Kim* <i>Department of Chemistry, Gyeongsang National University, Korea</i>	Tuning the Redox Reactivity of a Nonheme Iron(III)-Peroxo Species by Binding Redox-Inactive Metal Ions <b>Seong Hee Bae</b> , Yong-Min Lee <sup>1</sup> , Shunichi Fukuzumi <sup>2,*</sup> , Wonwoo Nam <sup>3,†</sup> <i>Department of Chemistry and Nano Science, Ewha Womans University, Korea</i> <sup>1</sup> <i>Research Institute for Basic Sciences, Ewha Womans University, Korea</i> <sup>2</sup> <i>Graduate School of Science and Engineering, Meijo University, Japan</i> <sup>3</sup> <i>Department of Chemistry, Ewha Womans University, Korea</i>	INOR.P-17
Nonheme Iron(IV)-Imido versus Iron(IV)-Oxo Complexes <b>Kyung Ha Kim</b> , Yong-Min Lee <sup>1</sup> , Wonwoo Nam <sup>2,*</sup> <i>Ewha Womans University, Korea</i> <sup>1</sup> <i>Research Institute for Basic Sciences, Ewha Womans University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Ewha Womans University, Korea</i>	Mechanistic Insights in Postsynthetic Ligand Exchange of Metal-Organic Frameworks <b>Hyojin Park</b> , Seongwoo Kim, Min Kim* <i>Department of Chemistry, Chungbuk Natioanl University, Korea</i>	INOR.P-18
Synthesis of Dimeric Alumatranes with Tricyclic Five-membered Rings and their Usage as Catalysts for Trimethylsilylcyanation Reaction	Functional Group Controls in Zr-MOFs for Xe/Kr Separation <b>Seongwoo Kim</b> , Min Kim* <i>Department of Chemistry, Chungbuk Natioanl University, Korea</i>	INOR.P-19
	Selective hydrogen isotope separation via breathing transition in MIL-53(Al) <b>Jin Yeong Kim</b> , Hoi Ri Moon* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>	INOR.P-23

## Scientific Program

<p>A Chemical Function of Chemically Inert Trichloromethane: Low-Temperature Activation of Open Metal Sites in MOFs</p>	<p>INOR.P-32 <i>Department of Chemistry, Chonnam National University, Korea</i></p>	<p>INOR.P-42</p>
<p><b>Jae Sun Choi</b>, Nak Cheon Jeong<sup>1,*</sup> <i>Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i> <sup>1</sup><i>Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i></p>	<p>The formation of Ruthenium Supramolecules Based on Asymmetric Metalloligands Ligands <b>Eun Hye Wi</b>, Ji Yeon Ryu, Junseong Lee<sup>*</sup> <i>Department of Chemistry, Chonnam National University, Korea</i></p>	<p>INOR.P-43</p>
<p>Preparation and Characterizations of High Surface Few Layer Graphitic Mesoporous Carbon Materials</p>	<p>INOR.P-33 <b>Ji Min Lee</b>, Junseong Lee<sup>*</sup> <i>Department of Chemistry, Chonnam National University, Korea</i></p>	<p>INOR.P-44</p>
<p>Anisotropic Proton Conduction in a Channel-Type Metal-Organic Framework MOF-74</p>	<p>INOR.P-34 <b>Saem Hwang</b>, Ji Yeon Ryu, Junseong Lee<sup>*</sup> <i>Department of Chemistry, Chonnam National University, Korea</i></p>	<p>INOR.P-45</p>
<p><b>Sunhyun Hwang</b>, Nak Cheon Jeong<sup>1,*</sup> <i>Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i> <sup>1</sup><i>Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i></p>	<p>Ruthenium Heterometallic Coordination Cages with High Symmetric Tetrapyridyl Metalloligands <b>Ji Yeon Ryu</b>, Junseong Lee<sup>*</sup> <i>Department of Chemistry, Chonnam National University, Korea</i></p>	<p>INOR.P-46</p>
<p>Electrochemical Hydrogen Production with New Cyclopentadienyl Rhodium(III) Complexes</p>	<p>INOR.P-35 <b>Hee Soo Kim</b>, Min seok Kang, Won Cheol Yoo<sup>*</sup> <i>Department of Applied Chemistry, Hanyang University, Korea</i></p>	<p>INOR.P-47</p>
<p>Jinheung Kim<sup>1</sup>, Soojin Kim, <b>Yu Jeong Jeon</b><sup>1</sup>, Yun Jin Leem<sup>1</sup> <i>Chemistry Department of Nano-Science, Ewha Womans University, Korea</i> <sup>1</sup><i>Department of Chemistry and Nano Science, Ewha Womans University, Korea</i></p>	<p>New Ni(II), Zn(II) and Co(II) Heptameric Systems from dialdehyde <b>Ume Farwa</b>, Junseong Lee<sup>1,*</sup> <i>Chonnam National University, Pakistan</i> <sup>1</sup><i>Department of Chemistry, Chonnam National University, Korea</i></p>	<p>INOR.P-48</p>
<p>Diiridium (III) Complexes as Emission Probes for G-quadruplex DNA and Cell Imaging Jinheung Kim<sup>1</sup>, <b>Tikum Florence Anjong</b><sup>1</sup> <i>Chemistry Department of Nano-Science, Ewha Womans University, Korea</i> <sup>1</sup><i>Department of Chemistry and Nano Science, Ewha Womans University, Korea</i></p>	<p>Investigation of geometric and electronic structure of high-valent cobalt complex <b>Yujeong Kim</b>, Wonwoo Nam<sup>1</sup>, Sun Hee Kim<sup>*</sup> <i>Western Seoul Center, Korea Basic Science Institute, Korea</i> <sup>1</sup><i>Department of Chemistry, Ewha Womans University, Korea</i></p>	<p>INOR.P-49</p>
<p>Solar-Driven Water Oxidation by p-Benzoquinone Derivatives with Non-Heme Iron Complexes <b>Young Hyun Hong</b>, Yong-Min Lee<sup>1</sup>, Wonwoo Nam<sup>2,*</sup>, Shunichi Fukuzumi<sup>3,*</sup> <i>Department of Chemistry and Nano Science, Ewha Womans University, Korea</i> <sup>1</sup><i>Research Institute for Basic Sciences, Ewha Womans University, Korea</i> <sup>2</sup><i>Department of Chemistry, Ewha Womans University, Korea</i> <sup>3</sup><i>Graduate School of Science and Engineering, Meijo University, Japan</i></p>	<p>INOR.P-37 <b>Hansol Jeong</b>, Sugyeong Hong, Seung Jae Lee<sup>1,*</sup>, Sun Hee Kim<sup>2,*</sup> <i>Department of Chemistry and Nano Science, Ewha Womans University, Korea</i> <sup>1</sup><i>Department of Chemistry, Chonbuk National University, Korea</i> <sup>2</sup><i>Western Seoul Center, Korea Basic Science Institute, Korea</i></p>	<p>INOR.P-50</p>
<p>Hollow Mesoporous Silica Capsule with Few Surface Holes: Efficient Immobilization of Enzymes <b>Ki Jung Kim</b>, In-Hwan Choi, SEONG HUH<sup>*</sup> <i>Department of Chemistry, Hankuk University of Foreign Studies, Korea</i></p>	<p>Pulse EPR Study of Cu-A<math>\beta</math>-Inhibitor Ternary Complex; Insight into Working Mechanism of Inhibitor on Cu-A<math>\beta</math> <b>Sugyeong Hong</b>, Mi Hee Lim<sup>1</sup>, Sun Hee Kim<sup>2,*</sup> <i>Department of Chemistry and Nano Science, Ewha Womans University, Korea</i> <sup>1</sup><i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>2</sup><i>Western Seoul Center, Korea Basic Science Institute, Korea</i></p>	<p>INOR.P-51</p>
<p>Nanoporous Copper Silicate, SGU-29 for Partial Oxidation of C-H bond <b>hyejin yu</b>, Hyun Sung KIM<sup>*</sup> <i>Department of Chemistry, Pukyong National University, Korea</i></p>	<p>INOR.P-38 <b>Jeehyun Park</b>, Moonhyun Oh<sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i></p>	<p>INOR.P-52</p>
<p>Solution Processed Fabrication of Perfected Oriented Lead Selenide Thin Film <b>Dain Kim</b>, Hyun Sung KIM<sup>*</sup> <i>Department of Chemistry, Pukyong National University, Korea</i></p>	<p>INOR.P-40 <b>JiYoung Park</b>, Young Tae Park<sup>*</sup> <i>Department of Chemistry, Keimyung University, Korea</i></p>	<p>INOR.P-53</p>
<p>Noble Titanium(IV) Complexes containing Chiral Tridentate Ligands for Cycloaddition of CO<sub>2</sub> to Epoxides <b>Youngmin Byun</b>, Junseong Lee<sup>*</sup></p>	<p>INOR.P-41 <b>Sang Woo Kwak</b>, Kang Mun Lee<sup>1</sup>, Min Kim, Youngjo Kim, Yongseong Chung<sup>*</sup>, Myung Hwan Park<sup>2,*</sup> <i>Department of Chemistry, Chungbuk National University, Korea</i></p>	

		Tailoring Nanocrystalline MOFs as Fluorescent Dye Carriers for Bioimaging	INOR.P-66
		<b>RYU UNJIN</b> , KYUNG MIN CHOI <sup>1,*</sup> <i>Department of Chemical and Biomolecular Engineering, Sookmyung Women's University, Korea</i> <sup>1</sup> <i>Division of Chemical and Biomolecular Engineering, Sookmyung Women's University, Korea</i>	
Structural variations in new molybdenum oxyfluorides	INOR.P-54		
<b>Hongil Jo</b> , Jung Joo Kim <sup>1</sup> , Lee HyeEun <sup>1</sup> , Kang Min Ok <sup>*</sup> <i>Department of Chemistry, Chung-Ang University, Korea</i> <sup>1</sup> <i>Chung-Ang University, Korea</i>			
Synthesis and nonlinear optical properties of noncentrosymmetric Bi <sub>2</sub> Te <sup>4+</sup> Te <sup>6+</sup> O <sub>8</sub> (NO <sub>3</sub> ) <sub>2</sub> (H <sub>2</sub> O)(OH) <sub>2</sub>	INOR.P-55	Microporous and Hollow Cr(III)-F Porphyrin Networks for CO <sub>2</sub> Fixation to Cyclic Carbonate at Room Temperature	INOR.P-67
<b>So Yon Lee</b> , Kang Min Ok <sup>*</sup> <i>Department of Chemistry, Chung-Ang University, Korea</i>		<b>MyungHyun Kim</b> , Seung Uk Son <sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i>	
Synthesis and second-harmonic generation properties of noncentrosymmetric bismuth selenite solid solutions, Bi <sub>2-x</sub> Ln <sub>x</sub> SeO <sub>5</sub> (Ln = La, Eu; x = 0-0.3)	INOR.P-56	Correlation between conductivity changes and structural transformations in Zn coordination complexes depending on relative humidity conditions	INOR.P-68
<b>Haixin Qi</b> , HYERIN SONG <sup>1</sup> , Kang Min Ok <sup>*</sup> <i>Department of Chemistry, Chung-Ang University, Korea</i> <sup>1</sup> <i>Chung-Ang University, Korea</i>		<b>jeonghwa Song</b> , Dongwon Kang, Hangeul LEE, Chang Seop Hong <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	
Thin Coating of Microporous Organic Network Enhances Bending Sustainability of Ni on the PET Textile for Flexible Lithium Ion Batteries	INOR.P-57	Luminescent Cd-based metal-organic frameworks for Mg <sup>2+</sup> ion sensing	INOR.P-69
<b>Chang Wan Kang</b> , Jaewon Choi, Seung Uk Son <sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i>		<b>Sunhui EOM</b> , Jeong eun KIM, Hangeul LEE, Hwa Young Lee, MINJUNG KANG, jeonghwa Song, Dongwon Kang, Jong Hyeak Choe, Chang Seop Hong <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	
Nanoseeds based on SiO <sub>2</sub> /sulfonated microporous organic polymer for antifouling terpolymerization of CO, ethylene, and propylene	INOR.P-58	Extended porous organic polymer conductor exhibiting the superprotonic conductivity (>0.1 S cm <sup>-1</sup> ) via a Postsynthetic Method	INOR.P-70
<b>Shin Young Kang</b> , Seung Uk Son <sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i>		<b>Dongwon Kang</b> , jeonghwa Song, Hangeul LEE, Jeong eun KIM, Hwa Young Lee, MINJUNG KANG, Sunhui EOM, Jong Hyeak Choe, Chang Seop Hong <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	
Synthesis, Structural Characterization of 5-Coordinate Copper(II) Complexes Containing <i>N,N',X</i> -Iminomethylpyridine Derivatives	INOR.P-59	Metal-Organic Frameworks with MOF-74 Type Extended Structure for Gas Adsorption with Acidic Centers	INOR.P-71
<b>JOUNG HEO</b> , Hyosun Lee <sup>*</sup> <i>Department of Chemistry, Kyungpook National University, Korea</i>		<b>Hangeul LEE</b> , Dongwon Kang, jeonghwa Song, Hwa Young Lee, Jeong eun KIM, Sunhui EOM, MINJUNG KANG, Jong Hyeak Choe, Jong Hyeak Choe <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	
Synthesis of Copper(II) Complexes with <i>N</i> -substituted <i>N,N'</i> -bis((1H-pyrazol-1-yl)methyl)amine Ligands	INOR.P-60	Hollowing out MOFs: hierarchical micro- and mesoporous MOFs with tailorable porosity via selective acid etching	INOR.P-72
<b>hyungwoo cho</b> , Hyosun Lee <sup>*</sup> <i>Department of Chemistry, Kyungpook National University, Korea</i>		<b>Jaehyoung Koo</b> , In-Chul Hwang <sup>1</sup> , Xiujun Yu <sup>1</sup> , Kimoon Kim <sup>2,*</sup> <i>Chemistry, Pohang University of Science and Technology, Korea</i> <sup>1</sup> <i>Pohang University of Science and Technology, Korea</i> <sup>2</sup> <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i>	
Cobalt(II) Complexes Containing Tridentate <i>N,N',X</i> -Iminomethylpyridines: Synthesis, structural characterization and application to polymerization of methyl methacrylate	INOR.P-61	One-pot synthesis of stable phenazine radical crystal for new molecular semiconductor	INOR.P-73
<b>jae gyeong Lee</b> , Hyosun Lee <sup>*</sup> <i>Department of Chemistry, Kyungpook National University, Korea</i>		<b>Taeyeon Kwon</b> , Hee Cheul Choi <sup>1</sup> <i>Department of Chemistry, Institute for Basic Scien, Pohang University of Science and Technology, Korea</i>	
Synthesis of Palladium(II) and Zinc(II) Complexes Containing 4-Methoxy- <i>N</i> -(pyridin-2-yl)methylene)benzenamine Derivatives	INOR.P-62	Highly efficient growth of morphologically well-defined molecular crystals of phenothiazine using drop-drying method in a mixed solvent system	INOR.P-74
<b>Suhyun Park</b> , Hyosun Lee <sup>*</sup> <i>Department of Chemistry, Kyungpook National University, Korea</i>		<b>Yurim Ahn</b> , Hee Cheul Choi <sup>1,*</sup> <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Institute for Basic Scien, Pohang University of Science and Technology, Korea</i>	
Synthesis of Copper (II) Complexes Containing <i>N,N</i> -bis((1H-pyrazol-1-yl)methyl)-2-morpholinoethan-1- amines	INOR.P-63	Control of Molecular Crystal Growth Pathway by Reversing Solvent Addition Order	INOR.P-75
<b>jaeyoung Seo</b> <i>Department of Chemistry, Kyungpook National University, Korea</i>		<b>Yohwan Park</b> , Hee Cheul Choi <sup>1</sup> , Hyunseob Lim <sup>1,*</sup> <i>Department of Chemistry, Institute for Basic Scien, Pohang University of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Chonnam National University, Korea</i>	
Isomer Effects on the Terphenyl Backbone Based Benzimidazole Electron Transporting Materials	INOR.P-64		
<b>Sol-Yi Gal</b> , Kyung-Ryang Wee <sup>1,*</sup> <i>Department of Chemistry, Daegu University, Korea</i> <sup>1</sup> <i>Department of Applied Chemistry, Daegu University, Korea</i>			
Preparation of Covalent Triazine Frameworks Tuned by mixed-building block strategy for Advancing the Porosity and Hydrophobicity	INOR.P-65		
<b>HYEONSEOK JEONG</b> , Gyoosoon Park <sup>1</sup> , Sungho Yoon <sup>2,*</sup> <i>inorganicchemistry, Kookmin University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Kookmin University, Korea</i> <sup>2</sup> <i>Department of Bionano Chemistry, Kookmin University, Korea</i>			

## Scientific Program

Highly reproducible Formation of potassium-doped picene single crystals by enhancing diffusion of alkali metal by double diffusion method

**Jinho Lee**, Hee Cheul Choi\*

*Department of Chemistry, Institute for Basic Science, Korea*

Rapid, Resist-free Patterned Growth of Sea-Urchin-Shaped Hierarchical Porous Covalent Organic Framework-5 (COF-5) by Photochemical Synthesis Method

**soyoung kim**, Jung Jaehoon<sup>1</sup>, Hyunseob Lim<sup>2\*</sup>, Hee Cheul Choi\*, Yousoo Kim<sup>3</sup>

*Department of Chemistry, Institute for Basic Science, Pohang University of Science and Technology, Korea*

<sup>1</sup>*Department of Chemistry, University of Ulsan, Korea*

<sup>2</sup>*Department of Chemistry, Chonnam National University, Korea*

<sup>3</sup>*Surface and Interface Science Laboratory, RIKEN, Japan*

Synthesis of 1,1-Diisopropyl(or 1,1-Diphenyl)-3,4-diphenyl-2,5-bis(trimethylsilyl)siloles and their applications to Lithium-ion battery

**yoon-ho Cho**, Young Tae Park\*

*Department of Chemistry, Keimyung University, Korea*

Interpenetrated 2D and 3D Ag(I) Coordination Networks Involving Nitrile-type Ligand

**Hansu Im**, Ki-Min Park<sup>1\*</sup>

*Department of Chemistry, Gyeongsang National University, Korea*

<sup>1</sup>*Research Institute of Natural Science, Gyeongsang National University, Korea*

Diamine with different alkyl lengths Functionalization of Mg<sub>2</sub>(dobpdc)

**Jong Hyeak Choe**, Hwa Young Lee, Jeong Hwa Song, Dongwon Kang, Hangeul LEE, Jeong eun KIM, MINJUNG KANG, Sunhui EOM, Chang Seop Hong\*

*Department of Chemistry, Korea University, Korea*

Generation of Nanoporous Copper (I) Silicate from Copper (II) Silicate, SGU-29

**DONG HYEON LEE**, Hyun Sung KIM<sup>1\*</sup>

*Department of chemistry, Pukyong National University, Korea*

<sup>1</sup>*Department of Chemistry, Pukyong National University, Korea*

Novel pyrazole molybdenum oxyfluoride compounds

**Belal Ahmed**, EunJeong Cho, Kang Min Ok\*

*Department of Chemistry, Chung-Ang University, Korea*

Radially Expandable Metal-Organic Framework with anomalous behaviour

**Eunji Jin**, Dongwook Kim, Woo-Dong Jang<sup>1</sup>, Myoung Soo Lah, Seung Kyu Min, Wonyoung Choe\*

*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*

<sup>1</sup>*Department of Chemistry, Yonsei University, Korea*

Syntheses and Structural studies of Metal Complexes with Ligand derived bis(ethylamine)

**JongWan Lim**

*Chemistry, Simin High School, Korea*

Solothermal Synthesis and Structural Characterization of (MeNH<sub>3</sub>)<sub>2</sub>[Pd(Se<sub>4</sub>)<sub>2</sub>]-Se<sub>8</sub>

**JONG-MIN NOH**, KANG-WOO KIM<sup>1\*</sup>

*department of chemistry, Incheon National University, Korea*

<sup>1</sup>*Department of Chemistry, Incheon National University, Korea*

Selective Growth and Structural Analysis of Octapod MnO and Ag-octapod MnO Hybrid Nanostructures for Imaging Probes

**Dongwoo Shin**, Hyunjoon Song\*

INOR.P-76

*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

New Zr-based MOF with Spirofluorenetetrazobenzoic Acid as an Efficient Catalyst for the Hydrolysis of a Nerve Agent Simulant

INOR.P-87

**Hea Jung Park**, Do-Hoon Hwang\*

*Department of Chemistry, Pusan National University, Korea*

INOR.P-77

Demonstration of Efficient Energy Transfer (ET) within the Pyrene and Porphyrin-Based Mixed Ligands Metal-Organic Frameworks

INOR.P-88

**Kyoung Chul Park**, Yoo Eil Jung, Chang Yeon Lee\*

*Department of Energy and Chemical Engineering, Incheon National University, Korea*

Self-Assembly of Novel Thiophene-based BODIPY Ru(II) Rectangles

INOR.P-89

**GAJENDRA GUPTA**, Jung Suk Oh, Jungwon Park, Chang Yeon Lee\*

*Department of Energy and Chemical Engineering, Incheon National University, Korea*

INOR.P-78

Synthesis of Hollow MoS<sub>2</sub>/C Composites using Yolk-Shell PS@Microporous Organic Network for High Performance Pseudocapacitors

INOR.P-90

**Hyunjae Lee**, Jaewon Choi<sup>1</sup>, Seung Uk Son<sup>1\*</sup>

*Chemistry, Sungkyunkwan University, Korea*

<sup>1</sup>*Department of Chemistry, Sungkyunkwan University, Korea*

INOR.P-79

Fluoropolymer Stabilized Chromophore-Catalyst Assemblies in Aqueous Buffer Solutions for Water Oxidation Catalysis

INOR.P-91

**Kyeong Min Lee**, Kyung-Ryang Wee<sup>1\*</sup>

*Department of Chemistry, Daegu University, Korea*

<sup>1</sup>*Department of Applied Chemistry, Daegu University, Korea*

INOR.P-80

Chromophore-Catalyst Assembly for Visible-light driven water oxidation prepared by Atomic Layer Deposition

INOR.P-92

**gunoh bae**, Kyung-Ryang Wee<sup>1\*</sup>

*Department of Chemistry, Daegu University, Korea*

<sup>1</sup>*Department of Applied Chemistry, Daegu University, Korea*

INOR.P-81

Organic Dye Chromophore Stability on Nanocrystalline Metal Oxide Surface in Aqueous Solution for Dye-Sensitized Photoelectrochemical Cell

INOR.P-93

**Mina Ahn**, Kyung-Ryang Wee<sup>1\*</sup>

*Department of Chemistry, Daegu University, Korea*

<sup>1</sup>*Department of Applied Chemistry, Daegu University, Korea*

INOR.P-82

Syntheses, structure and characterization of Copper (II) (ebp)<sub>2</sub> complex having NO<sub>x</sub> attachment

INOR.P-94

**Mohammad Sherjeel Javed Khan**, jang hoon Cho, Hong In Lee\*

*Department of Chemistry, Kyungpook National University, Korea*

INOR.P-83

Stepwise modification of the Zn<sub>n</sub>O clusters in MOF-5 for enhanced CO<sub>2</sub> and CH<sub>4</sub> gas adsorption

INOR.P-95

**NAKEUN KO**, Jaheon Kim<sup>1\*</sup>

*Center for Self-assembly and Complexity, Institute for Basic Science, Korea*

<sup>1</sup>*Department of Chemistry, Soongsil University, Korea*

INOR.P-84

High-throughput screening for Zn- and Cd-ZIFs exhibiting SOD or RHO topology in mixed-solvent systems

INOR.P-96

**Yejin Choi**, hakyung yun, Jaheon Kim\*

*Department of Chemistry, Soongsil University, Korea*

INOR.P-85

Attachment of amino acids to the organic linkers in metal-organic frameworks

INOR.P-97

**Kyungkyou Noh**, YOU JIN OH<sup>1</sup>, Jaheon Kim<sup>1\*</sup>

*Department of ICMC convergence technology, Soongsil University, Korea*

<sup>1</sup>*Department of Chemistry, Soongsil University, Korea*

INOR.P-86

Facile synthesis of Al-MOFs in basic aqueous solution <b>Jieun Nam</b> , Kyungkyou Noh <sup>1</sup> , Jaheon Kim <sup>*</sup> <i>Department of Chemistry, Soongsil University, Korea</i> <sup>1</sup> <i>Department of ICMC convergence technology, Soongsil University, Korea</i>	INOR.P-98 Hollow bimetallic phosphide nanocage: an efficient and durable electrocatalyst toward hydrogen evolution reaction <b>Yongju Hong</b> , Jongsik Park, Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-111
Synthesis and Application of Imidazolium- Based MOFs <b>Jaechul Lee</b> , Kyungkyou Noh <sup>1</sup> , Jaheon Kim <sup>2</sup> , Kimoon Kim, Eunsung Lee <sup>*</sup> <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i> <sup>1</sup> <i>Department of ICMC convergence technology, Soongsil University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Soongsil University, Korea</i>	INOR.P-99 Facet and phase controlled $\beta$ -NiOOH nanocatalyst for oxygen evolution reaction <b>Byeongyoon Kim</b> , Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-112
1D-Copper aconitate compounds and its conformational change by UV irradiation <b>Jeongha Kim</b> , Junghwan Do <sup>1,2</sup> <i>chemistry, Konkuk University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Konkuk University, Korea</i>	INOR.P-100 Photocatalytic CO <sub>2</sub> conversion on highly ordered mesoporous Materials <b>JOO JINWHAN</b> , Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-113
Solothermal investigation of Cu/muconic acid/phenethylamine system <b>Ja Eun Kang</b> , Junghwan Do <sup>*</sup> <i>Department of Chemistry, Konkuk University, Korea</i>	INOR.P-100 A New Co-based Metal-Organic Framework and Structure Based Magnetic Property Analysis <b>Jihyun Lee</b> , Yoodea Song, Gyungse Park <sup>1,2</sup> , Minyoung Yoon <sup>*</sup> <i>Department of Nano Chemistry, Gachon University Global Campus, Korea</i> <sup>1</sup> <i>Department of Chemistry, Kunsan National University, Korea</i>	INOR.P-114
Synthesis of Au@CoS <sub>x</sub> core-shell nanoparticle and its enhanced catalytic activity in hydrogen evolution reaction <b>Jun Kim</b> , jisol park, Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-101 Heterogenization of Monsanto's catalyst on Covalent Triazine Framework functionalized with Imidazolium ionic structure; the efficient Methanol Carbonylation with Exceptional Stability <b>Kwangho Park</b> , Seok-Chan KIM <sup>1</sup> , Sungho Yoon <sup>*</sup> <i>Department of Bionano Chemistry, Kookmin University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Kookmin University, Korea</i>	INOR.P-115
Seed-mediated formation of IrRu alloy nanocactus as bifunctional electrocatalysts for overall water splitting in acidic media <b>JOO JINWHAN</b> , Haneul Jin, Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-102 TiO <sub>2</sub> modification with CuI for electron transport layer of Planar Perovskite Solar Cell <b>Taewan Kim</b> , HONG IL KIM, Sangwon Kim, Taiho Park <sup>*</sup> <i>Department of Chemical Engineering, Pohang University of Science and Technology, Korea</i>	INOR.P-116
Synthesis of Janus 2D structure controlling the anisotropic diffusion pathway dependent on crystal unit cell structure <b>jisol park</b> , Jongsik Park, Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-103 Facile Synthesis of N-doped Carbon Coated Zn <sub>2</sub> SnO <sub>4</sub> Using Dopamine as an Anode Material for Lithium-Ion Batteries and Sodium-Ion Batteries <b>Namyeong Kim</b> , Jongsik Kim <sup>*</sup> <i>Department of Chemistry, Dong-A University, Korea</i>	INOR.P-117
Binary and Ternary Core-Shell Nanosandwich Structures with a Compositionally Tunable Core and Regio-Selectively Grown Shell <b>Taehyun Kwon</b> , Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-104 Synthesis of Ruthenium Nitrosyl Complexes with modified salophen ligand <b>Minyoung Kim</b> , Hong In Lee <sup>*</sup> <i>Department of Chemistry, Kyungpook National University, Korea</i>	INOR.P-118
Synthesis of tetrahedral rhodium sulfide-based nanoframes as electrocatalysts for hydrogen evolution reaction <b>Minki Jun</b> , Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-105 Visible-light-driven Photochemical CO <sub>2</sub> Reduction: Tuning and Optimization of Catalytic Performance of Dye/TiO <sub>2</sub> /Mn(II) Ternary System <b>Sung-Jun Woo</b> , Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son <sup>*</sup> <i>Department of Advanced Materials Chemistry, Korea University, Korea</i>	INOR.P-119
Highly porous PtNi multiframe nanocatalyst for oxygen reduction reaction <b>Hyukbu Kwon</b> , Jongsik Park, Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-106 New insight into the non-conventional Porous Materials: Metal-Organic Triangles <b>Jiyeon Kim</b> , Wonyoung Choe <sup>1,2</sup> <i>Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>	INOR.P-120
Synthesis of mixed metal chalcogenides toward hydrogen evolution reaction by template-mediated method <b>Taekyung Kim</b> , Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-107 Highly Efficient Photocatalytic CO <sub>2</sub> -to-CO Conversion through new Hybrid binary System (Porphyrin Photosensitizer + TiO <sub>2</sub> /ReC) <b>Seong-han Choi</b> , Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son <sup>*</sup> <i>Department of Advanced Materials Chemistry, Korea University, Korea</i>	INOR.P-121
Template mediated synthesis of noble metal phosphides <b>Haneul Jin</b> , Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-109 MOFs Based on Dipyriddy Piperazine and Benzene Carboxylate: Hexagonal Tubular Crystals of Ni(II) MOF and Anion-Dependent Co(II) MOFs <b>Huiyeong Ju</b> , Eunji Lee, Leonard F. Lindoy <sup>1,2</sup> , Shim Sung Lee <sup>*</sup> <i>Department of Chemistry, Gyeongsang National University, Korea</i> <sup>1</sup> <i>Department of Chemistry, The University of Sydney, Korea</i>	INOR.P-122
Hemicore-shell as an optimal catalyst structure alloy@alloy nanoframe toward oxygen evolution reaction <b>SONGA CHOI</b> , Jongsik Park, Kwangyeol Lee <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	INOR.P-110 Polymetallic Catalysts bearing asymmetric tripodal ligand for CO <sub>2</sub>	INOR.P-123



## Scientific Program

conversions

- inyong lee**, Jungseok Heo\*  
Department of Chemistry, Chungnam National University, Korea
- Endo/Exocyclic 1-D Silver(I) Coordination Polymers with an N<sub>2</sub>O<sub>2</sub>S<sub>2</sub>-Macrocyclic Exhibiting Desolvation-Induced SCSC Transformation  
**Sujin Seo**, Eunji Lee, Shim Sung Lee\*  
Department of Chemistry, Gyeongsang National University, Korea
- Crystal Engineering of Bis-O<sub>2</sub>S<sub>2</sub>-Macrocyclic Isomers: Isolation of para-Isomer as Final Puzzle, and Borderline and Soft Metal Complexes  
**Suulgi Kim**, Shim Sung Lee\*  
Department of Chemistry, Gyeongsang National University, Korea
- Solar H<sub>2</sub> Evolution in Water with Red-Light-Absorbing Hybrid Ternary System (Squaraine dye/TiO<sub>2</sub>/Pt)  
**Minji Cho**, DAE WON CHO, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son\*  
Department of Advanced Materials Chemistry, Korea University, Korea
- A trihydroxyphenol-appended benzene-1,3,5-tricarboxamide-involved electrospun film for chromogenic detection and removal of Cs<sup>+</sup>  
**Na Young Lim**, Junho Ahn, Jong Hwa Jung\*  
Department of Chemistry, Gyeongsang National University, Korea
- Mesoporous silica-Au nanoparticle-based mitochondria-targeting drug delivery system of doxorubicin and F16  
**Junho Ahn**, Hee Kyoung Choi, Ka Young Kim, Jong Hwa Jung\*  
Department of Chemistry, Gyeongsang National University, Korea
- Helical Self-Assembly and Luminescent Properties of Alkynylplatinum(II) Terpyridine Complexes of C<sub>3</sub> Space Group  
**Jaehyeon Park**, Ka Young Kim, Jong Hwa Jung\*  
Department of Chemistry, Gyeongsang National University, Korea
- Selective and efficient Photocatalytic CO<sub>2</sub>-to-CO conversion by New Hybrid system consisting of bis-cyclometalated bipyridyl Ir(III) photosensitizer and Re(I)-complex-anchored TiO<sub>2</sub> catalytic particles  
**Hayeon Cheong**, So-Yoen Kim, Yang-Jin Cho, DAE WON CHO, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son\*  
Department of Advanced Materials Chemistry, Korea University, Korea
- Transfer and Inversion of Co-assembled Supramolecular Chirality in Hydrogel: Transformation of 2D-Sheet to Rolled-Up Tubular Structure  
**Heekyoung Choi**, Jong Hwa Jung\*  
Department of Chemistry, Gyeongsang National University, Korea
- Preparation of Color-Tunable Fluorescent Multiblock Complexes  
**Ka Young Kim**, Jong Hwa Jung\*  
Department of Chemistry, Gyeongsang National University, Korea
- Nickel(II) Ions-Switchable Helicity of Bipyridine-Based Polymers  
**Misun Go**, Heekyoung Choi, Jong Hwa Jung\*  
Department of Chemistry, Gyeongsang National University, Korea
- Bent shape of Bis-bimetallic Zn-catalyst for Cycloadditions of CO<sub>2</sub> to epoxides  
**Na Ru Kang**, Jungseok Heo<sup>1\*</sup>  
Chemistry, Chungnam National University, Korea  
<sup>1</sup>Department of Chemistry, Chungnam National University, Korea
- Helix to Super Helix Transition in Co-Assembly Based C<sub>3</sub> Symmetric Molecular  
**Hyowon Seo**, Heekyoung Choi, Jong Hwa Jung\*  
Department of Chemistry, Gyeongsang National University, Korea
- Zn-MOFs Containing Flexible Dicarboxylates with 1,2-Bis(4-pyridyl)ethane or 1,2-Bis(4-pyridyl)ethylene Ligands  
**Youngmee Kim**, Hyun-Chul Kim<sup>1</sup>, SEONG HUH<sup>1</sup>, Sung-Jin Kim, Do

Nam Lee<sup>2</sup>

Department of Chemistry and Nano Science, Ewha Womans University, Korea

INOR.P-124

<sup>1</sup>Department of Chemistry, Hankuk University of Foreign Studies, Korea

<sup>2</sup>Ingenium College of Liberal Arts (Chemistry), Kwangwoon University, Korea

INOR.P-125

O<sub>2</sub> activation from a bulky iron amino triphenolate complex

INOR.P-137

**Dae Young Bae**, Eunsung Lee\*

Department of Chemistry, Pohang University of Science and Technology, Korea

INOR.P-126

Characterization and Fabrication of Mo Thin Film Coated on Soda Lime Glass for the CIGSeS Photovoltaic Application

INOR.P-138

**Gang-Yeoul Ryu**, Soyoung Lee<sup>1</sup>, Byoung Koun Min<sup>2</sup>, Woong Kim<sup>3</sup>, YOUNG RAG DO<sup>4\*</sup>

Department of Advanced Materials Engineering, Korea University, Korea

INOR.P-127

<sup>1</sup>Department of Chemistry, Kookmin University, Korea

<sup>2</sup>Korea Institute of Science and Technology, Korea

<sup>3</sup>Division of Advanced Materials Engineering, Korea University, Korea

<sup>4</sup>Department of Bionano Chemistry, Kookmin University, Korea

INOR.P-128

Fabrication of Inorganic CsPbX<sub>3</sub>(X=Br, I) Perovskite Quantum Dot-based Remote-type White Down-Converted LEDs

INOR.P-139

**Soyoung Lee**, Hee Chang Yoon, Ji Hye Oh<sup>1</sup>, YOUNG RAG DO<sup>1\*</sup>

Department of Chemistry, Kookmin University, Korea

<sup>1</sup>Department of Bionano Chemistry, Kookmin University, Korea

INOR.P-129

Realization of Display Backlight using Green and Red InP/ZnSeS/ZnS Multilayered Films

INOR.P-140

**Sohee Kim**, soyeon yoon, YOUNG RAG DO<sup>1\*</sup>

Department of Chemistry, Kookmin University, Korea

<sup>1</sup>Department of Bionano Chemistry, Kookmin University, Korea

INOR.P-130

Red Shift of Photoluminescence Excitation Spectra of Narrowband BaMgAl<sub>10</sub>O<sub>17</sub>:Eu,Mn Green Phosphors

INOR.P-141

**HEEJOON KANG**, KEYONG LEE, Ji Hye Oh, YOUNG RAG DO\*

Department of Bionano Chemistry, Kookmin University, Korea

INOR.P-131

Fabrication of Metal-Insulator-Metal Structure (ITO-Al<sub>2</sub>O<sub>3</sub>-Ti/Au) to evaluate breakdown voltage of ALD-coated Al<sub>2</sub>O<sub>3</sub> Thin Films

INOR.P-142

**Young Kwon Jang**, Gang-Yeoul Ryu<sup>1</sup>, HEEJOON KANG<sup>2</sup>, YunJae Eo<sup>3</sup>, Woong Kim<sup>4</sup>, YOUNG RAG DO<sup>2\*</sup>

Chemistry, Kookmin University, Korea

<sup>1</sup>Department of Advanced Materials Engineering, Korea University, Korea

<sup>2</sup>Department of Bionano Chemistry, Kookmin University, Korea

<sup>3</sup>Department of Chemistry, Kookmin University, Korea

<sup>4</sup>Division of Advanced Materials Engineering, Korea University, Korea

INOR.P-132

Synthesis of Coumaraz-2-on-4-ylidene: The Most π-acidic N-heterocyclic Carbene

INOR.P-143

**Hayoung Song**, Hyunho Kim<sup>1</sup>, Eunsung Lee\*

Department of Chemistry, Pohang University of Science and Technology, Korea

<sup>1</sup>Pohang University of Science and Technology, Korea

INOR.P-135

[C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>NH<sub>3</sub>]<sub>3</sub>BiCl<sub>6</sub>·0.5H<sub>2</sub>O: Photoluminescence Properties of a Red-emitting One-dimensional Organic Bismuth Halide

INOR.P-144

**Seung-Jin Oh**, TaeHwan Moon, JIYOON HWANG, Hyeshin Lee, Kang Min Ok\*

Department of Chemistry, Chung-Ang University, Korea

INOR.P-136

Organic Mixed-Valence Systems of Rigid, Cofacially Compressed Aromatic Units for the Evaluation of Electron and Hole Transfer through

INOR.P-145

<p><math>\pi</math>-Stacked Manifold</p> <p><b>Hae Won Jung</b>, Do Hoon Jun, Youn Kyung Kang*  <i>Department of Chemistry, Sangmyung University, Korea</i></p>		<p>resolved wide angle x-ray scattering</p> <p><b>Rory Ma</b>, TaeKyu Kim*  <i>Department of Chemistry, Pusan National University, Korea</i></p>	
<p>Detail status of BL2D-Supramolecular Crystallography Beamline at the Pohang Accelerator Laboratory</p> <p><b>Dae-Woong Kim</b>, Dohyun Moon*  <i>Beam Operation Team, Pohang Accelerator Laboratory, Korea</i></p>	INOR.P-146	<p>Study of Manganese-Cobalt based Catalyst for Hydrogen Generation from Hydrazine monohydrate</p> <p><b>Youngyong Kim</b>, Ki-Young Kwon*  <i>Department of Chemistry, Gyeongsang National University, Korea</i></p>	PHYS.P-79
<p>Crystallographic Evidence for Sensing of Nitroaromatic Compounds by MOF</p> <p><b>Amitosh Sharma</b>, Seungwan Han<sup>1</sup>, JAEWOONG LIM<sup>1</sup>, Myoung Soo Lah<sup>1*</sup>  <i>Ulsan National Institute of Science and Technology, Korea</i>  <sup>1</sup><i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p>	INOR.P-147	<p>Synthesis of copper-substituted Hydroxyapatite and application to dehydration of 1-octanol</p> <p><b>Yoonhee Lee</b>, Ki-Young Kwon*  <i>Department of Chemistry, Gyeongsang National University, Korea</i></p>	PHYS.P-80
<p>Design and Synthesis of Ruthenium Aqua Complexes Featuring Oxidation Potential Inversion</p> <p><b>Byung Wook Lee</b>, Young Hoon Jang, Do Hoon Jun, Youn Kyung Kang*  <i>Department of Chemistry, Sangmyung University, Korea</i></p>	INOR.P-148	<p>Intramolecular charge transfer reaction dynamics investigated by femtosecond stimulated Raman spectroscopy</p> <p><b>Sebok Lee</b>, kooknam jeon<sup>1</sup>, Myungsam Jen<sup>2</sup>, YOONSOO PANG*  <i>Division of Physical Chemistry, Gwangju Institute of Science and Technology, Korea</i>  <sup>1</sup><i>Department of Chemistry, Gwangju Institute of Science and Technology, Korea</i>  <sup>2</sup><i>Division of Physical Chemistry Department of Chemi, Gwangju Institute of Science and Technology, Korea</i></p>	PHYS.P-81
<p>Synthesis and Characterization of Tin Precursors for Atomic Layer Deposition of Tin Oxide Thin Films</p> <p><b>Seongho Han</b>, TAEK-MO CHUNG<sup>1*</sup>, Seung Uk Son, Chang-Gyoun Kim<sup>2</sup>, Bo Keun Park<sup>3</sup>  <i>Department of Chemistry, Sungkyunkwan University, Korea</i>  <sup>1</sup><i>Chemical Materials Division Center for Thin Film M, Korea Research Institute of Chemical Technology, Korea</i>  <sup>2</sup><i>Chemical Materials Division, Korea Research Institute of Chemical Technology, Korea</i>  <sup>3</sup><i>Center for Thin Film Materials, Korea Research Institute of Chemical Technology, Korea</i></p>	INOR.P-149	<p>Unveiling the Complexity of the Degradation Mechanism of Semiconducting Organic Polymers: Visible Light-Induced Oxidation of P3HT Films on ZnO/ITO under Atmospheric Conditions</p> <p><b>TaeGyun Woo</b>, Hyun Ook Seo<sup>1</sup>, BYEONG JUN CHA, IL HEE KIM, Sangwook Han, Young Dok Kim*  <i>Department of Chemistry, Sungkyunkwan University, Korea</i>  <sup>1</sup><i>Department of Chemical Energy Engineering, Sangmyung University, Korea</i></p>	PHYS.P-82
<p>Tunable physical properties of redox-active porous coordination network via post-synthetic modification</p> <p><b>Jaejun Kim</b>, Masaki Kawano*  <i>Department of Chemistry, Tokyo Institute of Technology, Japan</i></p>	INOR.P-150	<p>The relation between the Hofmeister anions and water structure at protein surfaces</p> <p><b>Euihyun Lee</b>, MINHAENG CHO*  <i>Department of Chemistry, Korea University, Korea</i></p>	PHYS.P-83
<p>Synthesis of Silyl Oxime Ether Radical Cations Stabilized by N-heterocyclic Carbene</p> <p><b>Youngsuk Kim</b>, Eunsung Lee*  <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i></p>	INOR.P-151	<p>Atomic dipole approximation for quantum plasmon simulation of nanoparticles</p> <p><b>JAECHANG LIM</b>, Sungwoo Kang, Jaewook Kim, WOO YOUN KIM<sup>1</sup>, SEOL RYU<sup>1*</sup>  <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i>  <sup>1</sup><i>Department of Chemistry, Chosun University, Korea</i></p>	PHYS.P-84
		<p>Kinetic Study on Solvolyses of Thiophosphoryl Transfer Reactions</p> <p><b>HAN JOONG KOH</b>  <i>General Science Education, Jeonju National University of Education, Korea</i></p>	PHYS.P-85
		<p>Protein Conformational Space Discretization by Using Thermodynamic Order Parameter</p> <p><b>Song-Ho Chong</b>, Sihyun Ham*  <i>Department of Chemistry, Sookmyung Women's University, Korea</i></p>	PHYS.P-86
		<p>Density Functional Study on Metal Ion Selectivity of Theiophene Derivative Compounds</p> <p><b>jinjae lee</b>, Jong-Won Song<sup>1*</sup>, Seung Hyun Chang  <i>Department of Chemistry, Daegu University, Korea</i>  <sup>1</sup><i>Chemistry Education, Daegu University, Korea</i></p>	PHYS.P-87
		<p>Quantum Chemical Investigations of Intermolecular Binding Energy between Carbon Nano-tube and Aromatic Molecules</p> <p><b>Dae-Hwan Ahn</b>, Jong-Won Song<sup>1*</sup>  <i>chemical education, Daegu University, Korea</i>  <sup>1</sup><i>Chemistry Education, Daegu University, Korea</i></p>	PHYS.P-88
		<p>Dynamics of mimic complex of [FeFe]-hydrogenase by using time-</p>	PHYS.P-78

#### 44. Physical Chemistry October 20 (FRI) , Exhibition Hall 2+3

##### <Physical Chemistry Poster Presentation>

Interpretations of behaviors of electronic/potential energy curves of highly excited Rydberg states of diatomic molecules in terms of generalized momenta in spheroidal (elliptical) coordinate systems by Gershtein et al's WKB method

**Chun-Woo Lee**

*Department of Chemistry, Ajou University, Korea*

Study of the correlation diagram between united-atom and separated-atom states in HeH<sup>+</sup> by the quantum chemical multireference-configuration-interaction (MRCI) method and by the effective potential method in separable spheroidal coordinate systems proposed by Teller and Sahlin

**Chun-Woo Lee**

*Department of Chemistry, Ajou University, Korea*

Dynamics of mimic complex of [FeFe]-hydrogenase by using time-

## Scientific Program

<p>The Surface of Acidic and Basic Water  <b>MdAIMamunur Rashid</b>, Cheol Ho Choi*  <i>Department of Chemistry, Kyungpook National University, Korea</i></p>	<p>PHYS.P-89            Catalytic activity of Fe<sub>2</sub>O<sub>3</sub> nanoparticles deposited on mesoporous Al<sub>2</sub>O<sub>3</sub> bead toward toluene combustion  <b>CHANHEUM PARK</b>, IL HEE KIM, Sangwook Han, Ho Jong Kim, BYEONG JUN CHA, JAEHWN JEONG, TaeGyun Woo, Hyun Ook Seo<sup>1</sup>, Young Dok Kim*  <i>Department of Chemistry, Sungkyunkwan University, Korea</i>  <sup>1</sup><i>Department of Chemical Energy Engineering, Sangmyung University, Korea</i></p>	<p>PHYS.P-102</p>
<p>The Optical Properties for Bilirubin-Inducible Fluorescent Protein (holoUnaG)  <b>ChangHo KIM</b>, Bonghwan Chon, Euihyun Lee<sup>1</sup>, Sang-Hee Shim<sup>1,2</sup>, MINHAENG CHO<sup>1*</sup>  <i>CMSD, IBS-Korea University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Korea University, Korea</i></p>	<p>PHYS.P-90            [Withdrawal]Crystalline structure analysis of carbon materials with micro-Raman spectroscopy  <b>Junghwa Lee</b>  <i>Measurement &amp; Analysis group, Samsung Electro-Mechanics, Korea</i></p>	<p>PHYS.P-103</p>
<p>Determination of relative population of isomers of s-trans and s-cis crotonaldehyde on the neutral ground state by VUV-MATI spectroscopy and Franck-Condon factors  <b>Sung Man Park</b>, Hong Lae Kim*, Chan Ho Kwon*  <i>Department of Chemistry, Kangwon National University, Korea</i></p>	<p>PHYS.P-91            Effects of External Electric Field and Anisotropic Long-Range Reactivity on Charge Separation Probability  <b>Kyusup Lee</b>, seonghoon lee, Cheol Ho Choi<sup>1</sup>, Sangyoub Lee*  <i>Department of Chemistry, Seoul National University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	<p>PHYS.P-104</p>
<p>Structure and adsorption behavior depending on various pH conditions of 4',4'''-(diazene-1,2-diyl)bis((1,1'-biphenyl)-4-carbonitrile)) on silver surfaces  <b>So Young Eom</b>, Hong Lae Kim*, Chan Ho Kwon*  <i>Department of Chemistry, Kangwon National University, Korea</i></p>	<p>PHYS.P-92            Systematic Ligand Modification of TM Complexes for Improved Redox Potentials  <b>FRANCIS KIRBY BURNEA</b>, JONGHYEON LIM, Salimi Abbas<sup>1</sup>, JIN YONG LEE*  <i>Department of Chemistry, Sungkyunkwan University, Korea</i>  <sup>1</sup><i>Department of Chemical Engineering, Sungkyunkwan University, Korea</i></p>	<p>PHYS.P-105</p>
<p>One-photon mass-analyzed threshold ionization spectroscopy of hydroazoic acid  <b>Do Won Kang</b>, Hong Lae Kim*, Chan Ho Kwon*  <i>Department of Chemistry, Kangwon National University, Korea</i></p>	<p>PHYS.P-93            Noninvasive, Layer-selective Analysis of OLED Degradation  <b>JUNGBAE SON</b>, JOO YOUN KANG, Sohyeon Bae, Key Young Yang<sup>1</sup>, Jongseok Han<sup>2</sup>, Changhee Lee<sup>2</sup>, Seong Keun Kim*  <i>Division of Chemistry, Seoul National University, Korea</i>  <sup>1</sup><i>Department of Electrical and Computer Engineering, Seoul National University, Korea</i>  <sup>2</sup><i>Seoul National University, Korea</i></p>	<p>PHYS.P-106</p>
<p>SERS and DFT studies of 4-Aminobenzoic acid on silver surfaces in the presence of chloride anions  <b>Do Geun Yoon</b>, So Young Eom<sup>1</sup>, Hong Lae Kim<sup>1,2</sup>, Chan Ho Kwon<sup>1,2</sup>  <i>Department of chemistry, Kangwon National University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Kangwon National University, Korea</i></p>	<p>PHYS.P-94            Formation of deep chemical bonding between C and Ge in C (C: 1.5 wt.%) doped Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> after phase-change  <b>Young Mi Lee</b>  <i>Beamline Department, Pohang Accelerator Laboratory (PAL), Korea</i></p>	<p>PHYS.P-107</p>
<p>Translation-Rotation Decoupling of Tracers of Locally Favorable Structures in Glass-Forming Liquids  <b>YoonJae Park</b>, Bong June Sung*  <i>Department of Chemistry, Sogang University, Korea</i></p>	<p>PHYS.P-95            A Raman Spectroscopic Approach to Photo-Degradation Process of PTB7-Th Polymer  <b>sangjun Kim</b>, Kyusang Ahn, kyungwon Kwak*, MINHAENG CHO*  <i>Department of Chemistry, Korea University, Korea</i></p>	<p>PHYS.P-108</p>
<p>Advantages of Mobile Liquid-Crystal Phase of AIE Luminogens for Effective Solid-State Emission  <b>Hoa Thi Bui</b>, Sung Cho*  <i>Department of Chemistry, Chonnam National University, Korea</i></p>	<p>PHYS.P-96            The Coil-globule Transition Pathway Determines the Structure of a Polymer Globule as a Model for Chromatin Organization  <b>Seulki Kwon</b>, Bong June Sung*  <i>Department of Chemistry, Sogang University, Korea</i></p>	<p>PHYS.P-109</p>
<p>Small Molecule Solvatochromism with Alkyne-Tagged Vibrational Probe  <b>You Na Kim</b>, MINHAENG CHO*  <i>Department of Chemistry, Korea University, Korea</i></p>	<p>PHYS.P-97            Reduction of 4-Nitrophenol to 4-Aminophenol : Boosting Catalytic Efficiency by Coupling with Copper via Liquid Phase Pulsed Laser Ablation  <b>YUJIN KIM</b>, Hanbit Park, Rory Ma, Amaranatha reddy, TaeKyu Kim*  <i>Department of Chemistry, Pusan National University, Korea</i></p>	<p>PHYS.P-110</p>
<p>Dynamics of Ligand Rebinding to Cytoglobin using Time-resolved Infrared Spectroscopy  <b>JuHyang Shin</b>, Manho Lim*, CheongHa Lim<sup>1</sup>  <i>Department of Chemistry, Pusan National University, Korea</i>  <sup>1</sup><i>Pusan National University, Korea</i></p>	<p>PHYS.P-98            Vibrational predissociation of aniline-methanol-water cluster cation  <b>HyunWook Choi</b>, Jae Kyu Song, Seung Min Park*  <i>Department of Chemistry, Kyung Hee University, Korea</i></p>	<p>PHYS.P-111</p>
<p>Conformation-dependent Photodissociation Dynamics of C<sub>2</sub>F<sub>4</sub>I<sub>2</sub> in Solution  <b>Seongchul Park</b>, Manho Lim*, Youngshang Pak  <i>Department of Chemistry, Pusan National University, Korea</i></p>	<p>PHYS.P-99            The Effect of Small Group Discussion Class Based on Social Constructivism on Perception of Evaporation and Boiling by Pre-service Chemistry Teachers  <b>Hyoun Mee Kim</b>  <i>Division of Natural Sciences, Jam Sil Middle School, Korea</i></p>	<p>PHYS.P-112</p>
<p>Synthesis of Ultra-small Pd Nanoparticles Deposited on CdS Nanorods by Pulsed Laser Ablation in Liquid: Role of Metal Nanocrystal Size in the Photocatalytic Hydrogen Production  <b>Hanbit Park</b>, Amaranatha reddy, TaeKyu Kim*  <i>Department of Chemistry, Pusan National University, Korea</i></p>	<p>PHYS.P-100            Exponential Law for Complete Basis Limit of CCSD(T) Theory for OH Vibrational Potential Energies of Water Molecules  <b>Ki Young Jeon</b>, Mino Yang*  <i>Department of Chemistry, Chungbuk National University, Korea</i></p>	<p>PHYS.P-113</p>
<p></p>	<p>Photophysical properties of dyes in reverse micelles studied by time-</p>	<p></p>

- resolved electronic spectroscopy  
**Taehyung Jang**, Gisang Lee, YOONSOO PANG<sup>1,\*</sup>  
*Department of Chemistry, Gwangju Institute of Science and Technology, Korea*  
<sup>1</sup>*Division of Physical Chemistry, Gwangju Institute of Science and Technology, Korea*
- Surface Adsorption of Hydroxyanthraquinones on CTAB-modified Gold Nanosurfaces  
**Juhyun Yeo**, YOONSOO PANG<sup>1,\*</sup>  
*Department of Chemistry, Gwangju Institute of Science and Technology, Korea*  
<sup>1</sup>*Division of Physical Chemistry, Gwangju Institute of Science and Technology, Korea*
- [Withdrawal] Crystallographic Orientation-Dependent Raman Spectra of Layered CrPS<sub>4</sub>  
**Sujin Kim**, Sunmin Ryu<sup>†</sup>  
*Department of Chemistry, Pohang University of Science and Technology, Korea*
- Fundamental Raman Study of Single and Few layer <sup>13</sup>C Graphene  
**hwansoo jeon**, Sunmin Ryu<sup>†</sup>  
*Department of Chemistry, Pohang University of Science and Technology, Korea*
- Infrared spectroscopy of Electrolyte in Lithium-Ion Batteries  
**Minju Kim**, kyungwon Kwak<sup>†</sup>, MINHAENG CHO<sup>†</sup>  
*Department of Chemistry, Korea University, Korea*
- Metal-enhanced Fluorescence Observed with Homogeneous Silver Colloidal Films  
**Daedu Lee**, jaebeom lee, Junghyun Song, YOONSOO PANG<sup>†</sup>  
*Division of Physical Chemistry, Gwangju Institute of Science and Technology, Korea*
- Homogeneous gold colloidal surfaces optimal for metal-enhanced fluorescence  
**Junghyun Song**, jaebeom lee, Daedu Lee, YOONSOO PANG<sup>†</sup>  
*Division of Physical Chemistry, Gwangju Institute of Science and Technology, Korea*
- Molecular Dynamics Simulation Study of Self-assembled Supramolecular Nanotubule  
**YoungBeom Jo**, JESEONG YOON, Seokmin Shin<sup>†</sup>  
*Department of Chemistry, Seoul National University, Korea*
- The Effect of Nanoparticles on the Stabilization of a Polymer Nanofiber  
**taejin kwon**, Bong June Sung<sup>†</sup>  
*Department of Chemistry, Sogang University, Korea*
- Infrared multiphoton dissociation of a-type peptide ion derived from triglycine by experiment and theory  
**Seungtaek Rim**, Jongcheol Seo<sup>1</sup>, Seung Koo Shin<sup>†</sup>  
*Department of Chemistry, Pohang University of Science and Technology, Korea*  
<sup>1</sup>*Department of Molecular Physics, Fritz Haber Institute of the Max Planck Society, Germany*
- Oxygen/Water Redox Couple Modulating Interfacial Charge Transfer of Graphene  
**Kwanghee Park**, Sunmin Ryu<sup>†</sup>  
*Department of Chemistry, Pohang University of Science and Technology, Korea*
- IR probing of equilibria between I<sub>2</sub> and SCN<sup>-</sup> in DMSO  
**Youngseo Kim**, Junho Lee, Sungnam Park<sup>†</sup>  
*Department of Chemistry, Korea University, Korea*
- Completing the Picture of Quinophthalone Photochemistry  
**Gi Rim Han**, Doyk Hwang<sup>1</sup>, JONGWOO LEE<sup>1</sup>, Seong Keun Kim<sup>†</sup>  
*Division of Chemistry, Seoul National University, Korea*  
<sup>1</sup>*Department of Biophysics and Chemical Biology, Seoul National University, Korea*
- Noble metal-free MOF-derived onion slice-type hollow cobalt sulfide nanostructures: Enhanced activity of CdS for improving photocatalytic hydrogen production  
**PHYS.P-114** **PRAVEEN KUMAR DHARANI**, Hanbit Park, EunHwa Kim, Sangyeob Hong, MADHUSUDANA GOPANNAGARI, Amaranatha reddy, TaeKyu Kim<sup>†</sup>  
*Department of Chemistry, Pusan National University, Korea*
- Excited-state Dynamics of Resveratrone and Its Interaction with DNA  
**PHYS.P-115** **Doyk Hwang**, Gi Rim Han<sup>1</sup>, JONGWOO LEE, EunHak Lim<sup>1</sup>, JOO YOUN KANG<sup>1</sup>, Seong Keun Kim<sup>1,\*</sup>  
*Department of Biophysics and Chemical Biology, Seoul National University, Korea*  
<sup>1</sup>*Division of Chemistry, Seoul National University, Korea*
- ER Recombination Dynamics of Gas-phase Nitrogen Atom Reaction with Chemisorbed Nitrogen Atoms on a W(100)  
**PHYS.P-116** **Jongbaek Ree**<sup>†</sup>, DO HWAN KIM<sup>1</sup>, H. K. Shin<sup>2</sup>  
*Department of Chemical Education, Chonnam National University, Korea*  
<sup>1</sup>*Department of Chemical Education, Chonbuk National University, Korea*  
<sup>2</sup>*Department of Chemistry, University of Nevada, United States*
- Multidirectional-charge-transfer urchin-type Mo-doped W<sub>18</sub>O<sub>18</sub>49 nanostructures on CdS nanorods for enhanced photocatalytic hydrogen evolution  
**PHYS.P-117** **Bhavani Palagiri**, PRAVEEN KUMAR DHARANI, EunHwa Kim, Hanbit Park, Sangyeob Hong, MADHUSUDANA GOPANNAGARI, Amaranatha reddy, TaeKyu Kim<sup>†</sup>  
*Department of Chemistry, Pusan National University, Korea*
- Computational study on a highly-ordered hydroxylated graphene epitaxially-grown on Cu(111)  
**PHYS.P-118** **Minhui Lee**, Hyunseob Lim<sup>1,\*</sup>, Jaehoon Jung<sup>†</sup>, Yousoo Kim<sup>2,\*</sup>  
*Department of Chemistry, University of Ulsan, Korea*  
<sup>1</sup>*Department of Chemistry, Chonnam National University, Korea*  
<sup>2</sup>*Surface and Interface Science Laboratory, RIKEN, Japan*
- Effect of Surface Functionalized Multi Walled Carbon Nanotubes as Light Harvesting Material to CdS Nanorods for Effective Photocatalytic Water Splitting Hydrogen Generation  
**PHYS.P-119** **MADHUSUDANA GOPANNAGARI**, Hanbit Park, EunHwa Kim, Amaranatha reddy, TaeKyu Kim<sup>†</sup>  
*Department of Chemistry, Pusan National University, Korea*
- Electromagnetic coupling in graphone/In<sub>2</sub>Se<sub>3</sub> nanocomposite  
**PHYS.P-120** **Eunmi Kim**, Geunsik Lee<sup>1,\*</sup>  
*Chemistry, Ulsan National Institute of Science and Technology, Korea*  
<sup>1</sup>*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*
- A study on photophysical properties of PANI composites free standing films  
**PHYS.P-121** Hyejin Cho, **Jihye Park**, Suhyeon Lee, Jongwan Choi<sup>1,\*</sup>  
*Department of Chemistry, Sahmyook University, Korea*  
<sup>1</sup>*Division of General Studies, Sahmyook University, Korea*
- Preparation of TiO<sub>2</sub>/ZrO<sub>2</sub> composites for hard and transparent coating  
**PHYS.P-122** **Suhyeon Lee**, Jihye Park, Hyejin Cho, Jongwan Choi<sup>1,\*</sup>  
*Department of Chemistry, Sahmyook University, Korea*

## Scientific Program

<sup>1</sup> Division of General Studies, Sahmyook University, Korea			
Self-regulation under intracellular noise	PHYS.P-135	<b>Joonyoung F. Joung</b> , SangIn Kim, Sungnam Park* <i>Department of Chemistry, Korea University, Korea</i>	
<b>Hoongji Lee</b> , Jaeyoung Sung* <i>Department of Chemistry, Chung-Ang University, Korea</i>		Synthesis and Characterization of Mixed Zn(II)/Gd(III) Oxide Nanoparticle T <sub>1</sub> MRI Contrasting Agent	PHYS.P-149
Formation and Structure of 1-Adamantyl Isocyanide Self-Assembled Monolayers on Au(111)	PHYS.P-136	<b>tirusew tegafaw</b> , Gang Ho Lee* <i>Department of Chemistry, Kyungpook National University, Korea</i>	
<b>NAMGYEONG LEE</b> , Seul-ki Han, sichun sung, Young Ji Son, Jaegeun Noh* <i>Department of Chemistry, Hanyang University, Korea</i>		Polarization dependence of metal-induced fluorescence of quantum dots on patterned Ag substrate	PHYS.P-150
A theoretical study on the singlet-triplet energy difference of gold-containing organo-metalic complexes	PHYS.P-137	<b>WonGeun Yang</b> , Weon-Sik Chae* <i>Daegu Center, Korea Basic Science Institute, Korea</i>	
<b>CHANGHWAN AHN</b> , Dongwook Kim* <i>Department of Chemistry, Kyonggi University, Korea</i>		MoS <sub>2</sub> Basal Planes Enhances Electrochemical Hydrogen Evolution Reaction: First-Principles Study	PHYS.P-151
Theoretical Study on Dicyanobenzene Organic Light Emitting Diode Material: Calculation result of position of carbazole and DMAC	PHYS.P-138	<b>MIN CHOI</b> , Hyun Woo Kim, Youngmin Kim <sup>1</sup> , Hyung Ju Kim <sup>1</sup> , Hyunju Chang* <i>Chemical Simulation Center, Korea Research Institute of Chemical Technology, Korea</i> <sup>1</sup> Carbon Resources Institute, Korea Research Institute of Chemical Technology, Korea	
<b>Chan Yoo Hong</b> , Dongwook Kim* <i>Department of Chemistry, Kyonggi University, Korea</i>		Mechanistic study of acetic acid synthesis over Cu-ZSM-5 framework : A QM/MM study	PHYS.P-152
Structural comparison with PDGFRA mutations in GIST: Molecular dynamics simulation	PHYS.P-139	<b>Byung Ho Park</b> , Nasir Shahzad <sup>1</sup> , Chan Kyung Kim* <i>Department of Chemistry, Inha University, Korea</i> <sup>1</sup> Department of Chemistry & Chemical Engineering Con, Inha University, Korea	
<b>Cheol hee Kim</b> , Eunae Kim* <i>Department of Pharmacy, Chosun University, Korea</i>		DFT Studies on the Aminolysis of Methyl (Thio)Chloro Formates in Acetonitrile	PHYS.P-153
Facilitated Protein-DNA binding reaction with Monte Carlo simulation : DNA length and protein distance	PHYS.P-140	<b>Adhikary Keshab Kumar</b> , Chan Kyung Kim* <i>Department of Chemistry, Inha University, Korea</i>	
<b>junmyeong jeong</b> , Taejun Kim*, Hyojoon Kim* <i>Department of Chemistry, Dong-A University, Korea</i>		Insight into the Universal Descriptor for Heterogeneous Catalysis	PHYS.P-154
A Study of Comparison of DFT and DFT-D Method	PHYS.P-141	<b>Nasir Shahzad</b> , Chan Kyung Kim <sup>1*</sup> <i>Department of Chemistry &amp; Chemical Engineering Con, Inha University, Korea</i> <sup>1</sup> Department of Chemistry, Inha University, Korea	
<b>Youjin Kim</b> , Dongwook Kim* <i>Department of Chemistry, Kyonggi University, Korea</i>		Fluctuating Diffusion Kernel: Fickian yet Non-Gaussian Transport in Disordered Media	PHYS.P-155
The Kinetical Effect of 4-Fluorosulfony substituent for the Solvolysis of Benzoyl Chloride	PHYS.P-142	<b>Sanggeun Song</b> , Ji-Hyun Kim*, Jaeyoung Sung* <i>Department of Chemistry, Chung-Ang University, Korea</i>	
<b>JUNGEUN KIM</b> , Kyoung-Ho Park* <i>Department of Chemical Molecule Engineering, Hanyang University, Korea</i>		Excited states dynamics of curcumin probe by femtosecond stimulated Raman spectroscopy	PHYS.P-156
The Kinetical Phenomenon of 3-(Trifluoromethoxy)benzoyl Chloride in Solvolysis	PHYS.P-143	<b>Myungsam Jen</b> , Sebok Lee <sup>1</sup> , kooknam jeon <sup>2</sup> , YOONSOO PANG <sup>1*</sup> <i>Division of Physical Chemistry Department of Chemi, Gwangju Institute of Science and Technology, Korea</i> <sup>1</sup> Division of Physical Chemistry, Gwangju Institute of Science and Technology, Korea <sup>2</sup> Department of Chemistry, Gwangju Institute of Science and Technology, Korea	
<b>Younghee Jung</b> , Kyoung-Ho Park <sup>1*</sup> <i>Department of Civil Engineering and Environment, Hanyang University, Korea</i> <sup>1</sup> Department of Chemical Molecule Engineering, Hanyang University, Korea		Chemical Fluctuation: beyond the Poissonian paradigm	PHYS.P-144
<b>Jingyu Kang</b> , Jaeyoung Sung <sup>1*</sup> <i>Chemistry, Chung-Ang University, Korea</i> <sup>1</sup> Department of Chemistry, Chung-Ang University, Korea		Collective Cell Division Model for Estimating Stochasticity in Cell Lineage	PHYS.P-145
<b>Hyeonjeong Bae</b> , taejin kwon, Bong June Sung* <i>Department of Chemistry, Sogang University, Korea</i>		Disentanglement of DNA Strands Accelerates DNA Ejection Rate	PHYS.P-157
Chemical Fluctuation: beyond the Poissonian paradigm	PHYS.P-144	<b>JungBin Park</b> , Bong June Sung* <i>Department of Chemistry, Sogang University, Korea</i>	
<b>Jingyu Kang</b> , Jaeyoung Sung <sup>1*</sup> <i>Chemistry, Chung-Ang University, Korea</i> <sup>1</sup> Department of Chemistry, Chung-Ang University, Korea		Molecular Engineering of Spirofluorene-dithiophene based Hole Transport Materials for Perovskite Solar Cell	PHYS.P-146
<b>Maebienne Anjelica Gapol</b> , Sang Hee Lee, Dong Hee Kim* <i>Department of Chemistry, Kunsan National University, Korea</i>		How to consider fluctuating reaction rates with the number of product molecules in an elementary reaction	PHYS.P-158
Collective Cell Division Model for Estimating Stochasticity in Cell Lineage	PHYS.P-145	<b>Seong-jun Park</b> , Jaeyoung Sung* <i>Department of Chemistry, Chung-Ang University, Korea</i>	
<b>Hyeonjeong Bae</b> , taejin kwon, Bong June Sung* <i>Department of Chemistry, Sogang University, Korea</i>		Theoretical Insights on Perylene-Based Dyes for Solar Cell Application	PHYS.P-147
<b>Liezel Estrella</b> , Sang Hee Lee, Dong Hee Kim* <i>Department of Chemistry, Kunsan National University, Korea</i>		Layer-by-Layer Electrodeposited Reduced Graphene Oxide-Gold Nanoparticle Films as Efficient Electrocatalysts in CO <sub>2</sub> Reduction	PHYS.P-159
Cationic effects on the Excited-State Proton Transfer Reaction of a Photoacid in Aqueous Solutions	PHYS.P-148	<b>Kyungjun Kim</b> , Yong Jun Lee <sup>1</sup> , Seung-Sang Cha <sup>1</sup> , Do Yun Park <sup>1</sup> , Ik-Soo Shin <sup>1*</sup> , Kuan Soo Shin <sup>1*</sup>	

<p><i>Department of ICMC Convergence Technology, Soongsil University, Korea</i></p> <p><sup>1</sup><i>Department of Chemistry, Soongsil University, Korea</i></p>		<p>Color change of upconversion emission in NaYF<sub>4</sub>:Yb<sup>3+</sup>,Er<sup>3+</sup> film by phonon relaxation</p> <p><b>Lim SooYeong</b>, Chan Ryang Park<sup>1</sup>, Hyung Min Kim<sup>*</sup></p> <p><i>Department of Bionano Chemistry, Kookmin University, Korea</i></p> <p><sup>1</sup><i>Department of Chemistry, Kookmin University, Korea</i></p>	PHYS.P-172
<p>Electrochemical properties of Li-ion battery by using in situ Raman analysis</p> <p><b>Soo Min Kim</b>, yeonju Park, Young Mee Jung<sup>*</sup></p> <p><i>Department of Chemistry, Kangwon National University, Korea</i></p>	PHYS.P-160		
<p>Layer-by-Layer Self-Assembly of Palladium Nanoparticle-Reduced Graphene Oxide Nanosheet Films for Electrocatalytic Applications</p> <p><b>Ju Won Kim</b>, Kyungjun Kim<sup>1</sup>, In-Hyun Kim, Sung Min Park, Sena Lee, Ik-Soo Shin<sup>*</sup>, Kuan Soo Shin<sup>*</sup></p> <p><i>Department of Chemistry, Soongsil University, Korea</i></p> <p><sup>1</sup><i>Department of ICMC Convergence Technology, Soongsil University, Korea</i></p>	PHYS.P-161	<p>Ultrasmall D-glucuronic acid coated Lanthanide (Dy and Ho) oxide Nanoparticles for T<sub>2</sub> MRI Contrast Agent</p> <p><b>SHANTI MARASINI</b>, Gang Ho Lee<sup>*</sup></p> <p><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	PHYS.P-173
<p>Computational study on the interfacial electronic structures between π-conjugated hydrocarbon molecules on Au(111)</p> <p><b>Youngjoon An</b>, Jaehoon Jung<sup>*</sup></p> <p><i>Department of Chemistry, University of Ulsan, Korea</i></p>	PHYS.P-162	<p>MRI contrast Enhancements Using Ultrasmall Gadolinium Oxide Nanoparticles Coated With Dextran</p> <p><b>Xu Miao</b>, Gang Ho Lee<sup>*</sup></p> <p><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	PHYS.P-174
<p>Determination of organophosphate compounds based on SERS</p> <p><b>Joohee Oh</b>, Sila Jin, yeonju Park, Young Mee Jung<sup>*</sup></p> <p><i>Department of Chemistry, Kangwon National University, Korea</i></p>	PHYS.P-163	<p>Dye-coated Gadolinium Oxide Nanoparticles for MRI-FI imaging Agents</p> <p><b>Sung June Kim</b>, Gang Ho Lee<sup>*</sup></p> <p><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	PHYS.P-175
<p>Identification of various bacteria on the SERS substrate</p> <p><b>Sila Jin</b>, Joohee Oh, yeonju Park, Young Mee Jung<sup>*</sup></p> <p><i>Department of Chemistry, Kangwon National University, Korea</i></p>	PHYS.P-164	<p>D-Glucuronic acid coated Bismuth Oxyiodide and Tantalum oxide nanoparticles for CT contrast agent</p> <p><b>Adibehalsadat Ghazanfari</b>, Gang Ho Lee<sup>*</sup></p> <p><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	PHYS.P-176
<p>Two-dimensional correlation analysis of formation process of HAMLET</p> <p><b>PARK YUJEONG</b>, yeonju Park, subin lee, jieun choi, HEEJIN KIM, Young Mee Jung<sup>*</sup></p> <p><i>Department of Chemistry, Kangwon National University, Korea</i></p>	PHYS.P-165	<p>Potential tumor-targeting magnetic resonance imaging: Cyclic RGD-gadolinium oxide nanoparticles</p> <p><b>Mohammad Yaseen Ahmad</b>, Gang Ho Lee<sup>*</sup></p> <p><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	PHYS.P-177
<p>Computational study on the aromaticity-induced regioselectivity in the synthesis of heterocyclic-functionalized carbazole</p> <p><b>Jihun Oh</b>, sangkook woo<sup>*</sup>, Jaehoon Jung<sup>*</sup></p> <p><i>Department of Chemistry, University of Ulsan, Korea</i></p>	PHYS.P-166	<p>DFT Simulation of reaction pathways for ammonia addition or subtraction reactions involving N=C or N=N double-bond compounds catalyzed by pincer-type amido hydride Ir complex</p> <p>Hyo Weon Jang<sup>*</sup>, <b>hyoun oh Lee</b><sup>1</sup>, Daeun Jung<sup>1</sup>, YeEun LEE<sup>2</sup></p> <p><i>Department of Chemistry, Suncheon National University, Korea</i></p> <p><sup>1</sup><i>School of Chemistry and Pre-med, Suncheon National University, Korea</i></p> <p><sup>2</sup><i>Suncheon National University, Korea</i></p>	PHYS.P-178
<p>Control over oligomerization and its molecular motion using protein units</p> <p><b>young min kim</b>, Hyotcherl Ihee<sup>1,*</sup></p> <p><i>Center for Nanomaterials and Chemical Reactions, Institute for Basic Science, Korea</i></p> <p><sup>1</sup><i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i></p>	PHYS.P-167	<p>DFT study of organometallic luminophores</p> <p><b>Ji Hye Lee</b>, Kang Mun Lee, Hyonseok Hwang<sup>*</sup></p> <p><i>Department of Chemistry, Kangwon National University, Korea</i></p>	PHYS.P-179
<p>Monte Carlo Simulation studies in Diffusion-Influenced Reaction for Reaction Rate</p> <p><b>Taejun Kim</b>, Hyojoon Kim<sup>*</sup></p> <p><i>Department of Chemistry, Dong-A University, Korea</i></p>	PHYS.P-168	<p>Dynamic Interactions of Cyclic Peptides with Gram-negative Bacterial Outer Membrane Systems: A Molecular Dynamics Study</p> <p><b>Yeonho Song</b>, Hyonseok Hwang<sup>*</sup></p> <p><i>Department of Chemistry, Kangwon National University, Korea</i></p>	PHYS.P-180
<p>Prediction of Chlorosulfolipid (Danicalipin A) Membrane Structure Using Hybrid Molecular Dynamics Simulations</p> <p><b>Junyeol Lee</b>, Rakwoo Chang<sup>*</sup></p> <p><i>Department of Chemistry, Kwangwoon University, Korea</i></p>	PHYS.P-169	<p>Unusual NO binding to hemoglobin identified by infrared spectroscopy</p> <p><b>hojeong yoon</b>, Manho Lim<sup>*</sup>, Seongchul Park</p> <p><i>Department of Chemistry, Pusan National University, Korea</i></p>	PHYS.P-181
<p>Interlayer exciton energy in MX<sub>2</sub> hetero p-n junction</p> <p><b>Yongchul Kim</b>, Geunsik Lee<sup>*</sup></p> <p><i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p>	PHYS.P-170	<p>Analysis of Conformational Difference in Mitochondria by UV irradiation in Skin-originated Cells and Tissues Using STED Nanoscopy</p> <p><b>Hyung Jun Kim</b>, JOO YOUN KANG, Sohyeon Bae, JUNGBAE SON, Seong Keun Kim<sup>*</sup></p> <p><i>Division of Chemistry, Seoul National University, Korea</i></p>	PHYS.P-182
<p>Inverse Charge in Neutral Ag-Au Alloy</p> <p><b>EunHak Lim</b>, JIYOUNG HEO<sup>1</sup>, Seong Keun Kim<sup>*</sup></p> <p><i>Division of Chemistry, Seoul National University, Korea</i></p> <p><sup>1</sup><i>Department of Biomedical Science and Engineering, Sangmyung University, Korea</i></p>	PHYS.P-171	<p>Adsorption structure of ethanol on Ge(100)</p> <p><b>A-Reum Lee</b>, DO HWAN KIM<sup>*</sup></p> <p><i>Department of Chemical Education, Chonbuk National University, Korea</i></p>	PHYS.P-183
		<p>Multi Theragnostic Agent Using Ultrasmall Gadolinium Oxides Nanoparticles Coated With Poly(Acrylic Acid)-Rhodamine</p> <p><b>Son-Long Ho</b>, Gang Ho Lee<sup>*</sup></p> <p><i>Department of Chemistry, Kyungpook National University, Korea</i></p>	PHYS.P-184
		<p>Synthesis and Characterization of Fluorescent carbon nanoparticles</p>	PHYS.P-185

## Scientific Program

<p><b>HUAN YUE</b>, Gang Ho Lee*  <i>Department of Chemistry, Kyungpook National University, Korea</i></p> <p>Development of Hybrid Nanostructures Comprising Perovskite (Ba<sub>2</sub>Nb<sub>4</sub>O<sub>13</sub>)-MoS<sub>2</sub> Ultrathin Nanosheets on CdS Nanorods: Toward Enhanced Solar-Driven H<sub>2</sub> Production</p> <p><b>EunHwa Kim</b>, Amaranatha reddy, Sangyeob Hong, Hanbit Park, Rory Ma, PRAVEEN KUMAR DHARANI, TaeKyU Kim*  <i>Department of Chemistry, Pusan National University, Korea</i></p> <p>Comparative Study on the Binding Characteristics of p53-mimicking Peptides to HDM2</p> <p><b>Haeri Im</b>, Sihyun Ham*  <i>Department of Chemistry, Sookmyung Women's University, Korea</i></p> <p>The DFT Calculation for DMMP-Thiourea Derivatives Complexes</p> <p><b>You Kyoung Chung</b>, Seong Kyu Kim<sup>1</sup>*  <i>Basic Science Laboratory, Sungkyunkwan University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Sungkyunkwan University, Korea</i></p> <p>Atomic-level Investigations on the Interaction between Amyloid-β and Tau with Explicit Water</p> <p><b>Thi Diem Huong Bui</b>, Sihyun Ham*  <i>Department of Chemistry, Sookmyung Women's University, Korea</i></p> <p>Comparison of Monte Carlo and Brownian Dynamic Simulations for Diffusion-Influenced Reactions</p> <p><b>Junpil Hwang</b>, Taejun Kim, Hoyjoon Kim*  <i>Department of Chemistry, Dong-A University, Korea</i></p> <p>Ancillary ligand effect on Inter-Ligand Energy Transfer in the Heteroleptic Iridium Complex: Comprehensive investigations of its fast dynamics and mechanism</p> <p><b>Yang-Jin Cho</b>, So-Yoen Kim, DAE WON CHO, Sang Ook Kang, Ho-Jin Son*  <i>Department of Advanced Materials Chemistry, Korea University, Korea</i></p> <p>Reversal of Proton Affinity with Collective Hydrogen-Bonding of Water and Alcohol Clusters</p> <p><b>Wonwoo Park</b>, Oh-Hoon Kwon*  <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p> <p>A Study of steric effect on excimer formation in planar Pt(II) complexes</p> <p><b>Yang-Jin Cho</b>, So-Yoen Kim, DAE WON CHO, Sang Ook Kang, Ho-Jin Son*  <i>Department of Advanced Materials Chemistry, Korea University, Korea</i></p> <p>Fluorescence Protein for Long-term Live-cell Super-resolution Imaging of Various Cellular Structures</p> <p><b>minsu kang</b>, Hyun-Woo Rhee<sup>1</sup>, Sang-Hee Shim*  <i>Department of Chemistry, Korea University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p> <p>Dependence of Proton Transfer Dynamics on the Configuration of Diols as Effective Brønsted Bases</p> <p><b>Ye-Jin Kim</b>, Oh-Hoon Kwon*  <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p> <p>Live-cell Imaging of Alkyne Groups by Raman Microscopy Vibrational Probes with Alkyne Groups for Imaging of Cellular DNA</p> <p><b>Hee-Chang Kim</b>, Giseong Lee, Hogyu Han, Sang-Hee Shim*  <i>Department of Chemistry, Korea University, Korea</i></p> <p>Thermal stability and free-energy landscape of DNA hairpin structure d(ATCCAT-GTTA-TAGGAT) using molecular dynamics simulation</p> <p><b>Hyun Jung Yoon</b>, Sangwook Wu*</p>	<p><i>Department of Physics, Pukyong National University, Korea</i></p> <p>Enhanced Photocatalytic Activity of Au-doped Au@ZnO Core-Shell Flower-like Nanocomposites</p> <p><b>Ravindranadh Koutavarapu</b>, hyeon jin Jung, Myong Yong Choi*  <i>Department of Chemistry, Gyeongsang National University, India</i></p> <p>Dependence of Hydration Dynamics on the size of a Water Pool in a Reverse Micellar System Probed by a Superphotoacid</p> <p><b>Jae-Heon Park</b>, hak-won Nho, Oh-Hoon Kwon*  <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p> <p>Modeling of Super-Resolution Imaging of Single Molecule in Plasmonic Gap</p> <p><b>Gyu Jin Yeon</b>, Gyuil Jeong, Yun-gi Kim, Zee Hwan Kim*  <i>Department of Chemistry, Seoul National University, Korea</i></p> <p>Generation of SERS hotspots with single-crystalline junction</p> <p><b>Seung Yeon Lee</b>, Zee Hwan Kim*  <i>Department of Chemistry, Seoul National University, Korea</i></p> <p>Real-time single-molecule SERS monitoring for tautomerization reaction of hypoxanthine</p> <p><b>Kang Sup Lee</b>, Zee Hwan Kim*  <i>Department of Chemistry, Seoul National University, Korea</i></p> <p>Protein network analysis of a conformational change for c-Src tyrosine kinase</p> <p><b>Hyun Jung Yoon</b>, Sun Joo Park<sup>1</sup>*, Sangwook Wu*  <i>Department of Physics, Pukyong National University, Korea</i>  <sup>1</sup><i>Department of Chemistry, Pukyong National University, Korea</i></p> <p>Vibrational mode competition in three-color stimulated Raman scattering (SRS) spectroscopy</p> <p><b>doyeon Kim</b>, Sang-Hee Shim*  <i>Department of Chemistry, Korea University, Korea</i></p> <p>SERS Imaging of line hotspots of silver nanowire dimer</p> <p><b>Sang-Min Park</b>, Kang Sup Lee, Gyu Jin Yeon, Zee Hwan Kim*  <i>Department of Chemistry, Seoul National University, Korea</i></p> <p>Designing Open-pore 3D CdS Mesoporous Networks on Metal-Organic-Framework-derived Co Nanocrystal-Embedded Few-layered Carbon@Co<sub>9</sub>S<sub>8</sub> Double-Shelled Nanocages</p> <p><b>Amaranatha reddy</b>, Hanbit Park, MADHUSUDANA GOPANNAGARI, EunHwa Kim, TaeKyU Kim*  <i>Department of Chemistry, Pusan National University, Korea</i></p> <p>A Frequency-Domain Proof of Existence of Atomic-Scale SERS Hot-Spots</p> <p><b>Hyun-Hang Shin</b>, Gyu Jin Yeon, Sang-Min Park, Kang Sup Lee, Ja-Jung Koo, Seung Yeon Lee, Zee Hwan Kim*  <i>Department of Chemistry, Seoul National University, Korea</i></p> <p>Conformationally Resolved Spectroscopy of Jet-cooled methacetin</p> <p><b>Cheol Joo Moon</b>, Yeonguk Seong, Jihyun Park, Myong Yong Choi*  <i>Department of Chemistry, Gyeongsang National University, Korea</i></p> <p>Conformationally Resolved Structures of Indole-3-acetic Acid in the Gas Phase</p> <p><b>Yeon Guk Seong</b>, Cheol Joo Moon, Jihyun Park, Myong Yong Choi*  <i>Department of Chemistry, Gyeongsang National University, Korea</i></p> <p>TiO<sub>2</sub>@Au Nanoparticles Produced by Pulse Laser Irradiation for Photocatalytic Activity</p> <p><b>Seung Heon Lee</b>, Hyeon Jin Jung, Myong Yong Choi*  <i>Department of Chemistry, Gyeongsang National University, Korea</i></p> <p><b>[Withdrawal]</b> Ultrafast plasmon-phonon relaxation dynamics of individual metal nanoparticle</p>	<p>PHYS.P-186</p> <p>PHYS.P-187</p> <p>PHYS.P-188</p> <p>PHYS.P-189</p> <p>PHYS.P-190</p> <p>PHYS.P-191</p> <p>PHYS.P-192</p> <p>PHYS.P-193</p> <p>PHYS.P-194</p> <p>PHYS.P-195</p> <p>PHYS.P-196</p> <p>PHYS.P-197</p> <p>PHYS.P-198</p> <p>PHYS.P-199</p> <p>PHYS.P-200</p> <p>PHYS.P-201</p> <p>PHYS.P-202</p> <p>PHYS.P-203</p> <p>PHYS.P-204</p> <p>PHYS.P-205</p> <p>PHYS.P-206</p> <p>PHYS.P-207</p> <p>PHYS.P-208</p> <p>PHYS.P-209</p> <p>PHYS.P-210</p> <p>PHYS.P-211</p>
---	---	---

- Boogeon Choi**, JiWon Park<sup>1</sup>, Zee Hwan Kim<sup>\*</sup>  
 Department of Chemistry, Seoul National University, Korea  
<sup>1</sup>Chemistry, Seoul National University, Korea
- [Withdrawal]** Low Temperature Photoluminescence Studies of ZnO and Zn@ZnO Core-shell Nanoparticles Produced by Pulsed Laser Ablation in Liquid
- Jihyun Park**, Hyeon Jin Jung, Cheol Joo Moon, Yeon Guk Seong, Myong Yong Choi<sup>\*</sup>  
 Department of Chemistry, Gyeongsang National University, Korea
- Enhanced Degradation of Methylene Blue Using Pd-TiO<sub>2</sub> Bimetallic Nanofibers
- Dayeon Lee**, Hyeon Jin Jung, Myung Hwa Kim<sup>1</sup>, Myong Yong Choi<sup>\*</sup>  
 Department of Chemistry, Gyeongsang National University, Korea  
<sup>1</sup>Chemistry Department of Nano-Science, Ewha Womans University, Korea
- Interferometric scattering spectroscopy and microscopy
- Hankyul Lee**, Sungi Kim, Boogeon Choi, JiWon Park, Jwa-Min Nam<sup>\*</sup>, Zee Hwan Kim<sup>\*</sup>  
 Department of Chemistry, Seoul National University, Korea
- Pulsed Laser Ablation Synthesis of Graphitic and Nitrogen-doped Graphitic Layers Produced from Solvents on Nickel Nanoparticles
- Hyeon Jin Jung**, Myong Yong Choi<sup>\*</sup>  
 Department of Chemistry, Gyeongsang National University, Korea
- Physicochemical characteristics of a liposomal system incorporated with dual anti-cancer drugs
- Hasoo Seong<sup>\*</sup>, **Jae Hyun Nam**  
 Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea
- Optical Second-Harmonic Generation Spectroscopy of 2-Dimensional ReSe<sub>2</sub>
- Gwanghyun Ahn**, Sunmin Ryu<sup>\*</sup>  
 Department of Chemistry, Pohang University of Science and Technology, Korea
- Time Evolution of Photoexcited Carriers in 1D/2D nanomaterials
- Jaehun Park**  
 Pohang Accelerator Laboratory, Korea
- A portable gas chromatograph for in-situ monitoring of air pollutants
- Juyeon Bang**, Dong Wook You, KWANG WOO JUNG<sup>\*</sup>  
 Department of Chemistry, Wonkwang University, Korea
- Orientation-Sensitive Imaging of Anisotropic Particle with New Interferometric Scattering Microscopy-type Method
- Jonghyeon Joo**, MINHAENG CHO<sup>\*</sup>  
 Department of Chemistry, Korea University, Korea
- Characterization of Electrical Properties in TFTs with ALD Grown 4MP Doped ZnO
- Myong Mo Sung<sup>\*</sup>, **HongBum Kim**  
 Department of Chemistry, Hanyang University, Korea
- Buckingham and Lennard-Jones Potentials for Molten Alkali Halides: Conversion of Born-Mayer-Huggins potential to computationally efficient alternatives
- Rushie Mae Cedeno**<sup>\*</sup>, Kyung-koo Lee<sup>\*</sup>  
 Department of Chemistry, Kunsan National University, Korea
- Stochastic Photon Emission from Non-Blinking Upconversion Nanoparticles
- Eunsang Lee**, Youngeun Han, Gibok Lee, Kyujin Shin, Hohjai Lee<sup>1</sup>, Kang Taek Lee<sup>2,\*</sup>  
 Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- Technology, Korea  
<sup>1</sup>Chemistry, Gwangju Institute of Science and Technology, Korea  
<sup>2</sup>Division of Physical Chemistry Department of Chemi, Gwangju Institute of Science and Technology, Korea
- PHYS.P-212** Dye-conjugated Upconversion Nanoparticles for pH-sensing  
**Hyeongyu Bae**, Manoj Kumar Mahata<sup>1</sup>, Gibok Lee, Kang Taek Lee<sup>2,\*</sup>  
 Department of Chemistry, Gwangju Institute of Science and Technology, Korea  
<sup>1</sup>Chemistry, Gwangju Institute of Science and Technology, Korea  
<sup>2</sup>Division of Physical Chemistry Department of Chemi, Gwangju Institute of Science and Technology, Korea
- PHYS.P-213** Non-poisson decay has an affect on correlation between expression levels of independent genes  
**Jaehyuk Won**, Jaeyoung Sung<sup>\*</sup>  
 Department of Chemistry, Chung-Ang University, Korea
- PHYS.P-214** Computer Simulation Study of Interaction between Carbon Dots (CD) and Lithium Ions  
**Yunjae Park**, Rakwoo Chang<sup>\*</sup>  
 Department of Chemistry, Kwangwoon University, Korea
- PHYS.P-215** Hydration dynamics of methyladenines, biomarkers of DNA methylating agents  
**Changeop Jeong**, Matthew Campbell<sup>1</sup>, Gary Glish<sup>1</sup>, Nam Joon Kim<sup>\*</sup>  
 Department of Chemistry, Chungbuk National University, Korea  
<sup>1</sup>Department of Chemistry, University of North Carolina at Chapel Hill, United States
- PHYS.P-216** Synthesis and characterization of ReO<sub>3</sub> doped MoO<sub>3</sub> nanorods  
**Hyerim Oh**, Yukyung SHIN, Myung Hwa Kim<sup>\*</sup>  
 Chemistry Department of Nano-Science, Ewha Womans University, Korea
- PHYS.P-217** Synthesis of mixed rhodium and cobalt oxide nanofibers by electrospinning process  
**SOYEON KIM**, HAYEON KIM, Myung Hwa Kim<sup>\*</sup>  
 Chemistry Department of Nano-Science, Ewha Womans University, Korea
- PHYS.P-218** Ultrafast exchange dynamics of electrolyte in Lithium ion battery  
**Kwanghee Park**, Joonhyung Lim, kyungwon Kwak<sup>\*</sup>, MINHAENG CHO<sup>\*</sup>  
 CMSD-IBS/Department of Chemistry, Korea University, Korea
- PHYS.P-219** Photochemical Etching of InP Quantum Dots  
**Hwajun Jeong**, Seungtaek Rim, Seung Koo Shin<sup>\*</sup>  
 Department of Chemistry, Pohang University of Science and Technology, Korea
- PHYS.P-220** Solvent Polarity Effect on Exciplex Conformation on Linked Electron D-A Molecules  
**Dongkyum Kim**, Hohjai Lee<sup>1,\*</sup>  
 Department of Chemistry, Gwangju Institute of Science and Technology, Korea  
<sup>1</sup>Chemistry, Gwangju Institute of Science and Technology, Korea
- PHYS.P-221** Through-Space Ultrafast Photoinduced Electron Transfer Dynamics of a C70-Encapsulated Bisporphyrin Covalent Organic Polyhedron in a Low-Dielectric Medium  
**Jaehong Park**  
 Department of Molecular Engineering, Kyoto University, Japan
- PHYS.P-222** Three-Photon-Induced Fluorescence Microscopy using Tryptophan  
**Young Cheol Ki**, Hohjai Lee<sup>1,\*</sup>  
 Department of Chemistry, Gwangju Institute of Science and Technology, Korea  
<sup>1</sup>Chemistry, Gwangju Institute of Science and Technology, Korea
- PHYS.P-223**
- PHYS.P-224**
- PHYS.P-225**
- PHYS.P-226**
- PHYS.P-227**
- PHYS.P-228**
- PHYS.P-229**
- PHYS.P-230**
- PHYS.P-231**
- PHYS.P-232**
- PHYS.P-233**
- PHYS.P-234**



**45. Analytical Chemistry**  
**October 19 (THU) , Exhibition Hall 2+3**

**<Analytical Chemistry Poster Presentation>**

A colorimetric probe to determine NO <sub>2</sub> <sup>-</sup> using label free gold nanocrystals	ANAL.P-152	Synthesis and characterization of Li <sub>3</sub> V <sub>2</sub> (BO <sub>3</sub> ) <sub>3</sub> cathode material prepared by a citric acid based sol-gel route <b>Minsoo Ji</b> , YOUNGIL LEE* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL.P-163
<b>Kyungmin Kim</b> , Yun Sik Nam <sup>1</sup> , Kang-Bong Lee <sup>2,*</sup> <i>Department of Chemistry, Korea University, Korea</i>		Study of electrochemical properties for porous Li <sub>3</sub> V <sub>2</sub> (BO <sub>3</sub> ) <sub>3</sub> /C as a cathode material its characterization using MAS NMR for Li-ion batteries <b>Ji Won Lee</b> , CHAEWON Moon, YOUNGIL LEE* <i>Department of Chemistry, University of Ulsan, Korea</i>	ANAL.P-164
<sup>1</sup> <i>Advanced Analysis Center, Korea Institute of Science and Technology, Korea</i>		Chromatographic Enantiomer Separation of Chiral Amines as Nitrobenzoxadiazole Derivatives on Several Polysaccharide-Derived Chiral Stationary Phases by Normal HPLC under Simultaneous Ultraviolet and Fluorescence Detection	ANAL.P-165
<sup>2</sup> <i>Green City Technology Institute, Korea Institute of Science and Technology, Korea</i>		<b>Adhikari Suraj</b> , Wonjae Lee* <i>College of Pharmacy, Chosun University, Korea</i>	
Analysis of Correlation between Structure of Linear Surfactants and Acute Eye Irritation Scores	ANAL.P-153	Forensic Platform for Identification of Human Saliva using MS-based Glycomics	ANAL.P-166
<b>Sujin Cho</b> , Tian Tian, Seog Woo Rhee* <i>Department of Chemistry, Kongju National University, Korea</i>		<b>Hantae Moon</b> , Bum Jin Kim, Hyun Joo An* <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i>	
Assessment of Phototoxicity Inhibition of Flavone-based Materials	ANAL.P-154	High-throughput Automated Platform for Native Glycan Analysis using Liquid Handling System	ANAL.P-167
<b>Sung Eun Lee</b> , Tian Tian, Seog Woo Rhee* <i>Department of Chemistry, Kongju National University, Korea</i>		<b>Gyeong Mi Park</b> , Hyun Joo An* <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i>	
Sequential colorimetric detection technology of iron and mercury ions by etching and aggregation of gold nanorods	ANAL.P-155	Molecular level characterization of chemical compounds in crude oil deposit from tanks in Artawi oil field (Iraq)	ANAL.P-168
<b>Sujin Yoon</b> , Yun Sik Nam, Kang-Bong Lee <sup>1,*</sup> <i>Advanced Analysis Center, Korea Institute of Science and Technology, Korea</i>		<b>hasanain najm</b> , ARIF AHMED <sup>1</sup> , Sunghwan Kim <sup>1,*</sup> <i>department of chemistry, Kyungpook National University, Iraq</i> <sup>1</sup> <i>Department of Chemistry, Kyungpook National University, Korea</i>	
<sup>1</sup> <i>Green City Technology Institute, Korea Institute of Science and Technology, Korea</i>		Quantification of Inorganic Arsenic using Ion Exchange Membrane by Laser Induced Breakdown Spectroscopy	ANAL.P-169
Morphological elucidation of porous PCL(Polycaprolactone) microsphere using various analytical methods	ANAL.P-156	Sang-Ho Nam*, <b>Kwon seul woo</b> , Yonghoon Lee <i>Department of Chemistry, Mokpo National University, Korea</i>	
<b>SUK YEN KO</b> , Wangsoo Shin <sup>1,*</sup> , Jinsu Kim <sup>1</sup> , NAJEONG PARK <sup>1</sup> <i>Analytical Science Center, R&amp;D center, Korea</i>		Synthesis, dispersion and tribological potential of alkyl functionalized graphene oxide for oil-based lubricant additives	ANAL.P-170
<sup>1</sup> <i>MD program, R&amp;D center, Korea</i>		<b>jinyeong choe</b> , yong jae kim, Chang-Seop LEE* <i>Department of Chemistry, Keimyung University, Korea</i>	
Effect of Adsorbate Molecules on Chemical Interface Damping in Single Gold Bipyramids with Sharp Tips	ANAL.P-157	Characteristics and electrochemical performance of silica coated carbon nanocoils composite as an anode material for lithium secondary batteries	ANAL.P-171
<b>SOYOUNG LEE</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>		<b>EunJeong Hwang</b> , Yura Hyun <sup>1</sup> , Heai-Ku Park <sup>2</sup> , Chang-Seop LEE* <i>Department of Chemistry, Keimyung University, Korea</i> <sup>1</sup> <i>Department of Pharmaceutical Engineering, International University of Korea, Korea</i> <sup>2</sup> <i>Department of Chemical System Engineering, Keimyung University, Korea</i>	
Decontamination of sulfur mustard in sand, concrete, and asphalt matrices	ANAL.P-158	On-line proteolysis and glycopeptide enrichment using dual micro-scale porous polymer membrane enzyme reactor (μPPMER) and nanoflow liquid chromatography-tandem mass spectrometry	ANAL.P-172
<b>Hyunsook Jung</b> <i>CBR Division, Agency for Defense Development, Korea</i>		<b>JoonSeon Yang</b> , Juan Qiao <sup>1</sup> , Liping Zhao <sup>1</sup> , Li Qi <sup>1,*</sup> , Myeong Hee Moon* <i>Department of Chemistry, Yonsei University, Korea</i> <sup>1</sup> <i>Beijing National Laboratory for Molecular Sciences; Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences, Chile</i>	
Surface-Enhanced Raman Scattering of Gold Nanourchins with Sharp and Short Branches	ANAL.P-159	Effect of high fat diet on mouse brain lipidomes by nUPLC-ESI-MS/MS : Cortex, Hippocampus, Hypothalamus, & Olfactory bulb	ANAL.P-173
<b>MINJUNG SEO</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>		<b>JongCheol Lee</b> , Myeong Hee Moon*	
Defocused Dark-Field Orientation Imaging of Single Gold Microrods on Synthetic Membranes	ANAL.P-160		
<b>Junho Lee</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>			
Label-free Optical Biosensor Based on Chemical Interface Damping Using Gold-nanorods	ANAL.P-161		
<b>SeongWoo Moon</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>			
Effect of Adsorbate Electrophilicity and Spiky Uneven Surfaces on Single Gold Nanourchin-based Localized Surface Plasmon Resonance Sensors	ANAL.P-162		
<b>geunwan kim</b> , JI WON HA* <i>Department of Chemistry, University of Ulsan, Korea</i>			

<p><i>Department of Chemistry, Yonsei University, Korea</i></p> <p>Analysis of HDL from coronary artery disease patients through bottom-up and top-down proteomic approach using flow field-flow fractionation and mass spectrometry</p> <p><b>Jae-Hyun Lee</b>, JoonSeon Yang, Myeong Hee Moon<sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i></p>	<p>Graphene Oxide/Polytyramine Nanocomposite Based Immunosensor for Electrochemical Protein Detection</p> <p><b>MD. ARIF-UR RAHMAN</b>, RASHIDA AKTER, BongJin Jeong, Jeonghyun Oh, Md. Aminur Rahman<sup>*</sup> <i>Graduate School of Analytical Science and Technology, Chungnam National University, Bangladesh</i></p>	<p><b>ANAL.P-174</b></p> <p><b>ANAL.P-175</b></p>
<p>Steric Transition Phenomena upon Field Decay Patterns Using Frit-inlet Asymmetrical Flow Field-Flow Fractionation</p> <p><b>Young Beom Kim</b><sup>*</sup>, Lee Hye Jin, Myeong Hee Moon<sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i></p>	<p>Improving Electrochemical Protein Detection through Enhancing Biocatalyzed Precipitation Using Bienzymes Coated Carbon Nanotubes</p> <p><b>RASHIDA AKTER</b>, MD. ARIF-UR RAHMAN, Jeonghyun Oh, BongJin Jeong, Md. Aminur Rahman<sup>*</sup> <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL.P-176</b></p> <p><b>ANAL.P-177</b></p>
<p>Profiling of lipoproteins from patients with mild cognition impairment and Alzheimer's disease by asymmetrical flow field-flow fractionation and nUPLC-ESI-MS/MS</p> <p><b>SAN HA KIM</b>, JoonSeon Yang, Myeong Hee Moon<sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i></p>	<p>Simultaneous Multiplexed Detection of Multiple Cancer Biomarkers using Graphene Oxide Electrode Array and Metal Ion Tagged Dendrimer Label</p> <p><b>RASHIDA AKTER</b>, BongJin Jeong, Md. Aminur Rahman<sup>*</sup> <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL.P-178</b></p> <p><b>ANAL.P-179</b></p>
<p>Lipidomic analysis of blood plasma from patients among five differentcancer typesby nUPLC-ESI-MS/MS</p> <p><b>Gwang Bin Lee</b>, JongCheol Lee, Myeong Hee Moon<sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i></p>	<p>Synthesis of Silicon-Coated Gold Nanoparticle for Dual Imaging and Therapy</p> <p><b>Soomin Hwang</b>, Hyeonglim Seo, Hoeil Chung<sup>1</sup>, Seunghyun Lee<sup>2</sup>, Youngbok Lee<sup>*</sup> <i>Department of Bio-Nano Technology, Hanyang University, Korea</i> <sup>1</sup><i>Department of Chemistry, Hanyang University, Korea</i> <sup>2</sup><i>Department of Advanced Materials Engineering, The University of Suwon, Korea</i></p>	<p><b>ANAL.P-180</b></p> <p><b>ANAL.P-181</b></p>
<p>An investigation on the various internal standards for the accurate determination of the arsenic species in rice</p> <p><b>Seong Hun Son</b>, WONBAE LEE, Sang-Ho Nam<sup>*</sup> <i>Department of Chemistry, Mokpo National University, Korea</i></p>	<p>Synthesis of Porous Silicon and Carbon Nano-spheres as Hyperpolarized MRI Probes for Cancer Diagnosis</p> <p><b>DOKYUNG KIM</b>, Ikjang Choi, Youngbok Lee<sup>*</sup> <i>Department of Bionano Technology, Department of , Korea</i></p>	<p><b>ANAL.P-182</b></p> <p><b>ANAL.P-183</b></p>
<p>LC-MS/MS determination and pharmacokinetic study of Sorafenib in rat and beagle plasma</p> <p><b>yojeong yoon</b> <i>Analytical Science center, Samyang Corporation, Korea</i></p>	<p>Determination of Fenpyroximate from Honey by LC-MS/MS</p> <p><b>JinMun Kim</b>, JUN SEOK KIM<sup>1</sup>, Hyun-Woo Cho<sup>2</sup>, Seung Woon Myung<sup>*</sup> <i>Department of Chemistry, Kyonggi University, Korea</i> <sup>1</sup><i>Korea Polytechnics, Korea</i> <sup>2</sup><i>Department of Natural Science Chemistry, Kyonggi University, Korea</i></p>	<p><b>ANAL.P-184</b></p> <p><b>ANAL.P-185</b></p>
<p>Synthesis and Characterization of Graphene-enclosed TiO<sub>2</sub> Anatase as Anode Materials for Li-Secondary Batteries</p> <p><b>Hasan Jamal</b> <i>Department of Chemistry, Keimyung University, Korea</i></p>	<p>Analytical Platforms Employing LC-MS for Glycosylation Assessment of Therapeutic Glycoprotein</p> <p><b>Nayoung Yun</b>, Myung Jin Oh, Hyun Joo An<sup>*</sup> <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL.P-186</b></p> <p><b>ANAL.P-187</b></p>
<p>Quantitative analysis of residual lactide in Polylactide by NMR and GC</p> <p><b>HYERIM KIM</b> <i>Samyang Biopharmaceuticals Corp., Analytical Science Center R&amp;D Center, Korea</i></p>	<p>Indolocarbazole-Based Receptors: Synthesis, Characterization and Anion Sensor Applications</p> <p><b>SeungYun Baek</b>, Byeong-Kwan An<sup>*</sup> <i>Department of Chemistry, The Catholic University of Korea, Korea</i></p>	<p><b>ANAL.P-188</b></p> <p><b>ANAL.P-189</b></p>
<p>Equipment for lung cancer diagnosis via breath analysis using IMS</p> <p><b>HeeJin Moon</b> <i>R&amp;D, Sensor Tech, Korea</i></p>	<p>Phytochemical, Pharmacological and Cytotoxic Characteristics of a Bioactive Compound Isolated from the Aerial Part of <i>Stenochlaena palustris</i></p> <p><b>Adhikari Suraj</b>, Wonjae Lee<sup>*</sup> <i>College of Pharmacy, Chosun University, Korea</i></p>	<p><b>ANAL.P-190</b></p> <p><b>ANAL.P-191</b></p>
<p><b>[Withdrawal]</b>Study on boron analysis of NCM Anode active material in lithium ion battery by ICP-MS</p> <p><b>In Gi Kim</b>, Heung Bin Lim<sup>*</sup> <i>Department of Chemistry, Dankook University, Korea</i></p>	<p>Electrochemical immunoassay for amyloid-beta 1?42 peptide in biological fluids interfacing with a gold nanoparticle modified carbon surface</p> <p>Hye Jin Lee<sup>*</sup>, <b>Kyung Min Kim</b>, Suhee Kim <i>Department of Chemistry, Kyungpook National University, Korea</i></p>	<p><b>ANAL.P-192</b></p> <p><b>ANAL.P-193</b></p>
<p>Optimization of sample preparation for the identification of GB-tyrosine in rat plasma exposure to GB</p> <p><b>JIHYUN KWON</b>, Yong Gwan Byun, Yong Han Lee<sup>*</sup> <i>Agency for Defense Development, Korea</i></p>	<p>Detection of lung cancer biomarkers using sandwich assay based on surface plasmon resonance</p> <p><b>Sang Hyeok Lee</b>, Hye Jin Lee<sup>*</sup> <i>Department of Chemistry, Kyungpook National University, Korea</i></p>	<p><b>ANAL.P-194</b></p> <p><b>ANAL.P-195</b></p>
<p>Anti aging effect of green tea extract and its application to the herb material of emulsion base</p> <p><b>Young Jun Park</b> <i>Cha university, Korea</i></p>	<p>Quantum Dot Dissolution Based Electrochemical Immunosensor for a Post Mortem Interval Biomarker Detection in Serum Sample</p> <p><b>BongJin Jeong</b>, RASHIDA AKTER, Jeonghyun Oh, Md. Aminur Rahman<sup>*</sup> <i>Graduate School of Analytical Science and Technology, Chungnam National University, Korea</i></p>	<p><b>ANAL.P-196</b></p> <p><b>ANAL.P-197</b></p>

## Scientific Program

- Analysis of defect mechanism using Micro-IR  
**young woong Ahn**  
*Research Team of Total analysis, KCC Central Research institute, Korea*
- Study on corrosion mechanism and temperature profile of painted specimens by salt spray test (SST)  
**JAEHEE KIM**  
*Analysis Team, KCC central research institute, Korea*
- On-Chip Direct Diagnostics based on Grating Coupling of Scattered Nanometals in Evanescent Field Layer  
**Seungah Lee**, Soyeong Ju<sup>1</sup>, Suresh Kumar Chakkarapani<sup>1</sup>, Seong Ho Kang<sup>2</sup>  
*Department of Applied Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Department of Chemistry, Kyung Hee University, Korea*
- Analysis of Famphur in Honey by Solid-Phase Extraction and GC-MS  
**seungho Lee**, Hyun-Woo Cho<sup>1</sup>, Seung Woon Myung<sup>2</sup>  
*Department of Chemistry, Kyonggi University, Korea*  
<sup>1</sup>*Department of Natural Science Chemistry, Kyonggi University, Korea*
- Changes of Saliva N-glycome after Death: A Proof-of-Concept Study for Determining Time of Death  
**Bum Jin Kim**, Hyun Joo An<sup>1</sup>  
*Graduate School of Analytical Science and Technology, Chungnam National University, Korea*
- Near-infrared fluorescent probes for the detection of alkaline phosphatase activity in-vivo imaging  
**Chul Soon Park**, Tai Hwan Ha, KyungKwan Lee<sup>1</sup>, Chang-Soo Lee<sup>2\*</sup>  
*Center for Bio Monitoring Research, Korea Research Institute of Bioscience & Biotechnology, Korea*  
<sup>1</sup>*Center for Bio Nano Research, Korea Research Institute of Bioscience & Biotechno, Korea*  
<sup>2</sup>*Center for Bio Nano Research, Korea Research Institute of Bioscience & Biotechnology, Korea*
- Synthesis of Alkaline Ionic Liquids for electrolytes of fuel cells  
**SONG HA LEE**, Hye Jin Lee<sup>1</sup>  
*Department of Chemistry, Kyungpook National University, Korea*
- Contemporary Multispectral Three Dimensional Observation of Intracellular Organelles via Enhanced Dark-field Super-resolution Microscopy  
**Suresh Kumar Chakkarapani**, Seungah Lee<sup>1</sup>, Soyeong Ju, Seong Ho Kang<sup>1\*</sup>  
*Department of Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Department of Applied Chemistry, Kyung Hee University, Korea*
- High Speed Spiral Scanning Spectrometry for reliable Quantitative Analysis of Ag/GO Nanocomposite SERS substrate  
**Si Won Song**, Yejung Choi<sup>1</sup>, changyun Bae, Chan Ryang Park<sup>2</sup>, Yuanzhe Piao<sup>3</sup>, Hyung Min Kim<sup>1</sup>  
*Department of Bionano Chemistry, Kookmin University, Korea*  
<sup>1</sup>*convergence science and technology, Seoul National University, Korea*  
<sup>2</sup>*Department of Chemistry, Kookmin University, Korea*  
<sup>3</sup>*Graduate School of Convergence Science and Technol, Seoul National University, Korea*
- The electron transfer interaction between mediator and enzyme onto the electrode  
**Chang Jun Lee**, Holjin CHO, Won-Yong Jeon, Young Bong Choi, Hyug-Han Kim<sup>1</sup>  
*Department of Chemistry, Dankook University, Korea*
- Simultaneous Detection of Thyroid Hormones based on Multi-Immunoreaction by Dual-Wavelength Capillary Electrophoresis  
**ANAL.P-198** **Nain Woo**, Yucheng Sun, Seong Ho Kang<sup>1,\*</sup>  
*Department of Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Department of Applied Chemistry, Kyung Hee University, Korea*
- ANAL.P-199** Ultra-sensitive Immunodetection of Cancer Antigen 125 based on Enhanced Plasmonic Scattering of Nano Probe by Dual-mode Wavelength-dependent Enhanced Dark-field Super-resolution Microscopy  
**ANAL.P-200** **Soyeong Ju**, Seungah Lee<sup>1</sup>, Suresh Kumar Chakkarapani, Seong Ho Kang<sup>1,\*</sup>  
*Department of Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Department of Applied Chemistry, Kyung Hee University, Korea*
- ANAL.P-201** Size-based fractionation and characterization of starch granules using split flow thin cell (SPLITT) and gravitational field-flow fractionation (GrFFF)  
**In Kang**, Catalina Sandra Fuentes Zenteno<sup>1</sup>, Jaeyeong Choi, Mauricio Penarrieta<sup>2</sup>, Lars Nilsson<sup>1</sup>, Seungho LEE<sup>1</sup>  
*Department of Chemistry, Hannam University, Korea*  
<sup>1</sup>*Department of Food Technology, Lund University, Bolivia*  
<sup>2</sup>*Food Chemistry Group, Carrera de Ciencias Químicas, Facultad Ciencias Puras y Naturales, Universidad Mayor San Andres, Bolivia*
- ANAL.P-202** Variation of separation efficiency of glycogen and pullulan with channel type in field-flow fractionation (FFF)  
**Jaeyeong Choi**, Catalina Sandra Fuentes Zenteno<sup>1</sup>, Mauricio Penarrieta<sup>2</sup>, Lars Nilsson<sup>1</sup>, Seungho LEE<sup>1</sup>  
*Department of Chemistry, Hannam University, Korea*  
<sup>1</sup>*Department of Food Technology, Engineering and Nutrition, Lund University, Sweden*  
<sup>2</sup>*Food Chemistry Group, Carrera de Ciencias Químicas, Bolivia*
- ANAL.P-203** Effect of light on size of *chlorella sorokiniana* and production of glutathione using gravitational field-flow fractionation (GrFFF)  
**Yewoon Koo**, Jaeyeong Choi<sup>1</sup>, Seungho LEE<sup>1,\*</sup>  
*Department of chemistry, Hannam University, Korea*  
<sup>1</sup>*Department of Chemistry, Hannam University, Korea*
- ANAL.P-204** Identification of behavior of synthesized Sm<sub>2</sub>O<sub>3</sub> particles in goldfish  
**Bobae Kim**, Jaeyeong Choi, Chul-Hun Eum<sup>1</sup>, Seungho LEE<sup>1</sup>  
*Department of Chemistry, Hannam University, Korea*  
<sup>1</sup>*Mineral Resources Research Division, Korea Institute of Geoscience and Mineral Resource, Korea*
- ANAL.P-205** Optimization of liquid chromatography mass spectrometry (LC/MS) for the analysis of the ganglioside isomers  
**Soobin Choi**, Sangwon Cha<sup>1</sup>  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*
- ANAL.P-206** Investigation of sample preparation and analysis methods for profiling organic chemicals and metals in teeth  
**Eunji Seo**, Sangwon Cha<sup>1</sup>, Yujin Lee, TaeMin Park<sup>1</sup>, Soobin Choi<sup>2</sup>  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*  
<sup>1</sup>*Chemistry, Hankuk University of Foreign Studies, Korea*  
<sup>2</sup>*Hankuk University of Foreign Studies, Korea*
- ANAL.P-207** The structural characterization of disease related human transmembrane proteins using the NMR spectroscopy  
**Seongjin Cho**, Ji Sun Kim, YONGAE KIM<sup>1</sup>  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*
- ANAL.P-208** Diverse home-built solid-state NMR probes for specific purposes  
**jiho jung**, Ji Sun Kim, YONGAE KIM<sup>1</sup>  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*
- ANAL.P-209**
- ANAL.P-210**
- ANAL.P-211**
- ANAL.P-212**
- ANAL.P-213**
- ANAL.P-214**
- ANAL.P-215**
- ANAL.P-216**
- ANAL.P-217**

Korea

Development for simultaneous purification of nerve agent metabolites using MB-Ab complex and affinity gel and application to nerve agent inhibited rhesus monkey plasma

**JinYoung Lee**, JIHYUN KWON, Yong Han Lee  
Agency for Defense Development, Korea

Optimization of Preparation Condition for Analysis of Statins and Fibrates Adulterated in Oil type Dietary Supplements

**Nam-Sook Kim**, Ji Hee Kim, Sun Hee Moon, Sung Kwan Park, Ho Il Kang\*  
Advanced Analysis Team, Ministry of Food and Drug Safety, Korea

Wide-depth Spatially offset Raman Spectroscopy for Detecting Hazardous Chemicals in Building Materials

**Youngho Cho**, Chan Ryang Park, Hyung Min Kim\*  
Department of Chemistry, Kookmin University, Korea

Fast Direct Apolipoprotein E Genotyping for Alzheimer's by Multi-channel Microchip Electrophoresis

**Yucheng Sun**, Nain Woo, Seong Ho Kang<sup>1</sup>\*  
Department of Chemistry, Kyung Hee University, Korea  
<sup>1</sup>Department of Applied Chemistry, Kyung Hee University, Korea

Identification of Diverse Types of Monosaccharide Derivative Isomers by Host-guest Complexation with Cucurbit[7]uril

**Hyun Hee L. Lee**, Hugh Inkon Kim\*  
Department of Chemistry, Korea University, Korea

Simultaneous determination of 21 tar colors in lipsticks by ultra-performance liquid chromatography

**Jun hyoung Kim**, GiHaeng Kang, Seongsoo Park, Hoil Kang\*  
Advanced analysis team, Ministry of food and drug safety, Korea

Potential biomarkers of diabetic kidney disease detected by NMR-based metabolite profiling

**Jin Seong Hyeon**, Geum-Sook Hwang\*  
Western Seoul Center, Korea Basic Science Institute, Korea

Highly sensitive detection of lethal infectious pathogen using SERS-based lateral flow assay

**Rui Wang**, Kihyun Kim, JAEBUM CHOO\*  
Department of Bionano Technology, Hanyang University, Korea

Rapid and sensitive detection of highly risk pathogens using SERS-based lateral flow assay

**Kihyun Kim**, Rui Wang, JAEBUM CHOO\*  
Department of Bionano Technology, Hanyang University, Korea

Application of gradient generating microdroplet-based chips for rapid and sensitive bioanalysis

**Jinhyeok Jeon**, JAEBUM CHOO\*  
Department of Bionano Technology, Hanyang University, Korea

Investigation of the homo- and hetero-oligomerization of amyloid- $\beta$  1-40 and 1-42 using electrospray ionization mass spectrometry

**Chae Eun Heo**, Taesu Choi\*, Hugh Inkon Kim\*  
Department of Chemistry, Korea University, Korea

Developed to Overhauser Dynamic Nuclear Polarization Nuclear Magnetic Resonance Systems for Signal Enhancement

**JiWon Kim**, Seung-Bo Saun<sup>1</sup>, Oc Hee Han<sup>1</sup>\*  
Department of Chemistry and Nano Science, Ewha Womans University, Korea  
<sup>1</sup>Western Seoul Center, Korea Basic Science Institute, Korea

A Method for Quantitative Analysis of Cellular Uptake in Combination Therapy Treating Neuroblastoma

**Hong Areum**, Min Gyeongseo, Hugh Inkon Kim\*  
Department of Chemistry, Korea University, Korea

ANAL.P-218

Metabolic profiling in heart tissue of mice fed atherogenic diet

**Sunhee Jung**, do hyun ryu, Geum-Sook Hwang<sup>1</sup>\*  
Department of Chemistry, Sungkyunkwan University, Korea  
<sup>1</sup>Korea Basic Science Institute, Korea

ANAL.P-231

ANAL.P-219 Facile Fabrication of Nanostructured Surfaces Amenable to Laser Desorption/Ionization of Drug Molecules

**SEUNGMOH LEE**, Sang Jun Son<sup>1</sup>\*, Sang Yun Han<sup>2</sup>\*  
Nano chemistry, Gachon University, Korea  
<sup>1</sup>College of Bio Nano Technology, Gachon University Global Campus, Korea

ANAL.P-232

ANAL.P-220

<sup>2</sup>Department of Nano Chemistry, Gachon University Global Campus, Korea

ANAL.P-221

Metabolomic analysis of polychlorinated biphenyls(PCBs) and organochlorine pesticides(OCPs) exposure in human plasma

**Seoyoung Jang**, Geum-Sook Hwang<sup>1</sup>\*  
Chemistry nano science, Ewha Womans University, Korea  
<sup>1</sup>Korea Basic Science Institute, Korea

ANAL.P-233

ANAL.P-222

Structure Elucidation and Potential Function study of Microcystin-LR

**GilHoon Kim**, Hoshik Won<sup>1</sup>\*  
Department of Applied chemistry, Hanyang University, Korea  
<sup>1</sup>Department of Chemical & Molecular Engineering, Hanyang University, Korea

ANAL.P-234

ANAL.P-223

Multimodal analysis of Polymer Blending (ABS/Nylon6) during Reliability Test: Mechanical and chemical analysis

**Seokwon Jung**  
LG Advanced Research Institute, LG Electronics, Korea

ANAL.P-235

ANAL.P-224

Feasibility of 3-Phase direct immersion in-tube microextraction comparison with Single drop microextraction coupled with capillary electrophoresis

**ji eun choi**, Doo Soo Chung\*  
Division of Chemistry, Seoul National University, Korea

ANAL.P-236

ANAL.P-225

Investigation on The Stability of Uric Acid and Its Isotope (1,3-15N2) in Ammonium Hydroxide for The Absolute Quantification of Uric Acid in Human Serum

**Sun Young Lee**, Young Eun Kim<sup>1</sup>, Kwonseong Kim<sup>2</sup>, Han Bin Oh<sup>2</sup>, Jongki Hong<sup>1</sup>, Dukjin Kang<sup>3</sup>\*  
Department of Pharmacy, Kyung Hee University, Korea

ANAL.P-237

ANAL.P-226

<sup>1</sup>Metrology for Quality of Life Center for Bioanalysis, Korea Research Institute of Standards and Science, Korea

ANAL.P-227

<sup>2</sup>Department of Chemistry, Sogang University, Korea  
<sup>3</sup>Metrology for Quality of Life, Korea Research Institute of Standards and Science, Korea

ANAL.P-228

Classification of glycoproteins by pattern identification in traditional Korean medicine (TKM) in human plasma from lung cancer patients

**Jihoon Shin**, jinwook lee, Min-gyu youn, miseon jeong, Jeonghoon Kang, Wonryeon Cho\*  
Department of Bio-nanochemistry, Wonkwang University, Korea

ANAL.P-238

ANAL.P-229

**46. Life Chemistry**  
**October 19 (THU) , Exhibition Hall 2+3**

**<Life Chemistry Poster Presentation>**

ANAL.P-230

Live cell-based sensor for detecting biological signal molecules  
**Minhyeong Lee**, hyunjin jeon, Youngeun Kwon\*  
Department of Biomedical Engineering(BK21 plus), Dongguk

BIO.P-239

## Scientific Program

<p>University, Korea</p> <p>Redox-tuning of Small Molecules to Develop Chemical Regulators for Multiple Pathogenic Elements in Alzheimer's Disease</p> <p><b>Jiyeon Han</b>, Hyuck Jin Lee<sup>1</sup>, Jaeheung Cho<sup>2</sup>, Junghyun Chae<sup>3</sup>*, Mi Hee Lim*</p> <p><i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p> <p><sup>1</sup><i>School of Life Sciences, Ulsan National Institute of Science and Technology, Korea</i></p> <p><sup>2</sup><i>Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i></p> <p><sup>3</sup><i>Department of Chemistry, Sungshin University, Korea</i></p> <p>A catecholamine neurotransmitter towards pathogenic features found in Alzheimer's disease</p> <p><b>Eunju Nam</b>, Jiyeon Han, Mi Hee Lim*</p> <p><i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i></p> <p>Sensitive and Specific MicroRNA Detection in a Single Neuronal Cell Using Atomic Force Microscopy</p> <p><b>ikbum Park</b>, Joon Won Park<sup>1,2</sup></p> <p><i>Division of Integrated Biosciences and Biotechnolo, Pohang University of Science and Technology, Korea</i></p> <p><sup>1</sup><i>Department of Chemistry, Pohang University of Science and Technology, Korea</i></p> <p>Surface structure of Alpha-synuclein oligomer studied by force-based AFM</p> <p><b>Eun Ji Shin</b>, Joon Won Park*</p> <p><i>Department of Chemistry, Pohang University of Science and Technology, Korea</i></p> <p>Surface Structure of Amyloid beta (A<math>\beta</math>) Characterized by Atomic Force Microscopy</p> <p><b>jihyun Yoon</b>, Joon Won Park*</p> <p><i>Department of Chemistry, Pohang University of Science and Technology, Korea</i></p> <p>Microarrays on A Dendron-Modified Surface and Metal-Enhanced Fluorescence Nanoparticles Improving Sensitivity for MicroRNAs</p> <p><b>Soohyun Park</b>, Joon Won Park*, Jwa-Min Nam<sup>1,2</sup></p> <p><i>Department of Chemistry, Pohang University of Science and Technology, Korea</i></p> <p><sup>1</sup><i>Division of Chemistry, Seoul National University, Korea</i></p> <p>Quantitative Analysis of Neuronal Proteins Using Atomic Force Microscopy</p> <p><b>Donggyu Lee</b>, Joon Won Park<sup>1,2</sup></p> <p><i>Division of Integrated Biosciences and Biotechnolo, Pohang University of Science and Technology, Korea</i></p> <p><sup>1</sup><i>Department of Chemistry, Pohang University of Science and Technology, Korea</i></p> <p>Engineering a periplasmic binding protein for amino acid sensors with improved binding properties</p> <p><b>Wooseok Ko</b>, HYUNSOO LEE*</p> <p><i>Department of Chemistry, Sogang University, Korea</i></p> <p>Genetic incorporation of L-DOPA biosynthesized by a tyrosine phenol-lyase</p> <p><b>sang kil KIM</b>, HYUNSOO LEE*</p> <p><i>Department of Chemistry, Sogang University, Korea</i></p> <p>Misfolded Z-type <math>\alpha_1</math>-Antitrypsin Proteins Induce Oxidative Stress</p> <p><b>Hana Im</b>*, JAEYEON LIM</p> <p><i>Department of Integrative Bioscience and Biotechnology, Sejong</i></p>	<p>University, Korea</p> <p><b>BIO.P-240</b> Cyclophilins protect yeast cells from freeze-stress</p> <p><b>Hana Im</b>*, SeungHyun Lee</p> <p><i>Department of Integrative Bioscience and Biotechnology, Sejong University, Korea</i></p> <p>Component interactions between hydroxylase and auxiliary enzymes from <i>Methylosinus sporium</i> strain 5</p> <p>Seung Jae Lee*, <b>Min Young Song</b></p> <p><i>Department of Chemistry, Chonbuk National University, Korea</i></p> <p>Heterometal coordination to concanavalin A and its cadmium substitution</p> <p><b>BIO.P-241</b> Seung Jae Lee*, <b>Ka Young Son</b><sup>1</sup></p> <p><i>Department of Chemistry, Chonbuk National University, Korea</i></p> <p><sup>1</sup><i>Chonbuk National University, Korea</i></p> <p>Optimal growth and development through salt-defense mechanisms in <i>Suaeda glauca</i></p> <p><b>BIO.P-242</b> Seung Jae Lee*, <b>Yeo Reum Park</b></p> <p><i>Department of Chemistry, Chonbuk National University, Korea</i></p> <p>Catalytic roles of zinc finger proteins with structural integration</p> <p>Seung Jae Lee*, <b>Yeo Reum Park</b></p> <p><i>Department of Chemistry, Chonbuk National University, Korea</i></p> <p>Wash-free labeling of target proteins and the use of photochemical handles in live cells</p> <p><b>BIO.P-243</b> <b>Euiyeon Lee</b>, Youngeun Kwon*</p> <p><i>Department of Biomedical Engineering (BK21 plus), Dongguk University, Korea</i></p> <p>Conformational stability of a TNF-<math>\alpha</math> monoclonal antibody investigated by steady-state fluorescence quenching</p> <p><b>BIO.P-244</b> Soon-Jong Kim*, <b>Ha Neul Lee</b>, Sun Hye Lee</p> <p><i>Department of Chemistry, Mokpo National University, Korea</i></p> <p>Colorimetric sensor applications for agro-food fields</p> <p><b>BIO.P-245</b> <b>Yong-Hoon Kim</b></p> <p><i>Department of Agricultural Engineering, National Institute of Agricultural Sciences, Korea</i></p> <p>A small periplasmic protein with a hydrophobic C-terminal residue enhances DegP proteolysis as a suicide activator</p> <p><b>Inseok Song</b>, Seokhee Kim<sup>1,2</sup>*</p> <p><i>Department of Chemistry, Seoul National University, Korea</i></p> <p><sup>1</sup><i>Division of Chemistry, Seoul National University, Korea</i></p> <p><b>BIO.P-246</b> Development of a new method for finding protease substrates and its application to study the protein degradation</p> <p><b>Ga-eul Eom</b>, Seokhee Kim<sup>1,2</sup>*</p> <p><i>Chemistry, Seoul National University, Korea</i></p> <p><sup>1</sup><i>Division of Chemistry, Seoul National University, Korea</i></p> <p>Effect of ERLBD302-552 on the amyloid fibril formation of <math>\alpha</math>-synuclein</p> <p><b>BIO.P-247</b> <b>So young Yoon</b>, Lee Kyunghee*</p> <p><i>Department of Chemistry, Sejong University, Korea</i></p> <p>Ultrastable Synthetic Host-Guest Interaction Based Supramolecular Latching System as a Versatile Bioimaging Tool in Chemical Biology</p> <p><b>BIO.P-248</b> KyungLock Kim, <b>Gihyun Sung</b><sup>1</sup>, Meng Li<sup>2</sup>, ARA LEE<sup>3</sup>, Kyeng Min Park<sup>4</sup>*, Kimoon Kim<sup>5</sup>*</p> <p><i>Bernstein Laboratory, Massachusetts General Hospital and Harvard Medical School, U.S.A, United States</i></p> <p><sup>1</sup><i>AMS, Pohang University of Science and Technology, Korea</i></p> <p><sup>2</sup><i>Center for Self-Assembly and Complexity, Institute for Basic Science, China</i></p> <p><sup>3</sup><i>Advanced Materials Science, POSTECH, Korea</i></p> <p><b>BIO.P-249</b></p>	<p><b>BIO.P-250</b></p> <p><b>BIO.P-251</b></p> <p><b>BIO.P-252</b></p> <p><b>BIO.P-253</b></p> <p><b>BIO.P-254</b></p> <p><b>BIO.P-255</b></p> <p><b>BIO.P-256</b></p> <p><b>BIO.P-257</b></p> <p><b>BIO.P-258</b></p> <p><b>BIO.P-259</b></p> <p><b>BIO.P-260</b></p> <p><b>BIO.P-261</b></p>
--	---	---

<sup>4</sup> Center for Self-assembly and Complexity, Institute for Basic Science, Korea		by Ultra-Fast PCR	
<sup>5</sup> Department of Chemistry, Pohang University of Science and Technology, Korea		WON-CHEOUL JANG <sup>*</sup> , <b>Youngkwan Kim</b> , Jin-ho KIM, minseon Kim, seunghun jeon, Sang-Hyune Kim, donghyeon Yeo, mingyo Kang, Dayeon Lee <sup>1</sup> , yerim Lee	
Th role of NUDT9 in hypoxia-inducible factor pathway	<b>BIO.P-262</b>	<i>Department of Chemistry, Dankook University, Korea</i> <sup>1</sup> <i>Department of Molecular biology, Dankook University, Korea</i>	
<b>byungboon Yoon</b> , So Yeon Kim <sup>1*</sup> <i>Center for Theragnosis, KIST, Korea</i> <sup>1</sup> <i>Center for Theragnosis, Korea Institute of Science and Technology, Korea</i>		eDHFR and eDHFR_R12Y_Y100I proteins Inhibit Amyloid Fibril Formation of $\alpha$ -Synuclein	<b>BIO.P-274</b>
Hair analysis in various pH conditions with FTIR microspectroscopy	<b>BIO.P-263</b>	<b>So young Yoon</b> , Lee Kyunghee <sup>*</sup> <i>Department of Chemistry, Sejong University, Korea</i>	
<b>hyeyoung kim</b> , Kwanwoo Shin <sup>*</sup> , Oh-Sun Kwon <i>Department of Chemistry, Sogang University, Korea</i>		NMR Structural analysis of syndecan-4 receptor	<b>BIO.P-275</b>
Deposition of Single and Multi component ECM and Investigate mechanical properties of ECM vesicles	<b>BIO.P-264</b>	<b>Ji Sun Kim</b> , YONGAE KIM <sup>*</sup> <i>Department of Chemistry, Hankuk University of Foreign Studies, Korea</i>	
<b>Minyoung Kim</b> , Kwanwoo Shin <sup>1*</sup> <i>Chemistry, Sogang University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Sogang University, Korea</i>		Development of novel antimicrobial peptides derived from Lactophorin with enhanced antimicrobial activity	<b>BIO.P-276</b>
Glycan-density dependent binding of pathogenic proteins and cells	<b>BIO.P-265</b>	<b>hyunjun Jang</b> , Ji Sun Kim <sup>*</sup> , jiho jung, YONGAE KIM <sup>*</sup> <i>Department of Chemistry, Hankuk University of Foreign Studies, Korea</i>	
<b>Hyoung sub Kim</b> , Injae Shin <sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i>		Enzymatic crosslinking of side chains generates a modified peptide, Plesiocin, with four hairpin-like bicyclic repeats	<b>BIO.P-277</b>
Screening of carbohydrates that elicit immune responses using glycan microarray	<b>BIO.P-266</b>	<b>hyunbin lee</b> , Seokhee Kim <sup>1*</sup> <i>Chemistry, Seoul National University, Korea</i> <sup>1</sup> <i>Division of Chemistry, Seoul National University, Korea</i>	
<b>Hyun jiyoung</b> , Injae Shin <sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i>		Purification and Inhibition Study of Fatty Acid Synthase, A Potential Target for Anti-cancer drugs	<b>BIO.P-278</b>
Discovery of Lectin-selective Ligands Using Carbohydrate Library Microarrays	<b>BIO.P-267</b>	<b>Jueun Oh</b> , Hyunbeom Lee <sup>1*</sup> <i>Molecular recognition research center, Korea Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Molecular Recognition Research Center, Korea Institute of Science and Technology, Korea</i>	
<b>Hyun jiyoung</b> , Injae Shin <sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i>		Z $\alpha$ domain of ADAR1 prefers to bind to Z-RNA better than Z-DNA	<b>BIO.P-279</b>
Effects of Charge and Ligand Structure of Gold Nanoparticles on Mammalian Cells	<b>BIO.P-268</b>	<b>Ae-Ree Lee</b> , Joon-Hwa Lee <sup>*</sup> , Yeo-Jin Seo, Seo-Ree Choi <i>Department of Chemistry, Gyeongsang National University, Korea</i>	
<b>Jongyeon Go</b> , Euiyeon Lee, Youngeun Kwon <sup>*</sup> <i>Department of Biomedical Engineering(BK21 plus), Dongguk University, Korea</i>		NMR dynamics study of SP-isoform from <i>Zoarcis elongatus</i> Kner	<b>BIO.P-280</b>
Binding Properties of the N-Terminal and the C-Terminal Domain of Riboflavin Synthase	<b>BIO.P-269</b>	<b>Seo-Ree Choi</b> , Joon-Hwa Lee <sup>*</sup> , Ae-Ree Lee, Yeo-Jin Seo <i>Department of Chemistry, Gyeongsang National University, Korea</i>	
<b>Yeohun Hyun</b> , SunJoo Lim, Chan Yong Lee <sup>*</sup> <i>Department of Biochemistry, Chungnam National University, Korea</i>		Chemical Biology Tools for the Sphingosine-1-phosphate (S1P) metabolism	<b>BIO.P-281</b>
Delivery of Fibronectin into fibroblast via Small Unilamellar Vesicles for wound healing	<b>BIO.P-270</b>	<b>Hoyoung Jung</b> , Ji Young Ahn <sup>1</sup> , Jung-Min Kee <sup>*</sup> <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Chonbuk National University, Korea</i>	
<b>Mary Chuong</b> , Minyoung Kim <sup>1</sup> , Kwanwoo Shin <sup>2*</sup> <i>Chemistry, student, Korea</i> <sup>1</sup> <i>Chemistry, Sogang University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Sogang University, Korea</i>		Thermal hysteresis activities of active and inactive isoforms of a type III antifreeze protein from Notched-fin eelpout, <i>Zoarcis elongatus</i> Kner	<b>BIO.P-282</b>
The genetic association with three endocytosis-related genes and Alzheimer's disease	<b>BIO.P-271</b>	<b>Yeo-Jin Seo</b> , Joon-Hwa Lee <sup>*</sup> , Ae-Ree Lee, Seo-Ree Choi <i>Department of Chemistry, Gyeongsang National University, Korea</i>	
WON-CHEOUL JANG <sup>*</sup> , <b>Sang-Hyune Kim</b> , Jin-ho KIM, minseon Kim, seunghun jeon, Youngkwan Kim, donghyeon Yeo, mingyo Kang, Dayeon Lee <sup>1</sup> , yerim Lee <i>Department of Chemistry, Dankook University, Korea</i> <sup>1</sup> <i>Department of Molecular Biology, Dankook University, Korea</i>		Chemosensors for Protein N-Phosphorylations	<b>BIO.P-283</b>
Mitochondria-Penetrating Peptide (MPP) for Hydrophobic Drug or dye Conjugate (MPDC) for efficient antitumor therapy	<b>BIO.P-272</b>	<b>Yigun Choi</b> , Hoyoung Jung, Son Hye Shin, Jung-Min Kee <sup>*</sup> <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>	
<b>HUYEON CHOI</b> , Ja-Hyoung Ryu <sup>1*</sup> <i>Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i>		Maleic acid amide derivatives for potential pH-sensitive drug release	<b>BIO.P-284</b>
Development of simple and rapid method for detection of Aichi virus A	<b>BIO.P-273</b>	<b>Taeyang An</b> , Yan Lee <sup>*</sup> <i>Division of Chemistry, Seoul National University, Korea</i>	
		Structure basis of SAM-dependent methyl transfer reaction catalyzed by enzyme, YrrM	<b>BIO.P-285</b>
		<b>HUIJEONG RYU</b> , Jungwook Kim <sup>*</sup>	

## Scientific Program

<p><i>Department of Chemistry, Gwangju Institute of Science and Technology, Korea</i></p> <p>Structural biochemistry of MccS and MccB in CxSAM-dependent production of a peptide antibiotic in <i>Bacillus amyloliquefaciens</i></p> <p><b>Gyuhyeok Cho</b>, Jungwook Kim<sup>*</sup> <i>Department of Chemistry, Gwangju Institute of Science and Technology, Korea</i></p> <p>Structural and functional characterization of a wobble uridine modifying enzyme from <i>Mycobacterium tuberculosis</i></p> <p><b>sanghyun lee</b>, Jungwook Kim<sup>1,*</sup> <i>department of chemistry, Gwangju Institute of Science and Technology, Korea</i> <sup>1</sup><i>Department of Chemistry, Gwangju Institute of Science and Technology, Korea</i></p> <p>Heteroaromatic Sulfones: New Chemical Tools for Selective Detection of Biothiols</p> <p><b>Yu Rim Kwon</b>, Chung-Min Park<sup>1,*</sup> <i>Department of Chemistry, Gangneung-Wonju National University, Korea</i> <sup>1</sup><i>Chemistry, Gangneung-Wonju National University, Korea</i></p> <p>Facile Synthesis of Fluorescent Labeled Peptides by Cysteine-Citrate Based Ring Formation</p> <p><b>YUMIN KIM</b>, Yan Lee<sup>*</sup> <i>Division of Chemistry, Seoul National University, Korea</i></p> <p>Phase Determination of Iron-Dependent Homogentisate Dioxygenase from <i>Acinetobacter oleivorans</i></p> <p><b>Suk-Youl Park<sup>*</sup></b>, Seung-A Hwangbo <i>Structural Biology Group, Pohang Accelerator Laboratory, Korea</i></p> <p>The Arg/N-end rule pathway as positive regulator of autophagic flux &amp; proteotoxic protein degradation</p> <p><b>JEEYOUNG LEE</b>, Won Hoon Choi, Min Jae Lee<sup>*</sup> <i>College of Medicine, Biochemistry, Seoul National University, Korea</i></p> <p>Docosahexaenoic acid-mediated protein aggregates may reduce proteasome activity and delay myotube degradation during muscle atrophy <i>in vitro</i></p> <p><b>Ji Hyeon Kim</b>, Do Hoon Park, Min Jae Lee<sup>*</sup> <i>College of Medicine, Biochemistry, Korea</i></p> <p>Regulation of cellular proteasomal activity and autophagic flux via USP14 deubiquitinase</p> <p><b>Kim Eunyoung</b>, Seoyoung Park<sup>1</sup>, Min Jae Lee<sup>*</sup> <i>College of Medicine, Biochemistry, Seoul National University, Korea</i> <sup>1</sup><i>Department of Biochemistry and Molecular Biology, Seoul National University College of Medicine, Korea</i></p>	<p>BIO.P-286</p> <p>BIO.P-287</p> <p>BIO.P-288</p> <p>BIO.P-289</p> <p>BIO.P-290</p> <p>BIO.P-291</p> <p>BIO.P-292</p> <p>BIO.P-293</p>	<p>Synthesis of Spiroindanyl-2-oxindoles via PPA-Mediated Intramolecular Friedel-Crafts Reaction</p> <p><b>Da Young Seo</b>, Hwa Jung Roh, Beom Kyu Min, Jae Nyoung Kim<sup>*</sup> <i>Department of Chemistry, Chonnam National University, Korea</i></p> <p>One-Pot Synthesis of 3-(Benzo[e]indol-2-yl)-2-oxindoles from Isatin-derived Propargylic Alcohols and <i>N</i>-Acetyl-2-aminonaphthalenes</p> <p><b>Hwa Jung Roh</b>, Da Young Seo, Beom Kyu Min, Jae Nyoung Kim<sup>*</sup> <i>Department of Chemistry, Chonnam National University, Korea</i></p> <p>An Efficient Synthesis of Dihydrofuranyl Spirooxindoles from Isatin-Derived Propargylic Alcohols and 1,3-Dicarbonyls</p> <p><b>Hwa Jung Roh</b>, Beom Kyu Min, Da Young Seo, Jae Nyoung Kim<sup>*</sup> <i>Department of Chemistry, Chonnam National University, Korea</i></p> <p>Green synthesis and characterization of silver nanoparticles (Ag NPs) from extract of plant <i>Radix Puerariae</i>: An efficient and recyclable catalyst for the construction of pyrimido[1,2-b]indazole derivatives under solvent-free conditions</p> <p><b>SANDIP GANGADHAR BALWE</b>, Yeon Tae Jeong<sup>*</sup> <i>Department of Display Engineering, Pukyong National University, Korea</i></p> <p>Synthesis of diverse nitrogen-enriched tricyclic novel (imidazo[1,2-b]indazol-3-amine)s scaffolds using one-pot multicomponent reaction under mild reaction conditions</p> <p><b>SANDIP GANGADHAR BALWE</b>, Yeon Tae Jeong<sup>*</sup> <i>Department of Display Engineering, Pukyong National University, Korea</i></p> <p>A highly efficient and recyclable silica-supported tungstic acid (STA) catalyst for the synthesis of pyrano[3,2-c]chromen-5-ones under solvent free conditions</p> <p><b>amol jadhav</b>, Yeon Tae Jeong<sup>*</sup> <i>Department of Display Engineering, Pukyong National University, Korea</i></p> <p>An efficient one-pot three-component synthesis of <i>N</i>-methyl-3-nitro-4-phenyl-1,4-dihydrobenzo[4,5]imidazo[1,2-a]pyrimidin-2-amine derivatives using <i>p</i>-TSA as catalyst</p> <p><b>amol jadhav</b>, Yeon Tae Jeong<sup>*</sup> <i>Department of Display Engineering, Pukyong National University, Korea</i></p> <p>Synthesis of Dihydrophosphaisocoumarins through a Palladium-Catalyzed Oxidative Cyclization of Arylphosphonic Acid Monoethyl Esters with 1,3-Dienes</p> <p><b>Kyusik Um</b>, hyunseok kim<sup>1</sup>, Phil Ho Lee<sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup><i>Kangwon National University, Korea</i></p> <p>Synthesis of Cyclic Sulfoximines from Sulfoximines and 3-Diazoindolin-2-imines</p> <p>Gi Hoon Ko, hyunseok kim<sup>1</sup>, <b>Kyusik Um</b>, Phil Ho Lee<sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup><i>Kangwon National University, Korea</i></p> <p>Rhodium-Catalyzed Intramolecular Transannulation of Alkynyl Thiadiazole</p> <p>Younghyeon Baek, <b>Da-Hye Jeon</b>, Dongjin Kang<sup>1</sup>, Phil Ho Lee<sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup><i>Department of Pharmaceutics, Inje University, Korea</i></p> <p>Synthesis of Multisubstituted Allenes, Furans, and Pyrroles via Tandem Palladium-Catalyzed Substitution and Cycloisomerization</p> <p><b>Da-Hye Jeon</b>, Gi Hoon Ko, Phil Ho Lee<sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i></p>	<p>ORGN.P-237</p> <p>ORGN.P-238</p> <p>ORGN.P-239</p> <p>ORGN.P-240</p> <p>ORGN.P-241</p> <p>ORGN.P-242</p> <p>ORGN.P-243</p> <p>ORGN.P-244</p> <p>ORGN.P-245</p> <p>ORGN.P-235</p> <p>ORGN.P-236</p> <p>ORGN.P-247</p>
---	---	--	---

### 47. Organic Chemistry October 20 (FRI), Exhibition Hall 2+3

#### <Organic Chemistry Poster Presentation>

Synthesis of Spirooxindoles Bearing Iminothiolactone Moiety from Morita-Baylis-Hillman Carbonates of Isatins and Phenyl Isothiocyanate

**Beom Kyu Min**, Da Young Seo, Hwa Jung Roh, Jae Nyoung Kim<sup>\*</sup>  
*Department of Chemistry, Chonnam National University, Korea*

Synthesis of Dispirocyclohexadiene Bisoxindoles from Morita-Baylis-Hillman Carbonates of Isatins

**Beom Kyu Min**, Hwa Jung Roh, Da Young Seo, Jae Nyoung Kim<sup>\*</sup>  
*Department of Chemistry, Chonnam National University, Korea*

ORGN.P-235

ORGN.P-236

Synthesis of Benzofulvene Derivatives via Rh-Catalyzed Transannulation of Enynyl Triazoles Uiseong Yeon, <b>Sang Hoon Han</b> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-248 Total Synthesis of (-)-Flueggein C via an Accelerated Intermolecular Rauhut-Currier Reaction <b>Sangbin Jeon</b> , Sunkyoo Han* <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i>	ORGN.P-260
Regioselective Synthesis of Dihydrothiophenes and Thiophenes through the Rh-Catalyzed Transannulation of 1,2,3-Thiadiazoles with Alkenes Jeong-Yu Son, <b>Sang Hoon Han</b> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-249 Derivatization of Peptoids Using Chan-Lam Reaction <b>Jihyun Song</b> , Yong-Uk Kwon* <i>Department of Chemistry and Nanoscience, Ewha Womans University, Korea</i>	ORGN.P-261
Synthesis of Isothiazoles through Rh-Catalyzed Transannulation of 1,2,3-Thiadiazoles with Nitriles Boram Seo, <b>kuhwan jeong</b> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-250 Solid-Phase Total Synthesis of Peptoid-Based Daptomycin Analog <b>Hyun-Ju Im</b> , Yong-Uk Kwon* <i>Department of Chemistry and Nanoscience, Ewha Womans University, Korea</i>	ORGN.P-262
Selective Rhodium-Catalyzed C-H Amidation of Azobenzenes with Dioxazolones Uiseong Yeon, <b>kuhwan jeong</b> , Dongjin Kang <sup>1</sup> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup> <i>Department of Pharmaceuticals, Inje University, Korea</i>	ORGN.P-251 Highly selective dual-channel fluorescent probe for sensing of Zn <sup>2+</sup> ions and pyrophosphate in micelle <b>Min Jung Chang</b> , Min Hee Lee <sup>1,2</sup> <i>Department of chemistry, Sookmyung Women's University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Sookmyung Women's University, Korea</i>	ORGN.P-263
Synthesis of 1,2-Benzothiazines via a Rhodium-Catalyzed Cascade C-H Activation/Cyclization/Elimination Process from Sulfoximines and Pyridotriazoles Jeong-Yu Son, <b>Gi Uk Han</b> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-252 A naphthalimide-indoline hybrid: Off-On fluorescent probe for detecting strong acids <b>Jinju Lee</b> , Min Hee Lee* <i>Department of Chemistry, Sookmyung Women's University, Korea</i>	ORGN.P-264
Synthesis of 2 <i>H</i> -Indazoles via Palladium-Catalyzed Deaclyative Cross-Coupling and Denitrogenative Cyclization from 2-Iodoazoarenes and 2-Iodoaryltriazenes <b>Gi Uk Han</b> , Kyusik Um, Dongjin Kang <sup>1</sup> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup> <i>Department of Pharmaceuticals, Inje University, Korea</i>	ORGN.P-253 Development of hemicyanine-based fluorescent probe for the detection of human NAD(P)H:quinone oxidoreductase (hNQO1) activity <b>Jinju Lee</b> , Min Hee Lee* <i>Department of Chemistry, Sookmyung Women's University, Korea</i>	ORGN.P-265
Synthetic Method of Pyridoisouquinolinones via Cobalt-Catalyzed Carbonylative Cyclization of Pyridinyl Diazoacetates Younghyeon Baek, <b>Minhyeon Byeon</b> , Dongjin Kang <sup>1</sup> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup> <i>Department of Pharmaceuticals, Inje University, Korea</i>	ORGN.P-254 Theranostic conjugates for fluorescence and MR imaging and its use for metastatic liver cancer model <b>Min Jung Chang</b> , Jongseung Kim <sup>1</sup> , Min Hee Lee <sup>2,*</sup> <i>Department of chemistry, Sookmyung Women's University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Korea University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Sookmyung Women's University, Korea</i>	ORGN.P-266
Synthesis of 2-Functionalized Tropones through Sequential Functionalization of O-H and C(sp <sup>2</sup> )-O Bonds of Tropolones Boram Seo, <b>Minhyeon Byeon</b> , Phil Ho Lee* <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-255 Preparation of 1-( <i>t</i> -butyl)dimethylsilyl-2,2-difluorostyrenes <b>SEOHEE LEE</b> , In Howa Jeong <sup>1,2</sup> <i>Chemistry, Yonsei University, Korea</i> <sup>1</sup> <i>Chemistry and Department of Medical Chemistry, Yonsei University, Korea</i>	ORGN.P-267
Visible-light-promoted synthesis of diaryl sulfides under air <b>Boseok Hong</b> , Juyoung Lee, Anna Lee* <i>Department of Chemistry, Myongji University, Korea</i>	ORGN.P-256 Synthesis and application of 3D-water repellent materials for development of highly durable non-F-containing water repellent agents for textiles <b>Kun Hee Kim</b> , Jaewoong Kim, Seung Eun Lee, Jin Wook Han*, Chang Ho Oh* <i>Department of Chemistry, Hanyang University, Korea</i>	ORGN.P-268
Solvent-free synthesis of 4 <i>H</i> -pyranonaphthoquinones using highly active and stable polymer grafted layered double hydroxides (LDHs-g-POEGMA) as an efficient and reusable heterogeneous catalyst <b>KUMAR KRISHNAMMA</b> , Yeon Tae Jeong* <i>Department of Display Engineering, Pukyong National University, Korea</i>	ORGN.P-257 Six-Step Total Synthesis of Azaspireine <b>Deokhee Jo</b> , Sunkyoo Han* <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i>	ORGN.P-269
Choline chloride based deep eutectic solvent as an efficient solvent for the synthesis of 2-amino-3-cyano-4 <i>H</i> -chromene-4-yl-phosphonate derivatives via multi-component reaction under mild and efficient conditions <b>KUMAR KRISHNAMMA</b> , Yeon Tae Jeong* <i>Department of Display Engineering, Pukyong National University, Korea</i>	ORGN.P-258 Coordination-driven self-assembly of trigonal cages using new triazole-based tripodal ligand <b>JATINDER SINGH</b> , DONGHWAN KIM, Kiwhan Chi* <i>Department of Chemistry, University of Ulsan, Korea</i>	ORGN.P-270
Synthetic Studies toward Deoxyneboquinone <b>Jihee Yoon</b> , Sangku Lee <sup>1,2</sup> <i>Department of Chemistry, Chungbuk National University, Korea</i> <sup>1</sup> <i>KRIBB, Korea</i>	ORGN.P-259 Coordination-driven self-assembly of cubes and trigonal prism using new cobalt sandwich based tetrapodal ligand: Synthesis, characterization and encapsulation studies <b>JATINDER SINGH</b> , DONGHWAN KIM, Kiwhan Chi* <i>Department of Chemistry, University of Ulsan, Korea</i>	ORGN.P-271
	ORGN.P-259 chiral shift reagents (CSRs)	ORGN.P-272



## Scientific Program

- Ghi-Sung Lee, Seong-eon Lee, soobin Kim, **eunjeong jeong**, Hogyu Han\*  
*Department of Chemistry, Korea University, Korea*
- Self-assembly of thieno[2,3-*b*]thiophene-derived pyridyl ligand and arene-Ru(II) based acceptors  
**DONGHWAN KIM**, Kiwhan Chi\*  
*Department of Chemistry, University of Ulsan, Korea*
- Surface Organic Chemistry for Chemically Functionalizable, Non-Biofouling Surfaces  
**Young Hwan Jung**, Gyeongyeop Han<sup>1</sup>, JungKyu Lee<sup>1,2</sup>  
*Department of Bio Nano Materials, Bio Campus of Korea Polytechnics, Korea*  
<sup>1</sup>*Department of Chemistry, Kyungpook National University, Korea*
- Metal-Free Esterification of Aldehyde Using Bromo Source under Mild Condition  
**Hee-Kwon Kim**  
*Department of Nuclear Medicine, Chonbuk National University Medical School and Hospital, Korea*
- Highly Selective Recognition of Oxoanions by a Molecular Cage  
**Juhyun Oh**, Sung Kuk Kim\*  
*Department of Chemistry, Gyeongsang National University, Korea*
- A Diazo-coupled calix[4]arene-Strapped Calix[4]pyrrole: a Colorimetric Sensor for Specific Ion Pairs  
**Kim Seung Hyeon**, Sung Kuk Kim\*  
*Department of Chemistry, Gyeongsang National University, Korea*
- A tripodal ion pair receptor for selective recognition of lithium salts  
**juho yang**, Sung Kuk Kim\*  
*Department of Chemistry, Gyeongsang National University, Korea*
- A calix[4]pyrrole crown ether having a deep cavity and its ion pair recognition  
**Hye Jin Han**, Sung Kuk Kim\*  
*Department of Chemistry, Gyeongsang National University, Korea*
- A new fluoro- and chromo-genic anion sensor based on calix[4]pyrrole  
**JeongHyeon Kim**, Sung Kuk Kim\*  
*Department of Chemistry, Gyeongsang National University, Korea*
- A Heteromultitopic Ion Pair Receptor Based on 1,3-Alternate Calix[4]-Crown-5 Appending Dipyrrolylquinoxaline  
**Han-byeol Choi**, Sung Kuk Kim\*  
*Department of Chemistry, Gyeongsang National University, Korea*
- Facile Synthesis of Diphenylmethyl esters using 2-Diphenylmethoxy-1-methylpyridinium Triflate under mild condition  
**Minh Thanh La**, Hee-Kwon Kim<sup>1,2</sup>  
*Department of Medical Science, Medical School, Chonbuk National University, Korea*  
<sup>1</sup>*Department of Nuclear Medicine, Medical School, Chonbuk National University, Korea*
- Colorimetric Transition of Systemized Functional Group Controls in Polydiacetylenes  
**Narae Han**, Kwangho Yoo, Min Jae Shin<sup>1,2</sup>, Min Kim\*, Jae Sup Shin\*  
*Department of Chemistry, Chungbuk National University, Korea*  
<sup>1</sup>*School of Integrated Oriental Medical Bioscience, Semyung University, Korea*
- Pd-catalyzed decarboxylative coupling reaction of alkyl carboxylic acid and alkenyl tosylate  
**subeen yu**, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*
- synthesis of various functionalized imidazole derivatives incorporated to POSS  
**kyung-min choi**, Dong-Soo Shin\*  
*Department of Chemistry, Changwon National University, Korea*
- ORG.N.P-273
- A Facile Synthetic Method for the Preparation of Indene Derivatives with Thioester  
**Hee-Kwon Kim**  
*Department of Nuclear Medicine, Chonbuk National University Medical School, Korea*
- ORG.N.P-274
- Self-Assembled Organic Microfibers and Nanorods of 2,6-Diphenyl substituted dipyrrolopyrazine (DPP) derivatives for Optoelectronic Applications  
**Puttavva Meti**, Young Dae Gong\*  
*Department of Chemistry, Dongguk University, Korea*
- ORG.N.P-287
- Synthesis of novel Amino pyranoses and Amino nortropinones  
Eon Jin Lee, **songmi Bae**, Dai Il Jung\*, JUNGTAI HAHN<sup>1</sup>  
*Department of Chemistry, Dong-A University, Korea*  
<sup>1</sup>*Department of Beauty Care, U1 University, Korea*
- ORG.N.P-288
- Synthesis of 1H-benzo [b] [1,4] benzodiazepine derivatives by Using silica sulfuric acid  
do hun Lee, **Ji Song Park**, Dai Il Jung\*, JUNGTAI HAHN<sup>1</sup>  
*Department of Chemistry, Dong-A University, Korea*  
<sup>1</sup>*Department of Beauty Care, U1-University, Korea*
- ORG.N.P-289
- Efficient preparation method of 2,6-disubstituted-4-hydroxy benzoate  
**Dahye Kim**, Sangho KOO<sup>1,2</sup>  
*Department of Energy Science and Technology, Myungji University, Korea*  
<sup>1</sup>*Department of Chemistry, Myungji University, Korea*
- ORG.N.P-290
- Durable benzenesulfonyl protection for phenols- efficient synthesis of polyphenols  
**Mohammad Shariful Alam**, Sangho KOO<sup>1,2</sup>  
*Department of Energy Science and Technology, Myungji University, Korea*  
<sup>1</sup>*Department of Chemistry, Myungji University, Korea*
- ORG.N.P-291
- Synthesis of 9,9',13,13'-tetra-Phenyl-substituted-carotenoids  
**Hyebin Yoo**, Sangho KOO<sup>1,2</sup>  
*Department of Energy Science and Technology, Myungji University, Korea*  
<sup>1</sup>*Department of Chemistry, Myungji University, Korea*
- ORG.N.P-292
- A study on the synthetic method for organic molecular nanowire  
**Minsoo Kim**, Sangho KOO<sup>1,2</sup>  
*Myungji University, Korea*  
<sup>1</sup>*Department of Chemistry, Myungji University, Korea*
- ORG.N.P-293
- Study on the Mn(III)-initiated radical oxidation and the application on the synthesis of natural products  
**Xia Jiang**, Sangho KOO<sup>1,2</sup>  
*Department of Energy Science and Technology, Myungji University, Korea*  
<sup>1</sup>*Department of Chemistry, Myungji University, Korea*
- ORG.N.P-294
- A study of synthetic method for Unnatural carotene wire  
**Bo-ram Lim**, Sangho KOO<sup>1,2</sup>  
*Department of Energy Science and Technology, Myungji University, Korea*  
<sup>1</sup>*Department of Chemistry, Myungji University, Korea*
- ORG.N.P-295
- Synthesis of Various substituted Pyrrole compound  
**Ik Joon IN**, Sangho KOO<sup>1,2</sup>  
*Department of Energy Science and Technology, Myungji University, Korea*
- ORG.N.P-296

Korea		
<sup>1</sup> Department of Chemistry, Myungji University, Korea		
Oxidative deacylation of $\beta$ -keto esters and its application to heterocyclic compound synthesis	ORG.N.P-297	efficiency and fluorescence properties
<b>Bo Wu</b> , Sangho KOO <sup>1,*</sup>		<b>Hojun Yoon</b> , semi kim <sup>1</sup> , Kwang-Hyun Ahn <sup>1,*</sup>
Department of Energy Science and Technology, Myungji University, Korea		Department of Chemistry, Kyung Hee University, Korea
<sup>1</sup> Department of Chemistry, Myungji University, Korea		<sup>1</sup> Department of Applied Chemistry, Kyung Hee University, Korea
Development of Oseltamivir Derivatives as Inhibitors of Influenza Neuraminidase	ORG.N.P-298	Synthesis of Coumarin Fluorescence Thiol Sensors Targeting Golgi Apparatus
<b>Hee-Kwon Kim</b>		<b>Mijung Jang</b> , Kihang Choi <sup>*</sup> , Jeeun Lee
Department of Nuclear Medicine, Medical School, Chonbuk National University, Korea		Department of Chemistry, Korea University, Korea
Synthesis of Isoquinoline derivatives by microwave-assisted Pd-, Cu-catalyzed coupling reaction	ORG.N.P-299	Hole transporting materials based on Spirofluorene for OLEDs
<b>A Reum Park</b> , Eul Kgun Yum <sup>*</sup>		<b>Ji Hun Han</b> , BRAVEENTH RAMANASKANDA, KIHUN YANG <sup>1</sup> , Gyu Youn Chea <sup>*</sup>
Department of Chemistry, Chungnam National University, Korea		Department of Chemistry, Wonkwang University, Korea
Synthesis and Characterization of New Hole-Blocking Materials Using Pyrimidine and Phenylene Segments for Blue Phosphorescent Organic Light-Emitting Diodes	ORG.N.P-300	<sup>1</sup> School of Natural Science/Department of Chemistry, Wonkwang University, Korea
<b>SEOKHOON JANG</b> , YOUNGU LEE <sup>*</sup>		Synthesis and Comparison of Coumarin Derivatives as Thiol Sensors Long-lasting inside Living cells
Department of Energy Systems Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea		<b>Mijung Jang</b> , Kihang Choi <sup>*</sup>
Total synthesis of a natural product for the treatment of diabetic complications	ORG.N.P-301	Department of Chemistry, Korea University, Korea
Jung Youl Park <sup>*</sup> , <b>Eunju Jeong</b> <sup>1</sup> , Jeong In Yun <sup>1</sup>		Triphenylamine based hole transporting materials for OLEDs
Dept. of Applied Chemistry, Daejeon University, Korea		<b>BRAVEENTH RAMANASKANDA</b> , Ji Hun Han, Seon Guk, Gyu Youn Chea <sup>*</sup>
<sup>1</sup> GH BIOTECH, Korea		Department of Chemistry, Wonkwang University, Korea
Synthesis of dehydroascorbic acid derivatives with amine-based functional groups	ORG.N.P-302	Practical Direct Synthesis of Asymmetrical Ureas from Alloc-Protected Amine via Treatment of DABAL-Me <sub>3</sub>
Ju Hyun Song, <b>Seongjoo Park</b> , Dai Il Jung <sup>*</sup> , JUNGTAI HAHN <sup>1</sup>		<b>Hee-Kwon Kim</b>
Department of Chemistry, Dong-A University, Korea		Department of Nuclear Medicine, Medical School, Chonbuk National University, Korea
<sup>1</sup> Department of Beauty Care, U1 University, Korea		Synthesis and Characterization of New Donor-Acceptor Molecules Based on Phenothiazine and Quinoline
Diversification of indazoles under transition metal catalyzed microwave reaction	ORG.N.P-303	<b>So Dam Kim</b> , Tae Woo Kwon <sup>*</sup>
<b>Yoojin Oh</b> , jee Hee Suh <sup>1</sup> , Eul Kgun Yum <sup>*</sup>		Department of Chemistry, Kyungsung University, Korea
Department of Chemistry, Chungnam National University, Korea		Facile and highly selective conversion of aromatic nitriles into primary amines
<sup>1</sup> Korea Research Institute of Chemical Technology, Korea		<b>Junho Nam</b> , Dong Guk Lee <sup>1</sup> , KUN HOE CHUNG <sup>*</sup>
Azeotropic drying-free aliphatic radiofluorination in mixed-organic solvent system	ORG.N.P-304	R&D part, Moghu research center, Korea
<b>Young-Do Kwon</b> , JEONGMIN SON <sup>1</sup> , Mijin Yun, Joong-Hyun Chun <sup>*</sup>		<sup>1</sup> College of Pharmacy, Korea University, Korea
Department of Nuclear Medicine, Yonsei University College of Medicine, Korea		Electrochemical and Photophysical Properties of Imidazole Fused Tetrathiafulvalene Derivatives
<sup>1</sup> Department of Nuclear Medicine, Yonsei University Health System, Korea		<b>Ajeong Kim</b> , Trang Thu Tran, Jung Su Park <sup>*</sup>
Oxidized iodoarenes as versatile precursors for no-carrier-added (NCA) aromatic radiofluorination	ORG.N.P-305	Department of Chemistry, Sookmyung Women's University, Korea
<b>Young-Do Kwon</b> , JEONGMIN SON <sup>1</sup> , Mijin Yun, Joong-Hyun Chun <sup>*</sup>		Dual Gold-Catalyzed Sequential Activation and proposed gold-carbene intermediate
Department of Nuclear Medicine, Yonsei University College of Medicine, Korea		<b>JaeMun Jung</b> , Min Sung Park, Chang Ho Oh <sup>*</sup> , Jin Wook Han <sup>*</sup>
<sup>1</sup> Department of Nuclear Medicine, Yonsei University Health System, Korea		Department of Chemistry, Hanyang University, Korea
Oxoammonium Salt-Mediated Oxidative Nitriles Synthesis from Aldehydes with Ammonium Acetate	ORG.N.P-306	Intermolecular double aza Prins-type cyclization: A facile and efficient synthesis of 1,6-diazecanes
<b>MYEONGJIN KIM</b> , JINHO KIM <sup>*</sup>		<b>Hyunmi Cho</b> , Jaekyun Lee <sup>1</sup> , Sun-Joon Min <sup>2</sup> , Jinsung Tae <sup>*</sup> , Yong Seo Cho <sup>3,*</sup>
Department of Chemistry, Incheon National University, Korea		Department of Chemistry, Yonsei University, Korea
Synthesis of photochromic polymers and study of its photochromic	ORG.N.P-307	<sup>1</sup> Chemoinformatics Research, Korea Institute of Science and Technology, Korea
		<sup>2</sup> Department of Applied Chemistry, Hanyang University, Korea
		<sup>3</sup> Korea Institute of Science and Technology, Korea
		A Cyanine-Based Near-Infrared Fluorescent Probe for Nitroreductase
		<b>WON JOO LEE</b> , Hae-Jo Kim <sup>*</sup>
		Department of Chemistry, Hankuk University of Foreign Studies, Korea

## Scientific Program

- A Mitochondrial Targeting Oxazolidinone-Based Probe for Nitroreductase  
**HyunSeok Seo**, Hae-Jo Kim\*  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*
- Synthesis of  $\alpha,\alpha$ -dichloroketones from the reaction with alkyne and trichloroisocyanuric acid  
**Eunjeong Cho**, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*
- Synthesis of Taxamairin B: Use of Au-Catalyzed Cyclization Reaction  
**Seonmi Lee**  
*Department of Chemistry, Hanyang University, Korea*
- UV-Irradiation-Mediated Pd-Nanoparticle Catalytic System for the Heck and Decarboxylative Coupling Reactions  
**Han-Sung Kim**, Jidang Kim, Hyun Chul Choi\*, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*
- Room temperature cyclization of arylpropionic acid anhydride: Synthesis of naphtho[2,3-c]furan-1,3-dione derivatives  
**Jaerim Park**, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*
- Pd-Catalyzed One-Pot Synthesis of Arylthioesters via C-S Coupling and Carbonylation  
**Myungjin Kim**, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*
- Palladium Catalyzed Decarboxylative Coupling of Aryl Chlorides with Alkynyl Carboxylic Acids  
**Juhyeon Lee**, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*
- PdPt-Fe<sub>2</sub>O<sub>4</sub>-Catalyzed C-H Silylation Reaction of Aryl Halide with Triethylsilane  
**Jisun Jang**, Byeong Moon Kim<sup>1,2</sup>, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*  
<sup>1</sup>Division of Chemistry, Seoul National University, Korea
- Paper-Based Colorimetric ChemoSensor for Halide ion High-Throughput Screening of the Coupling Reactions  
**Yujeong Son**, Min Sik Eom<sup>1</sup>, Min Su Han<sup>1,2</sup>, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*  
<sup>1</sup>Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- Synthesis of Alcyopterosin series via Palladium Catalyzed Cyclization of triynes  
**Juyeon Kang**  
*Department of Chemistry, Hanyang University, Korea*
- Synthesis of Dendrimer Type Systems via Alcohol Coupling with Haloalkyl and Isocyanate Compounds under Basic and Acidic Conditions  
**Jaewoong Kim**, Kun Hee Kim, Chang Ho Oh\*, Jin Wook Han\*  
*Department of Chemistry, Hanyang University, Korea*
- Polymer Supported Ionic Liquid as an efficient and recyclable catalyst for the Synthesis of benzo[4,5]imidazo[1,2-a]pyrimidines  
**Veeranarayana Reddy Mudumala**, KANG ROK BYEON, SEOKMIN KANG, Dong Wook Kim\*  
*Department of Chemistry, Inha University, Korea*
- Synthesis of Various Sulfone via Thiosulfonates  
**Sang Joon Hwang**, Hye-Young Jang<sup>1,2</sup>  
*Division of Energy System, Ajou University, Korea*  
<sup>1</sup>Department of Chemistry, Ajou University, Korea
- ORGN.P-319 Triazolypticycenes: Stereoelectronic Control of Molecular Fluorescence and Solid-State Self-Assembly  
**Taewon Kang**, Hongsik Kim, Dongwhan Lee\*  
*Division of Chemistry, Seoul National University, Korea*
- ORGN.P-320 A Highly Efficient Kinetic Resolution of Racemic Aldehydes in Carbonyl Addition Reaction of 1-Alkylallenoates in Forming Gamma Adducts  
**hee jung jeong**, Changhwa Oh, Jieun Lee<sup>1</sup>, JIMIN KIM\*, Chan-Mo Yu<sup>1,2</sup>  
*Department of Chemistry, Chonnam National University, Korea*  
<sup>1</sup>Department of Chemistry, Sungkyunkwan University, Korea
- ORGN.P-321 meso-ester BODIPYs for the imaging of hypoxia in tumor cells  
**TEAIL KIM**, youngmi kim<sup>1,2</sup>  
*Kyung Hee University, Korea*  
<sup>1</sup>Department of Chemistry, Kyung Hee University, Korea
- ORGN.P-322 A Regiospecific Oxacyclization of 5-Aryl-5-hydroxy-2,3-allenoates Using Ag(I) in Acetone  
**SAEHANSAEM PARK**, Jieun Lee<sup>1</sup>, Changhwa Oh, Chan-Mo Yu<sup>1,2</sup>, JIMIN KIM\*  
*Department of Chemistry, Chonnam National University, Korea*  
<sup>1</sup>Department of Chemistry, Sungkyunkwan University, Korea
- ORGN.P-323 Total Synthesis of Isohericenone via Cu-Catalyzed Methylboration of Functionalized Terminal Alkyne  
**Yunmi Lee**, yuna kim  
*Department of Chemistry, Kwangwoon University, Korea*
- ORGN.P-324 Studies towards elucidation of the biosynthetic mechanism of a natural product sideromycin, albomycin  $\delta_2$   
**yeasong park**, jinhyo hwang, Woon Young SONG, Na lee Kim, Hak Joong Kim\*  
*Department of Chemistry, Korea University, Korea*
- ORGN.P-325 Synthesis and Photochromic Behavior of Spiropyran-Triazine  
**Go-Eun Choi**, Eun Ju Shin\*  
*Department of Chemistry, Suncheon National University, Korea*
- ORGN.P-326 Organocatalyzed asymmetric epoxidation of aziridin-2-ylacrylaldehyde : Synthesis of  $\beta$ -hydroxy- $\alpha$ -amino acid derivative  
**Hyeonsu Jeong**, Hyun-Joon Ha<sup>1</sup>, Jung Woon Yang<sup>1,2</sup>  
*Department of Chemistry, Hankuk University of Foreign Studies, Korea*  
<sup>1</sup>Department of Energy Science, Sungkyunkwan University, Korea
- ORGN.P-327 Photoinduced Proton Dissociation of Merocyanine-sulfonate Photoacid  
**Go-Eun Choi**, Eun Ju Shin\*  
*Department of Chemistry, Suncheon National University, Korea*
- ORGN.P-328 Rhodamine-Spiropyran Fe(III)-Selective Chemosensor via Color Changes and Fluorescence Enhancement  
**vicna kim**, Eun Ju Shin\*  
*Department of Chemistry, Suncheon National University, Korea*
- ORGN.P-329 Optimal Catalyst Condition for Preparing Styrenated Phenol  
**vicna kim**, Eun Ju Shin\*, Minchul Chung<sup>1</sup>, Ho-Geun Ahn<sup>1</sup>  
*Department of Chemistry, Suncheon National University, Korea*  
<sup>1</sup>Department of Chemical Engineering, Suncheon National University, Korea
- ORGN.P-330 Dual Chemosensor based on Spiropyran-Isoquinoline Dyad  
**yongmin ko**, Eun Ju Shin\*  
*Department of Chemistry, Suncheon National University, Korea*
- ORGN.P-331 Mixed Catalysts to Obtain the High Selectivity of Distyrenated Phenol  
**yongmin ko**, vicna kim, Eun Ju Shin\*, Minchul Chung<sup>1</sup>, Ho-Geun Ahn<sup>1</sup>  
*Department of Chemistry, Suncheon National University, Korea*  
<sup>1</sup>Department of Chemical Engineering, Suncheon National University, Korea
- ORGN.P-332
- ORGN.P-333
- ORGN.P-334
- ORGN.P-335
- ORGN.P-336
- ORGN.P-337
- ORGN.P-338
- ORGN.P-339
- ORGN.P-340
- ORGN.P-341
- ORGN.P-342
- ORGN.P-343
- ORGN.P-344

- Synthesis and Spectroscopic Properties of Rhodamine-Coumarin Dyad  
**HyeonSuk JO**, Eun Ju Shin\*  
*Department of Chemistry, Suncheon National University, Korea*
- Preparation and Spectroscopic Properties of Rhodamine-Quinoline Dyad  
**DaeWon Jung**, Eun Ju Shin\*  
*Department of Chemistry, Suncheon National University, Korea*
- Divergent Transformations of Allyl Alcohol tethered N-Sulfonyl-1,2,3-Triazoles into  $\alpha$ -Aminoindanone and Isoquinolinone Derivatives  
Dajung Jung, **Kyu Ree Lee**, Sang-gi Lee<sup>1\*</sup>  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>*Chemistry Department of Nano-Science, Ewha Womans University, Korea*
- Synthesis of N-heterocyclic carbene(NHC) catalysts for bisalkoxycarbonylation of  $\alpha$ -olefins  
**Seunghyeon Lee**, yuna Lim<sup>1</sup>, Hye-Young Jang<sup>2\*</sup>  
*Department of Energy Systems Research, Ajou University, Korea*  
<sup>1</sup>*Division of Energy System, Ajou University, Korea*  
<sup>2</sup>*Department of Chemistry, Ajou University, Korea*
- Terpolymerization of CO, Ethylene and Propylene using Pd-complexes; The Size Effect of Heterogeneous Acid Additives  
**Yeon Joo Cheong**, yuna Lim, Shin Young Kang<sup>1</sup>, Seung Uk Son<sup>1\*</sup>, Hye-Young Jang<sup>2\*</sup>  
*Division of Energy System, Ajou University, Korea*  
<sup>1</sup>*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>2</sup>*Department of Chemistry, Ajou University, Korea*
- $\alpha$ -Sulfonylation of Carbonyl Compounds *via* Organic Catalytic Process  
**Hyeong-Wan Noh**, Hye-Young Jang<sup>1\*</sup>  
*Department of Energy System, Ajou University, Korea*  
<sup>1</sup>*Department of Chemistry, Ajou University, Korea*
- Cu-catalyzed sulfonylation of olefins with thiosulfonates  
**Soobin Son**, Hye-Young Jang<sup>1\*</sup>  
*Department of Energy System, Ajou University, Korea*  
<sup>1</sup>*Department of Chemistry, Ajou University, Korea*
- Co-condensation synthesis of functionalized mesoporous SBA-15 using methoxysilane derivatives derived from methylsilyl silane and its application to Catalytic Reaction  
**JAЕ SOON KIM**, Ye Ri Han, Chul-Ho Jun\*  
*Department of Chemistry, Yonsei University, Korea*
- Rhodium(III)-Catalyzed C-H Activation Forming Nitrones Containing a Quaternary Carbon Center from Oximes  
**Woojin Park**, hyejeong lee<sup>1</sup>, Chul-Ho Jun\*  
*Department of Chemistry, Yonsei University, Korea*  
<sup>1</sup>*Department of Chemistry, Dong-A University, Korea*
- Development of efficient immobilization of organic molecules onto silica surface using readily preparable styrylsilane  
**Soobin Kim**, Chang-Hee Lee, Chul-Ho Jun\*  
*Department of Chemistry, Yonsei University, Korea*
- Thermodynamically controlled highly stereoselective tandem Diels-Alder reaction to construct the core of aflavinine  
**MINMI JO**, YoungShin Kwak\*  
*College of Pharmacy, Korea University Sejong Campus, Korea*
- Decarboxylative Oxytrichlorination of Arylpropionic Acids with Trichloroisocyanuric Acid  
**Aravindan Jayaraman**, Kye Chun Nam<sup>1</sup>, Sunwoo Lee<sup>2</sup>  
*Department of Chemistry, Chonnam National University, Korea*
- ORGN.P-345** An Unprecedented Synthesis of Homoisoflavonoids via Ruthenium Catalyzed Decarboxylative Hydroacylation of Aryl Alkyne Carboxylic Acids and Salicylaldehyde  
**Charles Edwin Raja Gabriel**, Sunwoo Lee\*  
*Department of Chemistry, Chonnam National University, Korea*
- ORGN.P-346** Pd-catalyzed site-switchable [4+2] cycloaddition of pyridinium zwitterion with  $\gamma$ -methylene- $\delta$ -valerolactone  
**ORGN.P-358**
- ORGN.P-347** **Ju Young Lee**, Eun Jeong Yoo\*  
*Department of Chemistry, Kangwon National University, Korea*
- ORGN.P-348** Copper-Catalyzed Synthesis of *N*-Aryl Sulfamides and Phenyl Sulfamates using Organo Azides and Boronic Acids  
**Suk-Young Won**, Wonsuk Kim<sup>1</sup>  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>*Chemistry Department of Nano-Science, Ewha Womans University, Korea*
- ORGN.P-349** Studies toward the Total Synthesis of Poitediene  
**Seonwoo Kim**, Sinae Kim<sup>1</sup>, Robert Matunas<sup>1</sup>, Chulbom Lee\*  
*Department of Chemistry, Seoul National University, Korea*  
<sup>1</sup>*Department of Chemistry, Princeton University, United States*
- ORGN.P-350** Synthesis of fused 1,4-Diazepenes through Au(I)-catalyzed [5+2] Cycloadditions of Allenamides with Quinolinium 1,5-dipoles  
**Nirupam De**, Eun Jeong Yoo\*  
*Department of Chemistry, Kangwon National University, Korea*
- ORGN.P-351** The Convenient Preparation of Salicylate Derivatives; Applications of Aroma Chemicals  
**Ji eun kim**, Chujin Ahn\*  
*Department of Chemistry, Changwon National University, Korea*
- ORGN.P-352** Synthesis of 1,3,5-triazacyclohexane derivatives using amino acids and their use in delivery of nucleic acid therapeutics materials  
**ORGN.P-363**
- ORGN.P-351** Soo Kyung Cho, **Eunbi Kim**, Dai Il Jung\*, JUNGTAI HAHN<sup>1</sup>  
*Department of Chemistry, Dong-A University, Korea*  
<sup>1</sup>*Department of Beauty Care, U1 University, Korea*
- ORGN.P-352** A colorimetric sensor for heptanal as a lung cancer biomarker using hydroxylamine-functionalized polydiacetylene  
**Jinyoung Oh**, Seungyoon Kang, Cheol Gyu Lee, Min Su Han\*  
*Department of Chemistry, Gwangju Institute of Science and Technology, Korea*
- ORGN.P-353** Metal Free Decarboxylative [3+2] Cycloaddition: An Easy Access to Polycyclic Fused Pyrrolizidines  
**Srinivas Samala**, Eun Jeong Yoo\*  
*Department of Chemistry, Kangwon National University, India*
- ORGN.P-354** A colorimetric and fluorescent chemosensor for detection of Hg<sup>2+</sup> using counterion exchange of cationic polydiacetylene  
**ORGN.P-364**
- ORGN.P-354** **Cheol Gyu Lee**, Seungyoon Kang, Jinyoung Oh, Min Sik Eom, Min Su Han\*  
*Department of Chemistry, Gwangju Institute of Science and Technology, Korea*
- ORGN.P-355** Direct Visualization of Ultrastable Host-guest Interactions in Living Organisms Using Host-guest FRET Pair  
**Meng Li**, ARA LEE<sup>1</sup>, Kyung Lock Kim<sup>2</sup>, Gihyun Sung<sup>1</sup>, Kyeng Min Park<sup>3\*</sup>, Kimoon Kim<sup>4\*</sup>  
*Center for Self-Assembly and Complexity, Institute for Basic Science, Korea*  
<sup>1</sup>*Advanced Materials Science, Pohang University of Science and Technology, Korea*  
<sup>2</sup>*Bernstein Laboratory, Massachusetts General Hospital and Harvard Medical School, United States*
- ORGN.P-356**

## Scientific Program

- <sup>3</sup>Center for Self-assembly and Complexity, Institute for Basic Science, Korea
- <sup>4</sup>Department of Chemistry, Pohang University of Science and Technology, Korea
- Resorcin[4]arene-based hydroxy benzamido-iminocavitand: their complexation and potentials  
**JUNG SAEGYO**, Yang ryeong Kim, Yeon Sil Park, Kyungsoo Paek\*  
 Department of Chemistry, Soongsil University, Korea
- Cu-Catalyzed Aza-Michael Addition of (Hetero)aryl Amines to Disubstituted Olefins  
**Seongil Kang**, Yunmi Lee\*  
 Department of Chemistry, Kwangwoon University, Korea
- Selective discrimination of putrescine and cadaverine based on a Fe<sup>3+</sup>-morpholinoanthracene ensemble  
**Anup Pandith**, HANSOL SEO, Hong-Seok Kim\*  
 Department of Applied Chemistry, School of Applied Chemical Engineering, Kyungpook National University, India
- Total Synthesis of Oryzativols B  
**Seonju Kim**, Yunmi Lee\*  
 Department of Chemistry, Kwangwoon University, Korea
- Radical Cation Catalyzed Electron-Mismatched Cycloaddition Reaction Using Iron(III)-Polypyridyl Complex  
**EunYoung Seong**, JungHa Shin, Eun Joo Kang\*  
 Department of Applied Chemistry, Kyung Hee University, Korea
- A efficient fluorescence probe for sensitive detection of NADH  
**Sun Woo Lee**, tae eun park, Seoung Ho Lee\*  
 Department of Applied Chemistry, Daegu University, Korea
- Anionic Conjugated Polyelectrolyte Micelles as Sensitive Mercury(II) Ion Sensor Systems  
**sujin jung**, Euijin Roh, Seoung Ho Lee\*  
 Department of Applied Chemistry, Daegu University, Korea
- CN<sup>-</sup> assisted ESIPT Enhancement in Hydroxyphenyl thiazole-vinylidicyano Donor-Acceptor Dyad  
**HANSOL SEO**, Joonhyuk Huh, hyoi jo, Hong-Seok Kim\*  
 Department of Applied Chemistry, School of Applied Chemical Engineering, Kyungpook National University, Korea
- Discrimination of Chirality of  $\alpha$ -Amino Acids in ZnII Complexes of DPA-Appended Binaphthyl Imine  
**YINGJI JIN**  
 Department of Chemistry and Nano Science, Ewha Womans University, Korea
- Photoluminescence quenching of water soluble polyelectrolyte on Au nanoparticles  
**Boyun Kim**, Seoung Ho Lee\*, Kirk S. Schanze<sup>1,†</sup>, Gyu Leem<sup>1,†</sup>  
 Department of Applied Chemistry, Daegu University, Korea  
<sup>1</sup>Department of chemistry, University of Texas at San Antonio, United States
- Self-assembling fluorescent probes for an efficient CO<sub>2</sub> detection  
**JungMoo Lee**, sujung Kim, Seoung Ho Lee\*  
 Department of Applied Chemistry, Daegu University, Korea
- A Self-Assembled Conjugated Polyelectrolyte Micelle as an Amplifying Fluorescent Sensory System  
**Boyun Kim**, Yeonjin Jang, Seoung Ho Lee\*  
 Department of Applied Chemistry, Daegu University, Korea
- Detection of the Endogenous Peroxynitrite in Living Cells and Tissues by a Highly Selective and Sensitive Two-Photon Fluorescent Probe  
**Yerin Jeong**, Juyoung Yoon\*  
 Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ORG.N.P-368 An Indolocarbazole-naphthyridine Foldamer Capable of Binding Glucose  
**Hae-Geun Jeon**, Kyu-Sung Jeong\*  
 Department of Chemistry, Yonsei University, Korea
- ORG.N.P-369 The detection of glutathione using Near-infrared fluorescent probes and their application in the fluorescence imaging of living cells and tumors  
**Joohee Hong**, Dayoung Lee, Juyoung Yoon\*  
 Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ORG.N.P-370 Biophotonic Imaging and Therapy by Nanostructured Phthalocyanine Assemblies with Protein-induced Switchable Photoactivities  
**Sewon Eom**, Juyoung Yoon\*  
 Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ORG.N.P-371 Single electron transfer strategy for reductive cyclization and oxidative cycloaddition reactions using iron polypyridyl complexes  
**Joon Young Hwang**, Eun Joo Kang\*  
 Department of Applied Chemistry, Kyung Hee University, Korea
- ORG.N.P-372 Development of New Dimeric Fluorescence Probes for Amyloid Aggregates with a Negligible Background Signal *in Vivo* imaging  
**Seo Won Cho**, Kyo Han Ahn\*  
 Department of Chemistry, Pohang University of Science and Technology, Korea
- ORG.N.P-373 Morita-Baylis-Hilman reaction of chiral aziridine Aldehyde and distereo selective synthesis of 2,3,4-trisubstituted pyrrolidine  
**deepak singh**, Jaedeok Lee<sup>1</sup>, Hyun-Joon Ha<sup>1,†</sup>  
 Chemistry, Hankuk University of Foreign Studies, Korea  
<sup>1</sup>Department of Chemistry, Hankuk University of Foreign Studies, Korea
- ORG.N.P-374 Fluorescent Labeling of Protein Using Blue-Emitting BODIPY Derivatives  
**Kyeong Hwan Kim**, Kyo Han Ahn\*, Seo Won Cho, dokyoung kim<sup>1</sup>  
 Department of Chemistry, Pohang University of Science and Technology, Korea  
<sup>1</sup>College of Medicine, Kyung Hee University, Korea
- ORG.N.P-375 Control of Sequential Isomerization: Reactions of *o*-Lithiated Aryl Ethers in Flow  
**Hyune-Jea Lee**, Heejin Kim<sup>1</sup>, Junichi Yoshida<sup>1,†</sup>, Dong Pyo Kim\*  
 Department of Chemical Engineering, Pohang University of Science and Technology, Korea  
<sup>1</sup>Department of Synthetic and Biological Chemistry, Kyoto University, Korea
- ORG.N.P-376 Ratiometric Fluorescence Detection System of Anthrax Biomarker using EuIII-EDTA Functionalized Poly(diacetylene) Liposomes  
 Kyo Han Ahn\*, **Ye Jin Reo**  
 Department of Chemistry, Pohang University of Science and Technology, Korea
- ORG.N.P-377 Extended Study on Multiple Cyclization by Gold Catalysis  
**Heo Hoongu**, Chang Ho Oh\*  
 Department of Chemistry, Hanyang University, Korea
- ORG.N.P-378 One-Flow Synthesis of Heterocyclic Thioquinazolinones through Serial Microreactions with Two Organolithium Intermediates  
**JiHo Kang**, Hyune-Jea Lee, Heejin Kim<sup>1</sup>, Dong Pyo Kim\*  
 Department of Chemical Engineering, Pohang University of Science and Technology, Korea  
<sup>1</sup>Department of Synthetic and Biological Chemistry, Kyoto University, Korea
- ORG.N.P-379
- ORG.N.P-380
- ORG.N.P-381
- ORG.N.P-382
- ORG.N.P-383
- ORG.N.P-384
- ORG.N.P-385
- ORG.N.P-386
- ORG.N.P-387
- ORG.N.P-388
- ORG.N.P-389
- ORG.N.P-390
- ORG.N.P-391

Korea			
A highly selective phosphorescence chemodosimeter based on Ir (III) complex for mercury (II) ion	ORG.N.P-392	protecting method with diisobutyl(morpholino)aluminum won kyu sin, <b>Sujin Seo</b> , Duk Keun An* <i>Department of Chemistry, Kangwon National University, Korea</i>	
<b>Hayoung Rhee</b> , JONG-IN HONG <sup>1,2</sup> <i>Department of Chemistry, Seoul National University, Korea</i> <sup>1</sup> <i>Division of Chemistry, Seoul National University, Korea</i>		New and Efficient Catalytic Hydroboration of Carbonyl Compounds with Pinacolborane and Lithium t-Butoxide as Catalyst	ORG.N.P-405
Higher Order Structures of Aromatic Helical Foldamers using Quadruple Hydrogen Bonding	ORG.N.P-393	<b>jea ho Kim</b> , won kyu sin, Duk Keun An* <i>Department of Chemistry, Kangwon National University, Korea</i>	
<b>Seungwon Lee</b> , Kyu-Sung Jeong* <i>Department of Chemistry, Yonsei University, Korea</i>		Metal-free cascade [2+1]/[5+1]-cycloaddition: Synthesis of cyclopropane-fused pyrazino-quinolines	ORG.N.P-406
Regiodivergent C–H Alkenylation of Pyrazoles	ORG.N.P-394	<b>Donguk Ko</b> , Jiyoum Lee, Eun Jeong Yoo* <i>Department of Chemistry, Kangwon National University, Korea</i>	
<b>HyunTae Kim</b> , Jung Min Joo*, Changhoon Shin <sup>1</sup> <i>Department of Chemistry, Pusan National University, Korea</i> <sup>1</sup> <i>department of chemistry, Pusan National University, Korea</i>		New chemoselective hydroboration with pinacolborane and NaH as catalyst	ORG.N.P-407
Microwave Assisted N-Alkylation of 1-Deoxynojirimycin	ORG.N.P-395	<b>Hanbi kim</b> , won kyu sin, Duk Keun An* <i>Department of Chemistry, Kangwon National University, Korea</i>	
<b>JAEHYUN KIM</b> , Woonsang Hwang, Kooyeon Lee* <i>Department of Bio-Health Technology, Kangwon National University, Korea</i>		Study of New Catalytic Hydroboration with Representative Carbonyl Compound Using Pinacolborane and n-Butyllithium as Catalyst	ORG.N.P-408
Development of Blue Thermally Activated Delayed Fluorescence Emitters Using Triphenylamine Electron Donor	ORG.N.P-396	<b>SuJin Yang</b> , won kyu sin, Duk Keun An* <i>Department of Chemistry, Kangwon National University, Korea</i>	
<b>Youngnam Lee</b> , JONG-IN HONG* <i>Division of Chemistry, Seoul National University, Korea</i>		Safer Synthesis of Tetrazoles from Secondary Amines using Trichloroacetonitrile	ORG.N.P-409
Highly sensitive Electrogenerated chemiluminescence probe for hydrogen sulfide based on Cyclometalated Ir(III) Complex	ORG.N.P-397	<b>su-jin Oh</b> , Yeong-Gweon Lim* <i>4-2, Agency for Defense Development, Korea</i>	
<b>Joonho Park</b> , JONG-IN HONG <sup>1,2</sup> <i>Department of Chemistry, Seoul National University, Korea</i> <sup>1</sup> <i>Division of Chemistry, Seoul National University, Korea</i>		Effective stepwise conversion of spent coffee grounds for biodiesel production	ORG.N.P-410
Triethylborane-mediated radical addition reaction for synthesis of 3-substituted isoindolinone derivatives on water	ORG.N.P-398	<b>kyung-min choi</b> , Eun-ji Sa, vaidya raghavenderrao, Kalpesh Patil, Dong-Soo Shin* <i>Department of Chemistry, Changwon National University, Korea</i>	
<b>TAE KYU NAM</b> , Doo OK JANG* <i>Department of Chemistry, Yonsei University, Korea</i>		Impact of Carboxyl Groups in Graphene Oxide on Chemoselective Alcohol Oxidation with Ultra-Low Carbocatalyst Loading	ORG.N.P-411
New catalytic hydroboration of aldehydes and ketones using pinacolborane and lithium morpholide as catalyst	ORG.N.P-399	<b>TaeWoo Lee</b> , Jung Woon Yang* <i>Department of Energy Science, Sungkyunkwan University, Korea</i>	
<b>Hyun Tae Kim</b> , won kyu sin, Duk Keun An* <i>Department of Chemistry, Kangwon National University, Korea</i>		Intramolecular 2-pyrone Diels-Alder reactions towards asymmetric total syntheses of (+)-aplykurodinone-1 and (-)-platensimycin	ORG.N.P-412
Dendritic Multichromophores: Aggregation-Enhanced and Unusually Blue-Shifted Emission	ORG.N.P-400	Joon Ho Lee, <b>Hyo mi Kim</b> , Cheon-Gyu Cho* <i>Department of Chemistry, Hanyang University, Korea</i>	
Dae Ho Hong, <b>Suk-il Kang</b> , Dongwhan Lee <sup>1,2</sup> <i>Department of chemistry, University of Florida, United States</i> <sup>1</sup> <i>Division of Chemistry, Seoul National University, Korea</i>		Asymmetric total syntheses of (+)-aspidospermidine and (-)-tabersonine via regio-controlled Fischer indole synthesis	ORG.N.P-413
Effective synthesis of homoprotoberberine analogs	ORG.N.P-401	<b>Joo-young Kim</b> , Tae-Hong Jeon, Cheon-Gyu Cho* <i>Department of Chemistry, Hanyang University, Korea</i>	
<b>Yuri Choi</b> , Gangadhar Rao Mathi <sup>1</sup> , Seulgi Kim <sup>1</sup> , Jong Yeon Hwang <sup>1</sup> , PILHO KIM <sup>1,2</sup> , Sung Yun Cho <sup>2</sup> <i>Medicinal Chemistry and Pharmacology, University of Science &amp; Technology, Korea</i> <sup>1</sup> <i>Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea</i> <sup>2</sup> <i>WCI, Korea Research Institute of Chemical Technology, Korea</i>		Intramolecular Fischer indole synthesis towards the total synthesis of (+)-decursivine	ORG.N.P-414
Synthesis of Indazoles by C–H Alkenylation of Pyrazoles	ORG.N.P-402	<b>Dong-Hyun Kim</b> , JEONGHWA Kim, Cheon-Gyu Cho* <i>Department of Chemistry, Hanyang University, Korea</i>	
<b>Geunhee Kang</b> , YEJI HWANG, Jin Hyeok Jang <sup>1</sup> , Jung Min Joo* <i>Department of Chemistry, Pusan National University, Korea</i> <sup>1</sup> <i>Pusan National University, Korea</i>		Visible light mediated chlorotrifluoromethylation with CF <sub>3</sub> SO <sub>2</sub> Cl by Eosin Y	ORG.N.P-415
Reduction of S-methyl thioate, O-methyl thioate and methyl thioate	ORG.N.P-403	<b>vaidya raghavenderrao</b> , Dong-Soo Shin*, Kalpesh Patil <i>Department of Chemistry, Changwon National University, Korea</i>	
<b>Da Hun Ma</b> , Duk Keun An* <i>Department of Chemistry, Kangwon National University, Korea</i>		Synthesis of Perfluorostyryl ketones from styrenes	ORG.N.P-416
Chemoselective transformation of carbonyl compounds using new in situ	ORG.N.P-404	<b>vaidya raghavenderrao</b> , Dong-Soo Shin <sup>1</sup> , Kalpesh Patil, Eun-ji Sa <i>Department of Chemistry, Changwon National University, Korea</i>	
		Design and synthesis of photoluminescence compound from Double-decker silsesquioxanes (DDSQ)	ORG.N.P-417
		<b>Kalpesh Patil</b> , Dong-Soo Shin <sup>1</sup> , vaidya raghavenderrao <i>Department of Chemistry, Changwon National University, Korea</i>	
		Electronic Effects on the Substituted, Antiaromatic Naphthosarans;	ORG.N.P-418

## Scientific Program

Journey to the Synthesis of the Key Building Blocks <b>Dikhi Firmansyah</b> , Yoorim Go, Jinhee Bae <sup>1</sup> , Hye Ryung Byon <sup>2*</sup> , Chang Hee Lee <sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup> <i>Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science &amp; Technology, Korea</i> <sup>2</sup> <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i>	Chemo- and Stereoselective Crotylation of Aldehydes and Cyclic Aldimines with Allylic gem-Diboronate Ester <b>Jinyoung Park</b> , SEOYOUNG CHOI, Seung Hwan Cho <sup>*</sup> <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i>	ORGN.P-429
Nature of halide recognition modes in meso-phenylethynyl picket calix[4]pyrrole <b>ranjan dutta</b> , Chang Hee Lee <sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i>	Copper(I)-Catalyzed Diastereo- and Enantioselective 1,2-Addition of 1,1-Bis((pinacolato)boryl)alkanes to Imines: Synthesis of $\beta$ -Aminoboronates <b>Jeongho Kim</b> , Seung Hwan Cho <sup>*</sup> <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i>	ORGN.P-430
Anion Dependent Binding Mode Changes in meso-(5,6-Dichlorobenzimidazole)-picket Calix[4]pyrrole <b>endale mulugeta</b> , ranjan dutta, Qing He <sup>1</sup> , Vince Lynch <sup>1</sup> , Jonathan Sessler <sup>1</sup> , Chang Hee Lee <sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i> <sup>1</sup> <i>Chemistry, University of Texas, Austin, United States</i>	synthesis and analysis of energetic ionic salts <b>Kuktae Kwon</b> <sup>*</sup> , SeungHee Kim, So Jung Lee, Yeongjin Jeon <sup>1</sup> <i>Agency for Defense Development, Korea</i> <sup>1</sup> <i>University of Science &amp; Technology, Korea</i>	ORGN.P-431
Efficient Synthesis of 4-Isloxazolines using Visible-Light Photoredox Catalysis sangkook woo <sup>*</sup> , <b>GwangSeok Jang</b> <sup>1</sup> <i>Department of Chemistry, University of Ulsan, Korea</i> <sup>1</sup> <i>Chemistry, University of Ulsan, Korea</i>	Chemoselective Coupling of 1,1-Bis((pinacolato)boryl)alkanes for the Transition-Metal-Free Borylation of Aryl and Vinyl Halides: A Combined Experimental and Theoretical Investigation <b>Yeosan Lee</b> , Jinyoung Park, Jeongho Kim, Seung Hwan Cho <sup>*</sup> <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i>	ORGN.P-432
Synthesis of asymmetric organic compounds for the use of new functional MOFs <b>Yuro Kim</b> , Ho Hyeon Lee <sup>1</sup> , Hakwon Kim <sup>2*</sup> , Hongil Jo <sup>3</sup> , Kang Min Ok <sup>3</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>1</sup> <i>Department of Medicinal Chemistry, Jungwon University, Korea</i> <sup>2</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i> <sup>3</sup> <i>Department of Chemistry, Chung-Ang University, Korea</i>	Synthesis and Anion Binding Properties of meso-Imidazolyl Picket Calix[4]pyrroles <b>Hyouk Choi</b> , Chang Hee Lee <sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-433
Synthesis and Antioxidant Activity of BHT Derivatives containing 2-Amino-1,3,4-Oxiazoles or 2-Amino-1,3,4-Thiadiazoles <b>SooJin Park</b> , TAEHOON LEE <sup>1</sup> , Seowon Chang <sup>1</sup> , Hakwon Kim <sup>1*</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>1</sup> <i>Department of Applied chemistry, Kyung Hee University, Korea</i>	Synthesis and properties of angled porphyrin trimer bearing non-aromatic porphyrin core <b>Hyebin Lee</b> , Chang Hee Lee <sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-434
Synthesis of various 4,5-dimethylthiazolium salts and Potential Activity for AGEs Breaking <b>Inseok Ko</b> , Hyunjin Lee <sup>1</sup> , JiSue Lee <sup>1</sup> , Hakwon Kim <sup>1*</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>1</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>	Synthesis and properties of anti-aromatic, hexapyrrolic expanded porphyrin analogues and their metal complexes <b>Yoorim Go</b> , Dikhi Firmansyah, Chang Hee Lee <sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-435
Synthesis and Antiviral Activities of Various Sterol Glycosides <b>YOUNGKYOUNG CHO</b> , Yeseul Park <sup>1</sup> , Dowon Yoon <sup>2</sup> , Hakwon Kim <sup>1*</sup> <i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>1</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i> <sup>2</sup> <i>Applied Chemistry, Kyung Hee University, Korea</i>	Aluminum Catalyzed Hydroboration of Carbonyl Compounds <b>Jaeun Ku</b> , won kyu sin, Duk Keun An <sup>*</sup> <i>Department of Chemistry, Kangwon National University, Korea</i>	ORGN.P-436
Characterization of $\beta$ -peptides consisting of cyclic $\beta$ -amino acids with an eight-membered ring constraint <b>MinKyung Kim</b> , Soo Hyuk Choi <sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i>	Cross-Coupling Reaction of 8-Methylquinolines with Allylic Alcohols Under Rhodium(III)-Catalysis <b>Saegun Kim</b> , IN SU KIM <sup>1*</sup> <i>University of Pharmacy, Sungkyunkwan University, Korea</i> <sup>1</sup> <i>College of Pharmacy / Department of Pharmacy, Sungkyunkwan University, Korea</i>	ORGN.P-437
Characterization of $\beta$ -Peptide Oligomers Containing cis-2-Aminocycloheptanecarboxylic Acid <b>Hoyang Son</b> , Soo Hyuk Choi <sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i>	Synthesis and Analysis of Ring Strained Mild Energetic Plasticizer for PBX, <b>Yeongjin Jeon</b> , Kuktae Kwon <sup>1*</sup> , SeungHee Kim <sup>1</sup> , So Jung Lee <sup>1</sup> <i>University of Science &amp; Technology, Korea</i> <sup>1</sup> <i>Agency for Defense Development, Korea</i>	ORGN.P-438
Synthesis and conformational analysis of cis-2-amino-cis-5-methylcarboxylic acid <b>Sojung Kim</b> , Soo Hyuk Choi <sup>*</sup> <i>Department of Chemistry, Yonsei University, Korea</i>	Synthesis and Cytotoxic Evaluation of N-Aroylureas Under Rh(III)-Catalyst via C-H Activation <b>Sukhun Lee</b> , IN SU KIM <sup>1*</sup> <i>University of Pharmacy, Sungkyunkwan University, Korea</i> <sup>1</sup> <i>College of Pharmacy / Department of Pharmacy, Sungkyunkwan University, Korea</i>	ORGN.P-439
	The Important Role of the Newly Formed Stereocenter on the Catalytic Activity of Proline Derived Bifunctional Organocatalysts <b>HUI JIN</b> , Cho Soo Min, JUYEOL LEE, do hyun ryu <sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, China</i>	ORGN.P-440
	Synthesis, Structure, and Electrochemical Properties of Quinoxaline-	ORGN.P-441

<p>Annulated Tetrathiafulvalene Pyrroles Jonghyeok Pak, <b>Sunhee Cho</b><sup>1</sup>, Jung Su Park<sup>1*</sup> <i>College of Pharmacy, Seoul National University, Korea</i> <sup>1</sup><i>Department of Chemistry, Sookmyung Women's University, Korea</i></p>	<p>Synthesis and biological evaluation of a novel [<sup>18</sup>F]DMFB as a potential PET agent for malignant melanoma <b>Ayoung Pyo</b>, Dong Yeon Kim<sup>*</sup> <i>Department of Nuclear Medicine, Chonnam National University Hwasun Hospital, Korea</i></p>	<p>MEDLP-295</p>
<p>COBI-catalyzed enantioselective synthesis of cyclopropane and its retro-Claisen rearrangement to 2,5-dihydrooxepine <b>Su Yong Shim</b>, Cho Soo Min, do hyun ryu<sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i></p>	<p>Theoretical investigation on oxidation potential analysis of tamoxifen derivatives <b>Ji Young Park</b>, Mu-Hyun Baik<sup>1*</sup> <i>Institute for Basic Science, Korea</i> <sup>1</sup><i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i></p>	<p>MEDLP-296</p>
<p>Asymmetric Formation of <math>\beta</math>-Hydroxysilane Using Diazoalkane Compounds and Various Aldehydes <b>Jae-Yeon Kim</b>, do hyun ryu<sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i></p>	<p>Design and Synthesis of the Novel SHIP2 Inhibitors for the Treatment of Alzheimer's Disease <b>JIWOONG LIM</b>, Seokkyu Kim<sup>1</sup>, Dong Hoi KIM<sup>2</sup>, Jae Wook Lee<sup>3</sup>, SANG MIN LIM<sup>4</sup>, Jae Yeol Lee<sup>1*</sup>, Ae Nim Pae<sup>3*</sup> <i>KHU-KIST Department of Converging Science and Tech, Kyung Hee University, Korea</i> <sup>1</sup><i>Department of Chemistry, Kyung Hee University, Korea</i> <sup>2</sup><i>Research Center for Dementia DTC, Korea Institute of Science and Technology, Korea</i> <sup>3</sup><i>Convergence Research Center for Dementia DTC, Korea Institute of Science and Technology, Korea</i> <sup>4</sup><i>Center for Neuromedicine, Korea Institute of Science and Technology, Korea</i></p>	<p>MEDLP-297</p>
<p>D-D- <math>\pi</math>-A structures metal free dyes planarity effect in thin film dye sensitized solar cells <b>Dong Guk Nam</b>, Byungman Kim<sup>1</sup>, Tae-Hyuk Kwon<sup>2*</sup>, do hyun ryu<sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i> <sup>1</sup><i>Department of Energy Engineering, Ulsan National Institute of Science and Technology, Korea</i> <sup>2</sup><i>Eco-Friendly Energy Engineering, Ulsan National Institute of Science and Technology, Korea</i></p>	<p>Synthesis and anti-melanogenic activities of the chalcone derivatives Jung Youl Park<sup>1</sup>, Jong-Min Han<sup>1</sup>, <b>Byung-Hak Kim</b><sup>2</sup> <i>Dept. of Applied Chemistry, Daejeon University, Korea</i> <sup>1</sup><i>Department of Life Science, Daejeon University, Korea</i> <sup>2</sup><i>Department of Pharmacology, Seoul National University, Korea</i></p>	<p>MEDLP-298</p>
<p>Enantioselective Protonation-Nucleophilic addition of <math>\alpha</math>-Benzyl Diazoesters with Chiral Oxazaborolidinium Ion-Activated Carboxylic Acids <b>Ki-Tae Kang</b>, Seungtae Kim, Geum-Sook Hwang<sup>1*</sup>, do hyun ryu<sup>*</sup> <i>Department of Chemistry, Sungkyunkwan University, Korea</i> <sup>1</sup><i>Korea Basic Science Institute, Korea</i></p>	<p>Synthesis of 6-hydroxy-4-oxo-1,2-dihydro-4H-pyrrolo[3,2,1- ij]quinoline-5-carboxylic acid derivatives as Potential Inhibitor of S. pneumoniae serotypes <b>Strigouri Huddar</b>, Chul Min Park<sup>1</sup>, Sunkyung Lee<sup>1*</sup> <i>Medicinal Chemistry and pharmacology, University of Science &amp; Technology, Korea</i> <sup>1</sup><i>Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea</i></p>	<p>MEDLP-299</p>
<p>In Situ Generation of Sulfur (II) Ylides from Thiolates and their Structural Studies <b>Jun Ki Kim</b><sup>*</sup>, Yeong-Joon Kim<sup>1</sup>, Hwan Jung Lim<sup>2</sup>, Seong Jun Park<sup>2*</sup> <i>Center for Medicinal Chemistry, Chungnam National University / Center for Medicinal Chemistry, Korea</i> <sup>1</sup><i>Department of Chemistry, Chungnam National University, Korea</i> <sup>2</sup><i>Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology (KRICT), Korea</i></p>	<p>Transition-Metal-Free Regioselective Alkylation of Pyridine N-Oxide Using 1,1-Diborylalkanes as Alkylating Reagents <b>Chiwon Hwang</b>, Woohyun Jo, jungcheon Kim, Seung Hwan Cho<sup>*</sup> <i>Department of Chemistry, Pohang University of Science and Technology, Korea</i></p>	<p>MEDLP-300</p>
<p>Expansion of Substrate Scope in Asymmetric Cycloreduction of <math>\alpha,\omega</math>-Enynes by Chiral Palladium-Catalysts Coordinated with Monodentate Phosphorus Ligands <b>Hee Gun Park</b>, Seung Hwan An<sup>1</sup>, Jin Wook Han<sup>1*</sup>, Chang Ho Oh<sup>1*</sup> <i>Department of Chemistry, Hanyang University, 한양대학교 나노과학기술 연구소, Korea</i> <sup>1</sup><i>Department of Chemistry, Hanyang University, Korea</i></p>	<p>On-resin Cyclic Peptide Synthesis via Cysteine side chain anchoring Pyroacm resin <b>KangTae Kim</b>, Young Dae Gong<sup>1</sup>, Vinayak Juvekar <i>Department of Chemistry, Dongguk University, Korea</i></p>	<p>MEDLP-301</p>
<p style="text-align: center;"><b>48. Medicinal Chemistry</b> <b>October 19 (THU) , Exhibition Hall 2+3</b></p>	<p>Synthesis of 1-Alkyl- 2-amido-Benzo[d]imidazoles on Solid-phase via Desulfurative Cyclization of Thiourea Resin <b>HYUNJEONG YOO</b>, seung ju yang, Young Dae Gong<sup>*</sup> <i>Department of Chemistry, Dongguk University, Korea</i></p>	<p>MEDLP-302</p>
<p style="text-align: center;"><b>&lt;Medicinal Chemistry Poster Presentation&gt;</b></p>	<p>Combinatorial synthesis of Drug-like Pyrrolopyrimidine analogues with a High level of diversity in solution-phase <b>Si Yeon Han</b>, eunsil Lee<sup>1</sup>, Young Dae Gong<sup>*</sup> <i>Department of Chemistry, Dongguk University, Korea</i> <sup>1</sup><i>Medicinal Chemistry Laboratory, Dongguk University, Korea</i></p>	<p>MEDLP-303</p>
<p>Design, Synthesis, and Enzyme Inhibitory Activity of Novel Aminopyrimidinylisoindolines against FAK and ACK1 <b>Min Jung Choi</b>, Juseung Kim, Juri Suh, Jongseung Kim, Kyung Ho Yoo<sup>1*</sup> <i>Department of Chemistry, Korea University, Korea</i> <sup>1</sup><i>Chemical Kinomics Research Center, Korea Institute of Science and Technology, Korea</i></p>	<p>Solid-Phase Parallel Synthesis of a 1,3,4-Oxadiazole Based <math>\beta</math>-Turn Mimetic Library <b>AIZHAN ABDILDINOVA</b>, seung ju yang, Young Dae Gong<sup>*</sup> <i>Department of Chemistry, Dongguk University, Korea</i></p>	<p>MEDLP-304</p>
<p>Design, Synthesis of N-(5-methyl-2-(phenylamino)thiazolo[5,4-d]pyrimidin-7-yl)benzenesulfonamide derivatives as an inhibitor of cyclin-dependent kinases(CDKs) <b>HYEJIN KWON</b>, eunsil Lee<sup>1</sup>, Young Dae Gong<sup>*</sup></p>	<p>Design, Synthesis of N-(5-methyl-2-(phenylamino)thiazolo[5,4-d]pyrimidin-7-yl)benzenesulfonamide derivatives as an inhibitor of cyclin-dependent kinases(CDKs) <b>HYEJIN KWON</b>, eunsil Lee<sup>1</sup>, Young Dae Gong<sup>*</sup></p>	<p>MEDLP-304</p>



## Scientific Program

- Department of Chemistry, Dongguk University, Korea*  
<sup>1</sup>*Medicinal Chemistry Laboratory, Dongguk University, Korea*
- Synthesis of biological active *N*-(3-phenyl-3H-[1,2,3]triazolo[4,5-d]pyrimidin-7-yl)benzenesulfonamide derivatives  
**Ye Ji Kim**, Young Dae Gong\*, eunsil Lee<sup>1</sup>, Woong Lak Choi<sup>2</sup>  
*Department of Chemistry, Dongguk University, Korea*  
<sup>1</sup>*Medicinal Chemistry Laboratory, Dongguk University, Korea*  
<sup>2</sup>*Dongguk University, Korea*
- A Highly Efficient Diversification of 1,3,4-Oxadiazole and 1,3,4-Thiadiazole analogues on Solid-phase  
**Ji-Eun Ha**, Young Dae Gong\*, seung ju yang  
*Department of Chemistry, Dongguk University, Korea*
- Synthesis of azetidine-3-carboxylic acid derivatives as novel S1P<sub>1</sub> agonists  
**Jieon Lee**, Hyunah Choo\*, SEON HEE SEO  
*Center for Neuromedicine, Korea Institute of Science and Technology, Korea*
- Synthesis and biological evaluation of new pyrimidine derivatives for kinase inhibitor  
**Tae Young Kim**, Eslam M. H. Ali<sup>1</sup>, Jae Yeol Lee\*, So Ha LEE<sup>2\*</sup>  
*Department of Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Department of Biological Chemistry, University of Science and Technology, Egypt*  
<sup>2</sup>*Chemical Kinomics Research Center, Korea Institute of Science and Technology, Korea*
- Dendritic Polymer based Multi-Photosensitizers for Enhanced Photodynamic Therapy  
**Yang Liu\***, IL YOON<sup>1</sup>  
*Nano Science and Engineering , Inje University, Korea*  
<sup>1</sup>*PDT Laboratory, Inje University, Korea*
- Design and synthesis of indazole derivatives as DYRK1B inhibitors  
**Yeon Ji Park**, Hyuk Lee<sup>1</sup>, Jaesook Yun\*, Sung-Youn Chang<sup>1\*</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>1</sup>*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*
- Novel dual inhibitors of amyloid beta and tau aggregation for treatment of Alzheimer's Disease  
**WooSeung Son**, GUNHEE KIM<sup>1</sup>, SANG MIN LIM<sup>2</sup>, Kyu-Sung Jeong, Ae Nim Pae<sup>3\*</sup>  
*Department of Chemistry, Yonsei University, Korea*  
<sup>1</sup>*Department of Chemistry, Kyung Hee University, Korea*  
<sup>2</sup>*Center for Neuromedicine, Korea Institute of Science and Technology, Korea*  
<sup>3</sup>*Korea Institute of Science and Technology, Korea*
- Two Photon Probes of Prostate-Specific Membrane Antigen (PSMA) for the Imaging of Colon Cancers  
 Jung-Nyoung Heo\*, **tae hyeong kim**<sup>1</sup>, BONG RAE CHO <sup>2</sup>  
*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*  
<sup>1</sup>*Development of Drug Development and Discovery, Chungnam National University, Korea*  
<sup>2</sup>*Department of Chemistry, Daejin University, Korea*
- Benzenesulfonyl Amide Derivatives as Selective mPGES-1 Inhibitors Ameliorate the Cognitive Impairment in Animal Model  
**Hui Rak Jeong**, sunyoung Kim, Jae Yeol Lee\*  
*Department of Chemistry, Kyung Hee University, Korea*
- Anticancer and Analgesic Activities of Fluoro-substituted 3,4-Dihydroquinazoline Derivatives
- Da Woon Jung**, Hong bin Yoon<sup>1</sup>, Jae Yeol Lee<sup>1\*</sup>  
*Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Department of Chemistry, Kyung Hee University, Korea*
- MEDI.P-305** Synthesis and Synergistic Effect of T-type Calcium Channel Blockers as a Anticancer Agents on Human Lung Cancer  
**Hong bin Yoon**, dawoon Jung<sup>1</sup>, Jae Yeol Lee\*  
*Department of Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Chemistry, Kyung Hee University, Korea*
- MEDI.P-306** Synthesis and Biological Evaluation of Phenylsulfonyl Hydrazide Derivatives as Novel mPGES-1 Inhibitors  
**sunyoung Kim**, Hui Rak Jeong, Jae Yeol Lee\*  
*Department of Chemistry, Kyung Hee University, Korea*
- MEDI.P-307** Cationic Chlorin and Polyoxometalate Nanocarrier Synthesized by Click Chemistry for Nuclear Targeting and Highly Efficient Photodynamic Therapy In Vitro  
**IL YOON\***, Young Key Shim<sup>1</sup>  
*PDT Laboratory and , Inje University, Korea*  
<sup>1</sup>*Department of Nano Convergence Engineering, Inje University, Korea*
- MEDI.P-308** Synthesis of biphenyl-3-ylmethylamine derivatives as 5-HT<sub>2</sub> receptor modulators  
**Soyeon Lee**, Youngjae Kim<sup>1</sup>, Hak Joong Kim, Hyunah Choo<sup>2\*</sup>  
*Department of Chemistry, Korea University, Korea*  
<sup>1</sup>*Department of Chemistry, Yonsei University, Korea*  
<sup>2</sup>*Korea Institute of Science and Technology, Korea*
- MEDI.P-309** Synthesis of Bombesin Tethered to <sup>18</sup>F Labeled Mesoporous Silica Nanoparticles as a PET Tracer for Image Guided Surgery and Therapy  
**Sang Sik Woo**, Suhong Park, SEOKMIN KANG, Veerananarayana Reddy Mudumala, KANG ROK BYEON, Dong Wook Kim\*  
*Department of Chemistry, Inha University, Korea*
- MEDI.P-310** Novel Benzamide Derivatives as Potent PARP-1 Inhibitors  
**hyun kyung choi**  
*Department of Medicinal Chemistry, Jungwon University, Korea*
- MEDI.P-311** Discovery of Cholesteryl Ester Transfer Protein Inhibitor for the Treatment of Dyslipidemia/Cardiovascular Diseases  
**Ga young Park\***, Minsoo Song\*  
*Daegu Gyeongbuk Medical Innovation Foundation, Korea*
- MEDI.P-312** Synthesis of Novel Tau Aggregation Inhibitors for the Treatment of Alzheimer's Disease  
**GUNHEE KIM**, Ae Nim Pae<sup>1\*</sup>, SANG MIN LIM<sup>2\*</sup>, Haeun Lee<sup>3</sup>, WooSeung Son<sup>4</sup>  
*Department of Chemistry, Kyung Hee University, Korea*  
<sup>1</sup>*Korea Institute of Science and Technology, Korea*  
<sup>2</sup>*Center for Neuromedicine, Korea Institute of Science and Technology, Korea*  
<sup>3</sup>*Biochemistry, Korea Institute of Science and Technology, Korea*  
<sup>4</sup>*Department of Chemistry, Yonsei University, Korea*
- MEDI.P-313** EGFR Allosteric Inhibitors for Lung Cancer  
**SEO YOUNG LEE**, Gildon Choi<sup>1</sup>, Chong Hak Chae<sup>2</sup>, Inji Shin<sup>3</sup>, Kwangho Lee<sup>2\*</sup>  
*Medicinal Chemistry, University of Science and Technology(KRICT), Korea*  
<sup>1</sup>*Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea*  
<sup>2</sup>*Korea Research Institute of Chemical Technology, Korea*  
<sup>3</sup>*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*
- MEDI.P-314** Discovery of Novel SHIP2 Inhibitors for the Treatment of Alzheimer's

Disease

**Seo Yoon Choi**, Ae Nim Pae<sup>1\*</sup>, Kyu-Sung Jeong<sup>1</sup>, JIWOONG LIM<sup>2</sup>, Jae Wook Lee<sup>1</sup>, Dong Hoi KIM<sup>1</sup>, SANG MIN LIM<sup>3</sup>  
*Department of Chemistry, Yonsei University, Korea*  
<sup>1</sup>Convergence Research Center for Dementia DTC, Korea Institute of Science and Technology, Korea  
<sup>2</sup>KHU-KIST Department of Converging Science and Tech, Kyung Hee University, Korea  
<sup>3</sup>Center for Neuromedicine, Korea Institute of Science and Technology, Korea

Development of Novel Anti-Hepatitis C Virus Agent Targeting NS5A  
**Yoojin Jeong**, Soon Bang Kang<sup>1</sup>, Jeong Tae Lee<sup>2</sup>, GYO CHANG KEUM<sup>3\*</sup>  
*Department of Chemistry, Hallym University, Korea*  
<sup>1</sup>Center for Neuromedicine, Korea Institute of Science and Technology, Korea  
<sup>2</sup>Chemistry, Hallym University, Korea  
<sup>3</sup>Chemoinformatics Research Center, Korea Institute of Science and Technology, Korea

Synthesis and Biological Activity of Tetrahydroisoxazolopyridine as S1P<sub>1</sub> Receptor Agonist  
**Young Jin Choi**, Ji Soo Seo<sup>1</sup>, SEON HEE SEO<sup>2</sup>, Ghilsoo Nam<sup>3\*</sup>  
*Division of Bio-Med, University of Science & Technology, Korea*  
<sup>1</sup>department of chemistry, Kyung Hee University, Korea  
<sup>2</sup>Center for Neuromedicine, Korea Institute of Science and Technology, Korea  
<sup>3</sup>Korea Institute of Science and Technology, Korea

QSAR Predictability Comparison between Deep Neural Network and Traditional Machine Learning Methods  
**Yongil Seo**, Young Ju Seo, YongJoon Jang, JA YEON MOON, Namseok Kim, Ky-Youb Nam<sup>1</sup>, Sinyoung Kim<sup>1</sup>, Kwang-Hwi Cho<sup>1</sup>, Jeong Hyeok YOON<sup>2</sup>  
*Bio Artificial Intelligence Research Center, Pharos I&BT Co., Ltd., Korea*  
<sup>1</sup>Department of Bioinformatics, Soongsil University, Korea  
<sup>2</sup>Pharos I&BT Co., Ltd., Korea

linQ attenuates systemic inflammatory responses via selectively impairing the Myddosome complex formation upon TLR4 ligation  
**Yunkyoung Hwang**, Young Goo Kang, Byunghoon Ahn<sup>1</sup>, Hee Nam Lim<sup>2</sup>, ILL YOUNG LEE<sup>2\*</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>1</sup>chemistry, Korea University, Korea  
<sup>2</sup>Center for Eco-Friendly New Materials, Korea Research Institute of Chemical Technology, Korea

Predicting acute oral toxicity of chemicals by QSAR approach  
**JaeYong Lee**, Byeong Hun Lee, Sung Kwang Lee<sup>\*</sup>  
*Department of Chemistry, Hannam University, Korea*

Computational studies of the structure-activity relationships of small molecular inhibitors for EGFR and androgen receptor  
**Jiyong Park**<sup>\*</sup>, Ken Houk<sup>1</sup>  
*Center for Catalytic Hydrocarbon Functionalization, Institute for Basic Science, Korea*  
<sup>1</sup>Dept. of Chemistry and Biochemistry, UCLA, United States

Development of QSAR models for predicting subchronic inhalation toxicity  
**Do Hyung Kim**, Byeong Hun Lee, Sung Kwang Lee<sup>\*</sup>  
*Department of Chemistry, Hannam University, Korea*

Chemically induced target degradation of anaplastic lymphoma kinase (ALK) by Target Degradators (TDs)  
**Dong-Ho Lee**, jae du ha<sup>1</sup>, Duck-Hyung Lee, Jong Yeon Hwang<sup>2\*</sup>

*Department of Chemistry, Sogang University, Korea*  
<sup>1</sup>WCI, Korea Research Institute of Chemical Technology, Korea  
<sup>2</sup>Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea

4-Phenylamino-1H-pyrazolo[3,4-d]pyrimidin-4-yl-acrylamide derivatives as novel irreversible Bruton's tyrosine kinase inhibitors and their biological activities  
**DukWoon Kim**, Hyeon Seok jung, Jong Yeon Hwang<sup>1</sup>, PILHO KIM<sup>1</sup>, jae du ha<sup>2</sup>, do hyun ryu, Sung Yun Cho<sup>2\*</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>1</sup>Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea  
<sup>2</sup>WCI, Korea Research Institute of Chemical Technology, Korea

Discovery of Transglutaminase 2 Inhibitors for Renal Cell Carcinoma (RCC)  
**JiHee Kang**, Ga young Park<sup>1</sup>, Minsoo Song<sup>\*</sup>  
*Daegu Gyeongbuk Medical Innovation Foundation, Korea*  
<sup>1</sup>DGMIF, Korea

Synthetic chloride transporters promote apoptotic cell death by disrupting cellular ion homeostasis  
**Seong-Hyun Park**, Injae Shin<sup>\*</sup>  
*Department of Chemistry, Yonsei University, Korea*

A squaramide-based anion transporter disrupts autophagy and induces apoptosis by perturbing cellular ion homeostasis  
**Seong-Hyun Park**, Injae Shin<sup>\*</sup>  
*Department of Chemistry, Yonsei University, Korea*

Design and Synthesis of Novel DYRK1B Inhibitors  
**EunJi Heo**, Sung-Youn Chang<sup>1</sup>, Hyuk Lee<sup>1\*</sup>  
*Development of Drug Development and Discovery, Chungnam National University, Korea*  
<sup>1</sup>Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea

Anti-leukemia activity of hybrid molecules of Hsp70 and Hsp90 inhibitors  
**Sang-Hyun PARK**, Injae Shin<sup>\*</sup>  
*Department of Chemistry, Yonsei University, Korea*

Validation of Carbonic Anhydrase-IX as a Target of Anticancer Using PET Imaging of [18F]-Acetazolamide  
**KUNAL MORE**, JEONG HOON PARK<sup>1</sup>, Dong-Jo Chang<sup>\*</sup>  
*Department of Pharmacy, Suncheon National University, Korea*  
<sup>1</sup>Korea Atomic Energy Research Institute, Korea

Anti-oxidative and anti-cholinesterase compounds from *Eisenia arborea*  
**DaeYeob Cho**<sup>\*</sup>, Bong Ho Lee<sup>1\*</sup>, Byong Wook Choi<sup>2\*</sup>  
*Department of Chemical and Biological Engineering, Hanbat National University, Korea*  
<sup>1</sup>Division of Applied Chemistry & Biological Enginee, Hanbat National University, Korea  
<sup>2</sup>Department of Chemical & Biological Engineering, Hanbat National University, Korea

Tryptamine Derivatives for Novel Cholinesterase Inhibitors  
**Cheolmin Jeon**<sup>\*</sup>, Jeong Ho Park<sup>1\*</sup>, haneul lee, Yujung Kang  
*Department of Chemical & Biological Engineering, Hanbat National University, Korea*  
<sup>1</sup>Division of Applied Chemistry & Biological Enginee, Hanbat National University, Korea

An anti-oxidative flavonol glucoside from *Agrimonia pilosa*  
**gyusun jeong**<sup>\*</sup>, Heesu Kwon, Byong Wook Choi<sup>\*</sup>, Bong Ho Lee<sup>1\*</sup>  
*Department of Chemical & Biological Engineering, Hanbat National University, Korea*

## Scientific Program

- <sup>1</sup>*Division of Applied Chemistry & Biological Enginee, Hanbat National University, Korea*
- New Reduced Asymmetric Xanthenes Fluorescent Probes with Improved Chemical Stability and Reactivity: Application to Detection of Nitroreductase  
**Tae-Hwan Lim**, KUNAL MORE, Dong-Jo Chang\*  
*Department of Pharmacy, Suncheon National University, Korea*
- Identification of Novel 2,4-diaminopyrimidines bearing fused tricyclic ring moiety as potent anaplastic lymphoma kinase (ALK) inhibitor with in vitro, in vivo Antitumor activity  
**Yeong Uk Jeon**, Jong Yeon Hwang<sup>1,2</sup>  
*pharmacy, Sungkyunkwan University, Korea*  
<sup>1</sup>*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*
- Synthesis of biomarkers that fluoresce by binding with TTR  
**SeokBeom Lee**, yerim jung, AhReum Han, Sungwook Choi\*  
*Development of Drug Development and Discovery, Chungnam National University, Korea*
- Synthesis of biomarkers that fluoresce by binding with TTR  
**SeokBeom Lee**, yerim jung, AhReum Han, Sungwook Choi\*  
*Development of Drug Development and Discovery, Chungnam National University, Korea*
- Inhibitors of TTR amyloidogenesis and fluorescent probes based on 3H-Indole platform  
**Hye Rim Lim**, Seo Yun Kim, Sungwook Choi\*  
*Development of Drug Development and Discovery, Chungnam National University, Korea*
- Studies for relationship between proteins and topological water network using MD simulation of natural amino acids and crystal water analysis for all PDBs  
**Kwang-eun Choi**, Eunkyong Chae, NamSook Kang\*  
*Graduate School of New Drug Discovery and Developm, Chungnam National University, Korea*
- Synthesis and biological evaluation of niclosamide derivatives as Wnt/ $\beta$ -catenin inhibitor  
**SEOKJUN JO**, minjin yoo<sup>1</sup>, Seung Kyu Kang, Kwan-Young Jung\*  
*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*  
<sup>1</sup>*Korea Research Institute of Chemical Technology/ M, University of Science & Technology, Korea*
- Enterovirus Inhibitory Activity of substituted Urea and Thiourea derivatives of p-Benzene sulfonamide  
**Prashant Chakrasali**, Young-Sik Jung<sup>1,2</sup>, Yashwardhan Malpani, SOO BONG HAN<sup>2</sup>  
*University of Science & Technology, Korea*  
<sup>1</sup>*Korea Research Institute of Chemical Technology, Korea*  
<sup>2</sup>*Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea*
- Discovery of novel autotaxin inhibitors using molecular docking studies  
**Myeong Hwi Lee**, ANAND BALUPURI, Hong Man Moon, NamSook Kang\*  
*Graduate School of New Drug Discovery and Developm, Chungnam National University, Korea*
- New Substituted Quinazolinone Derivatives as Potential DDR1 Kinase Inhibitors  
**Sora Paik**, YONG SUP LEE<sup>1</sup>, Eun Joo Roh<sup>2\*</sup>  
*Kyung Hee University, Korea*  
<sup>1</sup>*Department of Pharmacy, Kyung Hee University, Korea*
- <sup>2</sup>*Chemical Kinomics Research Center, Korea Institute of Science and Technology, Korea*
- MEDI.P-343 Development of 4-alkyl-6,7,8,9-tetrahydrobenzo[4,5]thieno[3,2-e][1,2,4]triazolo[4,3-a]pyrimidin-5(4H)-ones as Non-capsid Enterovirus Inhibitors with Enhanced Pharmacokinetic (PK) Properties  
**Yashwardhan Malpani**, Young-Sik Jung<sup>1,2</sup>, SOO BONG HAN<sup>2</sup>  
*University of Science & Technology, Korea*  
<sup>1</sup>*Korea Research Institute of Chemical Technology, Korea*  
<sup>2</sup>*Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea*
- MEDI.P-344 The development of antiviral agent for Hepatitis B virus  
**kyuneun kim**, SOO BONG HAN\*, Young-Sik Jung  
*Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea*
- MEDI.P-345 Synthesis of Histone Deacetylase 6 (HDAC6) inhibitors for anti-cancer drug and its implication for cancer therapy  
**Sonam Jha**, Young Ho Seo\*  
*College of Pharmacy, Keimyung University, India*
- MEDI.P-346 Novel FMS inhibitors based on pyrimidine scaffold with improved selectivity and cellular activity  
**Ahmed Karam Farag**, Byung Sun Ahn, Eun Joo Roh<sup>1,2\*</sup>  
*Division of Bio-Medical Science &Technology, University of Science & Technology, Korea*  
<sup>1</sup>*Chemical Kinomics Research Center, Korea Institute of Science and Technology, Korea*
- MEDI.P-347 Development of Histone Deacetylase (HDAC) inhibitors  
**JIAH LIM**, Young Ho Seo<sup>1,2\*</sup>  
*Keimyung University, Korea*  
<sup>1</sup>*College of Pharmacy, Keimyung University, Korea*
- MEDI.P-348 Design and Synthesis of Novel Checkpoint inhibitors of PD-1/PD-L1 Pathway  
**Seulgi Kim**, jae du ha<sup>1</sup>, Sung Yun Cho<sup>1</sup>, Jong Yeon Hwang, PILHO KIM\*  
*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*  
<sup>1</sup>*WCI, Korea Research Institute of Chemical Technology, Korea*
- MEDI.P-349 Synthesis and biological evaluation of N9-cis-cyclobutylpurine derivatives for use as cyclin-dependent kinase (CDK) inhibitors  
**Akshay Takwale**, jae du ha<sup>1</sup>, Jong Yeon Hwang<sup>2\*</sup>  
*University of Science & Technology, India*  
<sup>1</sup>*WCI, Korea Research Institute of Chemical Technology, Korea*  
<sup>2</sup>*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*
- MEDI.P-350 Construction of Diazepine Derivatives using Solid-phase Synthesis  
**YunJi Jin**, GeunHyung Jo, Dahyun Kim, Doohyun Lee, Taeho Lee\*  
*Department of Pharmacy, Kyungpook National University, Korea*
- MEDI.P-351 1,2,3-Triazoloamide Derivatives Using Solid- and Solution-Phase Synthetic Approaches  
**GeunHyung Jo**, YunJi Jin, Dahyun Kim, Doohyun Lee, Taeho Lee\*  
*Department of Pharmacy, Kyungpook National University, Korea*
- MEDI.P-352 Synthesis of Novel Functionalized Amino Acid Derivatives as MAO-B Inhibitors for Alzheimer's Disease Therapy  
**Ye Rim Lee**, Ki Duk Park<sup>1,2\*</sup>  
*Convergence Research Center for Diagnosis, Korea Institute of Science and Technology, Korea*  
<sup>1</sup>*Convergence Research Center for Diagnosis, Treatment and Care System of Dementia, Korea*
- MEDI.P-353
- MEDI.P-354
- MEDI.P-355
- MEDI.P-356
- MEDI.P-357
- MEDI.P-358
- MEDI.P-359
- MEDI.P-360
- MEDI.P-361
- MEDI.P-362

Synthesis and Evaluation of Mn-EDTA-EOB Conjugate as a new Hepatobiliary MRI Contrast Agent

**KAMRUL ISLAM**, Hee Kyung Kim<sup>1</sup>, Soyeon Kim, Choi Garam, Ah Ruem Baek, BoKyung Sung, Byeong Woo Yang, Seong hwan Hwang<sup>2</sup>, Yongmin Chang<sup>3\*</sup>

*Medical & Biological Engineering, Kyungpook National University, Bangladesh*

<sup>1</sup>*Institute of Biomedical Engineering Research, Kyungpook National University, Korea*

<sup>2</sup>*Medical & Biology Engineering, Kyungpook National University, Korea*

<sup>3</sup>*Molecular Medicine, Kyungpook National University, Korea*

SYNTHESIS AND BIOLOGICAL EVALUATION OF CHALCONE DERIVATIVES AS NEUROPROTECTIVE AGENTS FOR NEUROLOGICAL DISORDERS

**Hyeon Ji Kim**, Ki Duk Park\*

*Convergence Research Center for Diagnosis, Treatment and Care System of Dementia, Korea Institute of Science and Technology, Korea*

Synthesis and Biological evaluation of Benzothiazole aniline (BTA) Derivatives and their Platinum Complexes as antitumor agents

**KAMRUL ISLAM**, Hee Kyung Kim<sup>1</sup>, Soyeon Kim, Choi Garam, Ah Ruem Baek, BoKyung Sung, Byeong Woo Yang, Seong hwan Hwang<sup>2</sup>, Yongmin Chang<sup>3\*</sup>

*Medical & Biological Engineering, Kyungpook National University, Bangladesh*

<sup>1</sup>*Institute of Biomedical Engineering Research, Kyungpook National University, Korea*

<sup>2</sup>*Medical & Biology Engineering, Kyungpook National University, Korea*

<sup>3</sup>*Molecular Medicine, Kyungpook National University, Korea*

Drug delivery with doxorubicin loaded oligonucleotide modified gold nanoparticles for colorectal cancer treatment

**Chang-Seuk Lee**, SuHwan Yu<sup>1</sup>, Tae Hyun Kim\*

*Department of Chemistry, Soonchunhyang University, Korea*

<sup>1</sup>*Chemistry, Soonchunhyang University, Korea*

Synthesis and biological evaluation of guggulsterone derivatives as kidney cell protective agents

**TAEJUNG KIM**, Dong Hoi KIM<sup>1</sup>, Jungyeob Ham, Heesu lee<sup>2</sup>, Ki Sung Kang<sup>3</sup>, Jae Wook Lee<sup>4\*</sup>

*Natural Products Research, Korea Institute of Science and Technology, Korea*

<sup>1</sup>*Research Center for Dementia DTC, Korea Institute of Science and Technology, Korea*

<sup>2</sup>*Department of Dentistry, Gangneung-Wonju National University, Korea*

<sup>3</sup>*Department of Oriental Medicine, Gachon University Global Campus, Korea*

<sup>4</sup>*Convergence Research Center for Dementia DTC, Korea Institute of Science and Technology, Korea*

Insights of a Lead Optimization Study and Biological Evaluation of Novel 4-Hydroxytamoxifen Analogs as Estrogen-Related Receptor  $\gamma$  (ERR $\gamma$ ) Inverse Agonists

**Jina Kim**, Sung Jin Cho\*

*New Drug Development Center, Daegu Gyeongbuk Medical Innovation Foundation, Korea*

Synthesis of novel multi-chelator tether for mAb radiolabeling

**Hyeonsu Na**, Heejung Kim<sup>1</sup>, ILJUNG LEE<sup>1\*</sup>, Eunbi Shin<sup>1</sup>, Dong Wook Kim<sup>1</sup>, Jai Woong Seo<sup>2</sup>

*Department of Chemistry, Inha University, Korea*

<sup>1</sup>*Korea Institute of Radiological & Medical Science, Korea*

**MEDI.P-363** <sup>2</sup>*Department of Biomedical Engineering, University of California, Davis, United States*

A new method for conjugation of a photosensitizer to a natural plant phenolic food additive

**MEDI.P-370**

**HWAN SUK LEE**, Yong-Wan Kim<sup>1\*</sup>

*Department of Chemistry, Chonnam National University, Korea*

<sup>1</sup>*Dongsung BioPharm, Korea*

Novel photosensitizers for photodynamic therapy(PDT) based on aggregation induced emission enhancement(AIEE) and thermally activated delayed fluorescence(TADF)

**MEDI.P-371**

**jaemoon lee**, Jae Pil Kim<sup>1\*</sup>

*Department of Material Engineering, Seoul National University, Korea*

<sup>1</sup>*Division of Material Engineering, Seoul National University, Korea*

**MEDI.P-364**

**49. Material Chemistry**  
**October 19 (THU) , Exhibition Hall 2+3**

**<Material Chemistry Poster Presentation>**

**MEDI.P-365**

Mechanisms of CO<sub>2</sub> absorption and desorption of A<sub>2</sub>CO<sub>3</sub>-promoted MgO (A = Na, K, Rb and Cs))

**MAT.P-372**

**Jin-Su Kwak**, Kang Yeong Kim, Kyung-Ryul Oh, YOUNG UK KWON\*

*Department of Chemistry, Sungkyunkwan University, Korea*

Mechanism Study of Simultaneous Reduction of Graphene Oxide and Pt(II) through one-pot Ultrasound-assisted Polyol Synthesis (UPS)

**MAT.P-373**

**Jongun Jung**, Hyun-Uk Park, Ah Hyeon Park, WEN JUAN SHI, YOUNG UK KWON\*

*Department of Chemistry, Sungkyunkwan University, Korea*

On-chip silylation of nerve agents' degradation products for the head space GC-MS analysis using anion exchange polymeric film coated gold substrate

**MAT.P-374**

**MEDI.P-366**

**Hyunsuk Kim**, Bong Soo Lee<sup>1</sup>, Yong Han Lee<sup>2</sup>, INSUNG CHOI<sup>1\*</sup>

*Agency for Defense Development, Korea*

<sup>2</sup>*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

**MEDI.P-367**

Gas Sorption on Nitrogen-doped Polar Carbons

**MAT.P-375**

**JOO-WOON LEE**

*School of Liberal Arts and Sciences, Korea National University of Transportation, Korea*

Synthesis of UiO-66-Type Metal-Organic Framework with Free Carboxylic Acid: Versatile Adsorbents via H-bond for liquid phase

**MAT.P-376**

**JiYoon Song**, Sung Hwa JHUNG\*

*Department of Chemistry, Kyungpook National University, Korea*

Removal of Pharmaceuticals and Personal Care Products from Water by Adsorption with Functionalized Metal-organic Frameworks: Contribution of Hydrogen-bonding

**MAT.P-377**

**HyungJun An**, Sung Hwa JHUNG\*

*Department of Chemistry, Kyungpook National University, Korea*

**MEDI.P-368**

Removal of Artificial Sweeteners from Water by Adsorption with Urea or Melamine-functionalized Metal-Organic Frameworks

**MAT.P-378**

**DONGKYU YOO**, Sung Hwa JHUNG\*

*Department of Chemistry, Kyungpook National University, Korea*

Ni(II) Complex on Bispyridine-Based Porous Organic Polymer as Heterogeneous Catalyst for Selective Ethylene Dimerization

**MAT.P-379**

**Min Jeong Kim**, Suk Joong Lee\*

*Department of Chemistry, Korea University, Korea*

**MEDI.P-369**

Immobilization (bpy)Cu(II)Cl<sub>2</sub> into Stable Porous Organic Polymer

**MAT.P-380**

## Scientific Program

Assembled by Co-Catalysed Trimerization and Its Oxidation of Various Olefins

**Yi Jigyong**

*Department of Chemistry, Korea University, Korea*

Synthesis of hollow nanostructured TiO<sub>2</sub>/graphene hybrid for anodic material in sodium-ion battery

**Won-Jae Lee**, Seung-Min Paek<sup>\*</sup>

*Department of Chemistry, Kyungpook National University, Korea*

Ionic liquid@MIL-101(Cr) prepared via the ship-in-bottle technique: remarkable adsorbents for the removal of benzothiophene from liquid fuel

**Nazmul Abedin Khan**, Sung Hwa JHUNG<sup>\*</sup>

*Department of Chemistry, Kyungpook National University, Korea*

Remarkable adsorption capacity of a Co-based metal azolate framework for removal of benzotriazole and benzimidazole from water

**SARKER MITHUN**, Sung Hwa JHUNG<sup>\*</sup>

*Department of Chemistry, Kyungpook National University, Korea*

Synthesis of Hydrophobic Cobalt-Ethylimidazolates Frameworks and Their Possible Application in Cleaning of Contaminated Water

**Bhadra Biswa Nath**, Sung Hwa JHUNG<sup>\*</sup>

*Department of Chemistry, Kyungpook National University, Korea*

Na storage behavior of Co<sub>3</sub>O<sub>4</sub>/graphene for electrochemical application

**HyeRyeon Jang**, Seung-Min Paek<sup>\*</sup>

*Department of Chemistry, Kyungpook National University, Korea*

Hyperbranched Polyglycerol-Grafted Graphene Oxide as a Reinforcing Material for Flexible Poly(vinyl chloride)

**Kyu Won Lee**, Seung-Yeop Kwak<sup>\*</sup>

*Department of Materials Science and Engineering, Seoul National University, Korea*

GHz Band Selective Microwave Absorption Properties of Submicron Magnetite

**Keum-Chul Seo**, Jin-Seung Jung<sup>\*</sup>

*Department of Chemistry, Gangneung-Wonju National University, Korea*

Enhanced Photofunctional Activity of ZnO Nanoparticles for UV-Vis Light Photodegradation

**Sang-Yoon Lee**, Jin-Seung Jung<sup>\*</sup>

*Department of Chemistry, Gangneung-Wonju National University, Korea*

A fluorescence carbon dot using nitrogen containing compound for bio imaging

**KyungKwan Lee**, Chang-Soo Lee<sup>1,\*</sup>, Chul Soon Park<sup>2</sup>

*Hazards Monitoring Bionano Research Center, Korea Research Institute of Bioscience & Biotechno, Korea*

<sup>1</sup>*Center for Bio Nano Research, Hazards Monitoring Bionano Research Center, Korea*

<sup>2</sup>*Polymer?Engineering, Chonnam National University, Korea*

Detection of endocrine disruptors by M-13 virus-based structural color nanostructure

**Yujin Lee**, Jin-Woo Oh<sup>1,\*</sup>

*Nano-Convergence Technology, Pusan National University, Korea*

<sup>1</sup>*Department of Nano & Materials Science and Enginee, Pusan National University, Korea*

Enhanced Electrocatalyst Performance of Mesoporous Carbon@Metal Oxide Heterolayered Hybrid Nanosheets

**yunkyung Jo**, Seong-Ju Hwang<sup>\*</sup>

*Center for Hybrid Interfacial Chemical Structure (CICS), Department of*

*Chemistry and Nanoscience, Ewha Womans University, Korea*

A Critical Role of 2D Metal Oxide Nanosheets as Additives for Improving the Electrocatalytic Performance of Graphene

**Xiaoyan Jin**, Seong-Ju Hwang<sup>\*</sup>

*Center for Hybrid Interfacial Chemical Structure (CICS), Department of Chemistry and Nanoscience, Ewha Womans University, Korea*

Development of anion adsorption material with calcium bentonite and quaternary alkyl ammonium

**Jong-Min Lee**, Kyoung Tai No<sup>1,\*</sup>

*Department of Biomaterials Science and Engineering, Yonsei University, Korea*

<sup>1</sup>*Department of Biotechnology, Yonsei University, Korea*

Manganese Cobalt Nickel Oxide Nanosheet-based Photocatalyst for Efficient Visible-Light-Driven Hydrogen Evolution

**JangMee Lee**, Seong-Ju Hwang<sup>1,\*</sup>

*Chemistry Department of Nanoscience, Ewha Womans University, Korea*

<sup>1</sup>*Department of Chemistry and Nanoscience, Ewha Womans University, Korea*

Ultra-Sensitive Bragg-Reflective Photoluminescent Porous Silicon for Explosive Vapors

**YoungIn Noh**, Honglae Sohn<sup>1,\*</sup>

*Chemistry, Chosun University, Korea*

<sup>1</sup>*Department of Chemistry, Chosun University, Korea*

Investigation on CO<sub>2</sub> Absorption of NaNO<sub>3</sub>-promoted CdO at midtemperature ranges

**Kang Yeong Kim**, Jin-Su Kwak, Kyung-Ryul Oh, YOUNG UK KWON<sup>\*</sup>

*Department of Chemistry, Sungkyunkwan University, Korea*

RuO<sub>2</sub> nanoparticles supported NaY zeolite for aerobic oxidation of benzyl alcohol: Effect of preparation methods on catalytic performances

**Dasom Jung**, Kyungsu Na<sup>\*</sup>

*Department of Chemistry, Chonnam National University, Korea*

Synthesis of LTA Zeolites with Controlled Crystal Sizes for Selective Removal of Radioactive Ions

**Suyeon Yu**, Kyungsu Na<sup>\*</sup>

*Department of Chemistry, Chonnam National University, Korea*

Monodisperse mesoporous silicon nanoparticles combined with sulfur-graphene oxide for efficient performance of lithium ion battery anode

**Eon-ji shin**, Mi-Kyung Han<sup>1</sup>, Sung-Jin Kim<sup>2,\*</sup>

*Department of Chemistry and Nano Science, Ewha Womans University, Korea*

<sup>1</sup>*Division of Chemistry and Nano Science, Ewha Womans University, Korea*

<sup>2</sup>*Department of Chemistry, Ewha Womans University, Korea*

Preparation of electromagnetic shielding film based on carbon fiber reinforced with CNT

**KIHUN YANG**, Ji Hun Han<sup>1</sup>, Gyu Youn Chea<sup>1,\*</sup>

*School of Natural Science/Department of Chemistry, Wonkwang University, Korea*

<sup>1</sup>*Department of Chemistry, Wonkwang University, Korea*

Graphene coated non-woven carbon fiber based film for enhanced electromagnetic shielding effectiveness

**KIHUN YANG**, Seon Guk<sup>1</sup>, Gyu Youn Chea<sup>1,\*</sup>

*School of Natural Science/Department of Chemistry, Wonkwang University, Korea*

<sup>1</sup>*Department of Chemistry, Wonkwang University, Korea*

Phosphate adsorption behavior and luminescent property of layered

MAT.P-392

MAT.P-393

MAT.P-394

MAT.P-395

MAT.P-396

MAT.P-397

MAT.P-398

MAT.P-399

MAT.P-400

MAT.P-401

MAT.P-402

yttrium hydroxide in aqueous solutions <b>MINHEE KIM</b> , Song-ho Byeon <sup>*</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>	IrO <sub>2</sub> -ZnO hybrid nanoparticles for highly selective CO <sub>2</sub> reduction reaction <b>Ga Bin Jung</b> , InHye Kwak, Kwon Ik Seon, jeunghee park <sup>1,*</sup> <i>Micro Device Engineering / Microdevices, Korea University, Korea</i> <sup>1</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-415</b>
Inclusion behavior of bioactive anions into the interlayer space of LDHs vs. LRHs <b>Hyunsub Kim</b> , Song-ho Byeon <sup>*</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>	Co-catalyst Modified Si-based Photo electrode Materials for Solar Water Splitting <b>SuYoung Lee</b> , jeunghee park <sup>1,*</sup> , eunhee cha <sup>2,*</sup> <i>Department Green Energy Engineering, Hoseo University, Korea</i> <sup>1</sup> <i>Department of Materials Chemistry, Korea University, Korea</i> <sup>2</sup> <i>Department of Pharmaceutics, Hoseo University, Korea</i>	<b>MAT.P-416</b>
Silica coated CeO <sub>2</sub> particles with highly negative surface charge for UV screen <b>HYUNJIN JUNG</b> , Song-ho Byeon <sup>*</sup> <i>Department of Applied Chemistry, Kyung Hee University, Korea</i>	Organic molecule-intercalated MoS <sub>2</sub> nanosheets for highly active hydrogen evolution reaction <b>Kwon Ik Seon</b> , InHye Kwak, Yeron Lee <sup>1</sup> , Ga Bin Jung, jeunghee park <sup>2,*</sup> <i>Micro Device Engineering / Microdevices, Korea University, Korea</i> <sup>1</sup> <i>Micro Device Engineering / Department of Microdevi, Korea University, Korea</i> <sup>2</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-417</b>
Pt-Pd-Cu ternary alloy dendritic nanocrystals for enhanced electrocatalytic alcohol oxidation reactions <b>Young Wook Lee</b> , Sang Woo Han <sup>*</sup> <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i>	Facile Ultrasound Synthesis of Composition- and Size- Controlled Lead Halide Perovskite Nanocrystals <b>Jaemin Seo</b> , jeunghee park <sup>1</sup> , Kidong Park <sup>1,*</sup> <i>Department of Materials Chemistry, Korea University, Korea</i> <sup>1</sup> <i>Micro Device Engineering / Microdevices, Korea University, Korea</i>	<b>MAT.P-418</b>
Synthesis of Au Nanorod-CdS Yolk-Shell Nanostructures and Their Enhanced Photocatalytic Hydrogen Evolution <b>Hayoon Jung</b> , Sang Woo Han <sup>*</sup> <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i>	Arsenic and Germanium Arsenide for High-Capacity Lithium Ion Batteries <b>KIM DOYEON</b> , Kidong Park <sup>1</sup> , JinHa Lee <sup>2</sup> , Jun Dong Kim, jeunghee park <sup>3,*</sup> , Jun Dong Kim <i>Department of Advanced Materials Chemistry, Korea University, Korea</i> <sup>1</sup> <i>Micro Device Engineering / Microdevices, Korea University, Korea</i> <sup>2</sup> <i>Micro Device Engineering / Semiconductor Device, Korea University, Korea</i> <sup>3</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-419</b>
Photocatalytic effect of Fe <sub>3</sub> O <sub>4</sub> @TiO <sub>2</sub> enhanced by noble metals <b>Song Kyeoung Mi</b> , Jin-Seung Jung <sup>*</sup> <i>Department of Chemistry, Gangneung-Wonju National University, Korea</i>	Composition Tuned (GaAs) <sub>1-x</sub> (Ga <sub>2</sub> Se <sub>3</sub> ) <sub>x</sub> Ternary Alloy Nanowires <b>JinHa Lee</b> , jeunghee park <sup>1,*</sup> <i>Micro Device Engineering / Semiconductor Device, Korea University, Korea</i> <sup>1</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-420</b>
Synthesis and Crystal Structure of the New Two-dimensional Mixed-Metal Thiophosphates, A <sub>3</sub> Ta <sub>(1-x)</sub> Ti <sub>x</sub> PS <sub>5</sub> (A = K, Rb, Cs) <b>Woojin Yoon</b> , Hoseop Yun <sup>1,*</sup> <i>Division of Energy System, Department of Applied C, Korea</i> <sup>1</sup> <i>Department of Chemistry, Ajou University, Korea</i>	Metal Nanoparticle-Deposited ZnO Nanowires for Electrochemical and Photoelectrochemical Reduction of CO <sub>2</sub> <b>JUNGWON PARK</b> , jeunghee park <sup>1,*</sup> <i>Micro Device Engineering, Korea University, Korea</i> <sup>1</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-421</b>
Correlation between emitter orientations and molecular structures in TADF-based OLEDs <b>Junho Lee</b> , Chiho Lee, Sungnam Park <sup>*</sup> <i>Department of Chemistry, Korea University, Korea</i>	Visualized Lattice Mismatch of Polytypic GaP and GaAs Nanowires by Strain Mapping <b>Kidong Park</b> , Jun Dong Kim <sup>1</sup> , JinHa Lee <sup>2</sup> , Jaemin Seo <sup>3</sup> , KIM DOYEON <sup>3</sup> , jeunghee park <sup>3,*</sup> <i>Micro Device Engineering / Microdevices, Korea University, Korea</i> <sup>1</sup> <i>Department of Advanced Materials Chemistry, Korea University, Korea</i> <sup>2</sup> <i>Micro Device Engineering / Semiconductor Device, Korea University, Korea</i> <sup>3</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-422</b>
Synthesis of Magnetite Halloysite Nanotube and its Application for the Removal of Heavy Metals <b>HYUNG WOOK LEE</b> , Jaegeun Noh <sup>*</sup> <i>Department of Chemistry, Hanyang University, Korea</i>	Stable 1T phase MoS <sub>2</sub> nanosheets as Catalysts for Hydrogen Evolution Reaction <b>InHye Kwak</b> , Kwon Ik Seon, Ga Bin Jung, Yeron Lee <sup>1</sup> , jeunghee park <sup>2,*</sup> <i>Micro Device Engineering / Microdevices, Korea University, Korea</i> <sup>1</sup> <i>Micro Device Engineering / Department of Microdevi, Korea University, Korea</i> <sup>2</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-423</b>
Phenolic Polymer Developers for Thermal Papers: Synthesis, Characterization and Developing Property <b>Ji Hyeon Yun</b> , Byeong-Kwan An <sup>*</sup> <i>Department of Chemistry, The Catholic University of Korea, Korea</i>	Nickel carbide with N-doped CNT as bifunctional catalyst for oxygen reaction <b>Yeron Lee</b> , Ga Bin Jung, jeunghee park <sup>1,*</sup> <i>Micro Device Engineering / Microdevices, Korea University, Korea</i> <sup>1</sup> <i>Department of Materials Chemistry, Korea University, Korea</i>	<b>MAT.P-414</b>
Transition Metal diethyldithiocarbamate for solution synthesis of CIGS thin film photovoltaic cells <b>HyunJong Lee</b> , Duk-Young Jung <sup>*</sup> , Seonho Jung, Ji-Hyun Cha <i>Department of Chemistry, Sungkyunkwan University, Korea</i>		
Two-Dimensional Structure of Germanium Arsenide <b>SeungHwan CHA</b> , jeunghee park <sup>1,*</sup> , eunhee cha <sup>2,*</sup> <i>Department Green Energy Engineering, Hoseo University, Korea</i> <sup>1</sup> <i>Department of Materials Chemistry, Korea University, Korea</i> <sup>2</sup> <i>Department of Pharmaceutics, Hoseo University, Korea</i>		

## Scientific Program

- Chemical Compositions of Essential Oils Extracted from Citron Seed by Supercritical Carbon Dioxide  
 Sung Hwa Oh<sup>1</sup>, **JIEUN LEE**<sup>1</sup>  
*Business Supporting Team, Nano Bio Research Center, Korea*  
<sup>1</sup>business support team, Nano Bio Research Center, Korea
- KVP<sub>2</sub>O<sub>7</sub> as a Robust High-Energy Cathode for Potassium-Ion Batteries: Pinpointed by a Full -Screening of Inorganic Registry under a Specific Search condition  
**Su Cheol Han**, myoung-ho pyo\*  
*Department of Printed Electronics Engineering, Suncheon National University, Korea*
- Synthesis of Mixed Metal Quaternary Spinel Type Compounds and Their Physical Properties  
**Younbong Park**  
*Department of Chemistry, Chungnam National University, Korea*
- Correlation between structure and luminescence property of copper halide complexes  
**JuHyun Kim**, Jaegyom Kim, Ha Eun Lee, doehee park, Woojin Yoon, Seung-Joo Kim<sup>1</sup>, Hoseop Yun<sup>2</sup>  
*Department of Energy Systems Research, Ajou University, Korea*
- Na<sub>2</sub>CrO<sub>2</sub> as promising intercalation host for potassium ion batteries  
**ANTHONISAMY NIRMALESH NAVEEN**, myoung-ho pyo\*  
*Department of Printed Electronics Engineering, Suncheon National University, Korea*
- Engineering Reaction Kinetics by Tailoring the Metal Tips of Metal-Semiconductor Nanodumbbells  
**JiYong Choi**, Hyunjoon Song<sup>1</sup>  
*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*
- Production of Iron Oxides via Selective Extraction from a Mixed Chloride Solution  
**Hee Jung Yang**, Kyu Hyung Lee, kyungtae kim, Hee Sun Park<sup>1</sup>, Huh seok, Eung-ryeol Kim, NAM HWI HUR<sup>1</sup>  
*Department of Chemistry, Sogang University, Korea*  
<sup>1</sup>Chemistry, Sogang University, Korea
- Silica Coated Au-Ni-Au Nanorods for Drug Releasing System by External Magnetic Field  
**Min Kwak**, Insub Jung<sup>1</sup>, Seongkeun Ih, Sungho Park<sup>2</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*  
<sup>1</sup>Department of Energy Science, Sungkyunkwan University, Korea
- Synthesis of Trimetallic Au@PdPt Tip-Hollow Octahedron through Nanoscale Kirkendall Effect and Their Catalytic Properties  
**Jihye Won**, Sungho Park<sup>1</sup>, Hajir Hilal Khaleel Al Hammad  
*Department of Chemistry, Sungkyunkwan University, Korea*
- Synthesis of Tip-blobbed Au Nanoframe Structures and Their Photothermal performance  
**Sungjae Yoo**, Sungho Park<sup>1</sup>  
*Department of Chemistry, Sungkyunkwan University, Korea*
- Octahedral Rhenium Sulfite Clusters as New Materials for Solar Cell  
**THI GIANG LY**, Sung-Jin Kim<sup>1,2</sup>  
*Chemistry & Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>Department of Chemistry, Ewha Womans University, Korea
- Synthesis and controlled release properties of Zn-Al layered double hydroxide hybrid composite  
**Huy B.T.**, YONG-ILL LEE<sup>1</sup>  
*Department of Chemistry, Changwon National University, Korea*
- Amphiphilic Alginate Functionalized Upconversion Nanoparticles for
- MAT.P-424** Highly Efficient pH-Responsive Drug Delivery  
**Salah Mahmoud Tawfik Ahmed**, SHARIPOV MIRKOMIL, Huy B.T., Zayakhuu Gerelkhuu, YONG-ILL LEE<sup>1</sup>  
*Department of Chemistry, Changwon National University, Korea*
- MAT.P-425** Design and Synthesis of TiO<sub>2</sub> nano particles involving acetyl acetone derivatives for Electron Transfer Layer of Solar Cell  
**Habin Sim**, Hyerim Oh<sup>1</sup>, Wonsuk Kim<sup>2\*</sup>  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>Ewha Womans University, Korea  
<sup>2</sup>Chemistry Department of Nano-Science, Ewha Womans University, Korea
- MAT.P-426** Variation of Titania Crystalline Structure During Sol-Gel Synthesis of Ordered Mesoporous Silica and Organosilica  
**eunji choi**, Eun-Bum Cho<sup>1</sup>  
*Department of Fine Chemistry, Seoul National University of Science & Technology, Korea*
- MAT.P-427** Enhanced Photoelectrochemical Water Oxidation Efficiency of ZnO Photoanodes by Forming Heterojunctions  
**Jaeryeol Jeong**, Min Hyung Lee<sup>1</sup>  
*Department of Applied Chemistry, Kyung Hee University, Korea*
- MAT.P-428** Synthesis of novel mononuclear Ru(II) complexes and dinuclear Ru(II) complexes containing bridging ligand for DSSCs  
**Woojin Lee**, jin hyung seo, yong rack choi<sup>1</sup>, Jungae Tak<sup>2</sup>, BYEONG HYO KIM<sup>1</sup>  
*Department of Chemistry, Kwangwoon University, Korea*  
<sup>1</sup>ST Pharm, Korea  
<sup>2</sup>Department of Chemistry, Hanyang University, Korea
- MAT.P-429** Influence of process parameters for electroless Ni-P plating on carbon fiber heating elements  
**Bo-Kyung Choi**, Soo-Jin Park<sup>1</sup>, Min-Kang Seo<sup>1,2</sup>  
*Department of Chemistry, Inha University, Korea*  
<sup>1</sup>Extreme Materials Research Division, KCTECH, Korea
- MAT.P-430** Paper-based DMF chip with integrated heater and temperature sensor by all-in-one inkjet materials printing  
**YUNPYO KIM**, Haena Cheong, Oh-Sun Kwon<sup>1</sup>, Kwanwoo Shin<sup>1</sup>  
*Department of Chemistry, Sogang University, Korea*
- MAT.P-431** Evaluation of [18F]-Ganestepib as PET Imaging Agent Targeting HSP90 for Triple Negative Breast Cancer  
**Julie Kang**, JEONG HOON PARK<sup>1</sup>, Dong-Jo Chang<sup>1</sup>  
*Department of Pharmacy, Suncheon National University, Korea*  
<sup>1</sup>Korea Atomic Energy Research Institute, Korea
- MAT.P-432** Graphitic carbon nitride as efficient metal-free photocatalysts for hydrogen evolution reaction and their dependences on grain size, porosity, chemical structure, and photophysical properties  
**Dong-Gyu Lim**, Junghoon Oh<sup>1</sup>, seonghui park, Sungjin Park<sup>1,2</sup>  
*Department of Chemistry and Chemical Engineering, Inha University, Korea*  
<sup>1</sup>Department of Chemistry, Inha University, Korea
- MAT.P-433** Neurite Outgrowth of Hippocampal Neurons on Patterned Silica Bead Arrays  
 Yi-Seul Park, **Gyuri Kim**, JIN SEOK LEE<sup>1</sup>  
*Department of Chemistry, Sookmyung Women's University, Korea*
- MAT.P-434** Layer Controlled MOCVD Growth of WS<sub>2</sub> films by Sulfurization of W film  
**Yoobeen Lee**, Jinwon Jung<sup>1</sup>, Myong Mo Sung<sup>1</sup>, JIN SEOK LEE<sup>1</sup>  
*Department of Chemistry, Sookmyung Women's University, Korea*  
<sup>1</sup>Department of Chemistry, Hanyang University, Korea
- MAT.P-435**
- MAT.P-436**

Novel Activated Carbon Surface Treatment for Improving CO <sub>2</sub> Adsorption Performance <b>Jae young Lee</b> , Jae Young BAE* <i>Department of Chemistry, Keimyung University, Korea</i>	<b>MAT.P-447</b> Small Molecule based Hole Transport Layer in Colloidal Quantum Dot Solar Cells <b>Havid Aqoma</b> , Muhibullah Al Mubarak, Wisnu Tantyo Hadmojo, Sung-Yeon Jang* <i>Chemistry, Kookmin University, Korea</i>	<b>MAT.P-460</b>
Efficient Photocatalytic Activity of Cu and Ag Co-doped TiO <sub>2</sub> Hollow Sphere Composites for Methylene Blue under Visible Light Irradiation <b>Jang suguan</b> , Jae Young BAE* <i>Department of Chemistry, Keimyung University, Korea</i>	<b>MAT.P-448</b> High Efficiency and Fullerene-Free Organic Solar Cells based on Wide Bandgap Polymer Donor and Narrow Bandgap Acceptor <b>Wisnu Tantyo Hadmojo</b> , Febrian Wibowo <sup>1</sup> , SEPTY SINAGA <sup>2</sup> , In Hwan Jung <sup>3</sup> , Sung-Yeon Jang <sup>3*</sup> <i>Chemistry, Kookmin University, Korea</i> <sup>1</sup> <i>Kookmin University, Korea</i> <sup>2</sup> <i>Department of Chemistry, Kookmin University, Korea</i> <sup>3</sup> <i>Department of Bionano Chemistry, Kookmin University, Korea</i>	<b>MAT.P-461</b>
Curvature-Dependent Surface Potentials of Zincene Films Grown by Molecular Layer Deposition <b>Ui-Jin Choi</b> , Hyemi Lee, JIN SEOK LEE* <i>Department of Chemistry, Sookmyung Women's University, Korea</i>	<b>MAT.P-449</b> Zinc oxide-copper(I) oxide colloidal nanoparticles as high performance photocatalyst for carbon dioxide conversion into methane <b>Chan Kyu Lim</b> , Hyunjoon Song <sup>1*</sup> <i>Chemistry, Korea Advanced Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea</i>	<b>MAT.P-462</b>
Photo-switching Behavior of Azobenzene-Containing Polyamide Films Grown by Molecular Layer Deposition ujjin choi, <b>Hyemi Lee</b> , JIN SEOK LEE* <i>Department of Chemistry, Sookmyung Women's University, Korea</i>	<b>MAT.P-450</b> Molybdenum Oxysulfide Electrocatalyst Prepared by Chemical Bath Deposition for Hydrogen Evolution Reaction <b>Seokhee Shin</b> , ZHENYU JIN, Sunyoung Lee, Yo-Sep Min* <i>Department of Chemical Engineering, Konkuk University, Korea</i>	<b>MAT.P-463</b>
Highly Emissive Octahedral Molybdenum Metal Cluster-Polymer Hybrid and Application on Large Window <b>DIEU NGUYEN</b> , SUNGJIN KIM <sup>1*</sup> <i>Department of Chemistry and Nano Science, Ewha Womans University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Mokpo National University, Korea</i>	<b>MAT.P-451</b> Investigation of Band Structure on Amorphous Zinc Tin Oxide Thin Films grown by Atomic Layer Deposition <b>Sunyoung Lee</b> , ZHENYU JIN, Seokhee Shin, Yo-Sep Min* <i>Department of Chemical Engineering, Konkuk University, Korea</i>	<b>MAT.P-464</b>
Pt Adsorbed Metal-Organic Framework and Its Conversion to Pt Doped Co@Carbon Composites <b>Euisoo Kim</b> , Minyoung Yoon* <i>Department of Nanochemistry, Gachon University Global Campus, Korea</i>	<b>MAT.P-452</b> Co-catalytic Effects of CoS <sub>2</sub> on the Activity of the MoS <sub>2</sub> Catalyst for Electrochemical Hydrogen Evolution <b>ZHENYU JIN</b> , Seokhee Shin, Sunyoung Lee, Yo-Sep Min* <i>Department of Chemical Engineering, Konkuk University, Korea</i>	<b>MAT.P-465</b>
Up/Down-conversion luminescence properties of GdNbO <sub>4</sub> :Yb <sup>3+</sup> , Er <sup>3+</sup> phosphor materials by various Er <sup>3+</sup> ions concentrations <b>Jong Won Chung</b> , Zayakhuu Gerelkhuu, Da Som Jung, YONG-ILL LEE* <i>Department of Chemistry, Changwon National University, Korea</i>	<b>MAT.P-453</b> Simple digital microfluidic $\mu$ -dispenser on inkjet-printed, paper-based device <b>Haena Cheong</b> , YUNPYO KIM, Oh-Sun Kwon*, Kwanwoo Shin* <i>Department of Chemistry, Sogang University, Korea</i>	<b>MAT.P-466</b>
Study on Li <sup>+</sup> conductivity and phase stability of doped Li <sub>2</sub> (OH) <sub>0.9</sub> XO <sub>0.1</sub> Cl (X=F, Br) electrolyte for lithium metal anode in lithium metal batteries <b>YongSeok Lee</b> , Kwang Sun Ryu* <i>Department of Chemistry, University of Ulsan, Korea</i>	<b>MAT.P-454</b> The phase transition behavior of W-VO <sub>2</sub> near the metal-insulator transition point: a comparison of hydrothermally prepared granular powder cluster and thermally deposited film <b>Myeongsoon Lee</b> , Don Kim* <i>Department of Chemistry, Pukyong National University, Korea</i>	<b>MAT.P-467</b>
Effect of Complexing Agent and Reaction Temperature on the One-Step Electrochemical Deposition of CuInSe <sub>2</sub> Thin Films <b>Ji-Hyun Cha</b> , Seonho Jung, HyunJong Lee, Duk-Young Jung* <i>Department of Chemistry, Sungkyunkwan University, Korea</i>	<b>MAT.P-455</b> Fabrication of graphitized carbon nanotubes decorated with gold&platinum nanoparticles by conversion of sucrose using AAO template <b>Myeongsoon Lee</b> , Don Kim* <i>Department of Chemistry, Pukyong National University, Korea</i>	<b>MAT.P-468</b>
Cytochrome C conjugated DNA-gold nanoparticles for pH-responsive aggregation and its applications for photothermal therapy of cancer cells <b>SeongMin Park</b> , Nokyoung Park* <i>Department of Chemistry, Myungji University, Korea</i>	<b>MAT.P-456</b> Enhanced Photovoltaic Performance of Perovskite Solar Cells Using Self-Assembled Molecules as Interfacial Layers <b>Randi AZMI</b> , Wisnu Tantyo Hadmojo <sup>1</sup> , In Hwan Jung <sup>2*</sup> , Sung-Yeon Jang <sup>3*</sup> <i>Department of Chemistry, Kookmin University, Korea</i> <sup>1</sup> <i>Chemistry, Kookmin University, Korea</i> <sup>2</sup> <i>Department of Applied Chemistry, Kookmin University, Korea</i> <sup>3</sup> <i>Department of Bionano Chemistry, Kookmin University, Korea</i>	<b>MAT.P-469</b>
Nanoscale DNA hydrogel as a template for optical properties of AuNP <b>Taeyoung Kim</b> , Nokyoung Park <sup>1*</sup> <i>Department of chemistry, Myungji University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Myungji University, Korea</i>	<b>MAT.P-457</b> Complete Green Synthesis of Silver Nanoparticles using Glycerol and Synthetic Mechanism <b>JiSu Jeong</b> , Jong Kuk Lim <sup>1*</sup> <i>Chosun University, Korea</i>	<b>MAT.P-470</b>
Improved Electrochemical Performance of Carbon-Coated ZnO Microspheres as an Anode Material for Lithium-Ion Batteries <b>Hanah Kim</b> , Jongsik Kim* <i>Department of Chemistry, Dong-A University, Korea</i>		
Ionic Conductivity of Polymer Electrolyte Dependent on the Morphology of Fillers and Development of Flexible Electrochemical Gas Sensor <b>JAE SEOK KIM</b> , Jong Kuk Lim <sup>1*</sup> <i>Chemistry, Chosun University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Chosun University, Korea</i>		



## Scientific Program

- <sup>1</sup>Department of Chemistry, Chosun University, Korea
- A comparative study of W, Nb and Mo-doped VO<sub>2</sub>(M) nanoparticles prepared by the hydrothermal and post thermal transformation method  
**Jongmin KIM**, Yeong Il Kim\*, YOUNG HEE JUNG<sup>1</sup>, Hyun-Kwan Shim  
 Department of Chemistry, Pukyong National University, Korea  
<sup>1</sup>Technology Laboratory, MAPRO CO.,LTD., Korea
- Hierarchical hydrophobic sponge for oil removal and catalytic degradation of toxic organics  
 Yejin Jin, **Hyokyung Jeon**<sup>1</sup>, hyemin yang<sup>2</sup>, JiSun Kim, Ha-Jin Lee<sup>1,\*</sup>  
 Department of Chemistry and Nano Science, Ewha Womans University, Korea  
<sup>1</sup>Western Seoul Center, Korea Basic Science Institute, Korea  
<sup>2</sup>Seoul Women's University, Korea
- [Withdrawal] Charge Transfer Mechanism of Cs<sub>2</sub>SnI<sub>6</sub>-based Photoconversion Devices  
**Byungman Kim**, HyoenOh Shin<sup>1</sup>, Taehyung Jang<sup>2</sup>, YOONSOO PANG<sup>3,\*</sup>, Tae-Hyuk Kwon<sup>1,\*</sup>  
 Department of Chemical Engineering, Ulsan National Institute of Science and Technology, Korea  
<sup>1</sup>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea  
<sup>2</sup>Department of Chemistry, Gwangju Institute of Science and Technology, Korea  
<sup>3</sup>Division of Physical Chemistry, Gwangju Institute of Science and Technology, Korea
- Recycled fabrics coated with carbon nanoparticle for highly efficient oil/water separation  
**JiSun Kim**, Hyokyung Jeon<sup>1</sup>, YOOBIN PARK<sup>2</sup>, Ha-Jin Lee<sup>1,\*</sup>  
 Department of Chemistry and Nano Science, Ewha Womans University, Korea  
<sup>1</sup>Western Seoul Center, Korea Basic Science Institute, Korea  
<sup>2</sup>Seoul Women's University, Korea
- Fabrication of ZnO-ZnS@polyaniline nanohybrid on FTO glass for enhanced Hydrogen generation  
 Bee Lyong Yang\*, **Hyun Kim**  
 Department of Advanced Materials Engineering, Kumoh National Institute of Technology, Korea
- Band alignment offsets of PANI/ZnS/ZnO Heterojunctions  
 Bee Lyong Yang\*, **Hyun Kim**  
 Department of Advanced Materials Engineering, Kumoh National Institute of Technology, Korea
- Photocatalytic reduction of carbon dioxide to methanol using Ag-loaded NiO/BaTiO<sub>3</sub>/FTO  
 Bee Lyong Yang\*, **Hyun Kim**  
 Department of Advanced Materials Engineering, Kumoh National Institute of Technology, Korea
- Tracking self assembly of nanoparticles using liquid phase electron microscopy  
**Byung Hyo Kim**, Jungwon Park<sup>1,\*</sup>  
 Center for Nanoparticle Research, Institute for Basic Science, Korea  
<sup>1</sup>Seoul National University, Korea
- Relationship Between Particle Size Distribution/Particle Shape and Optical Properties of Gold Nanoparticles  
**MISUN PARK**  
 Headquarters for Administration, Dong-Il SHIMADZU Corp., Korea
- Strain sensor with organic single crystal nanowires by direct printing  
**YOONKYOUNG PARK**, Myong Mo Sung\*  
 Department of Chemistry, Hanyang University, Korea
- MAT.P-471** A non-destructive n-doping method for graphene with precise control of electric properties via atomic layer deposition  
**Jinwon Jung**, Myong Mo Sung\*  
 Department of Chemistry, Hanyang University, Korea
- MAT.P-482** Ultrahigh barrier performance of Organic-inorganic nanolaminated thin films  
**Jin Seon Park**, Jongchan Kim<sup>1</sup>, Myong Mo Sung\*  
 Department of Chemistry, Hanyang University, Korea  
<sup>1</sup>Hanyang University, Korea
- MAT.P-483** Highly sensitive ammonia gas sensor based on single-crystal Poly(3-hexyl thiophene) (P3HT) organic field effect transistor  
**Seohyun Mun**, Myong Mo Sung\*  
 Department of Chemistry, Hanyang University, Korea
- MAT.P-473** High conductive ZnO thin film deposition for Atomic Layer Deposition in situ UV illumination  
**Hongro Yoon**, Jihee Hwang<sup>1</sup>, Myong Mo Sung\*  
 Department of Chemistry, Hanyang University, Korea  
<sup>1</sup>Department of chemistry, Hanyang University, Korea
- MAT.P-485** Synthesis, cytotoxicity, and photochemical properties of rhodamine based fluorescent probes  
**Harini sampath kumar**, Chang-Shik Choi<sup>1</sup>, Seong-Karp Hong<sup>2</sup>, Ki-Hwan Lee<sup>3,\*</sup>  
 Department of Chemistry, kongju National university, Korea  
<sup>1</sup>Department of Oriental Medicine Fermentation, Far East University, Korea  
<sup>2</sup>Department of Biomedical Engineering, Mokwon University, Korea  
<sup>3</sup>Department of Chemistry, Kongju National University, Korea
- MAT.P-474** Development of Novel Metal Composite Catalysts for Dehydrogenation of Formic Acid  
**Hyunmi Doh**, Subin Choi<sup>1</sup>, Chang Won Yoon<sup>1\*</sup>  
 Fuel Cell Research Center, Korea Institute of Science and Technology, Korea  
<sup>1</sup>KHU-KIST Department of Converging Science and Tech, Kyung Hee University, Korea
- MAT.P-475** Facile synthesis of Nanoporous Gold Nano-Shell structure using plasma treatment  
**Da Hoon Lee**, Doocho Kang, Joon Heon Kim\*  
 Gwangju Institute of Science and Technology, Korea
- MAT.P-487** PdNi Metal Alloy Nanoparticles as Efficient catalyst for Formic Acid Dehydrogenation  
**Subin Choi**, Hyunmi Doh<sup>1</sup>, Chang Won Yoon<sup>1\*</sup>  
 KHU-KIST Department of Converging Science and Tech, Kyung Hee University, Korea  
<sup>1</sup>Fuel Cell Research Center, Korea Institute of Science and Technology, Korea
- MAT.P-476** Aligned perovskite crystal arrays and its optoelectronic applications  
**Lynn Lee**, Myong Mo Sung\*  
 Department of Chemistry, Hanyang University, Korea
- MAT.P-488** Surface Design of Separators for Oil/Water Separation with High Separation Capacity and Mechanical Stability  
**NARA HAN**, WON SAN CHOI\*  
 Department of Chemical & Biological Engineering, Hanbat National University, Korea
- MAT.P-479** Magnetic Amphiprotic Catalysts and Separators Coping with Environmental Issues  
**ByungKwon Kang**, WON SAN CHOI<sup>1,\*</sup>  
 Department of Applied Chemistry, Hanbat National University, Korea
- MAT.P-480**

<sup>1</sup>Department of Chemical & Biological Engineering, Hanbat National University, Korea

Self-floating and Submerging Sponge Adsorbents for Environmental remediation

**Yoseph Lee**, WON SAN CHOI<sup>1,\*</sup>

Chemical biological engineering, Hanbat National University, Korea

<sup>1</sup>Department of Chemical & Biological Engineering, Hanbat National University, Korea

Al<sub>2</sub>O<sub>3</sub> Thin Film Preparation by UV light enhanced Atomic Layer Deposition

**Gyusang Yi**, Myong Mo Sung<sup>1,\*</sup>

Department of chemistry, Hanyang University, Korea

<sup>1</sup>Department of Chemistry, Hanyang University, Korea

Interface engineering for high-performance organic-inorganic hybrid Sb<sub>2</sub>S<sub>3</sub> solar cell by atomic layer infiltration

**YEONGEUN BAK**, Myong Mo Sung<sup>\*</sup>

Department of Chemistry, Hanyang University, Korea

Facile synthesis of Se/graphene nanocomposites for energy storage application

**Woo Junhyeok**, Seung-Min Paek<sup>\*</sup>

Department of Chemistry, Kyungpook National University, Korea

Morphological and Structural Features of Foldedures by the Self-Assembly of Racemic Foldamers

**Jae-Hoon Eom**, Jintaek Gong<sup>1</sup>, Hee-Seung Lee<sup>\*</sup>

Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

<sup>1</sup>Natural Science Research Institute, Korea Advanced Institute of Science and Technology, Korea

UV enhancement of electrical and optical properties from Al-doped ZnO films prepared by atomic layer deposition at low temperature

**Jihong Bang**, Myong Mo Sung<sup>\*</sup>

Department of Chemistry, Hanyang University, Korea

Wafer scale well-connected CVD-grown graphene grains by using selective atomic layer deposition of ZnO

**Nguyen Van Long**, Myong Mo Sung<sup>1,\*</sup>

Chemistry, Hanyang University, Korea

<sup>1</sup>Department of Chemistry, Hanyang University, Korea

Metastable C<sub>20</sub> Cage Structures

**Kee Hag. Lee**<sup>\*</sup>, Yong Jae Cho, Kayoung Kook, Minjeong Jang

Department of BioNano Chemistry, Nanoscale Science and Technology Institute, Wonkwang University, Korea

Formation of highly transparent reduced graphene oxide films by Langmuir-blodgett technique

**jongdeok Park**, Jae-Joon Lee<sup>\*</sup>, Sang Jung Ahn<sup>1,\*</sup>

Department of Energy and Materials Engineering, Dongguk University, Korea

<sup>1</sup>Center for Advanced Instrumentation, Korea Research Institute of Standards and Science, Korea

Fabrication and Characterization of New Organic-Inorganic Hybrid Thin Films

**Huong Chu**, Myong Mo Sung<sup>1,\*</sup>

Department of chemistry, Hanyang University, Vietnam

<sup>1</sup>Department of Chemistry, Hanyang University, Korea

Correlation of lattice strain with HER catalytic activity of Ni<sub>2</sub>P nanowires

**Jun Dong Kim**, jeunghee park<sup>1,\*</sup>

Department of Advanced Materials Chemistry, Korea University, Korea

<sup>1</sup>Department of Materials Chemistry, Korea University, Korea

Redox flow battery

MAT.P-503

**Yunseok Ko**, jeunghee park<sup>1,\*</sup>

Korea University Sejong Campus, Korea

<sup>1</sup>Department of Materials Chemistry, Korea University, Korea

MAT.P-492

## 50. Electrochemistry October 20 (FRI) , Exhibition Hall 2+3

### <Electrochemistry Poster Presentation>

Sonochemical Preparation and characterization of Amorphous earth-abundant metal oxide Nanoparticles as Electrocatalysts for Oxygen Evolution Reaction

ELEC.P-449

**Ah-Hyeon Park**, Hyun-Uk Park, jong un jung, Young-Uk Kwon<sup>\*</sup>

Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-494

One-pot Synthesis of PdFePt Ternary Electrocatalyst with Synergetic Effect and Their Electrocatalytic Properties for Oxygen Reduction Reaction

ELEC.P-450

**Hyun-Uk Park**, Wenjuan Shi, Ah-Hyeon Park, Jongun Jung, Young-Uk Kwon<sup>\*</sup>

Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-495

Facile sonochemical synthesis of PdCu alloy as highly active electrocatalysts for methanol oxidation reaction

ELEC.P-451

**WEN JUAN SHI**, Hyun-Uk Park, Ah-Hyeon Park, Jongun Jung, Young-Uk Kwon<sup>\*</sup>

Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-496

Advanced separator of high performance to maximize the effect of the soluble catalyst for Li-O<sub>2</sub> batteries

ELEC.P-452

**seonhwa lee**

Department of Energy Engineering, Hanyang University, Korea

MAT.P-497

Pouch Type Cells for Large-Scale Li-air batteries

ELEC.P-453

**WONJIN KWAK**

Department of Energy Engineering, Hanyang University, Korea

MAT.P-498

Methanol Dehydrogenation at Au@Pt catalysts for Methanol oxidation

ELEC.P-454

**Hwakyeung Jeong**, Jongwon Kim<sup>\*</sup>

Department of Chemistry, Chungbuk Natioanl University, Korea

MAT.P-499

Cascading Alignment of Multilayered SnO<sub>2</sub>/WO<sub>3</sub>/BiVO<sub>4</sub> Inverse Opal Skeletons in Photoelectrochemical Water Splitting

ELEC.P-455

**Gun Yun**, Soon Hyung Kang<sup>1,\*</sup>

Department of Advanced Chemicals & Engineering, Chonnam National University, Korea

<sup>1</sup>Department of Chemical Education, Chonnam National University, Korea

MAT.P-500

The GOs supported Pt nanoparticles with high activity and stability for hydrazine electro-oxidation in a strong acidic solution

ELEC.P-456

**Jidang Kim**, Hyun Chul Choi<sup>\*</sup>

Department of Chemistry, Chonnam National University, Korea

MAT.P-501

Chitosan-based polymeric binder for highly-stable silicon anode in Lithium ion battery

ELEC.P-457

**Sang Ha Lee**, Jeonghun Lee, Seon Kyu Yun, Mi suk Cho, Youngkwan Lee<sup>\*</sup>

School of Chemical Engineering, Sungkyunkwan University, Korea

MAT.P-502

The High-Performance Silver Plasmonic Nano Structure Coupled with BiVO<sub>4</sub> Inverse Opal Photoelectrode to Improve the Water Oxidation

ELEC.P-458

**Maheswari balamurugan**, Soon Hyung Kang<sup>1,\*</sup>

Department of Chemistry, Chonnam National University, Korea

<sup>1</sup>Department of Chemical Education, Chonnam National University, Korea

## Scientific Program

- Electrochemical detection of amyloid- $\beta$  oligomers based on the signal application of nanostructured polypyrrole  
**JIELING QIN**, Mi suk Cho, Youngkwan Lee\*  
*School of Chemical Engineering, Sungkyunkwan University, Korea*
- Size and shape-dependent catalytic performance of gold nanostructures  
**Hyunjun An**, JUN HO SHIM\*  
*Department of Chemistry, Daegu University, Korea*
- Facile synthesis of carbon-supported porous manganese-iron nanocomposites as bifunctional electrocatalysts  
**Nhan Duy Pham**, JUN HO SHIM\*  
*Department of Chemistry, Daegu University, Korea*
- Sulfur-doped graphene via electrochemical exfoliation of graphite and its electrochemical application  
**Jinheui Lee**, JUN HO SHIM\*  
*Department of Chemistry, Daegu University, Korea*
- Electrochemically synthesized all-carbon hybrid nanocomposites: Synthesis, characterization and their applications  
**Anh.T.N Nguyen**, JUN HO SHIM\*  
*Department of Chemistry, Daegu University, Korea*
- Development of Ru-Pd chain nanowires for bifunctional oxygen electrocatalysis in alkaline solution  
**Sunguk Noh**, JUN HO SHIM\*  
*Department of Chemistry, Daegu University, Korea*
- Shape-dependent electrocatalytic behavior of Pd nanoparticles for the cathodic reduction of oxygen  
**Anh.T.N Nguyen**, Nayun Jung, JUN HO SHIM\*  
*Department of Chemistry, Daegu University, Korea*
- Non-ideal behaviors of peroxyorganic acid to enhance oxidizing power  
**Jae Ku Jung**, gyooyoon chae<sup>1</sup>, hye ji kim<sup>1</sup>, jeong dong kim<sup>1</sup>, Won-Seok CHAE<sup>1,2</sup>\*  
*Department of Research & Development, Scientific Agriculture Co.,Ltd., Korea*  
<sup>1</sup>Division of Life Science and Chemistry, Daejin University, Korea
- The Investigation of CV in Naphthalene Derivatives as High Energy Density Anolyte: Application for Redox Flow Battery  
**heung seop Lee**, Chujin Ahn\*  
*Department of Chemistry, Changwon National University, Korea*
- Cobalt silicide nanowires based high-performance microsupercapacitors  
**Hana Yoon**<sup>1</sup>, Bongsoo Kim<sup>1,2</sup>\*  
*Separation and Conversion Materials Research, Korea Institute of Energy Research, Korea*  
<sup>1</sup>Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- Surface functionalized porous carbon electrodes for enhanced electrochemical capacitor performance  
**Hana Yoon**<sup>1</sup>, Woo Kyung Cho<sup>1,2</sup>\*  
*Separation and Conversion Materials Research, Korea Institute of Energy Research, Korea*  
<sup>1</sup>Department of Chemistry, Chungnam National University, Korea
- For improving electrocatalytic activity of refluxed graphene oxide(Re-G-O) Co(acac)<sub>2</sub> anchored on the Re-G-O for oxygen reduction reaction  
**Yunseok Shin**, Sungjin Park\*  
*Department of Chemistry, Inha University, Korea*
- Preparation and Electrochemical Investigation of TEMPOL Derivatives : Apply to Redox Flow Battery  
**Hyunil Cho**, Chujin Ahn\*
- Department of Chemistry, Changwon National University, Korea*
- ELEC.P-459** Enhanced Electrochemical Stability of Electrolyte and Corrosion Suppression on GO Coated Current Collectors in Grignard Reagent-Based Electrolytes (APC) for Magnesium Ion Battery  
**Prabakar Richard**, myoungcho pyo\*  
*Department of Printed Electronics Engineering, Suncheon National University, Korea*
- ELEC.P-460** Real wastewater treatment for hydrogen production with microbial electrolysis cells  
**JunHyun Kim**, Yongwon Jeon, Sunghyun KIM\*  
*Department of Bioscience and Biotechnology, Konkuk University, Korea*
- ELEC.P-461** Detection of Single Water/Oil Nanoemulsion Droplet using Electrochemical Collisions on an Ultramicroelectrode  
**Nhung Hoang**, Thy Ho, Jun Hui Park<sup>1,2</sup>, Byung-Kwon Kim\*  
*Department of Chemistry, Sookmyung Women's University, Korea*  
<sup>1</sup>Department of Chemical Education, Chonbuk National University, Korea
- ELEC.P-462** Detection and Counting of Red Blood Cells by Electrochemical Collision Method  
**Thy Ho**, Byung-Kwon Kim\*  
*Department of Chemistry, Sookmyung Women's University, Korea*
- ELEC.P-463** The Electrochemical Measurement of Low Concentrations of Mercury in Aqueous Solution Using Emulsion Droplet Extractor  
**Eui Joo Lee**, Byung-Kwon Kim\*  
*Department of Chemistry, Sookmyung Women's University, Korea*
- ELEC.P-464** Domestic wastewater treatment with a photo-assisted microbial electrolysis cell  
**Yongwon Jeon**, JunHyun Kim, Sunghyun KIM\*  
*Department of Bioscience and Biotechnology, Konkuk University, Korea*
- ELEC.P-465** Magnesium aluminate triflate complex (MATC) as a new electrolyte system with wide electrochemical window for magnesium ion batteries  
**Amol Bhairuba Ikhe**, myoungcho pyo\*  
*Department of Printed Electronics Engineering, Suncheon National University, India*
- ELEC.P-466** Enhanced Electrochemical Reduction of CO<sub>2</sub> to CO via Gold-Based Clusters  
**Hoeun Seong**, Yongjin Lee<sup>1</sup>, Dongil Lee<sup>1,2</sup>\*  
*Chemistry, Yonsei University, Korea*  
<sup>1</sup>Department of Chemistry, Yonsei University, Korea
- ELEC.P-467** Temperature Dependent Crystal Structure of MoO<sub>3</sub> for Lithium-Ion Batteries  
**Eunji Jung**, Yong-Guen Son\*  
*Department of Chemistry, Sungkyunkwan University, Korea*
- ELEC.P-468** Estimation of Catalytic Activity of Gold Nanoparticles toward CO<sub>2</sub> Reduction Using Scanning Electrochemical Microscopy  
**YEOMIN KIM**, ara jo, Youngmi Lee\*, Chongmok Lee\*  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*
- ELEC.P-469** Electrochemical Oxygen Evolution Reaction on Electrospun Iridium-Cobalt Mixed Oxide Nanotubes  
**AREUM YU**, Chongmok Lee, Myung Hwa Kim<sup>1</sup>, Youngmi Lee\*  
*Department of Chemistry and Nano Science, Ewha Womans University, Korea*  
<sup>1</sup>Chemistry Department of Nano-Science, Ewha Womans University, Korea
- ELEC.P-470**
- ELEC.P-471**
- ELEC.P-472**
- ELEC.P-473**
- ELEC.P-474**
- ELEC.P-475**
- ELEC.P-476**
- ELEC.P-477**
- ELEC.P-478**
- ELEC.P-479**
- ELEC.P-480**
- ELEC.P-481**
- ELEC.P-482**

Sonochemical Synthesis of ZnO-ZnS Composite for Enhanced Photoelectrochemical Water Oxidation

**Ahyeon Ma**, Kyunghee oh, KI MIN NAM\*  
Department of Chemistry, Mokpo National University, Korea

Electrodeposition of Cobalt Selenide Thin Films: A Combined Voltammetry/Electrochemical Quartz Crystal Microgravimetry Study

**Hyung-woo Jee**, YunHyeok Jang<sup>1</sup>, KONGSHIK RHO<sup>1</sup>, Ki Jung paeng, Noseung Myung<sup>1\*</sup>  
Department of Chemistry, Yonsei University, Korea  
<sup>1</sup>Department of Applied Chemistry, Konkuk University, Korea

Facile Synthesis of Bi<sub>2</sub>S<sub>3</sub> Nanostructure for Enhanced Photoelectrochemical Water Oxidation

**jonghyeok seo**, SUNGJIN KIM, KI MIN NAM\*  
Department of Chemistry, Mokpo National University, Korea

Sensitive chemiresistive H<sub>2</sub>O<sub>2</sub> gas detection on the ppb level based on graphene decorated with Ag nanowires

**Oleksandr Tsymbalenko**, Yun Sik Nam<sup>1</sup>, Kang-Bong Lee<sup>2\*</sup>  
Korea Institute of Science and Technology, Korea  
<sup>1</sup>Advanced Analysis Center, Korea Institute of Science and Technology, Korea  
<sup>2</sup>Green City Technology Institute, Korea Institute of Science and Technology, Korea

Fabrication of enhanced Screen Printed Carbon Electrodes (SPCEs) modified by nanomaterial, and its preparation method

**Soo Yeon Jeon**, BoHee Lee, Won-Yong Jeon, Young Bong Choi, Hyug-Han Kim\*  
Department of Chemistry, Dankook University, Korea

High Electrocatalytic Performance of Molecularly coordinated Co-based Active species on Carbon nanotubes for the Oxygen reduction reaction

**DAWOON JANG**, Gilsoo Park, Sungjin Park\*  
Department of Chemistry, Inha University, Korea

Synthesis of NiO-Embedded Carbon Sheet Using Salts and Polymer Reactions as an Anode Material for Lithium-Ion Batteries

**woojin jae**, Jongsik Kim\*  
Department of Chemistry, Dong-A University, Korea

Enhanced Electrochemical Performances of the Li<sub>3</sub>VO<sub>4</sub> with Surface Nitrogen-Doped Carbon Coating Thin Layers for Lithium-Ion Batteries

**Hansol Park**, Jongsik Kim\*  
Department of Chemistry, Dong-A University, Korea

Determination of chromium(VI) using a gold-conducting polymer composite electrode

**Min Ouk Park**, Won-Chul Lee, Yoon Bo Shim\*  
Department of Chemistry, Pusan National University, Korea

Glucose sensor based on enzyme bonded- conducting polymer formed on metal alloy in hierarchical structure

**Won-Chul Lee**, Kyeongdeok Seo, Yoon Bo Shim\*  
Department of Chemistry, Pusan National University, Korea

Synthesis, electrochemical, and spectroelectrochemical properties of poly(3-((2,2':5',2''-terthiophen)-3'-yl)-5-aminobenzoic acid)

**Kyeongdeok Seo**, Won-Chul Lee, Yoon Bo Shim\*  
Department of Chemistry, Pusan National University, Korea

Electrochemical Zinc Ion Intercalation and Structural Properties of Chevrel Phase and Rhombohedral Zinc Hexacyanoferrate for Post Li-Ion battery

**Munseok Chae**, Seung-Tae Hong\*  
Energy Systems Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea

**ELEC.P-483** Separation analysis of neurotransmitters using a AC field applied-microfluidic channel with an amperometric sensor  
**mohammad mozammel hassain**, Yoon Bo Shim\*  
Department of Chemistry, Pusan National University, Korea

**ELEC.P-484** Electropolymerization of thiophene-based monomers and electrochemical properties of synthesized conducting polymers  
**Kyoungsik Choi**, Yang-Rae Kim\*  
Department of Chemistry, Kwangwoon University, Korea

Continuous glucose monitoring sensors modified by nitric oxide-releasing nanofiber for improving biocompatibility: Lifetime in freely-moving rat model with a wireless system  
**ELEC.P-485**

**Min Heo**, Yeong Rim Kim, Hee June Jeong, Doyeon Lee<sup>1</sup>, Gi-Ja Lee<sup>1</sup>, Jae Ho Shin<sup>2\*</sup>  
Medical Sensor-Biomaterial Research Institute, Kwangwoon University, Korea

**ELEC.P-486**  
<sup>1</sup>Department of Biomedical Engineering, Kyung Hee University, Korea  
<sup>2</sup>Medical Sensor-Biomaterial Research Institute/ Department of Chemistry, Kwangwoon University, Korea

A Chemically Modified Electrode with Polyaniline Derivatives: Experimental and Theoretical Mechanism Studies

**Heesu Kim**, Rakwoo Chang, Jae Ho Shin\*  
Department of Chemistry, Kwangwoon University, Korea

**ELEC.P-487** Electrochemical immunosensors using fragmented antibody (Fab') and electrochemically active nanoparticles for diagnosis of allergic rhinitis  
**Sanggyeong Shin**, Kihak Gwon, Jae Ho Shin\*  
Department of Chemistry, Kwangwoon University, Korea

One-step electrochemical co-reduction synthesis of electrochemically reduced graphene oxide (ERGO) and gold nanoparticles (AuNPs) nanohybrid composite for electrocatalytic detection of dopamine  
**ELEC.P-488**  
**Chang-Seuk Lee**, sujean Shim, Tae Hyun Kim\*  
Department of Chemistry, Soonchunhyang University, Korea

**ELEC.P-489**

**51. Chemistry Education**  
**October 20 (FRI) , Exhibition Hall 2+3**

**<Chemistry Education Poster Presentation>**

**ELEC.P-490** Suggestion of Explaining Method as Process Viewpoint in Conjunction with Buoyancy and Density  
**EDU.P-501**  
**Sung-ki Kim**, Seounghey Paik<sup>1\*</sup>  
Naju high school, Korea

**ELEC.P-491** Development of a program to change a viewpoint of acid-base reaction from matter to process  
**EDU.P-502**  
<sup>1</sup>Department of Chemical Education, Korea National University of Education, Korea

**ELEC.P-492** Effects of particle viewpoint research program on science teachers' conception of the atmosphere homogeneity  
**EDU.P-503**  
**Hee CHOI**, Seounghey Paik\*  
Department of Chemical Education, Korea National University of Education, Korea

**ELEC.P-493** Effects of particle viewpoint research program on science teachers' conception of the atmosphere homogeneity  
**EDU.P-504**  
**Seung gyun Yoo**, Seounghey Paik<sup>1\*</sup>  
Department of Chemistry Education, Korea National University of Education, Korea  
<sup>1</sup>Department of Chemical Education, Korea National University of Education, Korea

**ELEC.P-494** What did pre-service science teachers in engineering design projects learn?  
**EDU.P-504**  
**Hee Jin Noh**, Seounghey Paik\*

## Scientific Program

*Department of Chemical Education, Korea National University of Education, Korea*

Reinterpretation about the mental model of acid and base -Focusing on application of models according to Context-

**Chulyong Park**, Hee CHOI, Sung-ki Kim, Seounghey Paik<sup>1\*</sup>

*Korea National University of Education, Korea*

<sup>1</sup>*Department of Chemical Education, Korea National University of Education, Korea*

Supporting teaching practicum of pre-service chemistry teachers through social media

**HAK BUM KIM**, Jeongho Cha<sup>1\*</sup>

*Institute for Phylogenomics and Evolution, Kyungpook National University, Korea*

<sup>1</sup>*Division of Science Education, Daegu University, Korea*

Survey of Bangladeshi Science Lecturers' perception on Universal Design for Learning

**MD SHOHAG MAHFUZ**, Jeongho Cha<sup>\*</sup>

*Division of Science Education, Daegu University, Korea*

Analysis of Exhibits related to Chemistry in Busan National Science Museum

**Myung Nam Bae**

*Department of Chemistry, Pusan National University, Korea*

Verbal Behaviors and Interactions in Processes of Making Written Test Items by Paired Think Aloud Problem Solving for Pre-service Secondary Teachers

**hunsik kang**

*Seoul National University of Education, Korea*

Some Features of Planning Lessons Using Analogies by Pre-service Secondary Science Teachers

**Minhwan Kim**, Hyeree Kim, Taehee Noh<sup>\*</sup>

*Department of Chemistry Education, Seoul National University, Korea*

PKC Components and Their Integrations Considered in the Processes of Developing Constructive Performance Assessment by Pre-service Secondary Chemistry Teachers

**Jaewon Lee**, Kowoon You, Taehee Noh, Sukjin Kang<sup>1</sup>, Hunsik Kang<sup>2\*</sup>

*Chemistry Education, Seoul National University, Korea*

<sup>1</sup>*General Science Education, Jeonju National University of Education, Korea*

<sup>2</sup>*Elementary Gifted Education, Seoul National University of Education, Korea*

Comparative study of Korean Science Education Curriculum and the United States Next Generation Science Standards(NGSS) for high school chemistry and life science connectivity

Hyun chul Shin<sup>\*</sup>, **Jongwon Na**

*Department of Chemistry Education, Korea National University of Education, Korea*

Should Elementary Students Know How to Make Oxygen Gas?

**Hyeoksoon Kwon**

*Science Education, Cheongju National University of Education, Korea*

The development and effect of Collaborative Problem-Solving Instruction model in science education

**JEONGHEE NAM**<sup>\*</sup>, jeongin kwon, hyesook cho

*Department of Chemical Education, Pusan National University, Korea*

### <Environmental Energy Poster Presentation>

EDU.P-505

Cu/Fly ash heterostructures for enhanced catalytic reduction of p-nitrophenol as recyclable catalyst

Sungjun Bae<sup>\*</sup>, **Jaehyeong Park**

*Department of Environmental Engineering, Konkuk University, Korea*

ENVR.P-504

EDU.P-506

The Rod-shape of FCG(Full Concentration Gradient) Cathode Material with Long-Term Cycling(3000cycles) Stability for Electric Vehicles Application

**Un-Hyuck Kim**

*Hanyang University, Korea*

ENVR.P-505

EDU.P-507

Structural Stability of LiNiO<sub>2</sub> Cycled above 4.2 V

**Un-Hyuck Kim**

*Hanyang University, Korea*

ENVR.P-506

EDU.P-508

Ce-Substituted LaFeO<sub>3</sub> Perovskite-Type Oxides with Enhanced Catalytic Performance and Sulfur Resistance for NH<sub>3</sub>-SCR

**Dae-Yeon Won**, Seung-Yeop Kwak<sup>\*</sup>

*Department of Materials Science and Engineering, Seoul National University, Korea*

ENVR.P-507

EDU.P-508

Layer-by-Layer Assembly of Graphene Oxide Nanosheets and Molecular Metal Oxides on Hematite for Solar Water Splitting

**Yeongkyu Choi**, Byeong-Su Kim<sup>\*</sup>

*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*

ENVR.P-508

EDU.P-509

Oxidation kinetics of algal-derived taste and odor compounds during water treatment with ferrate(VI)

**JAEDON SHIN**, Yunho Lee<sup>\*</sup>

*School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea*

ENVR.P-509

EDU.P-510

Development of a sponge-like porous structured media for removal of nitrogen and phosphorus in wastewater treatment process

**Joong Il Kim**, WONSEOK CHOI<sup>\*</sup>

*Advanced material & Strategic planning division, Cheorwon Plasma Research Institute, Korea*

ENVR.P-510

EDU.P-511

Determination of Atmospheric Transmission from Microwave Spectrum Measurement

**Soohyun Ka**, Jung Jin Oh<sup>1\*</sup>

*Research Institute of Global Environment, Sookmyung Women's University, Korea*

<sup>1</sup>*Department of Chemistry, Sookmyung Women's University, Korea*

ENVR.P-511

EDU.P-512

Amalgamation of mercury by bimetallic pumice-supported nanoscale zero-valent iron

**Sangwook Lee**, Seunghee Han<sup>\*</sup>

*School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea*

ENVR.P-512

EDU.P-513

Characterization of carbon based nanoparticle dispersion in aqueous media: Effects of ionic strength, ionic valence, and humic acid

**Gukhwa Hwang**, Jinseon Son, Allan Gomez, Sowon Choi, Yosep Han, Hyunjung Kim<sup>\*</sup>

*Department of Mineral Resources and Energy Engineering, Chonbuk National University, Korea*

ENVR.P-513

EDU.P-514

Oxidation of Bisphenol A by activated persulfate using Iron(II) entrapped chitosan/alginate substrate

**Yu-Gyeong Kang**, YOON-SEOK CHANG <sup>1\*</sup>

*Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea*

<sup>1</sup>*Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea*

ENVR.P-514

**52. Environmental Energy**  
**October 19 (THU) , Exhibition Hall 2+3**

Degradation of pharmaceuticals in polluted waters by electrochemical persulfate activation using iron electrodes <b>Yu-Gyeong Kang</b> , YOON-SEOK CHANG * <i>Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea</i>	ENVR.P-515 <i>and Technology, Korea</i>	
Risk assessment of PCDD/Fs and DL-PCBs in Korean population <b>Yu-Gyeong Kang</b> , YOON-SEOK CHANG * <i>Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea</i>	ENVR.P-516	Aerobic Carbon Monoxide Dehydrogenase Immobilized on Electrode for Dissolved Carbon Monoxide Concentration Monitoring <b>STACY REGINALD</b> <sup>1</sup> , Yoo Seok Lee <sup>1</sup> , Hyeryeong Lee <sup>1</sup> <i>SCHOOL OF EARTH SCIENCE AND ENVIRONMENTAL ENGINEER, GRADUATE STUDENT GWANGJU INSTITUTE OF SCIENCE AND , Malaysia</i> <sup>1</sup> <i>Division of Environmental Engineering, Gwangju Institute of Science and Technology, Korea</i>
Influence of exposure to perfluoroalkyl substances (PFASs) on the Korean general population: 10-year trend and health effects <b>Yu-Gyeong Kang</b> , YOON-SEOK CHANG * <i>Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea</i>	ENVR.P-517	Preliminary results of Mn(II) adsorption on Fe (oxyhydr)oxides in various conditions <b>Seonyi Namgung</b> , Gieyeon Lee* <i>Department of Earth System Sciences, Yonsei University, Korea</i>
Dietary exposure to decabromodiphenyl ethers from fishery products in Korea <b>Yu-Gyeong Kang</b> , YOON-SEOK CHANG * <i>Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea</i>	ENVR.P-518	
Enhanced Hole Mobility on Electrochemically Synthesized p-type CuAlO <sub>2</sub> Photoelectrodes for Efficient Solar Hydrogen Production  <b>Seung Yo Choi</b> , GUANGXIA PIAO, Hyunwoong Park <sup>1*</sup> <i>School of Energy Engineering, Kyungpook National University, Korea</i> <sup>1</sup> <i>Division of Energy Engineering, Kyungpook National University, Korea</i>	ENVR.P-519	
Continuous Removal of Heavy Metals by Coupling a Microbial Fuel Cell and a Microbial Electrolysis Cell <b>CHANSOO CHOI</b> <i>Department of Applied chemistry, Daejeon University, Korea</i>	ENVR.P-520	
Study on Electrical Energy Storage System for Supplying with Environmental System <b>CHANSOO CHOI</b> <i>Department of Applied chemistry, Daejeon University, Korea</i>	ENVR.P-521	
Molecular engineering for Enhanced Charge Transfer in Thin Film Photoanode <b>Jeong Soo Kim</b> , Byungman Kim <sup>1</sup> , unyoung Kim, HyoenOh Shin, Tae-Hyuk Kwon* <i>Department of Chemistry, Ulsan National Institute of Science and Technology, Korea</i> <sup>1</sup> <i>Department of Energy Engineering, Ulsan National Institute of Science and Technology, Korea</i>	ENVR.P-522	
Heterogeneous Fenton-like degradation using NTA chelated manganese ferrite <b>Yu-Gyeong Kang</b> , YOON-SEOK CHANG <sup>1*</sup> <i>Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea</i> <sup>1</sup> <i>Division of Environmental Engineering, Pohang University of Science and Technology, Korea</i>	ENVR.P-523	
Derivation of Atmospheric Profile from Microwave Spectrum <b>Soohyun Ka</b> , Jung Jin Oh <sup>1*</sup> <i>Research Institute of Global Environment, Sookmyung Women's University, Korea</i> <sup>1</sup> <i>Department of Chemistry, Sookmyung Women's University, Korea</i>	ENVR.P-524	
Optimization of Electrical Communication for Direct Electron Transfer of Glucose Dehydrogenase Immobilized Electrode <b>Hyeryeong Lee</b> , Yoo Seok Lee <i>Division of Environmental Engineering, Gwangju Institute of Science</i>	ENVR.P-525	
		ENVR.P-526
		ENVR.P-527