KCS 대한화학회 KOREAN CHEMICAL SOCIETY

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2025 KCS 136th General Meeting & Exhibition

October 22-24, 2025, Changwon Exhibition Convention Center

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2025 KCS
136th General Meeting & Exhibition

October 22-24, 2025
Changwon Exhibition Convention Center

KCS 대한화학회
KOREAN CHEMICAL SOCIETY

136th KCS General Meeting Welcome Message

On behalf of the organizing committee, it is my great honor and pleasure to welcome all distinguished colleagues and participants to the 136th General Meeting of the Korean Chemical Society (KCS), which will be held at the Changwon Convention Center from October 22 (Wed) to 24 (Fri), 2025. This meeting will provide an invaluable forum for Korean and international chemists from across all disciplines to share their most recent advances, exchange ideas, and foster new collaborations.

The scientific program will feature diverse academic presentations as well as the General Assembly. We are especially delighted to host Dr. Myeong Hee Moon (Yonsei University) and Lester Wolfe Professor Moungi G. Bawendi (MIT, 2023 Nobel Laureate in Chemistry) as plenary speakers, delivering lectures entitled "Advances in Size-Selective Analysis of Biomacromolecules Using Field-Flow Fractionation Coupled with Mass Spectrometry" and "Quantum Dots: From Curiosity to Technology," respectively. In addition, Professor Injae Shin (Yonsei University), recipient of the Ree Taikyue Academic Excellence Award, will deliver an award lecture on "Artificial Ion Transporters Induce Cancer Cell Death." Professor Doory Kim (Hanyang University), recipient of the 2025 KCS-ACES Early Career Award, will also present an award lecture entitled "Super-Resolution Fluorescence Microscopy beyond Bioimaging: Chemical Mechanisms and Applications." In addition, a Special Science Talk for Middle and High School Students will be held to inspire the next generation of scientists.

This year's program also includes a rich set of thematic symposia:

- 4GSR Symposium: Beamlines of the Next-Generation Synchrotron Radiation Facility Korea-4GSR: Gateway to New Possibilities
- IBS Symposium: Frontiers in Asymmetric Catalysis
- SRC Symposium: Advances in Nanomaterials Science
- BKCS Symposium: BKCS, Collaborative Projects in Korean Chemistry
- JKCS Symposium: Innovation and Challenge in JKCS
- Chemistry Symposium for Future Innovation: Chemistry at the Quantum Frontier
- SCSK Symposium: The Korean Cosmetics Industry: K-Beauty Technologies and Innovations

I would like to take this opportunity to express my sincere appreciation to our sponsors, including Dongwoo Fine-Chem, Bioneer, Ligachem Bioscience, Shimadzu Scientific Korea, i-SENS, and YS Life Science, for their generous support. Above all, I extend my heartfelt thanks to all members of the Korean Chemical Society and participants of this meeting for your continued engagement and contributions.

I look forward to welcoming you to Changwon, and I hope this conference will be a stimulating and memorable experience for everyone.

Phil Ho Lee
President of the Korean Chemical Society

KCS General Assembly

Part. 1 Plenary Lecture

10/23 (Thu), 13:00-14:30, Convention Hall I+II

Myeong Hee Moon

Professor

Department of Chemistry
Yonsei University

Advances in Size-Selective Analysis of Biomacromolecules Using Field-Flow Fractionation Coupled with Mass Spectrometry

Moungi G. Bawendi

Lester Wolfe Professor

Department of Chemistry
Massachusetts Institute of Technology

Quantum Dots: From Curiosity to Technology

Part. 2 General Assembly

10/23 (Thu), 14:30-15:30, Convention Hall I+II

평의원회

분과회장, 지부장 연계회의

DATE&TIME 10/22(Wed), 17:00

VENUE 연회센터 A룸, 1F

- 주요 회무 보고
- 총회 의결 안건 사전 심사
- 기타 토의

과학기술정보통신부

MSIT POLICY BRIEFING

New Government's Basic Research Policy

새정부 기초연구 정책방향

DATE&TIME 10/22(Wed), 14:00-14:30

VENUE Room 302

Jongyoung Jo

(과학기술정보통신부 기초연구진흥과 조종영 과장)

Director, Basic Research Promotion Division
Ministry of Science and ICT(MSIT)

AWARD LECTURE

2025 KCS-ACES Early Career Award

DATE&TIME 10/22(Wed), 14:30-15:00

VENUE Room 602

Doory Kim

Hanyang University

Super-Resolution Fluorescence Microscopy Beyond Bioimaging: Chemical Mechanisms and Applications

AWARD LECTURE

2025 Taikyue Ree Academic Award

DATE&TIME 10/24(Fri), 13:30-14:20

VENUE Convention Hall III

Injae Shin

Yonsei University

Artificial Ion Transporters Induce Cancer Cell Death

4GSR SYMPOSIUM 1

Beamlines of the Next-Generation Synchrotron Radiation Facility Korea-4GSR: Gateway to New Possibilities

DATE&TIME 10/22(Wed), 13:00-18:00

VENUE Room 604+605

Kyung-Jin Kim
Kyungpook National University

Role of Synchrotron Facility for Plastic Bio-Recycling

Jungwook Kim
GIST

Structural Mechanisms of Bacterial Phospholipid Biosynthesis: From Membrane Association to Catalytic Specificity

Mi-Jeong Kwak
Pohang Accelerator Laboratory

Construction Progress of the Advanced Macromolecular Crystallography (MX) Beamline at Korea-4GSR

Kug-Seung Lee
Pohang Accelerator Laboratory

Introduction to X-ray Absorption Spectroscopy and Upgrade Plan for PLS-II BL8C

Ik Seon Kwon
Kunsan National University

Phase Engineering of Two-Dimensional Transition Metal Dichalcogenide Nanosheets for Electrochemical Water Splitting

4GSR SYMPOSIUM 2

Beamlines of the Next-Generation Synchrotron Radiation Facility Korea-4GSR: Gateway to New Possibilities

DATE&TIME 10/22(Wed), 13:00-18:00

VENUE Room 604+605

Beomgyun Jeong
Korea Basic Science Institute

Probing Chemical Interfaces Using Ambient Pressure X-ray Photoelectron Spectroscopy at KBSI

In-Hui Hwang
Pohang Accelerator Laboratory

Advanced X-ray Spectroscopy Beamlines at Korea-4GSR for Material Science

Tae Wu Kim
Kyung Hee University

Deciphering Photocatalytic Reaction Mechanisms Using Time-Resolved X-ray Scattering and Spectroscopy

Jaeyong Shin
Pohang Accelerator Laboratory

Multi-Modal Characterization with Focused Ultrashort X-ray Pulses

Wonhyuk Jo
Korea Basic Science Institute

Probing Dynamics in Soft Matter Systems Using Coherent X-ray Scattering at 4GSR

IBS SYMPOSIUM

Frontiers in Asymmetric Catalysis

DATE&TIME 10/22(Wed), 13:30-17:50

VENUE Room 600A

Sukbok Chang
IBS / KAIST

Asymmetric Formal Hydroamidation of Conjugated Alkenes

Sukwon Hong
GIST

Harnessing Anagostic C–H···Pd Interactions for Asymmetric C–N Cross-Coupling

Sungwoo Hong
IBS / KAIST

Investigation of Catalytic Systems for Asymmetric Functionalization of Alkenes and Strained Bridged Rings

Han Yong Bae
Sungkyunkwan University

Superacid Counteranion as a Flexible-Coordinating Chiral Ligand for Asymmetric Organo–Bismuth Catalyzed Allylation

Mu-Hyun Baik
IBS / KAIST

Rationalizing Photoredox Reactions: Thermodynamics vs Kinetics

Seung Hwan Cho
POSTECH

Transition-Metal-Catalyzed Enantiotopic-Group-Selective Transformations of 1,1-Diborylalkanes

Sarah Yunmi Lee
KAIST

Stereodivergence in Catalytic Conjugate Additions

Do Hyun Ryu
Sungkyunkwan University

Enantioselective Catalysis for the Synthesis of Chiral Molecules

SRC SYMPOSIUM

Advances in Nanomaterials Science

DATE&TIME 10/22(Wed), 13:50-17:40

VENUE Room 301

Moungi G. Bawendi
Massachusetts Institute of Technology
Colloidal Quantum Dots as Single Photon Quantum Emitters

Ji-Hyun Kim
Chung-Ang University
Unraveling Nanoparticle Growth: Beyond a Century-Old Theory

Sung Jee Kim
POSTECH
Clusters to Quantum Dots

Jungwon Park
Seoul National University
Visualizing Nanoparticles by Real-Time Liquid Electron Microscopy

Sangwoon Yoon
Chung-Ang University
"Golden": Plasmonic Properties of Gold Nanoparticles and Their Assemblies

Sunmin Ryu
POSTECH
Molecular Excitons in Two-Dimensional Organic Crystals

BKCS SYMPOSIUM

BKCS, Collaborative Projects in Korean Chemistry

DATE&TIME 10/22(Wed), 14:00-17:05

VENUE Room 600B

So-Jung Park
Ewha Womans University

Dynamic Nanostructures via Assembly of Functional Nanoparticles and Polymers

Jaeyoung Sung
Chung-Ang University
Global SRC for Systems Chemistry

Supersaturation, Nucleation, and Phase Separation of Mesoscopic Systems

Haesik Yang
Pusan National University

Electron Mediators for Electrochemical Biosensors

Jin Hee Ahn
GIST

Development of "Beyond Rule of Five" Drugs: Medium to High Molecular Weight Modalities Including Antibody-Drug Conjugates

Jaebum Choo
Chung-Ang University

Rapid and Highly Sensitive Pathogen Screening Using Nanoplasmonic SERS Sensors

JKCS SYMPOSIUM

Innovation and Challenge in JKCS

DATE&TIME 10/22 (Wed), 15:00-18:00

VENUE Room 602

Gyeongwon Kang
Kangwon National University

Investigating Dynamics of Nanogap-Confined Molecules Using Single-Particle Nanoplasmonics

Dong Won Kang
Inha University

Optimal Pore Environment Screening in Robust Metal-Organic Frameworks for Nitrogen Trifluoride Capture

Hongki Kim
Kongju National University

Au Nanostructure-Based Surface-Enhanced Raman scattering Substrate for Biochemical Sensing

Jongsik Park
Kyonggi University

Fabrication of Unconventional Heterointerfaces within Nanoparticle via Cation Exchange Reaction

Sung-Eun Suh
Ajou University

Asymmetric Approach to Strained Chiral Scaffolds for Stereoretentive Transformations

Sung Yun Son
Kwangwoon University

Film-State Structural Modification of Conjugated Polymers via Thermally and Acid-Cleavable Side Chains for Enhanced Charge Transport and Stability

Najin Jeong
Korea National University of Education

Chemistry Education for the Future: Implementing Modeling through Generative AI

Ara Jo
Kangwon National University

A Potential-Holding Method for Reliable ECSA Determination on Platinum Electrode

CHEMISTRY SYMPOSIUM FOR FUTURE INNOVATION 1

SPONSORED BY DONGJIN SEMICHEM CO.,LTD.

Chemistry at the Quantum Frontier

DATE&TIME 10/22 (Wed), 13:00-18:00

VENUE Room 606+607

▪ **Symposium 1 : Quantum Computing in Chemistry(13:00-14:45)**

Young Min Rhee
KAIST
Efficient Excited-State Energy Calculations via Symmetry-Preserving VQE and Shallow QPE

Joonsuk Huh
Yonsei University
Energy Distribution of Quantum States and Quantum Algorithms

Seunghoon Lee
Seoul National University
Quantum Interference Algorithm for Initial State Preparation

Seiichiro Ten-no
Kobe University
Challenges of Projective Transcorrelation toward Near-Term Quantum Computing

CHEMISTRY SYMPOSIUM FOR FUTURE INNOVATION 2

SPONSORED BY DONGJIN SEMICHEM CO.,LTD.

Chemistry at the Quantum Frontier

DATE&TIME 10/22 (Wed), 13:00-18:00

VENUE Room 606+607

▪ Symposium 2 : Quantum Materials, Measurement, and Control in Chemistry(14:55-18:00)

Hohjai Lee
GIST
Trends and Characterization of Organic Molecular Spin Qubit Systems

Jeongcheol Shin
Duksung Women's University
Electronic and Spin Properties of Group 10 M(NHCCS$_2^{\bullet-}$)$_2$ Compounds and Their Redox Derivatives: Prospects for Molecular Qubit Applications

Junwoo Kim
Chungbuk National University
Nonlinear Spectroscopy with Paired Single Photons

Hosung Seo
Sungkyunkwan University
First-Principles Theory of Quantum Defects in Materials for Solid-State Quantum Information Science

Hyeon Suk Shin
Sungkyunkwan University
Hexagonal Boron Nitride as a Platform for Quantum Technologies

Keunhong Jeong
Korea Military Academy
Quantum Magnetic Field Sensing and Quantum Hyperpolarization Techniques for Chemical Applications

Eunsung Lee
Seoul National University
Accessing Organic Radicals as Qubit Materials

SCSK SYMPOSIUM

The Korean Cosmetics Industry: K-Beauty Technologies and Innovations

DATE&TIME 10/22 (Wed), 15:00-17:30

VENUE Room 302

Jeoungjin Ryu
COSMAX R&I Center

Cosmetic Ingredient Trends: From Conventional Actives to Biotechnological Innovations

Ji Wook Jang
AMOREPACIFIC

Advanced Skincare for Skin Barrier Using Ultra-High Molecular Weight Hyaluronic Acid Hydrogel

Seung-Hyun Jun
LG Household and Health Care R&D Center

Enhanced Transdermal NAD^+ Delivery via Ion-Coupled Transfersomes: A Solution for Skin Longevity and Senescence Delay

Jin Mo Kim
Kolmar Korea

Research on Convergent Technologies Focused on Cosmetic Development

미래를 꿈꾸는 모두를 위한 화학 함께 만들어가는 영광의 100년!

KCS 대한화학회 KOREAN CHEMICAL SOCIETY

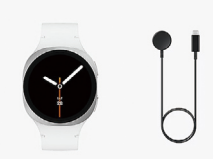
Lucky Draw Event & Best Posters Awards Ceremony

대한화학회 기기전시장을 방문하는 회원들을 위해 경품을 마련하였습니다.
목, 금요일 경품추첨 전 최우수 포스터상 시상식이 진행될 예정입니다.

Date	Place
October 23(THU), 18:00	3F, 후원 현황판 앞
October 24(FRI), 16:30	

갤럭시 북5 Pro

목/금 각 1명



갤럭시워치 8 (40mm)

목/금 각 3명

배민 10만원 상품권

목/금 각 5명

스타벅스 기프트카드 5만원

목/금 각 15명

※ 23일(목), 24일(금) 2회 추첨함.
※ 추첨대상자는 학생회원과 학부생회원만 해당함.
※ 추첨장에서 본인 확인된 당첨자만 인정함.(당첨자는 신분증 또는 학생증 제시 필수)
※ 당첨자는 현장에서 경품 지급 예정.(배달의 민족 상품권은 행사 후 3주내 작성한 번호로 모바일 발송예정)

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136회 대한화학회 학술발표회, 총회 및 기기전시회

중고등학교 학생을 위한 특강

2025년 10월 24일(금), 16:00~17:30

창원컨벤션센터, 602호

■ 강의내용

※ 중/고등학생의 경우 무료 참가 가능합니다.

시간	강의명	발표자
16:00-16:40	화학과 함께한 15년, 그리고	최경민 교수 (한국에너지공과대학교 에너지공학부)
16:50-17:30	잘 먹고, 잘 사는 화학자의 세계	박현주 교수 (조선대학교 화학교육과)

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2025 KCS
136th GENERAL MEETING & EXHIBITION

October 22-24, 2025

Changwon Exhibition Convention Center

Plenary Lecture October 23, 2025

Myeong Hee Moon

Professor
Department of Chemistry
Yonsei University

Moungi G. Bawendi

Lester Wolfe Professor
Department of Chemistry
Massachusetts Institute of Technology

22(WED)

- [Award Lecture] 2025 KCS-ACES Early Career Award
- [4GSR Symposium]
- [IBS Symposium]
- [SRC Symposium]
- [BKCS Symposium]
- [JKCS Symposium]
- [Chemistry Symposium for Future Innovation]
- [SCSK Symposium]

23(THU)

- Plenary Lecture
- KCS General Assembly
- Scientific Programs I (Poster & Oral Presentation)
- Exhibition

24(FRI)

- [Award Lecture] 2025 Taikyue Ree Academic Award
- Scientific Programs II (Poster & Oral Presentation)
- Exhibition
- Special Science Talk for Middle and High School Students

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JOURNAL OF ANALYTICAL SCIENCE AND TECHNOLOGY

https://link.springer.com/journal/40543

SCAN ME

JOURNAL HISTORY

- The Journal of Analytical Science and Technology was established by Korea Basic Science Institute (KBSI) in 2010 to systematically manage analytical technologies developed and share them both domestically and internationally.
- Published as an open-access journal in partnership with Springer Nature since 2013.
- Indexed in SCIE and Scopus in 2018.

JOURNAL REPRESENTATIVE ACHIEVEMENTS

- Ranked in the Q2 category of Chemistry, Analytical in 2022.
- Article Collection on Geochemical and Cosmochemical Applications of Microanalysis published in 2024.

JOURNAL GOALS

- Establishing an international sharing system for analytical science and technology through publication in SCIE-indexed academic journal.
- Enhancing KBSI's international visibility in the field of analytical science and technology.

2024 IF News

The journal's 2024 Impact Factor announced by Clarivate is **2.8.** (Q2)

HOW TO SUBMIT A PAPER

Submission Guidelines

- https://link.springer.com/journal/40543/submission-guidelines

Editorial Manager

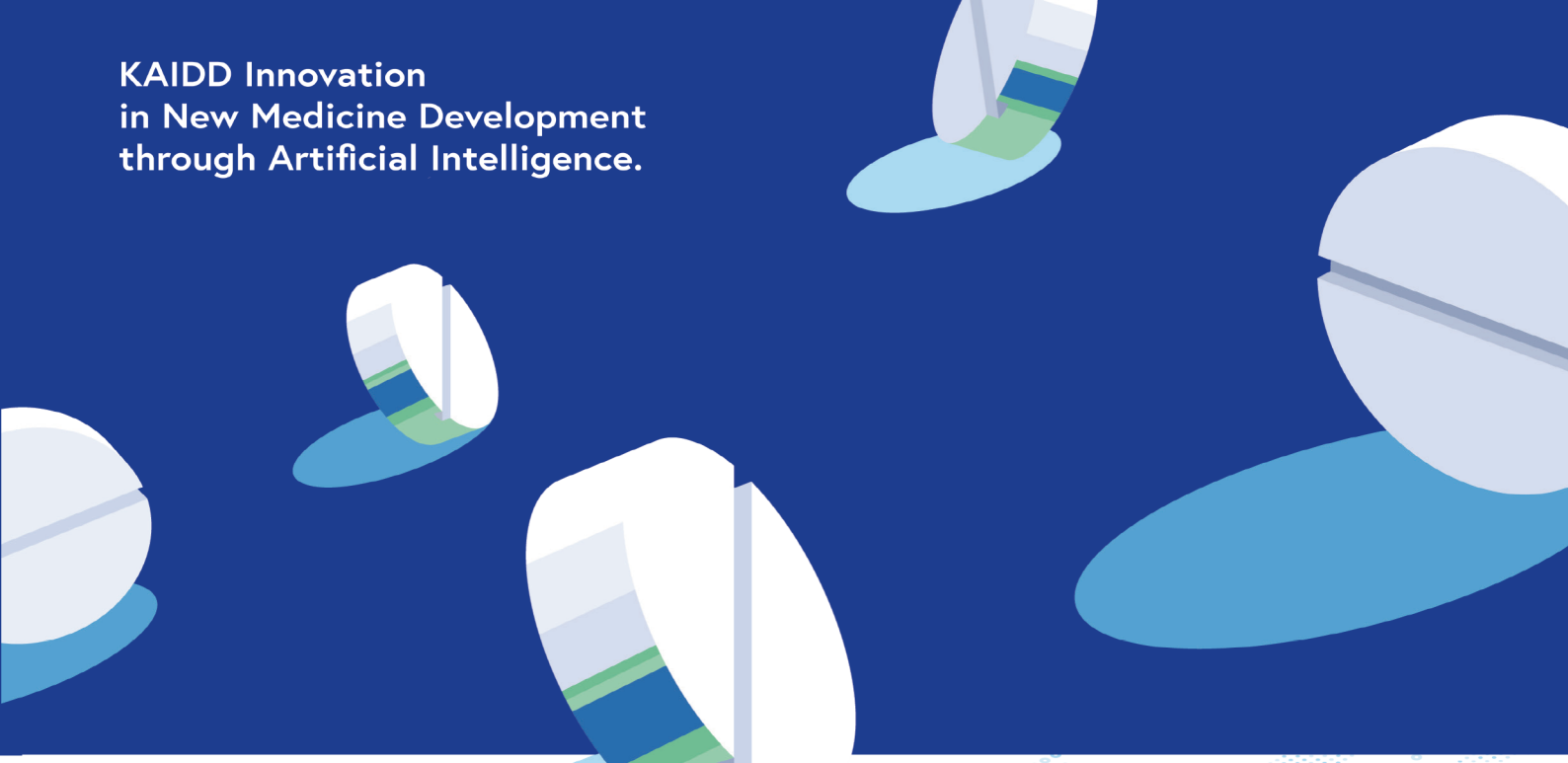
- https://www.editorialmanager.com/jans/default.aspx

ARTICLE PROCESSING CHARGE

- Authors who are not eligible to receive a discount or waiver may submit their request to Korea Basic Science Institute for APC coverage upon acceptance of their article.

CONTACT INFORMATION

Email: jast@kbsi.re.kr, kby5010@kbsi.re.kr



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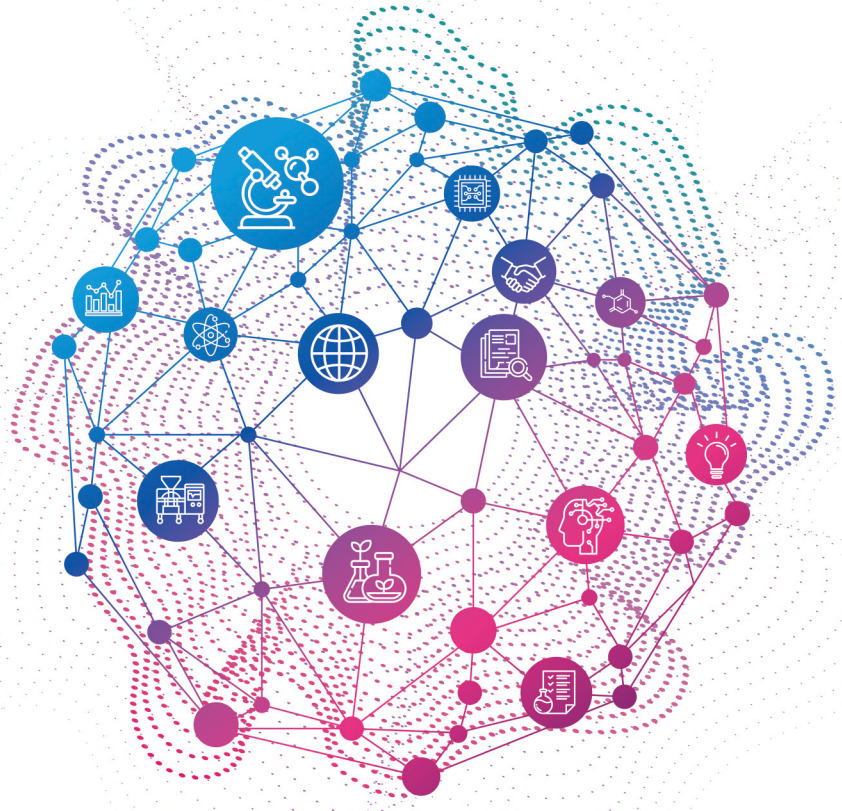
IRIC 2025 국제 연구산업 컨벤션 2025

International R&D Industry-Con

연구산업 AI 융합으로 R&D 혁신과 국가 경쟁력 강화

2025.**10.28**(화) – **29**(수)

코엑스 마곡 전시장



▲홈페이지 바로가기

주 최 _ 과학기술정보통신부 Ministry of Science and ICT

공동주관 _ 한국연구산업협회 KOREA R&D INDUSTRY ASSOCIATION

COMPA 과학기술사업화진흥원

KRISS 한국표준과학연구원 Korea Research Institute of Standards and Science

KBSI 한국기초과학지원연구원 KOREA BASIC SCIENCE INSTITUTE

대전테크노파크 DAEJEON TECHNOPARK

2025 KCS
136th General Meeting & Exhibition

October 22-24, 2025, Changwon Exhibition Convention Center

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Guide Map

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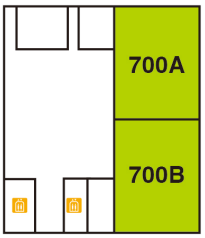
Please use the elevator to reach
Rooms 700A and 700B



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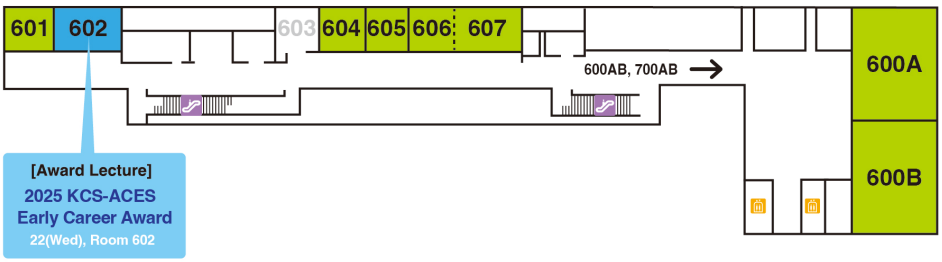

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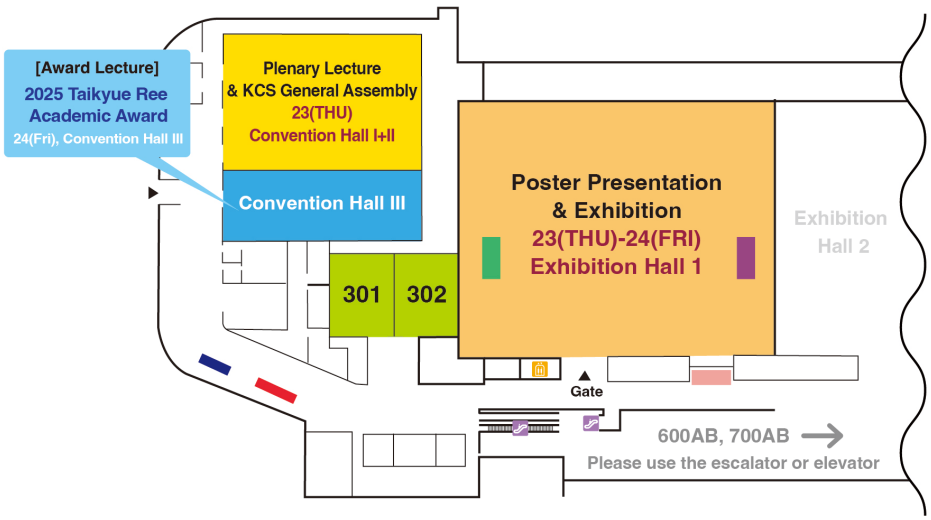
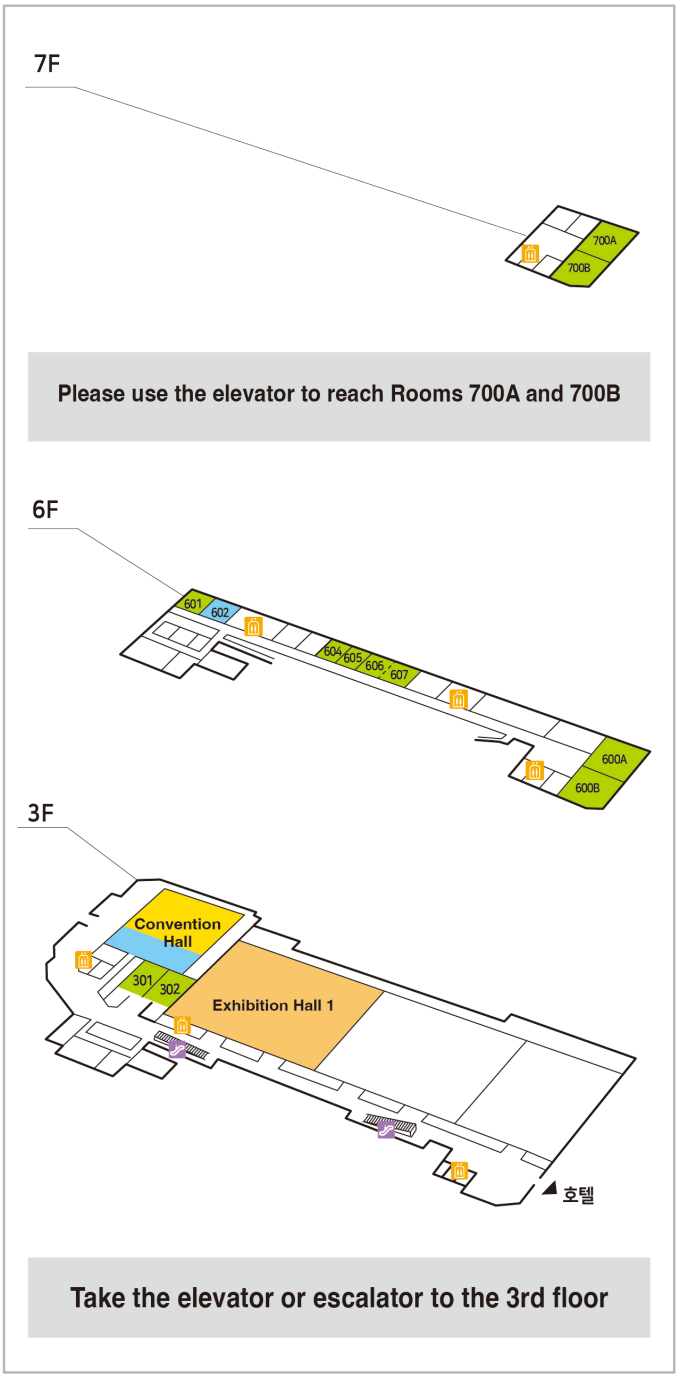


Program Book Registration Luggage Storage
Coffee & Snacks Future Chemistry Research Presentation for High School Students

Guide Map



October 22(WED)	
301	SRC Symposium
302	MSIT Policy Briefing
	SCSK Symposium
602	**[Award Lecture]** 2025 KCS-ACES Early Career Award JKCS Symposium
604+605	4GSR Symposium
606+607	Chemistry Symposium for Future Innovation
600A	IBS Symposium
600B	BKCS Symposium

October 23(THU)	
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302	Polymer Chemistry
601	Environmental Energy
602	Life Chemistry
604	Chemistry Education
605	Industrial Chemistry
606+607	Material Chemistry
600A	Physical Chemistry
600B	Electrochemistry
700A	Inorganic Chemistry
700B	Medicinal Chemistry
Convention Hall III	Organic Chemistry
Convention Hall I+II	Plenary Lecture KCS General Assembly
Exhibition Hall 1	Poster Presentation 1 Exhibition

October 24(FRI)	
301	Analytical Chemistry
302	Polymer Chemistry
602	Life Chemistry Special Science Talk for Middle and High School Students
604	Chemistry Education
605	Industrial Chemistry
606+607	Material Chemistry
600A	Physical Chemistry
600B	Electrochemistry
700A	Inorganic Chemistry
700B	Medicinal Chemistry
Convention Hall III	**[Award Lecture]** 2025 Taikyue Ree Academic Award Organic - Inorganic Joint Symposium Organic Chemistry
Exhibition Hall 1	Poster Presentation 2 Exhibition

General Information

- Date: October 22~24, 2025
- Venue: Changwon Exhibition Convention Center, Changwon, Korea

1. Membership and Registration Fees

Category		Membership Fees	On-site Registration Fees	
			A	B (Membership fees waived)
KCS Members	Regular Members (Lifetime)*	-	KRW 120,000	-
	Regular Members (Annual)	KRW 70,000	KRW 120,000	KRW 190,000
	Educational Members	KRW 50,000	KRW 70,000	KRW 120,000
	Student Members	KRW 50,000	KRW 70,000	KRW 120,000
	Undergraduate Members	KRW 10,000	-	
General Participants (Non-member)		-	KRW 250,000	

※Registration fee waivers for undergraduate students are available. Please bring your student ID card to prove your student status.
(But, all authors and presenters of abstracts are required to register and pay the appropriate registration fees.)
*Regular Members (Lifetime): KRW 1,400,000 (20 years of annual regular membership fee at the time of joining)

2. Poster Presentations

▣ Schedules

Venue	Presentation Date & Time	Division (Topic)	Mounting	Demounting
Exhibition Hall 1 (3F)	October 23 (THU) 11:00~13:00	Polymer Chemistry, Inorganic Chemistry, Organic Chemistry, Medicinal Chemistry, Electrochemistry, Environmental Energy	09:00~11:00	15:00~16:00
	October 24 (FRI) 11:00~13:00	Industrial Chemistry, Physical Chemistry, Analytical Chemistry, Life Chemistry, Material Chemistry, Chemistry Education	09:00~11:00	15:00~16:00

▣ Presentations

- Presenters should be in attendance at their poster board during the assigned time of their poster presentation.

Time & Activity	from 11:00 to 12:00	from 12:00 to 13:00
Poster Presentation	Even Numbers	Odd numbers
Research Exchanges with Other Presenters	Odd numbers	Even Numbers

- A poster presenter is required to stand by the poster during the scheduled poster presentation to answer questions from attendees.
- If your posters are not hung on board during all your presentation time, you will be considered as not to have attended and your name will be included in the lists of absent presenters.

▣ Poster Presentation Area

- Poster board locations and allocated codes will be available on the bulletin board outside of the Exhibition Hall 1 (3F).
- A poster board number on poster display board indicates the location of assigned poster display. Please do NOT remove the number.

▣ Setting up and Taking down

- Please follow the schedule outlining times for mounting and demounting your poster.
- Each poster should be placed on the numbered board assigned to each presenter.
- Material to pin up your poster will be provided at the venue.
- You are responsible for setting-up and taking down of your own poster. Unclaimed posters are not the responsibility of the organizers or KCS. And they will be disposed following your day without notice.

▣ KCS Poster Awards

- DONGWOO FINE-CHEM Poster Award
- BIONEER Poster Award
- BKCS Poster Award
- RSC Poster Award
- KCS Poster Award
- KCS Sponsorship Poster Award
  (Selected by Student Members)

3. KCS General Assembly and General Meetings of Divisions

▣ KCS General Assembly

October 23 (THU) 13:00~15:30, Convention Hall I+II (3F)
(Part 1. Plenary Lecture 13:00~14:30, Part 2. General Assembly 14:30~15:30)

■ KCS Awards

- 2025 Taikyue Ree Academic Award: Injae Shin (Yonsei University)
- Chemical Industry Leadership Award: Sang Jo Lee (HanChem)
- Technology Innovation Award: Tae Kyo Park (IntoCell)
- Excellent Chemistry Teacher Award: Youngha Hwang (Cheongok Middle School)
- Excellent Doctoral Dissertation Award: Dohyun Kim (UNIST), Minhyuk Kim (UNIST), Joohan Nam (UNIST), Juhyeon Park (Gyeongsang National University), Jusung An (Korea University), Wooseok Lee (KAIST), Na Jin Jeong (Korea National University of Education)
- Excellent Regional Chapter Award: Gyeongnam Regional Chapter
- 2025 KCS-ACES Early Career Award: Doory Kim (Hanyang University)
- Sigma-Aldrich Chemist Award: Jaeheung Cho (UNIST), Jin Kyoon Park (Seoul National University)
- i-SENS Woman Chemist Award: Hyunah Choo (KIST)

■ General Meetings of Divisions

- Polymer Chemistry: October 23 (THU) 17:45-18:15, Room 302
- Inorganic Chemistry: October 23 (THU) 17:40-18:10, Room 700A
- Analytical Chemistry: October 23 (THU) 17:40-18:00, Room 301
- Electrochemistry: October 23 (THU) 17:30-18:00, Room 600B

4. Notice

■ KCS No Recording Policy

The use of any device to capture images (e.g., cameras and camera phones) or sound (e.g., tape and digital recorders) or stream, upload or rebroadcast speakers or presentations is strictly prohibited at all official KCS meetings and events without express written consent from the KCS.

5. Lucky Draw & Best Posters Awards Ceremony

Draw Date	October 23 (THU), 18:00 at 3F Lobby
	October 24 (FRI), 16:30 at 3F Lobby

* Please check the notice board on-site.

Scientific Programs

Type	Division	No.	Subject	Schedule	Code	Room No.
Plenary Lecture	KCS	1	[Plenary Lecture] 1. Myeong Hee Moon (Yonsei University) 2. Moungi G. Bawendi (Massachusetts Institute of Technology)	23 (THU) 13:00-14:30	PLEN	Convention Hall I+II
Award Lecture	KCS	2	[2025 Taikyue Ree Academic Award] Injae Shin (Yonsei University)	24 (FRI) 13:30-14:20	AWARD1	Convention Hall III
	KCS	3	[2025 KCS-ACES Early Career Award] Doory Kim (Hanyang University)	22 (WED) 14:30-15:00	AWARD2	602
Symposium	KCS	4	[4GSR Symposium] Beamlines of the Next-Generation Synchrotron Radiation Facility Korea-4GSR: Gateway to New Possibilities	22 (WED) 13:00-18:00	KCS1	604+605
		5	[IBS Symposium] Frontiers in Asymmetric Catalysis	22 (WED) 13:30-17:50	KCS2	600A
		6	[SRC Symposium] Advances in Nanomaterials Science	22 (WED) 13:50-17:40	KCS3	301
		7	[BKCS Symposium] BKCS, Collaborative Projects in Korean Chemistry	22 (WED) 14:00-17:05	KCS4	600B
		8	[JKCS Symposium] Innovation and Challenge in JKCS	22 (WED) 15:00-18:00	KCS5	602
		9	[Chemistry Symposium for Future Innovation] Chemistry at the Quantum Frontier	22 (WED) 13:00-18:00	KCS6	606+607
		10	[SCSK Symposium] The Korean Cosmetics Industry: K-Beauty Technologies and Innovations	22 (WED) 15:00-17:30	KCS7	302
	Polymer Chemistry	11	International Symposium on Macromolecular Materials	23 (THU) 15:40-18:15	POLY1	302
		12	Special Symposium by Mid- and Early-Career Chemists	24 (FRI) 09:00-11:00	POLY2	302
		13	Recent Advances in Polymer-Based Electronic Materials	24 (FRI) 14:30-16:20	POLY3	302
	Industrial Chemistry	14	Recent Technology for Advanced Membrances	23 (THU) 15:30-17:40	IND1	605
		15	Convergence of Biotechnology and Nanotechnology I	24 (FRI) 09:00-11:00	IND2	605
		16	Convergence of Biotechnology and Nanotechnology II	24 (FRI) 14:30-16:30	IND3	605
	Inorganic Chemistry	17	Recent Advances in Bioinorganic Chemistry	23 (THU) 15:30-18:10	INOR1	700A
		18	Recent Advances in Coordination Chemistry	24 (FRI) 14:30-16:10	INOR3	700A
	Physical Chemistry	19	The Nano-Physical Chemistry Convergence Symposium	23 (THU) 15:40-17:30	PHYS1	600A
		20	Recent Trends in Computational Chemistry Across Academia and Industry	24 (FRI) 14:30-16:50	PHYS2	600A
	Analytical Chemistry	21	Current Advances in Hyper-Spectral Imaging Analysis	23 (THU) 15:30-18:00	ANAL1	301
		22	Current Advances in Laser-Based Spectroscopy	24 (FRI) 09:10-11:00	ANAL2	301
	Life Chemistry	23	Recent Trends in Molecular Machine Biochemistry	23 (THU) 15:40-17:40	LIFE1	602
		24	Recent Trends in Omics-Based Molecular Profiling	24 (FRI) 09:00-11:00	LIFE2	602
	Organic-Inorganic Chemistry	25	[Joint Symposium] Joint Symposium on Organic and Inorganic Chemistries	24 (FRI) 09:00-11:00	ORGN2 +INOR2	Convention Hall III
	Organic Chemistry	26	Recent Advances in Redox-Enabled Organic Reactions	23 (THU) 15:40-18:00	ORGN1	Convention Hall III
		27	Unconventional Tools in Organic Chemistry	24 (FRI) 14:30-16:10	ORGN3	Convention Hall III
	Medicinal Chemistry	28	Targeting the Untargeted: Korean Industry's Leap in First-In-Class Drug Discovery	23 (THU) 15:40-17:40	MEDI1	700B
		29	Award Lecture: Excellence in Medicinal Chemistry	24 (FRI) 09:00-10:55	MEDI2	700B

Symposium	Material Chemistry	30	Cutting-Edge Materials Chemistry for 2-D Materials	23 (THU) 15:40-18:10	MAT1	606+607
		31	Cutting-Edge Materials Chemistry for Energy Materials	24 (FRI) 09:00-11:40	MAT2	606+607
		32	Recent Progress in Battery Materials	24 (FRI) 14:30-16:30	MAT3	606+607
	Electrochemistry	33	In-Silico Design of Electrochemical Materials	23 (THU) 15:40-18:00	ELEC1	600B
		34	Development of Innovative Electrochemical Systems	24 (FRI) 09:00-11:00	ELEC2	600B
	Chemistry Education	35	Proposal for Future-Oriented Standardization of Chemistry Education and Test Questions for Integrated Science Chemistry	23 (THU) 15:40-17:00	EDU	604
	Environmental Energy	36	Electrocatalytic Valorization of Carbon and Nitrogen Compounds	23 (THU) 15:40-17:40	ENVR	601
Oral Presentation	Polymer Chemistry	37	Oral Presentation for Young Polymer Scientists	23 (THU) 09:00-11:00	POLY.O	302
	Inorganic Chemistry	38	Oral Presentation of Young Scholars in Inorganic Chemistry	23 (THU) 09:30-11:10	INOR.O	700A
	Physical Chemistry	39	Oral Presentation for Leading, Emerging, and Young Physical Chemists I	23 (THU) 09:00-11:00	PHYS1.O	600A
		40	Oral Presentation for Leading, Emerging, and Young Physical Chemists II	24 (FRI) 09:00-11:00	PHYS2.O	600A
	Analytical Chemistry	41	Oral Presentation of Young Analytical Chemists I	23 (THU) 09:00-10:57	ANAL1.O	301
		42	Oral Presentation of Young Analytical Chemists II	24 (FRI) 14:30-16:27	ANAL2.O	301
	Life Chemistry	43	Oral Presentation for Young Scientists in Life Chemistry	23 (THU) 09:00-11:00	LIFE.O	602
	Organic Chemistry	44	Oral Presentations for Young Organic Chemists	23 (THU) 09:00-11:00	ORGN.O	Convention Hall III
	Medicinal Chemistry	45	Oral Presentation of Young Medicinal Chemists	23 (THU) 09:00-11:00	MEDI.O	700B
	Material Chemistry	46	Oral Presentation for Young Material Chemists	23 (THU) 09:00-11:00	MAT.O	606+607
	Electrochemistry	47	Oral Presentation of Young Electrochemists	23 (THU) 09:00-11:00	ELEC.O	600B
	Chemistry Education	48	New Trends in Chemistry Education	24 (FRI) 09:00-11:00	EDU.O	604
	Environmental Energy	49	Integration of Chemistry for Solving Environmental and Energy Challenges	23 (THU) 09:00-11:00	ENVR.O	601

Award Lecture in Division

Polymer Chemistry	• TCI Polymer Chemistry Early Career Scientist Academic Award - Chang-Geun Chae (Korea Research Institute of Chemical Technology) : 24 (FRI) 09:00-09:25, Room 302 • Polymer Chemistry Excellence Award - Ja-Hyoung Ryu (UNIST) : 24 (FRI) 10:35-11:00, Room 302
Inorganic Chemistry	Si-Joong Kim Academic Award - Wonyoung Choe (UNIST) : 23 (THU) 17:10-17:40, Room 700A
Physical Chemistry	• Kim Myung Soo Award - Jeong Young Park (KAIST) : 23 (THU) 15:40-16:10, Room 600A • Young Physical Chemist Award 1 - Hye Ran Koh (Chung-Ang Univ.) : 24 (FRI) 14:30-15:00, Room 600A • Young Physical Chemist Award 2 - Seung Kyu Min (UNIST) : 24 (FRI) 15:00-15:30, Room 600A
Analytical Chemistry	• Young In Outstanding Analytical Chemistry Research Award - Tae-Young Kim (GIST) : 23 (THU) 17:00-17:20, Room 301 • Distinguished Contribution in Analytical Technology - Jaeick Lee (KIST) : 23 (THU) 17:20-17:40, Room 301
Life Chemistry	Sung-Kee Chung Award - Young-Tae Chang (POSTECH) : 23 (THU) 10:20-11:00, Room 602
Organic Chemistry	Chang Sae Hee Award - Hong Geun Lee (Seoul National Univ.) : 23 (THU) 15:40-16:10, Convention Hall III
Medicinal Chemistry	Excellence in Medicinal Chemistry - Jae Yeol Lee (Kyung Hee Univ.) : 24 (Fri) 10:15-10:55, Room 700B
Material Chemistry	• Jin-Ho Choy Academic Award - Seung-Tae Hong (DGIST) : 23 (THU) 17:40-18:10, Room 606+607 • Young Material Chemists Award 1 - Jin-Sil Choi (Hanbat Univ.) : 24 (FRI) 11:00-11:20, Room 606+607 • Young Material Chemists Award 2 - Jerome Hyun (Ewha Womans Univ.) : 24 (FRI) 11:20-11:40, Room 606+607
Electrochemistry	• i-SENS Young Electrochemist Award - Jun Hui Park (Chungbuk National Univ.) : 23 (THU) 10:30-11:00, Room 600B • Choi Kyu Won Award - Jin Ho Bang (Hanyang Univ.) : 24 (FRI) 10:30-11:00, Room 600B

Poster Presentations

Poster Presentations

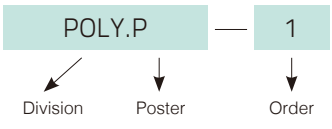
- Presenters should be in attendance at their poster board during the assigned time of their poster presentation.
- Posters Presentations: Two hours on Thursday and Friday
- Poster presenters need to check their presenting numbers.

Time & Activity	from 11:00 to 12:00	from 12:00 to 13:00
Poster Presentation	Even Numbers	Odd numbers
Research Exchanges with Other Presenters	Odd numbers	Even Numbers

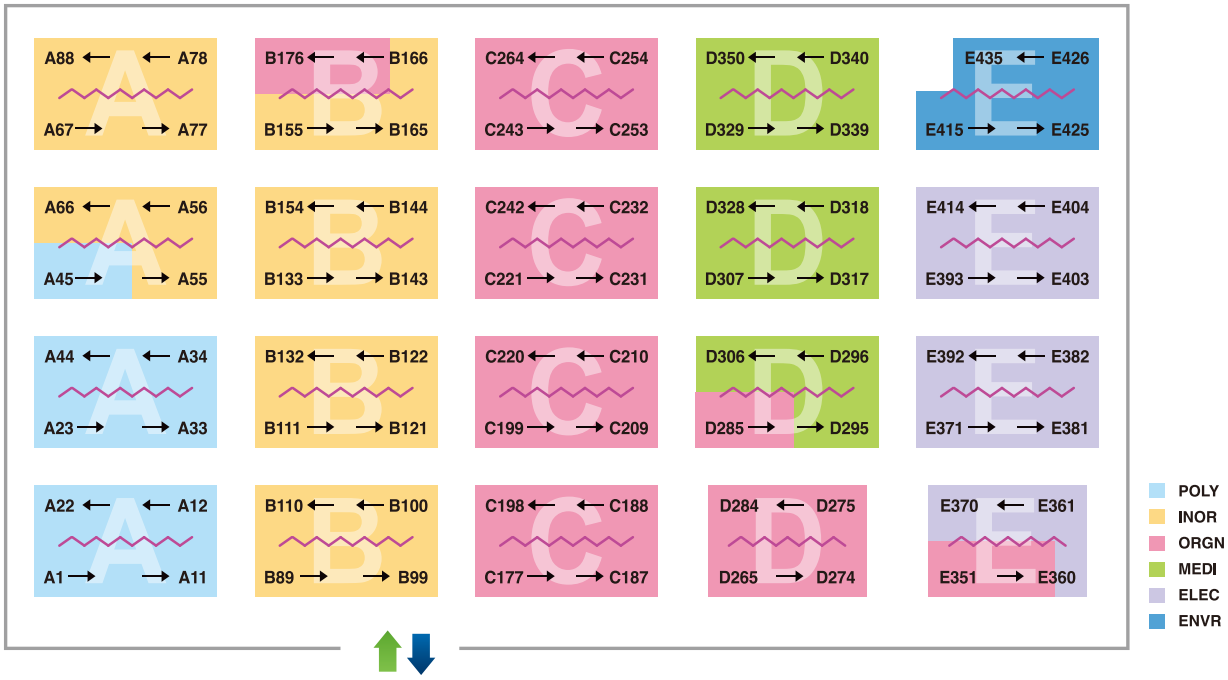
October 23 (THU) - 24 (FRI), 11:00-13:00, Exhibition Hall 1 (3F)

Division	No.	Code	Date
Polymer Chemistry	50	POLY.P	23 (THU) 11:00-13:00
Industrial Chemistry	51	IND.P	24 (FRI) 11:00-13:00
Inorganic Chemistry	52	INOR.P	23 (THU) 11:00-13:00
Physical Chemistry	53	PHYS.P	24 (FRI) 11:00-13:00
Analytical Chemistry	54	ANAL.P	24 (FRI) 11:00-13:00
Life Chemistry	55	LIFE.P	24 (FRI) 11:00-13:00
Organic Chemistry	56	ORGN.P	23 (THU) 11:00-13:00
Medicinal Chemistry	57	MEDI.P	23 (THU) 11:00-13:00
Material Chemistry	58	MAT.P	24 (FRI) 11:00-13:00
Electrochemistry	59	ELEC.P	23 (THU) 11:00-13:00
Chemistry Education	60	EDU.P	24 (FRI) 11:00-13:00
Environmental Energy	61	ENVR.P	23 (THU) 11:00-13:00

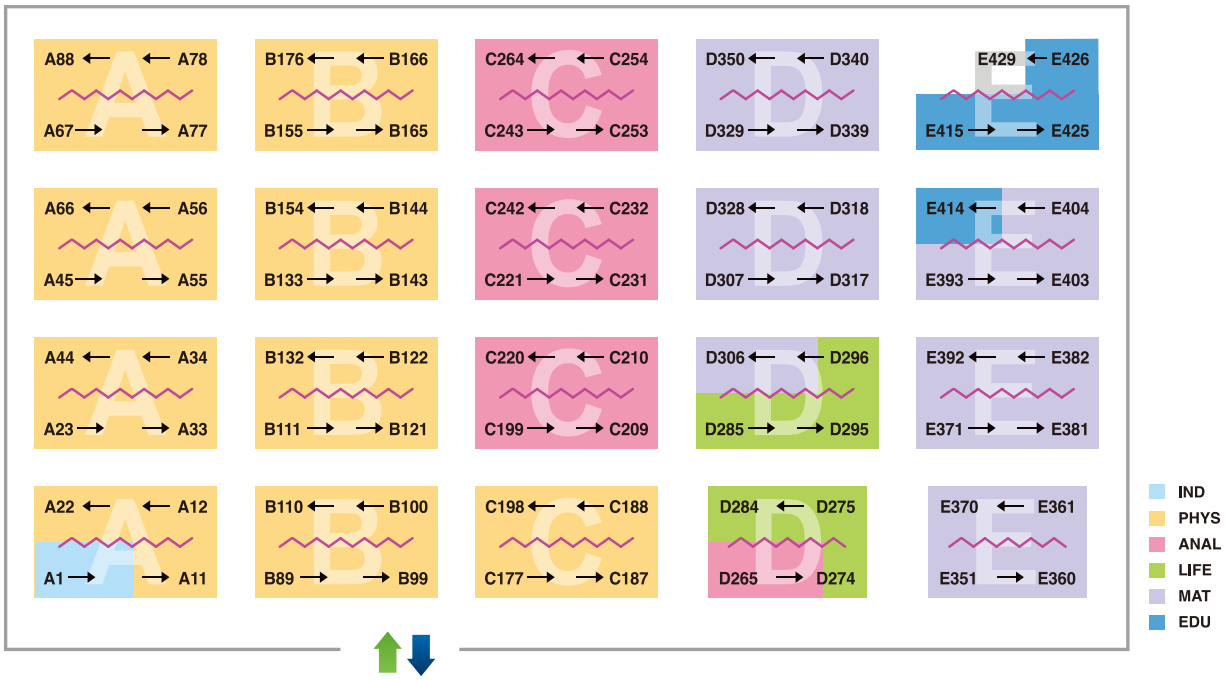
How to read



October 23 (THU) 11:00-13:00, Exhibition Hall 1 (3F)



October 24 (FRI) 11:00-13:00, Exhibition Hall 1 (3F)



Program Overview-22 (WED)

22 (WED)						
301	302	602	604+605	606+607	600A	600B
	[MSIT Policy Briefing] New Government's Basic Research Policy (14:00-14:30)					
❻ **KCS3** **[SRC Symposium]** Advances in Nanomaterials Science (13:50-17:40)		❸ **AWARD2** **[2025 KCS-ACES Early Career Award]** Doory Kim Hanyang University (14:30-15:00)	❹ **KCS1** **[4GSR Symposium]** Beamlines of the Next-Generation Synchrotron Radiation Facility Korea-4GSR: Gateway to New Possibilities (13:00-18:00)	❾ **KCS6** **[Chemistry Symposium for Future Innovation]** Chemistry at the Quantum Frontier (13:00-18:00)	❺ **KCS2** **[IBS Symposium]** Frontiers in Asymmetric Catalysis (13:30-17:50)	❼ **KCS4** **[BKCS Symposium]** BKCS, Collaborative Projects in Korean Chemistry (14:00-17:05)
	❿ **KCS7** **[SCSK Symposium]** The Korean Cosmetics Industry: K-Beauty Technologies and Innovations (15:00-17:30)	❽ **KCS5** **[JKCS Symposium]** Innovation and Challenge in JKCS (15:00-18:00)				

Program Overview-23 (THU)

23 (THU)

301	302	601	602	604	605	606+607	600A	600B	700A	700B	Convention Hall III	Exhibition Hall 1
41 **ANAL1.O** Oral Presentation of Young Analytical Chemists I (09:00-10:57)	37 **POLY.O** Oral Presentation for Young Polymer Scientists (09:00-11:00)	49 **ENVR.O** Integration of Chemistry for Solving Environmental and Energy Challenges (09:00-11:00)	43 **LIFE.O** Oral Presentation for Young Scientists in Life Chemistry (09:00-10:20) **Award Lecture: Sung-Kee Chung Award** Young-Tae Chang (POSTECH) (10:20-11:00)			46 **MAT.O** Oral Presentation for Young Material Chemists (09:00-11:00)	39 **PHYS1.O** Oral Presentation for Leading, Emerging, and Young Physical Chemists I (09:00-11:00)	47 **ELEC.O** Oral Presentation of Young Electrochemists (09:00-10:30) **Award Lecture: i-SENS Young Electrochemist Award** Jun Hui Park (Chungbuk National Univ.) (10:30-11:00)	38 **INOR.O** Oral Presentation of Young Scholars in Inorganic Chemistry (09:30-11:00)	45 **MEDI.O** Oral Presentation of Young Medicinal Chemists (09:00-11:00)	44 **ORGN.O** Oral Presentations for Young Organic Chemists (09:00-11:00)		
Poster Presentation 1 (11:00-13:00) - Exhibition Hall 1 (3F) POLY / INOR / ORGN / MEDI / ELEC / ENVR												
KCS General Assembly - Convention Hall I+II (3F) 1 Part 1. Plenary Lecture (13:00-14:30) - 1. Myeong Hee Moon (Yonsei University) 2. Moungi G. Bawendi (MIT) Part 2. General Assembly (14:30-15:30)												
21 **ANAL1** Current Advances in Hyper-Spectral Imaging Analysis (15:30-17:00) **Award Lecture: Young In Outstanding Analytical Chemistry Research Award** Tae-Young Kim (GIST) (17:00-17:20) **Award Lecture: Distinguished Contribution in Analytical Technology** Jaeick Lee (KIST) (17:20-17:40)	11 **POLY1** International Symposium on Macromolecular Materials (15:40-17:45)	36 **ENVR** Electrocatalytic Valorization of Carbon and Nitrogen Compounds (15:40-17:40)	23 **LIFE1** Recent Trends in Molecular Machine Biochemistry (15:40-17:40)	35 **EDU** Proposal for Future-Oriented Standardization of Chemistry Education and Test Questions for Integrated Science Chemistry (15:40-17:00)	14 **IND1** Recent Technology for Advanced Membranes (15:30-17:40)	30 **MAT1** Cutting-Edge Materials Chemistry for 2-D Materials (15:40-17:40)	**Award Lecture: Kim Myung Soo Award** Jeong Young Park (KAIST) (15:40-16:10) 19 **PHYS1** The Nano-Physical Chemistry Convergence Symposium (16:10-17:30)	33 **ELEC1** In-Silico Design of Electrochemical Materials (15:40-17:30)	17 **INOR1** Recent Advances in Bioinorganic Chemistry (15:30-17:10) **Award Lecture: Si-Joong Kim Academic Award** Wonyoung Choe (UNIST) (17:10-17:40)	28 **MEDI1** Targeting the Untargeted: Korean Industry's Leap in First-In-Class Drug Discovery (15:40-17:20) **Panel Discussion** (17:20-17:40)	**Award Lecture: Chang Sae Hee Award** Hong Geun Lee (Seoul National Univ.) (15:40-16:10) 26 **ORGN1** Recent Advances in Redox-Enabled Organic Reactions (16:10-18:00)	Exhibition
Analytical Chemistry Division General Meeting (17:40-18:00)	Polymer Chemistry Division General Meeting (17:45-18:15)					**Award Lecture: Jin-Ho Choy Academic Award** Seung-Tae Hong (DGIST) (17:40-18:10)		Electrochemistry Division General Meeting (17:30-18:00)	Inorganic Chemistry Division General Meeting (17:40-18:10)			

Program Overview-24 (FRI)

24 (FRI)

301	302	601	602	604	605	606+607	600A	600B	700A	700B	Convention Hall III	Exhibition Hall 1
22 **ANAL2** Current Advances in Laser-Based Spectroscopy (09:10-11:00)	**Award Lecture: TCI Polymer Chemistry Early Career Scientist Academic Award** Chang-Geun Chae (KRICT) (09:00-09:25)		24 **LIFE2** Recent Trends in Omics-Based Molecular Profiling (09:00-11:00)	48 **EDU.O** New Trends in Chemistry Education (09:00-11:00)	15 **IND2** Convergence of Biotechnology and Nano-technology I (09:00-11:00)	31 **MAT2** Cutting-Edge Materials Chemistry for Energy Materials (09:00-11:00)	40 **PHYS2.O** Oral Presentation for Leading, Emerging, and Young Physical Chemists II (09:00-11:00)	34 **ELEC2** Development of Innovative Electrochemical Systems (09:00-10:30)		29 **MEDI2** Award Lecture: Excellence in Medicinal Chemistry (09:00-10:15)	25 **ORGN2+ INOR2** **[Joint Symposium]** Joint Symposium on Organic and Inorganic Chemistries (09:00-11:00)	
	12 **POLY2** Special Symposium by Mid- and Early-Career Chemists (09:25-10:35)											
	Award Lecture: Polymer Chemistry Excellence Award Ja-Hyoung Ryu (UNIST) (10:35-11:00)					**Award Lecture: Young Material Chemists Award** Jin-Sil Choi (Hanbat Univ.) Jerome Hyun (Ewha Womans Univ.) (11:00-11:40)		**Award Lecture: Choi Kyu Won Award** Jin Ho Bang (Hanyang Univ.) (10:30-11:00)		**Award Lecture: Excellence in Medicinal Chemistry** Jae Yeol Lee (Kyung Hee Univ.) (10:15-10:55)		
Poster Presentation 2 (11:00-13:00) - Exhibition Hall 1 (3F) IND / PHYS / ANAL / LIFE / MAT / EDU												Exhibition
Lunch Break (13:00-13:30)												
2 Award Lecture - 2025 Taikyue Ree Academic Award - Convention Hall III (3F) (13:30-14:20) Injae Shin (Yonsei University)												
42 **ANAL2.O** Oral Presentation of Young Analytical Chemists II (14:30-16:27)	13 **POLY3** Recent Advances in Polymer-Based Electronic Materials (14:30-16:20)				16 **IND3** Convergence of Biotechnology and Nano-technology II (14:30-16:30)	32 **MAT3** Recent Progress in Battery Materials (14:30-16:30)	**Award Lecture: Young Physical Chemist Award** Hye Ran Koh (Chung-Ang Univ.) Seung Kyu Min (UNIST) (14:30-15:30)		18 **INOR3** Recent Advances in Coordination Chemistry (14:30-16:10)		27 **ORGN3** Unconventional Tools in Organic Chemistry (14:30-16:10)	
			Special Science Talk for Middle and High School Students (16:00-17:30)				20 **PHYS2** Recent Trends in Computational Chemistry Across Academia and Industry (15:30-16:50)					

Plenary Lecture

October 23 (Thu), 13:00-13:45, Convention Hall I+II

Advances in Size-Selective Analysis of Biomacromolecules Using Field-Flow Fractionation Coupled with Mass Spectrometry

Chair : Dukjin Kang (Korea Research Institute of Standards and Science)

Myeong Hee Moon

Department of Chemistry,
Yonsei University, Korea

Brief Profiles

Present / Professor, Department of Chemistry, Yonsei University, Korea

1991 / Ph.D., Department of Chemistry, University of Utah, United States

1987 / B.S., Department of Chemistry, Yonsei University, Korea

Building on over 30 years of research in analytical separation science, our laboratory has advanced the analytical power of Flow Field-Flow Fractionation (Flow FFF) coupled with Mass Spectrometry (MS) for the separation and characterization of bio-macromolecules in their native state. Flow FFF is a size-based separation technique that operates without a stationary phase, using an open, unpacked channel and aqueous carrier liquid—making it highly suitable for analyzing sensitive biological structures such as lipoproteins, extracellular vesicles (EVs), organelles, and metalloproteins without denaturation. This presentation highlights several innovations from our lab, including novel channel designs such as the frit-inlet asymmetrical channel enabling stopless sample injection, a hollow fiber-based disposable FFF system, and a two-dimensional separation strategy combining isoelectric focusing with Flow FFF to separate proteins by isoelectric point and hydrodynamic size. Off-line coupling of Flow FFF with nanoflow LC-ESI-MS/MS has enabled high-resolution size fractionation followed by detailed proteomic and lipidomic analyses. These techniques have been applied to biological samples related to Alzheimer's disease and prostate cancer for lipid profiling. Further efforts have focused on miniaturizing the Flow FFF system to enable on-line coupling with ESI-MS/MS for direct analysis of metalloproteins and lipid-containing particles without extraction. Applications include detection of disease-specific lipid species in EVs and lipoproteins from fluids such as serum and saliva. This work demonstrates the versatility of Flow FFF-MS for size-resolved biomolecular analysis and its potential in biomarker discovery and clinical diagnostics.

Plenary Lecture

October 23 (Thu), 13:45-14:30, Convention Hall I+II

Quantum Dots: From Curiosity to Technology

Chair : Sung Jee Kim (POSTECH)

Moungi G. Bawendi

Department of Chemistry,
Massachusetts Institute of
Technology, United States

Brief Profiles

2023 Nobel Laureate in Chemistry

Present / Lester Wolfe Professor,
Department of Chemistry,
Massachusetts Institute of Technology,
United States

1988 / Ph.D., Department of Chemistry,
The University of Chicago, United States

Chemically synthesized quantum dots were one of the first engineered and chemically produced nano-materials to have widespread applications. The combination of quantum effects, nanometer dimensions, and a chemical synthesis provides a platform for exploring size dependent fundamental properties as well as a sandbox for developing new applications. This talk will cover the origin story of chemically synthesized quantum dots, their basic physics, the synthesis that unlocked their widespread study as a nanomaterial, an overview of their properties, and a few of their applications.

Award Lecture

2025 Taikyue Ree Academic Award

October 24 (Fri), 13:30-14:20, Convention Hall III

Artificial Ion Transporters Induce Cancer Cell Death

Chair : Seunghoon Shin (Hanyang University)

Injae Shin

Department of Chemistry,
Yonsei University, Korea

Brief Profiles

Present / Professor, Department of Chemistry, Yonsei University, Korea

1995 / Ph.D., Department of Chemistry, University of Minnesota, United States

1985 / B.S., Department of Chemistry, Seoul National University, Korea

The ion transport properties and biological activities of several artificial ion transporters have been investigated. Pyridine diamide-strapped calix[4]pyrroles induce coupled chloride and sodium ion transport in cells, promoting cell death by elevating intracellular chloride and sodium ion concentrations. These calix[4]pyrrole transporters have been shown to trigger sodium chloride influx, increase the levels of reactive oxygen species, induce the release of cytochrome c from the mitochondria, and activate caspases. In addition, squaramide-based ion transporters promote sodium chloride influx into the cytosol. Their ion transport activity correlates with cytotoxicity, which is attributable to caspase-dependent apoptosis. Notably, one squaramide transporter was found to alter lysosomal pH, an effect ascribed to its ability to promote the efflux of chloride from the lysosome into the cytosol. This pH perturbation impairs lysosomal enzyme function and disrupts autophagic processes. Furthermore, calix[4]pyrrole-based ion-pair receptors which act as efficient Na^+/K^+ exchangers induce endoplasmic reticulum (ER) stress in cells by disrupting cation homeostasis, promote the generation of reactive oxygen species, and eventually enhance mitochondria-mediated apoptosis. Collectively, the findings suggest that synthetic ion transporters represent an attractive new approach to regulating biological processes by modulating intracellular ion concentrations that are normally maintained under the tight homeostatic control of cells.

Award Lecture

2025 KCS-ACES Early Career Award

October 22 (Wed), 14:30-15:00, Room 602

Super-Resolution Fluorescence Microscopy Beyond Bioimaging: Chemical Mechanisms and Applications

Chair : Changsik Song (Sungkyunkwan University)

Doory Kim

Department of Chemistry,
Hanyang University, Korea

Brief Profiles

Present / Associate Professor, Department of Chemistry, Hanyang University, Korea

2017 / Postdoctoral Fellow, U.C.Berkeley, United States

2015 / Ph.D., Department of Chemistry and Chemical Biology, Harvard University, United States

Super-resolution fluorescence microscopy (SRM) has advanced optical imaging by overcoming the diffraction limit, an achievement recognized by the 2014 Nobel Prize in Chemistry. The development and refinement of SRM techniques rely critically on the precise control of photochemical processes at the molecular level. In this presentation, I will detail our investigations into the photochemical principles that govern SRM, including the control of fluorophore photophysics to achieve nanoscale resolution. While SRM has been predominantly applied to biological imaging, I will further describe its extension to diverse chemical and material systems. These include single-molecule chemical sensing using spectrally resolved imaging, super-resolution imaging of semiconductor nanopatterns, and super-resolution chemical characterization of phase separation in polymer blend films. Collectively, these studies demonstrate the potential of SRM to enable simultaneous nanoscale structural imaging and localized chemical analysis in both biological and materials science contexts.

Scientific Programs

Symposium | KCS Symposium 1
October 22 (Wed), Room 604+605

Organizer

Kyeong Kyu Kim

Present	Professor, Department of Precision Medicine, Sungkyunkwan University, Korea
1998	Postdoc, Department of Chemistry, UC Berkeley, United States
1994	Ph.D., Department of Chemistry, Seoul National University, Korea

Ki-Jeong Kim

Present	Korea Senior Researcher, Pohang Accelerator Laboratory, POSTECH, Korea
2005-2008	Ph.D., Department of Chemistry, KAIST, Korea
1990-1993	M.S., Department of Physics, Chonbuk National University, Korea

Chair

Yeon-Gil Kim

Present	Senior Scientist, Beamline Science, Pohang Accelerator Laboratory, Korea
2007	Ph.D., Department of Life Science, POSTECH, Korea

Changwan Ha

Present	Scientist, 4GSR Research Division, Pohang Accelerator Laboratory, Korea
2022	Scientist, Institute of Material and Process Design, Helmholtz-Zentrum Hereon, Germany
2021	Ph.D., Faculty of Natural and Materials Science, Clausthal University of Technology, Germany

Kyeong Sik Jin

Present	Senior Scientist, Pohang Accelerator Laboratory, POSTECH, Korea
Present	Affiliate Professor, Division of Advanced Nuclear Engineering, POSTECH, Korea
2008	Ph.D., Department of Chemistry, POSTECH, Korea

Speaker

Kyung-Jin Kim

2012-Present	Professor, School of Life Sciences, Kyungpook National University, Korea
2003-2012	Senior Scientist (Team Leader), Pohang Accelerator Laboratory, Korea
2002-2003	Research Assistant Professor, Department of Life Sciences, POSTECH, Korea

Jungwook Kim

2021-Present	Associate Professor, Department of Chemistry, GIST, Korea
2016-2021	Assistant Professor, Department of Chemistry, GIST, Korea
2010-2016	Research Scientist, Department of Biochemistry, AECOM, United States

4. [4GSR Symposium] Beamlines of the Next-Generation Synchrotron Radiation Facility Korea-4GSR: Gateway to New Possibilities

Organizer: Kyeong Kyu Kim (Sungkyunkwan University)
Ki-Jeong Kim (POSTECH, Pohang Accelerator Laboratory)

Chair: Yeon-Gil Kim (Pohang Accelerator Laboratory)

13:00 **KCS1-1** Role of Synchrotron Facility for Plastic Bio-Recycling
Kyung-Jin Kim
School of Life Science and Biotechnology, Kyungpook National University, Korea

13:30 **KCS1-2** Structural Mechanisms of Bacterial Phospholipid Biosynthesis: From Membrane Association to Catalytic Specificity
Jungwook Kim
Department of Chemistry, GIST, Korea

14:00 **KCS1-3** Construction Progress of the Advanced Macromolecular Crystallography (MX) Beamline at Korea-4GSR
Mi-Jeong Kwak, Yeon-Gil Kim[1], Kijeong Kim*
Beamline Science Team, Pohang Accelerator Laboratory, Korea
[1]*Life Science Chemical Structure Research Team, Pohang Accelerator Laboratory, Korea*

14:30 Coffee Break

Speaker

Mi-Jeong Kwak

2023-Present	Project Scientist, 4GSR Research Division, Pohang Accelerator Laboratory, Korea
2021-2023	Postdoctoral Research Fellow, Department of Cancer Biology, Lerner Research Institute of Cleveland Clinic, United States
2018-2021	Senior Research Scientist I, Chong Kun Dang Research Institute in CKD Pharmaceutical Company, Korea

Kug-Seung Lee

Present	Senior Researcher, Pohang Accelerator Laboratory, Korea
2023	Visiting Researcher, Ohio State University, United States
2012	Postdoc, University of Texas at Austin, United States

Ik Seon Kwon

Present	Assistant Professor, Department of Energy Science & Engineering, Korea
2023-2024	Project Scientist, Pohang Accelerator Laboratory, POSTECH, Korea

Beomgyun Jeong

2016-Present	Principal Researcher, Korea Basic Science Institute, Korea
2014-2016	Postdoc, Advanced Light Source, United States

In-Hui Hwang

Present	Project Scientist, 4GSR Research Division, Pohang Accelerator Laboratory, Korea
2019-2023	Postdoc, X-ray Science Division, Argonne National Laboratory, United States
2013-2019	Graduate Student, XAFS-Nanos Laboratory, Jeonbuk National Laboratory, Korea

Tae Wu Kim

Present	Assistant Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2021	Postdoc, Chemical Sciences and Engineering Division, Argonne National Laboratory, United States
2016	Ph.D., Department of Chemistry, KAIST, Korea

Jaeyong Shin

Present	Project Scientist, Pohang Accelerator Laboratory, Korea

Wonhyuk Jo

Present	Senior Researcher, Research Center for Beamline, Korea Basic Science Institute, Korea
2022-2024	Beamline Instrumental Scientist, Materials Imaging and Dynamics, European XFEL, Germany
2019-2021	Postdoctoral Researcher, Coherent X-ray Scattering of Photon Science (FS-CXS), DESY, Germany

Chair: Changwan Ha (Pohang Accelerator Laboratory)

14:45 **KCS1-4** Introduction to X-ray Absorption Spectroscopy and Upgrade Plan for PLS-II BL8C

Kug-Seung Lee

Division of Energy Environment Research Team, Pohang Accelerator Laboratory, Korea

15:15 **KCS1-5** Phase Engineering of Two-Dimensional Transition Metal Dichalcogenide Nanosheets for Electrochemical Water Splitting

Ik Seon Kwon

Department of Energy Science & Engineering, Kunsan National University, Korea

15:35 **KCS1-6** Probing Chemical Interfaces Using Ambient Pressure X-ray Photoelectron Spectroscopy at KBSI

Beomgyun Jeong

Division of Materials Science, Korea Basic Science Institute, Korea

15:55 **KCS1-7** Advanced X-ray Spectroscopy Beamlines at Korea-4GSR for Material Science

In-Hui Hwang, Changwan Ha

Beamline Science Team, Pohang Accelerator Laboratory, Korea

16:25 Coffee Break

Chair: Kyeong Sik Jin (Pohang Accelerator Laboratory)

16:40 **KCS1-8** Deciphering Photocatalytic Reaction Mechanisms Using Time-Resolved X-ray Scattering and Spectroscopy

Tae Wu Kim

Department of Applied Chemistry, Kyung Hee University, Korea

17:10 **KCS1-9** Multi-Modal Characterization with Focused Ultrashort X-ray Pulses

Jaeyong Shin, Kijeong Kim*

Beamline Science Team, Pohang Accelerator Laboratory, Korea

17:30 **KCS1-10** Probing Dynamics in Soft Matter Systems Using Coherent X-ray Scattering at 4GSR

Wonhyuk Jo, In-Hui Hwang[1], Jaeyong Shin[1]

Research Center for Beamline, Korea Basic Science Institute, Korea

[1]*Beamline Science Team, Pohang Accelerator Laboratory, Korea*

Symposium	KCS Symposium 2 October 22 (Wed), Room 600A

Organizer

Sungwoo Hong

Present	Professor, Department of Chemistry, KAIST, Korea

Chair

Kwangmin Shin

Present	Associate Professor, Department of Chemistry, Sungkyunkwan University, Korea
2018-2020	Postdoc, Department of Chemistry, MIT, United States
2017	Ph.D., Department of Chemistry, KAIST, Korea

Eun Jeong Yoo

Present	Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2011	Postdoc, Department of Chemistry, Scripps Research, United States
2009	Ph.D., Department of Chemistry, KAIST, Korea

Speaker

Sukbok Chang

2012-Present	Director, Center for Catalytic Hydrocarbon Functionalizations, IBS, Korea
2002-Present	Department of Chemistry, KAIST, Korea

Sukwon Hong

2012-Present	Associate/Full Professor, Department of Chemistry, GIST, Korea
2005-2012	Assistant Professor, Department of Chemistry, University of Florida, United States
1998-2003	Ph.D., Chemistry (Advisor: Prof. Tobin Marks), Northwestern University, United States

Han Yong Bae

2019-Present	Associate and Assistant Professor, Department of Chemistry, Sungkyunkwan University, Korea
2019	Assistant Professor, Department of Chemistry, UNIST, Korea
2015-2019	Postdoctoral Researcher, Max-Planck-Institut für Kohlenforschung, Germany

5. [IBS Symposium] Frontiers in Asymmetric Catalysis

Organizer: Sungwoo Hong (KAIST)

Chair: Kwangmin Shin (Sungkyunkwan University)

13:30 **KCS2-1** Asymmetric Formal Hydroamidation of Conjugated Alkenes
Sukbok Chang
IBS, Korea / Department of Chemistry, KAIST, Korea

14:00 **KCS2-2** Harnessing Anagostic C–H···Pd Interactions for Asymmetric C–N Cross-Coupling
Sukwon Hong
Department of Chemistry, GIST, Korea

14:30 **KCS2-3** Investigation of Catalytic Systems for Asymmetric Functionalization of Alkenes and Strained Bridged Rings
Sungwoo Hong
IBS, Korea / Department of Chemistry, KAIST, Korea

15:00 **KCS2-4** Superacid Counteranion as a Flexible-Coordinating Chiral Ligand for Asymmetric Organo–Bismuth Catalyzed Allylation
Han Yong Bae
Department of Chemistry, Sungkyunkwan University, Korea

15:30 Coffee Break

Speaker

Mu-Hyun Baik

Present	Professor, Department of Chemistry, KAIST, Korea
2000	Ph.D., Department of Chemistry, University of North Carolina, Chapel Hill, NC, United States
1995	B.S., Department of Chemistry, Heinrich Heine University, Duesseldorf, Germany

Seung Hwan Cho

2024-Present	Professor, Department of Chemistry, POSTECH, Korea
2018-2024	Associate Professor, Department of Chemistry, POSTECH, Korea
2014-2018	Assistant Professor, Department of Chemistry, POSTECH, Korea

Sarah Yunmi Lee

2025-Present	Associate Professor, Department of Chemistry, KAIST, Korea
2018-2025	Assistant/Associate Professor, Department of Chemistry, Yonsei University, Korea
2015-2017	NIH Postdoctoral Fellow, College of Chemistry, UC Berkeley, CA, United States

Do Hyun Ryu

2023-Present	Center Director, Asymmetric Catalysis Design Center, Sungkyunkwan University, Korea
2022-Present	Center Director, Chiral Material Analysis Center, Sungkyunkwan University, Korea
2005-Present	Professor, Department of Chemistry, Sungkyunkwan University, Korea

Chair: Eun Jeong Yoo (Kyung Hee University)

15:50 **KCS2-5** Rationalizing Photoredox Reactions: Thermodynamics vs Kinetics
Mu-Hyun Baik
IBS, Korea / Department of Chemistry, KAIST, Korea

16:20 **KCS2-6** Transition-Metal-Catalyzed Enantiotopic-Group-Selective Transformations of 1,1-Diborylalkanes
Seung Hwan Cho
Department of Chemistry, POSTECH, Korea

16:50 **KCS2-7** Stereodivergence in Catalytic Conjugate Additions
Sarah Yunmi Lee
Department of Chemistry, KAIST, Korea

17:20 **KCS2-8** Enantioselective Catalysis for the Synthesis of Chiral Molecules
Do Hyun Ryu
Department of Chemistry, Sungkyunkwan University, Korea

Symposium

KCS Symposium 3
October 22 (Wed), Room 301

Organizer

Jaeyoung Sung

2024-Present	Director, Global Science Research Center for Systems Chemistry, Korea
2015-2024	Director, Creative Research Initiative Center for Chemical Dynamics in Living Cells
2022-2023	Vice President of General Affairs, Korean Chemical Society, Korea

Sung Jee Kim

2005-Present	Professor, Department of Chemistry, POSTECH, Korea
2003-2005	Postdoc, Department of Applied Physics, CALTECH, United States
2003	Ph.D., Department of Chemistry, MIT, United States

Hae Sung Cho

Present	Associate Professor, Department of Chemistry, Chung-Ang University, Korea
2013	Ph.D., Department of Chemistry, KAIST, Korea
2005	B.S., Department of Chemistry, KAIST, Korea

Speaker

Moungi G. Bawendi

Present	Lester Wolfe Professor, Department of Chemistry, MIT, United States
1988	Ph.D., Department of Chemistry, The University of Chicago, United States

Ji-Hyun Kim

2024-Present	Research Professor, Global Science Research Center for Systems Chemistry, Chung-Ang University, Korea
2009-2012	Postdoctoral Associate, Department of Chemistry, MIT, United States
2002-2008	Ph.D., Department of Chemistry, Seoul National University, Korea

Jungwon Park

Present	Professor, School of Chemical and Biological Engineering, Seoul National University, Korea
2016	Research Associate, SEAS, Harvard University, United States

6. [SRC Symposium] Advances in Nanomaterials Science

Organizer: Jaeyoung Sung (Chung-Ang University / Global SRC for Systems Chemistry)
Sung Jee Kim (POSTECH)
Hae Sung Cho (Chung-Ang University)

Chair: Sung Jee Kim (POSTECH)

13:50 Opening Remarks
Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea / Global SRC for Systems Chemistry, Korea

<Plenary Lecture>

14:00 **KCS3-1** Colloidal Quantum Dots as Single Photon Quantum Emitters
Moungi G. Bawendi
Department of Chemistry, Massachusetts Institute of Technology, United States

14:50 **KCS3-2** Unraveling Nanoparticle Growth: Beyond a Century-Old Theory
Ji-Hyun Kim, Taeghwan Hyeon[1, *], Jaeyoung Sung[*], Jungwon Park[1, *]
Department of Chemistry, Chung-Ang University, Korea
[1]*Department of Chemical and Biological Engineering, Seoul National University, Korea*

15:20 Coffee Break

Chair: Jaeyoung Sung (Chung-Ang University / Global SRC for Systems Chemistry)

15:30 **KCS3-3** Clusters to Quantum Dots
Sung Jee Kim
Department of Chemistry, POSTECH, Korea

16:00 **KCS3-4** Visualizing Nanoparticles by Real-Time Liquid Electron Microscopy
Jungwon Park
School of Chemical and Biological Engineering, Seoul National University, Korea

16:30 Coffee Break

Speaker

Sangwoon Yoon

Present	Professor, Department of Chemistry, Chung-Ang University, Korea
2003	Ph.D., Department of Chemistry, University of Wisconsin-Madison, United States
1996, 1994	M.S., B.S., Department of Chemistry, Seoul National University, Korea

Sunmin Ryu

Present	Professor, Department of Chemistry, POSTECH, Korea

Chair: Hae Sung Cho (Chung-Ang University)

16:40 **KCS3-5** "Golden": Plasmonic Properties of Gold Nanoparticles and Their Assemblies

Sangwoon Yoon

Department of Chemistry, Chung-Ang University, Korea

17:10 **KCS3-6** Molecular Excitons in Two-Dimensional Organic Crystals

Sunmin Ryu

Department of Chemistry, POSTECH, Korea

Symposium

KCS Symposium 4
October 22 (Wed), Room 600B

Organizer

Sungjin Park

2010-Present	Professor, Department of Chemistry, Inha University, Korea
2005	Ph.D., Department of Chemistry, KAIST, Korea
1998	B.S., Department of Chemistry, KAIST, Korea

Sun-Joon Min

2015-Present	Professor, Department of Energy and Bio Sciences, Hanyang University ERICA, Korea
2008	Senior/Principle Researcher, KIST, Korea
2005	Ph.D., Department of Chemistry, UCLA, United States

Speaker

So-Jung Park

2019-Present	Director, Center for Hybrid Interfacial Chemical Structure, Ewha Womans University, Korea
2015-Present	Associate Editor, ACS Applied Materials and Interfaces (ACS)
2013-Present	Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea

Jaeyoung Sung

Present	Professor, Department of Chemistry, Chung-Ang University, Korea
2024-Present	Director, Global Science Research Center for Systems Chemistry, Korea
2015-2024	Director, Creative Research Initiative Center for Chemical Dynamics in Living Cells

Haesik Yang

2004-Present	Professor, Department of Chemistry, Pusan National University, Korea
1999-2004	Senior Researcher, Electronics and Telecommunications Research Institute, Korea
1998-1999	Postdoctoral Scholar, Lawrence Berkeley National Laboratory, United States

Jin Hee Ahn

Present	Professor, Department of Chemistry, GIST, Korea
Present	CEO, JD Bioscience, Korea

Jaebum Choo

Present	Professor, Department of Chemistry, Chung-Ang University, Korea
2019	Professor, Department of Bionano Engineering, Hanyang University, Korea
1994	Ph.D., Department of Chemistry, Texas A&M University, United States

7. [BKCS Symposium] BKCS, Collaborative Projects in Korean Chemistry

Organizer: Sungjin Park (Inha University)
Sun-Joon Min (Hanyang University)

Chair: Sungjin Park (Inha University)

14:00 Opening Remarks
Wonwoo Nam
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

14:20 **KCS4-1** Dynamic Nanostructures via Assembly of Functional Nanoparticles and Polymers
So-Jung Park
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

14:50 **KCS4-2** Supersaturation, Nucleation, and Phase Separation of Mesoscopic Systems
Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea / Global SRC for Systems Chemistry, Korea

15:20 Coffee Break

Chair: Sun-Joon Min (Hanyang University)

15:35 **KCS4-3** Electron Mediators for Electrochemical Biosensors
Haesik Yang
Department of Chemistry, Pusan National University, Korea

16:05 **KCS4-4** Development of "Beyond Rule of Five" Drugs: Medium to High Molecular Weight Modalities Including Antibody-Drug Conjugates
Jin Hee Ahn
Department of Chemistry, GIST, Korea

16:35 **KCS4-5** Rapid and Highly Sensitive Pathogen Screening Using Nanoplasmonic SERS Sensors
Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea

Organizer

Youngbok Lee

Present	Professor, Department of Energy and Bio Sciences, Hanyang University, Korea
2013	Postdoc, Cancer Systems Imaging, M.D. Anderson Cancer Center, United States
2013	Ph.D., Department of Chemistry, Texas A&M University, United States

Chair

Young-Geun Ha

Present	Professor, Department of Chemistry, Kyonggi University, Korea
2011	Ph.D., Department of Chemistry, Northwestern University, United States
2003	B.S., Department of Chemistry, Korea University, Korea

Speaker

Gyeongwon Kang

2023-Present	Assistant Professor, Department of Chemistry, Kangwon National University, Kroea
2021-2023	Research Associate, Cavendish Laboratory, University of Cambridge, United Kingdom
2015-2021	Ph.D., Department of Chemistry, Northwestern University, United States

Dong Won Kang

Present	Assistant Professor, Department of Chemistry, Inha University, Korea
2023	Postdoc, Department of Chemistry, The University of Chicago, United States
2020	Ph.D., Department of Chemistry, Korea University, Korea

Hongki Kim

Present	Assistant Professor, Department of Chemistry, Kongju National University, Korea
2021	Postdoctoral Researcher, Centre for Craniofacial and Regenerative Biology, King's College London, United Kingdom
2020	Postdoctoral Researcher, Bio-Nano Research Center, Korea Research Institute of Bioscience and Biotechnology, Korea

Jongsik Park

2020.09-Present	Assistant Professor, Department of Chemistry, Kyonggi University, Korea
2019.09-2020.08	Postdoc, Department of Chemical Engineering, University of Texas at Austin, United States
2012.03-2018.03	Ph.D., Department of Chemistry, Korea University, Korea

8. [JKCS Symposium] Innovation and Challenge in JKCS

Organizer: Youngbok Lee (Hanyang University)

Chair: Youngbok Lee (Hanyang University)

15:00 **KCS5-1** Investigating Dynamics of Nanogap-Confined Molecules Using Single-Particle Nanoplasmonics
Gyeongwon Kang
Department of Chemistry, Kangwon National University, Korea

15:20 **KCS5-2** Optimal Pore Environment Screening in Robust Metal-Organic Frameworks for Nitrogen Trifluoride Capture
Dong Won Kang
Department of Chemistry, Inha University, Korea

15:40 **KCS5-3** Au Nanostructure-Based Surface-Enhanced Raman Scattering Substrate for Biochemical Sensing
Hongki Kim
Department of Chemistry, Kongju National University, Korea

16:00 **KCS5-4** Fabrication of Unconventional Heterointerfaces within Nanoparticle via Cation Exchange Reaction
Jongsik Park
Department of Chemistry, Kyonggi University, Korea

16:20 Coffee Break

Speaker

Sung-Eun Suh

Present	Associate Professor, Department of Chemistry, Ajou University, Korea
2021-2025	Assistant Professor, Department of Chemistry, Ajou University, Korea

Sung Yun Son

2025.09-Present	Associate Professor, Department of Chemistry, Kwangwoon University, Korea
2022.03-2025.08	Assistant Professor, Department of Chemistry, Kwangwoon University, Korea

Najin Jeong

Present	Researcher, Convergence Education Research Institute, Korea National University of Education, Korea

Ara Jo

2021-Present	Assistant Professor, Department of Chemistry, Kangwon National University, Korea
2019-2021	Postdoc, Northwestern University, United States
2018-2019	Postdoc, KIST, Korea

Chair: Young-Geun Ha (Kyonggi University)

16:40 **KCS5-5** Asymmetric Approach to Strained Chiral Scaffolds for Stereoretentive Transformations

Sung-Eun Suh

Department of Chemistry, Ajou University, Korea

17:00 **KCS5-6** Film-State Structural Modification of Conjugated Polymers via Thermally and Acid-Cleavable Side Chains for Enhanced Charge Transport and Stability

Sung Yun Son

Department of Chemistry, Kwangwoon University, Korea

17:20 **KCS5-7** Chemistry Education for the Future: Implementing Modeling through Generative AI

Najin Jeong

Convergence Education Research Institute, Korea National University of Education, Korea

17:40 **KCS5-8** A Potential-Holding Method for Reliable ECSA Determination on Platinum Electrode

Ara Jo

Department of Chemistry, Kangwon National University, Korea

Organizer

Cheol-Ho Choi

Present	Professor, Department of Chemistry, Kyungpook National University, Korea
1998	Ph.D., Department of Chemistry, Georgetown University, United States
1991	B.S./M.S., Department of Chemistry, Seoul National University, Korea

Chair

Chang Woo Myung

Present	Associate Professor, Department of Energy, Sungkyunkwan University, Korea
2021	Postdoc, Yusuf Hamied Department of Chemistry, University of Cambridge, United Kingdom
2019	Ph.D., Department of Chemistry, UNIST, Korea

Yejin Kim

2024-Present	Assistant Professor, Department of Chemistry, Seoul National University, Korea
2022-2024	Postdoc, Division of Chemistry and Chemical Engineering, California Institute of Technology, United States
2016-2022	Ph.D., Department of Chemistry, UNIST, Korea

Woojae Kim

2022-Present	Assistant Professor, Department of Chemistry, Yonsei University, Korea
2020-2022	Postdoc, Department of Chemistry and Chemical Biology, Cornell University, United States
2014-2020	Ph.D., Department of Chemistry, Yonsei University, Korea

Speaker

Young Min Rhee

2017-Present	Department of Chemistry, KAIST, Korea
2008-2017	Department of Chemistry, POSTECH, Korea

Joonsuk Huh

Present	Associate Professor, Department of Chemistry, Yonsei University, Korea
Present	Associate Professor, Department of Quantum Information, Yonsei University, Korea

Seunghoon Lee

2023-Present	Assistant Professor, Department of Chemistry, Seoul National University, Korea
2019-2023	Postdoc, Division of Chemistry and Chemical Engineering, Caltech, United States

Seiichiro Ten-no

Present	Professor, Department of Computer Systems, Kobe University, Japan
1994	Ph.D., Kyoto University, Japan
1989	B.S., Kyoto University, Japan

9. [Chemistry Symposium for Future Innovation] Chemistry at the Quantum Frontier

Organizer: Cheol-Ho Choi (Kyungpook National University)

1. Quantum Computing in Chemistry

Chair: Chang Woo Myung (Sungkyunkwan University)

13:00 **KCS6-1** Efficient Excited-State Energy Calculations via Symmetry-Preserving VQE and Shallow QPE
Young Min Rhee, Youngkyun Ahn
Department of Chemistry, KAIST, Korea

13:25 **KCS6-2** Energy Distribution of Quantum States and Quantum Algorithms
Joonsuk Huh
Department of Chemistry, Yonsei University, Korea

13:50 **KCS6-3** Quantum Interference Algorithm for Initial State Preparation
Seunghoon Lee
Department of Chemistry, Seoul National University, Korea

14:15 **KCS6-4** Challenges of Projective Transcorrelation toward Near-Term Quantum Computing
Seiichiro Ten-no
Department of Computer Systems, Kobe University, Japan

14:45 Coffee Break

2. Quantum Materials, Measurement, and Control in Chemistry

Chair: Yejin Kim (Seoul National University)

14:55 **KCS6-5** Trends and Characterization of Organic Molecular Spin Qubit Systems
Hohjai Lee
Department of Chemistry, GIST, Korea

15:20 **KCS6-6** Electronic and Spin Properties of Group 10 $M(NHCCS_2^{\bullet-})_2$ Compounds and Their Redox Derivatives: Prospects for Molecular Qubit Applications
Jeongcheol Shin
Department of Chemistry, Duksung Women's University, Korea

15:45 **KCS6-7** Nonlinear Spectroscopy with Paired Single Photons
Junwoo Kim
Department of Chemistry, Chungbuk National University, Korea

16:10 Coffee Break

Chair: Woojae Kim (Yonsei University)

16:20 **KCS6-8** First-Principles Theory of Quantum Defects in Materials for Solid-State Quantum Information Science
Hosung Seo
Department of Quantum Information Engineering, Sungkyunkwan University, Korea

16:45 **KCS6-9** Hexagonal Boron Nitride as a Platform for Quantum Technologies
Hyeon Suk Shin
Department of Energy Science, Sungkyunkwan University, Korea

17:10 **KCS6-10** Quantum Magnetic Field Sensing and Quantum Hyperpolarization Techniques for Chemical Applications
Keunhong Jeong
Department of Chemistry, Korea Military Academy, Korea

17:35 **KCS6-11** Accessing Organic Radicals as Qubit Materials
Eunsung Lee
Department of Chemistry, Seoul National University, Korea

Speaker

Hohjai Lee

2020-Present	Associated Professor, Department of Chemistry, GIST, Korea
2013-2019	Assistant Professor, Department of Chemistry, GIST, Korea

Jeongcheol Shin

2023-Present	Assistant Professor, Department of Chemistry, Duksung Women's University, Korea
2021-2023	Postdoctoral Researcher, Department of Chemistry, KAIST, Korea (Prof. Kiyoung Park)
2015-2021	Ph.D. Student, Department of Chemistry, KAIST, Korea (Prof. Kiyoung Park)

Junwoo Kim

2022-Present	Assistant Professor, Department of Chemistry, Chungbuk National University, Korea
2020-2022	Postdoctoral Researcher, Department of Chemistry, Princeton University, United States
2018-2020	Research Fellow, IBS Center for Molecular Spectroscopy and Dynamics, Korea University, Korea

Hosung Seo

Present	Associate Professor, Department of Quantum Information Engineering, Sungkyunkwan University, Korea

Hyeon Suk Shin

2024.03-Present	Director, Center for 2D Quantum Heterostructures, IBS, Korea
2024.06-Present	Professor, Department of Chemistry, Sungkyunkwan University, Korea
2024.03-Present	Professor, Department of Energy Science, Sungkyunkwan University, Korea

Keunhong Jeong

Present	Professor, Department of Chemistry, Korea Military Academy, Korea
Present	Science Advisory Board Member, OPCW
Present	Quantum Frontier Strategy Council, Ministry of Science and ICT, Korea

Eunsung Lee

2014-Present	Associate Professor, Department of Chemistry, Seoul National University, Korea
2013-2024	Assistant, Associate, and Professor, Department of Chemistry, POSTECH, Korea

Symposium	KCS Symposium 7 October 22 (Wed), Room 302

Organizer

Sang Min Lim

Present	Principal Researcher, Brain Science Institute, KIST, Korea
2013	Ph.D., Department of Chemistry and Chemical Biology, Harvard University, United States
2002	B.S., Department of Chemistry, Seoul National University, Korea

Chair

Ky-Youb Nam

Present	President/CTO, Pharos iBio Co., Ltd., Korea
2007	Postdoc, University of Maryland Biotechnology Institue, MD, United States
2001	Ph.D., Department of Chemisty, Soongsil University, Korea

Speaker

Jeoungjin Ryu

Present	Senior Researcher & Team Leader, COSMAX R&I Center, Korea
2005	M.S., Department of Biotechnology, Hankuk University of Foreign Studies, Korea

Ji Wook Jang

2015-Present	Skincare Division, R&I Center, AMOREPACIFIC, Korea
2012	Ph.D., Department of Organic and Nano Material Engineering, Jeonbuk National University, Korea
2002	B.S., Department of Polymer Engineering, Pukyong National University, Korea

Seung-Hyun Jun

Present	Team Leader, Beauty Solution Team, R&I Division, LG H&H, Korea
2015	Ph.D., Chemical and Biological Engineering, Korea University, Korea
2004	B.S., Chemical and Biological Engineering, Korea University, Korea

Jin Mo Kim

Present	Director, Convergence Technology Laboratory, Kolmar Korea, Korea
2013	Senior Researcher, Skin Science Research Institute, Enprani, Korea
2002	M.Eng., Department of Chemical Engineering, Dankook University, Korea

10. [SCSK Symposium] The Korean Cosmetics Industry: K-Beauty Technologies and Innovations

Organizer: Sang Min Lim (KIST)

Chair: Ky-Youb Nam (Pharos iBio)

15:00 Welcome Address

Phil Ho Lee

President, Korean Chemical Society / Department of Chemistry, Kangwon National University, Korea

15:10 Welcome Address

Jae Sung Hwang

President, The Society of Cosmetic Scientists of Korea / Department of Genetics and Biotechnology, Kyung Hee University, Korea

15:20 **KCS7-1** Cosmetic Ingredient Trends: From Conventional Actives to Biotechnological Innovations

Jeoungjin Ryu

Innovative Materials Team, COSMAX R&I Center, Korea

15:50 **KCS7-2** Advanced Skincare for Skin Barrier Using Ultra-High Molecular Weight Hyaluronic Acid Hydrogel

Ji Wook Jang, Jenghwan Kim, Sungyeon Cho, Byungryol Paik, Heung Soo Baek, Sunga Cho

Skincare Division, AMOREPACIFIC, Korea

16:20 **KCS7-3** Enhanced Transdermal NAD^+ Delivery via Ion-Coupled Transfersomes: A Solution for Skin Longevity and Senescence Delay

Seung-Hyun Jun, Seongsu Kang, Bon Il Koo, Euitaek Jeong, Nea-Gyu Kang

Beauty Solution Team, LG Household and Health Care R&D Center, Korea

16:50 **KCS7-4** Research on Convergent Technologies Focused on Cosmetic Development

Jin Mo Kim

Convergence Technology Laboratory, Kolmar Korea, Korea

17:20 Closing Remarks

Symposium

Polymer Chemistry Symposium 1
October 23 (Thu), Room 302

Organizer

Jeewoo Lim

Present	Associate Professor, Department of Chemistry, Kyung Hee University, Korea
2011	Ph.D., Department of Chemistry, MIT, United States
2006	A.B., Department of Chemistry, Princeton University, United States

Chair

Minseok Kwak

Present	Professor, Department of Chemistry, Pukyong National University, Korea
2013	Rubicon Fellow, Wyss Institute at Harvard, United States
2011	Ph.D., University of Groningen, Netherlands & Max-Planck-Institute for Polymer Research, Germany

Speaker

Andrew J. Boydston

Present	Professor, Department of Chemistry, University of Wisconsin, United States
2007-2010	Postdoctoral Fellow, California Institute of Technology, United States
2007	Ph.D., Department of Chemistry, University of Texas, United States

Yves Lansac

2003-2004	Research Associate, Caltech, United States
1995-1998, 2000-2003	Research Associate, University of Colorado at Boulder, United States
1993	Ph.D., University of Nice-Sophia Antipolis, France

Cheolmin Park

Present	Professor, Department of Materials Science and Engineering, Yonsei University, Korea
2002	Ph.D., Department of Materials Science and Engineering, MIT, United States
1992	B.S., Department of Fiber and Textile Engineering, Seoul National University, Korea

11. International Symposium on Macromolecular Materials

Organizer: Jeewoo Lim (Kyung Hee University)

Chair: Jeewoo Lim (Kyung Hee University)

15:40 **POLY1-1** Metal-Free Ring-Opening Metathesis Polymerization
Andrew J. Boydston
Department of Chemistry, University of Wisconsin–Madison, United States / Department of Chemical and Biological Engineering, University of Wisconsin–Madison, United States / Department of Materials Science and Engineering, University of Wisconsin–Madison, United States

16:15 **POLY1-2** DNA Condensation and Aggregation Induced by Condensing Agents
Yves Lansac, Yun Hee Jang[1, *]
GREMAN, CNRS UMR 7347, Université de Tours, France / LPS, CNRS UMR 8502, Université Paris-Saclay, France
[1]*Department of Energy Science and Engineering, DGIST, Korea*

16:50 Coffee Break

17:10 **POLY1-3** Tactile Sensory Neuromorphic Displays Enabling Health Monitoring
Cheolmin Park
Department of Materials Science and Engineering, Yonsei University, Korea

Chair: Minseok Kwak (Pukyong National University)

17:45 Polymer Chemistry Division General Meeting

Organizer

Minseok Kwak

Present	Professor, Department of Chemistry, Pukyong National University, Korea
2013	Rubicon Fellow, Wyss Institute at Harvard, United States
2011	Ph.D., University of Groningen, Netherlands & Max-Planck-Institute for Polymer Research, Germany

Chair

Hyeonuk Yeo

2017-Present	Associate Professor, Department of Chemistry Education, Kyungpook National University, Korea
2017	Ph.D., Department of Polymer Chemistry, Kyoto University, Japan
2013-2017	Research Scientist, KIST, Korea

Speaker

Chang-Geun Chae

Present	Senior Researcher, Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea
Present	Assistant Professor, Advanced Materials and Chemical Engineering, University of Science and Technology, Korea

Hong Yul Cho

2024-Present	Assistant Professor, Department of Chemistry, Gangneung-Wonju National University, Korea
2020-2024	Research Professor, Department of Polymer Science and Engineering, Pusan National University, Korea

Kyoungil Cho

Present	Assistant Professor, Department of Chemistry, Changwon National University, Korea
2023-2025	Post-doctoral Researcher, Department of Chemistry, KAIST, Korea

Suk-Kyun Ahn

Present	Professor, Department of Polymer Science and Engineering, Pusan National University, Korea
2014-2015	Postdoctoral Researcher, Air Force Research Laboratory, United States

Ja-Hyoung Ryu

2012-Present	Professor, Department of Chemistry, UNIST, Korea
2023-Present	Editorial Advisory Board Member of ChemSystemsChem

12. Special Symposium by Mid- and Early-Career Chemists

Organizer: Minseok Kwak (Pukyong National University)

Chair: Minseok Kwak (Pukyong National University)

<Award Lecture: TCI Polymer Chemistry Early Career Scientist Academic Award>

09:00 **POLY2-1** Catalyst Environment Design in Vinyl-Addition Polymerization to Access Model Polynorbornenes
Chang-Geun Chae
Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea

09:25 **POLY2-2** Controls in Polymerization
Hong Yul Cho
Department of Chemistry, Gangneung-Wonju National University, Korea

09:45 Coffee Break

Chair: Hyeonuk Yeo (Kyungpook National University)

09:55 **POLY2-3** From Waste to Resource: ISOMET Approaches for Polymer Chemical Recycling
Kyoungil Cho
Department of Chemistry, Changwon National Univeristy, Korea

10:15 **POLY2-4** Liquid Crystal Elastomers for Active Textiles and Shape Displays
Suk-Kyun Ahn
Department of Polymer Science and Engineering, Pusan National University, Korea

<Award Lecture: Polymer Chemistry Excellence Award>

10:35 **POLY2-5** Supramolecular Approach for Targeted Disease Therapy
Ja-Hyoung Ryu
Department of Chemistry, UNIST, Korea

Symposium

Polymer Chemistry Symposium 3
October 24 (Fri), Room 302

Organizer

Seung Goo Lee

Present	Associate Professor, Department of Chemistry, University of Ulsan, Korea
2016	Postdoc, Department of Chemical Engineering, MIT, United States
2012	Ph.D., Department of Chemical Engineering, POSTECH, Korea

Chair

Sung Yun Son

Present	Associate Professor, Department of Chemistry, Kwangwoon University, Korea
2021	Postdoc, Department of Chemistry, University of North Carolina at Chapel Hill, United States
2018	Ph.D., Department of Chemical Engineering, POSTECH, Korea

Speaker

Yun Hi Kim

Present	Professor, Department of Chemistry, Gyeongsang National University, Korea

Jinseck Kim

Present	Associate Professor, Department of Polymer-Nano Science & Technology, Jeonbuk National University, Korea
2023	Ph.D., Department of Chemical & Biomolecular Engineering, KAIST, Korea
2011	M.S., Department of Chemical Engineering, POSTECH, Korea

Kyung Jin Lee

2012-Present	Professor, Department of Chemical Engineering and Applied Chemistry, Chungnam National University, Korea
2009-2012	Postdoc, Department of Chemical Engineering, University of Michigan Ann Arbor, United States

Kyoseung Sim

2024.03.-Present	Associate Professor, Department of Chemistry, UNIST, Korea
2020.03.-2024.02.	Assistant Professor, Department of Chemistry, UNIST, Korea
2018.08.-2020.02.	Postdoctral Researcher, University of Houston, United States

13. Recent Advances in Polymer-Based Electronic Materials

Organizer: Seung Goo Lee (University of Ulsan)

Chair: Sung Yun Son (Kwangwoon University)

14:30 **POLY3-1** Development of Conjugated Polymers for Organic Electronics
Yun Hi Kim
Department of Chemistry, Gyeongsang National University, Korea

14:55 **POLY3-2** Manipulation of Planarity and Aggregation in Novel Conjugated Polymers for Organic Electronics
Jinseck Kim
Department of Polymer-Nano Science & Technology, Jeonbuk National University, Korea

15:20 Coffee Break

Chair: Seung Goo Lee (University of Ulsan)

15:30 **POLY3-3** Functional CVD Based-Parylene Thin Films for Electronic Devices
Kyung Jin Lee
Department of Chemical Engineering and Applied Chemistry, Chungnam National University, Korea

15:55 **POLY3-4** Irreproducible SEBS Wrinkling for Soft Identifiable Finger Pad Electronics
Kyoseung Sim
Department of Chemistry, UNIST, Korea

Symposium | Industrial Chemistry Symposium 1
October 23 (Thu), Room 605

Organizer

Jaewoo Lee

Present	Associate Professor, Department of Polymer-Nano Science & Technology, Jeonbuk National University, Korea
2020	Research Fellow, Singapore Membrane Technology Center, Nanyang Technological University, Singapore
2015	Ph.D., Department of Chemical and Biological Engineering, Seoul National University, Korea

Speaker

Hyo Won Kim

2022-Present	Assistant Professor, Department of Energy Engineering, KENTECH, Korea
2019-2022	Assistant Professor, Department of Advanced Materials Engineering, Kangwon National University, Korea

Taehoon Lee

Present	Assistant Professor, Department of Future Energy Engineering, Sungkyunkwan University, Korea
2025	Postdoctoral Associate, Department of Chemical Engineering, MIT, United States
2021	Ph.D., Department of Energy Engineering, Hanyang University, Korea

Hyosung An

Present	Assistant Professor, Department of Petrochemical Materials Engineering, Chonnam National University, Korea
2021	Postdoc, Materials Science and Engineering, University of Illinois, United States
2018	Ph.D., Chemical Engineering, Texas A&M University, United States

Woochul Song

Present	Assistant Professor, Division of Environmental Science and Engineering, POSTECH, Korea

14. Recent Technology for Advanced Membrances

Organizer: Jaewoo Lee (Jeonbuk National University)

Chair: Jaewoo Lee (Jeonbuk National University)

15:30 **IND1-1** CO_2 Transport Mechanisms in Thin-Film Composite Polymer Membranes under Humidified Environments
Hyo Won Kim
Department of Energy Engineering, Korea Institute of Energy Technology, Korea

16:00 **IND1-2** Solution-Processable, Ladder-Branched Polyimides of Intrinsic Microporosity toward High-Performance Gas Separation Membranes
Taehoon Lee
Department of Future Energy Engineering, Sungkyunkwan University, Korea

16:30 Coffee Break

16:40 **IND1-3** Seeking Regularity from Irregular Structure in Polyamide Membranes Using Electron Tomography
Hyosung An
Department of Petrochemical Materials Engineering, Chonnam National University, Korea

17:10 **IND1-4** Pillar[5]arene Based Thin Film Composite Membranes for Light Gas Separations through Strong Molecular Sieving
Woochul Song
Division of Environmental Science and Engineering, POSTECH, Korea

Symposium

Industrial Chemistry Symposium 2
October 24 (Fri), Room 605

Organizer

Dongwon Lee

2008-Present	Professor, Department of Polymer Nano Science and Technology, Jeonbuk National University, Korea
2006-2008	Postdoc, Department of Biomedical Engineering, Georgia Institute of Technology, United States
2004	Ph.D., Department of Materials Science and Engineering, University of Florida, United States

Chair

Eunkyeong Jung

2023-Present	Researcher, Bionanotechnology Research Center, Korea Research Institute of Bioscience & Biotechnology, Korea
2021-2023	Postdoc, Department of NanoEngineering, University of California San Diego, United States
2017-2021	Ph.D., Department of Bionanotechnology& Bioconvergence Engineering, Jeonbuk National University, Korea

Speaker

Ja-Hyoung Ryu

2023-Present	Editorial Advisory Board Member of ChemSystemsChem
2022-Present	Associate Editor of MedComm Biomaterials and Application
2012-Present	Professor, Department of Chemistry, UNIST, Korea

Woo-Jin Jeong

2020-Present	Assistant Professor, Department of Biological Sciences and Engineering, Inha University, Korea
2018-2020	Postdoc, School of Pharmacy, University of Wisconsin-Madison, United States

Hyun Jong Lee

Present	Associate Professor, Department of Chemical and Biological Engineering, Gachon University, Korea
2018	Postdoc, Department of Ophthalmology, Stanford University School of Medicine, United States
2016	Senior Researcher, Cosmetics Research Center, LG Household & Healthcare, Korea

Chaenyung Cha

Present	Professor, Department of Materials Science and Engineering, UNIST, Korea
2012-2014	Research Fellow, Brigham and Women's Hospital, Harvard Medical School, United States

15. Convergence of Biotechnology and Nanotechnology I

Organizer: Dongwon Lee (Jeonbuk National University)

Chair: Eunkyeong Jung (Korea Research Institute of Bioscience & Biotechnology)

09:00 **IND2-1** Cloaking Nanoparticles for Cancer Therapy
Ja-Hyoung Ryu
Department of Chemistry, UNIST, Korea

09:30 **IND2-2** Peptide Discovery and Engineering for Biomedical Applications
Woo-Jin Jeong
Department of Biological Sciences and Bioengineering, Inha University, Korea

Chair: Dongwon Lee (Jeonbuk National University)

10:00 **IND2-3** Matrix-Centric Engineering of Hydrogels for Advanced Control of Growth Factor Bioavailability
Hyun Jong Lee
Department of Chemical and Biological Engineering, Gachon University, Korea

10:30 **IND2-4** Modulating Physicochemical Interaction with Proteins via Polysuccinimide-Silica Nanocomposite Platform: Development of Advanced Biosensors
Chaenyung Cha
Department of Materials Science and Engineering, UNIST, Korea

Organizer

Gilson Khang

Present	Professor, Department of Polymer Nano Science & Technology, Jeonbuk National University, Korea
2022	Fellow, The Polymer Society of Korea
2012	Founding Fellow, TERMIS

Chair

Hwan D. Kim

Present	Associate Professor, Department of Biomedical Sciences, Seoul National University of Science & Technology, Korea
2021	Postdoc, Department of Cardiac Surgery, Boson Children's Hosptial, Harvard Medical School, United States
2018	Ph.D., School of Chemical and Biological Engineering, Seoul National University, Korea

Speaker

Kihak Gwon

Present	Assistant Professor, Department of Biofibers and Biomaterials Science, Kyungpook National University, Korea

Kyubae Lee

Present	Assistant Professor, Department of Biomedical Materials, Konyang University, Korea
2021-2023	Postdoctoral Researcher, Department of Medical Engineering, Yonsei University College of Medicine, Korea
2021	Ph.D., Department of Materials Science and Engineering, University of Tsukuba, Japan

Sunho Park

Present	Assistant Professor, Department of Bio-Industrial Machinery Engineering, Pusan National University, Korea
2022-2024	Post-doctoral Researcher, Department of Convergence Biosystems Engineering, Chonnam National University, Korea

Junghun Kim

Present	Research Professor, Department of Chemical and Biological Engineering, Seoul National University, Korea
2024	Ph.D., Department of Chemical and Biological Engineering, Seoul National University, Korea

16. Convergence of Biotechnology and Nanotechnology II

Organizer: Gilson Khang (Jeonbuk National University)

Chair: Gilson Khang (Jeonbuk National University)

14:30 **IND3-1** Microfluidic-Assisted Engineered Core-Shell Microcapsules for Regenerative Medicine

Kihak Gwon

Department of Bio-Fibers and Materials Science, Kyungpook National University, Korea

15:00 **IND3-2** Reprogramming Splenic Myeloid Cells as Endogenous Carriers through Nano-Hypoxia for Angiogenic Therapy

Kyubae Lee

Department of Biomedical Materials, Konyang University, Korea

Chair: Hwan D. Kim (Seoul National University of Science & Technology)

15:30 **IND3-3** Micro/Nanoscale Engineering of Cellular Behaviors: From 2D to 3D Living Systems

Sunho Park

Department of Bio-Industrial Machinery Engineering, Pusan National University, Korea

16:00 **IND3-4** Osteo-Immunomodulation of Bioactive Ceramic in Osteoporotic Fracture

Junghun Kim, Nathaniel Suk-Yeon Hwang*

Department of Chemical and Biological Engineering, Seoul National University, Korea

Symposium

Inorganic Chemistry Symposium 1
October 23 (Thu), Room 700A

Organizer

Daeha Seo

Present	Associated Professor, Department of Chemistry, POSTECH, Korea
2010	Ph.D., Department of Chemistry, KAIST, Korea
2005	B.S., Department of Chemistry Education, Pusan National University, Korea

Youngmin You

Present	Department of Chemical and Biomolecular Engineering, Yonsei University, Korea
2007	Ph.D., Department of Materials Science and Engineering, Seoul National University, Korea
2001	B.S., School of Chemical Engineering, Seoul National University, Korea

Speaker

David George Churchill

2004-2025	Assistant, Associate, then Full Professor, Department of Chemistry, KAIST, Korea
2023-2024	Visiting Professor, Department of Chemistry, Imperial College London, United Kingdom
2017-2018	Visiting Associate Professor, The Schulich Faculty of Chemistry, Technion – Israel Institute of Technology, Israel

Tae-Hyuk Kwon

2012-Present	Professor, Department of Chemistry, UNIST, Korea
2008-2012	Post-doctoral Fellow, Department of Chemistry, University of Melbourne, Australia
2006-2008	Post-doctoral Fellow, Department of Chemistry, Seoul National University, Korea

Seung Jae Lee

2013-Present	Professor, Department of Chemistry, Jeonbuk National University, Korea
2019-2020	Visiting Scholar, School of Medicine, University of Maryland, United States
2010-2013	Postdoc, MIT, MA, United States

Joongoo Lee

Present	Associate Professor, Department of Chemical Engineering, POSTECH, Korea

Jiyeon Han

Present	Assistant Professor, Department of Applied Chemistry, University of Seoul, Korea
2022	Ph.D., Department of Chemistry, KAIST, Korea
2016	B.S., Department of Chemistry, UNIST, Korea

Wonyoung Choe

Present	Professor, Department of Chemistry, UNIST, Korea
1998	Ph.D., Department of Chemistry, University of Michigan, United States
1987	B.S., Department of Chemistry, Seoul National University, Korea

17. Recent Advances in Bioinorganic Chemistry

Organizer: Daeha Seo (POSTECH)
Youngmin You (Yonsei University)

Chair: Daeha Seo (POSTECH)

15:30 **INOR1-1** Molecular Probes Bearing Reactive Main Group Chemistry Sites for Biological Investigations
David George Churchill
Department of Chemistry, KAIST, Korea

15:50 **INOR1-2** Biocompatible Iridium Complexes for Enhanced Photodynamic Therapy
Tae-Hyuk Kwon
Department of Chemistry, UNIST, Korea

16:10 **INOR1-3** Orchestration of Allosteric Effects in Metalloproteins
Seung Jae Lee
Department of Chemistry, Jeonbuk National University, Korea / Institute of Molecular Biology & Genetics, Korea

16:30 **INOR1-4** Ribosomal Synthesis of Non-Standard Cyclic Backbones In Vitro
Joongoo Lee
Department of Chemical Engineering, POSTECH, Korea

16:50 **INOR1-5** Functional Switching of a Neuropeptide Driven by Copper Dyshomeostasis in Protein Misfolding Disorders
Jiyeon Han
Department of Applied Chemistry, University of Seoul, Korea

Chair: Youngmin You (Yonsei University)

<Award Lecture: Si-Joong Kim Academic Award>

17:10 **INOR1-6** Conceptual Advances in Reticular Framework Materials
Wonyoung Choe
Department of Chemistry, UNIST, Korea

17:40 Inorganic Chemistry Division General Meeting

Organizer

Sung Ho Jung

2023 Associate Professor, Department of Chemistry, Gyeongsang National University, Korea

2019 Postdoc, National Institute for Materials Science, Japan

2015 Ph.D., Department of Chemistry, Gyeongsang National University, Korea

Speaker

Soon Hyeok Hong

Present Department of Chemistry, KAIST, Korea

2011-2019 Seoul National University, Korea

2008-2011 Nanyang Technological University, Singapore

Mingoo Jin

2023-Present Associate Professor (PI), WPI-ICReDD, Hokkaido University, Japan

2019-2022 Specially Appointed Assistant Professor, WPI-ICReDD, Hokkaido University, Japan

2018-2019 Postdoctoral Fellow, University of California Los Angeles, United States

Chang-Lyoul Lee

2019.03.-Present Head Researcher, Advanced Photonics Research Institute, GIST, Korea

2017.12.-2018.12. Visiting Scholar, Chemical and Biomolecular Engineering, Rice University, United States

2005.10.-2007.06. Visiting Researcher (Postdoc), Optoelectronics Group (Prof. Neil Greenham), Cavendish Laboratory, Cambridge University, United Kingdom

Heekyoung Choi

Present Assistant Professor, Institute for Chemical Research, Kyoto University, Japan

2022 Postdoctoral Fellow, Department of Chemistry, The University of British Columbia, Canada

2019 Postdoctoral Fellow, Institute of Transformative Bio-Molecules, Nagoya University, Japan

Jinhee Park

2016-Present Professor, Department of Physics and Chemistry, DGIST, Korea

2013-2015 Senior Researcher, Korea Electrotechnology Research Institute, Korea

18. Recent Advances in Coordination Chemistry

Organizer: Sung Ho Jung (Gyeongsang National University)

Chair: Sung Ho Jung (Gyeongsang National University)

14:30 **INOR3-1** Chemically Recyclable Coordinative Adaptive Network Thermosets Derived from C6-ROMP Polymers

Soon Hyeok Hong

Department of Chemistry, KAIST, Korea

14:50 **INOR3-2** Development of Crystalline Molecular Machines via Transition Metal Complexes and the Photo-Functions

Mingoo Jin

WPI-Institute for Chemical Reaction Design and Discovery, Hokkaido University, Japan

15:10 **INOR3-3** Realization of Blue Perovskite Nanoparticles by In-Situ Post-Treatment of an Organic Halide Ligand

Chang-Lyoul Lee

Advanced Photonics Research Institute, GIST, Korea

15:30 **INOR3-4** Dynamic B-N Lewis Adducts: Toward Functional Supramolecular π-Assemblies

Heekyoung Choi

Institute for Chemical Research, Kyoto University, Japan

15:50 **INOR3-5** Designing Functional MOFs: From Composition to Responsiveness

Jinhee Park

Department of Physics & Chemistry, DGIST, Korea

Organizer

Young Wook Lee

2020.03-Present	Associate Professor, Department of Education Chemistry, Gyeongsang National University, Korea
2018.12-2020.02	Senior Technical Researcher, KICET, Korea
2015-2018.02	Researcher and Ph.D., Department of Chemistry, KAIST, Korea

Chair

Myong Yong Choi

2007-Present	Professor, Department of Chemistry, Gyeongsang National University, Korea
2006	Postdoctoral Researcher, University of Southern California, United States
2002-2006	Ph.D., Department of Chemistry, University of North Carolina at Chapel Hill, United States

Seunghoon Lee

Present	Assistant Professor, Department of Chemistry, Dong-A University, Korea
2021	Postdoc, Faculty of Physics, LMU, Germany
2017	Ph.D., Department of Chemistry, KAIST, Korea

Speaker

Jeong Young Park

Present	KAIST Endowed Chair Professor, Department of Chemistry, KAIST, Korea
2009-2023	Associate Professor / Full Professor, Graduate School of EEWS and Department of Chemistry, KAIST, Korea

Hyunseob Lim

2022-Present	Associate Professor, Department of Chemistry, GIST, Korea
2019-2022	Assistant Professor, Department of Chemistry, GIST, Korea

Woon Yong Sohn

Present	Associate Professor, Department of Chemistry, Chungbuk National University, Korea
2016-2020	Assistant Professor, Department of Applied Chemistry, Chuo University, Japan

Sang-Il Choi

2015-Present	Professor, Department of Chemistry, Kyungpook National University, Korea
2012-2015	Postdoc Researcher, Georgia Institute of Technology, United States

Oh-Hoon Kwon

Present	Professor, Department of Chemistry, UNIST, Korea
2010-2013	Senior Scientist, Physical Biology Center for Ultrafast Science and Technology, Caltech, United States

19. The Nano-Physical Chemistry Convergence Symposium

Organizer: Young Wook Lee (Gyeongsang National University)

Chair: Myong Yong Choi (Gyeongsang National University)

<Award Lecture: Kim Myung Soo Award>

15:40 **PHYS1-1** Revealing the Nature of Chemically Reactive Sites with Operando Surface Probes

Jeong Young Park

Department of Chemistry, KAIST, Korea

Chair: Seunghoon Lee (Dong-A University)

16:10 **PHYS1-2** Role of Surface Chemistry in the Controlled Synthesis of 2D TMDs

Hyunseob Lim

Department of Chemistry, GIST, Korea

16:30 **PHYS1-3** Application of Near-Field Heterodyne Transient Grating (NF-HD-TG) Spectroscopy to the Investigation of Photoexcited Charge Carrier Dynamics

Woon Yong Sohn

Department of Chemistry, Chungbuk National University, Korea

16:50 **PHYS1-4** Single-Atom Decorated Platinum Nanocrystals for Ammonia Electro-Oxidation

Sang-Il Choi

Department of Chemistry, Kyungpook National University, Korea

17:10 **PHYS1-5** Imaging Structural and Carrier Dynamics of Two-Dimensional Semiconductors Using Ultrafast Correlative Microscopy

Oh-Hoon Kwon

Department of Chemistry, UNIST, Korea

Symposium

Physical Chemistry Symposium 2
October 24 (Fri), Room 600A

Organizer

Won June Kim

Present	Associate Professor, Department of Chemistry, Changwon National University, Korea
2019	Postdoc, Faculté des Sciences et Techniques, CNRS / Université de Lorraine, France
2017	Ph.D., Department of Chemistry, KAIST, Korea

Chair

Myong Yong Choi

2007-Present	Professor, Department of Chemistry, Gyeongsang National University, Korea
2006	Postdoctoral Researcher, University of Southern California, United States
2002-2006	Ph.D., Department of Chemistry, University of North Carolina at Chapel Hill, United States

Speaker

Hye Ran Koh

Present	Associate Professor, Department of Chemistry, Chung-Ang University, Korea
2017	Research Scientist, Department of Biophysics, Johns Hopkins University, United States

Seung Kyu Min

2020-Present	Associate Professor, Department of Chemistry, UNIST, Korea
2015-2020	Assistant Professor, UNIST, Korea

Jong-Won Song

Present	Associate Professor, Department of Chemistry Education, Daegu University, Korea
2016	Research Scientist, RIKEN Advanced Institute of Computational Science, Japan

Minho Kim

Present	Assistant Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2021	Postdoc, Laboratoire de Physique et Chimie Théoriques, CNRS, France

Taeyoung Yoon

Present	Professor, Department of Mechanical Engineering, Changwon National University, Korea

Yoonhoo Ha

Present	Staff Researcher, Device Research Center, Samsung Advanced Institute of Technology, Korea
2024	Staff Researcher, AI Research Center, Samsung Advanced Institute of Technology, Korea

20. Recent Trends in Computational Chemistry Across Academia and Industry

Organizer: Won June Kim (Changwon National University)

Chair: Myong Yong Choi (Gyeongsang National University)

<Award Lecture: Young Physical Chemist Award>

14:30 **PHYS2-1** Single-Molecule Fluorescence Approaches to CRISPR Systems: Molecular Mechanisms and Diagnostic Applications
Hye Ran Koh
Department of Chemistry, Chung-Ang University, Korea

<Award Lecture: Young Physical Chemist Award>

15:00 **PHYS2-2** Toward Accurate Theoretical Descriptions in Excited State Molecular Dynamics: Theory and Applications
Seung Kyu Min
Department of Chemistry, UNIST, Korea

Chair: Won June Kim (Changwon National University)

15:30 **PHYS2-3** High Accuracy Orbital Energy Calculations Using Long-Range Corrected Density Functional Theory
Jong-Won Song
Department of Chemistry Education, Daegu University, Korea

15:50 **PHYS2-4** Theoretical Design of TiO_2 Photocatalysts Based on the Optimal Coordination of Metal Centers for Balanced Activity–Stability Improvement
Minho Kim
Department of Applied Chemistry, Kyung Hee University, Korea

16:10 **PHYS2-5** Molecular Dynamics for Biofunctional Materials : Perspectives from Mechanical Engineering
Taeyoung Yoon
Department of Mechanical Engineering, Changwon National University, Korea

16:30 **PHYS2-6** First-Principles Screening of Thermally Conductive Dielectric Materials for Thermal Management of Electronic Devices beyond Moore's Law
Yoonhoo Ha
Device Research Center, Samsung Advanced Institute of Technology, Korea

Symposium

Analytical Chemistry Symposium 1
October 23 (Thu), Room 301

Organizer

Dongha Shin

Present	Associate Professor, Department of Chemistry, Inha University, Korea
2012	Ph.D., Department of Chemistry, Seoul National University, Korea
2002	B.S., Department of Chemistry, Seoul National University, Korea

Chair

Jonghee Yoon

Present	Associate Professor, Department of Physics, Ajou University, Korea
2016	Postdoc, Department of Physics, University of Cambridge, United Kingdom
2014	Ph.D., Department of Bio and Brain Engineering, KAIST, Korea

Speaker

Byoung-Kwan Cho

Present	Department of Smart Agricultural System Machinery Engineering, Chungnam National University, Korea

Tae-Hoon Lim

2022-Present	Executive Director, Research Institute, GNEWSOFT, Korea

Tae-Young Kim

Present	Professor, Department of Environment & Energy Engineering, GIST, Korea
2009	Ph.D., Department of Chemistry, Indiana University, United States
1999	B.S., Department of Chemistry, Seoul National University, Korea

Jaeick Lee

2005	Postdoc, University of Texas Southwestern Medical Center, United States
2001	Ph.D., Department of Biotechnology, Yonsei University, Seoul, Korea
1995	B.S., Department of Biotechnology, Yonsei University, Seoul, Korea

21. Current Advances in Hyper-Spectral Imaging Analysis

Organizer: Dongha Shin (Inha University)

Chair: Dongha Shin (Inha University)

15:30 **ANAL1-1** AI-Assisted Hyperspectral Imaging System for the Accurate Disease Diagnosis
Jonghee Yoon
Department of Physics, Ajou University, Korea

15:50 **ANAL1-2** Hyperspectral Imaging Application for Quality and Safety Measurement for Agricultural Materials
Byoung-Kwan Cho
Department of Smart Agricultural System Mechanical Engineering, Chungnam National University, Korea

16:10 **ANAL1-3** Vision Transformer-Based Hyperspectral Foundation Model and Transfer Learning System for Application in Various Industries
Tae-Hoon Lim
Division of Research Institute, Gnewsoft, Korea

Chair: Jonghee Yoon (Ajou University)

16:30 **ANAL1-4** Artificial Raman Agent System
Dongha Shin
Department of Chemistry, Inha University, Korea

16:50 Coffee Break

<Award Lecture: Young In Outstanding Analytical Chemistry Research Award>

17:00 **ANAL1-5** A Mass Spectrometry Journey Crossing the Borders of Analytical Chemistry and Environmental Science
Tae-Young Kim
Department of Environment and Energy Engineering, GIST, Korea

<Award Lecture: Distinguished Contribution in Analytical Technology>

17:20 **ANAL1-6** Multiresidue Analysis of Small Molecules Using LC-ESI/MS/MS
Jaeick Lee
Doping Control Center, KIST, Korea

17:40 Analytical Chemistry Division General Meeting

Symposium	Analytical Chemistry Symposium 2 October 24 (Fri), Room 301

Organizer

Yonghoon Lee

Present	Professor, Department of Energy and Chemical Engineering, Mokpo National University, Korea
2015-2016	Visiting Scientist, Lawrence Berkeley National Laboratory, United States
2003	Ph.D., Department of Chemistry, KAIST, Korea

Chair

Sehoon Jung

Present	Sr. Researcher, Analysis & Assessment Center, RIST, Korea
2010	Ph.D., Department of Chemistry, POSTECH, Korea
2004	B.S., Department of Chemistry, Chungnam National University, Korea

Speaker

Joung Hae Lee

2020-Present	Chief Technology Officer, Solution Factory, Korea
1985-2020	Principle Researcher, Group Leader of Inorganic Analysis, Head of Measurement Assurance Center, Korea Research Institute of Standards and Science, Korea
1985	Ph.D., Inha University, Korea

Minok Park

Present	Assistant Professor, Department of Mechanical and Automotive Engineering, Kongju National University, Korea
2024	Research Scientist, Energy Technologies Area, Lawrence Berkeley National Laboratory, United States
2023	Project Scientist, Energy Technologies Area, Lawrence Berkeley National Laboratory, United States

Janghee Choi

2024-Present	Principal Researcher, Industrial Transformation Technology Department, Korea Institute of Industrial Technology, Korea
2019-2024	Senior Researcher, Industrial Transformation Technology Department, Korea Institute of Industrial Technology, Korea

22. Current Advances in Laser-Based Spectroscopy

Organizer: Yonghoon Lee (Mokpo National University)

Chair: Yonghoon Lee (Mokpo National University)

09:10 **ANAL2-1** Development and Application of Cavity Ring-Down Spectrometer for Ultra-Trace Quantification
Joung Hae Lee
Division of Nuclear Power Plant, Solution Factory, Korea

09:30 **ANAL2-2** Mechanisms of Ultrafast GHz Burst fs Laser Ablation
Minok Park
Department of Mechanical & Automotive Engineering, Kongju National University, Korea

09:50 **ANAL2-3** Laser Spectroscopic Analysis for Skin Cancer Diagnostic Support
Janghee Choi, Woonkyeong Jung, Gookseon Jeon
Department of Industrial Transformation Technology, Korea Institute of Industrial Technology, Korea

10:10 Coffee Break

10:20 **ANAL2-4** Applications of LA-ICP-MS and LIBS for Multi-Elemental Analysis in Lithium-Ion Battery Materials
Sehoon Jung
Department of Chemistry, Research Institute of Industrial Science & Technology, Korea

Chair: Sehoon Jung (Research Institute of Industrial Science and Technology)

10:40 **ANAL2-5** Hyphenating LIBS and Other Spectroscopic Techniques for Material Classification
Yonghoon Lee
Department of Chemistry, Mokpo National University, Korea

Organizer

Byung-Gil Lee

Present	Assistant Professor, Department of Biochemistry, College of Medicine, Gachon University, Korea
2013	Postdoc, MRC-LMB, Cambridge, United Kingdom
2011	Ph.D., Department of Life Science, Korea University, Korea

Speaker

Dohoon Kwon

Present	Assistant Professor, Department of Chemistry, POSTECH, Korea
2025	Postdoctoral Associate, Department of Biochemistry, Duke University School of Medicine, United States
2019	Ph.D., Department of Life Sciences, Korea University, Korea

Sanghwa Lee

Present	Assistant Professor, Department of Medical Life Sciences, College of Medicine, The Catholic University of Korea, Korea
2022	Principal Research Scientist, Advanced Photonics Research Institute, GIST, Korea
2014	Postdoctoral Fellow, Biomedical Research Institute, KIST, Korea

Sangmin Lee

2024-Present	Assistant Professor, Department of Chemical Engineering, POSTECH, Korea
2021-2023	Postdoctoral Scholar, Department of Biochemistry, University of Washington, United States

Ji-Joon Song

Present	Professor, Department of Biological Sciences, KAIST, Korea
2008	Research Fellow, Mass. General Hospital, Harvard Medical School, United States
2005	Ph.D., Cold Spring Harbor Laboratory, United States

23. Recent Trends in Molecular Machine Biochemistry

Organizer: Byung-Gil Lee (Gachon University)

Chair: Byung-Gil Lee (Gachon University)

15:40 **LIFE1-1** Cryo-EM Ensemble Analysis of Vanilloid-Induced TRPV1 Activation
Dohoon Kwon
Department of Chemistry, POSTECH, Korea

16:10 **LIFE1-2** Constructing Next-Generation Type V CRISPR-Cas Tools from Structural Dynamics
Sanghwa Lee
School of Medicine, The Catholic University of Korea, Korea

16:40 **LIFE1-3** De Novo Design of Functional Protein Complexes
Sangmin Lee
Department of Chemical Engineering, POSTECH, Korea

17:10 **LIFE1-4** CODANIN-1 Sequesters ASF1 by Using a Histone H3 Mimic Helix to Regulate the Histone Supply
Ji-Joon Song
Department of Biological Sciences, KAIST, Korea

Symposium	Life Chemistry Symposium 2 October 24 (Fri), Room 602

Organizer

Kayeong Lim

Present	Senior Researcher, Biomedical Research Division, KIST, Korea
2022	Postdoc, Center for Genome Engineering, IBS, Korea
2019	Ph.D., Department of Chemistry, Seoul National University, Korea

Speaker

Byungjin Hwang

2022.09-Present	Assistant Professor, Department of Biomedical Sciences, Yonsei University, Korea
2018-2022	Postdoc, Institute for Human UCSF, United States
2013-2018	Ph.D., Department of Chemistry, Yonsei University, Korea

Seung Woo Cho

Present	Assistant Professor, Department of Biomedical Engineering, UNIST, Korea
2014-2018	Postdoc Researcher, Stanford University School of Medicine, United States

Cheulhee Jung

Present	Professor, Department of Biotechnology, Korea University, Korea

Chang Ho Sohn

Present	Assistant Professor, Graduate School of Medical Science and Engineering, KAIST, Korea
2000-2024	Assistant Professor, Advanced Science Institute, Yonsei University, Korea

24. Recent Trends in Omics-Based Molecular Profiling

Organizer: Kayeong Lim (KIST)

Chair: Kayeong Lim (KIST)

09:00 **LIFE2-1** A Universe Within a Cell: Scalable Single-Cell Multi-Omics Powered by Biochemistry

Byungjin Hwang

Department of Biomedical Sciences, Yonsei University, Korea

09:30 **LIFE2-2** Epigenetic Landscape Analysis Reveals Predictive Insights into Imatinib Resistance in Chronic Myeloid Leukemia

Seung Woo Cho

Department of Biomedical Engineering, UNIST, Korea

10:00 **LIFE2-3** Improving NGS Sensitivity via High-Efficiency Adapter Ligation and Cas9-Mediated Processing

Cheulhee Jung

Department of Biotechnology, Korea University, Korea

10:30 **LIFE2-4** Fixative-Exchange(FX)-Seq: Scalable Single-Nucleus, Spatial RNA Sequencing Method for Clinical FFPE Specimens

Chang Ho Sohn

Graduate School of Medical Science & Engineering, KAIST, Korea

Organizer

Seung Youn Hong

2022-Present	Assistant Professor, Department of Chemistry, Seoul National University, Korea
2021-2022	Postdoctoral Fellow, MIT, United States (Advisor: Prof. Alexander T. Radosevich)
2015-2020	Ph.D., Department of Chemistry, KAIST, Korea (Advisor: Prof. Sukbok Chang)

Jeongcheol Shin

Present	Assistant Professor, Department of Chemistry, Duksung Women's University, Korea
2021	Ph.D., Department of Chemistry, KAIST, Korea
2015	B.S., Department of Chemistry, KAIST, Korea

Chair

Min Kim

Present	Professor, Department of Chemistry, Chungbuk National University, Korea
2010-2012	Postdoc, Department of Chemistry and Biochemistry, UC San Diego, United States
2010	Ph.D., Department of Chemistry, KAIST, Korea

Speaker

Sung You Hong

Present	Professor, Department of Chemistry, UNIST, Korea
2010	Postdoc, Max Planck Institute
2009	DPhil, University of Oxford, United Kingdom

Yunho Lee

2023.09.-Present	Professor, Department of Chemistry, Seoul National University, Korea
2020.03.-2023.08.	Associate Professor, Department of Chemistry, Seoul National University, Korea
2010.12.-2020.02.	Assistant/Associate Professor, Department of Chemistry, KAIST, Korea

Won-Jin Chung

2014-Present	Assistant, Associate Professor, Department of Chemistry, GIST, Korea
2011-2014	Postdoc, Department of Chemistry, UC-Irvine, United States
2002-2008	Ph.D., Department of Chemistry, UIUC, United States

Jaeheung Cho

Present	Professor, Department of Chemistry, UNIST, Korea
2020	Assistant & Associate Professor, DGIST, Korea
2005	Ph.D., Kanazawa University, Japan

Sungho Yoon

Present	Professor, Department of Chemistry, Chung-Ang University, Korea
2019	Professor, Department of Bio-Nano Chemistry, Chung-Ang University, Korea
2004	Ph.D., Department of Chemistry, MIT, United States

25. [Joint Symposium] Joint Symposium on Organic and Inorganic Chemistries

Organizer: Seung Youn Hong (Seoul National University)
Jeongcheol Shin (Duksung Women's University)

Chair: Min Kim (Chungbuk National University)

09:00 **ORGN2+INOR2-1** Reactivity Controlled SuFEx Chemistry and Low-Valent Nickel Catalysis
Sung You Hong
Department of Chemistry, UNIST, Korea

09:20 **ORGN2+INOR2-2** Catalysis for NO_x Conversion and Utilization (NCU)
Yunho Lee
Department of Chemistry, Seoul National University, Korea

09:40 **ORGN2+INOR2-3** Single Nitrogen Atom Insertion into Indoles to Form 1,4-Diazines
Won-Jin Chung
Department of Chemistry, GIST, Korea

Chair: Jeongcheol Shin (Duksung Women's University)

10:00 **ORGN2+INOR2-4** Bridging Coordination Chemistry and Organic Oxidation: Bioinspired Pathways for Small Molecule Activation
Jaeheung Cho
Department of Chemistry, UNIST, Korea

10:20 **ORGN2+INOR2-5** Multicentered Main-Group Catalysis
Seung Youn Hong
Department of Chemistry, Seoul National University, Korea

10:40 **ORGN2+INOR2-6** Value-Added Transformation of Epoxides through Carbonylation
Sungho Yoon
Department of Chemistry, Chung-Ang University, Korea

Organizer

Woo-Dong Jang

Present	Professor, Department of Chemistry, Yonsei University, Korea
2005	Assistant Professor, Department of Materials Engineering, The University of Tokyo, Japan
2003	Ph.D., Department of Chemistry and Biotechnology, The University of Tokyo, Japan

Sung-Eun Suh

Present	Associate Professor, Department of Chemistry, Ajou University, Korea
2021	Postdoc, Department of Chemistry, University of Wisconsin–Madison, United States
2017	Ph.D., Department of Chemistry, University of Pennsylvania, United States

Chair

Eun Joo Kang

Present	Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2007	Postdoc, Department of Chemistry, UC Berkeley, United States
2006	Ph.D., Department of Chemistry, Seoul National University, Korea

Speaker

Hong Geun Lee

Present	Associate Professor, Department of Chemistry, Seoul National University, Korea
2012	Ph.D., Department of Chemistry and Chemical Biology, Harvard University, United States

Sang Kook Woo

2024-Present	Associate Professor, Department of Chemistry, Pusan National University, Korea
2013-2024	Professor, Department of Chemistry, University of Ulsan, Korea

Inji Shin

Present	Associate Professor, Department of Fine Chemistry, Seoul National University of Science & Technology, Korea
2019	Senior Researcher, Korea Research Institute of Chemical Technology, Korea

Sunggi Lee

2024-Present	Associate Professor, Department of Physics and Chemistry, DGIST, Korea
2024-2019	Assistant Professor, Department of Physics and Chemistry, DGIST, Korea

Jung Woon Yang

2009-Present	Professor, Department of Energy Science, Sungkyunkwan University, Korea
2003-2009	Postdoc, Senior Scientist & Group Leader, Max-Planck-Institut für Kohlenforschung, Germany

Organized by BK21 Chemistry Education Center for Sustainability
(This Research was Supported by Yonsei 'Eokkaedongmu Project' through 4th BK21 Graduate School Innovation Support Project Funded by the Ministry of Education)

26. Recent Advances in Redox-Enabled Organic Reactions

Organizer: Woo-Dong Jang (Yonsei University)
Sung-Eun Suh (Ajou University)

Chair: Eun Joo Kang (Kyung Hee University)

<Award Lecture: Chang Sae Hee Award>

15:40 **ORGN1-1** Controlled Functionalization of Organoboron Compounds for the Creation of Chemical Complexity
Hong Geun Lee
Department of Chemistry, Seoul National University, Korea

Chair: Sung-Eun Suh (Ajou University)

16:10 **ORGN1-2** Visible-Light Photoredox Catalysis for Carbon Radical Generation and Carbon–Carbon Bond Formation
Sang Kook Woo
Department of Chemistry, Pusan National University, Korea

16:35 **ORGN1-3** Photo-Induced C-Si Bond Activation of Acylsilanes and α-Ketoacylsilanes
Inji Shin
Department of Fine Chemistry, Seoul National University of Science & Technology, Korea

17:00 **ORGN1-4** Amine Carboxyborane: A Versatile Ligated Boryl Radical Precursor
Sunggi Lee
Department of Physics & Chemistry, DGIST, Korea

17:25 **ORGN1-5** Transition-Metal-Free Oxidation and Oxidative Dehomologation Strategies for Biomass Valorization
Jung Woon Yang
Department of Energy Science, Sungkyunkwan University, Korea

17:50 **ORGN1-6** Achievements of "Chemistry Education Center for Sustainability" and Discussion for the Future Direction
Woo-Dong Jang
Department of Chemistry, Yonsei University, Korea

Organizer

Boyoung Park

Present	Assosiate Professor, Department of Pharmaceuticals, Kyung Hee University, Korea
2018	Assistant Professor, Department of Pharmaceuticals, Kyung Hee University, Korea

Speaker

Jeung Gon Kim

Present	Professor, Department of Chemistry, Jeonbuk National University, Korea
2005	Ph.D., Department of Chemistry, University of Pennsylvania, United States
2001	B.S., Department of Chemistry, KAIST, Korea

Soyoung Park

Present	Associate Professor, Immunology Frontier Research Center, The University of Osaka, Japan
2012-2021	Assistant Professor, Department of Chemistry, Kyoto University, Japan
2010-2011	JSPS Postdoctral Fellowship, Kyoto University, Japan

Houng Kang

Present	Associate Professor, Department of Chemistry Education, Chungbuk National University, Korea
2021	Assistant Professor, Department of Chemistry Education, Chungbuk National University, Korea
2018	Postdoctoral Researcher, Department of Chemistry, Purdue University, United States

27. Unconventional Tools in Organic Chemistry

Organizer: Boyoung Park (Kyung Hee University)

Chair: Boyoung Park (Kyung Hee University)

14:30 **ORGN3-1** Understanding a Bit More about Mechanochemistry - Mixing
Jeung Gon Kim
Department of Chemistry, Jeonbuk National University, Korea

14:55 **ORGN3-2** DNA as a Designer Scaffold for Building Tailor-Made Metalloenzymes
Soyoung Park
Immunology Frontier Research Center, Osaka University, Japan

15:20 **ORGN3-3** Ligand–Tunable Copper–Catalyzed Oxidative Coupling for Divergent Synthesis of BINAMs and Dibenzo[c,g]carbazoles: The Role of High–Throughput Experimentation in Accelerating Reaction Development
Houng Kang
Department of Chemistry Education, Chungbuk National University, Korea

15:45 **ORGN3-4** Flow Chemistry as an Innovative Tool for Method Development
Boyoung Park
Department of Pharmaceuticals, Kyung Hee University, Korea

Organizer

Seojung Han

Present	Assistant Professor, Department of Chemistry, Sogang University, Korea
2019-2024	Associate Professor, UST (KIST School), Korea
2017-2024	Principal Researcher, KIST, Korea

Chair

Chun Young Im

Present	Principal Researcher, New Drug Development Center, K-MEDI hub, Korea
2008	Senior Researcher, Crystalgenomics, Korea
2004	Ph.D., Department of Material Science, University of Hyogo, Japan

Speaker

Jun Young Choi

Present	SVP, Head of ST Pharm

Jong Yup Kim

2012-Present	Director, Medicinal Chemistry Laboratory, Jeil Pharmaceutical, Korea
2006-2012	Researcher, Medicinal Chemistry Laboratory, Greencross, Korea
2000-2006	Researcher, New Drug Research Center, LG Life Science, Korea

Sang Hyun Lee

Present	Head of Research Site in Korea, Orum Therapeutics, Korea

Sung-Ju Moon

Present	Executive Vice President, Head of ADC Technology at ABL Bio
2021-2025	CSO, Sr. VP at InotCell
2017-2021	Sr. Pr. Scientist at Ambrx Biopharma

28. Targeting the Untargeted: Korean Industry's Leap in First-In-Class Drug Discovery

Organizer: Seojung Han (Sogang University)

Chair: Chun Young Im (K-MEDI hub)

15:40 **MEDI1-1** Strategies to Streamline Drug Development and Expedite Regulatory Clearance: Process Chemisty (CMC) Perspective
Jun Young Choi
Division of R&D, ST Pharm, Korea

16:05 **MEDI1-2** Antidiabetic Effect of JP-2266, a Novel SGLT1/2 Dual Inhibitor, for the Treatment Diabetes Mellitus
Jong Yup Kim
Medicinal Chemistry Laboratory, Jeil Pharmaceutical CO., LTD., Korea

16:30 **MEDI1-3** Combining the Power of Protein Degraders with the Precision of Antibodies for Synergistic Potential Using Degrader-Antibody Conjugates (DACs)
Sang Hyun Lee
Division of Biology, Orum Therapeutics, Korea

16:55 **MEDI1-4** Introduction of ADC and Behind Story of TrodelvyTM Development
Sung-Ju Moon
ADC Technology, ABL Bio, Korea

17:20 Panel Discussion
Jong Yup Kim
Medicinal Chemistry Laboratory, Jeil Pharmaceutical CO., LTD., Korea
Sung-Ju Moon
ADC Technology, ABL Bio, Korea
Sang Hyun Lee
Division of Biology, Orum Therapeutics, Korea
Jun Young Choi
Division of R&D, ST Pharm, Korea

Symposium

Medicinal Chemistry Symposium 2
October 24 (Fri), Room 700B

Organizer

Inji Shin

Present	Department of Fine Chemistry, Seoul National University of Science & Technology, Korea
2016	Postdoc, Department of Chemistry, University of Texas at Austin, United States
2013	Ph.D., Department of Chemistry, University of Pennsylvania, United States

Chair

Sun-Joon Min

2015	Professor, Department of Energy and Bio Sciences, Hanyang University ERICA, Korea
2008	Senior / Principle Researcher, KIST, Korea
2005	Ph.D., Department of Chemistry, UCLA, United States

Speaker

Jiyoung Hyun

2020-Present	Senior Scientist, KRICT, Korea
2019-2020	Postdoc, Department of Chemistry, Yonsei University, Korea (Prof. Injae Shin)
2013-2019	Ph.D., Department of Chemistry, Yonsei University, Korea (Prof. Injae Shin)

Hongchan An

2023-Present	Assistant Professor, Department of Chemistry, CHA University, Korea
2019-2023	Senior Researcher, New Drug Development Center, K-MEDI hub, Korea
2016-2019	Research Associate / Postdoctoral Associate, Scripps Florida, United States

Youngjoo Byun

2013-Present	Professor, College of Pharmacy, Korea University, Korea
2011-2013	Assistant Professor, College of Pharmacy, Korea University, Korea
2009-2011	Instructor, School of Medicine, Johns Hopkins University, United States

Jae Yeol Lee

Present	Professor, Department of Chemistry, Kyung Hee University, Korea
2004	Senior Research Scientist, KIST, Korea
1997	Ph.D., Department of Chemistry, Korea University, Korea

29. Award Lecture: Excellence in Medicinal Chemistry

Organizer: Inji Shin (Seoul National University of Science & Technology)

Chair: Sun-Joon Min (Hanyang University)

09:00 **MEDI2-1** Synthesis of Glycoconjugates and Their Therapeutic Applications
Jiyoung Hyun
Data Convergence Drug Research Center, Korea Research Institute of Chemical Technology, Korea

09:25 **MEDI2-2** Discovery of Novel Piezo1 Agonists and Their Therapeutic Potential in Hydrocephalus and Related Disorders
Hongchan An
Department of Pharmacy, CHA University, Korea

09:50 **MEDI2-3** Discovery of Pharmacologically Active Molecules Inspired by Natural Ligands
Youngjoo Byun
Department of Pharmacy, Korea University, Korea

<Award Lecture: Excellence in Medicinal Chemistry>

10:15 **MEDI2-4** Odyssey of Molecules: Four Decades in the Pursuit of New Medicines
Jae Yeol Lee
Department of Chemistry, Kyung Hee University, Korea

Symposium

Material Chemistry Symposium 1
October 23 (Thu), Room 606+607

Organizer

Jieun Yang

Present	Associate Professor, Department of Chemistry, Kyung Hee University, Korea
2021	Postdoc, Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom
2015	Ph.D., Department of Energy Engineering, UNIST, Korea

Chair

In Chung

2015-Present	Assistant Professor, Associate Professor, Professor, School of Chemical and Biological Engineering, Seoul National University, Korea
2013-2015	Assistant Professor, Graduate School of Nanoscience and Technology, KAIST, Korea
2008-2012	Postdoc, Northwestern University, United States

Speaker

In Young Kim

2022.09.-Present	Assistant/Associate Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea
2020.09-2022.08	Assistant Professor, Department of Chemistry, Chonnam National University, Korea
2017.12-2020.07	ARC DECRA Fellow, Global Innovative Center for Advance Nanomaterials, The University of Newcastle, Australia

Sunmin Ryu

Present	Professor, Department of Chemistry, POSTECH, Korea

Chul-Ho Lee

Present	Professor, Department of Electrical and Computer Engineering, Seoul National University, Korea
2011	Ph.D., Department of Materials Science and Engineering, POSTECH, Korea
2005	B.S., Department of Materials Science and Engineering, POSTECH, Korea

Hyunseob Lim

2022-Present	Associate Professor, Department of Chemistry, GIST, Korea
2019-2022	Assistant Professor, Department of Chemistry, GIST, Korea
2017-2019	Assistant Professor, Chonnam National University, Korea

Seung-Tae Hong

2012-Present	Professor, Department of Energy Science & Engineering, DGIST, Korea
2000-2012	Project Leader, Battery / Corporate R&D Center, LG CHEM, Korea
1994-1996; 1996-1999	Research Associate, Department of Chemistry, Oregon State University & Iowa State University, United States

30. Cutting-Edge Materials Chemistry for 2-D Materials

Organizer: Jieun Yang (Kyung Hee University)

Chair: Jieun Yang (Kyung Hee University)

15:40 **MAT1-1** Soft-Chemical Synthesis and Modification of Xene for Energy Storage and Conversion Technology
In Young Kim
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

16:10 **MAT1-2** Spectroscopic Insights into Graphene, TMDs and h-BN
Sunmin Ryu
Department of Chemistry, POSTECH, Korea

16:40 **MAT1-3** Interface Engineering for High-Performance 2D Semiconductor Electronics
Chul-Ho Lee
Department of Electrical and Computer Engineering, Seoul National University, Korea

17:10 **MAT1-4** Au@h-BN Core-Shell Nanoparticle: A New Class of SHIN Particle for Alkaline Media
Hyunseob Lim
Department of Chemistry, GIST, Korea

Chair: In Chung (Seoul National University)

<Award Lecture: Jin-Ho Choy Academic Award>

17:40 **MAT1-5** Ab Initio Structure Determination for New Materials Discovery and Insertion Mechanism Analysis in Batteries
Seung-Tae Hong
Department of Energy Science and Engineering, DGIST, Korea

Symposium

Material Chemistry Symposium 2
October 24 (Fri), Room 606+607

Organizer

Myung Jun Kim

Present	Associate Professor, School of Chemical Engineering, Sungkyunkwan University, Korea
2020	Assistant Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2013	Ph.D., School of Chemical and Biological Engineering, Seoul National University, Korea

Chair

Jehee Park

Present	Assistant Professor, Department of Chemical and Biological Engineering, Hanbat National University, Korea
2023	Postdoc, Chemical Sciences and Engineering Division, Argonne National Laboratory, United States
2022	Ph.D., Department of Energy and Chemical Engineering, UNIST, Korea

In Chung

2015-Present	Assistant Professor, Associate Professor, Professor, School of Chemical and Biological Engineering, Seoul National University, Korea
2013-2015	Assistant Professor, Graduate School of Nanoscience and Technology, KAIST, Korea
2008-2012	Postdoc, Northwestern University, United States

Speaker

Seong-Ju Hwang

Present	Professor, Department of Materials Science and Engineering, Yonsei University, Korea
2005-2019	Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea

Ji Man Kim

2005-Present	Professor, Department of Chemistry, Sungkyunkwan University, Korea
2001-2005	Assistant Professor, Department of Applied Chemistry, Ajou University, Korea
2000-2001	Senior Researcher, Korea Research Institute of Chemical Technology, Korea

Jung Kyu Kim

Present	Associate Professor, School of Chemical Engineering, Sungkyunkwan University, Korea

Byounghoon Lee

Present	Assistant Professor, Department of Integrative Energy Engineering, Korea University, Korea
2021-2023	Postdoc, Department of Electrical & Computer Engineering, University of Toronto, Canada

31. Cutting-Edge Materials Chemistry for Energy Materials

Organizer: Myung Jun Kim (Sungkyunkwan University)

Chair: Jehee Park (Hanbat National University)

09:00 **MAT2-1** Soft-Chemical Synthesis Routes to Energy-Functional 2D Materials
Seong-Ju Hwang
Department of Materials Science & Engineering, Yonsei University, Korea

09:40 **MAT2-2** Utilization of Nanostructured Materials for Improving the Performance in Li–S Batteries
Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

10:10 **MAT2-3** Photo- and Electro-Chemical Energy Conversion Materials for E-Chem Production
Jung Kyu Kim
School of Chemical Engineering, Sungkyunkwan University, Korea

10:35 **MAT2-4** Atomic Precision for a Carbon-Neutral Future: Innovations in Heterogeneous Catalysis
Byounghoon Lee
Department of Integrative Energy Engineering, Korea University, Korea

Speaker

Jin-Sil Choi

Present	Assistant & Associate Professor, Department of Chemical and Biological Engineering, Hanbat National University, Korea
2017	Researcher, Y-IBS, Yonsei University, Korea
2013	Postdoc, UCLA, United States

Jerome Hyun

Present	Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea

Chair: In Chung (Seoul National University)

<Award Lecture: Young Material Chemists Award>

11:00 **MAT2-5** Nanozymes: The Next Generation of Catalysts Beyond Natural Enzymes

Jin-Sil Choi

Department of Chemical and Biological Engeering, Hanbat National University, Korea

<Award Lecture: Young Material Chemists Award>

11:20 **MAT2-6** Nanophotonically-Tailored Electrochemical Redox Reactions for Light Management

Jerome Hyun

Department of Chemistry & Nanoscience, Ewha Womans University, Korea

Symposium

Material Chemistry Symposium 3
October 24 (Fri), Room 606+607

Organizer

Xiaoyan Jin

Present	Assistant Professor, Department of Applied Chemistry, University of Seoul, Korea
2018	Ph.D., Department of Chemistry and Nanoscience, Ewha Womans University, Korea

Speaker

Seung-Tae Hong

2012-Present	Professor, Department of Energy Science & Engineering, DGIST, Korea
2000-2012	Project Leader, Battery/CRD Research Center, LG CHEM, Korea
1996-1999	Research Associate, Department of Chemistry, Oregon State University/Iowa State University, United States

Jongwoo Lim

Present	Associate Professor, Department of Chemistry, Seoul National University, Korea
2014-2017	Postdoctoral Researcher, Department of Materials Science and Engineering, Stanford University, United States
2008-2013	Ph.D., Department of Chemistry, UC Berkeley, United States

Hye Ryung Byon

2016-Present	Professor, Department of Chemistry, KAIST, Korea
2011-2016	Unit Leader, Byon Initiative Research Unit, RIKEN, Japan

Seongmin Bak

Present	Associate Professor, Department of Materials Science and Engineering, Yonsei University, Korea
2020-2023	Staff Scientist, National Synchrotron Light Source II, Brookhaven National Laboratory, United States
2016-2020	Staff Scientist, Chemistry Division, Brookhaven National Laboratory, United States

32. Recent Progress in Battery Materials

Organizer: Xiaoyan Jin (University of Seoul)

Chair: Xiaoyan Jin (University of Seoul)

14:30 **MAT3-1** Discovery of Li and Na Solid Electrolytes with Unique Structural Frameworks

Seung-Tae Hong

Department of Energy Science & Engineering, DGIST, Korea

15:00 **MAT3-2** Role of Interfacial Chemomechanics in Governing Intraparticle Li-Ion Dynamics with Liquid and Solid Electrolytes

Jongwoo Lim

Department of Chemistry, Seoul National University, Korea

15:30 **MAT3-3** Organic Redox Flow Batteries for Long-Duration Energy Storages

Hye Ryung Byon

Department of Chemistry, KAIST, Korea

16:00 **MAT3-4** Advanced Characterization Studies on Next-Generation Batteries via Synchrotron Tender X-ray Spectro-Microscopy

Seongmin Bak

Department of Materials Science and Engineering, Yonsei University, Korea

Symposium | Electrochemistry Symposium 1
October 23 (Thu), Room 600B

Organizer

Hyeyoung Shin

Present	Associate Professor, Graduate School of Energy Science and Technology, Chungnam National University, Korea
2019	Staff Engineer, Samsung Electronics, Korea
2018	Postdoc, Division of Chemistry and Chemical Engineering, California Institute of Technology, United States

Chair

Hana Yoon

Present	Principal Researcher, Energy Storage Research Department, Korea Institute of Energy Research, Korea
2024	Visiting Scholar, Department of Physics, Harvard University, United States
2011	Ph.D., Department of Chemistry, KAIST, Korea

Speaker

Sang Uck Lee

Present	Professor, School of Chemical Engineering, Sungkyunkwan University, Korea
2014-2023	Professor, Department of Chemical and Molecular Engineering, Hanyang University (ERICA), Korea
2012-2014	Assistant Professor, Department of Chemistry, University of Ulsan, Korea

Minho Kim

Present	Assistant Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2021	Postdoc, Laboratoire de Physique et Chimie Théoriques, CNRS, France
2019	Ph.D., Department of Chemistry, KAIST, Korea

Yang Jeong Park

Present	Senior Research Scientist, Computational Science Research Center, KIST, Korea
2023-2025	Postdoc, Department of Materials Science and Technology, MIT, United States
2021-2023	Postdoc, Department of Electrical and Computer Engineering, Seoul National University, Korea

Kanghoon Yim

Present	Principal Researcher, Energy AI & Computational Science Laboratory, Korea Institute of Energy Research, Korea
2017	Postdoc Researcher, Research Institute of Advanced Materials, Seoul National University, Korea

33. In-Silico Design of Electrochemical Materials

Organizer: Hyeyoung Shin (Chungnam National University)

Chair: Hyeyoung Shin (Chungnam National University)

15:40 **ELEC1-1** Atomistic Insights into Practical Catalysts: Interpreting Experimental Phenomena Through Computational Modeling
Sang Uck Lee
School of Chemical Engineering, Sungkyunkwan University, Korea

16:05 **ELEC1-2** Rational Design of Cost-Efficient and High-Performance Oxygen Evolution Electrocatalysts Based on Density Functional Simulation
Minho Kim
Department of Applied Chemistry, Kyung Hee University, Korea

16:30 Coffee Break

Chair: Hana Yoon (Korea Institute of Energy Research)

16:40 **ELEC1-3** Optimization of Electrochemical Devices with Artificial Intelligence
Yang Jeong Park
Computational Science Research Center, KIST, Korea

17:05 **ELEC1-4** Designing Next-Generation Secondary Battery Materials Utilizing Machine-Learned Interatomic Potentials
Kanghoon Yim, Hana Yoon[1]
Energy AI & Computational Science Laboratory, Korea Institute of Energy Research, Korea
[1]*Separation and Conversion Materials Research, Korea Institute of Energy Research, Korea*

17:30 Electrochemistry Division General Meeting

Symposium

Electrochemistry Symposium 2
October 24 (Fri), Room 600B

Organizer

Yang-Rae Kim

Present	Professor, Department of Chemistry, Kwangwoon University, Korea
2012	Postdoc, Department of Chemistry, The University of Warwick, United Kingdom
2010	Ph.D., Department of Chemistry, Seoul National University, Korea

Speaker

Changsuk Yun

2022-Present	Assistant Professor, Department of Chemistry, Changwon National University, Korea

Minkyu Kim

2022-Present	Assistant Professor, Department of Chemistry, Inha University, Korea
2020-2022	Postdoc, Argonne National Laboratory, United States
2019-2020	Staff Engineering, SAMSUNG SDI, Korea

Yoo Seok Lee

Present	Assistant Professor, Department of Chemical Engineering & Biotechnology, Tech University of Korea, Korea
2019-2022	Postdoctoral Research Associate, Department of Chemistry, University of Utah, United States

Jin Ho Bang

Present	Professor, Department of Energy & Bio Sciences, Hanyang University ERICA, Korea
2008	Ph.D., Department of Chemistry, University of Illinois at Urbana-Champaign, United States
1999	B.S., Department of Chemistry Education, Seoul National University, Korea

34. Development of Innovative Electrochemical Systems

Organizer: Yang-Rae Kim (Kwangwoon University)

Chair: Yang-Rae Kim (Kwangwoon University)

09:00 **ELEC2-1** Electrochemical Probing of Ion Transport and Polymerization Dynamics in Polymer Systems
Changsuk Yun
Department of Chemistry, Changwon National University, Korea

09:30 **ELEC2-2** Understanding Reaction Dynamics of Composite Electrode for Developing High Performance Li-Ion Batteries
Minkyu Kim
Department of Chemistry, Inha University, Korea

10:00 **ELEC2-3** Bioelectrocatalysis for Sustainable Bioenergy Generation and Environmental Remediation
Yoo Seok Lee
Department of Chemical Engineering & Biotechnology, Tech University of Korea, Korea

<Award Lecture: Choi Kyu Won Award>

10:30 **ELEC2-4** Beyond Conventional Photosensitizers: Unveiling the Unique Photoelectrochemical Behavior of Metal Nanoclusters
Jin Ho Bang
Department of Energy & Bio Sciences, Hanyang University, Korea

Organizer

Hyunjung Kim

Present	Professor, Department of Chemistry Education, Kongju National University, Korea

Chair

Dae Hong Jeong

Present	Professor, Department of Chemistry Education, Seoul National University, Korea
2000-2002	Postdoc, Department of Chemistry, Yosei University, Korea
1999-2000	Postdoc, Spectroscopy Laboratory, Korea Research Institute of Standard and Science, Korea

Speaker

Jihun Park

Present	Professor, Department of Science Education, Gyeongin National University of Education, Korea
2011-2024	Teacher, Busan Metropolitan Office of Education, Korea

Jongcheol Seo

2018-Present	Assistant and Associate Professor, Department of Chemistry, POSTECH, Korea
2014-2018	Research Scientist, Fritz Haber Institute of the MPG, Berlin, Germany

35. Proposal for Future-Oriented Standardization of Chemistry Education and Test Questions for Integrated Science Chemistry

Organizer: Hyunjung Kim (Kongju National University)

Chair: Dae Hong Jeong (Seoul National University)

15:40 **EDU-1** Understanding Students' Choices of Science Subjects for the CSAT: Experiences and Perceptions

Jihun Park, Hyunjung Kim[1, *], Minhwan Kim[2], Jeongho Kim[3], Jongcheol Seo[4], Jeong-Mo Choi[5], Myung Hwan Park[6], Eun Jeong Yoo[7], In Seok Hong[8]

Department of Science Education, Gyeongin National University of Education, Korea

[1] *Department of Chemistry Education, Kongju National University, Korea*

[2] *Department of Chemistry Education, Chonnam National University, Korea*

[3] *Department of Chemistry, Inha University, Korea*

[4] *Department of Chemistry, POSTECH, Korea*

[5] *Department of Chemistry, Pusan National University, Korea*

[6] *Department of Chemical Education, Chungbuk National University, Korea*

[7] *Department of Applied Chemistry, Kyung Hee University, Korea*

[8] *Department of Chemistry, Kongju National University, Korea*

16:00 **EDU-2** Winter Is Coming: We Are Losing the Next Generations of Chemists

Jongcheol Seo, Jihun Park[1], Hyunjung Kim[2], Minhwan Kim[3], Jeongho Kim[4], Jeong-Mo Choi[5], Myung Hwan Park[6], Eun Jeong Yoo[7], In Seok Hong[8]

Department of Chemistry, POSTECH, Korea

[1] *Department of Science Education, Gyeongin National University of Education, Korea*

[2] *Department of Chemistry Education, Kongju National University, Korea*

[3] *Department of Chemistry Education, Chonnam National University, Korea*

[4] *Department of Chemistry, Inha University, Korea*

[5] *Department of Chemistry, Pusan National University, Korea*

[6] *Department of Chemical Education, Chungbuk National University, Korea*

[7] *Department of Applied Chemistry, Kyung Hee University, Korea*

[8] *Department of Chemistry, Kongju National University, Korea*

Speaker

Jeongho Kim

Present	Professor, Department of Chemistry, Inha University, Korea
2004	Ph.D., Department of Chemistry, University of Chicago, United States
1998	B.S., Department of Chemistry, KAIST, Korea

Dojun Jung

Present	Assistant Professor, Department of Science Education, Chuncheon National University of Education, Korea

16:20 **EDU-3** Roles and Responsibilities of CSAT Exam Committee

Jeongho Kim

Department of Chemistry, Inha University, Korea

16:40 **EDU-4** Proposal for Future-Oriented Standardization of Chemistry Education: Focusing on Elementary and Middle Schools

Dojun Jung

Department of Science Education, Chuncheon National University of Education, Korea

Organizer

Youngkook Kwon

Present	Associate Professor, School of Energy and Chemical Engineering, UNIST, Korea
2016	Postdoc, Joint Center for Artificial Photosynthesis, LBNL, United States
2013	Ph.D., Leiden Institute of Chemistry, Leiden University, The Netherlands

Speaker

Hyung Ju Kim

2015-Present	Principal Researcher, Hydrogen Energy Research Center, Korea Research Institute of Chemical Technology, Korea
2012-2014	Postdoctoral Research Associate, Department of Chemical and Biological Engineering, University of Wisconsin-Madison, United States

Yun Jeong Hwang

2021-Present	Associate Professor, Department of Chemistry, Seoul National University, Korea
2012-2021	KIST, Korea
2006-2012	Ph.D., Department of Chemistry, University of California, Berkeley, United States

Dong Ki Lee

Present	Staff Scientist, Clean Energy Research Center, KIST, Korea
2015-2018	Postdoctoral Researcher, Chemistry, UW-Madison, United States
2015	Ph.D., Materials Science and Engineering, KAIST, Korea

Jihun Oh

Present	Professor, Department of Materials Science and Engineering, KAIST, Korea

36. Electrocatalytic Valorization of Carbon and Nitrogen Compounds

Organizer: Youngkook Kwon (UNIST)

Chair: Youngkook Kwon (UNIST)

15:40 **ENVR-1** Catalyst Design Strategies for Electrochemical Glycerol Oxidation Reaction

Hyung Ju Kim

Hydrogen Energy Research Center, Korea Research Institute of Chemical Technology, Korea

16:10 **ENVR-2** Activity Control in Electrochemical Oxidation Reaction for Valorization

Yun Jeong Hwang

Department of Chemistry, Seoul National University, Korea

16:40 **ENVR-3** Simultaneous Capture and Conversion of NO in Flue Gas at Room Temperature

Dong Ki Lee

Clean Energy Research Center, KIST, Korea

17:10 **ENVR-4** The D-Band Center Model for Selective Electrochemical CO_2 Reduction Reaction

Jihun Oh

Department of Materials Science and Engineering, KAIST, Korea

Organizer

Ji Hun Park

Present	Associate Professor, Department of Science Education, Ewha Womans University, Korea
2016-2018	Postdoc, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, United States
2015	Ph.D., Department of Chemistry, KAIST, Korea

Chair

Kyueui Lee

Present	Associate Professor, Department of Chemistry, Kyungpook National University, Korea
2021	Postdoc, Department of Bioengineering, UC Berkeley, United States
2017	Ph.D., Department of Chemistry, KAIST, Korea

37. Oral Presentation for Young Polymer Scientists

Organizer: Ji Hun Park (Ewha Womans University)

Chair: Kyueui Lee (Kyungpook National University)

09:00 **POLY.O-1** Thermally Robust Liquid Crystalline Polymers Derived from Bismaleimide with Dynamic Covalent Networks
Woohyeon Kwon, Kyosun Ku[1], Hyeonuk Yeo[2, *]
School of Chemical Engineering and Applied Chemistry, Kyungpook National University, Korea
[1]*Advanced Institute of Water Industry, Kyungpook National University, Korea*
[2]*Department of Chemistry Education, Kyungpook National University, Korea*

09:15 **POLY.O-2** Exploring the Copolymerization of Propylene Oxide and CO_2 over a Heterogeneous Zn-Gallate Catalyst
Kihyuk Sung, Hye-Young Jang[1, *]
Department of Energy Systems Research, Ajou University, Korea
[1]*Department of Chemistry, Ajou University, Korea*

09:30 **POLY.O-3** DNAOD: A Predictive Tool for DNA Absorption Spectra Using a Three-Base Nearest-Neighbor Model
Banyu Firdaus Soeriawidjaja, Minseok Kwak[1, *]
Department of Industry 4.0 Convergence Bionics Engineering, Pukyong National University, Korea
[1]*Department of Chemistry, Pukyong National University, Korea*

09:45 **POLY.O-4** Palladium(II)-Catalyzed Reversible-Deactivation Vinyl-Addition Polymerization of 5-Vinyl-2-Norbornene for Enhancing the Chemoselectivity
Kyulee Jung, Chang-Geun Chae[*]
Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea

10:00 Coffee Break

Chair: Ji Hun Park (Ewha Womans University)

10:15 **POLY.O-5** In situ Cross-Linked Ordered Morphology via Polymerization-Induced Microphase Separation by High χ System

Wonjune Yeo, Myungeun Seo*

Department of Chemistry, KAIST, Korea

10:30 **POLY.O-6** Sub-Nanocluster Platinum Decorated MXene/PEDOT:PSS Composites for Efficient Electrocatalyst

Da-Young Lee, Myung-Han Yoon*

Department of Materials Science and Engineering, GIST, Korea

10:45 **POLY.O-7** Depolymerization of Polyethylene Terephthalate into Highly Pure Bis(2-Hydroxyethyl) Terephthalate Using a Micro-Sized MgO-Incorporated SiO_2 Catalyst

Eun Hyup Kim, Hoik Lee*

Safety Convergence Technology R&D Department, Korea Institute of Industrial Technology, Korea

Organizer

Jeong-Eun Park

Present Assistant Professor, Department of Chemistry, GIST, Korea

2022 Postdoc, Department of Chemistry, Northwestern University, United States

2018 Ph.D., Department of Chemistry, Seoul National University, Korea

38. Oral Presentation of Young Scholars in Inorganic Chemistry

Organizer: Jeong-Eun Park (GIST)

Chair: Jeong-Eun Park (GIST)

09:30 **INOR.O-1** Remarkable Coordination Geometry Transformation in Metal-Organic Frameworks Triggered by External Stimuli Based on Olefinic Ligands

Kyunghye Ju, Taehun Kim, Jisu Lim, In-Hyeok Park*

Graduate School of Analytical Science and Technology, Chungnam National University, Korea

09:45 **INOR.O-2** Reproducible Fabrication of 3D/Chiral 2D Perovskite Heterostructure Thin Films via Automated Processing for Circularly Polarized Light Detectors

Sang Hyun Nam, Young-Hoon Kim*

Department of Energy Engineering, Hanyang University, Korea

10:00 **INOR.O-3** Excited-State Reductive Elimination Reactions of Divalent Organonickel Complexes: Distinct Reactivity with Aromatic and Aliphatic Carbon Ligands

Jiseon Lee, Jeongcheol Shin[1], Kiyoung Park*

Department of Chemistry, KAIST, Korea

[1]*Department of Chemistry, Duksung Women's University, Korea*

10:15 **INOR.O-4** Iron Oxide Nanoparticles Modified with Galloylated DNA for Magnetically Enhanced DNA-Directed Assembly

Murali Golla, So-Jung Park*

Department of Chemistry & Nanoscience, Ewha Womans University, Korea

10:30 **INOR.O-5** Systematic Control of Spin States in a Single Stable Organic Radical Unit

Jaelim Kim, Jeongcheol Shin[1, *], Sun Hee Kim[2, *], Eunsung Lee[3, *]

Department of Chemistry, POSTECH, Korea

[1]*Department of Chemistry, Duksung Women's University, Korea*

[2]*Western Seoul Center, Korea Basic Science Institute, Korea*

[3]*Department of Chemistry, Seoul National University, Korea*

10:45 **INOR.O-6** Crystal Engineering of Metallosupramolecules of Macrocyclic Ligand Systems

Seulgi Kim

Mineral Processing and Metallurgy Research Center, Korea Institute of Geoscience and Mineral Resources, Korea

Organizer

Seung Jun Lee

Present Assistant Professor, Department of IT & Energy Convergence, Korea National University of Transportation, Korea

2019 Ph.D., Department of Chemistry, Gyeongsang National University, Korea

39. Oral Presentation for Leading, Emerging, and Young Physical Chemists I

Organizer: Seung Jun Lee (Korea National University of Transportation)

Chair: Seung Jun Lee (Korea National University of Transportation)

09:00 **PHYS1.O-1** Tailoring the Interaction Between Alanine Capped Gold Nanoparticle and Structurally Similar Coumarin Dyes: Interplay Between Proton Transfer and Restriction of Molecular Twisting
Aloke Bapli, Sang Hak Lee*
Department of Chemistry, Pusan National University, Korea

09:10 **PHYS1.O-2** Fundamental Understanding of Interfacial Charge Transfer in Semiconductor-Based Photoelectrodes
Dae Han Wi
Department of Chemistry, Chungnam National University, Korea

09:30 **PHYS1.O-3** Molecular Dynamics Simulation Study of Doxorubicin-Induced Cardiotoxicity: The Role of Cardiolipin in Drug Membrane Permeation
Namho Kim, Hyonseok Hwang*
Department of Chemistry, Kangwon National University, Korea / Institute for Molecular Science and Fusion Technology, Korea

09:40 **PHYS1.O-4** Phase- and Composition-Engineered Transition Metal Dichalcogenide Alloy Nanosheets for Efficient Hydrogen Evolution Reaction
Ik Seon Kwon
Department of Energy Science & Engineering, Kunsan National University, Korea

10:00 **PHYS1.O-5** Theoretical Strategies for Developing Organic Materials in IR Thermal Imaging
Eunkyung Cho
Division of Energy Technology, DGIST, Korea

10:10 **PHYS1.O-6** Nanomaterials-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry for Mass Spectrometric Analysis of Small Molecules
Young-Kwan Kim
Department of Chemistry, Dongguk University, Korea

10:30 **PHYS1.O-7** Measurement of Rate Constant in Gas Phase for Atmospheric Lifetime Using Comparative Reaction Method (CRM)
Bong Gyu Jeong, Sanghoon Park
Climate Technology Center, Korea Testing & Research Institute, Korea

10:40 **PHYS1.O-8** Janus-Type Photophysics of Directly-Linked Acene Dimers
Woojae Kim
Department of Chemistry, Yonsei University, Korea

Organizer

Gyeongwon Kang

Present Assistant Professor, Department of Chemistry, Kangwon National University, Korea

2023 Postdoc, Cavendish Laboratory, University of Cambridge, United Kingdom

2021 Ph.D., Department of Chemistry, Northwestern University, United States

40. Oral Presentation for Leading, Emerging, and Young Physical Chemists II

Organizer: Gyeongwon Kang (Kangwon National University)

Chair: Gyeongwon Kang (Kangwon National University)

09:00 **PHYS2.O-1** Secondary Structure of Protein Ion in the Cryogenic Gas Phase
Iltae Yoo, Jinho Jeong, Nam Joon Kim*
Department of Chemistry, Chungbuk National University, Korea

09:10 **PHYS2.O-2** Non-Destructive Detection of Orbital Angular Momentum Using Coherent Raman Spectroscopy
Ju Young Kim, Minhaeng Cho[1, *]
Department of Chemistry, Korea University, Korea / Center for Molecular Spectroscopy and Dynamics, IBS, Korea
[1]*Department of Chemistry, Korea University, Korea*

09:30 **PHYS2.O-3** Probing the Low-Energy Vibrational Modes of Ice I Using Resonant Inelastic X-ray Spectroscopy
Yeseul Han, Kyung Hwan Kim*
Department of Chemistry, POSTECH, Korea

09:40 **PHYS2.O-4** First-Principles Study of Hidden Oxygen-Deficient $La_{1-x}Sr_xCoO_{3-\delta}$ Phases during Electrochemical Phase Transitions
Yongjin Shin
Department of Semiconductor Convergence Engineering, Dankook University, Korea

10:00 **PHYS2.O-5** Resolving Conformers in Equilibrium via IR Resonant VUV-MATI Spectroscopy
Sung Man Park, Chan Ho Kwon*
Department of Chemistry, Kangwon National University, Korea / Institute for Molecular Science & Fusion Technology, Kangwon National University, Korea

10:10 **PHYS2.O-6** Revisiting Time-Resolved Spectroscopy: Beyond Kinetics, Toward Hidden Dimensions
Junwoo Kim
Department of Chemistry, Chungbuk National University, Korea

10:30 **PHYS2.O-7** Thickness-Dependent Relaxation of Near-IR Excitons in 2D $CrCl_3$ Crystals

Hyesun Kim, Sunmin Ryu*

Department of Chemistry, POSTECH, Korea

10:40 **PHYS2.O-8** Hot Carrier Dynamics and Interfacial Engineering for Advanced Nanocatalysis

Hyosun Lee

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

Organizer

Ara Jo

Present Assistant Professor, Department of Chemistry, Kangwon National University, Korea

2021 Postdoc, Materials Science and Engineering, Northwestern University, United States

2018 Ph.D., Department of Chemistry & Nanoscience, Ewha Womans University, Korea

41. Oral Presentation of Young Analytical Chemists I

Organizer: Ara Jo (Kangwon National University)

Chair: Ara Jo (Kangwon National University)

09:00 **ANAL1.O-1** Biophysical and Mass Spectrometry-Based Characterization of a Peptide Inhibitor Targeting Pathological Tau from Alzheimer's Disease
Changwoo Wi, Tae Su Choi*
Division of Life Sciences, Korea University, Korea

09:09 **ANAL1.O-2** Dicarboxylate Linker-Driven Structural Diversity in Zinc(II)-Based Metal-Organic Frameworks Incorporating an Olefin 4-Styrylpyridine
Jisu Lim, Taehun Kim, Kyunghye Ju, Gyeongeun Ahn[1], In-Hyeok Park*
Graduate School of Analytical Science & Technology, Chungnam National University, Korea
[1]*Department of Chemistry, Chungnam National University, Korea*

09:18 **ANAL1.O-3** Direct Lipid Analysis of Salivary Exosomes and Microvesicles by Flow Field-Flow Fractionation Coupled with Electrospray Ionization Tandem Mass Spectrometry
Donggyun Kim, Myeong Hee Moon*
Department of Chemistry, Yonsei University, Korea

09:27 **ANAL1.O-4** Probing Chemical Interface Damping during the Electroreduction of 4-Nitrothiophenol by In Situ Single-Particle Spectroelectrochemistry
Andreas Silalahi, Ji Won Ha*
Department of Chemistry, University of Ulsan, Korea

09:36 **ANAL1.O-5** Single-Particle Investigation of Plasmon Modulation in Au Nanorod-Hematite Core-Shells via Dark-Field Spectroelectrochemistry
Yola Yolanda Alizar, Ji Won Ha*
Department of Chemistry, University of Ulsan, Korea

09:45 **ANAL1.O-6** Adsorption & Detection of Heavy Metal Ions in Water System via Polytannic Acid Functionalized Au Nanoparticle Film
Joowon Moon, Kyueui Lee*
Department of Chemistry, Kyungpook National University, Korea

09:54 **ANAL1.O-7** Identification of Meat Spoilage Stages via Full-Range FTIR Spectroscopy and Hybrid Learning Models
Sooyeol Phyo, Berkay Yesildagli, Jiwon Lee*
Center for Climate and Carbon Cycle Research, KIST, Korea

10:03 **ANAL1.O-8** Host–Guest Complexation Dynamics: Cholesterol-Induced Molecular Exchange on β-Cyclodextrin-Coated Gold Nanorods
Nahyun Kim, Ji Won Ha*
Department of Chemistry, University of Ulsan, Korea

10:12 **ANAL1.O-9** Metal – Semiconductor Interfacial Engineering for Stronger Plasmon Damping: A Single – Particle Study of Au – AgCdSe Nanostructures
Rafifah Hana Raihana Syam, Ji Won Ha*
Department of Chemistry, University of Ulsan, Korea

10:21 **ANAL1.O-10** Lipid Analysis of Human Skin with Melanoma and Dysplastic Nevus by Nanoflow UHPLC-ESI-MS/MS
Junha Choi, Soomin Kang, Myeong Hee Moon*
Department of Chemistry, Yonsei University, Korea

10:30 **ANAL1.O-11** LC-MS/MS Detection of Protein-Adduct Biomarkers of Chemical Warfare Agents in Dandelion for Environmental and Forensic Applications
Han-Yeol Nam, Seong Hun Hong, Moonhyuck Choi, Moonsik Shin*
Department of Chemical Analysis and Synthesis, CBRN Defense Research Institute, Ministry of Defense, Korea

10:39 **ANAL1.O-12** Improved Photoelectrochemical Sensing Performance for Glucose Detection Using Heterostructure Nanocomposite
Gunasekaran Manibalan, Ji Won Ha*
Department of Chemistry, University of Ulsan, Korea

10:48 **ANAL1.O-13** Probing Chemical Interface Damping in Bimetallic Silver-Coated Gold Nanorods with Exposed Gold Tips via Single-Particle Spectroscopy
Geun Wan Kim, Ji Won Ha*, Seunghyun Lee[1,*]
Department of Chemistry, University of Ulsan, Korea
[1]*Department of Chemical and Molecular Engineering, Hanyang University, Korea*

Organizer

Hee-Kyung Na

Present — Principal Research Scientist, Nanobio Measurement Group, Division of Biomedical Metrology, Korea Research Institute of Standards and Science, Korea

Chair

Seungah Lee

Present — Assistant Professor, Department of Applied Chemistry, Kyung Hee University, Korea

2013 — Research Professor, Department of Applied Chemistry, Kyung Hee University, Korea

2010 — Ph.D., Department of Chemistry, Jeonbuk National University, Korea

42. Oral Presentation of Young Analytical Chemists II

Organizer: Hee-Kyung Na (Korea Research Institute of Standards and Science)

Chair: Seungah Lee (Kyung Hee University)

14:30 **ANAL2.O-1** Metabolic Changes of Kidney Cortex and Medulla in CKD

Sunho Lee, Youngae Jung[1], Geum-Sook Hwang[2, *]

Metropolitan Seoul Center, Korea Basic Science Institute, Korea

[1]*Western Seoul Center, Korea Basic Science Institute, Korea*

[2]*Integrated Metabolomics Research Group, Korea Basic Science Institute, Korea*

14:39 **ANAL2.O-2** Temperature-Modulated Ultramicroporous Carbon Molecular Sieve Membranes for High-Temperature Hydrogen Isotope Separation

Hyunlim Kim, Hyunchul Oh[*]

Department of Chemistry, UNIST, Korea

14:48 **ANAL2.O-3** Serum Metabolomics for Biomarker Discovery in Alzheimer's Disease Using IVDr NMR Spectroscopy

Seung-Hoon Lee, Jueun Lee[1], Geum-Sook Hwang[*]

Integrated Metabolomics Research Group, Korea Basic Science Institute, Korea

[1]*Western Seoul Center, Korea Basic Science Institute, Korea*

14:57 **ANAL2.O-4** Metabolomic Analysis of UUO-Induced Kidney Injury in Mouse Models

Hyeri Kim, Jueun Lee[1], Geum-Sook Hwang[2, *]

Metropolitan Seoul Center, Korea Basic Science Institute, Korea

[1]*Western Seoul Center, Korea Basic Science Institute, Korea*

[2]*Integrated Metabolomics Research Group, Korea Basic Science Institute, Korea*

15:06 **ANAL2.O-5** Carboxymethyl Starch as Biodegradable Barrier Material : NMR-Based Structural Characterization for Postoperative Adhesion Prevention

Yujin Lee, Youngbok Lee[1, *]

Department of Applied Chemistry, Hanyang University, Korea

[1]*Department of Bionano Engineering, Hanyang University, Korea*

15:15 **ANAL2.O-6** Partial Degradation and Chemical Transformation of Polystyrene Foam Mediated by Mealworms and Associated Microorganisms

Seungyoung Im, Youngbok Lee[1, *]

Department of Applied Chemistry, Hanyang University, Korea

[1]*Department of Bionano Engineering, Hanyang University, Korea*

15:24 **ANAL2.O-7** SABRE-Relay Hyperpolarization of Alcohols Using Acethydrazide as a Carrier Agent

Thi Quynh Nguyen, Seokki Yun[1], Dinh Van Nguyen[1], Seyoung Yang[1], Youngbok Lee[2, *]

Department of Applied Chemistry, Hanyang University, Korea / Department of Bionano Convergence, Hanyang University, Korea

[1]*Department of Applied Chemistry, Hanyang University, Korea*

[2]*Department of Bionano Engineering, Hanyang University, Korea*

15:33 **ANAL2.O-8** Unraveling Crystallinity Changes of PVDF Binders During Cycling Using Solid-State NMR for High-Performance Electrode

Seokki Yun, Seyoung Yang, Jaehwa Choi, Youngbok Lee[1, *]

Department of Applied Chemistry, Hanyang University, Korea

[1]*Department of Bionano Engineering, Hanyang University, Korea*

15:42 **ANAL2.O-9** Molecular Design and Application of Light-Responsive Microcapsules for Skin Delivery

Seyoung Yang, Minji Song, Youngbok Lee[1, *]

Department of Applied Chemistry, Hanyang University, Korea

[1]*Department of Bionano Engineering, Hanyang University, Korea*

15:51 **ANAL2.O-10** Amphiphilic Mesoporous Silica-Polydopamine Janus Nanoparticles for Biphasic Oil-Water Pollutant Removal

Dinh Van Nguyen, Youngbok Lee[1, *]

Department of Applied Chemistry, Hanyang University, Korea

[1]*Department of Bionano Engineering, Hanyang University, Korea*

16:00 **ANAL2.O-11** Development of Efficient Electrocatalysts for Renewable 2,5-Dimethylfuran Production from 5-Hydroxymethylfurfural

Min Seung Kwon, Dongho Lee[*]

Department of Chemistry, University of Ulsan, Korea

16:09 **ANAL2.O-12** Enhancement of Photocatalytic Activity via Introduction of Oxygen Vacancies in Hematite

Jaehwan Cheong, Joohoon Kim[*]

Department of Chemistry, Kyung Hee University, Korea

16:18 **ANAL2.O-13** Control of Electrochemical Reactions Using Structural Features of Nanoporous Electrodes

Hyun Ju Yang, Junhee Yu, Hyo Chan Lee, Sunyeong Hong, Je Hyun Bae[*]

Graduate School of Analytical Science and Technology, Chungnam National University, Korea

Organizer

Tackhoon Kim

Present	Principal Research Scientist, Medicinal Materials Research Center, KIST, Korea
2016-2019	Postdoc, Research Lab of Electronics, MIT, United States
2008-2015	Ph.D., Department of Biological Sciences, KAIST, Korea

Speaker

Young-Tae Chang

Present	Professor, Department of Chemistry, POSTECH, Korea
2000-2017	Assistant, Associate & Full Professor at NYU & NUS
1997	Ph.D., Department of Chemistry, POSTECH, Korea

43. Oral Presentation for Young Scientists in Life Chemistry

Organizer: Tackhoon Kim (KIST)

Chair: Tackhoon Kim (KIST)

09:00 **LIFE.O-1** DNA Tetrahedron-Templated Bispecific Aptamers for Enhanced Natural Killer Cell-Mediated Anti-Cancer Cytotoxicity
Farida Nirmala, Dae-Ro Ahn*
Chemical and Biological Integrative Research Center, KIST, Korea

09:10 **LIFE.O-2** Protein Nitration in Early-Onset Gastric Cancer: Evidence for MPO-Independent Activation and Metastatic Potential
Jae Won Oh, Kwang Pyo Kim*, Ah-Young Kim
Department of Applied Chemistry, Kyung Hee University, Korea

09:20 **LIFE.O-3** Structural Insights into Human mGlu6 Activation Prior to G Protein Coupling
Seo Young Lee, Hyung Ho Lee
Department of Chemistry, Seoul National University, Korea

09:30 **LIFE.O-4** Development of a Site-Specific Antibody Conjugation Platform for Dual-Payload Antibody-Drug Conjugates
Dohee Ahn, Sang Jeon Chung*
School of Pharmacy, Sungkyunkwan University, Korea

09:40 **LIFE.O-5** Active Armoring of Protocell Condensates with Metal-Phenolic Networks
Seongyun Park, Kyungtae Kang*
Department of Applied Chemistry, Kyung Hee University, Korea

09:50 **LIFE.O-6** Structural Studies of SMC Complexes
Byung-Gil Lee
School of Medicine, Gachon University, Korea

10:05 **LIFE.O-7** Manipulation of Biomolecular Liquid Droplets under Opto-Thermal Fields
Youngsun Kim
Chemical and Biological Integrative Research Center, KIST, Korea

<Award Lecture: Sung-Kee Chung Award>

10:20 **LIFE.O-8** From Chemical Library to Biological Diversity
Young-Tae Chang
Department of Chemistry, POSTECH, Korea

Organizer

Won Jun Jang

Present Assistant Professor, Department of Chemistry & Nanoscience, Ewha Womans University, Korea

2022 Postdoc, Department of Chemistry, University of Chicago, United States

2020 Ph.D., Department of Chemistry, Sungkyunkwan University, Korea

44. Oral Presentations for Young Organic Chemists

Organizer: Won Jun Jang (Ewha Womans University)

Chair: Won Jun Jang (Ewha Womans University)

09:00 **ORGN.O-1** Evaluation of Corrosion Inhibitors for Nuclear Materials in Oxalic Acid-Based Chemical Decontamination Process

Sion Kim, Changhyun Roh*

Nuclear Facility Cleanup Technology Division, Korea Atomic Energy Research Institute, Korea

09:15 **ORGN.O-2** From Alkynes to (*E*) & (*Z*) Vinyl Sulfones: Unlocking the Art of Stereoselective Hydrosulfonylation

Sujith Karinkara Periyarath, Anna Lee*

Department of Chemistry, Jeonbuk National University, Korea

09:30 **ORGN.O-3** Stereoselective Construction of Tricyclic Scaffold via Tandem Prins-Cyclization and Diels–Alder Reaction

Do Hoon Cha, Sun-Joon Min[1,*]

Department of Applied Chemistry, Hanyang University, Korea

[1]*Department of Chemical & Molecular Engineering, Hanyang University, Korea / Department of Applied Chemistry, Hanyang University, Korea*

09:45 **ORGN.O-4** Stereospecific *syn*-Dihalogenations and Regiodivergent *syn*-Interhalogenation of Alkenes via Vicinal Double Electrophilic Activation Strategy

Hyeon Moon, Jungi Jung, Juyeon Hong, Jun-Ho Choi*, Won-Jin Chung*

Department of Chemistry, GIST, Korea

10:00 **ORGN.O-5** Investigation of Proteome-Tetrazine Reactivity for a Highly Selective Tetrazine Ligation in Live Cells

Junyoung Park, Junhyeong Yim[1], Eunha Kim[2,*], Jongmin Park*

Department of Chemistry, Kangwon National University, Korea

[1]*Department of Biophysics & Chemical Biology, Kangwon National University, Korea*

[2]*Department of Molecular Science and Technology, Ajou University, Korea*

10:15 **ORGN.O-6** Generality-Oriented Development of Enantio- and Regioselective Hydrosilylation: Enabled by High-Throughput Experimentation and Machine Learning

Terim Seo, Donghun Kim[1], Joonsuk Huh[2, *], Hyunwoo Kim[1, *], Do Hyun Ryu[*]

Department of Chemistry, Sungkyunkwan University, Korea

[1]*Department of Chemistry, KAIST, Korea*

[2]*Department of Chemistry, Yonsei University, Korea*

10:30 **ORGN.O-7** Single-Flask Mn(I)-Catalyzed C–H Dienylation–Cycloaddition for the Construction of Cyclohexene-Fused Indoles with Anti-Inflammatory Potential

Jinhwan Park, Jongwoo Son[1, *]

Department of Chemical Engineering (BK21 FOUR Graduate Program), Dong-A University, Korea

[1]*Department of Chemistry, Dong-A University, Korea*

10:45 **ORGN.O-8** Design and Synthesis of Pentiptycene-Based Fluorescent Organosulfur Polymers via SuFEx Chemistry for Rapid Explosives Detection

Sun Bu Lee, Han Yong Bae[*]

Department of Chemistry, Sungkyunkwan University, Korea

Organizer

Yoonji Lee

Present	Associate Professor, College of Pharmacy, Chung-Ang University, Korea
2020	Instructor, Department of Biophysics, University of Texas Southwestern Medical Center, United States
2013	Ph.D., College of Pharmacy, Ewha Womans University, Korea

Chair

Jung Yeol Lee

Present	Principal Researcher, Daegu-Gyeongbuk Medical Innovation Foundation, Korea
2017	Postdoc, Department of Life Science, National University of Singapore, Singapore
2014	Ph.D., Department of Chemistry, Sogang University, Korea

45. Oral Presentation of Young Medicinal Chemists

Organizer: Yoonji Lee (Chung-Ang University)

Chair: Jung Yeol Lee (K-MEDI hub)

09:00 **MEDI.O-1** Discovery of Heteroaromatic Glutarimides as Metabolically Stable and Potent Single-Digit Nanomolar CRBN Ligands

Jeong-Won Shin, Nam-Jung Kim[1, *]

Department of Biomedical and Pharmaceutical Sciences, Kyung Hee University, Korea

[1] *Department of Pharmacy, Kyung Hee University, Korea*

09:15 **MEDI.O-2** Discovery of Lead Compounds Targeting Peripheral CB1 Receptors for Psoriasis Treatment

Wonjin Park, Yeonjeong Heo, Eunsu Kim, Eunha Kim[*]

Department of Molecular Science & Technology, Ajou University, Korea

09:30 **MEDI.O-3** Identification of 5,7-Dihydro-6H-Pyrrolo[2,3-d]pyrimidin-6-one Derivatives as ENPP1 Inhibitors for STING Pathway-Mediated Immunotherapy

Suhyun Ji, Seojung Han[*]

Chemical & Biological Integrative Research Center, Sogang University, Korea

09:45 **MEDI.O-4** Comparative Evaluation of [^{211}At]MABG and [^{131}I]MIBG in Pheochromocytoma

Hwisoo Lim, Choong Mo Kang[1, *], Jae Yong Choi[2, *]

Division of Applied RI, Korea Institute of Radiological & Medical Science, Korea

[1] *Department of Nuclear Medicine, Samsung Medical Center, Korea*

[2] *Department of RI Convergence, Korea Institute of Radiological & Medical Science, Korea*

10:00 **MEDI.O-5** Development of Broad-Spectrum Dengue Virus Inhibitors Targeting All Serotypes

Minseo Kil, Youyoung Kim[1], Gyu-Yong Song[*], Dong-Su Kim[1, *]

Department of Pharmacy, Chungnam National University, Korea

[1] *Infectious Diseases Therapeutic Research Center, Korea Research Institute of Chemical Technology, Korea*

10:15 **MEDI.O-6** Improving SAR Prediction Accuracy During Lead Optimization through Free Energy Perturbation

Ri Han, Yoonji Lee[1, *]

Department of Global Innovative Drug, Chung-Ang University, Korea

[1]*Department of Pharmacy, Chung-Ang University, Korea*

10:30 **MEDI.O-7** Targeted Protein Degradation of RET

Jaewon Song, Taebo Sim[1, *]

Department of Clinical Drug Discovery & Development, Yonsei University, Korea

[1]*Department of Biomedical Science, Yonsei University, Korea*

10:45 **MEDI.O-8** Discovery of the Selective and Indirect Degrader of MK2

Minjoo Ko, Taebo Sim[1, *]

Department of Medicine, Yonsei University, Korea

[1]*Department of Biomedical Science, Yonsei University, Korea*

Organizer

Wan Pyo Hong

Present	Associate Professor, Department of Chemistry, Gachon University, Korea
2013	Postdoc, Department of Chemistry, University of Wisconsin, United States
2011	Ph.D., Department of Chemistry, Purdue University, United States

Chair

Youngmin Ko

Present	Assistant Professor, Department of Chemistry, Sungkyunkwan University, Korea
2025	Postdoc, Lawrence Berkeley National Laboratory, United States
2021	Ph.D., Department of Materials Science & Engineering, Seoul National University, Korea

46. Oral Presentation for Young Material Chemists

Organizer: Wan Pyo Hong (Gachon University)

Chair: Youngmin Ko (Sungkyunkwan University)

09:00 **MAT.O-1** Direct Synthesis of 2D Mo_2C MXene Thin Films by Chemical Vapor Deposition for Efficient Electrocatalysis
Junhyeok No, Hee Cheul Choi[1, *]
Division of Advanced Materials Science, POSTECH, Korea
[1] *Department of Chemistry, POSTECH, Korea*

09:10 **MAT.O-2** Highly Efficient NIR-II Photothermal Conversion of Cyclooctatetraene-Centered Fused-Orangarin via Excited-State Antiaromaticity
Jiyeon Lee, Seoyeah Oh, Juwon Oh[1, *], Jiwon Kim[2, *]
School of Integrated Technology, Yonsei University, Korea
[1] *Department of Chemistry, Kyungpook National University, Korea*
[2] *Division of Integrated Science & Engineering, Yonsei University, Korea*

09:20 **MAT.O-3** Redox-Controlled Chemistry of Stable Organic Radicals
Mina Ahn, Kyung-Ryang Wee[*]
Department of Advanced Materials Chemistry, Korea University, Korea

09:30 **MAT.O-4** Ligand-Engineered Metal Hydroxide Organic Framework (MHOF) Catalysts for Improved Electrochemical Urea Oxidation under Alkaline Conditions
Geonho Kim, Jiwon Kim[1, *]
School of Integrated Technology, Yonsei University, Korea
[1] *Division of Integrated Science & Engineering, Yonsei University, Korea*

09:40 **MAT.O-5** Unlocking Crystalline $Cu_3(C_6O_6)$ Kagome Thin Films through Methanol-Assisted, Coordination-Modulated Chemical Vapor Deposition
Hyeonwoo Lee, Hee Cheul Choi[*]
Department of Chemistry, POSTECH, Korea

09:50 **MAT.O-6** Multi-Stimuli Responsive Catalytic Nanomotors for Efficient Water Purification
Jihyeon Park, Jiwon Kim[1, *], Seoyeah Oh
School of Integrated Technology, Yonsei University, Korea
[1] *Division of Integrated Science & Engineering, Yonsei University, Korea*

10:00 **MAT.O-7** Identifying Ni–N_4 Species as a Major Active Site in Atomically Dispersed Ni Catalysts for Chlorine Evolution Reaction
Jinjong Kim, Sang Hoon Joo*
Department of Chemistry, Seoul National University, Korea

10:10 **MAT.O-8** Tailoring Exciton Dynamics in Mn^{2+}-Doped Quasi-2D Perovskites for Anti-Counterfeiting and X-ray Scintillation
Dongjun Kim, Seoyoung Yoon, Jiwon Kim[1,*]
School of Integrated Technology, Yonsei University, Korea
[1]*Division of Integrated Science & Engineering, Yonsei University, Korea*

10:20 **MAT.O-9** Binder Engineering of Electrodepositied Cu_2O for Highly Selective Electrochemical Nitrate to Ammonia Conversion
Jiseok Kim, Hyunjoon Song*
Department of Chemistry, KAIST, Korea

10:30 **MAT.O-10** Transition Metal Carbide Nanoparticles Confined in 3D Mesoporous Graphene for Efficient Hydrogen Evolution Activity
Jeongwon Park, Hyun Jung*
Department of Chemistry, Dongguk University, Korea

10:40 **MAT.O-11** Synthesis of Yolk Shell Iron Sulfide with Carbon Shell for Anode of Sodium Ion Batteries
Deukhyeon Nam, Chan Woong Na, Yoon Myung*
Extreme Process Control Group, Korea Institute of Industrial Technology, Korea

10:50 **MAT.O-12** Vertically Grown Weyl Semimetal WTe_2 Nanowire Arrays for Efficient Hydrogen Evolution Reaction
Hyeonkyeong Kim, Youngdong Yoo[1,*]
Energy Science Research Center, Ajou University, Korea
[1]*Department of Chemistry, Ajou University, Korea*

Organizer

Minkyu Kim

2022-Present	Assistant Professor, Department of Chemistry, Inha University, Korea
2020-2022	Postdoc, Argonne National Laboratory, United States
2019-2020	Staff Engineering, SAMSUNG SDI, Korea

Speaker

Jun Hui Park

Present	Professor, Department of Chemistry, Chungbuk National University, Korea
2011	Ph.D., Department of Chemistry, KAIST, Korea
2005	B.S., Department of Chemistry, Yonsei University, Korea

47. Oral Presentation of Young Electrochemists

Organizer: Minkyu Kim (Inha University)

Chair: Minkyu Kim (Inha University)

09:00 **ELEC.O-1** Additive-Driven Nanoscale Architecture of Solid Electrolyte Interphase(SEI) Revealed by Cryogenic Transmission Electron Microscopy
Yonggoon Jeon
Department of Physics & Chemistry, Korea Military Academy, Korea

09:15 **ELEC.O-2** Proton-Coupled Electron Transfer on $Cu_2O/Ti_3C_2T_x$ MXene for Propane (C_3H_8) Synthesis from Electrochemical CO_2 Reduction
Seong Chan Cho, Sang Uck Lee*
School of Chemical Engineering, Sungkyunkwan University, Korea

09:30 **ELEC.O-3** Electrochemical Approach to Polymer Molecular Weight Measurement via the Modified Viscosity Equation
Jee Woo Kim, Byung-Kwon Kim*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

09:45 **ELEC.O-4** Boosting Oxygen Evolution Kinetics in Anion Exchange Membrane Electrolysis with Titanium-Incorporated Nickel Ferrite
Kyungbok Lee, Juchan Yang*
Hydrogen Materials Research Center, Korea Institute of Materials Science, Korea

10:00 **ELEC.O-5** Synthesis of F-Doped $ZnCo_2O_4$ Nanostructure for Oxygen Evolution Reaction
Deukhyeon Nam, Chan Woong Na, Yoon Myung*
Extreme Process Control Group, Korea Institute of Industrial Technology, Korea

10:15 **ELEC.O-6** DFT Study on Nb-Alloyed MoS_2 and WS_2 Nanosheets with Sulfur Vacancies for Enhanced Hydrogen Evolution Reaction Activity
Juyeon Kim, Junaid Ihsan[1], Irtiqa Mishal[1], Junhyeok Choi[1], Youn Jun Choi[1], Jeong Eun An[1], In Hye Kwak[2], Ik Seon Kwon[3], Jeunghee Park[1,*], Hong Seok Kang[4,*]
Department of Micro-Device Engineering, Korea University, Korea
[1]*Department of Advanced Materials Chemistry, Korea University, Korea*
[2]*Research Center for Materials Analysis, Korea Basic Science Institute, Korea*
[3]*Department of Energy Science & Engineering, Kunsan National University, Korea*
[4]*Department of Nano & Advanced Materials Engineering, Jeonju University, Korea*

<Award Lecture: i-SENS Young Electrochemist Award>

10:30 **ELEC.O-7** Collision Electrochemistry
Jun Hui Park
Department of Chemistry, Chungbuk National University, Korea

Oral Presentation

Chemistry Education Oral Presentation
October 24 (Fri), Room 604

Organizer

Minhwan Kim
Present Assistant Professor, Department of Chemistry Education, Chonnam National University, Korea

48. New Trends in Chemistry Education

Organizer: Minhwan Kim (Chonnam National University)

Chair: Minhwan Kim (Chonnam National University)

09:00 **EDU.O-1** A Multi-Stakeholder Collaboration Model of Research–Practice Partnerships in Secondary Science Education and Social Responsibility
Hyunju Park, Jen Lewin[1], Ju Ran Shin
Department of Chemical Education, Chosun University, Korea
[1]*Department of The Baxter Center for Science Education, Northwestern University, United States*

09:20 **EDU.O-2** A Study on the Science (Chemistry) Curriculum Implementation in Elementary, Junior High, and High Schools in Japan
Young Tae Kong
Department of General Science Education, Chinju National University of Education, Korea

09:40 **EDU.O-3** Forensic Science as a Interdisciplinary Science Curriculum
Man-Seog Chun
Department of Chemistry & Biology, Korea Science Academy of KAIST, Korea

10:00 **EDU.O-4** Educational Effects of General Chemistry Laboratory Courses on Undergraduate Students at UNIST
Eunyoung Kang, Geun Young Jin
Department of Chemistry, UNIST, Korea

10:20 **EDU.O-5** Development of a Periodic Table Learning Tool Using Rubik's Periodic Table Cubes
Jinho Oh, Dojun Jung[1,*]
Department of Chemistry & Biology, Korea Science Academy of KAIST, Korea
[1]*Department of Science Education, Chuncheon National University of Education, Korea*

10:40 **EDU.O-6** Exploring Pre-Service Elementary Teachers' Conceptual Difficulties in Chemistry Content Through Their Questions
Jong-Hyeok Lee
Center for Science Education in the Infosphere, Seoul National University, Korea

Organizer

Jin-Soo Park

Present	Professor, Department of Green Chemical Engineering, Sangmyung University, Korea
2009	Senior Researcher, Fuel Cell Center, Korea Institute of Energy Research, Korea
2004	Ph.D., Department of Environmental Engineering, GIST, Korea

Hyungkuk Ju

Present	Assistant Professor, Department of Energy Engineering, Dankook University, Korea
2023	Senior Researcher, Korea Institute of Energy Research, Korea
2020	Research Scientist / Project leader, CSIRO, Australia

49. Integration of Chemistry for Solving Environmental and Energy Challenges

Organizer: Jin-Soo Park (Sangmyung University)
Hyungkuk Ju (Dankook University)

Chair: Hyungkuk Ju (Dankook University)

09:00 **ENVR.O-1** Exploring the Origin of Highly Active Reaction Sites for Oxygen Evolution in Iron–Nickel Selenides
Seunghwa Lee
Department of Chemical Engineering, Changwon National University, Korea

09:30 **ENVR.O-2** Electrochemical Recovery of Critical Metals from Spent Batteries: Can We Achieve Both Selectivity and Yield?
Kwiyong Kim
Department of Civil Urban Earth and Environmental Engineering, UNIST, Korea

Chair: Jin-Soo Park (Sangmyung University)

10:00 **ENVR.O-3** Redox-Mediated Photoelectrochemical (PEC) Water Treatment
Kihyun Cho
Department of Energy Engineering, Dankook University, Korea

10:30 **ENVR.O-4** Control of Nucleation Dynamics and Enhancing Lithium Surface Diffusivity on Li Metal Anodes and Current Collectors in Li-Ion Batteries
Suk Jun Kim
Department of Energy and Materials Engineering, Korea University of Technology and Education, Korea

Poster Presentation

Polymer Chemistry Poster Presentation
October 23 (Thu), Exhibition Hall 1

POLY.P-1 Organic X-Ray Detectors with Reduced Dark Current Using Medium-Bandgap Polymer Donors
Hye-Seong Ko, Do-Hoon Hwang*, Jong-Woon Ha[1, *]
Department of Chemistry, Pusan National University, Korea
[1]*Department of Polymer Engineering, Gyeongsang National University, Korea*

POLY.P-2 Room-Temperature Ferroelectric Liquid Crystal for Next-Generation FeRAM Applications: Realizing Polarization Retention and Switching Properties
Seongwon Park, Byoung-Ki Cho*
Department of Chemistry, Dankook University, Korea

POLY.P-3 Reversible Switching of a Pyrene-Based Hexacatenar Liquid Crystal: A Fluorescent Polymorph System Controlled by Mechanochromism and a Novel E-field-Induced Transition.
Seongwon Park, Byoung-Ki Cho*
Department of Chemistry, Dankook University, Korea

POLY.P-4 Direct Ink Writing of MXene/PEDOT:PSS Electrodes for Integrated Self-Charging Micro-Supercapacitors and Triboelectric Nanogenerators
Minjae Kim, Seung Goo Lee*
Department of Chemistry, University of Ulsan, Korea

POLY.P-5 Synergistic Microtopography and Chemical Surface Modification for Bio-Inspired Anti-Biofouling Performance
Jeongwon Kim, Seung Goo Lee*
Department of Chemistry, University of Ulsan, Korea

POLY.P-6 Sustainable Engineering of Nitrogen-Enriched g-Ru@N-MXene/g-rGO Hybrid Synthesized via Green Route for Electrocatalytic Water Splitting
Mirza Mahmood Baig, Seung Goo Lee*
Department of Chemistry, University of Ulsan, Korea

POLY.P-7 Fluoroalkylated Polynorbornenes for Low-Energy Surface with Low F/C Ratio.
Dongwoo Kang, Byungjin Koo*
Department of Polymer Science & Engineering, Dankook University, Korea

POLY.P-8 Synthesis and Characterization of a Low-Temperature Crosslinked Polyimide Using a (Hydroxymethyl)Benzoguanamine as a Cross-Linker
Eui Jeong Son, Taek Ahn*
Department of Applied Chemistry, Kyungsung University, Korea

POLY.P-9 Synthesis and Thin Film Properties of a Soluble Polyimide/Tetrafluorophthalate Attached $BaTiO_3$ Nanocomposite for Solution Processable High K Dielectric
Eui Jeong Son, Taek Ahn*
Department of Applied Chemistry, Kyungsung University, Korea

POLY.P-10 Sequence Ensemble Engineering by Composition Distribution Control
Jimin Yoo, Myungeun Seo*
Department of Chemistry, KAIST, Korea

POLY.P-11 Thermally Cross-Linkable Poly(iminoarylene) for Efficient Hole Injection and Transport in Solution-Processed OLEDs
Seon Lee Kwak, Do-Hoon Hwang*
Department of Chemistry, Pusan National University, Korea

POLY.P-12 Flame-Retardant Performance of Acrylic Copolymers Containing Phosphorus-Functional Monomers
Suhyeon Jo, Hoyoul Kong*, Ka Yeon Ryu[1]

Department of Chemistry, Gyeongsang National University, Korea
[1]*Department of Chemistry, Gyeongsang National University, Korea / Research Institute of Molecular Alchemy, Gyeongsang National University, Korea*

POLY.P-13 Post-Functionalization of Polyethers by Photoinduced C–H Amidation via Polar-Radical Relay
Seung Beom Baek, Young-Ho Kim, Sangwon Seo[1], Dongwook Kim[2], Myungeun Seo*, Sukbok Chang[3, *]
Department of Chemistry, KAIST, Korea
[1]*Department of Physics & Chemistry, DGIST, Korea*
[2]*Center for Catalytic Hydrocarbon Functionalization, IBS, Korea*
[3]*Department of Chemistry, IBS/KAIST, Korea*

POLY.P-14 Inverted Morphology Obtained by Polymerization-Induced Microphase Separation from the Bottlebrush Diblock Architecture
Seungjin Ha, Changsu Yoo, Myungeun Seo*
Department of Chemistry, KAIST, Korea

POLY.P-15 Synthesis of Oligomeric Polyester Polyol Acrylates from Biomass-Derived Byproduct Acids
Yubin Chang, Ka Yeon Ryu[1], Hoyoul Kong*
Department of Chemistry, Gyeongsang National University, Korea
[1]*Department of Chemistry, Gyeongsang National University, Korea / Research Institute of Molecular Alchemy, Gyeongsang National University, Korea*

POLY.P-16 ROMP-Derived High-*k* Star Polymers: Influence of Monomer and Crosslinker Design on Dielectric Properties
Jihwan Na, Sanghee Yang*
Department of Chemistry, Inha University, Korea

POLY.P-17 Defect Engineering in Crystalline Polymers for Two-Dimensional Nanostructure Formation
Gyusung Hwang, Sanghee Yang*
Department of Chemistry, Inha University, Korea

POLY.P-18 Synthesis and Characterization of Core-Shell Acrylic Emulsions with Phosphorus-Containing Monomers of Different Oxidation States
Youngeun Park, Suhyeon Jo, Ka Yeon Ryu[1], Hoyoul Kong*
Department of Chemistry, Gyeongsang National University, Korea
[1]*Department of Chemistry, Gyeongsang National University, Korea / Research Institute of Molecular Alchemy, Gyeongsang National University, Korea*

POLY.P-19 Unlocking Ring-Opening Polymerization of Glycidyl Propargyl Ether via Lewis Pair Organocatalysts
Byungwoo Yoo, Byeong-Su Kim*
Department of Chemistry, Yonsei University, Korea

POLY.P-20 Biocompatible Siloxane-Based Polymers via Acid-Catalyzed Ring-Opening for Enhanced Transdermal Drug Delivery
Rae Hyung Kang
Department of Pharmaceutical Engineering, Dankook University, Korea

POLY.P-21 Effect of MOCA Incorporation on the Properties of UV-Curable Polyurethane Acrylates
Rakhyeon Kim, Ka Yeon Ryu[1], Hoyoul Kong*
Department of Chemistry, Gyeongsang National University, Korea
[1]*Department of Chemistry, Gyeongsang National University, Korea / Research Institute of Molecular Alchemy, Gyeongsang National University, Korea*

POLY.P-22 Sequence Distribution-Controlled Polymerization of Styrene/MMA Copolymer via Post Polymer Modification
Sung Han Park, Muniyappan Boominathan*, Myungeun Seo*
Department of Chemistry, KAIST, Korea

POLY.P-23 Hierarchical Chiral Plasmonic Architectures Enabled by Star-Shaped Block Copolymers
Seohyun Jung, Dong Ha Kim*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

POLY.P-24 Network Ionic Polymer Composite Electrolytes Containing Piperidinium-Based Ionic Salt
Suyeon Kim, Minjae Lee*
Department of Chemistry, Kunsan National

University, Korea

POLY.P-25 Synthesis and Characterization of Dicationic Pyrrolidinium Zwitterions.
Eunji Yun, Minjae Lee*
Department of Chemistry, Kunsan National University, Korea

POLY.P-26 Controlled Hydrogenation of Unsaturated Polymers via Tetralin-Mediated Transfer Hydrogenation under Ambient Pressure
Seulchan Lee, Soon Hyeok Hong*
Department of Chemistry, KAIST, Korea

POLY.P-27 Development of a Chondroitin Sulfate-Bile Acid Coated Nanoparticle-Based Oral Drug Delivery System for Fish and Assessment of Targeting Efficiency Using GFP
Sojeong Min, Namdoo Kim*, Longhai Piao*
Department of Chemistry, Kongju National University, Korea

POLY.P-28 Effect of Solution Concentration on Diameter and Morphology of Electrospun PVA Nanofibers
Hakrae Lee, Longhai Piao*
Department of Chemistry, Kongju National University, Korea

POLY.P-29 ROMP of Nine-Membered Cyclic Carbamate Monomers for Functional Polycarbamates
Gayeon Park, Cheoljae Kim*
Department of Chemistry, Chungbuk National University, Korea

POLY.P-30 Synthesis of Chemically Recyclable Functional Polymers from Medium-Sized Bicycles via Reversible Ring-Opening Metathesis Polymerization
Subin Shin, Cheoljae Kim*
Department of Chemistry, Chungbuk National University, Korea

POLY.P-31 Chitosan Nanoparticle-Based Oral Plasmid DNA Vaccine Delivery System for Fish
Kisoo Kim, Longhai Piao*, Namdoo Kim*
Department of Chemistry, Kongju National University, Korea

POLY.P-32 Synthesis of Well-Defined Poly(4-vinylphenol) via Nitroxide-Mediated Polymerization and Acidic Hydrolysis
Jinseok Lee, Chang-Geun Chae[1, *]
Department of Chemical & Biomolecular Engineering, Yonsei University, Korea
[1]*Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea*

POLY.P-33 *N*-Alkylamide-Functionalization of Vinyl-Addition Polynorbornenes via Post-Polymerization Modification
Jun Woo Park, Chang-Geun Chae[1, *]
Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea / Department of Chemistry, Yonsei University, Korea
[1]*Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea*

POLY.P-34 Use of Carbodicarbene as a Single Organic Initiator in the Conjugate-Addition Polymerization of (Meth)acrylic Monomers
Jiseon Gwon, Kunou Kim, Minseop Kim[1], Jongcheol Seo[1], Eunsung Lee[2, *], Kyung-Sun Son*
Department of Chemistry, Chungnam National University, Korea
[1]*Department of Chemistry, POSTECH, Korea*
[2]*Department of Chemistry, Seoul National University, Korea*

POLY.P-35 Fabrication of Liquid Hybrid Fibers via Interfacial Molecular Assembly
Hwimin Kim, Seonki Hong*
Department of Physics & Chemistry, DGIST, Korea

POLY.P-36 Fluorinated Polynorbornenes with Triethylene Glycols for Selective Lithium Extraction
Yongseok Hur, Byungjin Koo*
Department of Polymer Science & Engineering, Dankook University, Korea

POLY.P-37 Plus: A Universal Coating Platform for Enhanced Antibody Immobilization
Nayoung Son, Seonki Hong*
Department of Physics and Chemistry, DGIST, Korea

POLY.P-38 Oral Drug Delivery System for Fish Using Bile Acid-Conjugated Liposomes Encapsulating

rVHSV-eGFP Virus
Hyobin Park, Longhai Piao*, Namdoo Kim*
Department of Chemistry, Kongju National University, Korea

POLY.P-39 Mechanochemical Upcycling of Polystyrene
Gregory Peterson
Department of Chemistry, Incheon National University, Korea

POLY.P-40 Aggregation-Induced Emission Dye for Fluorescent Detection of Microplastics in Green Channel
Soyeon Kim, Cheal Kim*
Department of Fine Chemistry, Seoul National University of Science & Technology, Korea

POLY.P-41 Development of an Aggregation-Induced Emission Fluorescent Dye for Efficient Microplastic Staining and Detection
Ayin Lee, Cheal Kim*
Department of Fine Chemistry, Seoul National University of Science & Technology, Korea

POLY.P-42 Detection of Various Microplastics Using a Solid-State Fluorescent Dye
Eunha Han, Cheal Kim*
Department of Fine Chemistry, Seoul National University of Science & Technology, Korea

POLY.P-43 Selective Staining of Polyethylene Terephthalate (PET) Microplastic by Fluorescence Dye
Otgontsetseg Batsaikhan, Cheal Kim*
Department of Fine Chemistry, Seoul National University of Science & Technology, Korea

POLY.P-44 Microplastic Detection Using an AIE-Active Fluorescent Staining Probe
Seoyeon Kim, Cheal Kim*
Department of Fine Chemistry, Seoul National University of Science & Technology, Korea

POLY.P-45 Selective Fluorescent Staining for Polyacrylonitrile Microplastics in Aqueous Media
Yeji Choi, Cheal Kim*
Department of Fine Chemistry, Seoul National University of Science & Technology, Korea

POLY.P-46 Synthesis of Stable and High Photoluminescence of Water-Soluble InP Red Quantum Dots
Duytung Dao, Kyu Yun Chai[1,*]
Business Development Division, ODTECH, Korea
[1]*Department of Chemistry, Wonkwang University, Korea*

POLY.P-47 Development of Glycol Chitosan-Based Antifouling Coating to Prevent Bacterial and Platelet Adhesion on Medical Implants
Sunhee Kim, Joon Sig Choi[1,*], Kang Moo Huh[2,*], Woo Kyung Cho*
Department of Chemistry, Chungnam National University, Korea
[1]*Department of Biochemistry, Chungnam National University, Korea*
[2]*Department of Organic Materials Engineering, Chungnam National University, Korea*

POLY.P-48 Eumelanin-Inspired Antifouling Surface Coatings using Amine-Terminated N-oxide Compounds
Jongseok Park, Woo Kyung Cho*
Department of Chemistry, Chungnam National University, Korea

POLY.P-49 Development of Bioinspired *N*-oxide Polymer Brushes for Advanced Antifouling Applications
Jeongbin Oh, Woo Kyung Cho*
Department of Chemistry, Chungnam National University, Korea

POLY.P-50 Oral Chitosan-Nanoparticle-Based DNA Vaccine Delivery Platform for Aquaculture
Ji-Hyun Cha, Namdoo Kim*, Longhai Piao*
Department of Chemistry, Kongju National University, Korea

Poster Presentation

Industrial Chemistry Poster Presentation
October 24 (Fri), Exhibition Hall 1

IND.P-1 Mechanically Molded Herringbone Mixer for Enhanced Mixing in Continuous Flow Reactors
Geon Shin, Chan Pil Park*
Graduate School of Analytical Science and Technology, Chungnam National University, Korea

IND.P-2 Evaluating Isoreticular Series of CALF-20 for Biogas Upgrading Using a Pressure/Vacuum Swing Adsorption (PVSA) Process
Changdon Shin, Yongchul Chung[1, *]
School of chemical engineering, Pusan National University, Korea
[1]*School of Chemical & Biomolecular Engineering, Pusan National University, Korea*

IND.P-3 Utilization of Regenerated Polyol Based on Low-Energy Consumption Polyurethane Depolymerization
Hyeonsoo Jang, Arim Jeong, Younghoon Kim*
Center for Bio-Based Chemistry, Korea Research Institute of Chemical Technology, Korea

IND.P-4 Dual Actions of atRA in Cancer and Thrombosis: Uncovering Therapeutic Potentials across Two Distinct Pathological Environments
Jieun Hong, Dongwon Lee[1, *]
Department of Nano Convergence Engineering, Jeonbuk National University, Korea
[1]*Department of Polymer-Nano Science & Technology, Jeonbuk National University, Korea*

IND.P-5 Self-Assembling Cinnamaldehyde-Based Polymeric Micelles for ROS-Mediated Anticancer Therapy
Nayeong Jeon, Dongwon Lee[1, *]
Department of Nano Convergence Engineering, Jeonbuk National University, Korea
[1]*Department of Polymer-Nano Science & Technology, Jeonbuk National University, Korea*

IND.P-6 Design and Development of Conductive Plastic Electrodes for Water Electrolysis
Jong Won Shin
Research Division for Data Analysis, Korea Institute of Science and Technology Information, Korea

INOR.P-51 Chemical Crystallography at PLS-II: Capabilities of the BL2D-SMC Beamline
Dae-Woong Kim, Dongwon Kim, Dohyun Moon*
Beam Operation Team, Pohang Accelerator Laboratory, Korea

INOR.P-52 Electrochemical Recognition of Lactic Acid Enantiomers Using Chiral Pd_4L_8 Coordination Cages
Dongwon Kim, Dae-Woong Kim, Dohyun Moon*
Beam Operation Team, Pohang Accelerator Laboratory, Korea

INOR.P-53 Defect Engineering in a Metal–Organic Framework to Induce Gate-Opening for Enhanced Adsorption Performance
Sangho Han, Dayeon Choi, Moonhyun Oh*
Department of Chemistry, Yonsei University, Korea

INOR.P-54 Distinct Aggregation Behavior of *N*-Terminally Truncated $A\beta_{4-42}$ over $A\beta_{1-42}$ in the Presence of Zn(II)
Chanju Na, Mi Hee Lim*
Department of Chemistry, KAIST, Korea

INOR.P-55 Cobalt Complexes as Modulators against Amyloid-β Aggregation
Jeasang Yoo, Dongwook Kim[1], Mi Hee Lim*
Department of Chemistry, KAIST, Korea
[1]*Center for Catalytic Hydrocarbon Functionalization, IBS, Korea*

INOR.P-56 Cyclotrimerization of Alkynes Catalyzed by Bimetallic Iron Complexes with a Urea-Bridged Tetradentate [NNNN] Ligand
Dabeen Hong, Kyounghoon Lee[1, *]
Department of Chemistry Education, Gyeongsang National University, Korea
[1]*Department of Chemistry Education, Gyeongsang National University, Korea / Research Institute of Natural Sciences, Korea*

INOR.P-57 Superprotonic Conductivity via Dynamic Hydrogen Bonding in Mixed-Matrix Membrane Based Hydrogen-Bonded Organic Framework
Jinyoung Bae, Byoung Gwan Lee, Dae Woon Lim[1, *]
Department of Chemistry, Yonsei University, Korea
[1]*Department of Chemistry & Medical Chemistry, Yonsei University, Korea*

INOR.P-58 Coordinated Water Modulation for Proton Conductivity via Post-Synthetic Transmetalation in Yttrium-Based Coordination Polymer
Byoung Gwan Lee, Dongwook Kim[1], Jinyoung Bae, Dae Woon Lim[2, *]
Department of Chemistry, Yonsei University, Korea
[1]*Center for Catalytic Hydrocarbon Functionalization, IBS, Korea*
[2]*Department of Chemistry & Medical Chemistry, Yonsei University, Korea*

INOR.P-59 Cationic Pd(II)-Catalyzed Dehydrogenation of Metal Borohydrides and Crown Ether Complexes in Organic Solvents: Kinetic Study and Characterization of Spent Fuels
Myung Jae Lee, Sangheon Jeong, Min-Jong Bong, Seung Hwan Cha, Ho-Jin Son*
Department of Advanced Materials Chemistry, Korea University, Korea

INOR.P-60 Visible-Light-Driven Hydrogen and Value-Added Product Generation by Phosphonic Acid-Functionalized Ir(III) Photosensitizers on TiO_2–Pt
Sangheon Jeong, Myung Jae Lee, Min-Jong Bong, Seung Hwan Cha, Ho-Jin Son*
Department of Advanced Materials Chemistry, Korea University, Korea

INOR.P-61 Impact of Anchoring Groups in Organometallic Iridium(III) Sensitizers on the Photocatalytic

Performance of Dye-Sensitized TiO_2 Catalysts
Seung Hwan Cha, Min-Jong Bong, Sangheon Jeong, Myung Jae Lee, Ho-Jin Son*
Department of Advanced Materials Chemistry, Korea University, Korea

INOR.P-62 Highly Variable Nickel-Bismuth Interactions in Pincer-Type Nickel Complexes Facilitating Reversible CO Binding
Soohyun Lim, Yunho Lee[1, *]
The Research Institute of Basic Sciences, Seoul National University, Korea
[1]*Department of Chemistry, Seoul National University, Korea*

INOR.P-63 Electron Transfer for C–H Activation through Methane Monooxygenase Reductase
Yunha Hwang, Dong-Heon Lee, Seung Jae Lee[1, *]
Department of Chemistry, Jeonbuk National University, Korea
[1]*Department of Chemistry, Jeonbuk National University, Korea / Institute of Molecular Biology & Genetics, Jeonbuk National University, Korea*

INOR.P-64 Transcriptional Regulation of Metalloproteins through Protein-Protein Interaction
Soyeon Park, Jaejeong You, Dong-Heon Lee, Seung Jae Lee[1, *]
Department of Chemistry, Jeonbuk National University, Korea
[1]*Department of Chemistry, Jeonbuk National University, Korea / Institute of Molecular Biology & Genetics, Jeonbuk National University, Korea*

INOR.P-65 ZBTB20 and its Regulatory Roles in Hepatocarcinogenesis
Hyunyong Kim, Dong-Heon Lee, Seung Jae Lee[1, *]
Department of Chemistry, Jeonbuk National University, Korea
[1]*Department of Chemistry, Jeonbuk National University, Korea / Institute of Molecular Biology & Genetics, Jeonbuk National University, Korea*

INOR.P-66 Controlling Gene Expression through Zinc Fingers and its DNA-Binding Partners
Yerim Park, Dong-Heon Lee, Seung Jae Lee[1, *]
Department of Chemistry, Jeonbuk National University, Korea
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INOR.P-67 Chirality Transfer in Pd(II) and Pt(II)-Based Supramolecular Assemblies
Jiseon Na, Jacopo Tessarolo*
Department of Chemistry, Chonnam National University, Korea

INOR.P-68 Solvatochromic Zn(II) Metallacycles
Sumi Lee, Jacopo Tessarolo*
Department of Chemistry, Chonnam National University, Korea

INOR.P-69 Synthesis and Characterizations of Switchable Betadiketonate Hydrazone Complexes
Tahreem, Suman Mondal, Ketan Sharad Mandrekar, Jacopo Tessarolo*
Department of Chemistry, Chonnam National University, Korea

INOR.P-70 Anion-Driven Structural Conversions in Zn(II)-Based Coordination Compounds
Haeri Lee, So Hyeon Kwon
Department of Chemistry, Hannam University, Korea

INOR.P-71 Stable Radical Ion Pairs: From Synthetic Strategies to Qubit Material Applications
Sumin Kim, Jeongcheol Shin[1], Sun Hee Kim[2, *], Eunsung Lee*
Department of Chemistry, Seoul National University, Korea
[1]*Department of Chemistry, Duksung Women's University, Korea*
[2]*Western Seoul Center, Korea Basic Science Institute, Korea*

INOR.P-72 Synthesis of Aminyl Radical Stabilized by N-Heterocyclic Carbene
Chaerin Lim, Solhye Choe[1], Eunsung Lee*
Department of Chemistry, Seoul National University, Korea
[1]*Department of Chemistry, POSTECH, Korea*

INOR.P-73 Hydrogenolysis of Furfural to 1,2-Pentanediol over Various Metal Oxide Based Heterogeneous Catalyst
Jeonghoon Kim, Sungho Yoon*
Department of Chemistry, Chung-Ang University,

Korea

INOR.P-74 Advanced Methyl Formate Production through CO_2 Hydrogenation Using Ru-Based Heterogeneous Catalyst
Minji Kang, Sungho Yoon[1, *]
Department of Inorganic Chemistry, Chung-Ang University, Korea
[1]*Department of Chemistry, Chung-Ang University, Korea*

INOR.P-75 Revealing Dynamic Weak Coordination Bonding of Halocarbons and Its Role for Activation of Metal-Organic Frameworks
Eun Seo Jeon, Nak Cheon Jeong[*]
Department of Physics & Chemistry, DGIST, Korea

INOR.P-76 Revolutionizing Atmospheric Water Harvesting: Microwave-Driven Activation of MOF with Open Metal Sites and Superior Hydrolytic Stability
Inhoo Kim, Nak Cheon Jeong[*]
Department of Physics & Chemistry, DGIST, Korea

INOR.P-77 Conversion of 3-Hydroxypropionic Acid to 3-Amino-1-Propanol Using a Ru Hydrogenation Catalyst
Sanghun Byun, Sungho Yoon[*]
Department of Chemistry, Chung-Ang University, Korea

INOR.P-78 Dimension-Controlled Manganese(II) Metal-Organic Frameworks Depending on Functional Group
Taehun Kim, Kyunghye Ju, Jisu Lim, Gyeongeun Ahn[1], In-Hyeok Park[*]
Graduate School of Analytical Science & Technology, Chungnam National University, Korea
[1]*Department of Chemistry, Chungnam National University, Korea*

INOR.P-79 Conductivity Enhancement and Mechanistic Insight in Polymer-Integrated HKUST-1 Metal–Organic Frameworks
Yeeun Lee, Nak Cheon Jeong[*]
Department of Physics & Chemistry, DGIST, Korea

INOR.P-80 Synthesis and Structural Characterization of Isostructural Two-Dimensional Co(II) Metal-Organic Frameworks under Different Solvent Conditions
Gyeongeun Ahn, Kyunghye Ju[1], Taehun Kim[1], Jisu Lim[1], In-Hyeok Park[1, *]
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[1]*Graduate School of Analytical Science & Technology, Chungnam National University, Korea*

INOR.P-81 Catalytic PtTe/$RuTe_2$ Heterostructure for Effective Alkaline Hydrogen Evolution Reaction
Min Kwak, Kwangyeol Lee[*]
Department of Chemistry, Korea University, Korea

INOR.P-82 Synthesis of Supramolecular and Metal–Organic Architectures from Dipyridyl-Based Ligands
Juwon Ma, Junseong Lee[*]
Department of Chemistry, Chonnam National University, Korea

INOR.P-83 Selective Formation of Heterometallic Ru–Ag Supramolecules via Stoichiometric and Ligand-Mode Control
Hyunseo Choi, Junseong Lee[*]
Department of Chemistry, Chonnam National University, Korea

INOR.P-84 Kubas-Interaction-Driven Hydrogen Isotope Separation above 111 K Using Organometallic Complex–Mesoporous Carbon Hybrids
Hyerin Lee, Hyunchul Oh[*]
Department of Chemistry, UNIST, Korea

INOR.P-85 Structure and Properties of Metallosupramolecular Complexes Based on a Dipyridyl Functionalized Pillar[5]arene
Jaejun Lee, Eunji Lee[1, *]
Department of Chemistry, Gangneung-Wonju National University, Korea
[1]*Department of Chemistry & Advanced Materials, Gangneung-Wonju National University, Korea*

INOR.P-86 Morphological and Structural Modification of Nanorods *via* Selenium Anion Exchange Reaction

Won Seo, Kwangyeol Lee*
Department of Chemistry, Korea University, Korea

INOR.P-87 Temperature-Controlled Structural Evolution of HKUST-1 for Enhanced CO_2 Electroreduction Performance
Yeeun Seong, Juyeong Kim*
Department of Chemistry, Gyeongsang National University, Korea

INOR.P-88 Mesophase-Induced Vitrification in Coordination Polymers via Aliphatic Chain Dynamics
Minhyuk Kim, Yelim Lee[1], Hoi Ri Moon[1, *]
Department of Chemistry, UNIST, Korea
[1]*Department of Chemistry & Nanoscience, Ewha Womans University, Korea*

INOR.P-89 Synthesis and Catalytic Application of Transition Metal Complexes for Heterotactic Poly(lactic acid) Polymerization
Hyeondeok Jo, Hyosun Lee*
Department of Chemistry, Kyungpook National University, Korea

INOR.P-90 Unified Amine System for Efficient CO_2-to-Formic Acid Production via Integrated Reaction and Separation
Ji-Seong Baek, Sungho Yoon[1, *]
Department of Inorganic Chemistry, Chung-Ang University, Korea
[1]*Department of Chemistry, Chung-Ang University, Korea*

INOR.P-91 Synthesis, Biological Characterization, and Activity Evaluation of Furan-Containing Schiff Base Transition Metal Complexes
Seunga Jeong, Hyosun Lee*
Department of Chemistry, Kyungpook National University, Korea

INOR.P-92 Reversible Guest-Responsive 2D Phosphate with Proton-Conducting and Optical Multifunctionality
Yejin Heo, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-93 A New Series of Bismuth Oxyfluorides: Aliovalent Substitution and Oxidation State Control for Structural Transformation
Chanhee Ko, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-94 Ultraviolet Oxyfluoroniobate Featuring Fully Activated Polar Chains with Giant Optical Nonlinearity and High Laser Damage Threshold
Congcong Jin, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-95 Synthesis, Structure, and Properties of Chiral Noncentrosymmetric Zn(II) Complexes
Huiyeon Kim, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-96 Novel One-Dimensional Hybrid Ferroelectric: Synthesis, Crystal Structure, and Characterization
Bo Young Kim, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-97 $CsICl_2$: An Inorganic Birefringent Crystal with Record Birefringence and Ultra-Wide Infrared Transparency
Chongan Chen, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-98 Tellurite–Fluoride Materials Combining Ultraviolet Birefringence and High Thermal Stability
Hanjung Kim, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-99 Cationic Dimerization Enables UV Birefringence Enhancement in All-Organic Crystals
Jiachen Lu, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-100 Synthesis, Crystal Structures, and Structural Transformation of Zn-Based Homochiral Coordination Polymers Via UV-Induced [2+2] Cycloaddition Reactions
Jihyun Lee, Kang Min Ok*
Department of Chemistry, Sogang University, Korea

INOR.P-101 Green Synthesis of Gold Nanoparticles Using Eco-Friendly Solvent for Photothermal Therapy
Soomin Yi, Hongje Jang*
Department of Chemistry, Kwangwoon University, Korea

INOR.P-102 Atomically Dispersed Ru Nanozymes Enabled by a Dynamic Liquid Gallium Matrix with Enhanced Peroxidase-Like Activity
Ryanghyun Kim, Hongje Jang*
Department of Chemistry, Kwangwoon University, Korea

INOR.P-103 Tellurium-Nanorod-Templated Engineering of Ru-Based Nanostructures for Enhanced Peroxidase-Like Catalysis
Hongju Ra, Hongje Jang*
Department of Chemistry, Kwangwoon University, Korea

INOR.P-104 Gallium-Iridium Nanozymes Synthesized via a Sonochemical Process for Cancer Therapy.
Youbin Heo, Hongje Jang*
Department of Chemistry, Kwangwoon University, Korea

INOR.P-105 Biomimetic Metal Complex Controlling ROS in Colon Cancer Cells: Exploring SOD-Mimicking Reactivity for Novel Therapeutic Agents
Yougang Kim, Hyungbin Park, Chaewon An, Yijin Kim, Hyewon Lee, Seungwoo Hong*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

INOR.P-106 Cu(II) Coordination in an Islet Peptide Hormone and Its Implications for Metal Ion Dyshomeostasis in Diabetes
Yonghwan Pi, Jiyeon Han*
Department of Applied Chemistry, University of Seoul, Korea

INOR.P-107 Controlled Self-Assembly of Au Nanoparticles with PS/P4VP Heterogeneous Ligand System
Galim Baek, Hongseok Yun*
Department of Chemistry, Hanyang University, Korea

INOR.P-108 The Determination of the P-H Bond Dissociation Free Energy in a Triarylphosphonium Compound and Its Application to Hydrogen Atom Transfer
Yunmi Sohng, Sangmin Kim*
Department of Chemistry, Yonsei University, Korea

INOR.P-109 Harnessing Copper Complex as A SOD Mimicking Model for Challenging Triple-Negative Breast Cancer: Disrupting Redox Balance
Chaewon An, Hyungbin Park, Yougang Kim, Hyewon Lee, Yijin Kim, Seungwoo Hong*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

INOR.P-110 Intramolecular Halogen Stabilization of Hydrogen-Substituted Silylium Ions
Chanhyeong Jo, Sangmin Kim*
Department of Chemistry, Yonsei University, Korea

INOR.P-111 Anion Exchange Synthesis of Hollow Ir-$Ni_2P_{1-x}S_x$ Boosts Oxygen Evolution in Acidic Media
Subeen Lee, Kwangyeol Lee*
Department of Chemistry, Korea University, Korea

INOR.P-112 Pd-Based Metal Organic Cages with Curcuminoid Ligands
Gaheun Lee, Jacopo Tessarolo*
Department of Chemistry, Chonnam National University, Korea

INOR.P-113 Length-Dependent Secondary Coordination Ligand Effects in Mn(I) Bipyridyl Complexes for Photocatalytic CO_2 Reduction
Min-Jong Bong, Seung Hwan Cha, Myung Jae Lee, Sangheon Jeong, Ho-Jin Son*
Department of Advanced Materials Chemistry, Korea University, Korea

INOR.P-114 Formation of Supramolecular Coordination Polymers of Pseudo[1]catenane-Type Pillar[5]arene Exhibiting in/out-Conformational Inversions
Hyeonji Jang, Seohyeon Yun, Eunji Lee[1,*]
Department of Chemistry, Gangneung-Wonju National University, Korea
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INOR.P-115 Synthesis and Electrochemical Performance with Mechanistic Analysis of Zn2GeO4 Encapsulated

in Porous Carbon Spheres via Carbonization for LIB Anodes
Joon Ha Moon, Yoon Myung[1], Chan Woong Na[1], Jaewon Choi*
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[1]*Extreme Process Control Group, Korea Institute of Industrial Technology, Korea*

INOR.P-116 Synthesis of Distorted Phosphorus Compounds and their Reactivity towards THF Polymerization
Hyun Su Jeong, Dabeen Hong, Kyounghoon Lee[1, *]
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INOR.P-117 Efficiency Enhancement of Sub-5 μm InGaN/GaN Micro-LEDs via DC Bias-Controlled Dry Etching and TMAH-Surface Treatment
Seongho Park, Jeonghyo Kim, Young Rag Do*
Department of Chemistry, Kookmin University, Korea

INOR.P-118 A Supramolecular Spin on a Werner Complex: Ligand-Directed Assembly of Chiral Trinuclear Complexes
Kyunghwan Min, Dongwhan Lee*
Department of Chemistry, Seoul National University, Korea

INOR.P-119 Improved Vertical Assembly of Dot-LEDs via N-(carboxymethyl)-N-(11-mercaptoundecyl)glycine SAMs and Zinc Metal Complexes
Jeonghyo Kim, Minji Ko, Young Rag Do*
Department of Chemistry, Kookmin University, Korea

INOR.P-120 Cuboidal Metal–Organic Polyhedra from Hyperbolic Paraboloidal Ligands
Myeongsu Jeong, Dongwhan Lee*
Department of Chemistry, Seoul National University, Korea

INOR.P-121 Synthesis and Electrochemical Properties of MnO@rGO for Aqueous Zinc-ion Battery Cathodes: Analysis of Improved Capacity and Kinetics
Chaeweon Lee, Chan Woong Na[1], Yoon Myung[1], Jaewon Choi*
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INOR.P-122 Synergistic FeS2@Reduced Graphene Oxide Composite for High-Performance Lithium-Ion Battery Anode
Seunghui Lee, Yoon Myung[1], Chan Woong Na[1], Jaewon Choi[2, *]
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[1]*Extreme Process Control Group, Korea Institute of Industrial Technology, Korea*
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INOR.P-123 A Stable and Reactive MOF Catalyst for CO_2 Conversion in CCUS
Won-Young Kim, Jungseok Heo[1, *]
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INOR.P-124 Effect of Ligands with Various Functional Groups on the Efficiency of Homobimetallic Catalysts in Carbon Dioxide Conversion
Ho Jun Lee, Jungseok Heo*
Department of Chemistry, Chungnam National University, Korea

INOR.P-125 Metal Organic Frameworks (MOFs) Colorimetric Sensor for Food Spoilage
Dongmin Kim, Jungseok Heo*
Department of Chemistry, Chungnam National University, Korea

INOR.P-126 Enhanced EPOTF Process Using PVDF-Coated Silicon Nitride Nanofilters for High-Yield and High-Purity Exosome Isolation
Heejin Jung, Minji Ko, Young Rag Do*
Department of Chemistry, Kookmin University, Korea

INOR.P-127 Sub-Micrometer GaN Dot LEDs via PHPS-Based Nanoimprint Lithography

Taeyoung Lee, Seong Ho Park, Young Rag Do*
Department of Chemistry, Kookmin University, Korea

INOR.P-128 Guest-Length-Dependent Formations of 1D → 2D and 2D → 3D Metal–Organic Polyrotaxane Frameworks
Seohyeon Yun, Jaejun Lee, Eunji Lee[1,*]
Department of Chemistry, Gangneung-Wonju National University, Korea
[1]*Department of Chemistry & Advanced Materials, Gangneung-Wonju National University, Korea*

INOR.P-129 Structural Dynamics and Ionic Conductivity of Silver Iodide Encapsulated within a Ti-Based Two-Dimensional Metal–Organic Framework
Haeun Shin, Dae Woon Lim[1,*]
Department of Chemistry, Yonsei University, Korea
[1]*Department of Chemistry & Medical Chemistry, Yonsei University, Korea*

INOR.P-130 Synthesis of Ambiphilic Low-Valent Indium Compounds Using Fluind-Based Ligands
Yerin Kim, Yuhyeon Bae, Seongmin Hong, Yongjun Lee, Hye Won Moon[1,*]
Department of Undergraduate Studies, DGIST, Korea
[1]*Department of Physics & Chemistry, DGIST, Korea*

INOR.P-131 Biomimetic ROS-Generating Model Complex Synergizes with Chemotherapy to Overcome Drug-Resistant and Metastatic Gastric Cancer
Hyungbin Park, Chaewon An, Yougang Kim, Hyewon Lee, Yijin Kim, Seungwoo Hong*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

INOR.P-132 Design Strategies for Vitrification in Rare-Earth Carboxylate-Based Metal-Organic Frameworks
Yelim Lee, Minhyuk Kim[1], Hoi Ri Moon*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea
[1]*Department of Chemistry, UNIST, Korea*

INOR.P-133 Membrane-Permeable Ligand Design in Metal Complexes: Approaches for Bone-Targeted Osteosarcoma Therapy
Hyewon Lee, Hyungbin Park, Chaewon An, Yougang Kim, Yijin Kim, Seungwoo Hong*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

INOR.P-134 Kinetic Control in the Formation of Photocatalytic Active ZnTPyP Nanorods through Micelle Self-Assembly
Yun Mi Park, Hyoungwook Kang, Sung Ho Jung*
Department of Chemistry, Gyeongsang National University, Korea

INOR.P-135 Regioisomeric *o*-Carborane-Decorated Diboron-Based Multi-Resonance TADF Compounds and Their Photophysical Properties
Jaehong Jung, Nhi Nguyen Ngoc Tuyet, Rafi Muhammad Lutfi, Min Hyung Lee*
Department of Chemistry, University of Ulsan, Korea

INOR.P-136 Interrelationships between Metal Ions and Matrix Metalloproteinases-2/9 in Cancer Cells
Hyuck Jin Lee
Department of Chemistry Education, Kongju National University, Korea

INOR.P-137 Interactions between LDH-A and Amino Acids
Hyuck Jin Lee
Department of Chemistry Education, Kongju National University, Korea

INOR.P-138 Cobalt-Organic Coordination Polymer as a Platform for Proton-Electron Transport and Neuromorphic Devices
Kwangmin Park, Intek Song*
Department of Chemical & Biological Engineering, Gyeongkuk National University, Korea

INOR.P-139 Mechanochemically Induced Metal-Organic Frameworks Glass
Hyoin Jang, Minhyuk Kim[1], Hoi Ri Moon*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea
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INOR.P-140 Cobalt Coordination Compound for Neuromorphic and Resistive Switching
Arafat Nasim, Intek Song*
Department of Chemical & Biological

Engineering, Gyeongkuk National University, Korea

INOR.P-141 Synthesis and Structural Diversity of Iron(III)-Oxo Clusters Formed from Pyrazolyl Phenol Ligands
Himchan Mo, Junseong Lee*
Department of Chemistry, Chonnam National University, Korea

INOR.P-142 A Quantum Chemical Study into the Reaction Pathways of Silacyclopropane Rings with Methanol: Ring Opening vs. Substitution
Hyoin Ahn, Kyoung-Koo Baeck*
Department of Chemistry, Gangneung-Wonju National University, Korea

INOR.P-143 A Quantum Chemical Study on the Reaction Pathways of Hydrido Metal(II) Azide Complexes with Organic Isocyanides and their Cis–Trans Isomerization
Seungjun Choi, Kyoung-Koo Baeck*
Department of Chemistry, Gangneung-Wonju National University, Korea

INOR.P-144 Amino Acids Conjugate: Strengthen Strategies for Suppressing Colorectal Cancer Cell Proliferation of Metal Complexes
Yijin Kim, Hyungbin Park, Chaewon An, Yougang Kim, Hyewon Lee, Seungwoo Hong*
Department of Chemistry & Nanoscience, Ewha Womans University, Korea

INOR.P-145 Photophysical Properties and FRET of Polycyclic Aromatic Dyes on Coordination Cage Crystal Surfaces
Jihun Han, Ok-Sang Jung*
Department of Chemistry, Pusan National University, Korea

INOR.P-146 Transition-Metal–Assisted Cation-Exchange Synthesis of SnSe@N-Doped Graphitic Carbon for High-Performance Potassium-Ion Anodes
Hyuna Seo, Jongsik Kim[1, *]
Department of Chemical Engineering, Dong-A University, Korea
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INOR.P-147 Improved Electrochemical Properties of One-Dimensional Sb_2Se_3/VGCF@NC Nanostructures in Potassium-Ion Batteries
Hwicheol Ju, Jongsik Kim[1, *]
Department of Chemical Engineering, Dong-A University, Korea
[1]*Department of Chemistry, Dong-A University, Korea*

INOR.P-148 Moisture-Resistant Amine-Functionalized MOF@PVDF Composites for Indoor CO_2 Capture
Nayoung Lee, Chang Seop Hong*
Department of Chemistry, Korea University, Korea

INOR.P-149 Local and Interfacial Structure Design of Au–TiO_2 Nanocomposites for Versatile Applications
Jeongwook Bae, Joohyun Lim*
Department of Chemistry, Kangwon National University, Korea

INOR.P-150 Behavior of Gas Molecules in Porous Coordination Polymers (PCPs)
Jong Won Shin, Dae-Woong Kim[1], Dohyun Moon[1, *]
Research Division for Data Analysis, Korea Institute of Science and Technology Information, Korea
[1]*Beam Operation Team, Pohang Accelerator Laboratory, Korea*

INOR.P-151 Design of Cadmium Sulfide Nanoplatelets Deposited with Metal Cocatalyst and Their Photocatalytic Reaction
Yunkyoung Han, Hyunjoon Song*
Department of Chemistry, KAIST, Korea

INOR.P-152 Ammonia-Driven Morphological Control of Fe-Glycolate Nanostructures and Their Magnetic Behavior
Soohyun Kwon, Joohyun Lim*
Department of Chemistry, Kangwon National University, Korea

INOR.P-153 Photoluminescent Two-Coordinate Gold Complexes with Abnormal N-Heterocyclic Carbenes
Seung Beom Cheon, Youngmin You*
Department of Chemical and Biomolecular Engineering, Yonsei University, Korea

INOR.P-154 Morphology-Controlled Wrinkled Zn-Catalysts via NaCl Microcrystals for Efficient

Poly(caprolactone) Synthesis
Seram Kim, Seung Uk Son*
Department of Chemistry, Sungkyunkwan University, Korea

INOR.P-155 Shape Controlled Nickel Nanoplates as Efficient and Durable Oxygen Evolution Reaction Catalysts in Anion Exchange Membrane Water Electrolyzers
Gwanho Lee, Sang-Il Choi*
Department of Chemistry, Kyungpook National University, Korea

INOR.P-156 Dynamic Restructuring of a Ru@RuC Catalyst with a Protective Carbon Shell for Stable Alkaline Hydrogen Evolution
Saehyun Park, Sang-Il Choi*
Department of Chemistry, Kyungpook National University, Korea

INOR.P-157 Pd_4S Nanoparticles on Sulfur-Rich Hollow Carbons: Highly Selective Catalysts for Alkyne Semi-Hydrogenation
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INOR.P-158 Sulfur-Vulcanized Hexagonal Conjugated Microporous Polymers toward Enhanced Triboelectric Energy Harvesting
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INOR.P-159 MnO Nanoparticles Confined in Carbon Tubes: Stable Catalysts for Biomass-Derived Polymer Precursors
Yeon Seo Kong, Seung Uk Son*
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INOR.P-160 Counterion Effects on Metallophilic Interactions: Au–Au, Ag–Ag, and Au–Ag in [AuAgAuAg] Rhombs
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INOR.P-161 Gold Nanoparticles on Hexagonal CeO_2 Nanoplates for Selective Oxidation of 1,3-Propanediol under Ambient Conditions
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INOR.P-162 Synthesis of Pd(II)-Based Complex Using $PdCl_4^{2-}$ and 2-(1H-1,2,3-Triazol-5-yl)phenol
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INOR.P-163 Synergetic Co-Substitution Effects in the Zintl Phase $Ca_{9-x}A_xZn_{4.5-y}Cd_ySb_9$ (A = Sr, Yb, Eu) System for Enhanced Thermoelectr
Junsu Lee, Tae-Soo You*
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INOR.P-164 Synergistic Cation Substitution and *p*-Doping Effects in $Ca_{9-x}Sr_xZnCa_{9-y}Ag_ySb_9$: A Machine Learning Approach
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INOR.P-165 Data-Driven Exploration of the Zintl $Mg_{3.2}Sb_{1.5}Bi_{0.5}$ Composition Space for High-Performance N-Type Thermoelectrics
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INOR.P-166 Effect of Cation Dping on the Electronic Structure and Thermoelectric Properties of the $Sr_{11-x}Ba_xCd_6Sb_{12}$ System
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INOR.P-167 Experimental and Theoretical Studies for the Zintl Phase Thermoelectric $Ca_{3-x}Eu_xAlSb_3$ System
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PHYS.P-7 In Situ Plasmonic SERS Analysis of Polyethylene Microplastic Photodegradation Kinetics and Mechanism
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PHYS.P-8 Dual Band Luminescence of Au Nanoclusters
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PHYS.P-9 Chemoexcited Formation and Radiationless Decay Dynamics of Firefly Chromophore
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PHYS.P-10 Unraveling Two Distinct Spectral Features in the SERS Spectra of Dopamine
Sungjun Kwak, Dae Hong Jeong*
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PHYS.P-11 Augmenting Spin-Conserving Transitions to MRSF-TDDFT for Improved Description of High-Lying States
Alireza Lashkaripour, Cheol Ho Choi*
Department of Chemistry, Kyungpook National University, Korea

PHYS.P-12 Optimizing Surface Chemistry for Stable LSPR Responses in Gold Nanoparticle-Functionalized Fiber Probes
Doohyun Baik, Dae Hong Jeong*
Department of Chemistry Education, Seoul National University, Korea

PHYS.P-13 Temperature-Varying Salt Solubility in Aqueous Electrolyte Solutions : Graph Theoretical Analysis and Chemical Potential Approach
Jonghyuk Ryu, Lykoung Tun, Jun-Ho Choi*
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PHYS.P-14 Differential Effects of Cholesterol on SLE2S Micelle Association with DMPC and Cer240 Lipid Bilayers
Jongchan Yoon, Hyonseok Hwang*
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PHYS.P-15 Investigating Chiral Induction Pathways in Gold Nanostructures Driven by L-Cysteine Derivatives
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PHYS.P-16 Magnetically Recoverable CdS/Fe_3O_4 Heterostructures for Efficient Visible-Light Biomass Oxidation
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PHYS.P-17 Investigating the Excited State Dynamics of Photoexcited Gas Phase Thymine via Time-Resolved X-Ray Photoelectron Spectroscopy
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PHYS.P-18 Effects of Sequence-Dependent Stiffness of DNA on Packaging and Ejection Dynamics in Viral Capsid
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PHYS.P-19 Analysis of the Lithium-Ion Transport Mechanism of Crystalline and Amorphous Lithium Thiophosphate Solid-State Electrolytes via Machine Learning Potentials

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PHYS.P-20 Advancing Two-Photon-Induced Fluorescence through Linker-Engineered Non-Covalent Carbazole-Based Charge-Transfer Complexes

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PHYS.P-21 Machine Learning-Based Prediction of Solubility in Pure and Mixed Solvent Systems across Temperatures

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PHYS.P-22 Predicting the Refractive Index of Multi-Component Mixtures Using a Graph-Based Machine Learning Model

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PHYS.P-23 C_2, N_4 Coordinated CoRu Dimer for N-Selective Urea Electrosynthesis from Co-Reduction of CO_2 and Nitrate

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PHYS.P-24 CO_2 Laser-Fabricated 2D Ru/RuO_2 Nanosheets for Efficient Bifunctional Electrocatalyst for Hydrazine-Assisted Hydrogen Production

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PHYS.P-25 Application of CO_2 Laser-Synthesized Single-Atom Ru-Doped Cubic Co_3O_4 to Ethylene Glycol Oxidation and Nitrate Reduction Reactions

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PHYS.P-26 CO_2 Laser-Irradiation Mediated NiMo Dual-Atom Dimer on Pd Nanosheets for PET Plastic Upcycling

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PHYS.P-27 Pulsed Laser–Synthesized CoNiCuPdPt High-Entropy Alloy for Coupled Nitrate Reduction–Formaldehyde Oxidation toward Ammonia and Formate Production

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PHYS.P-28 Synergistic Enhancement of Hydrazine-Assisted Water Splitting Using Co-Modified Ru/RuPx Electrocatalysts Derived from Laser Processing

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PHYS.P-29 Synergistic Nitrate-to-Ammonia Conversion and Zinc–Nitrate Battery Performance Using Laser-Structured Pd/Cu Electrocatalyst

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PHYS.P-30 Quantitative Evaluation of Interfacial Charge Transport Efficiency in Alternative Electron Transport Layer Materials to Overcome the Limitations of Conventional C_{60}-Based Layers

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PHYS.P-31 Achieving DFT-Level Accuracy in Molecular Dynamics Simulations of Bacteriochlorophyll a Molecule with a Transfer-Learned ANI-2X Potential
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Department of Chemistry, Chonnam National University, Korea

PHYS.P-32 Spectroscopic Charge Species Mapping Coupled with GHz Dielectric Characterization using Microwave Cavity Perturbation Technique
Vidushi Singh Baghel, Yunho Ahn, Jaehong Park*
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PHYS.P-33 Application of Lead Oxide Nanoparticles in X-ray Computed Tomography: In Vitro and In Vivo Studies
Tirusew Tegafaw, Ziyi Lin, Gang Ho Lee*
Department of Chemistry, Kyungpook National University, Korea

PHYS.P-34 Synthesis and Characterization of Carbon-Coated Fe_3O_4Core–Shell Nanoparticles with Superior T_2 MRI Contrast Performance
Ying Liu, Gang Ho Lee*
Department of Chemistry, Kyungpook National University, Korea

PHYS.P-35 High-Brightness Ultrasmall Ln_2O_3 (Ln = Eu, Tb, Dy) Nanoparticle Colloids Synthesized via Light-Induced Method
Xiaoran Chen, Gang Ho Lee*
Department of Chemistry, Kyungpook National University, Korea

PHYS.P-36 Synthesis of Ultrasmall Lanthanide Oxide (Ln = Eu, Gd, and Tb) Nanoparticles via Thermal Decomposition and Their Magnetic Resonance Imaging and X-Ray Imaging Properties
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Department of Chemistry, Kyungpook National University, Korea

PHYS.P-37 Polyol Synthesis and Surface Modification of $Bi_xGd_{2-x}O_3$ Nanoparticles for T_1,T_2 MRI/CT Multimodalitiy Imaging
Dejun Zhao, Gang Ho Lee*
Department of Chemistry, Kyungpook National University, Korea

PHYS.P-38 Analysis of Spin Exchange Interactions and Spin-Orbit Coupling of Solid State Magnets Containing 3d and 5d Orbitals
Seunggyum Jung, Hyun-Joo Koo*
Department of Chemistry, Kyung Hee University, Korea

PHYS.P-39 Elucidating the Alkyl-Chain Length Effect of Alcohol on Diffusion-Controlled Excited-State Proton Transfer
Seong-Jun Kim, Seung-Woo Lee, Oh-Hoon Kwon*
Department of Chemistry, UNIST, Korea

PHYS.P-40 Rapid Synthesis of High-Entropy Oxide Layer on Ni Foam by CO_2 Laser for Glucose Oxidation Reaction
Sagyntay Sarsenov, Myong Yong Choi*
Department of Chemistry, Gyeongsang National University, Korea

PHYS.P-41 Ultrafast CO_2-Laser Synthesis of High-Entropy Perovskites for Electrocatalytic Water Splitting
Sang-Gyeong Lee, Juhyeon Park, Myong Yong Choi*
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PHYS.P-42 Rapid CO_2 Laser Assisted of Single-Atom Catalysts on MBene for Efficient Electrochemical Nitrate Reduction Reaction
Dong Hyeon Lee, Myong Yong Choi*
Department of Chemistry, Gyeongsang National University, Korea

PHYS.P-43 Electrochemical C–N Coupling Using Formic Acid and NO_2^- Reduction over Pd/Co Sheets for Formamide Production
Yeryeong Lee, Myong Yong Choi*
Department of Chemistry, Gyeongsang National University, Korea

PHYS.P-44 Local Environment-Aware Prediction of Catalytic Activity for the Hydrogen Evolution Reaction in Alloy Nanoparticles via Machine Learning Interatomic Potentials

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PHYS.P-45 Super-Resolution Reconstruction from Low-Resolution Images Beyond Optical Limits
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PHYS.P-46 Tunable B-Doped Cobalt Phosphide Nanosheets Engineered via Phosphorus Activation of Co-MOFs for High Efficiency Alkaline Water-Splitting
Jun Ho Seok, Ji-Soo Byun, Sang Uck Lee*
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PHYS.P-47 Strategic Ligand-Induced Electronic Structure Modulation for Enhanced Nitrogen Reduction Reaction Selectivity in Transition Metal Phthalocyanines
Jae Hun Seol, Sang Uck Lee*
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PHYS.P-48 Towards Accurate Determination of Binding Free Energy Using Molecular Dynamics Simulations
Taeseung Lee, Jeong-Mo Choi*
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PHYS.P-49 Comparative Study on the Anticancer Efficacy of Free Resveratrol and Resveratrol-Containing PLGA Nanoparticles
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PHYS.P-50 Application of AI-Based Structure Prediction in Exploring Molecular Mechanism of Protein Condensation
Taehwan Kim, Jeong-Mo Choi*
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PHYS.P-51 Excited-State Proton Transfer Dynamics of a Cationic Super-Photoacid in Neat Aliphatic Alcohol
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PHYS.P-52 Regulation of MMP-9 Expression Levels by Resveratrol-Containing PLGA Nanoparticles
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PHYS.P-53 SERS Analysis of Shikonin and Tannic Acid Dye by Metal-Coordinated Tethering
Sejin Kim, Eunhee Seo, Dae Hong Jeong*
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PHYS.P-54 Photocatalytic Activation of Dealuminated Zeolite Through in Situ Formation of Defective Graphene
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PHYS.P-55 Influence of Precursor Anions on Surface Species Formation and Low-Temperature NH_3-SCO over CuO_x/Al_2O_3Catalysts
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PHYS.P-56 Enhanced Photocatalytic Air Pollutant Removal over K–TiO_2: Synergistic Effects of NO and Acetaldehyde
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PHYS.P-57 Inhibition of MMP-9 Expression and *In vitro* Activity by Polydatin
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PHYS.P-58 Exciton and Charge Dynamics in a Y6 Derivative Controlled by Molecular Symmetry
Ka Young Cho, Jaehong Park*
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PHYS.P-59 Development of a Material-Specific Super-Resolution Nano-Imaging Method for Semiconductor Inspection and Metrology
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PHYS.P-60 Implementation of Second-Order SCF Methods in OpenQP: BFGS and Trust-Region Augmented Hessian Approaches
Mohsen Mazaherifar, Cheol Ho Choi*
Department of Chemistry, Kyungpook National University, Korea

PHYS.P-61 Analysis of Scaffold–Client Interaction Networks in Biomolecular Condensates
Minseo Kim, Jeong-Mo Choi*
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PHYS.P-62 Mechanistic Insights into Electrochemical CO_2 Reduction on the Ag(111) and Ag_2O(111) Surfaces: A DFT Approach
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PHYS.P-63 Inhibition of MMP-9 Expression and in Vitro Activity by Resveratrone
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PHYS.P-64 Grain-Boundary Engineering of Bismuth Catalyst Enables Industrial-Current-Density CO_2 Electroreduction to Formate via Stabilizing *OCHO Intermediate
Jichuang Wu, Young Dok Kim*
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PHYS.P-65 The Trend in the Promotional Impact of Alkali Metal on Cu–Co Catalysts for C_{2+} Alcohol Synthesis During CO_2 Hydrogenation: A DFT Approach
Hee-Jae Yoon, Hee-Joon Chun*
Department of Chemistry, Chungnam National University, Korea

PHYS.P-66 Multiscale Evaluation of Metal Organic Frameworks (MOFs) for Adsorption Based Xenon and Kr Separation from Air
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PHYS.P-67 NuriKit: A New Framework for Enhancing Cheminformatics Workflows
Nuri Jung, Chaok Seok*
Department of Chemistry, Seoul National University, Korea

PHYS.P-68 Tuning of Emission Properties of Luminol-Linked ZIF-90 Revealed by Two-Dimensional Photoluminescence Spectroscopy
Wonwoo Shin, Jaehoon Jeong, Dong Won Kang, Jeongho Kim*
Department of Chemistry, Inha University, Korea

PHYS.P-69 Solvent-Dependent Dynamics of Intramolecular Electron Transfer in π-Conjugated Ir(III)-Re(I) Photocatalysts
Yunsu Kim, Taesoo Kim, Soohwan Kim, Daehan Lee, Ho-Jin Son, Jae Yoon Shin*
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PHYS.P-70 A Molecular Dynamics Simulation Study on the Selective Recognition of Vanillin by Human Olfactory Receptor 1L3
Eun Cheol Kim, Younjoon Jung*
Department of Chemistry, Seoul National University, Korea

PHYS.P-71 Advancing Single-Molecule Localization Microscopy through Artificial Intelligence
Ga-Eun Go, Uidon Jeong*, Doory Kim*
Department of Chemistry, Hanyang University, Korea

PHYS.P-72 Highly Selective CO_2-to-Formate Conversion via Pulsed-Laser-Tuned Cu-Doped δ-Bi_2O_3 Nanostructures
Chae Eun Park, Myong Yong Choi*
Department of Chemistry, Gyeongsang National University, Korea

PHYS.P-73 Laser-Induced Entropy Engineered High-Entropy Metal Sulfide Inks for Robust and Flexible Hybrid Supercapacitors
Kasiviswanathan Muthusamy, Myong Yong Choi*
Department of Chemistry, Gyeongsang National

University, Korea

PHYS.P-74 Pulsed Laser-Modulated Defect sites in Ir Doped MoC@N-Doped Carbon Hydrogen Production
Ramar Govindasamy, Myong Yong Choi*
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PHYS.P-75 Thermal-Shoc-kEngineered RuO_2/NiO Composite Electrocatalyst via CO_2 Laser Irradiation for Urea-Assisted Water Splitting
Kadharbatcha Vajithmeeran, Myong Yong Choi*
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PHYS.P-76 Synthesis and Characterizations of Nickel Selenide Using Pulsed Laser Irradiation in Liquids
Rajiv Bharadwaj Nivarthi, Myong Yong Choi*
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PHYS.P-77 Modification of Porous Structure of Si Anode via Magnesiothermic Reduction for Improved Lithium-Ion Battery
Siran Kim, Taewoong Lee, Daehwan Cho, Seung Jun Lee*
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PHYS.P-78 Bi-Functional Fe/ZSM-5 Catalyst with Low-Temperature Hydrophobic Toluene Adsorption and High-Temperature Oxidation Activity
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PHYS.P-79 Study on the Role of Resveratrone in the Activity and Expression of MMP-2
Chaeyeong Gwon, Namdoo Kim*
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PHYS.P-80 Rapid Analysis of Crude Oils and Their Blends Using LIFS-MBL
Seoyun Jung, Namdoo Kim*
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PHYS.P-81 Room Temperature Ionic Liquids in Ion Gels: Liquid Dynamics Probed by Dynamic Stokes Shifts of a Coumarin Dye
Soohwan Kim, Taesoo Kim, Jae Yoon Shin*
Department of Advanced Materials Chemistry, Korea University, Korea

PHYS.P-82 Resolving Phase Transition in VO_2 Nanoparticles Using Energy-Filtered Ultrafast Electron Diffraction
Seok-Hyeon Lee, Oh-Hoon Kwon*
Department of Chemistry, UNIST, Korea

PHYS.P-83 Study on the Role of Polydatin in the Activity and Expression of MMP-2
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PHYS.P-84 Probing the Deeply Supercooled Water Microdroplet with Optical Raman Spectroscopy
Sang-Gyun Noh, Kyung Hwan Kim*
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PHYS.P-85 Ångström–Femtosecond Ultrafast Electron Microscopy for the Direct Visualization of Lattice-Resolved Structural Dynamics in Plasmonic Nanoparticles
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PHYS.P-86 Effect of Co-Catalyst Phase on Charge Transfer Activation Energy in α-Fe_2O_3-Based Photoanodes for PEC Water Oxidation.
Seong Kyu Jang, Woon Yong Sohn*
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PHYS.P-87 Electrochemical and Spectroscopic Elucidation of Enhanced Photoelectrochemical Water Splitting Performance of BiVO4 Grown on FTO Compared to ITO Substrates
Yeon-Gyo Shim, Woon Yong Sohn*
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PHYS.P-88 Deciphering the Limitations of γ-Fe_2O_3 as a Photoanode via Electrochemical and Near-Field Heterodyne Transient Grating Spectroscopic Analyses
Seung Hyeon Jeong, Woon Yong Sohn*
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PHYS.P-89 Annealing-Induced Evolution from Core–Shell to Single-Walled Architectures in Rutile Oxide Nanostructures

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PHYS.P-90 How Boron Substitution Alters Photochemical Pathways in Benzene-Like Heterocycles: A Theoretical Study

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PHYS.P-91 Actin-Induced Intervesicular Lipid Nanotube Connections, Triggered by Mg^{2+}: Minimal *in Vitro* Model for Tunneling Nanotubes

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PHYS.P-92 Exploring Multiple Methods to Enhance the Photoisomerization of Norbornadiene to Quadricyclane

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PHYS.P-93 System-Dependent Challenges in Equilibration of Vesicle Simulation: DPPC-DIPC Studies Using the Martini Force Field

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PHYS.P-94 Development of a Polycapillary Hard X-ray Spectrometer for High Sensitivity PFY-XAS at PAL-XFEL

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PHYS.P-95 Mechanistic Insights into RNA-Cleaving DNAzymes using Single-Molecule FRET

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PHYS.P-96 Cation Effects on the Molecular Dynamics of Alkali Acetate Electrolytes via Many-Body Expansion Machine-Learning Approach

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PHYS.P-97 Multiscale Modeling of Nonideality Effects on Electrochemical CO2 Reduction on Gold

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PHYS.P-98 Systematic Study on WS_2 Growth by Chemical Vapor Deposition Assisted with Alkali Metal

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PHYS.P-99 Ab Initio Prediction of Cu Nanoparticle Evolution under Electrochemical CO2 Reduction Conditions

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PHYS.P-100 Reliable CO_2R Kinetic Models via Global Sensitivity Analysis and Bayesian Optimization

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PHYS.P-101 Designing Molecules with Target Decomposition Temperatures Using QSPR and Generative Models
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PHYS.P-102 Gas Phase Exciton Coupling Observed in Jet-Cooled (1S,2S)-Amino Diphenylethanol
Jiyeon Yun, Ye Yeon Kim, Nam Joon Kim*
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PHYS.P-103 Boosting Electrical Conductivity of TiO_2 Microrods Through Antimony-Doped Tin Oxide Coating
Young Seok Son, Amol Uttam Pawar, Young Soo Kang*
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PHYS.P-104 Photosensitization Dynamics of π-Linked Ir(III)-Re(I) Complexes Using Time-Resolved Spectroscopy: Excited State Lifetimes and Inactivity in CO2 Conversion
Taesoo Kim, Soohwan Kim, Yunsu Kim, Jae Yoon Shin*
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PHYS.P-105 Electrodeposited Ag–Cu Bimetallic Catalysts for CO_2Electroreduction
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PHYS.P-106 Self-Diffusion of Polymer Chains in Entangled Polymer Networks: Effects of Chain Conformation
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PHYS.P-107 Shape-Dependent Diffusion Dynamics of Nanoparticles in an Entangled Polymer Network
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PHYS.P-108 Tuning Exciton and Charge Carrier Dynamics in Photo-Excited Low-Dimensional Perovskites via Ligand and Dimensionality Engineering
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PHYS.P-109 Excitonic Fano Scattering Behaviors of Carbon Nanotubes from Interference with Dispersant
Seojin Baek, Sang-Yong Ju*
Department of Chemistry, Yonsei University, Korea

PHYS.P-110 Ultrafast Structural Responses of Water to Femtosecond Laser Excitation Revealed by Time-Resolved X-ray Solution Scattering
Seoyoung Lee, Kyung Hwan Kim*
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PHYS.P-111 Resolving the Global Minimum Structure of the $RuSi_4^-$ Cluster
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PHYS.P-112 Tracking Carbon-Halogen Bond Cleavage Dynamics in a Dimeric Gold Photocatalyst via Time-Resolved X-ray Solution Scattering
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PHYS.P-113 Mechanistic Investigation of Dual C–C Bond Formation at a Carbene Center
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PHYS.P-114 Benchmark Study of DFT Methods for Methanol Clusters $(CH_3OH)n$ (n = 2-6)
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PHYS.P-115 Liquid Water Energy Delocalization Revealed by Ultrafast X-ray Scattering
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PHYS.P-116 In-Situ Growth of NiFe-PBA Nanocubes@PANI-Grafted MXene as a High-Performance Cathode Material for Zn-Ion Batteries
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PHYS.P-117 Surface Control of Functionalized MXene through Ligand Exchange from Non-Covalent to Covalent
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PHYS.P-118 Investigation of Enhanced Electrochemical Performance Characteristics Using High Surface Area and Stable $Ni(OH)_2$@$MgSiO_3$ Electrode Material
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PHYS.P-119 Single-Particle Diffusion Analysis Reveals Heterogeneous Dynamics of DNA Molecules on Supported Lipid Bilayer
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PHYS.P-120 Binder-Free Silicon Anodes Enabled by Surface Modified MXene for High Energy Density Lithium-Ion Batteries
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PHYS.P-121 Nuclear Quantum Effects on Melting Domain Size and Recrystallization of Crystalline Ice Revealed by Time-Resolved X-ray Scattering
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PHYS.P-122 Challenges in Coordination Number Quantification and Insights from In Operando Raman Studies of LIB Electrolytes
Sehee Lee, Jungmin Park, Minhaeng Cho, Kyungwon Kwak*
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PHYS.P-123 Computational Study of the Solvent Exclusion Effect of Biomolecules in Water
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PHYS.P-124 Polyamine-Induced Aggregation of Human Serum Albumin
Konika Tyagi, Sang Hak Lee*
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PHYS.P-125 Conformational Structure and Preference of 2-Thiophenecarboxaldehyde Probed by VUV-MATI Spectroscopy
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PHYS.P-126 Conformer-Specific High-Resolution VUV-MATI Spectroscopy of 3-Thiophenecarboxaldehyde
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PHYS.P-127 Formyl Position Effects in Pyridinecarboxaldehydes via High-Resolution

VUV-MATI Spectroscopy
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PHYS.P-128 Conformer-Resolved Ionization and Stability of Furfural via VUV-MATI Spectroscopy
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PHYS.P-129 Metal and Non-Metal Co-Doped WS_2 Nanostructures as Electrocatalysts for Highly Efficient Hydrogen Evolution
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PHYS.P-130 Magnesium Silicate@Surface-Functionalized MXene Composite Interlayer Material for High-Performance Lithium-Sulfur Batteries
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PHYS.P-131 Theoretical Study on the Potential Energy Curves and Spectroscopic Properties of Gold Monoiodide (AuI)
Jeongmin Park, Joonghan Kim*
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PHYS.P-132 Real-Time Observation of Alkali-Metal Dependent MoS_2 Films
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PHYS.P-133 Development of Core-shell Mesoporous Agro-Silicon@PDA f-MXene Composite for High-Capacity and Long-Life Lithium-Ion Battery Anodes
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PHYS.P-134 Boosting Electrochemical Performance of Lithium Iron Phosphate Using 2D Functionalized MXene for Advanced Lithium Ion Battery
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PHYS.P-135 Development of a Core-Shell Se@PDA f-MXene Composite Cathode for High Performance Zn-Se Batteries
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PHYS.P-136 3D FeCo-PBA MOF Nanocubes Anchored on PDA Functionalized 2D-$Ti_3C_2T_x$ for Enhanced Pseudocapacitive Energy Storage
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PHYS.P-137 Fe_3O_4@Au NPs@SiO_2 Nanoparticles for Sensitive SERS-Based Early Cancer Detection
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PHYS.P-138 Charged Biomolecules Modulate Condensation of hnRNPA1 in E. coli
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PHYS.P-139 Charge-Driven CO2 Anionic Activation on Aza-PAH-Based Single-Atom Transition Metal Catalysts

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PHYS.P-140 High-Entropy Spinel Oxides via Multimetal Substitution: Compositional Tuning and Material Properties
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PHYS.P-141 Gas-Phase Circular Dichroism and TDDFT Investigation of Atropisomerism in Jet-Cooled 6,6′-Dimethyl-2,2′-Diaminobiphenyl
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PHYS.P-142 Solvent-Dependent Variations in ESIPT Excited-State Dynamics of Benzothiazole Derivatives
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PHYS.P-143 Dynamic RNA Screening Activity and Cleavage Mechanisms of Cas13a
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PHYS.P-144 Influence of Surface Structures and Temperature on the Activity of Acetylene Hydrogenation on Pd Surfaces: A DFT Approach
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PHYS.P-145 Phase Behavior of Chromatin During Plant Mitosis Modulated by Polyamines
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PHYS.P-146 Fast Lifetime and Anomalous Photon Upconversion Properties of Er^{3+} Doped NASICON Type $NaTi_2(PO_4)_3$
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PHYS.P-147 DFT Investigation of Metal Coordination and Reactivity in Minimal Metalloenzyme Models
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PHYS.P-148 Oxygen and Helium Ions Implanted SnO_2 Thin Films Deposited on Silicon
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PHYS.P-149 Modeling Membrane Permeability and Biotransformation Rate Constants of Complex Organic Chemicals Using Machine Learning and Retrieval-Augmented LLMs
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PHYS.P-150 Enhancing Sampling Efficiency in High-Barrier Systems via Hybrid Resolution Exchange Molecular Dynamics
Janghee Hong, Rakwoo Chang*
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PHYS.P-151 DFT Study of Li–S Adsorption Binding Energies, Gibbs Free-Energy Changes, and Decomposition Activation Barriers on g-C_3N_4 and Fe SAC@g-C_3N_4 Surfaces
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PHYS.P-152 Investigation of Binding Free Energy $LiPF_6$ in Organic Solvents Using Moment Tensor Potential-Based Machine Learning Force Field
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PHYS.P-153 Quantitative Understanding of Bacterial Growth and Persistence with a New Chemical-Kinetic Framework

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PHYS.P-154 Accurate Prediction of Band Gaps of Organic Semiconductor Materials Using Optimally Tuned Long-Range Corrected Density Functional Theory (OT-LC-DFT)

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PHYS.P-155 Substituent Driven Control of Excited-State Dynamics in Donor-Acceptor Structured Photoacids

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PHYS.P-156 2D IR Study of Fermi Resonance and Thermodynamic Properites (ΔH and ΔS) of *syn*- and *anti*-Isomers of Acetic Acid in Acetonitrile

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PHYS.P-157 Chemical Analysis for Excited Three-State Reactions

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PHYS.P-158 Semiclassical Multistate Quantum Dynamics Using Thermalized Gaussian Wavepacket

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PHYS.P-159 Stability Enhancement of $BiVO_4$ Photoanodes in PEC CO_2 Reduction by Carbonaceous Layer

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PHYS.P-160 Quantifying Temperature-Dependent Vibrational Sum-Frequency Generation of Alkanethiol Self-Assembled Monolayers via MD-Derived Orientational Ensembles and DFT

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PHYS.P-161 Molecular Dynamics Simulation Studies on Ion Transport Mechanisms in OIPC-Polymer Composites.

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PHYS.P-162 Surface-Dependent and Diffusion-Driven MoS_2 Growth via Sodium Catalyst in Real-Time

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PHYS.P-163 Probing Gating-Induced Phase Transitions in $MoTe_2$ via In-situ XRD and Femtosecond X-ray Spectroscopy

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PHYS.P-164 Effect of Divalent Cation Chlorides on the Structure and Dynamics of Water Confined between Lipid Bilayers

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PHYS.P-165 Tailoring the Mg/Al Ratio in Layered Double Hydroxides for Enhanced CO_2 Reduction Performance

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PHYS.P-166 Effects of Glucose on the Formation of hIAPP Aggregates and Their Interactions with

Phospholipid Model Membrane
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PHYS.P-167 Forward-Scattering Stimulated Raman Spectroscopy of 2D Inorganic and Organic Crystals
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PHYS.P-168 Polarized Absorption and Photoluminescence of Two-Dimensional Diindenoperylene Crystals
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PHYS.P-169 Preparation of Vertically Aligned WO_3 Nanoplate Films as Photoanodes for Coupled CO_2 Reduction Systems
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PHYS.P-170 Structural Insight of Amyloid Beta Fibrils
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PHYS.P-171 Understanding the Effect of Non-Covalent Interactions on Excited-State Behavior: A Theoretical Analysis of Thermally Activated Delayed Fluorescence Materials and Their Derivatives
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PHYS.P-172 Coil-To-Globule Transition of a Bead-Spring Polymer in Explicit Solvent
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PHYS.P-173 Finite-Size Scaling and Universality of First-Order Transitions in Single Polymer Chains
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PHYS.P-174 Assembly of Gold Nanoparticles through Amide Bond Formation
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PHYS.P-175 Plasmon-Driven Photothermal Crystallization of TiO_2 Shells on Gold Nanorods
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PHYS.P-176 Plasmonic Water Splitting: Effect of Gold Nanoparticle Size
Minsu Lee, Sangwoon Yoon*
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PHYS.P-177 Computational Study on the Multi-Configurational Excited-State Properties of Organic Light-Emitting Diode(OLED) Emitters with Inverted Singlet–Triplet Energy Levels
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PHYS.P-178 Impact of Huang–Rhys Factors on Emission FWHM in the MR-TADF Emitter
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PHYS.P-179 Tunable Multimetallic Single Atom Catalysts for Efficient Hydrogen Evolution Reaction
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PHYS.P-180 High-Precision Size Determination of Airborne Droplets Using Small Angle X-ray Scattering (SAXS)
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PHYS.P-181 2H-1T' Phase Transition of $W_{1-x}Mo_xS_2$ Alloy Nanosheets via Colloidal Reaction and Their Model Calculations

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PHYS.P-182 Synthesis of $MoSe_2$-WSe_2 Heterostructures with Coexisting Lateral and Vertical Junction and Their Enhanced Nonlinear Optical Response and p-n Junction Diodes

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PHYS.P-183 Shape-Controlled Evolution of Structural and Magnetic Properties in NiO Nanoparticles: From Cubes to Spheres

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PHYS.P-184 $Ru_{1-x}Mo_xSe_2$ Alloy Nanosheets as Stable Electrocatalysts for Efficient Hydrogen and Oxygen Production

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PHYS.P-185 Two-Dimensional Quaternary Alloying of $(MoVNb)Se_2$ with Ru for Superior Hydrogen Evolution Reaction Catalysis

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PHYS.P-186 Thickness-Dependent Exciton Relaxation Pathways in Two-Dimensional Crystals of PTCDA

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PHYS.P-187 Facile Synthesis of g-C_3N_4 Photocatalyst and Electrode Fabrication for CO_2 Reduction

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PHYS.P-188 Alloying of WS_2 and MoS_2 Nanosheets with Nb to Enhance Electrocatalytic Hydrogen Evolution Reaction

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PHYS.P-189 Strong Coupling between Gold Nanocubes and

J-Aggregates in Plasmonic Nanocavities
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PHYS.P-190 Inter-Chain Hydrogen Bonding Effects on Chemical Stability of Self-Assembled Monolayers
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PHYS.P-191 Monitoring the Inside of Reaction Vessel with FTIR Spectroscopy: Endoscopic Transmission FT-IR Probe with Hollow-Core Fiber
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PHYS.P-192 Hop Function Analysis for the Revolving Door Mechanisms in Organic Ionic Plastic Crystals
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PHYS.P-193 Facet-Dependent Strong Metal-Support Interaction in Ru/TiO_2 Probed by Ambient Pressure XPS during NH_3 Decomposition
Soomin Kim, Jeong Young Park*
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PHYS.P-194 Investigation on the Effect of Hot Electrons on Photocatalytic Methanol Oxidation Reaction
Yujin Roh, Jeong Young Park*
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PHYS.P-195 Influence of X Elements on the Tribological Properties and Surface Chemistry of MXene Atomic Layers
Hong Yeon Yoon, Jeong Young Park*
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PHYS.P-196 *In Situ* Observations of CO_2 Activation on the PdIn(111) Alloy Surface at Ambient Pressure
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PHYS.P-197 How Water Makes the Surface Slippery; Friction on Water/Au(111) Investigated with Variable-Pressure Atomic Force Microscopy
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PHYS.P-198 Operando Spectroscopic Analysis of Strong Metal–Support Interaction in Pt/Facet-Controlled Co3O4 Catalysts
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ANAL.P-199 Host–Guest Complexation Dynamics: Cholesterol-Induced Molecular Exchange on β-Cyclodextrin-Coated Gold Nanorods
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ANAL.P-200 Serum Metabolomics for Biomarker Discovery in Alzheimer's Disease Using IVDr NMR Spectroscopy
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ANAL.P-201 Metabolomic analysis of UUO-induced Kidney Injury in Mouse models
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ANAL.P-202 nLC-MS/MS-based Proteomics for the Identification of Cancer-Specific PSA in Prostate Cancer Tissue
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ANAL.P-203 Morphology-Directed Growth of Urchin-Like Au Nanoparticles Using Modular Microfluidic Chips
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ANAL.P-204 Metabolic Changes of Kidney Cortex and Medulla in CKD
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ANAL.P-205 Probing Chemical Interface Damping in Bimetallic Silver-Coated Gold Nanorods with Exposed Gold Tips via Single-Particle Spectroscopy
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ANAL.P-206 Improved Photoelectrochemical Sensing Performance for Glucose Detection Using Heterostructure Nanocomposite
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ANAL.P-207 Sustainable Photodegradation of PBAT Mulching Films Using Eggshell-Derived $Ca(OH)_2$ Catalyst
Heeju Jang, Dong-Ku Kang*
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ANAL.P-208 Ligand Counting and Size Determination of Quantum Dots Using Electronegative Matrix-Assisted Laser Desorption Ionization
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ANAL.P-209 Spectroscopic Observation of Atomically Dispersed Platinum Dynamics
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ANAL.P-210 Single-Particle Investigation of Plasmon Modulation in Au Nanorod-Hematite Core-Shells via Dark-Field Spectroelectrochemistry
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ANAL.P-211 A Study on the Application of Internal Standards and Matrix Matching for the Effective Analysis of Trace Metals in Lithium Sulfide Using ICP-OES
Woo Mi Lee, Kwang Sun Ryu[*]
Department of Chemistry, University of Ulsan, Korea

ANAL.P-212 Fabrication of Uniformly Dispersed Core-Shell Nanoparticles for Flame Retardant Applications
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ANAL.P-213 Evaluation of Senolytic and Senomorphic Activities of Peptide A in a Doxorubicin-Induced Cellular Aging
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ANAL.P-214 A Quantitative Adhesion Study for BSP Films Based on a Coupled Parametric and Statistical Analysis
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ANAL.P-215 Controlled Surface Morphological Study for Plasmonic Enhanced Optical Property of Upconversion Nanoparticles
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ANAL.P-216 Rapid Elemental Analysis of Steels without Sample Pretreatment by Laser-Induced Breakdown Spectroscopy
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ANAL.P-217 CRISPR/Cas-Driven Au Nanowire SERS Sensor for African Swine Fever Virus Detection
Jinhee Park, Hongki Kim[*]
Department of Chemistry, Kongju National University, Korea

ANAL.P-218 Unraveling Crystallinity Changes of PVDF Binders During Cycling Using Solid-State NMR for High-Performance Electrode
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ANAL.P-219 Activating SERS via Electrodeposition Guided by Defective Molecular Layer
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ANAL.P-220 Selective Detection of Dopamine and Ascorbic Acid Using Nanoporous Gold Electrodes
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ANAL.P-221 Control of Electrochemical Reactions Using Structural Features of Nanoporous Electrodes
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ANAL.P-222 Development of a Nanopipette-Based Nanoscale Electrochemical System
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ANAL.P-223 One-Step Green Synthesis of 2D Nanostructures in Water Microdroplets for Catalytic Applications
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ANAL.P-224 Exploring Transition Metal-Based Catalysts for Efficient Propylene Electrooxidation
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ANAL.P-225 Amphiphilic Mesoporous Silica-Polydopamine Janus Nanoparticles for Biphasic Oil-Water Pollutant Removal
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ANAL.P-226 Molecular Design and Application of Light-Responsive Microcapsules for Skin Delivery
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ANAL.P-227 Ferrocene-Based Reductive Amination Labeling of Glycans for Mass Spectrometry
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ANAL.P-228 SABRE-Relay Hyperpolarization of Alcohols Using Acethydrazide as A Carrier Agent
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ANAL.P-229 Partial Degradation and Chemical Transformation of Polystyrene Foam Mediated by Mealworms and Associated Microorganisms
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ANAL.P-230 Carboxymethyl Starch as Biodegradable Barrier Material : NMR-Based Structural Characterization for Postoperative Adhesion Prevention
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ANAL.P-231 Development of an N-Well Plate–Compatible Automated Fluid-Exchange Bioreactor Enabling Pharmacokinetic-Mimetic Drug Delivery and Versatile 3D Culture Applications
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ANAL.P-232 High-Throughput Classification of Recycled Plastic Flakes Using SWIR Area-Scan Imaging and Deep Learning
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ANAL.P-233 Non-Targeted Analysis of Combustion-Derived Chemicals in Aquatic Environments After an Industrial Fire
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Engineering, GIST, Korea

ANAL.P-234 The Semi-Automated Refinement Assistant (SARA): Case Studies of Metal Organic Complex
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ANAL.P-235 Molecular Bond Activation Driven by Localized Surface Plasmons
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ANAL.P-236 Evidence Detection Potential and Assessment of Contamination Level Prediction Using GC-MS Analysis of Chemical Agent Detection Papers
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ANAL.P-237 Development of a Flexible and Biocompatible Electrochemical Sensor for Continuous Liver Enzyme Monitoring
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ANAL.P-238 Simultaneous Detection of Dual Prostate-Specific Antigens on a Single Line Using a Portable SERS-LFA System for Accurate Prostate Cancer Diagnosis
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Department of Chemistry, Chung-Ang University, Korea

ANAL.P-239 Biochemical Insights into Cryo-Engineering Bioprinting Scaffolds: Tuning Polysaccharide Mechanical Properties via Freeze–Thaw Cycles
Jumi Kang, Kyueui Lee[*]
Department of Chemistry, Kyungpook National University, Korea

ANAL.P-240 Novel Application of CRISPR/dCas9 and Graphene Oxide for Developing a Biosensor for Simple and Rapid Detection of Antibiotic-Resistant Genes
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ANAL.P-241 Deep Learning-Based Prediction of Experimental UV-Vis and Fluorescence Spectra from Molecular Structures
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ANAL.P-242 Development of Maximum Common Substructure Based Conditional Diffusion Model for the Design of Plastic Recycling Marker Molecules
Dong Ryeol Shin, Sung Kwang Lee[*]
Department of Chemistry, Hannam University, Korea

ANAL.P-243 Atomically Chiral Se Exhibiting Long-Term Stability across a Broader Detection Range
Jai Hong, Junyoung Kwon[*]
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ANAL.P-244 Method Development and Optimization of Single-Cell Proteomics
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ANAL.P-245 Hierarchically Self-Assembled Chiral Ceramic Nanostructures
Yujeong Choi, Junyoung Kwon[*]
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ANAL.P-246 SERS-Integrated Microfluidic Immunoassay Platform for High-Throughput Quantification of AFP
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ANAL.P-247 Study on Detection Characteristics of Chemical Warfare Agents Using 4-Color X-ray Imaging and Application of a Classification Model
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ANAL.P-248 Lipid Analysis of Human Skin with Melanoma and Dysplastic Nevus by Nanoflow UHPLC-ESI-MS/MS
Junha Choi, Soomin Kang, Myeong Hee Moon*
Department of Chemistry, Yonsei University, Korea

ANAL.P-249 Direct Lipid Analysis of Salivary Exosomes and Microvesicles by Flow Field-Flow Fractionation Coupled with Electrospray Ionization Tandem Mass Spectrometry
Donggyun Kim, Myeong Hee Moon*
Department of Chemistry, Yonsei University, Korea

ANAL.P-250 Stimuli-Responsive Structural Transformation from e,e- to a,a-*trans*-Cyclohexanedicarboxylate in Cd(II) Metal–Organic Frameworks
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ANAL.P-251 Boosting High-Voltage Capability of $Na_3V_2(PO_4)_2F_3$ Cathode through Surface Coating in Sodium-Ion Batteries
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Department of Chemistry, University of Ulsan, Korea

ANAL.P-252 Study on the Influence of Nb Doping and Ionic Coating Layers on High-Performance VPO_5 Anode Materials for Lithium-Ion Batteries
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ANAL.P-253 Exploring Reaction Mechanisms and Molecular Strategies for Redox Site Activation in Naturally Derived Organic Compounds
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ANAL.P-254 Bioinspired Polyphenol-Based Nanomaterials for Reducing Odors
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ANAL.P-255 Development and Optimization of SPE–LC–MS/MS Method for PFAS Determination in Cosmetics
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ANAL.P-256 Application of Metabolic Isotope Labeling with Isotopic Glucose for Quantitative O-Glycomic Profiling in Yeast
Seonyoung Kang, Jae-Min Lim*
Department of Chemistry, Changwon National University, Korea

ANAL.P-257 Real-Time Visualization of Fucoidan-Driven Nanoparticle Transport Dynamics in Living Cells
Seungah Lee, Seong Ho Kang*
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ANAL.P-258 Probing Chemical Interface Damping during the Electroreduction of 4-Nitrothiophenol by In Situ Single-Particle Spectroelectrochemistry
Andreas Silalahi, Ji Won Ha*
Department of Chemistry, University of Ulsan, Korea

ANAL.P-259 Metal – Semiconductor Interfacial Engineering for Stronger Plasmon Damping: A Single – Particle Study of Au – AgCdSe Nanostructures
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Department of Chemistry, University of Ulsan, Korea

ANAL.P-260 Advancing Multiplexed Bottom-Up Proteomics with Nano-HILIC Platform Eliminating Deuterium-Induced Retention Shift
Jae-Yoon Jo, Jong-Seo Kim*

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ANAL.P-261 Light-Driven Plasmonic Chip for On-Site and Economical LAMP DNA Detection
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ANAL.P-262 Highly Sensitive RNA Detection via CRISPR/Cas12a and Split crRNA Using SERS
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ANAL.P-263 Tailoring Solar Absorption with Tunable Gold Nanorods in PDMS Composites for High-Performance Ambient Solar Thermoelectric Generators
Sabahat Waheed, Geon Park[1], Jung-Hoon Lee
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ANAL.P-264 On-Paper Multifunctional Digital Microfluidic System: Gold Nanoparticles Synthesis and Dual-Mode Multiplexed Detection Assays
Sarath Kin, Kwanwoo Shin[*]
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ANAL.P-265 Development of HS-GC/FID-Based Body Odor Analysis and Deodorization Performance Evaluation Method
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ANAL.P-266 Kinetic Pathway of Porphyrin-Based Supramolecular Polymers with Induced Chirality
Soeun Jo, Hyoungwook Kang, Sung Ho Jung[*]
Department of Chemistry, Gyeongsang National University, Korea

ANAL.P-267 Prediction of Fluorescence Maximum Emission Wavelength Using Machine Learning with Quantum Chemical Descriptors
Haram Park, Sung Kwang Lee[*], Geon Ko[*]
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ANAL.P-268 Prediction and Classification of Antimicrobial Activity in Peptides Using Machine Learning Methods Based on Sequence and MIC Data
Jonghyeon Noh, Sung Kwang Lee[*]
Department of Chemistry, Hannam University, Korea

ANAL.P-269 Photothermal Magnetic Nanoparticles: Enabling Nucleic Acid Extraction for All-In-One Molecular Diagnostic Devices
Euijin Son, Jung-Hoon Lee
Department of Chemistry, Soonchunhyang University, Korea

ANAL.P-270 Mitigating Radiation Damping in CP-HETMAT CEST for High-Water Content Samples
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ANAL.P-271 Identification of Cancer Boundary in Carcinoma Tissue Using Scanning Laser-Induced Breakdown Spectroscopy
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ANAL.P-272 Design of a Highly Sensitive and Reproducible SERS-Based Molecular Diagnostic System Employing AuNP Internalization
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Department of Chemistry, Chung-Ang University, Korea

LIFE.P-273 Glycan-Mediated Aggregation of Somatostatin and Its Toxicity Pathways within Diabetes
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LIFE.P-274 Nanoparticle-Based Sequential Therapy Directed at Neutrophil Hyperactivation to Prevent Fibrosis in the Lungs
Hye-Jin Lee, Ji Eun Yeom, Wonhwa Lee*
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LIFE.P-275 Phase Separation of Amino Acid Derivatives and Water: Molecular Dynamics Study
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LIFE.P-276 Potentiation of Endolysin Activity and Specificity against Staphylococcus Aureus by Lacticaseibacillus Paracasei-Derived Extracellular Vesicles
Sohyeon Park, Kwang-Sun Kim*
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LIFE.P-277 Synthesis of Fg-Ag Biometallic Nanocomposites Using Lacticaseibacillus Paracasei Cell-Free Supernatants and Their Physicochemical and Antibacterial Characterization
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LIFE.P-278 De Novo Design of Binders Targeting Amyloid Beta in Helical Conformation
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LIFE.P-279 TAU-5 Domain is an LLPS-Competent Region of the Androgen Receptor NTD
Hyoeun Lim, Yejin Jeon, Chin-Ju Park*
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LIFE.P-280 Structural Insights into the Interaction Between p97 N-terminal Domain and p47 SEP-UBX Domain
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LIFE.P-281 Expression, Purification, and Biochemical Characterization of SufR from *Mycobacterium Tuberculosis*
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LIFE.P-282 Expression, Purification, and Biochemical Characterization of SufC from *Mycobacterium Tuberculosis*
Rang Choi, Wonchull Kang*
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LIFE.P-283 Divalent Cation Regulation of Actin Filamentary Bundles and Networks
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LIFE.P-284 Discovery of Anti-inflammatory Small Molecule via Phenotypic Screening
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University, Korea

LIFE.P-285 Engineered Protein-Gold Nanoparticle Complexes as Membrane-Disrupting Agents for Cancer Immunotherapy
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LIFE.P-286 Development of High-Density Hapten–Carrier Conjugates for Antibody Generation Targeting Residual Pesticides in Livestock and Aquatic Food Products
Kyora Rim, Woo Sang Yu, Tae Hun Kim, Tae Jung Park*
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LIFE.P-287 Anchoring Effect of Microtubule Networks on Glass Surfaces
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LIFE.P-288 Fabrication of Multi-Cell Layers via α5β1 Integrin Mediated Intercellular Cohesion
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LIFE.P-289 Artificial Infection Pathway of COVID-19 using Giant Unilamellar Vesicle and Lipid Nanoparticle
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LIFE.P-290 Effect of Crowder Molecular Weight on Biomolecular Phase Separation
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LIFE.P-291 Modular Fc Fusion Platform for Long-Acting Peptide Therapeutics and Rapid ADC Generation
Minjoo Kang, Sang Jeon Chung*, Dohee Ahn, Minhwa Jung
School of Pharmacy, Sungkyunkwan University, Korea

LIFE.P-292 Crowder Chemistry in Biomolecular Phase Separation
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LIFE.P-293 Active Armoring of Protocell Condensates with Metal-Phenolic Networks
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LIFE.P-294 Design and Engineering of Phase Separation Driver Proteins
Chan-Gyu Kim, Jeong-Mo Choi*
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LIFE.P-295 Photo Regulated Assembly-Disassembly Dynamics for Interfering Organelle Membrane Integrity
Dohyun Kim, Ja-Hyoung Ryu*
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LIFE.P-296 Light-Driven Proton Pumping in Artificial Organelles: A Sustainable Bioenergy Conversion
Setha Yeansonn, Seangly Tror, Kwanwoo Shin*
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LIFE.P-297 Cell-Free Protein Expression System in a Single Liposome to Create Artificial Cells with Energy Harvesting Capabilities
Seangly Tror, Kwanwoo Shin*
Department of Chemistry, Sogang University, Korea

LIFE.P-298 Multi-Target Macrocycles: Pyrogallol Derivatives to Control Multiple Pathological Factors Associated with Alzheimer's Disease
Jimin Kwak, Yelim Yi, Seongmin Park, Mi Hee Lim*
Department of Chemistry, KAIST, Korea

ORGN.P-168 Synthesis of Suvorexant
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ORGN.P-169 Synthesis of Protected Secondary N-Alkylamines via Direct Reductive Amination of Protected Primary Amines Using Me2SiHCl as Reductant
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ORGN.P-170 NHC/Base-Promoted Annulation–Rearrangement Cascade for the Divergent Synthesis of Five- and Six-Membered Lactone-Fused Uracils
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ORGN.P-171 Regiodivergent and Stereoselective Hydrothiolation of Ynamides under Tunable Reaction Conditions
Naeun Kim, So Won Youn*, Seungjun Lee
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ORGN.P-172 Solution-Phase Synthesis and Physicochemical Characterization of Bacterial-Penetrating Peptide–PNA Conjugates
Min Yul Jeong, In Seok Hong*
Department of Chemistry, Kongju National University, Korea

ORGN.P-173 Efficient Assembly of Poly-Thymine PNA Oligomers by Solution-Phase Bts Chemistry: An Alternative to Solid-Phase Synthesis
Sungeun Hahm, In Seok Hong*
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ORGN.P-174 Solution-Phase Synthesis and Characterization of a Linked Pseudo-Complementary PNA Capable of Double-Duplex Invasion
Daesung An, In Seok Hong*
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ORGN.P-175 Synthesis and Characterization of Bts-Based Pyrimidine PNA Monomers Bearing a Phosphonate Moiety at the 5-Position
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ORGN.P-176 Development of F-PNA/Q-PNA Hybrid Probes for KRAS Mutation Detection and Their Potential Use in Digital PCR
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ORGN.P-177 Chiral L-Proline-Based Primary Amines for Selective α-Amination of α-Substitiuted β-Ketoesters via Synergistic Dual Activation
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ORGN.P-178 Studies toward the Total Synthesis of Cephanolide B and C via Intramolecular Diels-Alder Reaction
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ORGN.P-179 Studies towards the Total Synthesis of Hippadine and Lycoranine A via an Intramolecular Diels-Alder Reaction
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ORGN.P-180 Asymmetric Intramolecular Diels-Alder Reaction of 2-Pyrone for the Total Synthesis of (+)-Cyanthiwigin B
Hyunwoo Lee, Cheon-Gyu Cho*
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Korea

ORGN.P-181 Harnessing Bifunctional *N*-Benzoyloxyamides for Photoredox Amidative Dual Functionalizations of Alkenes
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ORGN.P-182 Efficient Deuteration of Aromatic Hydrocarbons with Heavy Water over Nickel Catalyst and Synthetic Strategy for High D-Content of Benzene
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ORGN.P-183 Rational Design For N-Oxyl Mediated Photocatalytic Bond C–C Cleavage of Lignin: The Critical Interplay of Components of Photoelectrocatalytic System
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Department of Chemistry, UNIST, Korea

ORGN.P-184 Tailoring Triarylboranes for Catalytic Applications
Jihoon Park, Seewon Joung*
Department of Chemistry, Inha University, Korea

ORGN.P-185 Aquacatalyzed Nucleophilic Substitution Enables Rapid On-DNA Conjugation
Tae Eun An, Dong Hyeon Kim, Han Yong Bae*
Department of Chemistry, Sungkyunkwan University, Korea

ORGN.P-186 Click To Chiral: Circularly Polarized Luminescence of Asymmetrically Ring-Fused Cyclooctatetraenes
Seonkyu Jun, Dongwhan Lee*
Department of Chemistry, Seoul National University, Korea

ORGN.P-187 Spiro-Bioisosteres via [2+2] Cycloaddition Enabled by Aquaphotocatalysis "on-Water"
Donghyun Ko, Han Yong Bae*
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ORGN.P-188 Acid-Base Dual Doped Graphene for Electrochemical Urea Synthesis.
Sungtae Kim, Jun Hyeok Kwon, Tae-Hyuk Kwon*
Department of Chemistry, UNIST, Korea

ORGN.P-189 Organosuperbase-Catalyzed Enhancement of SuFEx-like Reactivity "On-Water"
Dong Hyeon Kim, Tae Eun An, Han Yong Bae*
Department of Chemistry, Sungkyunkwan University, Korea

ORGN.P-190 NIR Fluorescent Probe Based on Dicyanoisophorone-Pyrene for Selective Detection of Dithiol-Containing Redox Species
Jihyun Kil, Min Hee Lee*
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ORGN.P-191 Development of a Degenerate Photo-Crosslinking DNA-Encoded Library (dpX-DEL) Platform for Enhanced Covalent Screening
Min Jae Kim, Hak Joong Kim*
Department of Chemistry, Korea University, Korea

ORGN.P-192 A Novel NQO1-Responsive Naphthalimide Theranostic Agent for Simultaneous Fluorescence Imaging and Targeted Cancer Therapy
Wooseok Choi, Min Hee Lee*
Department of Chemistry, Chung-Ang University, Korea

ORGN.P-193 Development of a Dual-Responsive Fluorescent Probe for hNQO1/HOCl and Its Application in Cancer Photodynamic Therapy
Hui Joo Kim, Min Hee Lee*
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ORGN.P-194 Hemicyanine-Coumarin Based Fluorescent Probes for Simultaneous Monitoring of H2S and H2O2 in Redox-Related Disease Analysis
Eunseo Lee, Min Hee Lee*
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ORGN.P-195 Dual-Responsive Fluorescent Probe for Simultaneous Detection of Superoxide and Hypochlorite
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ORGN.P-196 A Water Soluble Naphthalimide-Thiomorpholine Derivative as a Turn-On Fluorescent Probe for Monitoring Hypochlorite Ions
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ORGN.P-197 Dual-Responsive Fluorescent Probes for Hypochlorite Ion: Simultaneous Monitoring of ATP and Nitroreductase in Inflammation and Tumor Theranostic Applications.
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ORGN.P-198 Chemical Recycling of Tires by Manufacturer through Four-Section Decomposition
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ORGN.P-199 Fluorescent Detection of Hypochlorous Acid Using a Mitochondria-Targeted Naphthalimide Probe
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ORGN.P-200 From (+)-(R)-Limonene to (-)-Rotundone in Eight Steps via Ring Expansion
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ORGN.P-201 Enantioselective Formal [3+2] Cycloaddition Reaction of Allylsilanes Catalyzed by Oxazaborolidinium Ion: Structural Verification Using 1D-NOESY Experiments
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ORGN.P-202 Site-Dependent Modulation of Antitumor Activity and Fluorescence in Thieno[3,2-*b*] pyridin-5(4*H*)-Ones via Regioselective Aza-[3+3] Cycloaddition
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ORGN.P-203 Sustainable $FeCl_3$-Catalyzed Photochemical Transamidation of Nitroarenes via Sacrificial C–H Bond Activation
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ORGN.P-204 Synthesis of 4-Amino Pyrrolo and Indolo[1,2-a] Quinoxalines via Copper-Catalyzed Insertion of O-benzoylhydroxylamines into Isocyanide
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ORGN.P-205 Red-Light Photoredox Catalysis with Bridged Fluorescein Derivatives
Ryeongeun Kim, Jungkyu Lee*
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ORGN.P-206 A One-Pot Method for Synthesizing *N*-Formylaniline via Amide Activation and Oxalic Acid-Driven Reduction
Heewon Lee, Yejin Koo, Eunbin Kim, Sunwoo Lee*
Department of Chemistry, Chonnam National University, Korea

ORGN.P-207 Oxalic Acid as a Dual CO/H_2 Source for Palladium-Catalyzed *N*-Formylaniline Synthesis
Nithin Pootheri, Abbas Haruna Umar, Seokin Han, Sunwoo Lee*
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ORGN.P-208 Visible-Light-Driven Direct C–H Amidation of Methyl Arenes Using Nitroarenes as Amide Precursors
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ORGN.P-209 Construction of a 5-Acylbenzimidazole DNA-Encoded Library: Overcoming Challenges in the Nitro Reduction Step
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ORGN.P-210 Cyclopenta[hi]aceanthrylene-Based Molecular Design Strategy for Stable Multi-Electron Transfer via Antiaromaticity
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ORGN.P-211 Design and Synthesis of Ice-binding Oligourea Foldamers
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ORGN.P-212 Microwave-Assisted Solid Phase Synthesis of Oligourethanes via Azide Strategy
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ORGN.P-213 Harnessing Oxidative Stress and Target Protein Modulation to Overcome Photodynamic Therapy Resistance
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ORGN.P-214 Programmable Small-Molecule Coacervates with Pyridyl Disulfide for Controlled Partitioning and Self-Stabilization
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ORGN.P-215 A Green Approach to Benzimidazoles via Catalyst- and Solvent-Free Aerobic Oxidation of Amine
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ORGN.P-216 Visible-Light-Driven Regioselective Construction of β-Amino Sulfide Frameworks through the Dual Reactivity of N-Iodosuccinimide
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ORGN.P-217 Catalyst- and Solvent-Free Aerobic Oxidative Coupling of Amines: A Simple and Green Pathway to Imines
Mohd Adham, Anna Lee[*]
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ORGN.P-218 Rational Design Strategies for Innovative Small-Molecule Scaffolds *via* Protein Secondary Structure Mimicry
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ORGN.P-219 DPPA-Mediated One-Pot Construction of Carbamoyl Azides through C–C Bond Cleavage of Carbamoyl Oximes
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ORGN.P-220 Modular Synthesis of Pyritide-Inspired Macrocycles Featuring Bipyridine Motifs
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ORGN.P-221 Upcycling of Waste Poly(butylene terephthalate) via an Ir(triNHC) Catalyst
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ORGN.P-222 Synthesis of Diarylated Lactams: Harnessing BKR Intermediates with Arenes
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ORGN.P-223 Tunable Emission Properties of Indolizine-Based Aggregation-Induced Emission Luminogens for White-Light Emission
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ORGN.P-224 Development of Nitro-Substituted Pyrido[1,2-a] indole Fluorophores for Environment-Sensitive Bioimaging
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ORGN.P-225 Visible-Light-Mediated Access to Highly Substituted Cyclobutanones from α-Keto Acylsilanes and Enamides
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ORGN.P-226 Enantioselective Palladium-Catalyzed Silaboration of Internal Allenamides.
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Department of Chemistry, Pusan National University, Korea

ORGN.P-227 Lewis Acid-Activated Divergent Reactivity of O-Alkynyl-N-furanylanilines towards the Synthesis of Fused Indoles
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ORGN.P-228 Synthesis of a Novel Cyclic Phenyl Phosphonate Nucleoside Prodrugs Using Ring Closing Metathesis
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ORGN.P-229 Development of 6-Azauridine Analogs for Antiviral Agents against RNA Viruses
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ORGN.P-230 Quinoliporphyrin as an Aromatic Monoanionic Porphyrinoid and Its Degradation Promoted by Cu^{2+}
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ORGN.P-231 Photocatalytic N–N Cross-Coupling to Access N′-Aryl Hydrazides
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ORGN.P-232 Design of Cytosine-Functionalized MOFs with Secondary Metal Sites for Enzyme-Like Catalysis
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ORGN.P-233 Substituent Number and Position Effects in Amino–Ester Single Benzene Fluorophores
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ORGN.P-234 Tunable Photophysical Properties of Indium–Salen Complexes through Functional Group Controls
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ORGN.P-235 Additive-Guided Engineering of Polydopamine Formations
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ORGN.P-236 C6-ROMP: Thermodynamic Contributions of Acetal Fused Cyclohexene Monomers
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Department of Chemistry, KAIST, Korea

ORGN.P-237 Novel Low-Band Gap Non-Fullerene Acceptors Based on IDIC Core as Potential Photovoltaic Materials
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ORGN.P-238 Boosting Type-I ROS Generation in Hypoxic Tumors via Polysulfide-Driven Photoactivated Redox Cycle
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ORGN.P-239 Skeletal Reconstruction of Phenanthrenequinone Monoximes via C–C Bond Cleavage: Direct Access to 4-Cyanofluorenones
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ORGN.P-240 Interrupted Beckmann Fragmentation: A New Route to Friedel–Crafts Acylation
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ORGN.P-241 Synthesis of 2-Quinolones via Thiolate-Mediated Cyclization of (E)-2-Aminocinnamic Acid Derivatives
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ORGN.P-242 Efficient Synthesis and Structure–Activity Relationship Study of Pyrrole-Linked 1,3,4-Oxadiazoles with Potent Antibacterial Activity
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ORGN.P-243 Regioselective Selective Synthesis of Functional 1,2- and 1,3-Glycerides and Biological Activity
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Department of Chemistry, Myongji University, Korea

ORGN.P-244 HPLC Optimization of Catalytic Suzuki Coupling for All-E-Carotenoid Synthesis
Hansuk Lee, Sangho Koo*
Department of Chemistry, Myongji University, Korea

ORGN.P-245 Synthesis of Lamellrin O Derivatives by D-ribose Conversion, Halogen Migration and Suzuki Coupling
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ORGN.P-246 Enhancing Liver-Targeting Efficiency of GalNAc-Coated Lipid Nanoparticles
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ORGN.P-247 Facile Synthesis of α-Nitro Sulfones Derivatives via Double Oxidation of *N*-Hydroxyimidothioate
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ORGN.P-248 Two Different Clar's Sextets: Clar's Rule Does Not Necessarily Contradict the Global Pathway of Conjugated Macrocycles
Pradeep Prakash Desale, Min-Sung Ko, Tae-Ho Roh, Jeong-Im Ham, Dong-Gyu Cho*

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ORGN.P-249 Mechanical Macrocyclic Effects: Stimuli-Responsive Dual Emission by Self-Inclusion and Mutual Exclusion
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ORGN.P-250 Donor–Acceptor Small-Molecule Photothermal Agents with Indan-Derivative Acceptors
Seongman Lee, Songyi Lee*
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ORGN.P-251 Streamlined Umpolung Coupling to Diarylamine Using an Easily Accessible Copper Catalyst under Mild Conditions
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ORGN.P-252 Facile Alkynylation of Chloropicolinate Derivatives via Copper-Free Sonogashira Coupling
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ORGN.P-253 Photocatalytic Giese-Type Addition of α-Alkoxy Methyl Radical Generated from Benzyl Alcohol
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ORGN.P-254 Transition-Metal-Catalyzed Synthesis of Pentaarylcyclopentadienes from Diarylalkynes
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ORGN.P-255 Studies on [2+2+1]-Cyclocarbonylation
Hyundo Lee, Suh Young Yu, Jimin Kim*
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ORGN.P-256 Regio- and Stereoselective Aryne Annulations
Rudia Kim, Jimin Kim*
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ORGN.P-257 Asymmetric Synthesis of Dihydroquinolinones
Jihye Lee, Jimin Kim*
Department of Chemistry, Chonnam National University, Korea

ORGN.P-258 Modulating Redox Reversibility of Aminal-Functionalized Single-Benzene Redoxphores by Proton-Coupled Electron Transfer
Hyein Im, Dongwhan Lee*
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ORGN.P-259 Topology Modulation of Metal-Peptide Networks by Tuning Side-Chain Lenghts
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ORGN.P-260 Selective Fluorescent Sensing of Methylmercury(I) Ions in Environmental and Biological Samples
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ORGN.P-261 Rational Design of an Activatable Near-Infrared Fluorogenic Platform for In Vivo Orthotopic Tumor Imaging and Resection
Jeongyeon Hong, Juyoung Yoon*
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ORGN.P-262 Conversion of Albumin into a BODIPY-Like Photosensitizer by a Flick Reaction, Tumor Accumulation and Photodynamic Therapy
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ORGN.P-263 Electrophilic Cleavage of *p*-Hydroxyphenyl Amides and Esters Using Hypervalent Iodine(III)

Reagent and Selectfluor
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ORGN.P-264 The Effect of HFIP for the Direct Transamidation of Secondary Amides
Daniel Song, Hyo-Jun Lee*
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ORGN.P-265 Surface Esterification of Nanodiamonds for Enhanced Dispersion in Organic Solvents
Junki Hong, Jungyoon Ji, Seoyung Choi, Hyo-Jun Lee*
Department of Chemistry, Kunsan National University, Korea

ORGN.P-266 Structure-Fluorogenic Property Relationship of Bioorthogonal Tetrazine Probes
Sohee Kim, Hayoung Son, Dahham Kim, Wan Gi Byun, Seung Bum Park*
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ORGN.P-267 Asymmetric [3 + 2] Cycloaddition to Access 3-Pyrrolines and Their Switchable Transformations to Nine-Membered Cyclic Sulfamidates and 2*H*-Pyrroles
Seoung-Mi Choi, Ju Hyun Kim*
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ORGN.P-268 Synthesis of Belumosudil
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ORGN.P-269 Total Synthesis of Fexuprazan
Jinyeong Jeon, Cheol-Hong Cheon*
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ORGN.P-270 Triphenylamine-Based Donor-Acceptor Dyes for Enhanced Type 1 Photosensitization
Yebeen Choi, Yeonkyeong Lee, Youngmi Kim*
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ORGN.P-271 Strategic Acetylation of BODIPY Dyes: Tuning Excited-State Geometry for the Design of Fluorogenic Sensing Probes
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ORGN.P-272 Secondary Structure Programming and Chemical Space Expansion of β-Peptides via Site-Selective Thioamide Substitution
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ORGN.P-273 Exploiting Thiirane Chemistry for Intracellular Biothiol Sensing
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ORGN.P-274 Large Scale Preparation of 1-Nitropyrazole under Mild Nitration Condition
Kuktae Kwon, Seunghee Kim, So Jung Lee, Chanyoung Maeng
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ORGN.P-275 Regioselective Hydroamidation of α,β-Unsaturated Esters Enabled by Lewis Acid/Iron Relay Catalysis
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ORGN.P-276 Stepwise Transformation of Catechols into Conjugated Z,Z-Dienes and Cyclopentadienones via Ring Opening and Ring Contraction
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ORGN.P-277 Visible-Light-Mediated Synthesis of α-Chloro Ketones from Styrene Derivatives
Hyeon-Jin Kim, Sang Kook Woo*
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ORGN.P-278 Development of Bimetallic g-C_3N_4 Catalysts for Aerobic Benzylic C(sp^3)-H Oxidation Using Fluorescence-Based High-Throughput Screening
Yujin Park, Min Su Han*
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ORGN.P-279 Stereospecific *syn*-Dihalogenations and Regiodivergent *syn*-Interhalogenation of Alkenes via Vicinal Double Electrophilic Activation Strategy
Juyeon Hong, Hyeon Moon, Jungi Jung, Jun-Ho Choi*, Won-Jin Chung*
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ORGN.P-280 Rational Design of Biocompatible Ir(III) Photosensitizer to Overcome Drug-Resistant Cancer via Oxidative Autophagy Inhibition
Mingyu Park, Yoojin Lee, Gwangsu Yoon, Tae-Hyuk Kwon*
Department of Chemistry, UNIST, Korea

ORGN.P-281 Phenoxysulfonyl Azide: A New Diazo-Transfer Reagent for Metal–Free Conversion of Amines to Azides
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Department of Chemistry, Korea University, Korea

ORGN.P-282 Metal-Free Diazo-Transfer in Water Using a Stable, Isolable Reagent
Youjeong You, Ji Hye Lee, Hogyu Han*
Department of Chemistry, Korea University, Korea

ORGN.P-283 Diastereoselective Synthesis of Cyclobutanes via Rh-Catalyzed Unprecedented C–C Bond Cleavage of Alkylidenecyclopropanes
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ORGN.P-284 Synthetic Strategy for Ortho-Imino Aryl Phosphonates via Beckmann Rearrangement.
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ORGN.P-285 Stereospecific Syn-Dibromination of N-Protected Allylic Amines by Anchimeric Assistant
Chanwoo Nam, Won-Jin Chung*
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ORGN.P-286 Geminal Fluorocyclization of Benzil Derivatives Using Dealkylation-Resistant Phosphoramidite
Garam Yun, Ilju Jeong, Won-Jin Chung*
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ORGN.P-287 Synthesis of α-Keto Geminal Halofluorides Enabled by a Rationally Designed Organophosphorus(III) Reagent
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ORGN.P-288 Carbamoylation of Aryl/Benzyl Chlorides by Direct C-H Activation of Formamide Derivatives via Ni-Photoredox Catalyzed Cross-Coupling
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ORGN.P-289 Ni Catalyzed Reductive Cross Couppling of Acetals with Anhydrides and Vinyl Triflates via Single Electron C-O Activation
Junha Hwang, Eunbi Kim, Sun Dongbang*
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ORGN.P-290 Asymmetric *Anti*-Aldol Reaction of Unsubstituted Cyclobutanone Utilizing Chiral *N*-Amino Cyclic Carbamate Auxiliary and Lanthanum Additive
Hayeong Jeon, Won-Jin Chung*
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MEDI.P-291 Biocompatible Strategy for Intracellular Polysulfide Generation
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MEDI.P-292 Evaluating Antibody H3 Loop Structures Using Graph Neural Networks
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MEDI.P-293 MotifPep: Deep Learning Molecular Interaction Motifs from Receptor Structure Alone and Its Application in Peptide Design
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MEDI.P-294 Effects of Batch and Continuous-Flow Microwave Assisted Process for the Decarboxylation of Cannabigerolic Acid in Hemp Extract
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MEDI.P-295 Dual-Selective Delivery of Protein Therapeutics by Fusion of pH-Responsive Cell-Penetrating Peptides and Receptor-Specific Affibody
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MEDI.P-296 Bone Regeneration Effects of BMP-2-Loaded Poly(lactic-co-glycolic acid) (PLGA) Microparticles with Enhanced Calcium-Binding Properties for Improved Bone Healing and Reduced Ectopic Bone Formation in Spine Fusion
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MEDI.P-297 Design and Synthesis of Isoniazid (INH) Derivatives for Effective Tuberculosis Therapy
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MEDI.P-298 Evaluation of Artemisia Gmelinii Extract in Enhancing Mucociliary Clearance of Diesel Particulate Matter in Respiratory Tract
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MEDI.P-299 Divergent Synthesis of Gut Microbiota-Derived Glycolipids for Investigating Host Immune Modulation
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MEDI.P-300 TWN-Lib: A Pre-Computed Water Network Library for Kinase Fragment-Based Drug Design
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MEDI.P-301 A Novel Artificial Nucleic-Acid Scaffold for Precise Target-Gene Binding

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MEDI.P-302 Development of "One-For-Three" Hypoxic Photodynamic/Photothermal/Photoimmuno Triple Synergistic Cancer Therapy Using Conversion Method from Long-Wavelength Absorbing Type II Photosensitizer to Supramolecular Type I Photo

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MEDI.P-303 'Three-In-One' Multifunctional Polyoxometalate(POM)-Based pH-Sensitive Ionic Liquid-Type Photosensitizer-POM Complex for PDT/PTT/Chemo Synergistic Cancer Therapy System

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MEDI.P-304 Ru-Mediated Alkyne to Amide Synthesis for DNA-Encoded Library

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MEDI.P-305 A Dual-Action Payload for ADCs: Targeting Both Microtubules and Src

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MEDI.P-306 Development of a Potent STING Agonist for Cancer Immunotherapy

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MEDI.P-307 Identification of an HDAC Inhibitor that Enhances STING-Mediated Innate Immune Responses

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MEDI.P-308 Harnessing Reactive Sulfur Species: Thiirane-Based Strategy for Neuroprotection

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MEDI.P-309 Cannabiorcol as a Novel Inhibitor of the p38/MSK-1 and NF-κB/p65 Signaling Pathway, Mitigating Matrix Metalloproteinase Expression.

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MEDI.P-310 Enhancing the Plasma Stability of Antibody-Drug Conjugates via Self-Hydrolyzing Maleimide Linkers

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MEDI.P-311 Development of a Multistage Nanoplatform Using I-125-Labeled Au@Ag Nanoparticles Encapsulated in Cationic pH-Responsive Liposomes for Precision Intracellular Radiotherapy of Squamous Cell Carcinoma
Byeongchan Lee, Jun Young Lee, Taewan Kim, Tae-Hyun Kim, Jeong Hoon Park*
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MEDI.P-312 Engineering Click Chemistry-Based STRIC Technology for Immune-Modulating Antibody-Payload Conjugate
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MEDI.P-313 Discovery of Urea-Based CB1R Selective Antagonists for Psoriasis Treatment
Yeonjeong Heo, Eunha Kim*
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MEDI.P-314 Development of a Platform Technology for Site-Specific Antibody-Drug Conjugation Based on Native Antibodies
Gyubin Park, Bumro Lee, Eunha Kim*
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MEDI.P-315 Synthesis of Sphingosine Analogs for Visualizing COX-2 Overexpression in Brain
Chaeyun Jeong, Jongho Jeon*
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MEDI.P-316 Multiplexed Live-Cell Imaging via pH-Modulated Fluorophore Switching and Bioorthogonal Chemistry
Donggeun Oh, Minju Lee, Wonjin Park, Eunha Kim
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MEDI.P-317 Synthesis and Evaluation of Chrysin Derivatives as Novel Anti-Inflammatory Agents
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MEDI.P-318 Neural Network Evaluator for Antibody-Antigen Complex Structure Prediction
Wooyeop Jeong, Chaok Seok*
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MEDI.P-319 Kinetic Tuning of pH-Responsive Degradation in Bicyclic α, β-Acid Amide Systems and Their Potential for Targeted Drug Delivery
Hyemin Hwang, Yan Lee*
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MEDI.P-320 Full-Spike Molecular Analysis of SARS-CoV-2 Omicron Subvariants Reveals Key ACE2 Binding Mutations
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MEDI.P-321 Evaluating the Animal-To-Human Transmission Potential of HPAI H5N1 Viruses
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MEDI.P-322 Accessible Synthesis of Bis-Hydroxy-Trans-Cyclooctene (C2TCO) to Enable Enhanced Click-To-Release-Based Multicycle Imaging
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MEDI.P-323 Understanding Activity Differences of Kinase Inhibitors Using TWNs
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MEDI.P-324 Molecular Dynamics Study on the Effects of Vitamin C on the Collagen Triple Helix Stability
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MEDI.P-325 TWN-Align: A Novel Molecular Alignment Method to Topological Water Networks
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MEDI.P-326 Development of Novel Antimicrobial Agents for Nontuberculous Mycobacteria
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Department of Chemistry, Korea University, Korea

MEDI.P-327 Discovery of a Novel Small Molecule Inhibitor of the cGAS–STING Pathway for Treatment of Autoimmune Diseases
Gayoung Kim, Ji Hoon Kwon, Jeong Yeon Yoo, Seung Bum Park*
Department of Chemistry, Seoul National University, Korea

MEDI.P-328 GalaxyMol: Hierarchical Modeling of Biomolecules
Yubeen Kim, Seeun Kim, Byunghyun Bae, Jiho Sim, Nuri Jung, Hyeonsung Byeon, Wooyeop Jeong, Byoungwook Kim, Yooshin Kim, Hongsuk Kim, Gangeun Park, Sujin Park, Sumin Lee, Chaok Seok*
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MEDI.P-329 Alpha 2c Adrenoceptor Antagonist as an Oxalamide Derivative Alleviated Depressive-Like Behaviors in a Maternal Separation Mouse Model
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MEDI.P-330 Development of SARS-CoV-2 3CL Protease Inhibitors
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MEDI.P-331 MotifScreen: Revolutionizing Virtual Screening and Its Generalizability via Deep Learning of Interaction Patterns
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MEDI.P-332 Toward Understanding GPCR Modulation through AI-Inferred Structural and Dynamic Insights
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MEDI.P-333 Ligand-Type Specific Binding Site Prediction Modeling
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MEDI.P-334 Patent Landscape Analysis on the Polymorphs of Pharmaceutical Compounds
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MEDI.P-335 Geometric Context-Aware Molecular Representation Learning
Yooshin Kim, Byunghyun Bae, Hongsuk Kim, Byoungwook Kim, Yubeen Kim, Nuri Jung, Sujin Park, Seeun Kim, Jiho Sim, Sumin Lee, Hahnbeom Park[1], Chaok Seok*
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MEDI.P-336 GalaxyCDock: Covalent Docking Webserver
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MEDI.P-337 Leveraging the Pupylation Pathway for Targeted Protein Degradation in Mycobacteria
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MEDI.P-338 Synthesis and Biological Evaluation of 5-HT_7 Receptor Ligands Featuring a 1,2-Diarylpiperazine Scaffold

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MEDI.P-339 Synthesis and Biological Evaluation of Biphenyl Derivatives Targeting 5-HT7 Receptor

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MEDI.P-340 Engineering an Oxaliplatin and 5-Fluorouracil Double-Layer Suppository with PLGA Nanoparticles for Sustained Cancer Therapy

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MEDI.P-341 Polysaccharide Emulsion Gels of 5-Fluorouracil and Doxorubicin for Anti-Adhesion and Anti-Cancer

Soo Ho Yeo
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MEDI.P-342 Preparation and Evaluation of Hydroxypropyl Methylcellulose-Based Film of Pyridostigmine Bromide

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MEDI.P-343 Ligand Design for Flexible Pockets Using Hierarchical Natures of 3D and 2D Structures and Their Interrelationships

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MEDI.P-344 Thiirane-Embedded Tamoxifen: Beyond Receptor Blockade

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MEDI.P-345 Design, Synthesis and Biological Evaluation of Carbazole Derivatives as 5-HT_7R Ligands

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MEDI.P-346 Application of Benzosultam-Based CRBN Ligands to Molecular Glue Degraders

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MEDI.P-347 Discovery of Therapeutic Agents for the Treatment of ALS by Inhibiting TDP-43 Proteinopathy

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MEDI.P-348 Development of Toll-Like Receptor 8 Selective Agonist for the Treatment of Hepatitis B Virus (HBV)

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MEDI.P-349 Discovery of New Antibiotics for Treatment of Nontuberculous Mycobacterial (NTM) Infection

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MEDI.P-350 Synthesis and Biological Evaluation of Pyrimidine Derivatives as Activatiors of PKM2 Tetramerization

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MEDI.P-351 Fibronectin-Coated Nanoliposomes with Heparin-Hemin for Enhanced Ulcerative Colitis Therapy

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MEDI.P-352 Studies on the Mechanism of Inhibition of Novel RIPK2 Hit Compounds

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MEDI.P-353 Predicting Metal Binding Sites and Types in Protein

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MEDI.P-354 Anti-Inflammatory Effect of KHMC-012 as a Novel Selective mPGES-1 Inhibitor in an Adjuvant-Induced Arthritis Rat Model

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MEDI.P-355 Development of Xanthoxol Derivatives as Cholinesterase Inhibitors

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MEDI.P-356 Structure-Based Optimization of Benzimidazole Scaffolds for Potent and Selective mPGES-1 Inhibitors

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MEDI.P-357 Improving T-cell Immunogenicity Prediction via Multi-Species Data and MHC Representation Strategies

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MEDI.P-358 Development of Non-Nucleoside Inhibitors of the NiRAN Domain of SARS-CoV-2

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MEDI.P-359 Exploration of β-Tubulin-Targeting Butein Derivatives as Tubulin Inhibitors for A549 Lung Cancer Treatment

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MAT.P-299 Reusable Underwater Anti-Oil-Fouling Filters Designed for Efficient and Durable Oil/Water Separation
Eunjin Kim, Won San Choi*
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MAT.P-300 Simple and Versatile Production of Alginate Capsules with Customizable Design
Seunghee Han, Won San Choi*
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MAT.P-301 Hierarchical Solar Evaporator with Reverse Piloti Design for Extreme Brine Management
Donggeon Lee, Won San Choi*
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MAT.P-302 Material Chemistry for Plastic Scintillators
Changhyun Roh, Sion Kim
Nuclear Facility Cleanup Technology Division, Korea Atomic Energy Research Institute, Korea

MAT.P-303 Hybrid Nanostructured Framework of 2H-MoS_2 and Covalent Organic Nanosheets Enabling Superior Sodium-Ion Battery Capabilities
Sebin Kim
Department of Chemistry, Hankuk University of Foreign Studies, Korea

MAT.P-304 Effect of Cobalt on the Oxide Layer Formation on Carbon Steel in Hydrothermal Acidic Condition
Sion Kim, Changhyun Roh*
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MAT.P-305 Development of a Visible-Light-Responsive Antibacterial Film via Embedding Erythrosine Dye into a Porous Polysiloxane Matrix for Efficient Singlet Oxygen Production
Gumin Kwon
Department of Chemistry, Hankuk University of Foreign Studies, Korea

MAT.P-306 Concentration-Induced Tunable Aggregate Morphologies of Light Responsive Azo-Based Pyrene Derivative
Pyae Myat Phyo Thu, Sanghyuk Park, Mina Han[1, *]
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MAT.P-307 Dynamic Birefringence and Chirality of Magnetically Controllable Assemblies of Anisotropic Plasmonic Nanoparticles
Hyojung Kang, Jerome Hyun*, So-Jung Park*
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MAT.P-308 Synthesis of Hexakis(1-methylimidazole)copper(II) Chloride and Hexakis(1-methylimidazole)zinc(II) Chloride and Evaluation of Their Termite Insecticidal Effectiveness
Eui Jin Kim, Kyeong Hui Kim, Sung Hyun Oh, Seog Woo Rhee*
Department of Chemistry, Kongju National University, Korea

MAT.P-309 Synthesis of Hexakis(1-methylimidazole)copper(II) Salicylate and Hexakis(1-methylimidazole)zinc(II) Salicylate and Evaluation of Their Insecticidal Activity Against Termites
Eui Jin Kim, Kyeong Hui Kim, Sung Hyun Oh, Seog Woo Rhee*
Department of Chemistry, Kongju National University, Korea

MAT.P-310 Impact of Solvent Polarity and Self-Assembly on Photoisomerization of Azo-BODIPY Compounds
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MAT.P-311 Design of Photoswitchable Fluorescent Spheres and Their Light Wavelength Dependence
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MAT.P-312 Synthesis of Copper(II) Coordination Compounds Containing 4-Methylimidazole and Evaluation of Their Termite Repellency
Kyeong Hui Kim, Eui Jin Kim, Sung Hyun Oh, Seog Woo Rhee*
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MAT.P-313 Development of Diphenyl Stabilized Triple-Tin Based Oxo Cluster Photoresist for High Resolution Electron Beam Lithography
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MAT.P-314 Improving Intrinsic Properties of Silver Nanowires through Spontaneous Ligand Exchange
Jun Hyeok Kwon, Tae-Hyuk Kwon*
Department of Chemistry, UNIST, Korea

MAT.P-315 Reaction of Several Imidazole Derivatives with Copper(II) Hydrogen Phthalate and Evaluation of the Insecticidal Effect of the Products Against Termites
Geun Young Back, Eui Jin Kim, Kyeong Hui Kim, Seog Woo Rhee*
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MAT.P-316 Cu-Substituted $ZnIn_2S_4$ Photocatalysts for Efficient H_2O_2 Generation
Hansol Jeon, Dong Wook Lee[1], Seong-Ju Hwang[1, *], Xiaoyan Jin*
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MAT.P-317 Enhancing the Oxygen Evolution Reaction Performance of NiFe Hydroxide through Anion Substitution
Chaeyeon Jeon, Seong-Ju Hwang[1, *], Xiaoyan Jin*
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MAT.P-318 Chemical Screening-Guided Design Rules for Highly Efficient Metal Oxides Exhibiting High Catalytic Activity
Woojin Noh, Seong-Ju Hwang[1, *], Xiaoyan Jin*
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MAT.P-319 Optimizing the Interlayer Spacing and Electronic Structure of MoS_2 to Enhance the Hydrogen Evolution Reaction
Woojin Noh, Xiaoyan Jin*
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MAT.P-320 Density Functional Theory Studies on Design Strategies for Oxygen Evolution Reaction Catalysts: Approaches Based on Noble and Non-Noble Metals
Hee Jung Kwon, Minho Kim*
Department of Applied Chemistry, Kyung Hee University, Korea

MAT.P-321 A Structurally Flexible Mg(II) Metal–Organic Framework Exhibiting Single-Crystal-to-Single-Crystal [2+2] Photocycloaddition
Jisu Lim, Kyunghye Ju, Taehun Kim, Gyeongeun Ahn[1], In-Hyeok Park*
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MAT.P-322 Novel Single-Nozzle 3D Bioprinting for Gradient Hydrogel Fabrication in Tissue Engineering

Sreynith Seng, Sarath Kin, Nayoun Kim, Kwanwoo Shin*

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MAT.P-323 A Metal-Organic Framework Functionalized with Phosphinic Acid, MIL-101-PO2H2: Remarkable Adsorbent to Selectively Remove Cationic Dyes from Water

Dohyun Park, Minyoung Yoon[1, *], Sung Hwa Jhung*

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MAT.P-324 From Black Pigment to Green Energy: Shedding Light on Melanin Electrochemistry in Dye-Sensitized Solar Cells.

Seungrok Kim, Tae-Hyuk Kwon

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MAT.P-325 Binder-Free and Current Collector-Free Lithium-Sulfur Battery *via* Langmuir-Blodgett Assembly

Seoyoung Yoon, Geonho Kim, Jiwon Kim[1, *]

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MAT.P-326 Hybrid Materials Containing Co Species Dispersed on Carbonized Frameworks and their Electrocatalytic Properties for O_2 Reduction

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MAT.P-327 Surface Functionalization of SnO_2 Nanospheres with APTES for Bioconjugation and X-ray Imaging Applications

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MAT.P-328 Tollens' Reagent-Assisted Silver Incorporation on Three-Dimensional Porous Carbon Nitride and their Photocatalytic Properties

Bogyeong Kim, Sungjin Park*

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MAT.P-329 Adsorptive Removal of Atenolol and Diphenhydramine from Water with Polyaniline-Derived Carbon, Treated with Nitric Acid under Microwaves

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MAT.P-330 Hollow Spherical Mn_3O_4/Reduced Graphene Oxide Hybrid as an Anode Material for High-Performance Lithium-Ion Batteries

Taehyun Kim, Seung-Min Paek*

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MAT.P-331 Molecular Simulations of Flexible Framework Structure for Understanding Methane Adsorption in Porous Aromatic Frameworks

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MAT.P-332 High-Refractive-Index ZrO_2 Nanocomposite Films with Micro-Pyramidal Structures for Enhanced Light Diffusion

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MAT.P-333 Enhancing Hydrogen Storage Capacity in MIL-100 through Tetravalent/Divalent Metal Node Design : Tailored Force Field Molecular Simulation Study

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MAT.P-334 Hierarchical Hollow Titanoniobate/Reduced Graphene Oxide Nanostructured Composite Derived from 2D Nanosheets for Ultrafast Lithium-Ion Storage

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MAT.P-335 Metal-Decorated Holey Tungsten Nitride Nanosheets as Efficient Electrocatalysts for Nitrate Reduction

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MAT.P-336 Predicting Hydrogen Uptake in Metal–Organic Frameworks Using a Generalizable Machine-Learned Potential

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MAT.P-337 Preparation and Electrocatalytic Oxygen Reduction Properties of P-Doped Reduced Graphene Oxide

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MAT.P-338 Hollow Silicon Suboxide/Carbon Composite Anode with Long-Term Cycling Stability for Lithium-Ion Batteries

Jimin Kim, Seung-Min Paek*
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MAT.P-339 A Structure-Based Ionic Conductivity Prediction Model for Solid-State Battery Electrolytes

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MAT.P-340 Enhancing Crystal Structure Validation via Interpretable Large Language Model–Driven Error Analysis

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MAT.P-341 Enhancing Alkaline HER via Complementary Roles of Ni and Pt Active Sites in Pt–Ni Alloys

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MAT.P-342 Solvent-Driven Control of Nucleation Behavior in $CsPbBr_3$/GO Nanocomposites

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MAT.P-343 Microstrain Relaxation through Halide Composition Control in Zero-Dimensional Chiral Bismuth Perovskites with Enhanced Spin Selectivity

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MAT.P-344 Redesigned Calcium Phosphate Nanoparticles for in Vivo Imaging and Drug Delivery

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MAT.P-345 Coordination-Tailored Ligand Passivation for Crystallinity and Defect Control in Perovskite Quantum Dot

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MAT.P-346 Synthesis of Calcium Imidazolium Phytates and

Evaluation of Their Insecticidal Activity Against Termites

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MAT.P-347 Thiol–yne Click Photopolymerization Strategy for High Stability and Patternable $CsPbBr_3$ Quantum Dot–Polymer Films

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MAT.P-348 Enhancing Calcium Ion Extraction from Recycled Concrete Aggregate using Some Aromatic Carboxylic Acids

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MAT.P-349 Dual-Stabilization of Perovskite Quantum Dots via Nanoconfined In-situ Growth in ZIF-8 with Ionic Ligand Passivation

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MAT.P-350 The Effect of Amine-Based Additives on Calcium Ion Extraction and Carbonation Behavior of Recycled Concrete Aggregate (RCA)

Seo Eun Yoon, Sung Hyun Oh, Yong Hun Jeon, Seog Woo Rhee*
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MAT.P-351 Development of a Termite Repellent and Insecticide Using 4-Methylimidazole, Zinc Ion, and Phthalic Acid

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MAT.P-352 Ruthenium–Rare-Earth Oxides as Efficient Electrocatalysts for Acidic Oxygen Evolution Reactio

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MAT.P-353 Intrinsic Activity Trend of Conductive Oxide Supported Atomically Dispersed Catalysts for Selective Chlorine Evolution

Guan Young Kim, Jinjong Kim, Sang Hoon Joo*
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MAT.P-354 Defective Nanohybrids of Holey TiN-Ru Metal Nanosheets with Improved Electrocatalyst Performance

Yeon Hu Park, Seong-Ju Hwang*
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MAT.P-355 Sr-Assisted Enhancement of the Electrocatalytic Activity of Amorphous RuO_2 Nanosheets

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MAT.P-356 Mesoporous Pt-Based Ternary Intermetallic Catalysts for Enhancing the Activity and Stability of Oxygen Reduction Reaction

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MAT.P-357 Subcellular Organelle Enrichment and Delivery Using Multi-Modal Nanocomposites Synthesis via Self-Ureido Formation

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MAT.P-358 Nanoconfinement-Enabled Preparation of Ultrahigh-Loading Platinum-Based Intermetallic Nanoparticles for Efficient Oxygen Reduction Reaction
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MAT.P-359 Phase Transition and Luminescence Tuning in Cu–Ag Mixed Halide Single Crystals
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Department of Chemistry, Chungnam National University, Korea

MAT.P-360 Highly Water-Stable Organic–Inorganic Halide Perovskitoid Single Crystal with Strong UV Photoresponse for Efficient Methyl Orange Photocatalytic Degradation
Chung Hoe Kim, Ji-Hyun Cha*
Department of Chemistry, Chungnam National University, Korea

MAT.P-361 Enhancing Photoluminescence Quantum Yield and Stability of Sonochemically Synthesized $CsPbI_3$ Perovskite Quantum Dots by Polar Solvent Washing
Chang-Woo Kim, Ji-Hyun Cha*
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MAT.P-362 Acceleration of Triplet-State Photochemistry by Magnetically Doped Colloidal Quantum Dots
Jiyeong Han, Daeon Park, Shinik Kim, Ho Jin*
Department of Chemistry, UNIST, Korea

MAT.P-363 Exchange Interaction-Driven Optical Properties of Rare Earth Doped Colloidal Perovskite Quantum Dots
Jaeeun Kim, Daeon Park, Shinik Kim, Ho Jin*
Department of Chemistry, UNIST, Korea

MAT.P-364 Controlled Growth of Two-Dimensional ReSe2 Quantum Dots via Magic-Sized Nanoclusters
Daeon Park, Ho Jin*
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MAT.P-365 Intramolecular Double Activation by Biligands Sharing a Single Metal Atom for Preferred Two-Electron Oxygen Reduction
Yeongdae Lee
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MAT.P-366 Machine Learning-Assisted Design of Cathode Materials for Lithium–Sulfur Batteries Derived from a Metal–Organic Framework
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MAT.P-367 Auger Up-Conversion in Rare-Earth-Doped InAs Quantum Dots
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MAT.P-368 Effect of Catalysts and Promoters on the Growth of Single-Walled Carbon Nanotubes
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MAT.P-369 CVD Synthesis of B,N Co-Doped Single-layered Graphene : Structural Characterization and Device Applications
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MAT.P-370 Active Optical Modulation via Conductive Polymer Integrated Resonators
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MAT.P-371 Effect of Metal Catalysts on Growth Kinetics of Vertically Aligned Carbon Nanotubes Synthesized by CVD
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MAT.P-372 Sulfur-Promoted CVD Growth of SWCNT Forests
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MAT.P-373 CVD Growth of Boron Nitride Nanotubes Using Controlled Alloy Catalysts
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MAT.P-374 Support Morphology Effect on the Catalytic Performance for Strecker Reactions
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MAT.P-375 Dynamic Formation of Copper Nanoclusters by Reversible Metal Electrodeposition
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MAT.P-376 Study on Enhanced Robustness against X-ray Radiation Damage during CO_2 Adsorption of Zeolite Microcrystals
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MAT.P-377 Oxygen Vacancies Effect on NiMoO4 as a Bifunctional Catalyst in Li-S Battery
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MAT.P-378 Encapsulation of Noble Metals in Boron Nitride Nanotubes: Synthesis, Characterization, and SERS Applications
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Department of Chemistry, Gachon University, Korea

MAT.P-379 Enhanced Methane Adsorption Performance via Pyrolyzed AC–MOF Core–Shell Structures
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MAT.P-380 Optimization of TiO2 Nanowire Light-Scattering Layers via Hydrothermal Synthesis
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MAT.P-381 High-Performance HKUST-1-Based Filter for Toluene Adsorptive Removal
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MAT.P-382 DFT Insights into Alkaline Hydrogen Evolution Activity of NiFe-Based Electrocatalysts
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MAT.P-383 Surface Chemistry-Engineered Quantum Dots for Direct Cytosolic Delivery
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MAT.P-384 Synthesis of Less Toxic Near-Infrared Emitting Semiconductor Nanoparticles Bioimaging Applications Thereof
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MAT.P-385 High-Performance NIR Organic Photodetectors Achieved by Optimizing Bulk Heterojunctions

with Surface Property Enhancement and Dark Current Suppression
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MAT.P-386 Fine Tuning of ESIPT Emission in Phenolic Imidazo[1,2-*a*]pyridines through Basicity-Controlled Intramolecular Hydrogen Bonding
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MAT.P-387 Enhancement of V^{3+}/V^{2+} Redox Activity by Homogeneously Dispersed TiO_2 Nanoparticles Modified Electrode
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MAT.P-388 Synthesis and Characterization of Bimetallic Nickel Cobalt Oxides Incorporated Mesoporous Graphene Nanohybrid
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MAT.P-389 Hydrothermal Phase Transition of δ-MnO_2 to Mn_3O_4 Anchored on Mesoporous Graphene for Enhanced Supercapacitive Performance
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MAT.P-390 Synthesis and Characterization of 3D Mesoporous Graphene Decorated with Magnetite Iron Nanoparticles
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MAT.P-391 Morphology Control of Self-Assembled Au Nanocluster Sheets through Solvent–Ligand Interactions
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MAT.P-392 Tailoring the Stability and Activity of Single-Atom Catalysts via 2D Nanosheet Supports
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MAT.P-393 Cation-Induced Interlayer Structure Control of Ti_3C_2 MXene for Enhanced Structural Stability and Electrochemical Performance
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MAT.P-394 Hybrid Polyion Nanocomplexes for the Delivery of Biological Macromolecules and Enzyme-Like Catalytic Applications
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MAT.P-395 Three-Electrode Study on the Electrochemical Behavior of Manganese Oxide Cathodes in Aqueous Zinc-Ion Batteries
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MAT.P-396 Impact of Electrode Configuration on K-Birnessite Cathodes for Aqueous Zinc-Ion Batteries
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MAT.P-397 PdCu Bimetallene Engineered via Dealloying for Overall Water Splitting
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MAT.P-398 Developing Anthracene-Phenanthroimidazole-Based Hybridized Local and Charge Transfer Materials with Multiple Channels for Triplet Exciton Harvesting
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MAT.P-399 Dual Exciton Management and Electron Recycling in Stable Blue Fluorescent Pyrene-Based Organic Light-Emitting Diodes via Hybridized Local- and Charge- Transfer and Triplet–Triplet Fusion.
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Department of Chemistry, Seoul Women's University, Korea

MAT.P-400 NaCl Microporogen-Assisted Synthesis of Hollow Microporous Organic Polymers Bearing Zn-Salphens for Enhanced Biomass-To-Biodiesel Conversion
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MAT.P-401 SWIR Ag_2Te Quantum Dots Synthesis at Room Temperature
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MAT.P-402 Theoretical Insights into the Role of Ru Doping in Trirutile $CoSb_2O_6$ for Enhancing Oxygen Evolution Reaction Catalysis
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MAT.P-403 Excitonic Intraband Transition and Quantum Plasmon Resonance of Ag_2Se Nanocrystals Depending on the Crystal Structure
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MAT.P-404 Tunable Intraband Absorption of Ag_2Se Colloidal Quantum Dots from MWIR to VLWIR Region
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Department of Chemistry, Korea University, Korea

MAT.P-405 Revealing Self-Doped Nature of Cd_xAg_ySe Quantum Dots Under Cation Exchange Control
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MAT.P-406 Dexamethasone Intercalated Layered Double Hydroxide Nanocarrier for Improved Therapeutic Efficacy
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MAT.P-407 Stabilized Caffeic Acid–Layered Double Hydroxides for Broad-Spectrum UV Protection
Dahye Seo, Jin-Ho Choy*, Goeun Choi*
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MAT.P-408 Montmorillonite–Niclosamide Nanohybrids for Enhanced Bioavailability via Solubility Improvement
Seungjin Yu, Sanoj Rejinold Nirichan, Jin-Ho Choy*, Goeun Choi*
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MAT.P-409 Further Enhanced Photoluminescence of Extended SWIR Ag_2Te Colloidal Quantum Dot Core/Shell
Soeun Jeon, Jin Hyeok Lee, Kwang Seob Jeong*
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ELEC.P-360 Morphology-Controlled Bi-MOFs via Rapid Solvothermal Synthesis as Anode Materials for Enhanced Potassium-Ion Storage
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ELEC.P-361 Charge-Dependent Electrochemical Selectivity of Polyelectrolyte Hydrogels for Redox Reactions
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ELEC.P-362 Fabrication of Pt-Deposited NiFe LDH Bifunctional Electrocatalysts for Reversible HER and OER in AEMWE Systems
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ELEC.P-363 Phase Engineering of Cobalt-Based Catalysts for Active Oxygen Evolution Reaction in Anion Exchange Membrane Water Electrolysis.
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ELEC.P-364 Nonflammable Solvent–in–Salt Eutectic Electrolyte for Wide–Temperature Lithium Metal Batteries
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ELEC.P-365 Enhanced Efficiency of CO_2 Electroreduction by Formate Dehydrogenase Immobilized on Amino-Functionalized Mesoporous Silica.
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ELEC.P-366 Energy Conversion at Hydrogel–Electrode Interfaces through Mechanical Deformation
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ELEC.P-367 Efficient Electrode Design Strategy with Reduced Cobalt Consumption toward Oxygen Evolution Reaction
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ELEC.P-368 Uniform Sodium Deposition in Anode-Free Sodium Batteries via Electrolyte Engineering
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ELEC.P-369 Anion-Driven Hydrogen Pathways for Tuning Nitrate Electroreduction Selectivity toward Ammonia: Insights from In-Situ Raman Spectroscopy
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ELEC.P-370 Bidirectional Wastewater Treatment via Plasmonic Ammonia Electrooxidation and $2e^-$ Oxygen Reduction in a Zn-O_2 Battery
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ELEC.P-371 Mo-Intercalated LDH Hybrids for Electrocatalytic Ammonia Synthesis and Water Splitting
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ELEC.P-372 Electrodeposited CoSe Nanostructures on Nickel Foam and Carbon Cloth for Water Splitting
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ELEC.P-373 Analysis of Resistance Component Contributions at Low Temperature
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ELEC.P-374 Charge-Selective Redox Diodes from Polyelectrolyte Hydrogels
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ELEC.P-375 Lithium-Ion Conduction through the Frozen Phase of Organic Electrolytes for Lithium Batteries
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ELEC.P-376 Sodium Fluoride-Coated Separators for Enhanced Interfacial Stability in Lithium Metal Batteries
Minsoo Park, Hochun Lee*
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ELEC.P-377 Selective Micro-Patterning of Conducting Polymers on Hematite Using Light-Addressable Electrochemistry
Onyu Bang, Joohoon Kim*
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ELEC.P-378 An Electrochemical Detection of Environmentally Toxic Molecules with Carbon-Based Nanocomposites.
Seongyeop Kim, Chelladurai Karuppiah*, Hye Jin Lee*
Department of Chemistry, Kyungpook National University, Korea

ELEC.P-379 Electrochemical Properties of FeOF Nanocomposite Wrapped by Graphite Carbon as Cathode Material for Potassium-Ion Batteries
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ELEC.P-380 Electrochemical Sensor Based on Ag Nanocomposites for Biomarker Analysis
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ELEC.P-381 Site-Specific Nitrogen Chemistry in Nitrogen-Doped Reduced Graphene Oxide Hydrogel Enables Pathway 4-Nitrophenol Sensing
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ELEC.P-382 Inhibition of Oxygen Dimerization by Interfacial Oxygen Anchored Gel Polymer Electrolyte for High Voltage Li-Ion Batteries
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ELEC.P-383 Surface Property-Dependent Ion Transport and Charge Storage in Nanoporous Electrodes
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ELEC.P-384 A Lithiophilic Ceramic-Coated Separator as a Protective Layer for Advanced Lithium Metal Batteries
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ELEC.P-385 Selection Criteria for Co-Solvents in Ionic Liquid Electrolytes for Safe, and High-Energy-Density Li & Na Metal Batteries
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ELEC.P-386 Electrochemical Mechanism Studies on Atomically Dispersed Metal-N4 site in Metalloporphyrin via EC-STM
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ELEC.P-387 Investigating Plasmonic Hot Carrier Rransfer on Antenna-Reactor Au@Pd Nanoparticles in the Photoelectrochemical Oxygen Evolution Reaction
Hyewon Park, Jeong Young Park*
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ELEC.P-388 *Operando* Scanning Electrochemical Microscopy Reveals Facet-Dependent Structure-Selectivity Relationship for CO_2 Reduction on Gold Surfaces
Yunwoo Nam, Sung Eun Cho, Hyun Seo Ahn*
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ELEC.P-389 Correlation Between Crystallization of Amorphous IrOx and Catalytic Performance for Oxygen Evolution Reaction in Acidic Media
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ELEC.P-390 A Bifunctional Electrocatalyst of Bimetallic Hydroxide-Based Nanocomposite for Sensor and Supercapacitor Applications
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ELEC.P-391 A Manufacturing System for Cobalt Hydroxide and a Synthesis Method for Cobalt Oxide-Based Catalysts
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ELEC.P-392 Nanocube-Structured $LaNiO_3$ Perovskites with Tunable Porosity for High-Performance Oxygen Evolution Reaction Catalysis
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ELEC.P-393 Stabilizing Metastable 1T MoS2 via Electrochemical Proton Intercalation for Hydrogen Evolution Reaction
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ELEC.P-394 SEI Structures Dependent Li-Morphology Characterized by Cryo-TEM
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ELEC.P-395 Durable Planar P-Si Photocathode via TMN Materials for Photoelectrochemical HER
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ELEC.P-396 Bias-Free Dye-Sensitized Photoelectrochemical Cells with Anodic Valorization Mediated by ABNO in Acidic Conditions
Eunyeong Song, Sung Jun Lim, Tae-Hyuk Kwon*
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ELEC.P-397 Photocatalytic Hydrogen Evolution Using Water-Stable Lead-Free 2D Tin Halide Perovskites in Aqueous Electrolyte
Juwon Jang, Seog Joon Yoon*
Department of Chemistry, Yeungnam University, Korea

ELEC.P-398 Controlling Phase Segregation in Mixed-Halide Perovskite Photoactive Layer for Photoconversion Device Application
Byeongsung Kim, Seog Joon Yoon*
Department of Chemistry, Yeungnam University, Korea

ELEC.P-399 MAyCs1-yPbX3 Perovskites in Silica Matrix via One-Pot Synthesis Routes: Tunable Bandgap for White Emission and Photocatalytic Applications
Yoongyo Kim, Seog Joon Yoon*
Department of Chemistry, Yeungnam University, Korea

ELEC.P-400 $ZrCl_4$-Doped $Li_7P_3S_{11}$: Boosting Conductivity and Air Stability for High-Performance ASSBs
Eunbyeol Ko, Kwang Sun Ryu*
Department of Chemistry, University of Ulsan, Korea

ELEC.P-401 Multimodal Analysis of a Flame-Retardant Inorganic Binder toward Enhanced Thermal Stability in EV Batteries
Yoonji Kim, Darae Kim, Byung-Kwon Kim*
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ELEC.P-402 Core Structure-Dependent Photoelectrochemistry of Ultrasmall Gold Nanoclusters on TiO_2
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ELEC.P-403 In Situ Mechanistic Study of Acidic Oxygen Evolution Reaction on Iridium Oxides via Surface Interrogation Scanning Electrochemical Microscopy
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ELEC.P-404 Mass Transport Enhanced Ir Nanodendrites for High Current Density PEM Water Electrolysis
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ELEC.P-405 Exploring Metastable *fcc*-Ru via Surface-Heated Electrodeposition of Faceted Nanoseeds for Electrocatalytic Applications
Taeyeon Kang, Hyun Seo Ahn*
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ELEC.P-406 Enhancement of Lithium-Air Battery Performance through LiOH Formation and SECM Analysis.
Hae-Sung Oh, Hyun Seo Ahn*
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ELEC.P-407 Detection of Intracellular Reactive Oxygen and Nitrogen Species in Living Cells by Scanning Electrochemical Microscopy (SECM)
Jong Won Kim, Hyun Seo Ahn*
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ELEC.P-408 Precise Control of Metal Phosphide Nanostructures via Surface-Heated Electrochemical Synthesis
Hyokyum Ahn, Hyun Seo Ahn*
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ELEC.P-409 Electrochemical Real-Time Detection of Hydrogen Peroxide as an Inversely Proportional Mark of Photogenerated Singlet Oxygen
Geonwoo Park, Hyun Seo Ahn*
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ELEC.P-410 Mesoporous Anatase TiO2 Spheres via Sol-Gel/Solvothermal Route as Robust Supports for Low-Loading Noble Metal Catalysts
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ELEC.P-411 Sustainable Nitrogen Cycle Management through Selective Electrochemical Ammonia Oxidation

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ELEC.P-412 WSe_2 and Co-WSe_2 Functionalization of PANi-Coated BNNT for High-Performance Asymmetric Supercapacitor Electrodes

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ELEC.P-413 Operando TEM Probing of CuO Reduction Mechanism during CO_2 Electrolysis

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ELEC.P-414 Cubic Cu2O-Decorated B-Doped g-C3N4 Nanosheets for Ultrasensitive Electrochemical Detection of Metol

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EDU.P-410 A Comparative Analysis of Question Patterns in Collaborative Learning According to the Use of Generative AI by Science High School Students
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EDU.P-411 Development of a Pre-service Chemistry Teacher Education Program for Sensemaking in Process of Modeling Using Generative Artificial Intelligence
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EDU.P-412 The Effect of Argument-Based Inquiry Science Classes Incorporating Feedback Activities on the Feedback Literacy of Science High School Students
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EDU.P-413 Integrated Science Teachers' Perceptual and Instructional Changes Following the Introduction of the Integrated CSAT
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EDU.P-414 Development and Utilization of AI-Based Basic Experimental Simulation for Middle School Chemistry Education
Jaewoo Bak, Wanhui Kim, Byeong-Seon Kim*
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EDU.P-415 Curriculum and Textbook Analysis of Organic Chemistry in South and North Korea
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EDU.P-416 Teacher Professional Development (TPD) through a Convergence Program Model: Implications for Pre-service Teacher Education
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EDU.P-417 The Role of Presentation-Based Instruction on National Strategic Technologies in Enhancing Science Education
Geun Young Jin, Eunyoung Kang
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EDU.P-418 Students' Scientific Attitudes in Science Inquiry Class Emphasizing Observation, Communication and Self Reflection
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EDU.P-419 Development and Utilization of AI-Based Advanced Experimental Simulation for High School Chemistry Education
Wanhui Kim, Jaewoo Bak, Byeong-Seon Kim*
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EDU.P-420 Exploring Daily Time Adjustment and Utilization in Gifted Elementary Science Students through Hypothetical Questioning
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EDU.P-421 Difficulties in Inquiry Activities of Middle School Science Gifted Students
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EDU.P-422 An Analysis of Trends in Chemistry Education Research in Japan (1): A Study Based on Proceedings from the Annual Meetings of the Chemical Society of Japan Over the Past Two Years

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EDU.P-423 A Comparative Analysis of the Partially Revised Japanese Elementary Science Textbooks (2)

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EDU.P-424 Functional Group Presentation in High School Chemistry Textbooks under the 2022 Revised National Curriculum

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EDU.P-425 Development of Analytical Chemistry Experiment Program Using Mini Gas Chromatography for Pre-service Chemistry Teachers

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EDU.P-426 A Low-Cost Spectral Analyzer Using Generative AI and Arduino Sensors: Development and Application in Secondary Chemistry Inquiry

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EDU.P-427 The Investigation into Students' Perceptions of the Relationship between Reaction Rate and Product Yield in Organic Chemistry

Juram Kang, Jun Hyeok Kang[1], Sang Jun Lee[1], Joonyong Lee[1], Jintaek Gong[1, *]
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EDU.P-428 Analysis of Potential Sources of Error in the Capillary Rise Method for Measuring Surface Tension and Strategies for Improvement

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EDU.P-429 Development of an Assessment Tool for Investigating Reaction Order Using Wireless UV-Vis

Yeseul Park, Dae Hong Jeong[*]
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ENVR.P-415 Electrochemical Fischer–Tropsch Synthesis on Pure Gold for Long-Chain Hydrocarbon Production
Gaeun Yun, Huieun Shim, Choong Kyun Rhee, Youngku Sohn*
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ENVR.P-416 Anti-Corrosive Carbon Materials for PEMFCs: Size Effect of Fluorine-Doped Graphene Nanoribbons Derived from Carbon Nanotubes
Ye-Rim Kim, Min Ho Seo*
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ENVR.P-417 A Magnetically Separable, Layered Nafion/PVP/rGO/NiO/CeO_2@SiO_2@Fe_3O_4 Photocatalyst for Scalable CO_2-to-Liquid Fuel Conversion
Sunghoon Oh, Young Soo Kang[1, *]
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[1]*Institute of Environmental and Climate Technology, Korea Institute of Energy Technology, Korea*

ENVR.P-418 Influence of Skin Layer Orientation and Quantity on the Flame Retardancy of Polyurethane Foam Insulation
Minseo Lee, Yujin Seo, Sungyool Bong*
Department of Chemistry Education, Kongju National University, Korea

ENVR.P-419 Solvent Effects on the Performance of Catalyst Layers in Proton Exchange Membrane Fuel Cell
Tae-Seok Jeon, Seung-Kwon Kim, Ji-Hwan Ham, Jin-Soo Park*
Department of Green Chemical Engineering, Sangmyung University, Korea

ENVR.P-420 Dual Plasmonic and Ligand Modulation of CO_2 and CO Electroreduction toward Fischer–Tropsch-Like Hydrocarbons
Huieun Shim, Gaeun Yun, Choong Kyun Rhee, Youngku Sohn*
Department of Chemistry, Chungnam National University, Korea

ENVR.P-421 Active Learning-Driven Simulation of PtNi Nanoparticle Structural Ordering
Sojin Bae, Seung Min Woo, Minseon Park[1], Min Ho Seo*
Department of Nanotechnology Engineering, Pukyong National University, Korea
[1]*Department of Chemistry Engineering, POSTECH, Korea*

ENVR.P-422 Machine Learning-Assisted Prediction Model of Ionic Conductivity in Ion Exchange Membranes
Ji-Hwan Ham, Yuna Seo, Jin-Soo Park*
Department of Green Chemical Engineering, Sangmyung University, Korea

ENVR.P-423 Degradation Investigation of Water Electrolysis under Renewable Energy Load Fluctuation-Based Power Input
Seung-Kwon Kim, Tae-Seok Jeon, Ji-Hwan Ham, Jin-Soo Park*
Department of Green Chemical Engineering, Sangmyung University, Korea

ENVR.P-424 Sustainable CO2 Utilization for Cyclic Carbonate Synthesis toward NIPU Precursors
Yerin Kim, Kyung-An Kim*, Younghoon Kim, Hyun Gil Cha
Center for Bio-Based Chemistry, Korea Research Institute of Chemical Technology, Korea

ENVR.P-425 Switching CO_2 Reduction Pathways: Iron Drives Copper toward Formate Selectivity
Hyeonji Lee, Choong Kyun Rhee, Youngku Sohn*
Department of Chemistry, Chungnam National University, Korea

ENVR.P-426 Sustainable Management of Radioactive Wastes
Changhyun Roh, Sion Kim
Nuclear Facility Cleanup Technology Division, Korea Atomic Energy Research Institute, Korea

ENVR.P-427 Influence of Copper Facets on C_2^+ Selectivity of Bipotentiostatic Tandem Catalysis of the CO_2 Reduction Reaction
Sung Eun Cho, Taeyeon Kang, Hyun Seo Ahn*
Department of Chemistry, Yonsei University, Korea

ENVR.P-428 Organometallic-Catalyzed Epoxidation of Olefins: A Sustainable Approach
Na Hye Kim, Younghoon Kim*, Hyun Gil Cha*
Center for Bio-Based Chemistry, Korea Research Institute of Chemical Technology, Korea

ENVR.P-429 Evaluating 3D Solar Evaporator Performance via Controlled Ambient Temperature Conditions
Hyeondo Kim, Seong Kyun Kim*
Department of Physics and Chemistry, DGIST, Korea

ENVR.P-430 A Water-Efficient Artificial Phytoextraction Technology for the Remediation of Cesium-Contaminated Soil Inspired by Plant Transpiration and the Hydrologic Cycle
Soobeen Kim, Seong Kyun Kim*
Department of Physics and Chemistry, DGIST, Korea

ENVR.P-431 A Study on the Acidic Oxygen Evolution Reaction Characteristics of Co3O4 Catalysts Fabricated via Electrodeposition
Seungjoon Ha, Seunghwa Lee*
Department of Chemical Engineering, Changwon National University, Korea

ENVR.P-432 Enhancement of OER Activity and Durability in Alkaline Media through Selenium-Induced Reconstruction
Youngji Kim, Seunghwa Lee[1, *]
Department of Secondary Battery and Chemical Engineering, Changwon National University, Korea
[1]*Department of Chemical Engineering, Changwon National University, Korea*

ENVR.P-433 Evaluation of Waste-Derived Desulfurization Adsorbent as a Catalyst for the Oxidative Degradation of Ciprofloxacin
Jueun Lee, Yuri Park, Yuhoon Hwang*
Department of Environmental Engineering, Seoul National University of Science & Technology, Korea

ENVR.P-434 Photocatlaytic Application of MXene@CQDs Composites for Visible Light-Driven Reduction of Methylene Blue
Nayoon Choi, Yuri Park*, Yuhoon Hwang*
Department of Environmental Engineering, Seoul National University of Science & Technology, Korea

ENVR.P-435 Singlet Oxygen-Driven Fenton-Like Activation of PMS Using 2D/2D of MXene and ZnFe-LDH for Efficient Ciprofloxacin Degradation
Soyeon Kim, Yuri Park, Yuhoon Hwang*
Department of Environmental Engineering, Seoul National University of Science & Technology, Korea

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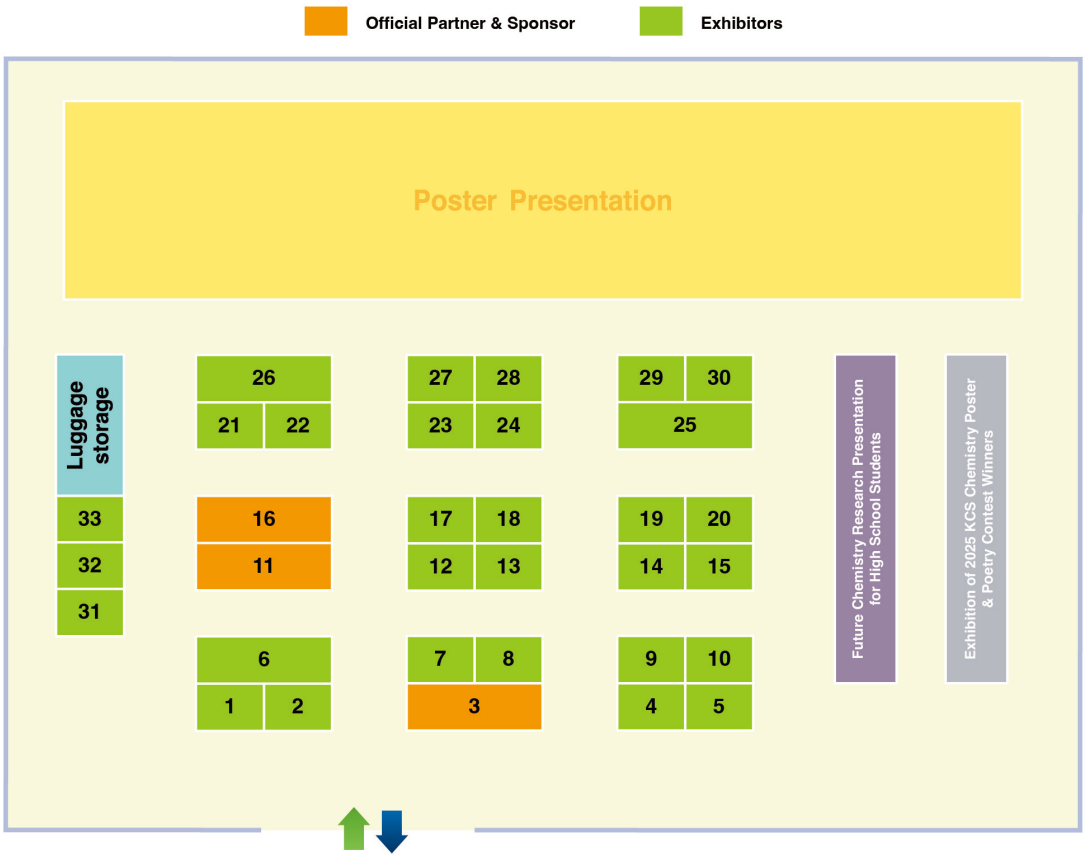
Exhibition



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33	DXG Ltd.

Exhibitors

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Fax 044-865-7173
Web Site www.altoss.co.kr
Contacts Junho Jung
E-mail jhjung@altoss.co.kr

Items

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   - IR/NIR/Raman Spectroscopy Fiber Probes (art photonics)
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   - Multi Gas (CICP, ABB)
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E-mail mjkim@amperematerials.com
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Fax 02-6747-5772
Web Site www.anton-paar.com/kr-kr
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E-mail marketing.kr@anton-paar.com
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Web Site www.bitekchems.com
Contacts Eunmi Lee
E-mail emlee@bitekchems.com
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Fax 042-488-8241
Web Site www.bkinstruments.co.kr
Contacts Asun Kim
E-mail marketing@bkinstruments.co.kr
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ChemScene Korea

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Contacts Jihoon Lee
E-mail kr.office@chemscene.com
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Contacts Yongho Oh
E-mail yhoh@dwchem.co.kr
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Tel 1644-4214
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Web Site www.4science.net
Contacts JungHoon Moon
E-mail mjh@4science.net
Items Instruments for Physicochemical Experiments

IWOO Scientific Corporation

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Contacts Jongsoo Lee
E-mail jslee@iwoo.co.kr
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Contacts ChaeEun Hong
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Contacts Yaeyoung Kim
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Contacts Marie Kim

E-mail mrkim@kird.re.kr

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Fax 02-959-0254

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Contacts JungWoo Woo

E-mail jungwoo.woo@knf.com

Items Diaphragm chemical resistance pump, Diaphragm vacuum pump, Vacuum controlled pump, Diaphragm liquid pump, Diaphragm metering pump.

KOREA QUANTUM COMPUTING

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Web Site www.kqchub.com
Contacts KeunWoo Lee
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Items Quantum Computing Information
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KOS, Inc.

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Web Site www.kosinc.co.kr
Contacts YoungJin Cho
E-mail yjcho@kosinc.co.kr
Items CCD Detector, Spectrometer, Light source, Optics

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Fax 0508-934-6471
Web Site blog.naver.com/newgen_tech
Contacts YoungSam Kim
E-mail newgen_tech@naver.com

Items IKA_Rotary Evaporator System
IKA_Magnetic Stirrer
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BUCHI_MPLC
BUCHI_Freeze Dryer
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Qbic Laser System Inc.

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Fax 032-323-4736
Web Site www.qbiclaser.com
Contacts Sujin Kwon
E-mail sjkwon@qbiclaser.com
Items 1. Optical System Manufactured by Qbic Laser System Inc.
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Web Site www.sulim.com

Contacts Youngjin Cho

E-mail suliminfo@naver.com

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Martin Christ

Freeze dryer, Rotational vacuum concentrator

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Fax 031-326-3168

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Contacts YongHun Chae

E-mail hun@sungwons.co.kr

Items 1. Ultrapure Water Purification System

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-HTDS-003 / HTDS-004
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Contacts TaeKyung Sung
E-mail sales@yktech.biz
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Fax 031-716-1630
Web Site www.ymckorea.com
Contacts HoonChul Kang
E-mail hc.kang@ymckorea.com
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Web Site www.younginmt.com
Contacts Jina-Jeon
E-mail jnjeon@younginmt.com

Items	Bench-top NMR
	Microwave synthesis system
	Microwave acid digestion system
	FT-IR
	PFAS extraction system

Transportation

How to get CECO

▣ By Airplane

▪ Flight Routes (Incheon / Gimpo / Jeju → Gimhae International Airport)

Route	Time Required	Number of flights(per day)
Incheon Int'l Airport → Gimhae(Busan) Int'l Airport	1 hour	18
Gimpo Int'l Airport → Gimhae(Busan) Int'l Airport	1 hour	100
Jeju Int'l Airport → Gimhae(Busan) Int'l Airport	1 hour	57

▪ Gimhae Int'l Airport → CECO (Limousine Bus)

Route	Time	First Bus	Last Bus
Gimhae Airport → Changwon	~40 min (every 20 min)	06:25	21:50
Changwon → Gimhae Airport	~40 min (every 20 min)	05:33	19:38

-Note: Schedules subject to change. More frequent service is available at Changwon Bus Terminal (5 min by car from CECO).

Transportation

▪ Direct Bus (Gimhae Int'l Airport → CECO)

Direction	Departure	Stops (Via)	Arrival
Airport → CECO	09:10	Jangyu-dong, Namsandong-dong, Changwon Hotel	10:05
	18:50		19:45
19:45	05:40	Namsandong-dong, Jangyu-dong	06:25
	11:30		12:15
	11:30	Changwon Hotel, Namsandong-dong, Jangyu-dong	15:15

▣ By Train(KTX)

Station	Distance / Time	Taxi Fare (USD)	City Bus Routes
Changwon Central Station	5 km / 10 min	~8	215, 220, 221
Changwon Station	6.5 km / 15 min	~9	CECO: BRT 5000, 109, 113 City 7 Mall: BRT 5000, BRT 6000, 109, 113, 710
Masan Station	9.7 km / 20 min	~13	CECO: BRT 5000, 103, 109, 113 City 7 Mall: BRT 5000, BRT 6000, 103, 109, 113, 710

▣ By Express Bus

Changwon ↔	Seoul	Daejeon / Gwangju	Daegu	Busan
Time	4 hours	4 hours	2 hours	hour

▪ Changwon Bus Terminal: 2 km (5 min by car, ~3 USD)

- City Bus: 103

Food

CITY7 MALL

Name	Mom's Touch
Menu	Hamburger
Contact	055-600-0996
Address	332, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	McDonald's
Menu	Hamburger
Contact	055-602-3800
Address	The City 7, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	Shabuall
Menu	Shabu-shabu
Contact	0507-1378-5080
Address	Room A306, 3rd Floor, City 7, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	Wonjo Ssambapjip
Menu	Ssambap (Korean wrap with rice and side dishes)
Contact	055-600-5240
Address	The City 7, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	Bon Dosirak
Menu	Rice Meal Box
Contact	0507-1496-5282
Address	Room 120, Building G, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Food

Name	Jeongjik Yubu
Menu	Rice Meal Box
Contact	0507-0289-9107
Address	Room 155, Building G, 1st Floor, The City 7, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	Hong Kong Banjeom 0410
Menu	Chinese Food
Contact	055-600-5236
Address	Jai, The City 7, 94, Changwon-daero, Seongsan-gu, Changwon-si, Gyeongnam

Name	Pizza Meokda
Menu	Pizza
Contact	055-600-5580
Address	Room W104, The City 7, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	Haru & Scoo
Menu	Pork Cutlet
Contact	055-600-5428
Address	Haru & Scoo, Changwon City 7 Branch, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	Heose Gimbap
Menu	Gimbap
Contact	0507-1445-5811
Address	Room 163, 1st Floor, Building G, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Food

	**Name**	Dalkom Gimbap
	Menu	Gimbap
	Contact	0507-1325-5592
	Address	320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam
	**Name**	Taiwan Sandwich Meijen
	Menu	Sandwich
	Contact	0507-1327-5758
	Address	Room W-144, 1st Floor, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam
	**Name**	Subaekdang
	Menu	Gukbap
	Contact	0507-1393-6099
	Address	1st Floor, Subaekdang, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam
	**Name**	Tanghwa Kungfu Malatang
	Menu	Malatang
	Contact	055-600-5950
	Address	Room 301, City 7 Mall, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam
	**Name**	Paris Baguette
	Menu	Bread
	Contact	055-600-5382
	Address	320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Food

Name	Caffe Tiamo
Menu	Coffee
Contact	0507-1449-5331
Address	Room S201, City 7 Shopping Mall, 320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	The Coffee Bean
Menu	Coffee
Contact	055-600-5361
Address	320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

Name	A Twosome Place
Menu	Coffee
Contact	055-600-5720
Address	320, Wonidaero, Seongsan-gu, Changwon-si, Gyeongnam

KCS대한화학회

대한화학회와 함께, 미래의 화학자가 됩시다.

2025년부터 대한화학회는 학부생 회원 가입을 통해 미래 화학인재들이 학회에 보다 쉽게 가입하고 학술대회에 무료로 참여할 수 있는 제도를 마련하였습니다. 이와 같은 학문 공동체와의 교류를 통해 학부생들이 화학에 대한 자부심을 함양하고 소속감을 높일 수 있도록 하며, 나아가 대학원 진학에 대한 관심과 동기를 부여하고자 합니다. 또한 학부 시절부터 학술대회를 접함으로써 학문적 이해도를 제고하고, 학회 활동에 적극 참여함으로써 대한화학회의 회원 수 증대와 학문 공동체의 저변 확대에 기여하고자 합니다. 이에 따라 회원 여러분께서도 소속 학부생들에게 본 제도를 적극 안내하여 주시고, 학회 가입과 학술대회 참여를 독려하여 주시기 바랍니다. 많은 관심과 협조 부탁드리며, 학부생들의 활발한 참여를 통해 학문 후속 세대가 한층 성장할 수 있기를 기대합니다.

대 상 화학 및 화학관련 전공 학부 재학생

목 적

1. 학문 공동체와의 교류 및 네트워크 확대
2. 화학에 대한 자부심 함양 및 소속감 고취
3. 학술대회 참여를 통한 학문적 이해도 제고
4. 회원 증대를 통한 학회 성장 기반 강화
5. 대학원 진학 및 연구 진로 탐색 기회 제공
6. 학문 후속세대 양성

연 회 비 1만원

학술대회 참가비 면제

※ 단, 학부생 회원 중 초록발표자는 연회비 50,000원 및 사전등록비 60,000원을 납부해야 합니다.

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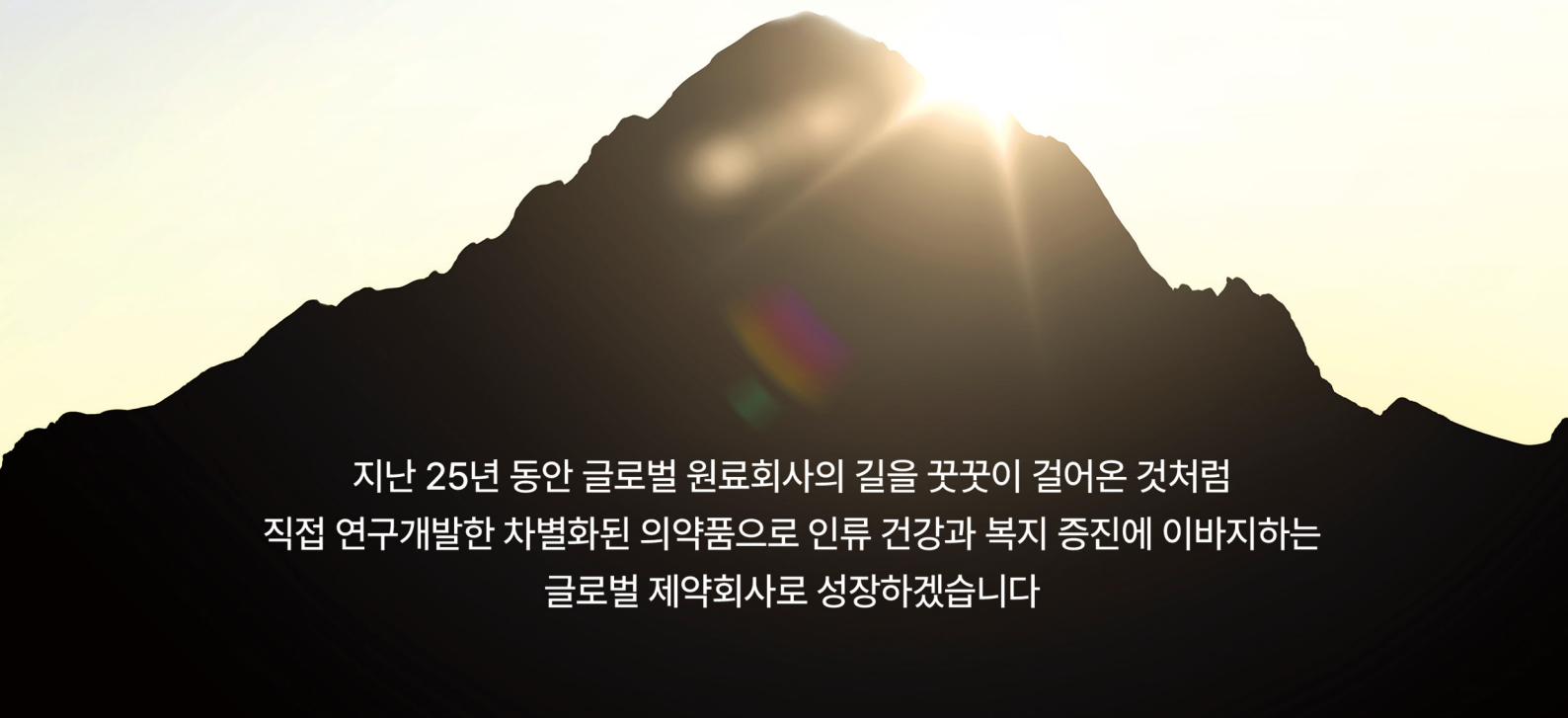
글로벌 제약기업으로 나아가겠습니다
인류 건강 증진에 기여하겠습니다

YS 생명과학



지난 25년 동안 글로벌 원료회사의 길을 꿋꿋이 걸어온 것처럼
직접 연구개발한 차별화된 의약품으로 인류 건강과 복지 증진에 이바지하는
글로벌 제약회사로 성장하겠습니다

DONGWOO FINE-CHEM

지속적인 기술 혁신을 지향하는 **동우화인켐**은

대한민국 IT산업의 중심에 서 있습니다!

디스플레이 전자 재료 및 화학 분야의

GLOBAL COMPANY

동우화인켐은 LCD, OLED 등의 필수 소재인 편광필름과 컬러필터, 터치센서, 고순도 첨단 프로세스 케미컬 등의 원천기술을 확보하고 있으며, 이를 통해 보다 나은 미래를 열어가고 있습니다.

동우화인켐은 글로벌 화학회사인 스미토모화학의 자회사이며, 핵심기술을 보유한 매출 2조원의 대기업으로서, 정보전자소재의 글로벌 리더로 성장하고 있습니다.

지속적인 연구개발과 체계적인 설비투자를 통해 차별화된 품질과 서비스를 제공하고, 회사 창립시부터 지켜온 이념인 윤리경영과 사회공헌을 바탕으로 업계 최고의 파트너, 동우화인켐으로 인정받겠습니다.

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