KCS 대한화학회
KOREAN CHEMICAL SOCIETY

Green Chemistry, Clean World!

130th
General Meeting
of the Korean Chemical Society

October 19-21, 2022, HICO Gyeongju

※ This work was supported by the Korean Federation of Science and Technology Societies (KOFST) Grant funded by the Korean Government.

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130th General Meeting
of the Korean Chemical Society

October 19-21, 2022, HICO Gyeongju

KCS 대한화학회 KOREAN CHEMICAL SOCIETY

Welcome Message

On behalf of the organizing committee, it is my great honor and pleasure to welcome all my fellow chemists and participants to the 130th General Meeting of the Korean Chemical Society (KCS) held at the Gyeongju Hwabaek International Convention Center in Oct 19 (Wed) – 21 (Fri), 2022. This will be the first KCS General Meeting held in Gyeongju, the capital of the ancient kingdom of Silla, which boasts many beautiful, historic treasures and World Heritage Sites designated by UNESCO. I believe this KCS meeting will serve as a great opportunity for Korean and international scholars from all branches of chemistry to gather and talk about new advances and innovations made in the field of chemistry.

I am pleased to announce Professor Kimoon Kim's plenary lecture at the 130th General Meeting of the KCS, entitled "How Far Can We Push the Chemical Self-assembly?". In this lecture, I believe Professor Kimoon Kim would share insights he attained serving as the Director of the IBS Center for Self-assembly and Complexity for the last 11 years. In addition, Professor Jong Hwa Jung of Gyeongsang National University will give an award lecture, entitled "Chiral Supramolecular Polymerization Accompanying a Helical Inversion and Morphology Transformation", as the recipient of this year's Ree Taikyue academic excellence award, the most prestigious award in the KCS.

In this KCS meeting, we have prepared exciting academic programs and exhibition events. There will also be a variety of special programs and social activities, which include the Tutorial session, entitled "Electrochemical Methods" and "Writing a Manuscript from title to Conclusion", the IBS Symposium organized by the Center for Molecular Spectroscopy and Dynamics, the CAU-ERC symposium on Frontiers in Nanophotonics, and the protein design symposium entitled "Chemistry and AI: Application to Biology and Medicine". In the KCS Editor's symposium, 4 distinguished editors of ACS journals will give lectures and interact with participants of this meeting. I am happy to announce that we have increased the number of poster awards with newly establishing BKCS poster award. I hope all participants get the most out of the fall KCS meeting.

I would like to take this opportunity to thank Dongwoo Fine-Chem, who has been a sponsor of the KCS for 11 years. I would also like to thank Shimadzu Scientific Korea and the Gyeongju HICO for their financial support.

Finally, I would like to extend my gratitude to all KCS members and participants to this KCS meeting. I look forward to welcoming you all in Gyeongju!

Seokmin Shin

President of the Korean Chemical Society

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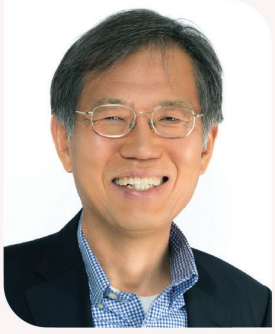
130th General Meeting of the Korean Chemical Society

KCS General Assembly

Part 1. Plenary Lecture

- October 20 (THU), 13:30-14:20
- Room 300B



Kimoon Kim

POSTECH
Center for Self-assembly and Complexity, IBS

How Far Can We Push the Chemical Self-assembly?

Part 2. General Assembly

- October 20 (THU), 14:30-15:30
- Room 300B

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Award Lecture

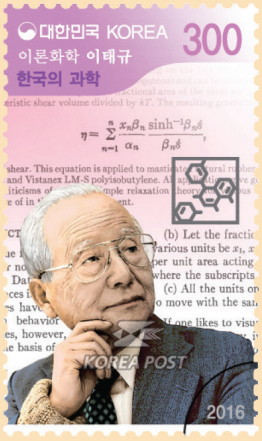
2022 Taikyue Ree Academic Award

- October 21 (FRI), 13:30-14:20
- Room 300B

Jong Hwa Jung

Gyeongsang National University

Chiral Supramolecular Polymerization Accompanying a Helical Inversion and Morphology Transformation



In 30th Anniversary of Remembrance, The Deceased Dr. Taikyue Ree, the First President of the KCS

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130th General Meeting of the Korean Chemical Society

Tutorial

- October 19 (WED), 15:00-16:50
- Room 300A

Tutorial 1

Haesik Yang

Pusan National University

Electrochemical Methods

Tutorial 2

Byung Mook Weon

Sungkyunkwan University

Writing a Manuscript from Title to Conclusion

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Protein Design Symposium

Chemistry and AI: Application to Biology and Medicine

- October 19 (WED), 13:30-17:10
- Room 203+204

Minkyung Baek
Seoul National University

Recent Advances in Predicting and Designing Protein Structures Using AI

YouHan Lee
Kakao Brain

Large-scale Language Modeling to Understand Structures and Function of Protein

Yung-Kyun Noh
Hanyang University/KIAS

Construction of Estimators for f-divergences

Seungjin Na
Hanyang University

Deep Learning-based Prediction of Peptide Properties for Proteomics

Mina Rho
Hanyang University

Self-Supervised Learning of Chemical Diversity to Predict Bioactivities

Seungyoon Nam
Gachon University

A Comprehensive Evaluation of Regression-based Drug Responsiveness Prediction Models, Using Cell Viability Inhibitory Concentrations (IC50 values)

Yoonjoo Choi
Chonnam National University

Structure-based pMHC-I Binding Prediction for Neoantigen Discovery

Woong-Hee Shin
Sunchon National University

Improving Virtual Screening for Kinase Using Multi-state Modeling with AlphaFold2

Juyong Lee
Seoul National University

Reconstruction of Lossless Molecular Representations, SMILES and SELFIES, from Fingerprints

Hahnbeom Park
KIST

Evaluating GPCR Modeling and Docking Strategies in the Era of Deep Learning-based Protein Structure Prediction

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Galux

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Laboratory Safety Education

Laboratory Safety Education for the Graduate Students and Researchers

- October 19 (WED), 14:00-16:50
- Room 206

Ik-Mo Lee
Inha University

Introduction of Laboratory Safety Law and Analysis of Laboratory Accidents

Hyoung-Yun Han
Korea Institute of Toxicology

Safety Assessment and Verification of Chemicals

ChangHo Park
Jeonbuk National University

Understanding Human Errors and Managing Safety Behavior

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130th General Meeting of the Korean Chemical Society

IBS Symposium

Frontiers in Molecular Spectroscopy and Imaging

- October 19 (WED), 13:30-17:00
- Room 300B

Kyungwon Kwak
Korea University

In-Operando Time-resolved Vibrational Spectroscopy

Junwoo Kim
Chungbuk National University

Ultrafast Time-resolved Spectroscopy Based on Asynchronous Optical Sampling with Synchronized Multiple Mode-locked Lasers

Stefan Ringe
Korea University

The Electric Double Layer in Electrochemistry: Insights from Computational Multi-scale Modeling

Jonggu Jeon
IBS

Computational Study of Ion Transport in Concentrated Aqueous Electrolytes for Li-ion Batteries

Hong-Gyu Park
Korea University

Multifunctional Optoelectronic Mesh for Deep-Brain Modulation and Mapping

Seok-Cheol Hong
Korea University

Extraordinary out of Ordinary: Interferometric Detection of Light Scattering (iSCAT) Grants Extreme Sensitivity and Fast DyNamics in Label-free Optical Microscopy

Jin-Sung Park
IBS

Interferometric Scattering (iSCAT) Microscopy Enables High-speed, Long-term, Label-free Imaging of Biological Dynamics in Living Cells

Wonshik Choi
IBS

Super-depth Optical Imaging

Sungsam Kang
IBS

Deep Optical Imaging in Complex Scattering Media Using Reflection Matrix Microscopy

Jong Min Lim
IBS

Novel Vibrational Microscopic Techniques to Overcome the Limitations in Space, Penetration Depth, and Sensitivity

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CMSD Center for Molecular Spectroscopy and Dynamics, IBS Korea University

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CAU-ERC Symposium

Frontiers in Nanophotonics-based Point-of-Care Diagnostics of COVID-19

- October 19 (WED), 13:30-16:40
- Room 300C

Sung-Gyu Park
Korea Institute of Materials Science

Ultrasensitive Label-free Molecular Detection through Enhanced Light-Matter Interactions

Hyo-Il Jung
Yonsei University

Electrochemical Biosensor for Ultra-sensitive Detection of SARS-CoV-2 via CRISPR/Cas13a Trans-cleavage Reaction

Taejoon Kang
Korea Research Institute of Bioscience and Biotechnology

CRISPR-based Diagnostics for Infectious Diseases

Min-Ho Lee
Chung-Ang University

Development of Opto-electrochemical Platform for Pathogen Detection

Sang-Woo Joo
Soongsil University

Virus-like Spiky Silica Nanoparticles for In Vitro Assays

Donghwan Kim
Sungkyunkwan University

Atomically Disordered Upconversion Materials for Bioimaging Applications

Woo June Choi
Chung-Ang Unversity

Review of Advanced Raman Microscopy

Jaebum Choo
Chung-Ang University

Nanoplasmonics-based Point-of-Care Diagnosis of COVID-19

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130th General Meeting of the Korean Chemical Society

BKCS Symposium

BKCS: The Better Future of the Korean Chemical Society

- October 20 (THU), 15:40-17:30
- Room 300B

Nak Cheon Jeong
DGIST

Future Strategy for the BKCS

Taeghwan Hyeon
Seoul National University

Designed Synthesis and Assembly of Inorganic Nanomaterials for Energy and Catalysis Applications

Jinwoo Cheon
Yonsei University

How to Design Nanoparticle Toolkits for Biomedical Innovations

Jong Seung Kim
Korea University

A Small Molecule Strategy for Targeting Cancer Stem Cells in Hypoxic Microenvironments

Minhaeng Cho
Korea University

Interference Spectroscopy and Microscopy

Myoung Soo Lah
UNIST

Spatial Modulation of Building Blocks in Metal–Organic Frameworks

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KCS Editors' Symposium

Leading Scientists in Understanding and Regulating Chemical Structures and Reactions

- October 21 (FRI), 10:10-11:55/14:30-16:50
- Room 300B

Sukbok Chang
IBS/KAIST

C-H Amidation Reactions via the Nitrenoid Transfer Pathway

F. Dean Toste
UC Berkeley

Non-Covalent Interactions in Catalysis for Organic Synthesis

Jeffrey R. Long
UC Berkeley

Cooperative Adsorption and Gas Separations in Metal–Organic Frameworks

Haw Yang
Princeton University

DNA Barcode Sorting of Valency Defined Nano-Synthons

Wonwoo Nam
Ewha Womans University

My Bucket List in Chemistry: Metal-Oxygen Intermediates in Dioxygen Activation and Formation

Christopher J. Chang
UC Berkeley

Activity-Based Sensing Approaches to Decipher Transition Metal and Single-Atom Signaling

Zhaomin Hou
RIKEN

Making Polyolefin Self-Healable by Catalyst-Controlled Microstructure Regulation

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KCS 대한화학회 KOREAN CHEMICAL SOCIETY

130th General Meeting

October 19-21, 2022, HICO Gyeongju

KCS General Assembly

October 20

Plenary Lecture

Prof. Kimoon Kim

POSTECH/ Center for Self-assembly and Complexity, IBS

Scientific Programs

Oral Session ▪ October 19-21

Special Symposium 19-21
Invited Lecture 20-21
Oral Presentation 20-21
Award Lecture 21

Poster Session ▪ October 20-21

Exhibition

October 20-21

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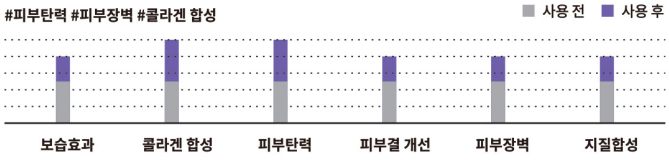
THE SCIENCE OF KOREAN BEAUTY

리얼 마이크로바이옴으로 안티에이징

STRAIN COSMAX는 피부의 생명력을 되살려 내는 Skin Recovery Real Microbiome으로
Human Microbiome에 대한 COSMAX R&I 집중연구의 결실입니다.
STRAIN COSMAX는 나이가 들면서 피부에서 감소하는
마이크로-바이옴을 보충하여 피부재생을 부스팅할 뿐 아니라 안티-에이징에 탁월한 효과를 보여줍니다.



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130th General Meeting of the Korean Chemical Society

October 19-21, 2022, HICO Gyeongju

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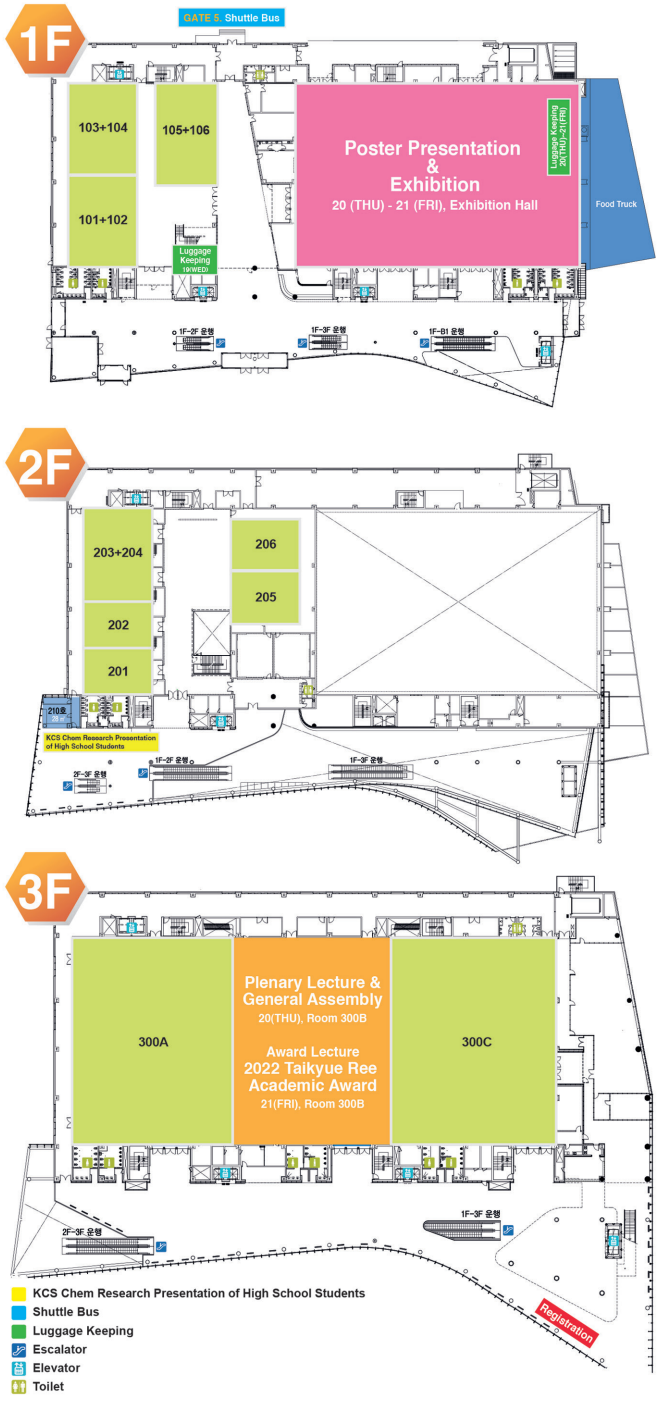
Guide Map

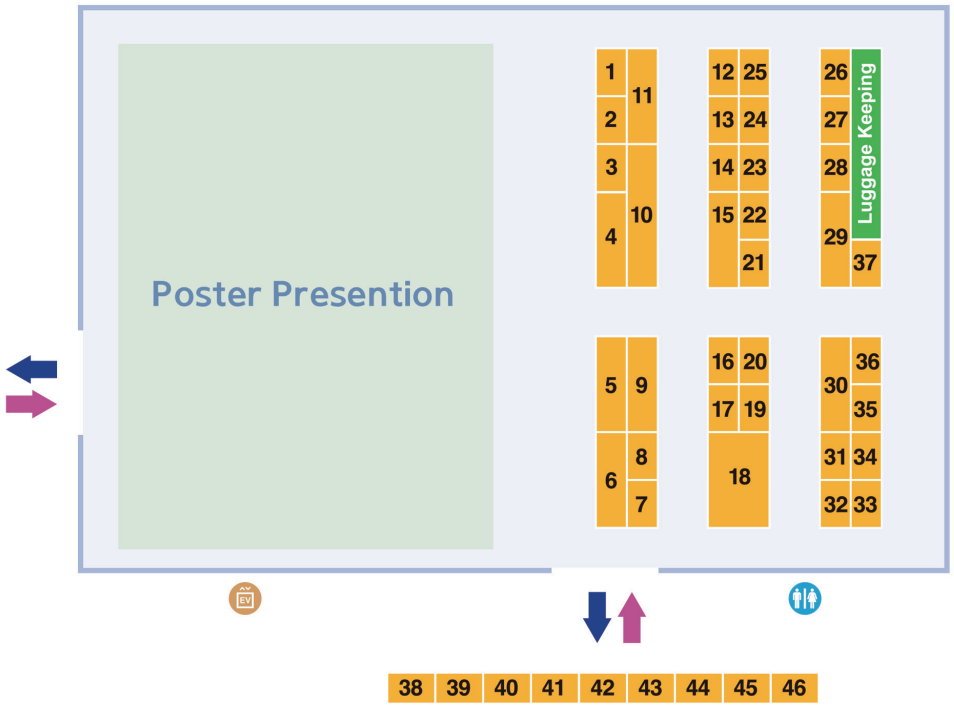


OCTOBER 19 (WED)	
203+204	Protein Design Symposium
206	Laboratory Safety Education
300A	Tutorial 1,2
300B	IBS Symposium
300C	CAU-ERC Symposium

OCTOBER 20 (THU)	
101+102	Electrochemistry
103+104	Inorganic Chemistry
105+106	Analytical Chemistry
201	Life Chemistry
202	Medicinal Chemistry
203+204	Material Chemistry
205	Polymer Chemistry
206	Environmental Energy
300A	Organic Chemistry
300B	Plenary Lecture
	General Assembly
	BKCS Symposium
300C	Physical Chemistry
Exhibition Hall	Poster Presentation 1
	Exhibition

OCTOBER 21 (FRI)	
101+102	Electrochemistry
103+104	Inorganic Chemistry
105+106	Analytical Chemistry
201+202	Joint Symposium of Life Chemistry and Medicinal Chemistry Divisions
	Special Lecture for GyeongJu Middle & High School Student
203+204	Material Chemistry
205	Polymer Chemistry
206	Chemistry Education
300A	Organic Chemistry
300B	2022 Taikyue Ree Academic Award
	KCS Editors' Symposium
300C	Physical Chemistry
Exhibition Hall	Poster Presentation 2
	Exhibition

Exhibition



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9	Thermo Fisher Scientific Korea
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DONGWOO FINE-CHEM: Next to the Registration (3F)	

Luggage Keeping Toilet Elevator

General Information

▪ Date : October 19~21, 2022
▪ Venue : HICO, Gyeongju, Korea

1. Membership and Registration Fees

Category		Membership Fees	On-site Registration Fees	
			A	B (Membership fees included)
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
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 (1F)	October 20 (THU) 11:00~13:00	Polymer Chemistry, Industrial Chemistry, Inorganic Chemistry, Life Chemistry, Organic Chemistry, Electrochemistry	09:00~11:00	15:00~16:00
	October 21 (FRI) 11:00~13:00	Physical Chemistry, Analytical Chemistry, Medicinal Chemistry, Material Chemistry, Chemistry Education Environmental Energy	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 a.m. to 12 p.m.	from 12 p.m. to 1 p.m.
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 (1F).
- 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.

▣ Poster Prizes

- Dongwoo Fine-Chem Poster Award
- BKCS Poster Award
- KCS Poster Award
- Dongwoo Fine-Chem Poster Award selected by (under)graduate students

3. KCS General Assembly and General Meetings of Divisions

▣ KCS General Assembly

October 20 (THU) 13:30~15:30, Room 300B
(Part 1. Plenary Lecture 13:30~14:20, Part 2. General Assembly 14:30~15:30)

■ KCS Awards

- Taikyue Ree Academic Award: Jong Hwa Jung (Gyeongsang National University)
- Award for the Advancement of Industry: Taek-Mo Chung (KRICT)
- Award for Excellent Chemistry Teachers: Eun-Young Choi (Korea Science Academy of KAIST)
- Award for Doctoral Dissertation:
  Minseong Kim (Yonsei University), Du San Baek (UNIST), Ye-Jin Kim (UNIST),
  Yongseok Hong (Yonsei University), Sohyun Park (Korea University), Jiyeon Han (KAIST)
- Award for CEO in Chemistry: Han Oh Park (Bioneer Corporation)
- KCS-Wiley Young Scholar Award: Jeong-Mo Choi (Pusan National University), Sunkyu Han (KAIST)
- KCS/Sigma-Aldrich Excellent Chemist Award: Tae Kyu Kim (Yonsei University), Sang Hoon Joo (UNIST)
- i-SENS Female Chemist Award: Chaok Seok (Seoul National University)
- Award for Excellent Regional Chapter: Daegu/Gyeongbuk Regional Chapter

■ General Meetings of Divisions

- Polymer Chemistry: October 20 (THU) 17:30~17:40, Room 205
- Inorganic Chemistry: October 20 (THU) 17:40~18:00, Room 103+104
- Analytical Chemistry: October 20 (THU) 17:50~18:00, Room 105+106
- Materials Chemistry: October 20 (THU) 17:30~18:00, Room 203+204
- Electrochemistry: October 20 (THU) 17:40~18:00, Room 101+102

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 Event & Poster Awarding Ceremony

Draw Date	October 20 (THU), 18:00 at Next to the Registration (3F)
	October 21 (FRI), 16:30 at Next to the Registration (3F)

- Poster Awarding Ceremony: Before Lucky Draw Event (Dongwoo Fine-Chem Poster Award/BKCS Poster Award)
- Please check the notice board on-site.

Scientific Programs and Poster Presentations

Type	Division	No.	Subject	Schedule	Code	Room No.
Plenary Lecture	KCS	1	Plenary Lecture - Prof. Kimoon Kim (POSTECH/ Center for Self-assembly and Complexity, IBS)	20 (THU) 13:30-14:20	PLEN	300B
Award Lecture	KCS	2	2022 Taikyue Ree Academic Award - Prof. Jong Hwa Jung (Gyeongsang National University)	21 (FRI) 13:30-14:20	AWARD	300B
Symposium	KCS	3	[Protein Design Symposium] Chemistry and AI: Application to Biology and Medicine	19 (Wed) 13:30-17:10	KCS1	203+204
		4	"Laboratory Safety Education for the Graduate Students and Researchers" Initiated by the Korean Chemical Society	19 (Wed) 14:00-16:50	KCS2	206
		5	[Tutorial 1] Electrochemical Methods	19 (Wed) 15:00-15:50	KCS3	300A
		5	[Tutorial 2] Writing a Manuscript from Title to Conclusion	19 (Wed) 16:00-16:50	KCS3	300A
		6	[IBS Symposium] Frontiers in Molecular Spectroscopy and Imaging	19 (Wed) 13:30-17:00	KCS4	300B
		7	[CAU-ERC Symposium] Frontiers in Nanophotonics-based Point-of-Care Diagnostics of COVID-19	19 (Wed) 13:30-16:40	KCS5	300C
		8	[BKCS Symposium] BKCS: The Better Future of the Korean Chemical Society	20 (THU) 15:40-17:30	KCS6	300B
		9	[KCS Editors' Symposium] Leading Scientists in Understanding and Regulating Chemical Structures and Reactions	21 (FRI) 10:10-11:55 21 (FRI) 14:30-16:50	KCS7	300B
	Polymer Chemistry	10	Recent Trends in Early-career Polymer Chemists	20 (THU) 15:40-17:40	POLY1	205
		11	Recent Trends in Polymer Electronics	21 (FRI) 09:00-10:50	POLY2	205
		12	Symposium by Mid-Career Polymer Chemists	21 (FRI) 14:30-16:45	POLY3	205
	Inorganic Chemistry	13	Evolution of Inorganic Chemistry	20 (THU) 15:40-18:00	INOR1	103+104
		14	Inorganic Materials and Interfaces	21 (FRI) 09:00-11:05	INOR2	103+104
		15	Chemical Industry Outlook toward Sustainable Future	21 (FRI) 14:30-16:35	INOR3	103+104
	Physical Chemistry	16	Advances in Materials and Surface Physical Chemistry	20 (THU) 15:40-17:30	PHYS1	300C
		17	Recent Advances in Biophysical Chemistry	21 (FRI) 09:00-11:00	PHYS2	300C
		18	Advances in Theoretical and Computational Chemistry	21 (FRI) 14:30-16:20	PHYS3	300C
	Analytical Chemistry	19	Grafting Analytical Technologies onto Environmental Science	20 (THU) 15:20-18:00	ANAL1	105+106
		20	Recent Trends in Electroanalytical Chemistry	21 (FRI) 14:30-16:20	ANAL2	105+106
	Life Chemistry	21	Recent Advances in Protein Chemistry	20 (THU) 15:40-17:35	LIFE1	201
	Life-Medicinal Chemistry	22	[Joint Symposium of Life Chemistry and Medicinal Chemistry Divisions] Emerging Trends in Drug Discovery	21 (FRI) 09:00-11:00	LIFE2/ MEDI2	201+202
	Organic Chemistry	23	Recent Trends in Organic Synthesis	20 (THU) 15:40-17:30	ORGN1	300A
		24	Trend Changer I: Organic Chemistry toward Our Life	21 (FRI) 09:00-11:05	ORGN2	300A
		25	Trend Changer II: Organic & Polymer Chemistry	21 (FRI) 14:30-16:20	ORGN3	300A
	Medicinal Chemistry	26	Award Lecture: Excellence in Medicinal Chemistry	20 (THU) 15:40-17:40	MEDI1	202

Type	Division	No.	Subject	Schedule	Code	Room No.
Symposium	Material Chemistry	27	Recent Trends in Materials Chemistry for Electronic Applications	20 (THU) 15:40-18:00	MAT1	203+204
		28	Recent Trends on Carbon-Neutrality in Materials Chemistry	21 (FRI) 09:00-11:10	MAT2	203+204
		29	Noble Metal Nanomaterials for Bioanalytical Applications	21 (FRI) 14:30-16:10	MAT3	203+204
	Electrochemistry	30	Recent Trends in Electrocatalysis	20 (THU) 15:40-18:00	ELEC1	101+102
		31	Recent Trends in Photoelectrochemistry	21 (FRI) 09:00-11:00	ELEC2	101+102
	Chemistry Education	32	Current Issues and Research in Chemistry Education	21 (FRI) 09:00-11:00	EDU1	206
		33	Chemistry Education for the Science Gifted Students	21 (FRI) 14:30-16:00	EDU2	206
		34	Issues in the Chemistry Field of the 2022 Revised National Science Curriculum	21 (FRI) 16:10-17:20	EDU3	206
	Environmental Energy	35	Current R&D Trends in Upcycling Waste Materials	20 (THU) 15:50-17:55	ENVR	206
Oral Presentation	Polymer Chemistry	36	Oral Presentation for Young Polymer Scientists	20 (THU) 09:00-11:00	POLY.O	205
	Inorganic Chemistry	37	Oral Presentation of Young Scholars in Inorganic Chemistry	20 (THU) 09:00-11:00	INOR.O	103+104
	Physical Chemistry	38	Oral Presentation for Young Physical Chemists	20 (THU) 09:00-11:00	PHYS.O	300C
	Analytical Chemistry	39	Oral Presentation of Young Analytical Chemists I	20 (THU) 09:00-10:50	ANAL1.O	105+106
	Analytical Chemistry	40	Oral Presentation of Young Analytical Chemists II	21 (FRI) 09:00-10:48	ANAL2.O	105+106
	Life Chemistry	41	Oral Presentation for Young Scientists in Biochemistry and Chemical Biology	20 (THU) 09:00-10:48	LIFE.O	201
	Organic Chemistry	42	Oral Presentations for Young Scholars in Organic Division	20 (THU) 09:00-11:00	ORGN.O	300A
	Medicinal Chemistry	43	Oral Presentation of Young Medicinal Chemists	20 (THU) 09:10-10:40	MEDI.O	202
	Material Chemistry	44	Oral Presentation for Young Material Chemists	20 (THU) 09:00-10:40	MAT.O	203+204
	Electrochemistry	45	Oral Presentation of Young Scholars in Electrochemistry	20 (THU) 09:00-11:00	ELEC.O	101+102
	Environmental Energy	46	General Session	20 (THU) 09:00-11:00	ENVR.O	206

Award Lecture in Division

Polymer Chemistry
- Award for Advanced Research - Kyoung Taek Kim (Seoul Nat'l Univ.) : 20 (THU) 17:05-17:30, Rm. 205

Inorganic Chemistry
- Si-Joong Kim Academic Award - Hee Cheul Choi (POSTECH) : 20 (THU) 09:40-10:10, Rm. 103+104
- Young Inorganic Chemist Award I - Hyo Jae Yoon (Korea Univ.) : 20 (THU) 10:10-10:35, Rm. 103+104
- Young Inorganic Chemist Award II - Junseong Lee (Chonnam Nat'l Univ.) : 20 (THU) 10:35-11:00, Rm. 103+104

Physical Chemistry
- Kim Myung Soo Award - Myong Yong Choi (Gyeongsang Nat'l Univ.) : 20 (THU) 15:40-16:10, Rm. 300C
- Young Physical Chemist Award - Chang Yun Son (POSTECH) : 21 (FRI) 14:30-15:00, Rm. 300C

Analytical Chemistry
- Distinguished Contribution in Analytical Technology - Jingeun Rhee (Young In ACE Co.,) : 20 (THU) 17:00-17:25, Rm.105+106
- Academic Excellence in Analytical Chemistry - Jaeick Lee (KIST) : 20 (THU) 17:25-17:50, Rm.105+106

Life Chemistry
- Dae-Sil Lee Academic Excellence Prize for Young Researchers - Woon Ju Song (Seoul Nat'l Univ.) : 20 (THU) 16:55-17:35, Rm. 201

Organic Chemistry
- Sehi Jang Award Lecture - Tae-Hyuk Kwon (UNIST) : 20 (THU) 15:40-16:10, Rm. 300A

Medicinal Chemistry
- Excellence in Medicinal Chemistry - Young-Dae Gong (Dongguk Univ.) : 20 (THU) 15:40-16:25, Rm. 202

Material Chemistry
- Jin-Ho Choy Academic Award - Sung Jin Kim (Ewha Womans Univ.) : 20 (THU) 17:00-17:30, Rm. 203+204
- Young Material Chemist Award - Jin Kuen Park (Hankuk University of Foreign Studies) : 21 (FRI) 10:40-11:10, Rm. 203+204

Electrochemistry
- i-SENS Young Electrochemist Award - Ki Min Nam (Pusan Nat'l Univ.) : 20 (THU) 17:10-17:40, Rm. 101+102

Scientific Programs and Poster Presentations

Poster Presentations

October 20 (THU) - 21 (FRI) 11:00-13:00, Exhibition Hall (1F)

- 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 a.m. to 12 p.m.	from 12 p.m. to 1 p.m.
Poster Presentation	Even Numbers	Odd numbers
Research Exchanges with Other Presenters	Odd numbers	Even Numbers

Division	No.	Code	Date
Polymer Chemistry	47	POLY.P	20 (THU) 11:00-13:00
Industrial Chemistry	48	IND.P	20 (THU) 11:00-13:00
Inorganic Chemistry	49	INOR.P	20 (THU) 11:00-13:00
Physical Chemistry	50	PHYS.P	21 (FRI) 11:00-13:00
Analytical Chemistry	51	ANAL.P	21 (FRI) 11:00-13:00
Life Chemistry	52	LIFE.P	20 (THU) 11:00-13:00
Organic Chemistry	53	ORGN.P	20 (THU) 11:00-13:00
Medicinal Chemistry	54	MEDI.P	21 (FRI) 11:00-13:00
Material Chemistry	55	MAT.P	21 (FRI) 11:00-13:00
Electrochemistry	56	ELEC.P	20 (THU) 11:00-13:00
Chemistry Education	57	EDU.P	21 (FRI) 11:00-13:00
Environmental Energy	58	ENVR.P	21 (FRI) 11:00-13:00

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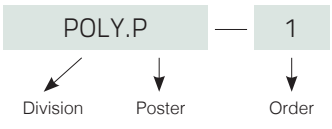
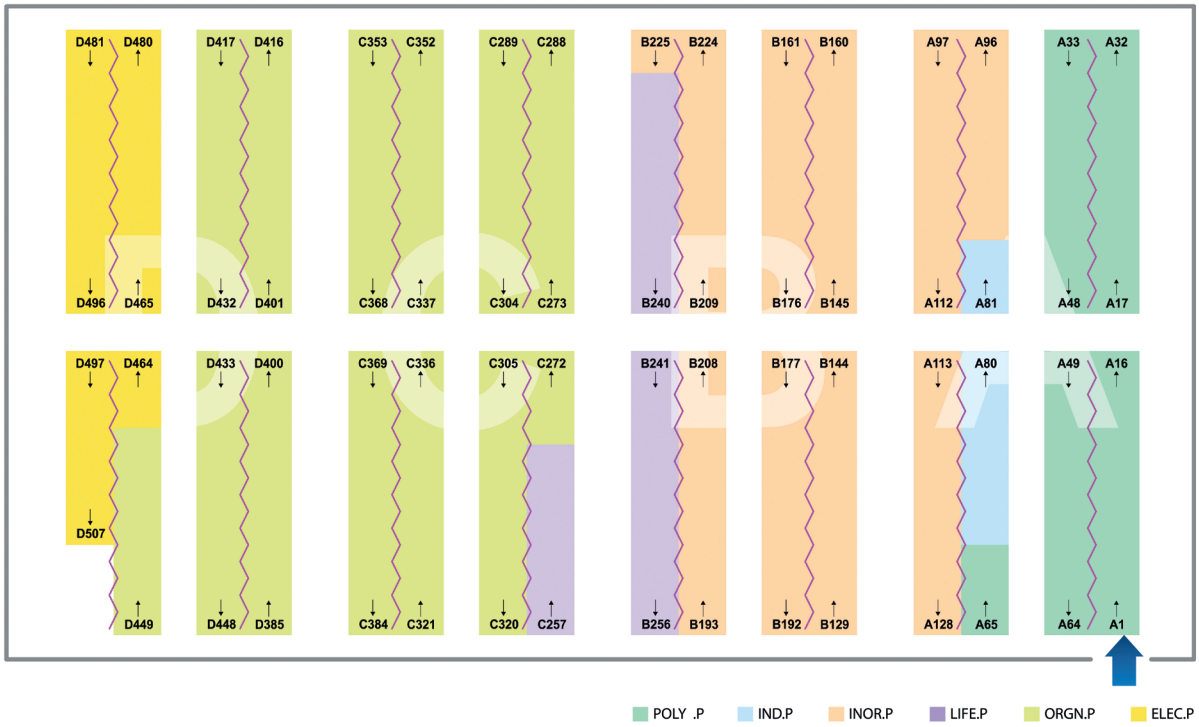
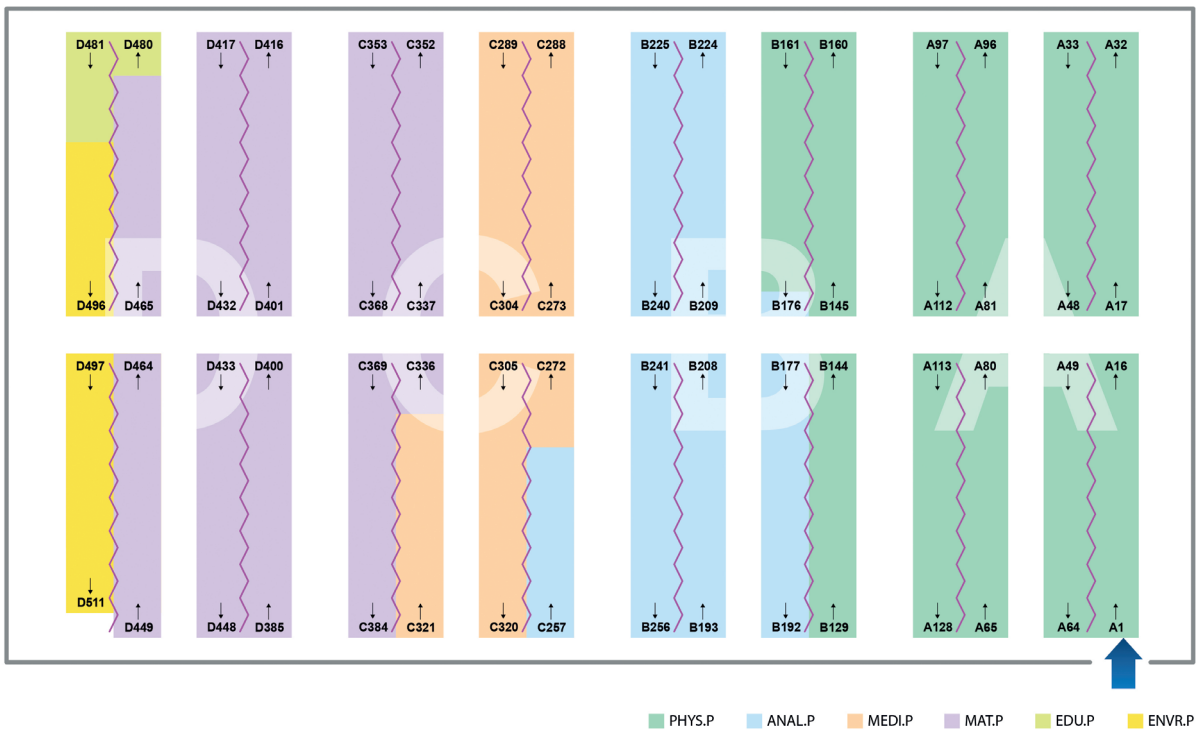


October 20 (THU) 11:00-13:00, Exhibition Hall (1F)



October 21 (FRI) 11:00-13:00, Exhibition Hall (1F)



Program Overview - October 19 (WED)

19 (WED)					
Room no.	203+204	206	300A	300B	300C
13:30					
14:00	❸ **KCS1** **Protein Design Symposium** Chemistry and AI: Application to Biology and Medicine (13:30-17:10)	❹ **KCS2** "Laboratory Safety Education for the Graduate Students and Researchers" Initiated by the Korean Chemical Society (14:00-16:50)	❺ **KCS3** **Tutorial 1** Electrochemical Methods (15:00-15:50)	❻ **KCS4** **IBS Symposium** Frontiers in Molecular Spectroscopy and Imaging (13:30-17:00)	❼ **KCS5** **CAU-ERC Symposium** Frontiers in Nanophotonics-based Point-of-Care Diagnostics of COVID-19 (13:30-16:40)
15:00					
16:00			**Tutorial 2** Writing a Manuscript from Title to Conclusion (16:00-16:50)		
17:00					

Program Overview - October 20 (THU)

20 (THU)

Room no.	101+102	103+104	105+106	201	202	203+204	205	206	300A	300B	300C	Exhibition Hall
9:00		37 **INOR.O** **Oral Presentation of Young Scholars in Inorganic Chemistry** (09:00-09:40)										
9:30	45 **ELEC.O** **Oral Presentation of Young Scholars in Electrochemistry** (09:00-11:00)	**Award Lecture: Si-Joong Kim Academic Award** Hee Cheul Choi (POSTECH) (09:40-10:10)	39 **ANAL1.O** **Oral Presentation of Young Analytical Chemists I** (09:00-10:50)	41 **LIFE.O** **Oral Presentation for Young Scientists in Biochemistry and Chemical Biology** (09:00-10:48)	43 **MEDI.O** **Oral Presentation of Young Medicinal Chemists** (09:10-10:40)	44 **MAT.O** **Oral Presentation for Young Material Chemists** (09:00-10:40)	36 **POLY.O** **Oral Presentation for Young Polymer Scientists** (09:00-11:00)	46 **ENVR.O** **General Session** (09:00-11:00)	42 **ORGN.O** **Oral Presentations for Young Scholars in Organic Division** (09:00-11:00)		38 **PHYS.O** **Oral Presentation for Young Physical Chemists** (09:00-11:00)	
10:00		**Award Lecture: Young Inorganic Chemist Award** Hyo Jae Yoon (Korea Univ.) Junseong Lee (Chonnam Nat'l Univ.) (10:10-11:00)										
10:30												
11:00	**Poster Presentation 1 (11:00-13:00) - Exhibition Hall (1F)** POLY / IND / INOR / LIFE / ORGN / ELEC								2023 Basic Research program for Researchers (NRF) (11:30–13:00) – Room 206			
13:00	**Lunch Break (13:00-13:30)**											
13:30	**KCS General Assembly - Room 300B** 1 **Part 1. Plenary Lecture (13:30-14:20) Prof. Kimoon Kim (POSTECH)** **Part 2. General Assembly (14:30-15:30)**											
15:30			19 **ANAL1** Grafting Analytical Technologies onto Environmental Science (15:20-17:00)		**Award Lecture: Excellence in Medicinal Chemistry** Young-Dae Gong (Dongguk Univ.) (15:40-16:25)				**Award Lecture: Sehi Jang Award Lecture** Tae-Hyuk Kwon (UNIST) (15:40-16:10)		**Award Lecture: Kim Myung Soo Award** Myong Yong Choi (Gyeongsang Nat'l Univ.) (15:40-16:10)	Exhibition
16:00	30 **ELEC1** Recent Trends in Electrocatalysis (15:40-17:10)			21 **LIFE1** Recent Advances in Protein Chemistry (15:40-16:55)		27 **MAT1** Recent Trends in Materials Chemistry for Electronic Applications (15:40-17:00)	10 **POLY1** Recent Trends in Early-career Polymer Chemists (15:40-17:05)					
16:30		13 **INOR1** Evolution of Inorganic Chemistry (15:40-17:40)	**Award Lecture: Distinguished Contribution in Analytical Technology** Jingeun Rhee (Young In ACE Co.) (17:00-17:25)									
17:00					26 **MEDI 1** Award Lecture: Excellence in Medicinal Chemistry (16:25-17:40)			35 **ENVR** Current R&D Trends in Upcycling Waste Materials (15:50-17:55)	23 **ORGN1** Recent Trends in Organic Synthesis (16:10-17:30)	8 **KCS6** **BKCS Symposium** BKCS: The Better Future of the Korean Chemical Society (15:40-17:30)	16 **PHYS1** Advances in Materials and Surface Physical Chemistry (16:10-17:30)	
17:30	**Award Lecture: i-SENS Young Electrochemist Award** Ki Min Nam (Pusan Nat'l Univ.) (17:10-17:40)		**Award Lecture: Academic Excellence in Analytical Chemistry** Jaeick Lee (KIST) (17:25-17:50)	**Award Lecture: Dae-Sil Lee Academic Excellence Prize for Young Researchers** Woon Ju Song (Seoul Nat'l Univ.) (16:55-17:35)		**Award Lecture: Jin-Ho Choy Academic Award** Sung Jin Kim (Ewha Womans Univ.) (17:00-17:30)	**Award Lecture: Award for Advanced Research** Kyoung Taek Kim (Seoul Nat'l Univ.) (17:05-17:30)					
18:00	Electrochemistry Division General Meeting (17:40-18:00)	Inorganic Chemistry Division General Meeting (17:40-18:00)	Analytical Chemistry Division General Meeting (17:50-18:00)			General Meeting of Materials Chemistry Division (17:30-18:00)	Polymer Chemistry Division General Meeting (17:30-17:40)					

Program Overview - October 21 (FRI)

21 (FRI)

Room no.	101+102	103+104	105+106	201+202	203+204	205	206	300A	300B	300C	Exhibition Hall
9:00					28 MAT2 Recent Trends on Carbon-Neutrality in Materials Chemistry (09:00-10:40)						
10:30	31 ELEC2 Recent Trends in Photoelectro-chemistry (09:00-11:00)	14 INOR2 Inorganic Materials and Interfaces (09:00-11:05)	40 ANAL2.O **Oral Presentation of Young Analytical Chemists II** (09:00-10:48)	22 **Joint Symposium of Life Chemistry and Medicinal Chemistry Divisions** Emerging Trends in Drug Discovery (09:00-11:00)	**Award Lecture: Young Material Chemist Award** Jin Kuen Park (Hankuk University of Foreign Studies) (10:40-11:10)	11 POLY2 Recent Trends in Polymer Electronics (09:00-10:50)	32 EDU1 Current Issues and Research in Chemistry Education (09:00-11:00)	24 ORGN2 Trend Changer I: Organic Chemistry toward Our Life (09:00-11:05)	9 KCS7 **KCS Editors' Symposium** Leading Scientists in Understanding and Regulating Chemical Structures and Reactions (10:10-11:55)	17 PHYS2 Recent Advances in Biophysical Chemistry (09:00-11:00)	
11:00	**Poster Presentation 2 (11:00-13:00) - Exhibition Hall (1F)** PHYS / ANAL / MEDI / MAT / EDU / ENVR										
13:00		**Lunch Break (13:00-13:30)**									
13:30	**KCS Chem Research Presentation of High School Students** (13:00-15:00) - 2F LOBBY	2 **2022 Taikyue Ree Academic Award (13:30-14:20) - Room 300B** **Prof. Jong Hwa Jung (Gyeongsang National University)**									
14:30									(continued) **KCS Editors' Symposium** Leading Scientists in Understanding and Regulating Chemical Structures and Reactions (14:30-16:50)	**Award Lecture: Young Physical Chemist Award** Chang Yun Son (POSTECH) (14:30-15:00)	Exhibition
15:00		15 INOR3 Chemical Industry Outlook toward Sustainable Future (14:30-16:35)	20 ANAL2 Recent Trends in Electroanalytical Chemistry (14:30-16:20)		29 MAT3 Noble Metal Nanomaterials for Bioanalytical Applications (14:30-16:10)	12 POLY3 Symposium by Mid-Career Polymer Chemists (14:30-16:45)	33 EDU2 Chemistry Education for the Science Gifted Students (14:30-16:00)	25 ORGN3 Trend Changer II: Organic & Polymer Chemistry (14:30-16:20)		18 PHYS3 Advances in Theoretical and Computational Chemistry (15:00-16:20)	
16:00							34 EDU3 Issues in the Chemistry Field of the 2022 Revised National Science Curriculum (16:10-17:20)				
16:30				**Special Lecture for GyeongJu Middle & High School Student** (16:30-18:00)							
17:00											
18:00											

Plenary Lecture

October 20 (Thu), 13:30-14:20, Room 300B

How Far Can We Push the Chemical Self-assembly?

Chair : Hoi Ri Moon (UNIST)

Prof. Kimoon Kim

Department of Chemistry, POSTECH
Center for Self-assembly and Complexity, IBS

Brief Profiles

Present / University Professor, POSTECH & Director, Center for Self-assembly and Complexity (CSC), Institute for Basic Science (IBS)

1986 / Ph.D., Chemistry, Stanford University

1976 / B.S., Chemistry, Seoul National University

Self-assembly—the process of autonomous organization of multiple components into patterns or structures without human intervention—is the fundamental principle of making up the nature and living organisms. How far can we push the chemical self-assembly? This is one of the "25 Big Questions" of future science selected by Science in its 125th anniversary issue. The Center for Self-assembly and Complexity (CSC), Institute for Basic Science (IBS) was established to address the important scientific question, and has been carrying out challenging tasks in self-assembly researches for the past decade. For example, based on molecular recognition in complex environments, we studied self-assembly of gigantic organic cages using reversible covalent bonds, self-assembly of nanostructured materials using irreversible covalent bonds, and self-assembly under out-of-equilibrium conditions using audible sound. In this lecture, I will present the recent progress and future direction of self-assembly based on our own work.

Award Lecture

2022 Taikyue Ree Academic Award

October 21 (Fri), 13:30-14:20, Room 300B

Chiral Supramolecular Polymerization Accompanying a Helical Inversion and Morphology Transformation

Chair : Taek Dong Chung (Seoul National University)

Prof. Jong Hwa Jung

Department of Chemistry,
Gyeongsang National University

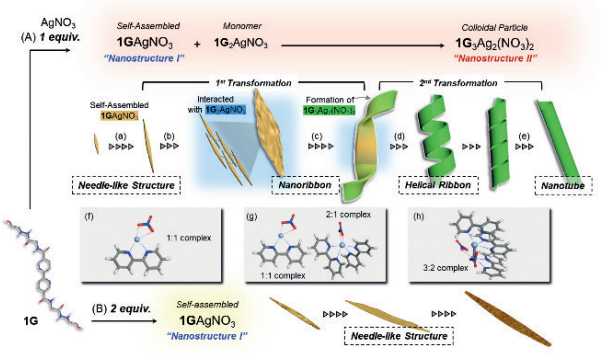
Brief Profiles

Present / Professor, Department of Chemistry, Gyeongsang National University

1993 / Ph.D. Gyeongsang National University

1989 / M.S. Gyeongsang National University

Helical motifs (e.g., DNA or proteins) are very common in many biomolecular systems, where they perform helicity inversion in many physiological processes along with specific bio-function transformations. Inspired by these biological helices and corresponding helical chirality inversion phenomenon, a plenty of chemists attempted to design smart systems with tunable helical chirality and used them for practical applications. Recently, my group has been investigated a distinctly different dynamic helix inversion mechanism of self-assembled terpyridine-based ligands with Ag^{+} or $Pt2^{+}$ and their amplifications of chirality accompanying dynamic morphology changes. The complexes with Ag^{+} formed the supramolecular polymer with the tubular structure as a thermodynamic product via the helical ribbon structure as a metastable product. The supramolecular polymers generated by a nucleation-elongation mechanism with a cooperative pathway via an on-pathway. In this symposium, I will present our recent results on the synthesis of the metal-coordinated supramolecular polymers and their helical inversion accompanying a morphology transformation.



References

1. S. G. Kang, K. Y. Kim, and J. H. Jung, Angew. Chem. Int. Ed. 2022, doi.org/10.1002/anie.202207310.
2. J. S. Oh, K. Y. Kim, J. Park, H. Lee, Y. Park, J. Cho, S. S. Lee, H. Kim, S. H. Jung, and J. H. Jung, J. Am. Chem. Soc. 2021, 143, 3113.
3. S. Lee, K. Y. Kim, S. H. Jung, J. H. Lee, M. Yamada, R. Sethy, T. Kawai, and J. H. Jung, Angew. Chem. Int. Ed. 2019, 58, 18878.
4. K. Y. Kim, J. Kim, C. J. Moon, J. Liu, S. S. Lee, M. Y. Choi, C. Feng, and J. H. Jung, Angew. Chem., Int. Ed. 2019, 58, 11709.

Scientific Programs

Symposium

KCS Symposium 1

October 19 (Wed), Room 203+204

Organizer

Chaok Seok

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

Speaker

Minkyung Baek

Present Assistant Professor, School of Biological Sciences, Seoul National University, Korea

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

2013 B.S, Department of Chemistry, Seoul National University, Korea

Youhan Lee

Present AI researcher, Kakao Brain Corp, Korea

2020 Ph.D, Department of Chemical and biomolecular engineering, Korea Advanced Institute of Science and Technology, Korea

2016 M.S, Department of Chemical and biomolecular engineering, Korea Advanced Institute of Science and Technology, Korea

Yung-Kyun Noh

Present Associate Professor, Dept. of Computer Science, Hanyang University, Korea

Present Affiliate Professor, School of Computational Sciences, KIAS, Korea

Present Research Collaborator Appointment, Mayo Clinic in Rochester, Minnesota, USA

Seungjin Na

Present Research Professor, Institute for Artificial Intelligence Research Hanyang University

2012 Ph.D. in Mechanical and Information Engineering University of Seoul, Korea

2004 B.S. in Mechanical and Information Engineering, University of Seoul, Korea

Mina Rho

Present Associate Professor, Department of Computer Science, Hanyang University, Korea

2009 Ph.D, Department of Computer Science, Indiana University, USA

2001 M.S. Department of Computer Engineering, Boston University, USA

Seungyoon Nam

2022~ present Program Committee, Asia Pacific Bioinformatics Conference

2014~ present Program Committee, IEEE International Conference on Bioinformatics & Biomedicine

Dec. 2015~ present College of Medicine, Gachon University

3. [Protein Design Symposium] Chemistry and AI: Application to Biology and Medicine

Organizer : Chaok Seok (Seoul National University)

Chair : Chaok Seok (Seoul National University)

13:30 **KCS1-1** Recent advances in predicting and designing protein structures using AI
Minkyung Baek
School of Biological Sciences, Seoul National University, Korea

13:50 **KCS1-2** Large-scale Language Modeling to Understand Structures and Function of Protein
Youhan Lee
Kakao Brain Corp., Korea

14:10 **KCS1-3** Construction of estimators for f-divergences
Yung-Kyun Noh
Hanyang University / Korea Institute for Advanced Study, Korea

14:30 Coffee Break

14:40 **KCS1-4** Deep learning-based prediction of peptide properties for proteomics
Seungjin Na
Institute for Artificial Intelligence Research, Hanyang University, Korea

15:00 **KCS1-5** Self-Supervised Learning of Chemical Diversity To Predict Bioactivities
Mina Rho
Hanyang University, Korea

15:20 **KCS1-6** A comprehensive evaluation of regression-based drug responsiveness prediction models, using cell viability inhibitory concentrations (IC50 values)
Seungyoon Nam
College of Medicine, Gachon University, Korea

15:40 **KCS1-7** Structure-based pMHC-I binding prediction for neoantigen discovery
Yoonjoo Choi
Medical School, Chonnam National University, Korea

16:00 Coffee Break

16:10 **KCS1-8** Improving virtual screening for kinase using multi-state modeling with AlphaFold2
Woong-Hee Shin
Department of Chemical Science Education, Suncheon National University, Korea

Yoonjoo Choi

Present Associate Professor, Chonnam National University Medical School

Woong-Hee Shin

Present Assistant Professor, Department of Chemical Science Education, Sunchon National University

2019 PostDoc, Department of Biological Science, Purdue University

2014 Ph.D. Department of Chemistry, Seoul National University

Juyong Lee

Present Assistant Professor, College of Pharmacy, Seoul National University, Korea

2022 Division of Chemistry and Biochemistry, Kangwon National University, Korea

2017 Visiting Fellow, NHLBI/NIH, USA

Hahnbeom Park

2021-Current Senior Researcher, Brain Science Institute, KIST

-2021 Acting Instructor, University of Washington

-2018 Post-doctoral research fellow, University of Washington

16:30 **KCS1-9** Reconstruction of lossless molecular representations, SMILES and SELFIES, from fingerprints

Juyong Lee

Department of Chemistry, Seoul National University, Korea

16:50 **KCS1-10** Evaluating GPCR modeling and docking strategies in the era of deep learning-based protein structure prediction

Hahnbeom Park

Brain Science Institute, Korea Institute of Science and Technology, Korea

Symposium

KCS Symposium 2

October 19 (Wed), Room 206

Organizer

Ik-Mo Lee

Present Emeritus Professor, Department of Chemistry, Inha University, Korea

Speaker

Hyoung-Yun Han

2021-Present Adjunct assistant professor, Human and Environmental Toxicology, University of Science and Technology (UST), Korea

2008-Present Senior Research Scientist, Korea Institute of Toxicology, Korea

2007 Research Scientist, Taisho Pharmaceutical Co., Ltd., Japan

ChangHo Park

Present Department of Psychology, Jeonbuk National University, Korea

Present Member, Professional Panel, Korean Psychological Association, Korea

2022 Director, Institute of Psychological Coaching, Jeonbuk National University, Korea

4. "Laboratory Safety Education for the Graduate Students and Researchers" Initiated by the Korean Chemical Society

Organizer : Ik-Mo Lee (Inha University)

Chair : Ik-Mo Lee (Inha University)

14:00 **KCS2-1** Introduction of Laboratory Safety Law and Analysis of Laboratory Accidents
Ik-Mo Lee
Emeritus Professor, Department of Chemistry, Inha University, Korea

14:50 Coffee Break

15:00 **KCS2-2** Safety assessment and verification of chemicals
Hyoung-Yun Han
Department of Predictive Toxicology, Korea Institute of Toxicology/Department of human and environmental toxicology, University of Science & Technology, Korea

15:50 Coffee Break

16:00 **KCS2-3** Understanding Human Errors and Managing Safety Behavior
ChangHo Park
Department of Psychology, Jeonbuk National University, Korea

Chair

Tae Kyu Kim

Present	Professor, Department of Chemistry, Yonsei University, Korea
2004	Ph.D, Department of Chemistry, KAIST, Korea
1998	B.S, Department of Chemistry, KAIST, Korea

Yunmi Lee

Present	Associate Professor, Department of Chemistry, Kwangwoon University, Korea
2013	Postdoc, Department of Chemistry and Chemical Biology, Harvard University, USA
2010	Ph.D, Department of Chemistry, Boston College, USA

Speaker

Haesik Yang

Present	Professor, Department of Chemistry, Pusan National University, Korea
1997	Ph.D., Department of Chemistry, KAIST, Korea
1992	B.S., Department of Chemistry, KAIST, Korea

Byung Mook Weon

Present	Associate Professor, School of Advanced Materials Science and Engineering, Sungkyunkwan University, Korea
2010-2013	Research Prof., Department of Materials Science, POSTECH, Korea
2008-2010	Postdoc, Department of Physics, Harvard University, USA

5. [Tutorial 1] Electrochemical Methods

Organizer : Yunmi Lee (Kwangwoon University)

Chair : Tae Kyu Kim (Yonsei University)

15:00 **KCS3-1** Electrochemical Methods
Haesik Yang
Department of Chemistry, Pusan National University, Korea

5. [Tutorial 2] Writing a Manuscript from Title to Conclusion

Chair : Yunmi Lee (Kwangwoon University)

16:00 **KCS3-2** Writing a manuscript from title to conclusion
Byung Mook Weon
School of Materials Science and Engineering, Sungkyunkwan University, Korea

Symposium

KCS Symposium 4

October 19 (Wed), Room 300B

Organizer

Wonshik Choi

2016.7-present Associate Director, IBS Center for Molecular Spectroscopy and Dynamics

2009.9-present Professor, Department of Physics, Korea University

Chair

Stefan Ringe

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

2020 Assistant Professor, Department of Energy Science & Engineering, DGIST, Korea

2017 Postdoc, Department of Chemical Engineering, Stanford University

Kyungwon Kwak

Present Professor, Department of Chemistry, Korea University, Korea

2011 Associate professor, Department of Chemisty, Chungang University, Korea

2008 Postdoc, Departemtn of Chemisty, U.C. Berkeley, USA

Seok-Cheol Hong

Present Professor, Department of Physics, Korea University

2002 Ph.D. Department of Physics, UC Berkeley, USA

1995 B. S. Department of Physics, Seoul National University

Speaker

Junwoo Kim

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

2020 Postdoctoral Researcher, Department of Chemistry, Princeton University, USA

2018 Research Fellow, Center for Molecular Spectroscopy and Dynamics, IBS, Korea

Jonggu Jeon

Present Research Professor, CMSD, IBS, Korea

2001 Ph.D. Department of Chemistry, Carnegie Mellon University, USA

1991 B.S. Department of Chemistry, Seoul National University, Korea

Hong-Gyu Park

Present Professor, Department of Physics, Korea University, Korea

6. [IBS Symposium] Frontiers in Molecular Spectroscopy and Imaging

Organizer : Wonshik Choi (IBS)

Chair : Stefan Ringe (Korea University)

13:30 **KCS4-1** In-Operando Time-resolved Vibrational Spectroscopy
Kyungwon Kwak
Department of Chemistry, Korea University, Korea

13:50 **KCS4-2** Ultrafast time-resolved spectroscopy based on asynchronous optical sampling with synchronized multiple mode-locked lasers
Junwoo Kim[*], Minhaeng Cho[1,*]
Department of Chemistry, Chungbuk National University, Korea
[1]*Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science (IBS), Korea*

Chair : Kyungwon Kwak (Korea University)

14:10 **KCS4-3** The electric double layer in electrochemistry: Insights from computational multi-scale modeling
Stefan Ringe
Chemistry, Korea University, Korea

14:30 **KCS4-4** Computational study of ion transport in concentrated aqueous electrolytes for Li-ion batteries
Jonggu Jeon[*], Minhaeng Cho[1,*]
Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science, Korea
[1]*Department of Chemistry, Korea University, Korea*

14:50 **KCS4-5** Multifunctional Optoelectronic Mesh for Deep-Brain Modulation and Mapping
Hong-Gyu Park
Department of Physics, Korea University, Korea

15:10 Coffee Break and Group Photo

Chair : Wonshik Choi (IBS)

15:20 **KCS4-6** Extraordinary out of ordinary: interferometric detection of light scattering (iSCAT) grants extreme sensitivity and fast dynamics in label-free optical microscopy.
Seok-Cheol Hong
Physics, Korea University, Korea

Jin-Sung Park

present Research Professor, IBS CMSD, Korea University

Sungsam Kang

Present Ph.D, Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science

2016 Ph.D, Laser Biomedical Research Center, Massachusetts Institute of Technology, USA

2013 Ph.D, Department of Physics, Korea University, Korea

Jong Min Lim

Present Research Fellow, IBS Center for Molecular Spectroscopy and Dynamics, Korea

2014-2017 Research Associate, Department of Oxford, University of Oxford, UK

15:40 **KCS4-7** Interferometric scattering (iSCAT) microscopy enables high-speed, long-term, label-free imaging of biological dynamics in living cells
Jin-Sung Park
IBS Center for Molecular Spectroscopy and Dynamics, Korea University, Korea

Chair : Seok-Cheol Hong (Korea University)

16:00 **KCS4-8** Super-depth optical imaging
Wonshik Choi
Department of Physics, Korea University, Korea

16:20 **KCS4-9** Deep optical imaging in complex scattering media using reflection matrix microscopy
Sungsam Kang, Wonshik Choi[1,*]
Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science, Korea
[1] *Department of Physics, Korea University, Korea*

16:40 **KCS4-10** novel vibrational microscopic techniques to overcome the limitations in space, penetration depth, and sensitivity
Jong Min Lim
Department of Chemistry, Korea University, Korea

Organizer & Chair

Jaebum Choo

2022 Vice President for Research, Chung-Ang University, Korea
2022 Director, Nanophotonics-based Biomedical Research Center (ERC), Chung-Ang University, Korea
1994 Ph.D. Department of Chemistry, Texas A&M University, USA

Donghwan Kim

Present Professor, School of Chemical Engineering, Sungkyunkwan University, Korea
2015 Asst. Professor, School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore

Hyo-Il Jung

Present Professor, Department of Mechanical Engineering, Yonsei University, Korea
Present CEO, TheDABOM Corp., Korea
2001 Ph.D, Department of Physical Biochemistry, Cambridge University, UK

Speaker

Sung-Gyu Park

Present Director, Nano-Bio Convergence Department
Ph.D. 08 Ph. D. in Chemical & Biomolecular Engineering, KAIST

Taejoon Kang

Present Principal Researcher, Bionanotechnology, KRIBB, Korea
Ph.D. Department of Chemistry, KAIST, Korea
B.S. Department of Chemistry, KAIST, Korea

Min-Ho Lee

Present Professor, School of Integrative Engineering, Chung-Ang University, Korea
2017 Managerial Researcher, Korea Electronics Technology Institute, Korea
2005 Ph.D, Bioengineering, Rice University, USA

Sang-Woo Joo

Present Professor, Department of Chemistry, Soongsil University, Korea
1996 Ph.D, Department of Chemistry, University of Chicago, USA
1991 B.S, Department of Chemistry, Seoul National University, Korea

Woo June Choi

2018-Present Associate Professor, School of Electrical and Electronics Engineering, Chung-Ang University, Korea
2013-2018 Senior Fellow, Dept. of Bioengineering, University of Washington, USA
2012-2013 Pos-Doc, Division of Scientific Instrumentation & Management, KBSI, Daejeon, Korea

7. [CAU-ERC Symposium] Frontiers in Nanophotonics-based Point-of-Care Diagnostics of COVID-19

Organizer : Jaebum Choo (Chung-Ang University)

Chair : Donghwan Kim (Sungkyunkwan University)

13:30 **KCS5-1** Symposium Introduction
Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea

13:40 **KCS5-2** Ultrasensitive Label-free Molecular Detection through Enhanced Light-Matter Interactions
Sung-Gyu Park
Nano-Bio Convergence Department, Korea Institute of Materials Science, Korea

14:00 **KCS5-3** Electrochemical biosensor for ultra-sensitive detection of SARS-CoV-2 via CRISPR/Cas13a trans-cleavage reaction
Hyo-Il Jung
School of Mechanical Engineering, Yonsei University, Korea

14:20 **KCS5-4** CRISPR-based Diagnostics for Infectious Diseases
Taejoon Kang
Bionanotechnology Research Center, Korea Research Institute of Bioscience & Biotechnology, Korea

14:40 **KCS5-5** Development of opto-electrochemical platform for pathogen detection
Min-Ho Lee
School of Integrative Engineering, Biomedical Engineering, Chung-Ang University, Korea

15:00 Coffee Break

Chair : Hyo-Il Jung (Yonsei University)

15:20 **KCS5-6** Virus-like Spiky Silica Nanoparticles for In Vitro Assays
Sang-Woo Joo
Department of Chemistry, Soongsil University, Korea

15:40 **KCS5-7** Atomically Disordered Upconversion Materials for Bioimaging Applications
Donghwan Kim
Chemical Engineering, Sungkyunkwan University, Korea

16:00 **KCS5-8** Review of advanced Raman microscopy
Woo June Choi
School of Electrical and Electronics Engineering, Chung-Ang University, Korea

16:20 **KCS5-9** Nanoplasmonics-based Point-of-Care Diagnosis of COVID-19
Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea

Organizer

Wonwoo Nam

Present Professor, Department of Chemistry and Nano Science, Ewha Womans University, Korea
1990 Ph.D, Department of Chemistry, UCLA, USA
1985 B.S, Department of Chemistry, CSULA, USA

Nak Cheon Jeong

Present Professor, Department of Physics & Chemistry, DGIST, Korea
2012 Postdoc, Department of Chemistry, Northwestern University, USA
2008 Ph.D, Department of Chemistry, Sogang University, Korea

Chair

Sun-Joon Min

Present Professor, Department of Chemical & Molecular Engineering, Hanyang University, Korea
2008 Postdoc, Department of Chemistry, Columbia University, USA
2005 Ph.D, Department of Chemistry, UCLA, USA

Sungjin Park

Present Professor, Department of Chemistry, Inha University, Korea
2014-2019 Associate Professor, Department of Chemistry, Inha University, Korea

Speaker

Taeghwan Hyeon

Present SNU Distinguished Professor, School of Chemical and Biological Engineering, Seoul National University, Korea
Director, Center for Nanoparticle Research, Institute for Basic Science (IBS)

Jinwoo Cheon

Present Professor, Department of Chemistry, Yonsei University, South Korea
Director, Institute for Basic Science (IBS) Center for Nanomedicine

Jong Seung Kim

Present Professor, Korea University, Seoul, Korea
2003 Professor, Dankook University, Seoul, Korea
1993 Ph.D. Organic Chemistry, Texas Tech University, USA

Minhaeng Cho

Present Professor, Department of Chemistry, Korea University, Korea
Director, Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science, Korea

Myoung Soo Lah

Present Professor, Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
1991 PhD, Department of Chemistry, University of Michigan, Ann Arbor, USA

8. [BKCS Symposium] BKCS: The Better Future of the Korean Chemical Society

Organizer : Wonwoo Nam (Ewha Womans University), Nak Cheon Jeong (DGIST)

Chair : Sun-Joon Min (Hanyang University)

<Opening Remarks>

15:40 **KCS6-1** Future Strategy for the BKCS
Nak Cheon Jeong
Department of Physics & Chemistry, DGIST, Korea

15:50 **KCS6-2** Designed Synthesis and Assembly of Inorganic Nanomaterials for Energy and Catalysis Applications
Taeghwan Hyeon
Division of Chemical & Biological Engineering, Seoul National University, Korea

16:10 **KCS6-3** How to design nanoparticle toolkits for biomedical innovations
Jinwoo Cheon
Department of Chemistry, Yonsei University, Korea

16:30 **KCS6-4** A Small Molecule Strategy for Targeting Cancer Stem Cells in Hypoxic Microenvironments
Jong Seung Kim
Department of Chemistry, Korea University, Korea

Chair : Sungjin Park (Inha University)

16:50 **KCS6-5** Interference spectroscopy and microscopy
Minhaeng Cho
Department of Chemistry, Korea University, Korea

17:10 **KCS6-6** Spatial Modulation of Building Blocks in Metal–Organic Frameworks
Myoung Soo Lah
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

Symposium

KCS Symposium 7

October 21 (Fri), Room 300B

Organizer

Jwa-Min Nam

Present Professor, Department of Chemistry, Seoul National University, South Korea

2004-2005 Postdoc, Department of Chesmistry, UC Berkeley, USA

2000-2004 Ph.D., Department of Chesmitry, Northwestern University, USA

Chair

Yousung Jung

Present Professor, Department of Chemical and Biomolecular Engineering, KAIST

2005 PhD, Department of Chemistry, UC Berkeley

Seong-Ju Hwang

Present Professor, Department of Materials Science and Engineering, Yonsei University, Korea

Speaker

Sukbok Chang

Present Institute for Basic Science (IBS)

Present Korea Advanced Institute of Science and Technology (KAIST)

F. Dean Toste

Present Gerald E. K. Branch Distinguished Professor, Department of Chemistry, University of California, Berkeley USA

2002 Post-doctoral Fellow, California Institute of Technology, USA

2000 PhD, Stanford University, USA

Jeffrey R. Long

Present Professor, University of California, Berkeley

2014-present Director, Center for Gas Separations

Haw Yang

Present Professor of Chemistry with Princeton University

Research Complex-system chemical dynamics, crosscutting the conventional fields of physical chemistry

Research Chemical and materials biology, and biophysics.

Wonwoo Nam

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

1990 Ph.D., Department of Chemistry, University of California, Los Angeles (UCLA), USA

1985 B.S., Department of Chemistry, California State University, Los Angeles, USA

9. [KCS Editors' Symposium] Leading Scientists in Understanding and Regulating Chemical Structures and Reactions

Organizer : Jwa-Min Nam (Seoul National University)

Chair : Jwa-Min Nam (Seoul National University)

10:10 **KCS7-1** C-H Amidation Reactions via the Nitrenoid Transfer Pathway
Sukbok Chang
Department of Chemistry, Institute for Basic Science (IBS) / Korea Advanced Institute of Science and Technology, Korea

10:45 **KCS7-2** Non-Covalent Interactions in Catalysis for Organic Synthesis
F. Dean Toste
Department of Chemistry, University of California, Berkeley, United States

11:20 **KCS7-3** Cooperative Adsorption and Gas Separations in Metal–Organic Frameworks
Jeffrey R. Long
Departments of Chemistry and Chemical and Biomolecular Engineering, University of California, Berkeley, United States

Chair : Yousung Jung (KAIST)

14:30 **KCS7-4** DNA Barcode Sorting of Valency Defined Nano-Synthons
Haw Yang
Department of Chemistry, Princeton University, United States

Chair : Seong-Ju Hwang (Yonsei University)

15:05 **KCS7-5** My Bucket List in Chemistry: Metal-Oxygen Intermediates in Dioxygen Activation and Formation
Wonwoo Nam
Department of Chemistry and Nanoscience, Ewha Womans University, Korea

Christopher J. Chang

Present	Class of 1942 Chair Professor, Dept of Chemistry and Molecular and Cell Biology, University of California, Berkeley
2002	Ph.D, Chemistry, Massachusetts Institute of Technology
1997	B.S./M.S., Chemistry, California Institute of Technology

Zhaomin Hou

Present	Deputy Director, RIKEN Center for Sustainable Resource Science; Group Director, Advanced Catalysis Research Group, RIKEN Center for Sustainable Resource Science; Chief Scientist, Organometallic Chemistry Laboratory, RIKEN Cluster for Pione
1989	Ph.D, Chemistry, Kyushu University
1982	B.S., Chemistry, Petroleum University of China

15:40 **KCS7-6** Activity-Based Sensing Approaches to Decipher Transition Metal and Single-Atom Signaling

Christopher J. Chang

Department of Chemistry and Molecular and Cell Biology, University of California, United States

16:15 **KCS7-7** Making Polyolefin Self-Healable by Catalyst-Controlled Microstructure Regulation

Zhaomin Hou

RIKEN Center for Sustainable Resource Science, Japan

Symposium

Polymer Chemistry Symposium 1
October 20 (Thu), Room 205

Organizer

Jeyoung Park

Present	Associate Professor, Dept. of Chemical and Biomolecular Engineering, Sogang University
2022	Principal Researcher, Korea Research Institute of Chemical Technology (KRICT)
2014	Researcher, Chemical R&BD Center, SK Innovation Corp.

Speaker

Jiheong Kang

2020-present	Assistant professor, Materials Science and Engineering, KAIST
2017-2019	Postdoc, Chemical Engineering, Stanford University
2012-2017	Ph.D. Chemistry and Biotechnology, The University of Tokyo

Tae Ann Kim

Present	Senior Research Scientist, Soft Hybrid Materials Research Center, KIST, Korea
2018	Ph.D, Materials Science and Engineering, UIUC, USA

Jongmin Park

Present	Senior Researcher, Advanced Functional Polymer Research Center, KRICT, Korea
2020	Post-doc., Advanced Functional Polymer Research Center, KRICT, Korea
2019	Post-doc., Research Center for Natural Science, KAIST, Korea

Kyoung Taek Kim

Present	Professor, Department of Chemistry, Seoul National University
2010	Professor, Department of Chemistry, UNIST
2006	Ph.D. Department of Chemistry, University of Toronto

10. Recent Trends in Early-career Polymer Chemists

Organizer : Jeyoung Park (Sogang University)

Chair : Jeyoung Park (Sogang University)

15:40 **POLY1-1** Multi-scale supramolecular polymerization of flexible polymer chains
Jiheong Kang
Department of Materials science and engineering, Korea Advanced Institute of Science and Technology, Korea

16:05 **POLY1-2** Mechanochromic Reactions in Diverse Polymeric Media
Tae Ann Kim
Soft Hybrid Materials Research Center, Korea Institute of Science and Technology, Korea

16:30 Coffee Break

16:40 **POLY1-3** Block Copolymer/Tannic Acid Hydrogel with Systematic Control of Mechanical Properties
Jongmin Park*, Hyungjun Kim[1], Haeshin Lee[2], Myungeun Seo[2]
Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea
[1]*Korea Advanced Institute of Science and Technology, Korea*
[2]*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

<Award Lecture: Award for Advanced Research>

17:05 **POLY1-4** Sequence-defined Polymers as Storage Media for Digital Information
Kyoung Taek Kim
Department of Chemistry, Seoul National University, Korea

17:30 Polymer Chemistry Division General Meeting

Symposium

Polymer Chemistry Symposium 2

October 21 (Fri), Room 205

Organizer

BongSoo Kim

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

2010 Postdoc, Department of Chemistry, University of California at Berkeley, USA

2008 Ph.D., Department of Chemistry, University of Minnesota at Twin Cities, USA

Speaker

Yun Hi Kim

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

Hae Jung Son

2019-Present Professor, (KU-KIST Green School) Graduate School of Energy and Environment, Korea University

2012-Present Principal Research Scientist, Advanced Photovoltaics Research Center, Korea Institute of Science and Technology (KIST)

Kyungkon Kim

2013 Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea

2012 Associate Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea

2006 Principle Researcher, KIST, Korea

Sung-Yeon Jang

Present Professor, School of Energy and Chemical Engineering, UNIST, Korea

2011 - 2019 Associate Professor, Department of Applied Chemistry, Kookmin University, Korea

2006 - 2011 Senior Researcher, Center for Energy Materials, KIST, Korea

11. Recent Trends in Polymer Electronics

Organizer : BongSoo Kim (UNIST)

Chair : BongSoo Kim (UNIST)

09:00 **POLY2-1** Design strategy of organic semiconducting materials for organic solar cell
Yun Hi Kim
Department of Chemistry, Gyeongsang National University, Korea

09:25 **POLY2-2** Conjugated polymers and nanoscale morphology for high efficiency organic solar cells
Hae Jung Son
Korea Institute of Science and Technology, Korea

09:50 Coffee Break

10:00 **POLY2-3** Immobilization of conjugated polymer domains for highly stable non-fullerene-based organic solar cell
Kyungkon Kim
Department of Chemistry and Nano Science, Ewha Womans University, Korea

10:25 **POLY2-4** Organic semiconducting materials for emerging solar cells
Sung-Yeon Jang
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea

Organizer

Min Sang Kwon

2020- Associate Professor, Department of Materials Science and Engineering, Seoul National University
2011 Ph.D., Department of Chemistry, Seoul National University
2006 B.S., Department of Materials Science and Engineering, Seoul National University

Speaker

Byeong-Su Kim

Present Professor, Department of Chemistry, Yonsei University, Korea
2009-2018 Associate Professor, Department of Chemistry, UNIST, Korea
2007-2009 Postdoctoral Research Associate, Department of Chemical Engineering, MIT, USA

Sungbaek Seo

Present Associate Professor, Department of Biomaterials Science, Pusan National University, Korea
2016 Postdoc, Materials Research Laboratory, UC Santa Barbara, USA
2014 Ph.D., Macromolecular Sci. & Eng., U of Michigan, USA

Changsik Song

Present Professor, Department of Chemistry, Sungkyunkwan University, Korea
2011 Postdoc, Department of Chemical Engineering, MIT, USA
2007 Ph.D, Department of Chemistry, MIT, USA

Jeongjae Wie

Present Associate Professor, Department of Organic and Nano Engineering, Hanyang University, Korea
2015 Postdoc, Department of Mechanical Engineering, Massachusetts Institute of Technology, USA
2013 Ph.D. Department of Chemical Engineering, University of Delaware, USA

Sun Hwa Lee

Present Senior Research Fellow/Team Leader, Center for Multidimensional Carbon Materials, Institute for Basic Science, Korea
2014 Postdoc, Department of Chemical Engineering, Massachusetts Institute of Technology, USA
2011 Ph.D., Department of Materials Science and Engineering, KAIST, Korea

12. Symposium by Mid-Career Polymer Chemists

Organizer : Min Sang Kwon (Seoul National University)

Chair : Min Sang Kwon (Seoul National University)

14:30 **POLY3-1** How Topology Affects on the Property of Polyglycerol and Its Derivatives?
Byeong-Su Kim
Department of Chemistry, Yonsei University, Korea

14:55 **POLY3-2** Phenolic molecules-mediated surface priming, coating, and coagulation
Sungbaek Seo
Biomaterials Science, Pusan National University, Korea

15:20 Coffee Break

15:30 **POLY3-3** Biomass-derived Network Polymers: Synthesis, Bond Exchange, and Functional Properties
Inhwan Cha, Byounghyun Kim, **Changsik Song**
Department of Chemistry, Sungkyunkwan University, Korea

15:55 **POLY3-4** Shape-Reconfigurable Polymers in Electronics and Energy Storage Systems
Jeongjae Wie
Hanyang University, Korea

16:20 **POLY3-5** Electrochemical Polymerization for Hyperbranched Polyhydrocarbon: Continuous Production, Structural Analysis, and Synthesis Mechanism
Sun Hwa Lee
Center for Multidimensional Carbon Materials, Institute for Basic Science, Korea

Symposium

Inorganic Chemistry Symposium 1

October 20 (Thu), Room 103+104

Organizer

Eunsung Lee

Present Associate Professor, Department of Chemistry, POSTECH, Korea

2013 Postdoc, Department of Chemistry, Harvard University, USA

2009 Ph.D, Department of Chemistry, Stanford University, USA

Speaker

Zhaomin Hou

Present Deputy Director, RIKEN Center for Sustainable Resource Science; Group Director, Advanced Catalysis Research Group, RIKEN Center for Sustainable Resource Science; Chief Scientist, Organometallic Chemistry Laboratory, RIKEN Cluster for Pioneering Research

1989 Ph.D, Chemistry, Kyushu University

Soon Hyeok Hong

Present Professor, Department of Chemistry, KAIST, Korea

2007 Ph.D., California Institute of Technology

1996 B.S., Seoul National University

Yunho Lee

2020.03-Present Associate Professor, Department of Chemistry, SNU

2015.09-2020.02 Associate Professor, Department of Chemistry, KAIST

2010.12-2015.08 Assistant Professor, Department of Chemistry, KAIST

SeungJun Hwang

Present Assistant Professor, Department of Chemistry, POSTECH

Youngmin You

Present Professor, Chemical Engineering and Materials Science, Ewha Womans University, Korea

2011 Postdoctoral Fellow, Chemistry, Massachusetts Institute of Technology, USA

2007 Ph.D., Materials Science and Engineering, Seoul National University, Korea

13. Evolution of Inorganic Chemistry

Organizer : Eunsung Lee (POSTECH)

Chair : Eunsung Lee (POSTECH)

15:40 **INOR1-1** Dinitrogen Activation and Transformation by Titanium Hydride Clusters
Zhaomin Hou
RIKEN Center for Sustainable Resource Science, Japan

16:10 **INOR1-2** Development of Highly Active Olefin Metathesis Catalysts for Sustainable Material Synthesis
Soon Hyeok Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

16:35 **INOR1-3** NOx Conversion with Nickel
Yunho Lee
Department of Chemistry, Seoul National University, Korea

17:00 **INOR1-4** Enabling Multi-electron Oxidation Reactions by Main Group- and Bimetallic- Complexes
SeungJun Hwang
Department of Chemistry, Pohang University of Science and Technology, Korea

17:20 **INOR1-5** Molecular Design Approaches to High-Efficiency Electroluminescence Applications of Au(I) Complexes
Youngmin You
Chemical Engineering and Materials Science, Ewha Womans University, Korea

17:40 Inorganic Chemistry Division General Meeting

Symposium

Inorganic Chemistry Symposium 2

October 21 (Fri), Room 103+104

Organizer

Hyo Jae Yoon

Present Associate Professor, Department of Chemistry, Korea University, Seoul, Korea

2014 Postdoc, Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, USA

2010 Ph.D., Department of Chemistry, Northwestern University, Evanston, IL, USA

Chair

Jongsik Park

Present Assistant Professor, Department of Chemistry, Kyonggi University, Korea

2019 Postdoc, Department of Chemical Engineering, The University of Texas at Austin, USA

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

Speaker

Kwangyeol Lee

Present Professor, Department of Chemistry, Korea University, Korea

2003 Postdoctoral Research Associate at KAIST

1997 Ph.D, Department of Chemistry, University of Illinois at Urbana-Champaign, USA

Hyunjoon Song

Present Professor, Department of Chemistry, KAIST

2004 Postdoc, Department of Chemistry, University of California, Berkeley

2000 Ph.D., Department of Chemistry, KAIST

Ho-Jin Son

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

2014 Postdoc, Department of Chemistry, Northwestern University, USA

2009 Ph.D, Department of Materials Chemistry, Korea University, Korea

Yun Jeong Hwang

2021-present Associate Professor, Department of Chemistry, Seoul National University, Korea

2012-2021 Researcher, Korea Institute of Science and Technology

2006-2012 Ph. D. Department of Chemistry, University of California, Berkeley, USA

Kang Mun Lee

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

2019 Assistant Professor, Department of Chemistry, Kangwon National University, Korea

2014 Professional Researcher, Samsung Advanced Institute of Technology, Korea

14. Inorganic Materials and Interfaces

Organizer : Hyo Jae Yoon (Korea University)

Chair : Jongsik Park (Kyonggi University)

09:00 **INOR2-1** Anion-engineered nanocrystals
Kwangyeol Lee
Department of Chemistry, Korea University, Korea

09:25 **INOR2-2** Metal-Tipped Semiconductor Nanorods as Versatile 1D Model Catalysts for Photocatalytic Hydrogen Generation
Hyunjoon Song
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

09:50 **INOR2-3** Inorganometallic catalyst for photochemical CO2 reduction
Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Sejong, Korea

10:15 **INOR2-4** Electrochemical CO_2 conversion to value-added chemicals for carbon neutral
Yun Jeong Hwang
Chemistry Department, Seoul National University, Korea

10:40 **INOR2-5** Relationship Between Molecular Geometry and Radiative Efficiency in *ortho*-Carboranyl Luminophores
Kang Mun Lee
Department of Chemistry, Kangwon National University, Korea

Organizer

Junhyeok Seo

Present Associate Professor, Department of Chemistry, Gwangju Institute of Science and Technology, Korea
2017 Postdoc, Department of Chemistry, The University of Texas at Austin, USA
2013 Ph.D. Department of Chemistry, Brown University, USA

Speaker

Bo Keun Park

Present Principal Researcher, Thin Film Materials Research Center,Korea Research Institute of Chemical Technology (KRICT), Korea

Ji Chan Park

Present Principal Researcher, Clean Fuel Research Laboratory, Korea Institute of Energy Research (KIER), Korea
Present Professor, Energy Engineering, University of Science and Technology (UST), Korea
2010 Ph. D., Department of Chemistry, Korea Advanced Institute of Science and Technology (KAIST), Korea

Hee Jung Lee

Present Senior Researcher, Department of Functional Composites, Korea Institute of Materials Science (KIMS), Korea

Dae-Sik Lee

Present Principal Researcher, ETRI

Sunyoung Kim

Present Platform Leader, Chemical Synthesis Platform, SK Innovation
2010 Ph.D. Department of Chemistry, Seoul National University, Seoul
2003 B.S. Department of Chemistry Education, Seoul National University, Korea

15. Chemical Industry Outlook toward Sustainable Future

Organizer : Junhyeok Seo (GIST)

Chair : Junhyeok Seo (GIST)

14:30 **INOR3-1** Precursor development and thin film deposition for the various applications
Bo Keun Park
Thin Film Materials Research Center, Korea Research Institute of Chemical Technology, Korea

14:55 **INOR3-2** Automation, Robot, and Platform Technology for Future Catalysis Informatics
Ji Chan Park
Clean Fuel Research Laboratory, Korea Institute of Energy Research, Korea

15:20 **INOR3-3** Synthesis of Functional Nanomaterials and Its Applications
Hee Jung Lee
Department of Functional Composites, Korea Institute of Materials Science (KIMS), Korea

15:45 **INOR3-4** Diet-monitoring Nano-chemical Sensors and Systems using Exhaled Breath for Mobile Healthcare
Dae-Sik Lee
Electronics and Telecommunications Research Instit, Korea

16:10 **INOR3-5** Green Technology Platform for Sustainable Future
Sunyoung Kim
SK Innovation, Korea

Organizer

Sang-Yong Ju

Present	Associate professor, Department of CHemistry, Yonsei University, Korea
2011	Postdoc, Department of Chemistry, Cornell University, USA
2008	Ph.D, Institute of Materials Science, University of Connecticut, USA

Hohjai Lee

Present	Associate Professor, Department of Chemistry, GIST
2009	PhD degree, Department of Chemistry, University of California, Berkeley
2002	Ms Degree, Department of Chemistry, Korea University

Chair

Junwoo Park

Present	Assistant Professor, Department of Chemistry, Sogang University, Korea
2021	Postdoc., Department of Chemistry and Chemical Biology, Harvard University, USA
2018	Ph.D., Program in Nano Science and Technology, Seoul National University, Korea

Speaker

Myong Yong Choi

Present	Professor, Department of Chemistry, Gyeongsang National University, Korea
2007	Posdoc., Department of Chemistry, University of Southern California, USA
2006	Ph.D., Department of Chemistry, University of North Carolina at Chapel Hill, USA

Sungho Park

Present	Professor, Department of Chemistry, Sungkyunkwan University, Korea

Jong-Man Kim

Present	Professor, Department of Chemical Engineering, Hanyang University, Korea
2000	Senior Researcher, KIST, Korea
1996	Postdoc, Department of Chemistry, UC-Berkeley, USA

Ji-Hee Kim

2019-Present	Assistant Professor, Department of Energy Science, Sungkyunkwan University, Korea
2013-2019	Research Professor, Institute for Basic Science, Center for Integrated Nanostructure Physics, Korea
2011-2013	Postdoc Research Associate, Rice University, Houston TX USA

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

16. Advances in Materials and Surface Physical Chemistry

Organizer : Sang-Yong Ju (Yonsei University), Hohjai Lee (GIST)

Chair : Eunji Sim (Yonsei University)

<Award Lecture: Kim Myung Soo Award>

15:40 **PHYS1-1** Laser photochemistry in gas phase and condensed phase
Myong Yong Choi
Department of Chemistry, Gyeongsang National University, Korea

Chair : Junwoo Park (Sogang University)

16:10 **PHYS1-2** 2-Dimensional and 3-Dimensional Hot Nanoparticles
Sungho Park
Department of Chemistry, Sungkyunkwan University, Korea

16:30 **PHYS1-3** Conjugated Polydiacetylene-Based Smart Sensors
Jong-Man Kim
Department of Chemical Engineering, Hanyang University, Korea

16:50 **PHYS1-4** Hot-carrier photovoltaics in MoS_2/Graphene heterostructures
Ji-Hee Kim
Department of Energy Science, Sungkyunkwan University, Korea

17:10 **PHYS1-5** Supramolecular assemblies of π-aromatic compounds
Woo-Dong Jang
Department of Chemistry, Yonsei University, Korea

Organizer

Duyoung Min

Present Assistant Professor, Department of Chemistry, UNIST, Korea
2019 Postdoc, Department of Chemistry & Biochemistry, UCLA, USA
2014 Ph.D., Biophysics, KAIST, Korea

Chair

Sang Hak Lee

Present Associate Professor, Department of Chemistry, Pusan National University
2018 Postdoc, Department of Physics, University of Illinois at Urbana-Champaign
2009 Ph.D., Department of Chemistry, Seoul National University

Speaker

Je-Kyung Ryu

Present Department of Physics and Astronomy, Seoul National University, Korea
2022 Research professor, Department of biological sciences, KAIST, Korea
2022 Postdoc researcher, Bionanoscience department, KAVLI Institute, TU Delft, the Netherlands

Doory Kim

Present Assistant Professor, Department of Chemistry, Hanyang University, Korea
2017 Postdoctoral Fellow, Department of Chemistry, U.C.Berkeley, USA
2015 Ph.D. Chemistry and Chemical Biology, Harvard University, USA

Won Kyu Kim

Present KIAS Assistant Professor, School of Computational Sciences, KIAS, Seoul, Korea
2012 Ph.D, Department of Physics, POSTECH, Pohang, Korea
2006 M.S, Department of Physics, POSTECH, Pohang, Korea

Jeong-Mo Choi

2020-present Assistant Professor, Department of Chemistry, Pusan National University, Korea
2016-2019 Postdoctoral associate, Department of Biomedical Engineering, Washington University in St. Louis, USA
2011-2016 Ph.D., Department of Chemistry and Chemical Biology, Harvard University, USA

Jung Ho Lee

Present Assistant Professor, Department of Chemistry, Seoul National University, Korea
2016 Postdoc, Laboratory of Chemical Physics, National Institutes of Health, USA
2013 Ph.D, Biophysics, University of Wisconsin-Madison, USA

Chae Un Kim

Present Associate Professor, Department of Physics, UNIST, Korea
2008 PhD, Biophysics, Cornell University, USA
1999 B.S., Physics, Seoul National University, Korea

17. Recent Advances in Biophysical Chemistry

Organizer : Duyoung Min (UNIST)

Chair : Duyoung Min (UNIST)

09:00 **PHYS2-1** AFM studies of condensin-mediated DNA loop extrusion
Je-Kyung Ryu*, Cees Dekker[1]
Department of Physics and Astronomy, Seoul National University, Korea
[1]Department of Bionanoscience, Kavli Institute of NanoScience, Delft University of Technology, Netherlands

09:20 **PHYS2-2** Development of Nanoscale Chemical Sensing and Imaging Techniques using Super-resolution Microscopy
Doory Kim
Department of Chemistry, Hanyang University, Korea

09:40 **PHYS2-3** Solute Permselectivity in Polymeric Membranes: from Passive to Driven Transport
Won Kyu Kim
School of Computational Sciences, Korea Institute for Advanced Study (KIAS), Korea

Chair : Sang Hak Lee (Pusan National University)

10:00 **PHYS2-4** Prediction-Driven Modulation of Amyloid Aggregation and Cytotoxicity
Jeong-Mo Choi
Department of Chemistry, Pusan National University, Korea

10:20 **PHYS2-5** Surface Accessibility of an Intrinsically Disordered Protein Probed by Combining Laser and NMR
Jung Ho Lee
Department of Chemistry, Seoul National University, Korea

10:40 **PHYS2-6** Catalytic Mechanism of a Metalloenzyme: Carbonic Anhydrase
Chae Un Kim
Physics, Ulsan National Institute of Science and Technology, Korea

Organizer

Juyong Lee

Present	Assistant Professor, College of Pharmacy, Seoul National University, Korea
2017	Assistant Professor, Department of Chemistry, Kangwon National University. Korea
2011	Ph. D., Department of Chemistry, Seoul National University

Chair

Eunji Sim

Present	Professor, Department of Chemistry, Yonsei University
2010, 2017	Visiting Professor, Department of Chemistry, University of California, Irvine
1997	Ph. D. Department of Chemistry, University of Illinois Urbana-Champaign

Woong-Hee Shin

Present	Assistant Professor, Department of Chemical Science Education, Sunchon National University
2019	PostDoc, Department of Biological Science, Purdue University
2014	Ph.D. Department of Chemistry, Seoul National University

Speaker

Chang yun Son

Present	Asst. Prof., Dept. of Chemistry, POSTECH, Korea
2017.09-2020.01	PostDoc., Dept. of Chemical Engineering, Caltech, USA
2012.09-2017.08	Ph.D., Dept. of Chemistry, University of Wisconsin-Madison, USA

Sungyul Lee

Present	Professor Emeritus, Department of Applied Chemistry, Kyung Hee University, Korea
1988	Ph.D, Department of Chemistry, University of Chicago, USA
1977	B.S., Department of Chemistry, Seoul National University, Korea

Hyonseok Hwang

1998-2003	Ph.D. in Chemistry, The University of Texas at Austin, US
2003-2007	Postdoctoral Fellow, Department of Chemistry, Northwestern University, US
2007-Present	Professor, Department of Chemistry, Kangwon National University, Korea

Jin yong Lee

Present	Professor, Department of Chemistry, Sungkyunkwan University, Korea
2002	Assistant Professor, Department of Chemistry, Chonnam National University, Korea
1997	Ph.D. Department of Chemistry, POSTECH, Korea

Hyun Woo Kim

Present	Assistant Professor, Department of Chemistry, GIST , Korea

18. Advances in Theoretical and Computational Chemistry

Organizer : Juyong Lee (Seoul National University)

Chair : Eunji Sim (Yonsei University)

<Award Lecture: Young Physical Chemist Award>

14:30 **PHYS3-1** Novel nano structures and anomalous dynamics induced by strong confinement and surface polarization
Chang yun Son
Department of Chemistry, Pohang University of Science and Technology, Korea

Chair : Woong-Hee Shin (Suncheon National University)

15:00 **PHYS3-2** Unveiling Host-Guest-Solvent Interactions in Solution by Identifying Highly Unstable Host-Guest Configurations in Thermal Non-Equilibrium Gas Phase
Sungyul Lee[*], Han Bin Oh[1,*]
Department of Applied Chemistry, Kyung Hee University, Korea
[1]*Department of Chemistry, Sogang University, Korea*

15:20 **PHYS3-3** Molecular dynamics study of the effect of membrane surface nature on the surfactant transfer
Hyonseok Hwang
Department of Chemistry, Kangwon National University, Korea

15:40 **PHYS3-4** Histidine Tautomerism on Protein Misfolding
Jin yong Lee
Department of Chemistry, Sungkyunkwan University, Korea

16:00 **PHYS3-5** Estimation of molecular properties using graph-based machine learning
Hyun Woo Kim
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

Symposium

Analytical Chemistry Symposium 1
October 20 (Thu), Room 105+106

Organizer

Dukjin Kang

Present Principal Research Scientist, Korea Research Institute of Standards and Science, Korea
2008 Ph.D, Department of Chemistry, Yonsei University, Korea
1999 B.S, Department of Chemistry, Gangneung-Wonju Nat. University, Korea

Chair

Han Bin Oh

Present Professor, Department of Chemistry, Sogang University, Korea
2001 Ph.D. Department of Chemistry, University of Toronto, Canada
1993 B.Sc. Department of Chemistry, Seoul National University, Korea

Yong-Hyeon Yim

Present Principle Research Scientist, Korea Research Institute of Standards and Science (KRISS), Korea
Present Professor, Precision Measurement, University of Science and Technology (UST), Korea
1994 Ph.D. Department of Chemistry, Seoul National University, Korea

Sangwon Cha

Present Professor, Department of Chemistry, Dongguk University, Korea
2008 Ph.D., Department of Chemistry, Iowa State University, USA
2001 M.S./B.S., Department of Chemistry, Seoul National University, Korea

Speaker

Tae-Yong Jeong

Professor Department of environmental science, Hankuk University of Foreign Studies, Korea

Junho Jeon

2014 Sep. - present Associate Prof., Dept. Environmental Engineering, CWNU
2014 Jan. - Aug Senior Researcher, National Institute of Chemical Safety, Ministry of Environment, Korea
2010 Sep. -2014 Jan. Dept. Environmental Chemistry, Swiss Federal Institute of Aquatic Science & Technology (Eawag)

19. Grafting Analytical Technologies onto Environmental Science

Organizer : Dukjin Kang (KRISS)

Chair : Han Bin Oh (Sogang University)

15:20 **ANAL1-1** Development of molecular indicators for environmental change
Tae-Yong Jeong
Department of Environmental Science, Hankuk University of Foreign Studies, Korea

Chair : Yong-Hyeon Yim (KRISS)

15:40 **ANAL1-2** Identification of environmental transformation products using suspect and non-target screening based on LC-Orbitrap
Junho Jeon
Department of Environmental Engineering, Changwon National University, Korea

16:00 **ANAL1-3** Biosensor system development for environmental monitoring
Ahjeong Son
Department of Environmental Engineering, Ewha Womans University, Korea

16:20 **ANAL1-4** Artificial Intelligence in Environmental Analysis
Han Bin Oh
Department of Chemistry, Sogang University, Korea

16:40 **ANAL1-5** Application of Neural Network to Interpret Ultrahigh Resolution Mass Spectra Obtained from Environmental Samples
Sunghwan Kim
Department of Chemistry, Kyungpook National University, Korea

Chair : Sangwon Cha (Dongguk University)

<Award Lecture: Distinguished Contribution in Analytical Technology>

17:00 **ANAL1-6** Mass Spectrometers and Research Equipment Industry of Korea
Jingeun Rhee
CEO, YOUNG IN ACE Co., Ltd, Korea

Ahjeong Son

Present	Professor and Ewha Fellow, Department of Environmental Engineering, Ewha Womans University, Korea
2006	Ph.D, Department of Civil and Environmental Engineering, University of Delaware, USA
1998	B.S, Department of Environmental Engineering, Ewha Womans University, Korea

Sunghwan Kim

2003~ 2004	Post Doc, National High Magnetic Field Laboratory, USA
2004~ 2009	Senior Researcher, KBSI
2009~ Present	Professor, Department of Chemistry, Kyungpook National University

Jingeun Rhee

Present	CEO, YOUNG IN ACE Co., Ltd., Korea
2009- 2018	CTO, Precision Biosensor Inc., Korea
2007	Ph D., Department of Physics, KAIST, Korea

Jaeick Lee

2008~ Present	Principal researcher, Doping control center, Korea Institute of Science and Technology, Korea
2004~ 2005	Postdoc., University of Texas Southwestern Medical Center at Dallas, USA
1991~ 2001	BS, MS, Ph.D, Department of Biotechnology, Yonsei university, Seoul, Korea

<Award Lecture: Academic Excellence in Analytical Chemistry>

17:25 **ANAL1-7** Ionization efficiency in LC-ESI/MS/MS analysis of small molecules
Jaeick Lee
Doping Control Center, Korea Institute of Science and Technology, Korea

17:50 Analytical Chemistry Division General Meeting

Organizer

Donghoon Han

Present Assistant Professor, Department of Chemistry, The Catholic University of Korea, Korea
2018 Postdoc, Department of Chemical & Biomolecular Engineering, University of Notre Dame, USA
2014 Ph.D, Department of Chemistry, Seoul National University, Korea

Speaker

Je Hyun Bae

Present Assistant professor, Graduate School of Analytical Science and Technology (GRAST), Chungnam National University, Korea

Ara Jo

2021-Present Assistant Professor, Department of Chemistry, Kangwon National University, South Korea
2019-2021 Postdoc, Department of Materials Science and Engineering, Northwestern University, USA (PI: Sossina
2018 Ph.D, Department of Chemistry, Ewha Womans University, South Korea (PI: Chongmok Lee)

Hongchul Lim

Present Assistant Professor, Department of Fine Chemical New Material, Sangji University, Korea
2018 Ph.D. Department of Chemistry, Seoul National University, Korea
2004 B.S. Department of Chemistry, Sangji University, Korea

Seung-Ryong Kwon

2021.03~ Present Assistant Professor, Department of Chemistry, Gyeongsang National University

20. Recent Trends in Electroanalytical Chemistry

Organizer : Donghoon Han (The Catholic University of Korea)

Chair : Donghoon Han (The Catholic University of Korea)

14:30 **ANAL2-1** Nanoporous Electrodes for Better Electroanalysis
Je Hyun Bae
Graduate School of Analytical Science and Technology (GRAST), Chungnam National University, Korea

14:55 **ANAL2-2** Electrochemical Reduction of CO_2 into CO with Ag-Zn Alloys on Polypyrrole Decorated Carbon Paper Electrode
Ara Jo
Department of Chemistry, Kangwon National University, Korea

15:20 Coffee Break

15:30 **ANAL2-3** Design and fabrication of electrode active materials based on composites incorporating carbon dots for electrochemical sensors
Hongchul Lim*, Tae Hyun Kim[1,*]
Department of Fine Chemical New Material, Sangji University, Korea
[1]*Department of Chemistry, Soonchunhyang University, Korea*

15:55 **ANAL2-4** Nanopore Electrode Arrays as an Electroanalytical Platform for Sensitive Sensing Applications
Seung-Ryong Kwon
Department of Chemistry, Gyeongsang National University, Korea

Symposium

Life Chemistry Symposium 1
October 20 (Thu), Room 201

Organizer

Yongwon Jung

Present Associate Professor, Department of Chemistry, KAIST, Korea
2005 Ph.D, Department of Chemistry, MIT, USA
1998 B.S, Department of Chemistry, KAIST, Korea

Speaker

Sebyung Kang

Present Professor, Department of Biological Sceinces, UNIST, Korea
Present Director, Center for Cell to Cell Communication in Cancers
2006 Ph.D, Department of Biochemistry & Molecular Genetics, University of Alabama at Birmingham, USA

Young-Ho Lee

Present Principal Researcher, Research Center for Bioconvergence Analysis, Korea Basic Science Institute, Korea
2012 Assistant/Associate Professor, Institute for Protein Research / Department of Chemistry, Osaka University, Japan
2008 Ph.D. Institute for Protein Research / Department of Chemistry, Osaka University, Japan

Tae Hyeon Yoo

Present Professor, Department of Molecular Science and Technology, Ajou University, Korea

Woon Ju Song

Present Associate Professor, Department of Chemistry, Seoul National University, Korea

21. Recent Advances in Protein Chemistry

Organizer : Yongwon Jung (KAIST)

Chair : Yongwon Jung (KAIST)

15:40 **LIFE1-1** Engineering Protein Cage Nanoparticles as Tunable Multifunctional Nanoplatforms for Effective Diagnosis and Therapy
Sebyung Kang
Department of Biological Sciences, Ulsan National Institute of Science and Technology, Korea

16:05 **LIFE1-2** A New Era of Protein Science: Protein Misfolding and Aggregation Causing Diseases
Young-Ho Lee
Research Center for Bioconvergence Analysis, Korea Basic Science Institute, Korea

16:30 **LIFE1-3** Development of Assay Methods Based on Proximity Proteolysis Reaction
Tae Hyeon Yoo
Department of Molecular Science and Technology, Ajou University, Korea

<Award Lecture: Dae-Sil Lee Academic Excellence Prize for Young Researchers>

16:55 **LIFE1-4** Directed evolution as a versatile tool to explore metal-dependent enzyme catalysis
Woon Ju Song
Department of Chemistry, Seoul National University, Korea

Organizer

Jiwon Seo

Present Professor, Department of Chemistry, GIST, Korea
2009 Postdoc, Stanford University, USA
2006 Ph.D. Department of Chemistry, Northwestern University, USA

Sang Min Lim

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

Chair

Byungsun Jeon

Present Senior Researcher, Brain Science Institute, Korea Institute of Science and Technology
2019 Postdoc, Department of Chemistry, University of California, Berkeley
2017 Ph. D. Department of Chemistry, The University of Texas at Austin

Speaker

Jungwook Chin

Present CSO & Co-founder, CUREVERSE Inc.
2014-2022 Senior/Principal Researcher, New Drug Development Center, KMEDIhub
2009 Ph.D. Seoul National University

Yoe-Sik Bae

Present Professor, Department of Biological Sciences, Sungkyunkwan University, Korea
2000 Ph.D. Department of Life Science, POSTECH, Korea
1996 B.Ag. Department of Animal Science & Technology, Seoul National University, Korea

Hasoon Choi

Present CTO, MagicBullet Therapeutics
2002-2021 Senior Principle Investigator/project leader, Novartis
2000-2002 Senior staff scientist, Dupont Pharmaceutial Company

Hyung Ho Lee

Present Associate Professor, Department of Chemistry, Seoul National University, Korea

22. [Joint Symposium of Life Chemistry and Medicinal Chemistry Divisions] Emerging Trends in Drug Discovery

Organizer : Jiwon Seo (GIST), Sang Min Lim (KIST)

Chair : Jiwon Seo (GIST)

09:00 **LIFE, MEDI-1** Thinking Differently about Target-based Early Drug Discovery
Jungwook Chin
CUREVERSE Inc., Korea

09:25 **LIFE, MEDI-2** Phospholipase D2 as a target to control infectious and metabolic disorders
Yoe-Sik Bae
Biological Sciences, Sungkyunkwan University, Korea

09:50 Coffee Break

Chair : Byungsun Jeon (KIST)

10:10 **LIFE, MEDI-3** First-in-class small molecule as chondrogenesis activators for cartilage regeneration
Hasoon Choi
Drug Discovery, MagicBullet Therapeutics, United States

10:35 **LIFE, MEDI-4** Unveiling crosstalk between GPCRs and ion channels mediated by Gα proteins
Hyung Ho Lee
Division of Chemistry, Seoul National University, Korea

Symposium

Organic Chemistry Symposium 1
October 20 (Thu), Room 300A

Organizer

Eun Jeong Yoo

Present	Associate Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2012-2018	Assistant Professor, Department of Chemistry, Kangwon National University, Korea
2009-2012	Post-doc, Department of Chemistry, The Scripps Research Institute, USA

Chair

Do Hyun Ryu

Present	Professor, Department of Chemistry, Sungkyunkwan University, Korea
1997	Ph.D., Department of Chemistry, KAIST, Korea
1991	B.S., Department of Chemistry, KAIST, Korea

Speaker

Tae-Hyuk Kwon

2022.09-present	Dean of the College of Natural Science, Professor, Chemistry, UNIST
2012.05-2022.08	Assistant/Associate Professor, Chemistry, UNIST
2008.03-2012.03	Postdoctoral Researcher, University of Melbourne, Australia

Cheon-Gyu Cho

Present	Professor, Department of Chemistry, Hanyang University, Korea
1996	Postdoc, Department of Chemistry, M.I.T., USA
1993	Ph.D., Department of Chemistry, The Johns Hopkins University

Seewon Joung

2022-present	Assistant Professor and Associate Professor, Department of Chemistry, Inha University, Korea
2018-2022	Assistant Professor, Department of Chemistry, Mokpo National University, Korea
2017-2018	Post-doc., Department of Chemistry, Indiana University, USA

Hun young Kim

Present	Associate Professor, Department of Global Innovative Drugs, Chung-Ang University, Korea
2008	Ph.D. Department of Chemistry, University of Pennsylvania, USA

Kiyoun Lee

Present	Associate Professor, Department of Chemistry, The Catholic University of Korea, Korea
2013-2015	Postdoc, Department of Chemistry, The Scripps Research Institute, CA, USA
2007-2012	Ph.D., Department of Chemistry, Duke University, NC, USA

23. Recent Trends in Organic Synthesis

Organizer : Eun Jeong Yoo (Kyung Hee University)

Chair : Do Hyun Ryu (Sungkyunkwan University)

<Award Lecture: Sehi Jang Award Lecture>

15:40 **ORGN1-1** Photoactive Materials
Tae-Hyuk Kwon
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

Chair : Eun Jeong Yoo (Kyung Hee University)

16:10 **ORGN1-2** The interplay of Methodology Development and Natural Product Synthesis
Cheon-Gyu Cho
Department of Chemistry, Hanyang University, Korea

16:30 **ORGN1-3** Utility of the N-silyl enamines for organic synthesis
Seewon Joung
Department of Chemistry, Inha University, Korea

16:50 **ORGN1-4** Harvesting Control Powers of Continuous Flow Chemistry in Organic Synthesis
Hun young Kim
Department of Global Innovative Drugs, Chung-Ang University, Korea

17:10 **ORGN1-5** Step-Economical Routes to γ-Butyrolactones via the Kowalski Homologation and a Nickel Carbenoid-Induced One-Carbon Homologative Lactonization
Kiyoun Lee
Department of Chemistry, The Catholic University of Korea, Korea

Organizer

Hyo Jae Yoon

Present Associate Professor, Department of Chemistry, Korea University, Seoul, Korea
2014 Postdoc, Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, USA
2010 Ph.D., Department of Chemistry, Northwestern University, Evanston, IL, USA

Chair

Woo Kyung Cho

Present Professor, Department of Chemistry, Chungnam National University, Korea
2013 Postdoc, Harvard-MIT Division of Health Sciences and Technology, MIT, USA
2008 Ph.D., Department of Chemistry, KAIST, Korea

Speaker

Kyungtae Kang

Present Associate Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2016~2022 Assistant Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2014~2016 Postdoctoral Fellow, Department of Chemistry and Chemical Biology, Harvard University, USA

Haeshin Lee

Present KAIST Endowed Chair Professor, Department of Chemistry, KAIST
2020 Associate Editor, Biomaterials Science
2007 Ph.D. Biomedical Engineering, Northwestern University, US

Young S. Park

Present Associate Professor, Department of Chemistry at UNIST, Korea
2010 Ph. D., Department of Chemistry at Columbia University, USA

Kyeng Min Park

Present Assistant Prof. Department of Biochemistry, Daegu Catholic University School of Medicine
2021 Research Fellow (group/team leader), Center for Self-assembly and Complexity, Institute for Basic Science
2009 Ph.D Department of Chemistry, POSTECH

Insung Choi

2002 Professor, Department of Chemistry, KAIST, Korea

24. Trend Changer I: Organic Chemistry toward Our Life

Organizer : Hyo Jae Yoon (Korea University)

Chair : Woo Kyung Cho (Chungnam National University)

09:00 **ORGN2-1** Chemistry of Amyloids and Catechols
Kyungtae Kang
Department of Applied Chemistry, Kyung Hee University, Korea

09:25 **ORGN2-2** Chemistry of Polyphenols: Bio-inspired Adhesion and Coating
Haeshin Lee
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

09:50 **ORGN2-3** Easy Access to Arylboron Dichloride and the Facile Synthesis of BN-containing Molecules
Young S. Park
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

10:15 **ORGN2-4** A Synthetic Organic Host Molecule as a Useful Chemical Tool For Protein Enrichment and Purification
Kyeng Min Park
Biochemistry, Daegu Catholic University School of Medicine, Korea

10:40 **ORGN2-5** Development of Chemically Intuitive Graph Neural Networks
Insung Choi
Chemistry, KAIST, Korea

Organizer

Jeung Gon Kim

Present Associate Professor, Department of Chemistry, Jeonbuk National University, Korea

2005 Ph.D. Department of Chemistry, University of Pennsylvania, USA

Chair

Cheoljae Kim

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

2014 Ph.D, Department of Chemistry, POSTECH, Korea

2008 B.S, Department of Chemistry, POSTECH, Korea

Speaker

Bun Yeoul Lee

1986-1995 Seoul National University, BS, MS, Ph.D.

1995-2000 LG Chem, Senior Scientist

2001-present professor, Ajou University

Sae Hume Park

Present Senior Research Scientist, Environment & Sustainable Resources Center, Korea Research Institute of Chemical Technology

2018 Research Associate, Department of Chemistry, The Scripps Research Institute (TSRI)

2013 Ph. D, Department of Chemistry, Korea Advanced Institute of Science & Technology (KAIST)

Gregory Peterson

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

2017 Research Professor, Department of Chemistry, Seoul National University, Korea

2015 Postdoc, Department of Polymer Science, University of Akron, United States

Moon Jeong Park

Present Professor, Department of Chemistry, POSTECH, Korea

2006 Ph.D, Department Chemical and Biological Engineering, Seoul National University, Korea

2000 B.S, Department Chemical and Biological Engineering, Seoul National University, Korea

25. Trend Changer II: Organic & Polymer Chemistry

Organizer : Jeung Gon Kim (Jeonbuk National University)

Chair : Cheoljae Kim (Chungbuk National University)

14:30 **ORGN3-1** Sustainability, polymerization, and organic synthesis
Bun Yeoul Lee
Department of Molecular Science and Technology, Ajou University, Korea

14:55 **ORGN3-2** A Facile Synthesis of Highly Efficient Green Plasticizer Using Recyclable Organocatalyst: Access to Eco-Friendly Styrene-Butadiene Rubber Composites for Tire
Sae Hume Park
Environment & Sustainable Resources Research Center, Korea Research Institute of Chemical Technology, Korea

15:20 Coffee Break

15:30 **ORGN3-3** Extending the Cascade: Cascade Metathesis Polymerizations of Sugar-Based Monomers
Antonio Rizzo, Eunsong Jung, **Gregory Peterson**[1,*], Tae-Lim Choi
Chemistry, Seoul National University, Korea
[1]*Chemistry, Incheon National University, United States*

15:55 **ORGN3-4** Bifunctional Polymer Electrolytes
Moon Jeong Park
Department of Chemistry, Pohang University of Science and Technology, Korea

Organizer

Sang Min Lim

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

Speaker

Young Dae Gong

Present-2009	Professor/Director, Dept. of Chemistry, Innovative Drug Like Library Research Center, Dongguk University, Korea
2009-1984	Researcher/Director, New Drug Platform Technology Research Center, Korea Research Institute of Chemical Technology
1995	Ph.D. Department of Chemistry, University of the Tokyo, Japan

NamSook Kang

2003~2011	KRICT
2011	CNU, professor

Taeho Lee

Present	Professor, College of Pharmacy, Kyungpook National University, Korea
2011	Senior Researcher, Division of Drug Discovery, Korea Research Institute of Chemical Technology, Korea
2005	Ph.D. College of Pharmacy, Seoul National University

Jong Yeon Hwang

Present	Principal Research Scientist, Korea Research Institute of Chemical Technology
2011	Pos-doc, Chemical Biology and Therapeutics, St. Jude Childrenu2019s Research Hospital, USA
2006	Ph.D. Department of Chemistry, Sogang University

26. Award Lecture: Excellence in Medicinal Chemistry

Organizer : Sang Min Lim (KIST)

Chair : Sang Min Lim (KIST)

<Award Lecture: Excellence in Medicinal Chemistry>

15:40 **MEDI1-1** Strategy of an Innovative Anti-cancer Agent by Massive Construction of Novel Drug-like Libraries Based on Artificial DNA Purine Base Core Skeleton
Young Dae Gong
Department of Chemistry, Dongguk University, Korea

16:25 **MEDI1-2** In silico drug discovery study using TWN
NamSook Kang
Graduate School of New Drug Discovery and Developm, Chungnam National University, Korea

16:50 **MEDI1-3** Development of Preclinical Candidate for Sepsis based on Chemical Library
Taeho Lee
Department of Pharmacy, Kyungpook National University, Korea

17:15 **MEDI1-4** Discovery of novel CRBN binder and its use in targeted protein degradation (TPD)
Jong Yeon Hwang
Korea Research Institute of Chemical Technology, Korea

Symposium

Materials Chemistry Symposium 1
October 20 (Thu), Room 203+204

Organizer

Young-Geun Ha

Present Associate Professor, Department of Chemistry, Kyonggi University, Korea
2011 Ph.D, Department of Chemistry, Northwestern University, USA

Speaker

Hyo Jae Yoon

Present Department of Chemistry, Korea University, Korea
2010 Ph.D. Department of Chemistry, Northwestern University, USA
2005 B.S. Department of Chemistry, Sogang University, Korea

Myung-Han Yoon

Present Professor, Materials Science and Egineering, GIST, Korea
2009 Postdoc., Chemistry, Harvard University, USA
2006 Ph.D., Chemistry, Northwestern University, USA

Sung gap Im

2010-present Professor, Department of Chemical and biomolecular engineering, KAIST
2009-2010 Postdoctoral researcher, Department of chemical engineering, MIT
2004-2009 Ph.D, Department of chemical engineering, MIT

Soong Ju Oh

Present Associate Professor, Department of Materials Science and Engineering, Korea University, Korea

Sung-Jin Kim

Present Professor, Department of Chemistry, Ewha Womans University
1990 Postdoc, Department of Chemistry, Texas A & M University
1989 Ph. D, Department of Chemistry, Iowa State University

27. Recent Trends in Materials Chemistry for Electronic Applications

Organizer : Young-Geun Ha (Kyonggi University)

Chair : Young-Geun Ha (Kyonggi University)

15:40 **MAT1-1** Supramolecular Solution for Molecular Electronics
Hyo Jae Yoon
Department of Chemistry, Korea University, Korea

16:00 **MAT1-2** Building Up 3D Soft Bioelectronic Interfaces Based on Conducting Polymers
Myung-Han Yoon
Division of Advanced Materials Engineering, Gwangju Institute of Science and Technology, Korea

16:20 **MAT1-3** Vapor-phase deposited functional polymer films for electronic device applications
Sung gap Im
Department of Chemical & Biomolecular Engineering , Korea Advanced Institute of Science and Technology (KAIST), Korea

16:40 **MAT1-4** Patterning and Functionalization of Nanocrystal Thin Films for Electronic and Optoelectronic Devices and Sensors
Soong Ju Oh
Materials Science and Engineering, Korea University, Korea

<Award Lecture: Jin-Ho Choy Academic Award>

17:00 **MAT1-5** Materials for renewable energy generation by waste heat or solar energy harvesting device
Sung-Jin Kim
Department of Chemistry, Ewha Womans University, Korea

17:30 General Meeting of Materials Chemistry Division

Min Hyung Lee
Kyung Hee University, Korea

Organizer

Ji-Hyun Jang

Present Professor, School of Energy and Chemical Engineering
2009 Postdoc, Materials Science and Engineering, MIT, USA
2003 Ph.D, Department of Chemistry, KAIST, Korea

Speaker

Ji-Wook Jang

Present Associate Professor, School of Energy and Chemical Engineering, UNIST, Korea
2012 Ph.D, Chemical Engineering, POSTECH, Korea
2006 B.S, Department of Chemistry, POSTECH, Korea

Tae Woo Kim

Present Principal Researcher, Korea Institute of Energy Research (KIER)
2015 Postdoc, Department of Chemistry, University of Wisconsin-Madison
2011 Ph.D, Department of Materials Science & Engineering, Yonsei University

Sang Hoon Joo

2010-Present Professor, UNIST
2007-2009 Post-doctor, UC Berkeley
2004 Ph.D. in Chemistry, KAIST

Jin Young Kim

Present Principal Staff Scientist, Hydrogen Fuel Cell Research Center, KIST, Korea
2012 Ph.D, Department of Materials Science and Engineering, MIT, USA
1998 B.S., Department of Materials Science and Engineering, KAIST, Korea

Jin Kuen Park

2020 Associate Professor, Department of Chemistry, Hankuk University of Foreign Studies, Korea
2014 Assistant Professor, Department of Chemistry, Hankuk University of Foreign Studies, Korea

28. Recent Trends on Carbon-Neutrality in Materials Chemistry

Organizer : Ji-Hyun Jang (UNIST)

Chair : Ji-Hyun Jang (UNIST)

09:00 **MAT2-1** Key strategies to advance the performance of photoelectrochemical H_2 and H_2O_2 production
Ji-Wook Jang
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), Korea

09:25 **MAT2-2** Current Level of High Temperature Solid Oxide Electrolysis Technologies Conducted at KIER: Transition from SOEC to PCEC
Tae Woo Kim
High Temperature Energy Conversion Laboratory, Korea Institute of Energy Research, Korea

09:50 **MAT2-3** Steering Catalytic Selectivity of Energy Conversion and Commodity Chemical Production Reactions by Atomically Dispersed Metal Electrocatalysts
Sang Hoon Joo
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

10:15 **MAT2-4** Materials Interface Engineering for Membrane-Electrode-Assembly from Hydrogen Fuel Cell to Water Electrolyzer
Jin Young Kim
Hydrogen Fuel Cell Research Center, Korea Institute of Science and Technology, Korea

<Award Lecture: Young Material Chemist Award>

10:40 **MAT2-5** Methods for Controlling Properties and Functions of Organic Two Dimensional Materials
Jin Kuen Park
Department of Chemistry, Hankuk University of Foreign Studies, Korea

Symposium

Materials Chemistry Symposium 3

October 21 (Fri), Room 203+204

Organizer

Jae-Seung Lee

Present	Professor, Department of Materials Science and Engineering, Korea University, Korea
2008	Ph.D., Department of Chemistry, Northwestern University, USA
2004	B.S. Department of Chemistry, KAIST, Korea

Speaker

Inhee Choi

Present	Associate Professor, Department of Life Science, Chemistry, University of Seoul, Korea
2014	Postdoc, Bioengineering, University of California at Berkeley, USA
2011	Postdoc, Mechanical engineering, Cornell University, USA

Jeong-Wook Oh

Present	Assistant Professor, Department of Chemistry, Hankuk University of Foreign Studies (HUFS), Korea
2020	Research Professor, Department of Chemistry, Seoul National University, Korea
2009	Ph.D., Department of Chemistry, Seoul National University, Korea

Hyojin Lee

2018~ Present	Senior Researcher, KIST, Korea
2018~ Present	Associate Professor, KIST School
2013~ 2015	Post-Doc Northwestern University

Eun-Ah You

Present	Principal Research Scientist/ Team Leader, KRISS, Korea
2013	Manager, LG Chem Research Park
2012	Ph.D., Dept. of Chemistry, Northwestern University, USA

29. Noble Metal Nanomaterials for Bioanalytical Applications

Organizer : Jae-Seung Lee (Korea University)

Chair : Jae-Seung Lee (Korea University)

14:30 **MAT3-1** Plasmonic Nanostructures for Biomolecular Sensing and Cellular Imaging
Inhee Choi
Department of Life Science, University of Seoul, Korea

14:55 **MAT3-2** Plasmonic nanogap-mediated nanobiosensors
Jeong-Wook Oh
Department of Chemistry, Hankuk University of Foreign Studies, Korea

15:20 **MAT3-3** Bio-inspired inorganic nanomaterials for healthcare
Hyojin Lee
Biomaterials Research Center, Korea Institute of Science and Technology, Korea

15:45 **MAT3-4** Single-Nanoparticle-Based Digital SERS Sensing Platform for Disease Biomarker Detection
Eun-Ah You
Nanobiosensor Team, Korea Research Institute of Standards and Science (KRISS), Korea

Symposium

Electrochemistry Symposium 1

October 20 (Thu), Room 101+102

Organizer

Donghoon Han

Present Assistant Professor, Department of Chemistry, The Catholic University of Korea, Korea

2018 Postdoc, Department of Chemical & Biomolecular Engineering, University of Notre Dame, USA

2014 Ph.D, Department of Chemistry, Seoul National University, Korea

Chair

Joohoon Kim

Present Professor, Department of Chemistry, Kyung Hee University, Korea

2009 PostDoc, Department of Chemistry, The University of Chicago, USA

2007 Ph.D., Department of Chemistry, The University of Texas at Austin, USA

Speaker

Seunghwa Lee

Present Assistant Professor, Department of Chemical Engineering, Changwon National University, Korea

2022 Postdoc, Department of Chemistry and Chemical Engineering, EPFL, Switzerland

2017 Ph.D., School of Environmental Science and Engineering, GIST, Korea

Sungyool Bong

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

2020-2022 Research Associate Professor, School of Earth Sciences and Environmental Engineering, GIST, Korea

2019-2020 Postdoctoral Research Associate, Department of Mechanical Engineering, Worcester Polytechnic Institute, USA

Myeongjin Kim

present Assistant Professor, Department of Hydrogen & Renewable Energy, Kyungpook National University

Yang-Rae Kim

present Associate professor, Department of Chemistry, Kwangwoon University, Korea

2010 Ph.D, Department of Chemistry, Seoul National University, Korea

2004 B.S, Department of Chemistry Education, Seoul National University, Korea

Ki Min Nam

Present Associate Professor, Department of Chemistry, Pusan National University, Korea

2014 Posdoc, Department of Chemistry, The University of Texas at Austin, USA

2011 Ph.D., Department of Chemistry, KAIST, Korea

30. Recent Trends in Electrocatalysis

Organizer : Donghoon Han (The Catholic University of Korea)

Chair : Donghoon Han (The Catholic University of Korea)

15:40 **ELEC1-1** Mechanistic study of the oxygen evolution reaction on a cobalt oxyhydroxide in alkaline medium using in-situ spectroscopic techniques
Seunghwa Lee
Department of Chemical Engineering, Changwon National University, Korea

16:00 **ELEC1-2** Role of Interstitial Boron in Formate Oxidation of a Boron-Palladium Catalyst in an Alkaline Direct Formate Fuel Cell
Sungyool Bong
Chemistry Education, Kongju National University, Korea

16:20 **ELEC1-3** Enhanced Oxygen Evolution Reaction Activity by Self-Reconstruction of Nickel Nanoparticles on Pyrochlore Oxide Support
Myeongjin Kim
Department of Hydrogen & Renewable Energy, Kyungpook National University, Korea

16:40 **ELEC1-4** Nickel oxide nanocup array for efficient oxygen evolution reaction
Yang-Rae Kim
Department of Chemistry, Kwangwoon University, Korea

17:00 Coffee Break

Chair : Joohoon Kim (Kyung Hee University)

<Award Lecture: i-SENS Young Electrochemist Award>

17:10 **ELEC1-5** Electrochemical water splitting and alternative reactions
Ki Min Nam
Department of Chemistry, Pusan National University, Korea

17:40 Electrochemistry Division General Meeting

Organizer

Sung Yul Lim

Present	Assistant Professor, Department of Chemistry, Kyung Hee University, Korea
2016	Ph.D, Department of Chemistry, Seoul National University, Korea
2009	B.S, Department of Chemistry, Seoul National University, Korea

Speaker

Uk Sim

2022.03-present	Associate Professor, School of Energy technology, Korea Institue of Energy Technology (KENTECH), Rep. of Korea
2017.08-2022.02	Associate/Assistant Professor, Dept. of Materials Science & Engineering, Chonnam National University, Rep. of Korea
2016-2017	Postdoctoral Scholar, Dept. of Chemical Engineering, Stanford University, USA

Je Hyun Bae

Present	Assistant professor, Graduate School of Analytical Science and Technology (GRAST), Chungnam National University, Korea

Ki Min Nam

Present	Associate Professor, Department of Chemistry, Pusan National University, Korea
2014	Posdoc, Department of Chemistry and Biochemistry, The University of Texas at Austin, USA
2011	Ph.D, Department of Chemistry, Korea Advanced Institute of Science and Technology

Jin Ho Bang

Present	Professor, Department of Chemical & Molecular Engineering, Hanyang University, Korea
2008	Ph.D., Department of Chemistry, University of Illinois at Urbana-Champaign, USA
1999	B.S., Department of Chemistry Education, Seoul National University, Korea

31. Recent Trends in Photoelectrochemistry

Organizer : Sung Yul Lim (Kyung Hee University)

Chair : Sung Yul Lim (Kyung Hee University)

09:00 **ELEC2-1** Expanded solar absorption spectrum to improve photoelectrochemical oxygen evolution reaction: Synergistic effect of upconversion nanoparticles and ZnFe2O4/TiO2
Uk Sim
School of Energy Technology, Korea Institute of Energy Technology, Korea

09:25 **ELEC2-2** Nanoelectrochemical Approaches to Photoelectrochemistry
Je Hyun Bae
Graduate School of Analytical Science and Technology (GRAST), Chungnam National University, Korea

09:50 Coffee Break

10:10 **ELEC2-3** A study on the role of electrocatalysts for photoelectrochemical water splitting
Ki Min Nam
Department of Chemistry, Pusan National University, Korea

10:35 **ELEC2-4** Photoelectrochemistry of Metal Nanoclusters: What Makes Them Special?
Jin Ho Bang
Department of Chemical & Molecular Engineering, Department of Applied Chemistry, Hanyang University, Korea

Symposium

Chemistry Education Symposium 1
October 21 (Fri), Room 206

Organizer

Heejun Lim

Preseon Professor, Department of Science Education, Gyeongin National University of Education, Korea
1998 Ph.D. Department of Science Education, Seoul National University, Korea
1993 B.S. Department of Chemistry Education, Seoul National University, Korea

Speaker

Hyun-Ju Park

Present Professor, Department of Chemistry Education, Chosun University, Korea
Present Dean, College of General Education, Chosun University, Korea
Ph.D. Science Education, University of Wisconsin-Madison, USA

Jeongho Cha

Present Professor, Department of Chemistry Education, Daegu University, Korea
2005 Ph.D., Department of Chemistry Education, Seoul National University, Korea

Jihun Park

Present Lecturer, Department of Chemistry, Pusan National University, Korea
2018 Ph. D, Department of Chemistry, Pusan National University, Korea

Jongseok Park

Present Professor, Department of Chemistry Education, Kyungpook National University

Suk Kyoung Seong

Present Teacher, Seoul Science High school, Korea

32. Current Issues and Research in Chemistry Education

Organizer : Heejun Lim (Gyeongin National University of Education)

Chair : Heejun Lim (Gyeongin National University of Education)

09:00 **EDU1-1** Stir Teachers' Sensibility Towards Future Education: Support and Burden
Hyun-Ju Park, Heejun Lim[1,*]
Faculty of Chemistry Education, Chosun University, Korea
[1]*General Science Education, Gyeongin National University of Education, Korea*

09:20 **EDU1-2** Online science inquiry in the post-Covid era
Jeongho Cha
Department of Chemistry Education, Daegu University, Korea

09:40 **EDU1-3** The direction of education for science teacher
Jihun Park, Jeonghee Nam[1,*]
Department of Chemistry Education, Pusan National University, Korea
[1]*Department of Chemical Education, Pusan National University, Korea*

10:00 Coffee Break

10:20 **EDU1-4** Direction and Orientation of future chemistry education
Jongseok Park
Department of Chemistry Education, Kyungpook National University, Korea

10:40 **EDU1-5** Subjects and classes at gifted schools
Suk Kyoung Seong
Seoul Science High School, Korea

Organizer

Eun-Young Choi

Present Teacher, Department of Chem-Bio, Korea Science Academy of KAIST, Korea
Present Affiliate Professor, Department of Chemistry, KAIST, Korea
2008 BK Research Professor, Department of Molecular Science and Technology, Ajou University, Korea

Speaker

Man-Seog Chun

present Teacher, Department of Chemistry and Biology, Korea
2003 Ph.D. Department of Chemistry, SNU, Korea
1988 Researcher, analytical center, LG chem. Korea

Geunyu Kim

Present Teacher, Seoul Science Highschool
2008 Ph.D. Department of Chemistry, Seoul National University
1994 BS. Department of Chemistry Education, Seoul National University

Arram You

Present Teacher, Gyeonggi Science High School, Korea
2014 M.S., Department of Gifted Education, Ewha Womans University, Korea

Jihun Park

present Lecturer, Department of Chemistry Education, Pusan National University, Korea
present Teacher, Busan Science High School, Korea
2017 Teacher, Busanil Science High School, Korea

33. Chemistry Education for the Science Gifted Students

Organizer : Eun-Young Choi (Korea Science Academy of KAIST)

Chair : Eun-Young Choi (Korea Science Academy of KAIST)

14:30 **EDU2-1** students oriented and project based analytical chemistry class in Korea Science Academy
Man-Seog Chun
Chemistry, Korea Science Academy of KAIST, Korea

14:50 **EDU2-2** Development and application of achievement standards for gifted school research activity evaluation
Geunyu Kim
Department of Chemistry, Seoul Science High School, Korea

15:10 Coffee Break

15:20 **EDU2-3** Learning chemical concepts through concept map and discussion
Arram You, Aeran Choi[1,*]
Gyeonggi Science High School, Korea
[1] *Department of Science Education, Ewha Womans University, Korea*

15:40 **EDU2-4** The presentation of the cases of research activities of information and science convergence utilizing the regional features of Busan and metaverse
Jihun Park
Department of Chemistry Education, Pusan National University, Korea

Organizer

Hyun-Ju Park

Present Professor, Department of Chemistry Education, Chosun University, Korea
Present Dean, College of General Education, Chosun University, Korea
Ph.D. Science Education, University of Wisconsin-Madison, USA

Speaker

Hyunjung Kim

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

Jongho Baek

Present Korea Institute for Curriculum & Evaluation

Dae Hong Jeong

Present Professor, Department of Chemistry Education, Seoul National University, Korea
2010-Current Editor in School Science Journal
2020-2022 Researcher in National Curriculum Revision

34. Issues in the Chemistry Field of the 2022 Revised National Science Curriculum

Organizer : Hyun-Ju Park (Chosun University)

Chair : Hyun-Ju Park (Chosun University)

16:10 **EDU3-1** Issues in the Content Structure of the High School Chemistry Curriculum
Hyunjung Kim
Department of Chemistry Education, Kongju National University, Korea

16:30 **EDU3-2** Major Changes in the 2022 Revised Chemistry Curriculum
Jongho Baek
Korea Institute for Curriculum and Evaluation, Korea

16:50 **EDU3-3** Suggestion of scientists and science educators collaborative curriculum study on subjects of arguments
Dae Hong Jeong
Department of Chemical Education, Seoul National University, Korea

17:10 Q&A

Organizer

Hyunwoong Park

Present	Professor, School of Energy Engineering, Kyungpook National University
2008	Postdoc, California Institute of Technology
2004	Ph.D, Pohang University of Science and Technology

Speaker

Hong in Kim

2022.2 ~	Head, Resources Recycling Research Center.
2014. 12 ~	Senior Researcher, Resources Utilization Division.
2010	Ph.D., Department of Resource Recycling Engineering, University of Science and Technology, Korea.

Haesung Jung

Present	Assistant Professor, Department of Chemical Engineering, Changwon National University, Korea
2020	Postdoc., School of Earth and Atmospheric Sciences, Georgia Institute of Technology, USA
2017	Ph.D., Department of Energy, Environmental and Chemical Engineering, Washington University in St. Louis, USA

Jungho Jae

Present	Professor, School of Chemical Engineering, Pusan National University
2018	Senior Researcher, Clean Energy Research Center, KIST
2012	Ph.D., Department of Chemical Engineering, University of Massachusetts Amherst, USA

Jungki Ryu

2014 - Present	Associate Professor, School of Energy and Chemical Engineering, UNIST, Korea
2011 - 2014	Postdoctoral Associate, Department of Materials Science and Engineering, Massachusetts Institute of Technology, USA
2006 - 2011	PhD, Depaartment of Materials Science and Engineering, KAIST, Korea.

Yosep Han

Present	Senior Researcher, KIGAM
2015	Postdoc, Dep. of Chem. & Environ. Eng., Univ. California-Riverside, USA
2013	Ph.D., Dep. of Res. & Environ. Eng., Hanyang Univ., Korea

35. Current R&D Trends in Upcycling Waste Materials

Organizer : Hyunwoong Park (Kyungpook National University)

Chair : Hyunwoong Park (Kyungpook National University)

15:50 **ENVR-1** Introduction of recycling and reuse technology of used lithium-ion batteries for electric vehicles
Hong in Kim
Korea Institute of Geoscience and Mineral Resources, Korea

16:15 **ENVR-2** Dissimilatory reduction and leaching of metals in cathodes of Li-ion batteries
Haesung Jung
Department of Chemical Engineering, Changwon National University, Korea

16:40 **ENVR-3** Catalytic depolymerization of lignin waste into renewable fuels and chemicals
Jungho Jae
School of Chemical Engineering, Pusan National University, Korea

17:05 **ENVR-4** Biomass Electrolysis for Concurrent Production of Hydrogen and Value-Added Chemicals
Jungki Ryu
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea

17:30 **ENVR-5** Technology trends to establish a closed-loop system for upcycling of waste plastics: Physical treatment perspective
Yosep Han
Resource Utilization Division, Korea Institute of Geoscience and Mineral Resources, Korea

Organizer

Sung-Ho Jin

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

1993 Ph.D. Department of Chemistry, KAIST, Korea

1988 B.S. Department of Chemistry, Pusan National University, Korea

36. Oral Presentation for Young Polymer Scientists

Organizer : Sung-Ho Jin (Pusan National University)

Chair : Sung-Ho Jin (Pusan National University)

09:00 Oral Presentation for Young Polymer Scientists: Opening

09:10 **POLY.O-2** Mechano-optical sensing of cholesteric liquid crystal elastomers
Kyosun Ku, Osamu Tsutsumi[1,*]
Department of chemistry education, Kyungpook National University, Korea
[1]*Life sciences, Ritsumeikan University, Japan*

09:30 **POLY.O-3** Fast and Large Motion of Self-Oscillating Gels based on High Diffusivity Induced by Phase-separated Structures
Jaewon Choi, Ryo Yoshida[1], Younsoo Kim
Department of Materials Science and Engineering, Pohang University of Science and Technology, Korea
[1]*Department of Materials Engineering, The University of Tokyo, Japan*

09:50 Coffee Break

10:00 **POLY.O-4** Mucus inspired organogel as an efficient absorbent and retention agent for volatile organic compounds
Jihoon Han, Younsoo Kim[1,*]
Materials Science and Engineering, Pohang University of Science and Technology, Korea
[1]*Department of Materials Science and Engineering, Pohang University of Science and Technology, Korea*

10:20 **POLY.O-5** Ball-Mill Grinding Depolymerization of addition polymer, poly(α-methylstyrene)
Eunsong Jung, Gregory Peterson[1,*], Tae-Lim Choi[2,*]
Division of chemistry, Seoul National University, Korea
[1]*Chemistry, Incheon National University, Korea*
[2]*Division of Chemistry, Seoul National University, Korea*

10:40 **POLY.O-6** Chiral Elastomers Showing Asymmetric Rotational Mechanical Responses
Taewon Kang, Jiheong Kang
Department of Materials science and engineering, Korea Advanced Institute of Science and Technology, Korea

Organizer

Sarah Sunah Park

Present Assistant Professor, Department of Chemistry, POSTECH
2019 Postdoctoral Fellow, Department of Chemistry, Northwestern University
2017 Ph.D., Department of Chemistry, MIT

Speaker

Hee Cheul Choi

Present Professor, Department of Chemistry, POSTECH
2001 Ph. D. Department Chemistry, Purdue University, USA
2003 Post-doc. Department of Chemistry, Stanford University, USA

Hyo Jae Yoon

Present Associate Professor, Department of Chemistry, Korea University, Seoul, Korea
2014 Postdoc, Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, USA
2010 Ph.D., Department of Chemistry, Northwestern University, Evanston, IL, USA

Junseong Lee

Present Professor, Department of Chemistry, Chonnam National University, Korea
2009 Postdoc, Department of Chemistry, University of Utah, USA
2007 Ph.D Department of Chemistry, KAIST, Korea

37. Oral Presentation of Young Scholars in Inorganic Chemistry

Organizer : Sarah Sunah Park (POSTECH)

Chair : Sarah Sunah Park (POSTECH)

09:00 **INOR.O-1** Increasing gravimetric and volumetric ammonia capacities of metal-organic frameworks via consecutive post-synthetic modification
Daewon Kim, Chang Seop Hong[1,*]
Department of chemistry, Korea University, Korea
[1]*Department of Chemistry, Korea University, Korea*

09:08 **INOR.O-2** Semi-Flexible Dipyridyl Piperazine-based Crystal Engineering and Their Single-Crystal to Single-Crystal Transformations
Huiyeong Ju
Korea Basic Science Institute, Korea

09:16 **INOR.O-3** Study on Steric Hindrance Effect in Interfacial Connection of MOF-on-MOF
Junsu Ha, Jihyun Park, Hoi Ri Moon
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

09:24 **INOR.O-4** Chemical vapor deposition synthesis of edge-on oriented 2D conductive metal-organic framework thin films
Myeonggeun Choe, Ina Park[1], Ji Hoon Shim[2,*], Hee Cheul Choi[2], Sarah Sunah Park[2]
Chemistry, Pohang University of Science and Technology, Korea
[1]*Chemistry Department, Pohang University of Science and Technology, Korea*
[2]*Department of Chemistry, Pohang University of Science and Technology, Korea*

09:32 **INOR.O-5** A High Gravimetric Hydrogen Storage and Fast Hydrogen Release a Liquid-Organic Hydrogen Carrier
Purna Chandra Rao, Hyeon Su Kim[1], Younghu Son[1], Kyungsu Na[2,*], Minyoung Yoon
Department of Chemistry and Green-Nano Materials Research Center, Kyungpook National University, Korea
[1]*Department of Chemistry, Kyungpook National University, Korea*
[2]*Department of Chemistry, Chonnam National University, Korea*

<Award Lecture: Si-Joong Kim Academic Award>

09:40 **INOR.O-6** Radical charge carriers in highly conductive molecular systems
Hee Cheul Choi
Department of Chemistry, Pohang University of Science and Technology, Korea

<Award Lecture: Young Inorganic Chemist Award I>

10:10 **INOR.O-7** Role of Organometallic Chemistry in Molecular Thermoelectricity
Hyo Jae Yoon
Department of Chemistry, Korea University, Korea

< Award Lecture: Young Inorganic Chemist Award II>

10:35 **INOR.O-8** Metal Azole Complexes
Junseong Lee
Department of Chemistry, Chonnam National University, Korea

Organizer

Jaesung Yang

Present Assistant Professor, Department of Chemistry and Medical Chemistry, Yonsei University, Korea
2014 Postdoc, Department of Chemistry, Columbia University, USA
2011 Ph.D., Department of Chemistry, Yonsei University, Korea

Chair

Tae Wu Kim

Present Assistant Professor, Department of Chemistry, Mokpo National University, Korea
2021 Postdoc, Chemical Science and Engineering Division, Argonne National Laboratory, USA
2016 Ph.D, Department of Chemistry, KAIST, Korea

38. Oral Presentation for Young Physical Chemists

Organizer : Jaesung Yang (Yonsei University)

Chair : Tae Wu Kim (Mokpo National University)

09:00 **PHYS.O-1** Generalized Formulation of the Density Functional Tight Binding-Based Restricted Ensemble Kohn-Sham Method with Long-Range Corrected Functional
In Seong Lee, Seung Kyu Min
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

09:12 **PHYS.O-2** Modeling photoisomerization process of photoactive yellow protein with potential energy interpolation
Seung Soo Kim, Young Min Rhee
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

09:24 **PHYS.O-3** A Density Functional Theory Study on How Spin-Symmetry Breaking Enhances Ammonia Synthesis Activity on RuCo Catalysts
Min-Cheol Kim
School of Chemical Engineering, Sungkyunkwan University, Korea

09:36 **PHYS.O-4** Specific Active Sites of Organo-Photocatalysts for Photo-ATRP: A Combined Experimental and Theoretical Study of N-unsubstituted Diketopyrrolopyrrole (DPP)
Long Yang, Amol Uttam Pawar, Young soo Kang[1,*]
Environmental and Climate Technology, Korea Institute of Energy Technology, Korea
[1]*Institute for Environmental and Climate Technology, Korea Institute of Energy Technology (KENTECH), Korea*

09:48 **PHYS.O-5** Spectroelectrochemical Characterization of InP Nanocrystals
Jumi Park, Dongho Kim[1,*]
Yonsei University, Korea
[1]*Department of Chemistry, Yonsei University, Korea*

10:00 **PHYS.O-6** Investigation on the origin of Debye-Stokes-Einstein breakdown in glass formers by Imaging Fluorescence Correlation Microscopy
Soohyun Lee, Keewook Paeng
Department of Chemistry, Sungkyunkwan University, Korea

10:12 **PHYS.O-7** Monitoring of Photolysis by Au-decorated Fe_3O_4@TiO_2 Nanoparticles: Surface-enhanced Raman Scattering Method
Sila Jin, Eungyeong Park, Shuang Guo, Lei Chen[1,*], Young Mee Jung
Department of Chemistry, Kangwon National University, Korea
[1]*Key Laboratory of Preparation and Application of Environmental Friendly Materials,*

Ministry of Education, , Jilin Normal University, P.R. China, China

10:24 **PHYS.O-8** Dipole and Quadrupole Surface Plasmon Resonances for Optimal Fluorescence Enhancements
Daedu Lee, Yoonsoo Pang
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

10:36 **PHYS.O-9** Direct observation of protein structural transition through entire amyloid aggregation processes in water using two-dimensional infrared (2D-IR) spectroscopy
So Yeon Chun, MyungKook Son, Hugh I. Kim, Kyungwon Kwak, Minhaeng Cho
Department of Chemistry, Korea University, Korea

10:48 **PHYS.O-10** Light-induced protein structural dynamics in bacteriophytochrome revealed by time-resolved x-ray solution scattering
Sang Jin Lee, Tae Wu Kim[1], Hyotcherl Ihee
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
[1]*Department of Chemistry, Mokpo National University, Korea*

Organizer

Ki Hun Kim

Present Principal Scientist, Doping Control Center, Korea Institute of Science and Technology
2006 Postdoc, Department of Chemistry, Northwestern University
2011 Ph.D. Department of Chemistry, Yonsei University, Korea

39. Oral Presentation of Young Analytical Chemists I

Organizer : Ki Hun Kim (KIST)

Chair : Ki Hun Kim (KIST)

09:00 **ANAL1.O-1** Magnetoplasmonic nematic film for genetic hearing loss
Juyong Gwak, Jaebeom Lee[1,*]
Chemical Engineering and Applied Chemistry, Chungnam National University, Korea
[1]*Chemistry, Chungnam National University, Korea*

09:04 **ANAL1.O-2** Comparative Proteomic and Glycomic Analysis of Human Red Blood Cells and Pig Red Blood Cells for Xenotransfusion
Jae Ho Kim, Hyun Joo An
GRaduate school of Analytical Science and Technology, Chungnam National University, Korea

09:08 **ANAL1.O-3** Structure-Based Simultaneous Absolute Quantitation of Monosaccharides using LC/MRM-MS
Hong Ju Kim, Hyun Joo An
Graduate School of Analytical Science and Technology, Chungnam National University, Korea

09:12 **ANAL1.O-4** Cell Glycome Fingerprinting for Cell Therapy Quality Control Using LC/MS/MS
Sol Kim, Hyun Joo An
Graduate School of Analytical Science and Technology, Chungnam National University, Korea

09:16 **ANAL1.O-5** Development of SERS-based microdroplet sensor for sensitive and reproducible detection of SARS-CoV-2
Sohyun Park, Jaebum Choo[1,*]
Chemistry, Chung-Ang University, Korea
[1]*Department of Chemistry, Chung-Ang University, Korea*

09:20 **ANAL1.O-6** Synthesis and Surface Enhanced Raman Scattering of Mesoscopic Star-Shaped Gold Particles
Sumin Kim, Seunghyun Lee[1,*]
Hanyang University, Korea
[1]*Department of Chemical and Molecular Engineering, Hanyang University, Korea*

09:24 **ANAL1.O-7** Fabricate uniformed Surface enhanced Raman Scattering active substrate using Au nanoparticles deposited on a conical anodic aluminum oxide template
Dong Hwan Nam, Seunghyun Lee[1,*]
Applied chemistry, Hanyang University, Korea

[1]*Department of Chemical and Molecular Engineering, Hanyang University, Korea*

09:28 **ANAL1.O-8** Study on Stimuli-Responsive Behavior and Microbial Degradation Performance of Synthetic Microcapsules Incorporating Hyaluronic Acid
Uyen Thi Do, Jiwon Kim[1], Ye Eun Park[2], TaeHo Jang[2], Youngbok Lee[3,*]
Center for Bionano Intelligence Education and Research, Hanyang University, Korea
[1]*Department of Bionano technology, Hanyang University, Korea*
[2]*Department of Applied chemistry, Hanyang University, Korea*
[3]*Department of Bio-Nano Engineering, Department of, Korea*

09:32 **ANAL1.O-9** HR-MAS NMR Spectroscopy for various types of Artificial skin: The potential of exploring the structural properties and water mobility of skin tissue
Jiwon Kim, Minjoo Noh[1], TaeHo Jang[2], Ye Eun Park[2], Youngbok Lee
Department of Bionano Technology, Center for Bionano intelligence Education and Research, Korea
[1]*Advanced Material Development Department, COSMAX R&I center, Korea*
[2]*Department of Applied chemistry, Hanyang University, Korea*

09:36 **ANAL1.O-10** Enhanced NMR Signal by Parahydrogen Method with Optimizing Home-Built Instrument
Quy Son Luu, Thi Quynh Nguyen[1], Youngbok Lee[2,*]
Department of Bionano Technology, Center for Bionano Intelligence Education and Research, Hanyang University, Korea
[1]*Department of Applied Chemistry, Hanyang University, Korea*
[2]*Department of Bionano Technology, Center for Bionano Intelligence Education and Research, Department of Applied Chemistry, Hanyang University, Korea*

09:40 **ANAL1.O-11** **[Withdrawal]** Fabrication of Highly Sensitive 3-Dimensional SERS Substrate for Immunoassay
Sunghoon Yoo, Seunghyun Lee[1,*]
Department of appiled chemistry, Hanyang University, Korea
[1]*Department of Chemical and Molecular Engineering, Hanyang University, Korea*

09:44 **ANAL1.O-12** Raman spectroscopic analysis for composition of sintered ore
Sang Hoon Cho, Hoeil Chung[1,*]
chemistry, Hanyang University, Korea
[1]*Department of Chemistry, Hanyang University, Korea*

09:48 **ANAL1.O-13** Feasibility of infrared spectroscopy for identification of pancreatic cancer by analysis of urine
Yunjung Kim, Hoeil Chung
Department of Chemistry, Hanyang University, Korea

09:52 **ANAL1.O-14** Differential Interference Microscopy and Spectroscopy for Single Particle Analysis of Anisotropic Gold Nanoparticles
Geun Wan Kim, Ji Won Ha[1,*]
Total-period Analysis Center for Ulsan Chemical Industry, University of Ulsan, Korea
[1]*Department of Chemistry, University of Ulsan, Korea*

09:56 **ANAL1.O-15** Tuning Plasmonic Properties by Promoting the Inward Hg Diffusion via Oxygen Plasma Treatment in Gold Nanorods Coated with Mesoporous Silica Shell
Yola Yolanda Alizar, Mukunthan Ramasamy[1], Ji Won Ha[1]
Chemistry, University of Ulsan, Korea

[1]*Department of Chemistry, University of Ulsan, Korea*

10:00 **ANAL1.O-16** Characterizing the Optical Properties of Single Palladium Coated Gold Nanorods (AuNRs@Pd) Using Dark-Field Microscopy and Spectroscopy
Metya Indah Firmanti, Ji Won Ha[1,*]
Chemistry, University of Ulsan, Korea
[1]*Department of Chemistry, University of Ulsan, Korea*

10:04 **ANAL1.O-17** Synthesis and electrochemical studies of $LiMn_{1-x}Co_xBO_3$ composite material as a anode material for Li–ion battery
Hyeseung Kwon, Youngil Lee[1,*]
University of Ulsan, Korea
[1]*Department of Chemistry, University of Ulsan, Korea*

10:08 **ANAL1.O-18** Characterization and preparation of iodine-substituted $LiFeBO_3$/C cathode material for lithium-ion batteries
Yujin Jeong, Youngil Lee[1,*]
University of Ulsan, Korea
[1]*Department of Chemistry, University of Ulsan, Korea*

10:12 **ANAL1.O-19** Single-Particle Study: Removal of Organothiols on Mesoporous Silica Coated Gold Nanorods Using Sodium Borohydride Solution
Yun a Hong, Ji Won Ha[1,*]
University of Ulsan, Korea
[1]*Department of Chemistry, University of Ulsan, Korea*

10:16 **ANAL1.O-20** Tuning chemical interfaces of adsorbate molecules and plasmonic nanoparticles by electrochemical potential
Mukunthan Ramasamy, Ji Won Ha
Department of Chemistry, University of Ulsan, Korea

10:20 **ANAL1.O-21** Spin-Orbit Coupling with Relativistic Corrections in the Mixed-Reference Spin-Flip TDDFT
Konstantin Komarov, Cheol Ho Choi[1,*]
Center for Quantum Dynamics, Pohang University of Science and Technology, Korea
[1]*Department of Chemistry, Kyungpook National University, Korea*

10:30 **ANAL1.O-22** Degradation mechanism and engineering design of silicon-graphite anodes
Junhyuk Moon
Samsung Advanced Institute of Technology, Korea

10:40 **ANAL1.O-23** Structural colors and sensing with chiral metasurfaces of aligned Magnetoplasmonic nanowires
Huu-Quang Nguyen, My-Chi Thi Nguyen, Sejeong Park[1], Jaebeom Lee
Department of Chemistry, Chungnam National University, Korea
[1]*Department of Chemistry Engineering and Applied Chemistry, Chungnam National University, Korea*

Organizer

Youngsoo Kim

Present Assistant Professor, Department of Chemistry, Yeungnam University, Korea

2017 Postdoc, Department of Chemistry, University of Illinois at Urbana-Champaign, USA

2009 Ph.D, Department of Chemistry, Korea University, Korea

40. Oral Presentation of Young Analytical Chemists Ⅱ

Organizer : Youngsoo Kim (Yeungnam University)

Chair : Youngsoo Kim (Yeungnam University)

09:00 **ANAL2.O-1** Synthesis of $LiFe_{0.4}Mn_{0.6}PO_4$ with a hybrid ionic and electronic coating layer as a cathode material for high performance Li-ion batteries
Youngil Lee*, Dung Nguyen[1], **Jimin Kim**
Department of Chemistry, University of Ulsan, Korea
[1]*Chemical Industry Research Institution, University of Ulsan, Korea*

09:04 **ANAL2.O-2** Effect of Silver Coating on Plasmonic Properties of Single Gold Nanorods Coated with Mesoporous Silica Shell
Seongeun Heo, Ji Won Ha[1,*]
Department of chemistry, University of Ulsan, Korea
[1]*Department of Chemistry, University of Ulsan, Korea*

09:08 **ANAL2.O-3** Dynamic Nuclear Polarization of 29Si Spin in Crystalline α-Quartz Nanoparticles
Quy Son Luu, Jiwon Kim, Youngbok Lee[1,*], **Thi Quynh Nguyen**[2]
Department of Bionano Technology, Hanyang University, Korea
[1]*Department of Bio-Nano Engineering, Department of Applied Chemistry, Hanyang University, Korea*
[2]*Department of Applied Chemistry, Department of Applied Chemistry, Korea*

09:12 **ANAL2.O-4** Rapid Determination of Sulfites in Foods Using Paper Spray Ionization Tandem Mass Spectrometry
Donghoon Lee, Sangwon Cha
Department of Chemistry, Dongguk University, Korea

09:16 **ANAL2.O-5** Development and Optimization of 3D-Printed Cone Spray Ionization Mass Spectrometry (3D-PCSI MS)
Gyuha Park, Sangwon Cha
Department of Chemistry, Dongguk University, Korea

09:20 **ANAL2.O-6** Investigating the multitarget potential of a natural product on amyloid protein aggregation
Da Gyeong Hyun, Soohyeong Kim, Chanju Won, Gyusub Yoon, Jinhui Kim, Hugh I. Kim
Department of Chemistry, Korea University, Korea

09:24 **ANAL2.O-7** Electrochemical Platform for Cellular Reactions of Gas Molecules
Chanju Won, Sojin Kim, Dongvin Kwak, Sooyeon Chae, MyungKook Son, Dongjoon Im, Da Gyeong Hyun, Gyusub Yoon, Jinhui Kim, Soohyeong Kim, Kyoungsuk Jin, Hugh I. Kim

Department of Chemistry, Korea University, Korea

09:28 **ANAL2.O-8** Elucidating Co-resistance Mechanisms in Cytarabine Resistance Human Acute Myeloid Leukemia Cells Using Biochemical Analysis
Jinhui Kim, Sooyeon Chae, Gyusub Yoon, Chanju Won, MyungKook Son, Dongjoon Im, Dongvin Kwak, Da Gyeong Hyun, Soohyeong Kim, Hugh I. Kim
Department of Chemistry, Korea University, Korea

09:32 **ANAL2.O-9** A novel online 3D Separation for comprehensive phosphoproteome analysis
Chaewon Kang, Dowoon Nam, Jiwon Hong, Sang-Won Lee
Department of Chemistry, Korea University, Korea

09:36 **ANAL2.O-10** Development of a Targeted Proteomic Approach in Disease Subtype Identification with its Application on Pancreatic Ductal Adenocarcinoma
Jiwon Hong, Seunghoon Back, Dowoon Nam, Jingi Bae, Su-Jin Kim, Sang-Won Lee
Department of Chemistry, Korea University, Korea

09:40 **ANAL2.O-11** Efficient blue organic electrochemiluminescence luminophore based on a pyrenyl–phenanthroimidazole conjugate
Jiwoo Kim, Jong-in Hong[1,*], Joohoon Kim
Department of Chemistry, Kyung Hee University, Korea
[1]*Division of Chemistry, Seoul National University, Korea*

09:44 **ANAL2.O-12** Proteomic evaluation of the natural antibacterial feed in Paralichthys Olivaceus on a large-scale fish farm
Junghoon Kang, Wonryeon Cho
Department of Chemistry, Wonkwang University, Korea

09:48 **ANAL2.O-13** Size sorting and lipidomic analysis of exosomes and microvesicles by flow field-flow fractionation and nUHPLC-ESI-MS/MS
Young Beom Kim, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea

09:52 **ANAL2.O-14** Lipidomic analysis of fecal and saliva from patients with lung cancer
Bo Young Hwang, Jaewon Seo, Gwang Bin Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea

09:56 **ANAL2.O-15** Optimization of skin lipid sampling for lipidomic analysis by nanoflow UHPLC-ESI-MS/MS
Seunghee Shin, Gwang Bin Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea

10:00 **ANAL2.O-16** Optimization of storage solvent for lipid of human saliva sample
SeungMin Jeon, Bo Young Hwang, Gwang Bin Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea

10:04 **ANAL2.O-17** Optimization of miniaturized asymmetrical flow field-flow fractionation channel
Hyeju Yu, Young Beom Kim, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea

10:08 **ANAL2.O-18** Particle separation by thickness-tapered channel in flow field-flow fractionation
SeungYeon Shin, Jaewon Seo, Young Beom Kim, Myeong Hee Moon

Department of Chemistry, Yonsei University, Korea

10:12 **ANAL2.O-19** Metabolomic and lipidomic analysis of liver tissues from RagA/B double knockout obese mice
Yeajin Ju, Geum-Sook Hwang
Korea Basic Science Institute, Korea

10:16 **ANAL2.O-20** Lipidomic analysis of liver tissue from mouse model of diabetes induced atherosclerosis using LC/MS
Yourim Shin, Seo Young Jang[1], Youngae Jung[1], Geum-Sook Hwang
Korea Basic Science Institute, Korea
[1]*Western Seoul Center, Korea Basic Science Institute, Korea*

10:20 **ANAL2.O-21** Metabolic profiling of lung tissue from hamster infected by Covid-19 Delta and Omicron variant
Sunho Lee, Jueun Lee, Geum-Sook Hwang[1,*]
Western Seoul Center, Korea Basic Science Institute, Korea
[1]*Korea Basic Science Institute, Korea*

10:24 **ANAL2.O-22** Influence of Liposome Surface Chemistry on Natural Production of Serum Lipid Coronas Investigated by Non-targeted Mass Spectrometry
Gwi Ju Jang, Hee Ju Joung, Sang Yun Han[1,*]
Nanochemistry, Gachon University Global Campus, Korea
[1]*Department of Chemistry, Gachon University, Korea*

10:28 **ANAL2.O-23** Method development for the untargeted metabolomic analysis of infected mouse brains
Minh Hung Vu, Min-Sik Kim[1,*]
Newbiology, Daegu Gyeongbuk Institute of Science & Technology, Vietnam
[1]*Department of New Biology, DGIST, Korea*

10:38 **ANAL2.O-24** Development of new NMR techniques with enhanced sensitivity and resolution to study SARS-CoV-2-derived RNA fragments
Jihyun Kim, Mihajlo Novakovic[1], Tassilo Grün[1], Sundaresan Jayanthi[2], Adonis Lupulescu[3], Ēriks Kupče[4], Klara Mertinkus[5], Andreas Oxenfarth[5], Harald Schwalbe[5], Lucio Frydman[1]
Chemical and Biological Physics, Weizmann Institute of Science, Korea
[1]*Chemical and Biological Physics, Weizmann Institute of Science, Israel*
[2]*Chemical and Biological Physics, Indian Institute of Space Science and Technology, India*
[3]*"Horia Hulubei" National Institute for Physics and Nuclear Engineering IFIN- HH, Romania, Romania*
[4]*Bruker, United Kingdom, United Kingdom*
[5]*Center for Biomolecular Magnetic Resonance, Johann Wolfgang Goethe-University, Germany*

Organizer

Hyun Soo Lee

Present Professor, Department of Chemistry, Sogang University, Korea
2009 Ph.D. Department of Chemistry, The Scripps Research Institute, USA
2003 B.S. Department of Chemistry, POSTECH, Korea

41. Oral Presentation for Young Scientists in Biochemistry and Chemical Biology

Organizer : Hyun Soo Lee (Sogang University)

Chair : Hyun Soo Lee (Sogang University)

09:00 **LIFE.O-1** DNA recognition of the transcription factor MEIS1 studied with NMR
Seo-Ree Choi, Joon-Hwa Lee
Department of Chemistry, Gyeongsang National University, Korea

09:12 **LIFE.O-2** An O-GlcNAcase responsive fluorogenic probe for biological applications
Hyoje Jung, Injae Shin[1,*]
Yonsei University, Korea
[1]*Department of Chemistry, Yonsei University, Korea*

09:24 **LIFE.O-3** De novo Fluorescence Generation from the Tryptophan and Pyruvate
Sangyoon Kang, Yan Lee[1,*]
Department of Chemistry, Seoul National University, Korea
[1]*Division of Chemistry, Seoul National University, Korea*

09:36 **LIFE.O-4** Pyrene display on helical peptoids: structure-driven pyrene excimer chirality control
Jinyoung Oh, Jiwon Seo
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

09:48 **LIFE.O-5** Biohybrid swimming robots designed with human cardiac biophysics
Keel Yong Lee, Kevin Kit Parker[1,*], Sung-Jin Park[2]
Department of Integrative Bioscience and Biotechnology, Sejong University, Korea
[1]*John A. Paulson School of Engineering and Applied Sciences, Harvard University, United States*
[2]*Coulter Department of Biomedical Engineering, Georgia Institute of Technology & Emory University School of Medicine, United States*

10:08 **LIFE.O-6** Modulating from Proteins with Chemical Tools at the intersection of Chemistry, Biology, and Medicinal Chemistry
Yeongju Lee, Hyun-Suk Lim[1,*]
Department of Chemistry and Division of Advanced Material Science, Pohang University of Science and Technology (POSTECH), Korea
[1]*Department of ChemistryDepartment of Chemistry and Division of Advanced Material Science, Pohang University of Science and Technology (POSTECH), Korea*

10:28 **LIFE.O-7** Nanomedicine approaches for cancer vaccination
Jutaek Nam, James Moon[1,*]
College of Pharmacy, Chonnam National University, Korea
[1]*Pharmaceutical sciences, University of Michigan, United States*

Organizer

Hyunwoo Kim

2022 Assistant Professor, Department of Chemistry, POSTECH, Korea
2020 Assistant Professor, Department of Chemistry and Nano Science, Ewha Womans University, Korea
2019 Postdoc, Department of Chemistry and Chemical Biology, Cornell University, USA

42. Oral Presentations for Young Scholars in Organic Division

Organizer : Hyunwoo Kim (POSTECH)

Chair : Hyunwoo Kim (POSTECH)

09:00 **ORGN.O-1** A small molecular strategy for specific detection of prefibrillar oligomeric amyloid beta in incipient proteinaceous self-aggregation cascade
Jusung An, Jong Seung Kim
Department of Chemistry, Korea University, Korea

09:15 **ORGN.O-2** Ratio-metric CN^- sensing in water, milk, human serum, urine, and live cells using red-emitting naphthoquinolinedione-based probes with an imidazolium pendant
Ashwani Kumar, Pil Seok Chae[1,*]
Department of Bionano Engineering, Hanyang University, India
[1]*Department of Bionano Engineering, Hanyang University, Korea*

09:30 **ORGN.O-3** Enhanced Reactivity of Fullerenes inside a Porphyrinic Cage towards Fullerene-tetrazine Reaction
Anilkumar Gunnam, Avinash Dhamija[1], Hochan Lee[2], Young Ho Ko[3], Kimoon Kim[4,*]
Center for Self-assembly and Complexity, Institute for Basic Sciences, Korea
[1]*Center for Self-assembly and Complexity, IBS, Korea*
[2]*Division of Advanced Material Science, Pohang University of Science and Technology, Korea*
[3]*Center for Self-assembly and Complexity, Institute for Basic Science, Korea*
[4]*Department of Chemistry, Pohang University of Science and Technology, Korea*

09:45 **ORGN.O-4** Synthesis of *cis*-Thiiranes as Diastereoselective Access to Epoxide Congeners via 4π-Electrocyclization of Thiocarbonyl Ylides
Su-min Song, Jaeseong Jin, Jun-Ho Choi, Won-jin Chung
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

10:00 Coffee Break

10:15 **ORGN.O-5** Surface-Catalyzed Formation of Polydopamine and its Implications in Melanogenesis
Chanyeon Kim, Kyungtae Kang[1,*], Seong Ah Jo, Min Young Lee[2]
Applied chemistry, Kyung Hee University, Korea
[1]*Department of Applied Chemistry, Kyung Hee University, Korea*
[2]*Applied Chemistry, Kyung Hee University, Korea*

10:30 **ORGN.O-6** Mild and ligand free Ni-catalyzed hydroacylation of aryl alkenes using aroyl fluorides
Jihye Kim, Jieun Jang, **Yoonho Lee**, Kwangmin Shin
Department of Chemistry, Sungkyunkwan University, Korea

10:45 **ORGN.O-7** Intramolecular ipso aminoarylation: Kinetic evidences of an unprecedented Diels-Alder reaction between alkynes and arenes
Alina Dzhaparova, Jin Kyoon Park
Department of Chemistry, Pusan National University, Korea

Organizer

Jungwook Chin

Present	CSO & Co-founder, CUREVERSE Inc.
2014-2022	Senior/Principal Researcher, New Drug Development Center, KMEDIhub
2009	Ph.D. Seoul National University

Chair

Hongchan An

Present	Senior Researcher, New Drug Development Center, Daegu Gyeongbuk Medical Innovation Foundation, Republic of Korea
2014	Ph.D. Department of Pharmacy, Seoul National University, Republic of Korea
2008	B.S. Department of Manufacturing Pharmacy, Seoul National University, Republic of Korea

43. Oral Presentation of Young Medicinal Chemists

Organizer : Jungwook Chin (Cureverse)

Chair : Hongchan An (KMEDIhub)

09:10 **MEDI.O-1** Control of Antimicrobial Activity with Rapid pH-Responsive Release Kinetics of β-Carboxylic acid amides.
Sunyoung Kang, Yan Lee
Department of Chemistry, Seoul National University, Korea

09:20 **MEDI.O-2** Devlopment of pH-Responsive Nano-Transfersomes for Improved Photodynamic and Chemo Combination Therapy to Treat Cancer
Soo Ho Yeo
Center for Nano Manufacturing and Department of Nanoscience and Engineering, Inje University, Korea

09:30 **MEDI.O-3** Plug-and-Playable Delivery Platform Based on Protein Shield Nanoparticle for versatile targeted delivery
Ja-Hyoung Ryu*, **Jun Yong Oh**[1]
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
[1]*Department of Chemistry / Department of Chemical E, Ulsan National Institute of Science and Technology, Korea*

09:40 **MEDI.O-4** Photocatalytic Applications of Quinolinone Scaffolds: Pyridylic Functionalization and Bioconjugation
Myojeong Kim, Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

09:50 **MEDI.O-5** A Novel Synthesis of Spiroindeneisoindolin-dione and Synthesis of Impatien A
Sungil Park, Youyoung Kim[1], Jung-Nyoung Heo[1]
Gradutate School of New Drug Discovery and Development, Chungnam National University, Korea
[1]*Drug Discovery Platform Research Center, Korea Research Institute of Chemical Technology, Korea*

10:00 **MEDI.O-6** Potent Pyridinyltriazine panFGFR Inhibitors against Gatekeeper Mutants Acquired by Drug Resistance
SeongShick Ryu, Taebo Sim
Graduate School of Medical Science, Brain Korea 21 Project, Yonsei University College of Medicine, KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea

10:10 **MEDI.O-7** A Selective Sphingosine-1-Phosphate-1 ($S1P_1$) Receptor Agonist for the Treatment of Multiple Sclerosis
Yoowon Kim, Ki Duk Park

Convergence Research Center for Brain Science, Korea Institute of Science and Technology, Korea

10:20 **MEDI.O-8** Copper-Mediated Three-Component Reaction for the Synthesis of *N*-Acylsulfonamide on DNA

TaeYeon Kwon, Hyunjin Kim[1,*]
Department of Pharmacy, Chungnam National University, Korea
[1] *Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea*

10:30 **MEDI.O-9** Discovery of PROTAC-82, a Novel & Orally Bioavailable Bruton's Tyrosine Kinase (BTK) Degrader with Excellent in vivo efficacy against B-Cell Malignancies

Vineetkumar bapusaheb Patil, Pilho Kim[1,*], Song Hee Lee[2]
Medicinal Chemistry, University of Science & Technology / KRICT, India
[1] *Therapeutics & Biotechnology Division, Korea Research Institute of Chemical Technology, Korea*
[2] *UBIX THERAPEUTICS, Korea*

Organizer

Jin-sil Choi

Present Assistant Professor, Department of Chemical and Biological Engineering, Hanbat National University, Korea

2013 Postdoc, Department of Molecular and Medical Pharmacology, UCLA, USA

2011 Ph.D, Department of Chemistry, Yonsei University, Korea

44. Oral Presentation for Young Material Chemists

Organizer : Jin-sil Choi (Hanbat National University)

Chair : Jin-sil Choi (Hanbat National University)

09:00 **MAT.O-1** Dual-Rim Engraved Hot Nanoframes for Near-Field Focusing
Hajir Hilal Khaleel Al Hammad, Sungho Park[1,*]
Department of Chemistry, Sungkyunkwan University, Iraq
[1] *Department of Chemistry, Sungkyunkwan University, Korea*

09:15 **MAT.O-2** Si Microparticles Embedded within Wrinkled-Multilayered-Graphenes for High-Areal-Capacity Lithium-Ion Batteries
InCheol Heo, Jae Seong Kim[1], Sangyeop Kim[1], Deahwan Kang[1], Won Cheol Yoo[2,*]
Department of Applied chemistry, Hanyang University, Korea
[1] *Department of Chemical and Molecular Engineering, Hanyang University, Korea*
[2] *Department of Chemical and Molecular Engineering, Hanyang University (ERICA), Korea*

09:30 **MAT.O-3** A spontaneous and selective reduction strategy for highly conducting cocrystals
Hye Soo Kim, Hee Cheul Choi[1,*]
Division of Advanced Materials Science, Pohang University of Science and Technology, Korea
[1] *Department of Chemistry, Pohang University of Science and Technology, Korea*

09:45 **MAT.O-4** Plasmonic Optical Properties of Synthesized Au Nanocrescents through Wet Chemistry
MohammadNavid Haddadnezhad, Sungho Park
Department of Chemistry, Sungkyunkwan University, Korea

10:00 **MAT.O-5** Repurposed Niclosamide-ternary hybrid antiviral drug for covid-19 therapy
Sanoj rejinold Nirichan, Huiyan Piao[1], Goeun Choi[2], Jin-Ho Choy[3,*]
Intelligent Nanohybrid Materials Laboratory (INML), Institute of Tissue Regeneration Engineering (ITREN), Dankook University, Cheonan 31116, Republic of Korea, Dankook University, Cheonan campus, Korea
[1] *Institute of Tissue Regeneration Engineering, Dankook University, Korea*
[2] *a. Department of Nanobiomedical Science, b. Institute of Tissue Regeneration Engineering, Dankook University, Korea*
[3] *a. Department of Pre-medical Course, b. Institute of Tissue Regeneration Engineering, Dankook University, Korea*

10:15 **MAT.O-6** Development of bimetallic UTSA-16(Zn, M) metal organic frameworks with outstanding CO2 capture performance
Sangil Han
Chemical Engineering Department, Changwon National University, Korea

Organizer

Sung Yul Lim

Present Assistant Professor, Department of Chemistry, Kyung Hee University, Korea
2016 Ph.D, Department of Chemistry, Seoul National University, Korea
2009 B.S, Department of Chemistry, Seoul National University, Korea

45. Oral Presentation of Young Scholars in Electrochemistry

Organizer : Sung Yul Lim (Kyung Hee University)

Chair : Sung Yul Lim (Kyung Hee University)

09:00 **ELEC.O-1** Unraveling the complex causality behind the Fe-N-C degradation in fuel cell
Geunsu Bae, Chang Hyuck Choi
Department of Chemistry, Pohang University of Science and Technology, Korea

09:08 **ELEC.O-2** Multiscale modeling of Electrochemical CO2 reduction on Cu
Adith Ramakrishnan Velmurugan, Stefan Ringe
Chemistry, Korea University, Korea

09:16 **ELEC.O-3** Selective electrochemical reduction of nitric oxide to hydroxylamine by atomically dispersed iron catalyst
Dong Hyun Kim, Chang Hyuck Choi
Department of Chemistry, Pohang University of Science and Technology, Korea

09:24 **ELEC.O-4** Evolution of Disinfection By-products during Urine Electrolysis
Ericson Escobedo, Yoon-seok Chang[1,*]
Department of Earth System Sciences, Yonsei University, Philippines
[1]*Division of Environmental Engineering, Pohang University of Science and Technology, Korea*

09:32 **ELEC.O-5** Selective Oxidation-induced Cu/C Catalysts for Efficient Acetate Production via Electrochemical CO Reduction
Taemin Lee, Soohyun Go, Dae-Hyun Nam
Department of Energy Science & Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea

09:40 **ELEC.O-6** Design of Naphthalene Diimide as Stable Negolyte in Neutral Aqueous Organic Redox Flow Batteries
Vikram Singh, Seongmo Ahn[1], Hye Ryung Byon[1]
Department of Chemistry, Korea Advanced Institute of Science and Technology, India
[1]*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

09:48 **ELEC.O-7** Enhanced the selectivity of ethylene from electrocatalytic CO2RR by Cu2O catalyst with different crystal surfaces
Hyunwoo Kim, Jungki Ryu
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea

09:56 Coffee Break

10:04 **ELEC.O-8** Efficient electron extraction from depolymerization of biomass with phosphomolybdic acid for hydrogen evolution
Hyeonmyeong Oh, Jungki Ryu[1,*]
Ulsan National Institute of Science and Technology, Korea
[1]*School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea*

10:12 **ELEC.O-9** Defect-Rich Ultrathin NiCoFe Nanosheets for Efficient Oxygen Evolution Catalysts
Lemma Teshome Tufa, Jaebeom Lee
Chemistry, Chungnam National University, Korea

10:20 **ELEC.O-10** In situ monitoring interfacial kinetics of two immiscible liquid phases through single droplet electrochemistry
Hyeongkwon Moon, Jun Hui Park
Department of Chemistry, Chungbuk Natioanl University, Korea

10:28 **ELEC.O-11** Introduction of a New Electrochemical Detection Method using Re-collision Events of Attoliter Droplets
Heekyung Park, Jun Hui Park
Department of Chemistry, Chungbuk Natioanl University, Korea

10:36 **ELEC.O-12** Field-driven Rugged Forest of 1D Ni-doped Au@FexOy Magnetoplasmonic Nanorods for Photoelectrochemical Catalyst
Goddati Mahendra, Jaebeom Lee[1,*]
Department of Chemical Engineering and Applied Chemistry, Chungnam National University, Korea
[1]*Chemistry, Chungnam National University, Korea*

10:44 **ELEC.O-13** Design of organic materials for post-lithium-ion batteries
Dong-Joo Yoo
School of Mechanical Engineering, Korea University, Korea

10:52 **ELEC.O-14** Unveiling surface electronic descriptor for Fe-Co mixing enhanced stability and efficiency of perovskite oxygen evolution electrocatalysts
Yongchul Kim, Geunsik Lee
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

Oral Presentation

Environmental Energy Oral Presentation
October 20 (Thu), Room 206

Organizer

Sungjun Bae

Present Professor, Department of Civil and Environmental Engineering, Konkuk University, Korea
2013 PhD, Civil and Environmental Engineering, KAIST, Korea
2007 BS, Civil and Environmental Engineering, Sung Kyun Kwan University, Korea

46. General Session

Organizer : Sungjun Bae (Konkuk University)

Chair : Sungjun Bae (Konkuk University)

09:00 **ENVR.O-1** Photo-electrocatalytic Water splitting with Up-Conversion Phosphor Assisted TiO2 Photoanode
Amol Uttam Pawar, Don Keun Lee, Young soo Kang
Environmental and Climate Technology, Korea Institute of Energy Technology, Korea

09:20 **ENVR.O-2** **[Withdrawal]** A Soft Reconfigurable Waste Electromagnetic Energy Harvesting Device enabled by Liquid metal and Ultra-soft Dielectric gel
Priyanuj Bhuyan, Yuwen Wei, Minjae Choe, Sangmin Lee, Sungjune Park[1,*]
Nano Convergence Engineering, Jeonbuk National University, Korea
[1]*Polymer Nano Science and Technology, Jeonbuk National University, Korea*

09:40 **ENVR.O-3** A PID feedback control-based automatic flow chemistry system to produce on-demand AgAu alloy nanoboxes
Hoang Khang Bui, Thi Thuy Huong Nguyen , Tae Seok Seo[1,*]
Chemical Engineering, Kyung Hee University, Korea
[1]*Department of Chemical Engineering & Biotechnology, Kyung Hee University, Korea*

10:00 **ENVR.O-4** Investigation of CO_2 reduction reaction mechanism by detecting intermediates on Cu-based catalyst surface
Sojung Park, Wooyul Kim
Department of Energy Engineering, Korea Institute of Energy Technology (KENTECH), Korea

10:20 **ENVR.O-5** Light source-dependent charge separation mechanism of heterostructure photocatalysts for dye wastewater treatment
Dong Jin Kim, Hyunwoong Park
School of Energy Engineering, Kyungpook National University, Korea

10:40 **ENVR.O-6** Pure water production with no energy consumption through the FO-UF hybrid membrane system
Namguk Her
International Environmental Research Center, Gwangju Institute of Science and Technology, Korea

POLY.P-1 Study on the mechanical properties of poly(lactic acid)/PMMA-MA ionomer blends
Byulduri Kim
biochemical engineering, Chosun University, Korea

POLY.P-2 Solid-State Anionic Ring-Opening Polymerization of Functional Epoxide Monomers
Jihye Park, Byeong-Su Kim
Department of Chemistry, Yonsei University, Korea

POLY.P-3 Preparation of Carbon dioxide based Polycarbonate Synthesized by Graft-Copolymerization
Nam kuyn Kim
Center for Environment & Sustainable Resources, Korea Research Institute of Chemical Technology, Korea

POLY.P-4 Archival storage of digital information based on nondestructive sequencing of enantiopure oligoesters synthesized by flow chemistry
HeeJeong Jang, Kyoung Taek Kim, Seul Woo Lee[1]
Division of Chemistry, Seoul National University, Korea
[1]Seoul National University, Korea

POLY.P-5 Synthesis and characterization of poly(ethylene glycol) macromer gels using catechol chemistry
Hongki Kim, Jungju Ryu[1,*], Daewon Sohn
Department of Chemistry, Hanyang University, Korea
[1]Department of Chemistry and Research Institute for Convergence of Basic Science, Hanyang University, Korea

POLY.P-6 Chiral communications between triphenylamine-based supramolecular helices
Jun Su Kang, Myungeun Seo
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

POLY.P-7 A study on the F-p-g-C_3N_4/Q-PPO composite membrane for the development of an anion exchange membrane for alkaline fuel cells with excellent electrochemical performance
Ji Young Chu, Kyu Ha Lee
Jeonbuk National University, Korea

POLY.P-8 Effect of Copper on the Thermal Oxidation of LLDPE Insulation with Electron Beam
SeungTae Jung*, Geunseok Yoon
R&D Center, EB Tech. Co, Ltd, Korea

POLY.P-9 Flexible metal halide perovskites scintillator in X-ray imaging
Ngoc Bao Tran, Youngjong Kang[1,*]
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POLY.P-10 Synthesis of Poly[(1,1-disubstituted-3,4-diphenyl-2,5-silolene)-co-(ethynylene)] and Electrochemical Properties
Ji hun Lee, Se Yeon Park[1], Hyeong Rok Si[1], Young Tae Park[1]
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POLY.P-11 Synthesis and Characterization of a Urethane Side Chain Having Soluble Polyimide for Gate Dielectric Applications in Thin Film Transistors
Jae Kyung Lee, Taek Ahn
Department of Chemistry, Kyungsung University, Korea

POLY.P-12 Synthesis and Thin Film Properties of a Novel Photo-Patternable Polyimide Gate Insulator Based on the Epoxy-Containing Crosslinker
Jae Kyung Lee, Taek Ahn
Department of Chemistry, Kyungsung University, Korea

POLY.P-13 A study on the changes in surface wettability of Fe(III)-polyphenol nanocoating
Seulbi Kim, Ji Hun Park
Department of Science Education, Ewha Womans University, Korea

POLY.P-14 Polymer brush growth by oxygen-initiated RAFT polymerization on various substrates
Seung Yeon Lee, Woo Kyung Cho[1,*], Kyung-sun Son[1]
Chemistry, Chungnam National University, Korea
[1]Department of Chemistry, Chungnam National University, Korea

POLY.P-15 Semi-aromatic polyester synthesis *via* ROCOP using a chromium complex based on a pentapyridine ligand
Seungyeon Jeong, Jeongmin Cha[1], Eunsung Lee[1], Kyung-sun Son[2,*]
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POLY.P-16 Zwitterion- conjugated glycol chitosan for preventing bacterial infections
Woo Kyung Cho*, **Sunhee Kim**[1]
Department of Chemistry, Chungnam National University, Korea
[1]Chemistry, Chungnam National University, Korea

POLY.P-17 **[Withdrawal]** Spider Web-Inspired Stretchable Liquid Metal Wire for Multifunction of Electroadhesion and Capacitive Sensors
SiYeon Kim, Sungjune Park[1,*], Sangmin Lee, Priyanuj Bhuyan
Nano Convergence Engineering, Jeonbuk National University, Korea
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POLY.P-18 **[Withdrawal]** Stretchable and Wearable Polymeric Heaters Enabled by Liquid Metal Inclusion
Sihyun Kim, Yuwen Wei, Priyanuj Bhuyan, Minjae Choe, Sungjune Park[1,*]
Nano Convergence Engineering, Jeonbuk National University, Korea
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POLY.P-19 **[Withdrawal]** Stretchable and Soft Hybrid Piezo-Triboelectric Nanogenerator with Liquid Metal-Zn Particles Composites Electrode
Yuwen Wei, Sungjune Park[1,*]
Nano Convergence Engineering, Jeonbuk National University, Korea
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POLY.P-20 **[Withdrawal]** Liquid Metal Core Enabled Variable Stiffness and Locally Magnetically Actuating Fibers
Eunseon Kim, Sungjune Park[1,*]
Department of Nano Convergence Engineering, Jeonbuk National University, Korea
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POLY.P-21 Indolo[3,2,1-jk] carbaozle-based hole transport polymer for solution-processed organic light-emitting diodes
Do-Hoon Hwang*, **Jeong Yong Park**
Department of Chemistry, Pusan National University, Korea

POLY.P-22 **[Withdrawal]** Stretchable and Soft Capacitive Sensor Using Interdigitated Liquid Metal Fibers
Sangmin Lee, Priyanuj Bhuyan, Sungjune Park[1,*]
Nano Convergence Engineering, Jeonbuk National University, Korea
[1]Polymer Nano Science and Technology, Jeonbuk National University, Korea

POLY.P-23 **[Withdrawal]** Liquid-Metal Patterned Stretchable and Flexible Electromagnetic Energy Harvesting Pad
Yejin Bae, Priyanuj Bhuyan[1], Sungjune Park[2,*]
Department of Nano Convergence Engineering, Jeonbuk National University, Korea
[1]Department of Nano Convergence Engineering, Jeonbuk National University, India
[2]Polymer Nano Science and Technology, Jeonbuk National University, Korea

POLY.P-24 **[Withdrawal]** Ultrasoft and Ultrastretchable Wearable Strain Sensors with Directionally Anisotropic Metallic Conductivity Enabled Liquid Metal Fillers
Minjae Choe, Priyanuj Bhuyan, Sangmin Lee, Sungjune Park[1,*]
Nano Convergence Engineering, Jeonbuk National University, Korea
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POLY.P-25 **[Withdrawal]** Energy Storage Application of Conducting Polymers Featuring Dual Acceptors Benzothiophenedion (BDD) and Diketopyrrolopyrrole (DPP): Effect of Conjugation and Flexible Chain Lengths
Subir Pati, Sungjune Park[1,*]
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POLY.P-26 Dynamic mechanical properties of Poly(lactic acid) and blends with methacrylate ionomers
Joon-Seop Kim*, **Byulduri Kim**[1]
Department of Polymer Science and Engineering, Chosun University, Korea
[1]biochemical engineering, Chosun University, Korea

POLY.P-27 **[Withdrawal]** Thermo- and Mechanochromic Elastomeric Shape Memory Fiber Having Variable Local Stiffness
Seonwoo Mun, Sungjune Park[1,*]
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POLY.P-28 Nanoporous Ion-exchange Separator with High Thermal and Chemical Stability for Lithium-metal Battery Application
Taeseok Oh, Hye Ryung Byon, Myungeun Seo
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

POLY.P-29 Rational Design and Synthesis of Biodegradable Filler-Reinforced Networks for Superabsorbent Polymers
Young-Ho Kim, Myungeun Seo
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

POLY.P-30 Synthesis and Characterization of Fluorosilicone Resins Introduced with Vinyl Functional Groups
Hansan Ko, Jae Young Bae
Department of Chemistry, Keimyung University, Korea

POLY.P-31 Fabrication of nanowhisker reinforced aramid films using microreactor

Dah Hee Kim, Jeon Byungkyu, Seong Hyun Jang, Jun Choi
Material & Component Convergence R&D Department, Korea Institute of Industrial Technology, Korea

POLY.P-32 Synthesis and self-assembly of organic rod-coil molecules
Seonwoo Yang, Myungeun Seo
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

POLY.P-33 Tailored Surface Chemistry and Pore Size in Nanoporous Polymers for Anion Exchange Membrane Fuel Cells Application
Jinyeong Oh, Myungeun Seo
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

POLY.P-34 Core Volume Dependent Supramolecular Polymerization in Miktoarm Core Cross-Linked Star Polymers
Suchan Cho, Myungeun Seo[1,*]
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POLY.P-35 Polymerization-Induced Microphase Separation in Janus Bottlebrush Polymers
Changsu Yoo, Myungeun Seo
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

POLY.P-36 Poly(ethylene glycol) for Tonsil Derived Stem Cell Cryopreservation
Madhumita Patel, Hyelin Kim, Seyeon Kim, Byeongmoon Jeong
Department of Chemistry and Nano Science, Ewha Womans University, Korea

POLY.P-37 Enhancing the Beta Phase of Poly(vinylidene fluoride) Through in-situ Reacted Decomposable Addtitives
Jinwoo Choi, Youngjong Kang[1,*], Thanh Van Vu[2]
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POLY.P-38 Additive-Free Organic Solar Cells Approaching 19% Efficiency with New Non-Fullerene Acceptor
gokulnath Thavamani, Sung-Ho Jin[1,*], Jeonghyeon Kim[2]
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POLY.P-39 Thermal and mechanical properties of PLA/SPPhO blends
Yuna Ko, Joon-Seop Kim
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POLY.P-40 Increase in the Glass Transition Temperature of PLA by blending with Poly(styrene-co-methacrylate) Ionomers
Dahye Kim, Joon-Seop Kim[1,*]
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POLY.P-41 Chemodynamic Therapy through Fenton-Like Reaction of Cu^{II} Nanoparticles including pH- & Temperature- Responsive Polymers
Jeong-Min Park, Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-42 Chemically Modified Chitosan Nanostructures by Non-Enzymatic Glycation for Divalent Metal Coordination
Yeonjoo Jung, Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-43 Polyphenol-Incorporated Composite Nanogels of Multimodal Inter-actions for Enhanced Gel Stability and Cisplatin Delivery
So-Lee Baek, Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-44 Urushi organogel synthesized with vanadium
Minseok Kim, Jongok Won
Department of Chemistry, Sejong University, Korea

POLY.P-45 Mechanochemical Degradation of Cyclic Polymers: Topology Influence in Solution- and Solid-state
Jinkyung Noh, Gregory Peterson[1,*], Tae-Lim Choi
Division of Chemistry, Seoul National University, Korea
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POLY.P-46 A study on the manufacture of porous materials using chitosan with catechol group using Fe^{3+} Ion.
Jun Tae Kim, HyunKyung Choi[1], Jongok Won
Department of Chemistry, Sejong University, Korea
[1]Chemistry, Sejong University, Korea

POLY.P-47 Comparative study of residual solvents analysis method in film using GC-FID and GC-HS-FID
Cheol wan Go, Changki Kim
Instrument Analysis Team , KANGNAM CHEMICAL, Korea

POLY.P-48 Silica-driven biomineralization process in amphiphilic random copolymer solutions
Myungeun Seo[*], **Shaheen Pathan**[1]
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
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POLY.P-49 Study on Synthesis and Properties of Polymers Based on Calcogenophene Including Electron Donating Group
Intae Kim*, **Joon Ho Yoon**
Department of Chemistry, Kwangwoon University, Korea

POLY.P-50 Synthesis and electropolymerization of a new pyrrole derivatives
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POLY.P-51 Synthesis of Enantiomeric ω-Substituted Hydroxy Acids from Terminal Epoxides and Alkenes: Functional Building Blocks for Discrete and Sequence-Defined Polyesters
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POLY.P-52 Helical-shaped Thermoresponsive Hydrogels Showing Anisotropic Deformation
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Materials Science and Engineering, Pohang University of Science and Technology, Korea
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POLY.P-53 Homogeneous Blending of PS/PMMA by Controlling Chain Conformation Entropy
Wantaek Hong, Youngjong Kang[1,*]
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[1]Department of Chemistry, Hanyang University, Korea

POLY.P-54 Achieving High Efficiency of Perovskite Solar Cells Based on A Moisture-Resistant Dopant-Free Polymeric Hole Transport Material
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POLY.P-55 Metal-Chelated Hybrid Polyionic Complex Nanoplatform for Luminescence Resonance Energy Transfer
Sang-Min Lee
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POLY.P-56 Surface modification of mesoporous silica nanoparticles based on tannic acid
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POLY.P-57 Characterization of hydrogels composed of laponite and temperature-responsive poly(N-isopropylacrylamide)
Younhee Jeong, Daewon Sohn
Department of Chemistry, Hanyang University, Korea

POLY.P-58 Lipidated DNA-induced endosome formation under giant unilamellar vesicle systems
Seo Bin Ma, Sohyun Lee, Sumin Park, Hae Joo Kim[1], Jinmin Lee[2], Rim Mhamdi[3], Sang Hak Lee[2], Minseok Kwak[1]
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POLY.P-59 Fabrication of Controllable Hydrogel-Based Hollow Structure by using Hybrid Technique for Future Artificial Organ
Yeeun Cho, Kwanwoo Shin[1,*]
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[1]Department of Chemistry, Sogang University, Korea

POLY.P-60 Self-assembly of cyclic block copolymers containing poly(ethylene glycol) and poly(mandelic acid) with discrete molecular weights
Seul Woo Lee, Subin Park, Kyoung Taek Kim
Division of Chemistry, Seoul National University, Korea

POLY.P-61 Gas adsorption capacity of clay nanotubes loaded with metal organic framework.
HyeYeon Cho, Daewon Sohn
Department of Chemistry, Hanyang University, Korea

POLY.P-62 Structural Analysis of Hyperbranched Polyhydrocarbon synthesized by Electrochemical Polymerization
Jaehong Seo, Sun Hwa Lee[1,*], Rodney Ruoff[2,*]
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POLY.P-63 New Non-Fullerene Acceptor Exceeding 17.12% Efficiency by using Ternary Organic Solar Cells
Jeonghyeon Kim, gokulnath Thavamani, Sung-Ho Jin
Department of Chemical Education, Pusan National University, Korea

POLY.P-64 Highly Efficient Solution-Processed Deep-Blue Phosphorescent Organic Light-Emitting Diodes

Based on Deuterated Carbenic Ir(III) Complex with External Quantum Efficiency Approaching near 20%
Kim Hyerin, Sung-Ho Jin
Department of Chemical Education, Pusan National University, Korea

POLY.P-65 RAFT-Mediated Syntheses of Chelating Block-copolymers for Metal-encapsulated Polymeric Nanostructures
Jiye Choi, Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-66 Design of novel water-soluble purely organic photocatalyst for aqueous PET-RAFT polymerization
Yungyeong Lee, Min Sang Kwon
Department of Materials Science and Engineering, Seoul National University, Korea

POLY.P-67 Self-assembly of Chelating Block-copolymers Encapsulating Functional Metal Cations for the Delivery of Catalytic Agents
Eunseo Lee, Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-68 A Highly Flexible and Robust Electromagnetic Interference Shielding Nanocomposite Film Based on Graphene Nanoplate and Self-doped Conductive Polymeric Surfactant
Pyong Hwa Hong, Jea Woong Jo[1], Sung Woo Hong
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POLY.P-69 Synthesis of nearly ideal polymer networks composed of discrete poly(rac-lactide) (PLA) tetra-arm precursors via SuFEx and SPAAC click chemistry
Mo Beom Koo, Jae Hak Lee, HeeJeong Jang[1], Kyoung Taek Kim[2,*]
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IND.P-70 Hydrolyzed Silk Fibroin Crosslinked Gellan Gum Dialdehyde Hydrogel for Injectable Delivery of hBMSCs
Se Eun Kim, Jinsol Seo, Seung Jae Kim, Taewoong Kang, Jeong Eun Song, Gilson Khang[1,*]
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IND.P-71 Evaluation of injectable hydrogel for retinal epithelial cell regeneration by varying molecular weight of poly vinyl alcohol.
Seung Ho Choe, Se Eun Kim, Youngjun Son, Taewoong Kang, Jeong Eun Song, Gilson Khang[1,*]
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IND.P-72 Solubilization formation of rebamipide solid dispersion with various polymers
Youngjun Son, Seung Jae Kim, Seung Ho Choe, Taewoong Kang, Jeong Eun Song, Gilson Khang[1,*]
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IND.P-73 Fabrication of acetylated polyrotaxanes immobilized surface with temperature-responsive properties for cell sheet engineering
Taewoong Kang, Atsushi Tamura[1], Yoshinori Arisaka[1], Hiroki Masuda[2], Asato Tonegawa[1], Nobuhiko Yui[1], Gilson Khang[3,*]
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IND.P-74 Development of Ticagrelor formulation of sustained release with Eudragit RS/RL by solid dispersion
Seung Jae Kim, Youngjun Son, Se Eun Kim, Jinsol Seo, Taewoong Kang, Jeong Eun Song, Gilson Khang[1,*]
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IND.P-75 Evaluation of gellan gum/methacrylated gellan gum hydrogel with enhanced mechanical strength using LAP for transporting corneal endothelial cells
Jinsol Seo, Se Eun Kim, Seung Ho Choe, Taewoong Kang, Jeong Eun Song, Gilson Khang[1,*]
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IND.P-76 Extended OLED Operational Lifetime and Quantum Efficiency with Phosphorescent NHC-Ir(III) Dopant Profile Management Using Triazolophenanthridine Derivatives
So-Yoen Kim, Daehan Lee, Bumsoo Chon, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea

IND.P-77 Role of Cyclometalated Ir(III) Complexes based on Phenanthroimidazole Derivatives for OLED Applications
So-Yoen Kim, Daehan Lee, Bumsoo Chon, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea

IND.P-78 Structure–Property Relationships in Homoleptic Phenylimidazolinato Iridium(III) Complexes
So-Yoen Kim, Daehan Lee, Bumsoo Chon, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea

IND.P-79 Ternary Transition Metal (MoCoFe) Hydroxides Toward Multifunctional and Efficient Nanostructured Electrodes for High–Performance Overall Water Splitting
Que Nguyen, Sungjune Park[1,*]
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IND.P-80 Stereoselective and toxicity-free synthesis of novel anti-PVY agent artemisinin derivatives

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IND.P-81 Development of novel cancer stem cell inhibitor from marine natural products

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IND.P-82 Silk fibroin-coated polyamide thin-film composite membranes with anti-scaling properties

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IND.P-83 Design of self-assembling peptides for target molecule interaction in vivo

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IND.P-84 Design and production of home-built solid-state NMR probes for specific materials

Minseon Kim, Yongae Kim
Department of Chemistry, Hankuk University of Foreign Studies, Korea

INOR.P-85 Synthesis, structures, and reactivites of Pd(II), Pt(II), and Au(I) complexes containing tetrazole –thiolato ligands
Yong-Joo Kim
Department of Chemistry, Gangneung-Wonju National University, Korea

INOR.P-86 SO_2 capture and detection of Mg-based metal-organic frameworks with open-metal sites
Daewon Kim, Chang Seop Hong[1,*]
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INOR.P-87 Defects Engineered FeRu Nanoparticles for Enhanced Hydrogen Evolution Reaction in Alkaline Media
Hee Jin Kim, Hangil Lee[1], Won Seok Seo[2], Sang-Il Choi
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[2]Department of Chemistry, Sogang University, Korea

INOR.P-88 Co(II) and Cu(II) Complexes Containing Bidentate *N,N*-Aminomethylpyridine and *N,N*-Aminomethylquinoline Derivatives: Synthesis, Characterization and Application Towards *rac*-Lactide Polymerization
Jaegyeong Lee, Hyosun Lee
Department of Chemistry, Kyungpook National University, Korea

INOR.P-89 Comparison of Vinyl Addition Polymerization of Norbornene Using *in-situ* Generated Palladium(II) Catalytic Species *versus* Palladium(II) acetate complexes
Yerim Cho, Hyosun Lee
Department of Chemistry, Kyungpook National University, Korea

INOR.P-90 Copper(II), Zinc(II), and Cadmium(II) Complexes Based on Pyridine Derived *N,N,N*-Tridentate Schiff Base; Synthesis, Structural Properties, and Biological Activities
Saira Nayab, Hyosun Lee
Department of Chemistry, Kyungpook National University, Korea

INOR.P-91 Second-harmonic generation and photoluminescent properties of d^{10} metal-based homochiral coordination polymers
Jihyun Lee, Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-92 Synthesis and Luminescence Properties of Rutile-Type TiO_2 Nanorods
Hieu minh Ngo, Kang Min Ok[1,*]
Chemistry, Sogang University, Vietnam
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INOR.P-93 A Polar Tetragonal Tungsten Bronze with Large Second Harmonic Generation
Yunseung Kuk, Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-94 Transition Metal-Doped Tungsten Bronze Oxides with Enhanced Second Harmonic Generation Responses
Yejin Pi, Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-95 Water reservoirs dependent on packing modes of $[Ni(II)_2L_6]$ cages
Geon Woo Gwak, Seonghyeon An, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-96 Efficient Catalysis of C_3-symmetric Tripalladium(II) Complex via Geometrical Coincident Interaction
Dongwon Kim, Hyo Jeong Back, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-97 Subtle metal(II) effects of 2D coordination networks on SCSC guest exchange
Gyeongwoo Kim, Gyeongmin Kim, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-98 Anion Exchange Retaining Three Dimensional Frameworks which have Confined Channels
Jihun Han, Kim Daeun, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-99 Porous Organic Polymer-incorporated Sponge for Photocatalytic Detoxification under Sunlight irradiation
Hyojin Kim, Jong Hyeak Choe, Minjung Kang, Hongryeol Yun, Sunyoung Kim, Su Min Lee, Sookyung Park[1], Sumin Yu, Yong Hoon Lee, Chang Seop Hong
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INOR.P-100 Chiral amino acid-templated metal oxyfluorides with large birefringence
Ahyung Jung, Kang Min Ok
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INOR.P-101 Synthesis, crystal structure and nonlinear optical

properties of a guanidinium-templated zinc carbonate
Zhiyong Bai, Kang Min Ok[1,*]
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INOR.P-102 Nonlinear optical properties of a mixed-valent tellurium hydroxide
Sunghwan Cho, Kang Min Ok[1,*]
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INOR.P-103 Zn-based chiral coordination polymers with noncentrosymmetric structures
Minju Lee, Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-104 Syntheses, structures, and optical properties of n = 3 layered Dion–Jacobson perovskites, RbEu2-xBixTi2NbO10 (0 ≤ x ≤ 2)
Kang Min Ok*, **Jin Kyu Kim**
Department of Chemistry, Sogang University, Korea

INOR.P-105 Synthesis, structures, and characterization of Cd-based homochiral coordination polymers
JinSoo Koh, Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-106 Enantiomeric lanthanide(III) complexes supported by tetradentate chiral ligand; synthesis, crystal structure, and photoluminescent properties
Yuri Jeong, Ihsan Ullah[1], Anh Le Ngoc Tram[1], Yoon Jung Jang[2], Kil Sik Min
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INOR.P-107 Synthesis and Characterization of Linear Ligand Containing Benzonitrile Group and Their Silver(I) Complexes
Yelim Lee, Joon Rae Kim, Seo Hyeon Yun, Eunji Lee
Department of Chemistry, Gangneung-Wonju National University, Korea

INOR.P-108 Supramolecular Silver(I) Coordination Networks Based on Dibenzonitrile Ligand
Seo Hyeon Yun, Joon Rae Kim, Yelim Lee, Huiyeong Ju[1], Eunji Lee
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INOR.P-109 Synthesis and structural characterization of silole derivatives
Se yeon Park, Ji Hun Lee, Young Tae Park
Department of Chemistry, Keimyung University, Korea

INOR.P-110 Synthesis of an O_2S_2-Donor Containing Flexible Cyanobenzyl Ligand and Its Metallosupramolecules
Joon Rae Kim, Yelim Lee, Seo Hyeon Yun, Eunji Lee
Department of Chemistry, Gangneung-Wonju National University, Korea

INOR.P-111 Synthesis, crystal structure, magnetic, and luminescent properties of anion-dependent copper(II) coordination polymers
Ihsan Ullah, Anh Le Ngoc Tram[1], Yuri Jeong[2], Kil Sik Min[2]
Department of Chemistry , Kyungpook National University, Pakistan
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[2]Department of Chemistry Education, Kyungpook National University, Korea

INOR.P-112 Dimensionality Control of Zn(II) MOFs by [2+2] Cycloaddition Reaction
Jihye Oh, Dong Hee Lee, Jaewook An, Huiyeong Ju[1], In-Hyeok Park
Graduate School of Analytical Science and Technology, Chungnam National University, Korea
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INOR.P-113 Solvent Mediated Photo-Reactivity of Zn(II) Supramolecular Isomers Based on Olefinic Bipyridyl Spacer Ligands
Dong Hee Lee, Jihye Oh, Jaewook An, In-Hyeok Park
Graduate School of Analytical Science and Technology, Chungnam National University, Korea

INOR.P-114 Concentration-Dependent Formation of Zn(II) Metal-Organic Frameworks with Photoreactive 4-Styrylpyridine
Jaewook An, Dong Hee Lee, Jihye Oh, In-Hyeok Park
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INOR.P-115 Stabilizing and accessing across ternary phasecesium lead bromide perovskite nanocrystals: thermodynamic and kinetic controls
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INOR.P-116 Exciton Recombination *versus* Energy Transfer Mapping Competing Energy Transfer in Mn(*x*)-doped $CsPb(Cl_{1-y}Br_y)_3$ Perovskite Nanocrystal
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INOR.P-117 Meltable carboxylate-based metal-organic frameworks
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INOR.P-118 Blue OLEDs with Over 36% External Quantum Efficiency Using a TADF Emitter Based on Linearly Arranged Spiro-Donor and Spiro-*B*-Heterotriangulene Acceptor
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INOR.P-119 In-Situ Formed Building Block-Directed Syntheses of Hydrogen-Bonded Organic Frameworks
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INOR.P-120 Selective Sr^{2+} Capture in an In^{3+}-based Anionic Metal-Organic Framework
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INOR.P-121 Exceptional Porosities of Mixed-Metal Based Multivariate Metal–Organic Frameworks
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INOR.P-122 Deep Blue Fluorescence Compounds Based on Planarized *B,N*-Diarylated Dibenzoazaborines
Nhi Nguyen Ngoc Tuyet, Hanif Mubarok, Taehwan Lee, Ju Hyeong Kim, Jin Seon Cha, Min Hyung Lee
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INOR.P-123 Metallosupramolecules of a Di-armed Pillar[5]arene: a Heterochiral Cyclic Dimer Complex and Organic Guest-Assisted Homochiral Poly-Pseudo-Rotaxanes
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INOR.P-124 $KF{\cdot}B(OH)_3$: a KBBF-type material with large birefringence and remarkable deep-ultraviolet transparency
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INOR.P-125 Understanding the oxidative relationship of the metal oxo and hydroxo species in aromatic hydroxylation reactions by heme iron (IV)complexes using DFT .
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INOR.P-126 Gadolinium silicated MRI contrast agent based on porous silicon nanoparticles
Hyeji Um, Dokyoung Kim
Department of Biomedical Science, Kyung Hee University, Korea

INOR.P-127 **[Withdrawal]** Understanding the structural transformation of 2-dimensional Cu(II)- to Cu(I)-based metal-organic framework
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INOR.P-128 Synthesis and structure of stable linear Cu(I) iodide-based organic-inorganic hybrid 1-D coordination polymer with a bisquinoline Schiff-base ligand
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INOR.P-129 The Study of Electrochemical Properties and Energy Storage Mechanism of ZnS NSs@rGO as High-Capacity Anode materials for Sodium-ion Batteries
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INOR.P-130 High Performance of Bi2S3 Nanorods@rGO composite as Anode Materials for Lithium-Ion Batteries
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INOR.P-131 Covalent Functionalization of FeCo-Graphite Core-Shell Nanoparticles
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INOR.P-132 FeRu Nanoparticles for Enhanced Hydrogenation Reaction of Quinoline
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INOR.P-133 Synthesis and Photophysical Properties of Open and Closed Dimeric Indium Complexes
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INOR.P-134 Enhancement of Photocatalytic performance via C_{60}-incorporated Nano Mixed Ligand MOFs (nMLM)
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INOR.P-135 Morphology controlled Flower- and Urchin- like NiCoP derived from Layered-Double Hydroxide for Lithium-ion Batteries
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INOR.P-136 Synthesis of stable $CsPbBr_3$ perovskite quantum dot-silica phosphor for white LED
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INOR.P-137 Catalytic activation of diiron active sites from soluble methane monooxygenase via component interactions of MMOR
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INOR.P-138 Improve enzyme activities of sMMO via regulation of substrates
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INOR.P-139 Complex generation of bacterial enhancer binding protein and its nucleic acid complex
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INOR.P-140 Synthesis, Characterization and Reactivity of Mononuclear Nonheme Iron(III)-Peroxo Complexes bearing 13-Membered Cyclam Derivatives
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INOR.P-141 Sensing for toxic chemicals using 3D Zinc(II) coordination polymers
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INOR.P-142 Guest adsorption of Pd2L4 coordination cages
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INOR.P-143 Photocatalytic Production of Hydrogen Peroxide from Water and Oxygen with a *p*-Benzoquinone Derivatives and an Earth-Abundant Cobalt Complex
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INOR.P-144 Two-Phase Multivariate IRMOFs with Fine-Tuned Pore Environment
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INOR.P-145 Induced Formation of Defective Metal-organic Framework for Enhanced Catalytic Activity
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INOR.P-146 Construction of Multi-Metallic ZIFs having Controlled Components
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INOR.P-147 Synthesis and Photophysical Properties of 4-NMe_2- and 4-NMe_3^+-Appended Salen-Indium Complexes
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INOR.P-148 Synthesis and Optical Properties of Bis(9,9-dimethyl-9,10-dihydroacridine)-Appended Salen−Indium Complexes
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INOR.P-149 Shape-Preserving Anion Exchange of Metal Oxide Nanocrystals without Kirkendall Effect
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INOR.P-150 Development of Novel Liquid Organic Hydrogen Carrier for Highly Efficient Hydrogen Storage

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INOR.P-151 Synthesis of Ag catalysts derived from ZIF-8 and their catalytic performances for the oxygen reduction and evolution reactions in alkaline medium
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INOR.P-152 Bio-inspired hydrochromic smart film using nanosphere lithography
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INOR.P-153 Acceleration of Bone Regeneration on Electrospun Nanofiber Containing Nanohydroxyapatite
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INOR.P-154 Enhancement of stable InP/ZnSeS/ZnS QD with surface treatment for displays
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INOR.P-155 Synthesis of Eco-friendly and Stable I-III-VI Quantum Dot-embedded Al_2O_3 microbeads using electrospraying
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INOR.P-156 Proposed Mechanism of Deformylation Reactions Catalyzed by A Nonheme Cobalt (III)- Peroxo Intermediate Using Density Functional Theory
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INOR.P-157 Study of Proton Position of Adsorbed or Coordinated Water Molecules in Coordination Polymers
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INOR.P-158 Naphthyl-based bis-*ortho*-carboranyl luminophores: Intramolecular charge transfer-based quantum efficiency affected by structural geometry
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INOR.P-159 Novel tetradentate platinum(II) complexes and their outstanding performance in blue phosphorescent organic light-emitting diodes
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INOR.P-160 Synthesis of Metal Oxides and Carbon Materials Derived from MOFs for Electromagnetic Wave Absorbers
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INOR.P-161 Interrelationships between Matrix Metalloproteinase and Vitamins
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INOR.P-162 Effect of the Functionalization on Bent shaped bis-Bimetallic Catalyst on Carbon dioxide Conversions
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INOR.P-163 Study of Structural Transformation in Zn-based Metal-Organic Frameworks Using High Temperature in-situ IR spectroscopy
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INOR.P-164 Study on Gas Sorption behavior in the functionalized Hydrogen bonded Porous Coordination Polymer(HPCP)
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INOR.P-165 Thermally induced spin-crossover in the iron complexes with 3,5-Cl-Hqsal by supramolecular interactions
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INOR.P-166 Defect passivation strategy using (α-Methylguanido)acetic Acid for improving operational stability
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INOR.P-167 Control of FRET efficiency by specific solvent effects in dual-phosphorescent Ir-Ir bimetallic complex
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INOR.P-168 Syntheses and Applications of Indol-2-ylidene-Ligated Ruthenium-Based Olefin Metathesis Catalysts
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INOR.P-169 Fluorescent probes for a variety of small molecule analytes capitalizing on the presence of main group element centers at the probe active site or in the analyte
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INOR.P-170 Combination of Metal Organic Frameworks in the Colorimetric Sensor Array for the Sensing of Exhaled Breathe
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INOR.P-171 Enhance the PLQY of environmentally friendly InP quantum dots using metal halide based etching technique.
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INOR.P-172 Selective Formation of Multinuclear Iridium Supramolecules Using Binding/Chelating Modes of Tetrazolyl Ligands
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INOR.P-173 Synthesis and Characterization of Non-calcined Mesoporous Hollow Silica for Formaldehyde Adsorption
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INOR.P-174 A liquid-liquid reaction system for continuous recyclization in Carbon Dioxide conversion to Formate
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INOR.P-175 Sandwich-like Na_2Ti6O_{13}/rGO Composite as an Anode Material for High Performance Sodium-Ion Batteries
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INOR.P-176 Ni-Doped in FeOF Nanorods as a Cathode Material for Enhanced Electrochemical Performances in Sodium-Ion Batteries
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INOR.P-177 Pea-Shaped $NiSe_2$@N-Doped Graphitic Carbon Fibers Derived from ZIF-8 Template as an Anode Material in Sodium-Ion Batteries
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INOR.P-178 Simulation of monomeric reaction-path prior to the subsequent dimerization producing paddle-wheel-like complex of tetrakisacetatodimolybdenum(II)
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INOR.P-179 Effect of cation Substitution for the Electronic Structure and Thermoelectric Properties of the $Ba_{1-x}Eu_xZn_2Sb_2$ System
Daewon Shim
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INOR.P-180 Influence of the Phase-Transition to the

Thermoelectric Properties in the Ternary Zintl Phase $Ca_{3-x}Sr_xAlSb_3$ System
Dong Hwan Seo
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INOR.P-181 Synergistic Effects of Cation Substitution and *p*-type Doping for Zintl Phase Thermoelectric Materials: $Ca_{9-x}Yb_xZn_{4.5-y}Cu_ySb_9$ System
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INOR.P-182 In-Situ Synthesis of Fe-Fe_3C Nanoparticles Embedded in Tubular Graphitic Carbon with an Extra Capacity for High-Performance Sodium-Ion Anode Material
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INOR.P-183 Effect of Transition Metal Substitution and *p*-type Doping for the Thermoelectric and Electronic Properties of the $BaZn_{2-x}TM_xSb_2$ (*TM*=Cd, Cu) System
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INOR.P-184 Enhanced Electron Transfer Reactivity of a Series of Mononuclear Nonheme Cobalt(III)-Iodosylbenzene Complex by Binding Redox-Inactive Metal Ions
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INOR.P-185 Interdigitating Metalloclips for Self-Assembly and Molecular Recognition
Sungryul Bae, Hyun Lee, Dongwhan Lee
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INOR.P-186 A Nonheme Ferrous Apoptosis–Ferroptosis Hybrid Strategy Efficiently Kills Renal Cancer Cells via Fenton Reaction
Hyungbin Park, Hyeri Jeon[1], Chaewon Ahn[1], Seungwoo Hong[1]
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INOR.P-187 π-Extended Polyheterocyclic Chelates to Build Discotic Multinuclear Complexes
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INOR.P-188 Cellular senescence Control of human mesenchymal stem cells through etoposides
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INOR.P-189 Cellular Senescence Control of Skin Fibroblasts Using Chemical Stress
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INOR.P-190 Photochemical CO_2 reduction catalyzed by Ir(III)–Re(I) complexes with quaterpyridine ligand: photoaccumulation of charges on π-conjugated qpy ligand and efficient multielectron transfer toward catalytic center
Daehan Lee, Bumsoo Chon, Sang Ook Kang, Ho-Jin Son
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INOR.P-191 **[Withdrawal]** Supramolecules and their photophysical characterization using indolocarbazole
Ga Hee Noh, Junseong Lee
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INOR.P-192 New iridium supramolecules based on pyrazolyl ligands
Seon mi Sin, Junseong Lee
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INOR.P-193 Adsorption Characteristics of Quantum Dot (QD) Materials According to TiO_2 phase in QD-sensitized TiO_2 Hybrid Catalytic system
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INOR.P-194 Photosensitization Behavior of Indium Phosphide Quantum Dot (InP-QD) in Durable Carbon Dioxide Reduction by InP-QD/TiO_2/Re(I) Hybrid Catalyst
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INOR.P-195 Bioinspired Photocatalyst Systems of Earth-Abundant Metal Complexes for Efficient CO2 Photoconversion to Formate
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INOR.P-196 Combinatorial synthesis and excitation strategy for quantitative analysis of effect of Au on a semiconductor
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INOR.P-197 Ligand Control Toward Deep Blue Emission in Linear Au(I) Complexes
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INOR.P-198 Dynamic weak coordination bonding of chlorocarbons enhances the catalytic performance of a metal-organic framework material
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INOR.P-199 Solvent-assisted Reversible Interpenetration of a Cu Paddlewheel-based Metal-organic Framework
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INOR.P-200 Understanding the structural transformation of 2-dimensional Cu(II)- to Cu(I)-based metal-organic framework
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INOR.P-201 Dibenzo-fused Heterocycles in Metal-Organic Frameworks
Seungpyo Hong, Jonghyeon Lee, Min Kim
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INOR.P-202 Color Tuning of Benzene-1,4-Dicarboxylic Acid Ligands for Metal-Organic Frameworks
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INOR.P-203 TEMPO-functionalized MOFs for Efficient Oxidation and Cyclization
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INOR.P-204 Crystal Phase Engineering of AgAuS heteronanoparticles via cation-coordination dependent exchange reaction
Suin Jo, Jongsik Park
Department of Chemistry, Kyonggi University, Korea

INOR.P-205 One-photon-induced Two-electron Photoredoxcatalytic Trifluoromethylation Based on Singlet Fission
Sihyun Woo, Dayoon Song, Huaxi Huang[1], Dino Wu[1], Sfeir Matthew[1], Luis M. Campos[1], Youngmin You
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INOR.P-206 A new photoactivable NO-releasing {Ru-NO}6 ruthenium nitrosyl complex showing very high quantum yield
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INOR.P-207 Electrocatalytic CO_2 Reduction by polypyridyl Co Complex with π-acceptor ligands and Lewis Basic Amine Site
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INOR.P-208 Electrocatalytic Hydrogen Evolution Reaction by Tungsten-Oxo Bis(dithiolene) Complexes
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INOR.P-209 Solid-State Proton Battery for High Specific Energy and Charging-rate
Taeyun Kim, Hyun Seo Ahn
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INOR.P-210 Development of ternary oxide nanoframe catalyst toward oxygen evolution reaction
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INOR.P-211 Synthesis and Physical Properties of New Au(I) Complexes with Pyrimidine derivative ligands
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INOR.P-212 Electrocatalytic H_2 Evolution Reaction by Cobalt Complexes Using Redox-Active Ligands
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INOR.P-213 Inferring expression level and cooperative nature of EGFR in live cell from the observation at single molecule level
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INOR.P-214 Electrocatalytic CO_2 Reduction Reaction using N-Heterocyclic Carbene Chelated Nickel Polypyridyl Complexes
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INOR.P-215 Biomimetic Metal Complexes Bearing Cationic Ligand as Chemodynamic Agents for Colorectal Cancer Therapy
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INOR.P-216 BiOI Phase-Dependent Reactivity for Forming $(BiO)_2CO_3$ and Electrochemical CO_2 Reduction to Formate at Low Overpotential
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INOR.P-217 HKUST-1 activation under nitrogen flow
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INOR.P-218 Controlling activity and selectivity of ethanol oxidation on Pd nanocubes with sulfurization
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INOR.P-219 Click-Based Cu nanowire@microporous organic polymer with hydroquinones for enhanced pseudocapacitive performance
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INOR.P-220 A new strategy of heterogeneous nanocatalyats for biodegradable polycaprolactone synthesis
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INOR.P-221 Synthesis and Structural Analysis of Heteroleptic Molybdenum Complexes using *N*-Alkoxy Carboxamide Ligands
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INOR.P-222 Synthesis of Novel Tin(II) Sulfide Precursors for 2D-semiconductor
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INOR.P-223 Synthesis and characterization of Ru precursors for atomic layer deposition
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INOR.P-224 New approaches for the synthesis of new Zr-precursors
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INOR.P-225 Transformation of Alkyl Azide to Isocyanate with Co-Si pincer complexes through Metal-Ligand Cooperation
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INOR.P-226 Metal-Ligand Cooperativity of Nickel-Pnictogen Pincer Complexes
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PHYS.P-1 Branching ratio in photodissociation of aniline based ternary cluster cations
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PHYS.P-2 Energetics of Low-Dimensional Chemicals in Solutions
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Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

PHYS.P-3 Mixed-Reference Spin-Flip Time-Dependent Density Functional Theory for Accurate X-ray Absorption Spectroscopy
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PHYS.P-4 Additive Effect on Solvation Structure in Organic Liquid Electrolytes
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PHYS.P-5 Weakly solvating 1,2-diethoxyethane for Lithium Metal Batteries: A Molecular Dynamics study
Abdullah Bin Faheem, Kyung-koo Lee
Department of Chemistry, Kunsan National University, Korea

PHYS.P-6 Nonadiabatic dynamics simulations using low-cost multireference perturbation theories (XMS-CASPT2D and SA-DSRG-MRPT2)
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PHYS.P-7 Reversible Volume Change of Hydrogel induced by cyan/violet light
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PHYS.P-8 Synthesis and Characterization of Hyaluronate-Based Hydrogel: Phase Transition and DNA Delivery
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Division of Chemistry, Kongju National University, Korea

PHYS.P-9 Mechanistic insight into Metal-ion doped Fe3O4 nanoparticles with photocatalytic activity
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PHYS.P-10 Photoinduced Charge Transfer induced by Excited-State Aromatization
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PHYS.P-11 Approximate SA-CASSCF-level excited state geometry optimization with large active space using adaptive sampling configuration interaction self-consistent field (ASCI-SCF)
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PHYS.P-12 Ultrafast Excited-state Aromatization in 1,6-methano[10]annulene
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PHYS.P-13 Organic Semiconductors
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PHYS.P-14 Physicochemical properties of SnTe Thin Films annealed at various temperatures
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PHYS.P-15 Compositional ratio effect on physical and chemical properties of molybdenum oxytelluride thin films
Sangmin Han, Hee-Seung Yoon, Yong-Cheol Kang
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PHYS.P-16 Deep learning prediction of HOMO and LUMO energies of optoelectronic organic materials
Minhi Han, Minseok Jeong, Joonyoung F. Joung[1], Dong Hoon Choi[1], Sungnam Park[1]
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PHYS.P-17 Core–Satellite–Satellite Hierarchical Nanostructures: Assembly, Plasmon Coupling, and Gap-Selective

Surface-Enhanced Raman Scattering
Hoa Duc Trinh, Seokheon Kim, Joohwan Park, Sangwoon Yoon[1,*]
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PHYS.P-18 Photophysical origins of broadband upconversion in Er_2O_3
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PHYS.P-19 Ultrasmall Polyacrylic Acid-coated Dy_2O_3 Nanoparticles as novel T_2 MRI Contrast Agent with Its High Colloidal Stability
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PHYS.P-20 Multi-Modal Gadolinium Dysprosium Oxide Nanoparticles for MRI Contrasting Agent
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PHYS.P-21 Polyethylenimine-Coated Ultrasmall Holmium Oxide Nanoparticles: Synthesis, Characterization, Cytotoxicities, and Water Proton Spin Relaxivities
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PHYS.P-22 Synthesis and characterizations of the core-shell Fe_3O_4@SiO_2 and its application for nucleic acid extraction
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PHYS.P-23 Synthesis, Characterization, And X-Ray Attenuation Properties Of Ultrasmall Lead Oxide Nanoparticles-Coated By Three Different Ligands As High-Performance CT Contrast Agent
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PHYS.P-24 Synthesis of Poly(methyl vinyl ether-alt-maleic acid)-coated Gd_2O_3 NPs for in vivo MR imaging
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PHYS.P-25 The cations diffusional modes of the superconcentrated Li^+ /K^+ OAC^- electrolyte
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PHYS.P-26 A Study on Photo-controllable Hydrogel Using Green Fluorescent Protein Dronpa145N and Hyaluronate
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PHYS.P-27 DLX3 protein and dxDNA complex study through NMR spectroscopy
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PHYS.P-28 Valence molecular orbitals and cationic structures of 2-fluoropyridine by high-resolution ion spectroscopy and the Franck-Condon fitting
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PHYS.P-29 Conformer-specific photoionization dynamics of pivaldehyde by IR resonant VUV-MATI mass spectroscopy and Franck-Condon analysis
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PHYS.P-30 Precise cationic structure of oxetane by two-photon IR+VUV-MATI spectroscopy
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PHYS.P-31 Effect of a chlorine substituent on two outermost orbitals of 3-chloropyridine by HR VUV-MATI mass spectroscopy
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PHYS.P-32 Role of Fe−C−Al Sites for Low-Temperature CO Oxidation (~50 °C) over the Fe-Oxide Nanoparticles Supported by Al2O3
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PHYS.P-33 Ultrafast excited state aromatization in action
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PHYS.P-34 A Plausible Mechanism of Uracil Photohydration Involves an Unusual Intermediate
Saima Sadiq, Cheol Ho Choi
Department of Chemistry, Kyungpook National University, Korea

PHYS.P-35 A Study on ADAR1 Mutant in Aicardi-Goutières Syndrome Using NMR
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PHYS.P-36 Synthesis of Cu diatomic site catalyst for CO_2 photoreduction
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PHYS.P-37 A theoretical investigation on the C–H bond activation reaction by manganese(IV)-oxo complex bearing a DPAQ ligand and its excited state reactivity
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PHYS.P-38 Stable adsorption configurations of furan on Ge(100) surface
Jeong-Woo Nam, Young-Sang Youn
Department of Chemistry, Yeungnam University, Korea

PHYS.P-39 The adsorption configurations of isoxazole molecule on a Ge(100) semiconductor surface
Jeong Min Ha, Young-Sang Youn
Department of Chemistry, Yeungnam University, Korea

PHYS.P-40 Upconversion enhancement of oxygen vacancy introduced $BaTiO_3$: Er^{3+}
Young Gwon Jung, Kang Taek Lee
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

PHYS.P-41 *In Silico* Engineering of Binding Affinities of Green Fluorescent Proteins
Yu-Gon Eom, Jeong-Mo Choi
Department of Chemistry, Pusan National University, Korea

PHYS.P-42 Thermodynamics and Kinetics of Multivalent Protein Interactions
Changeun Kim, Hyoin Park[1], Yongwon Jung[1], Jeong-Mo Choi
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PHYS.P-43 Understanding the effect of polarizability on the diffusion of Li^+ cations in PEO electrolytes by using molecular dynamics simulation
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PHYS.P-44 Highly sensitive gas sensor using graphene doped with ⟦SnO⟧_2 nanoparticles and NiO nanoparticles for detection of ⟦NH⟧_3 gas
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PHYS.P-45 Preparation of Efficient Cu-based Photocathodes for Improving PEC Water Splitting
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PHYS.P-46 A Convolutional Neural Network Deep Learning Study Toward an Overarching Structural Origin of Glassy Dynamics of Two-Dimensional Lennard-Jones Colloidal Glasses
Eun Cheol Kim, Bong June Sung
Department of Chemistry, Sogang University, Korea

PHYS.P-47 Investigation of G-quadruplex affected by lead(II) ion under molecular crowding conditions
Hee Chang Kwon, Ji Hoon Han
Department of Applied Chemistry, Andong National University, Korea

PHYS.P-48 Novel Design of Phase Separation Drivers Based on Fluorescent Proteins
Da-Eun Hwang, Jeong-Mo Choi
Department of Chemistry, Pusan National University, Korea

PHYS.P-49 Spacer Effects in Collective Behaviors of Associative Polymers: Coarse-Grained Simulation Study
Da-Hyun Koo, Jeong-Mo Choi

Department of Chemistry, Pusan National University, Korea

PHYS.P-50 Twisted intramolecular charge transfer and structural dynamics of push-pull chromophores
Sebok Lee, Taehyung Jang, Jongwon Im, Yoonsoo Pang
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

PHYS.P-51 A spectroscopic approach to the study of the electrochemical reaction of amplex red to resorufin.
Seonghyun Jeong, Sangwon Nam[1], Jae Kyu Song
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PHYS.P-52 First principle study on the surface of O-CoMoSe2 for hydrogen evolution reaction (HER)
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PHYS.P-53 The Mechanism Change of 4-Trifluoromethylbenzoyl Chloride for Solvolysis
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PHYS.P-54 Surface-sensitive TOF-SIMS and operando DRIFT studies to understand the photocatalytic behaviors of Fe-loaded TiO2 for volatile organic compounds degradation under the visible light irradiation
Hyun Ook Seo*, Young Dok Kim[1,*]
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PHYS.P-55 Protocol of calculating dielectric constant for polymer models using DFTB-MD and PM3 method.
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PHYS.P-56 Dynamics of Amphiphilic-DNA on Lipid Bilayer
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PHYS.P-57 CO_2 reductive activation in the anionic state of aza-anthracene
Kyubin Lee, Jinmin Lee, Sang Hak Lee
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PHYS.P-58 Variation of photocatalytic activity of TiO2 nanoparticles upon the nature of target organic molecules under blue light irradiations (methylene blue vs phenol degradation)
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PHYS.P-59 Programmable Chemical Patterns Using Multi-Frequency Sounds
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PHYS.P-60 How the Dust in Our Living Environment Serves As An Adsorbent for Hazardous Semi-Volatile Organic Compounds?: Molecular Dynamics Simulation Study
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PHYS.P-61 Molecular Dynamics Energetics of Amyloid Fibril Polymorphs
Taeseung Lee, Jeong-Mo Choi
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PHYS.P-62 Revealing the roles of surface treatments on hematite (a-Fe2O3) photoanode in the shift of onset potential
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PHYS.P-63 Adsorption/desorption characteristics of SVOCs on silica glass surface and cellulose surface in living environment: Molecular Dynamics Study
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PHYS.P-64 Understanding the mechanisms of carbonic anhydrase and its variants through DFT calculations
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PHYS.P-65 Alcohol and Aldehyde oxidation on palladium Nano Wires
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PHYS.P-66 Production of AuPtCu nanoalloys via pulsed laser irradiation for electrochemical formic acid oxidation
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PHYS.P-67 Preparation of TiO_2 Nanoparticles using Pulsed Laser Ablation System
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PHYS.P-68 Anisotropic Plasmon Coupling of Gold Nanorod-Nanosphere Assemblies
Seokhyun Yun, Sangwoon Yoon
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PHYS.P-69 Real-time monitoring of dsRNA unwinding by SARS-CoV-2 nsp13 helicase using single-molecule FRET
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PHYS.P-70 Phase-Resolved Second-Harmonic Generation Spectroscopy of Hetero-Bilayer Transition Metal Dichalcogenides
Juseung Oh, Sunmin Ryu
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PHYS.P-71 Photocatalytic Adsorption of Benzene over Fe-oxide Modified AC
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PHYS.P-72 Circular dichroism spectroscopy of jet-cooled styrene oxide at the origin band and vibronic band
Jiyeon Yun, Changseop Jeong, Nam Joon Kim
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PHYS.P-73 QM/MM-MD simulations on GFP chromophore anion in protein
Minjoo Kim, Woojin Park, Cheol Ho Choi
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PHYS.P-74 Cas12a-based Sensitive Gene Detection of SARS-CoV-2 Using Single-molecule FRET
Sangmin Ji, Hye Ran Koh
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PHYS.P-75 Sustainable Process of Electrocatalytic nitrogen reduction reaction to Ammonia by density functional theory
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PHYS.P-76 Spatiotemporal Carrier Dynamics in Nanopatterned Halide Perovskite Surfaces
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PHYS.P-77 Tailoring the fate of exciton in perylene bisimide
Yongseok Hong, Dongho Kim
Department of Chemistry, Yonsei University, Korea

PHYS.P-78 Rapid Production of CoPd Alloys via Pulsed Laser System for Efficient Hydrogen Fuel Production Integrated with Hydrazine Oxidation
Yu Jeong Jeong, Shreyanka Shankar Naik, Theerthagiri Jayaraman, Seung Jun Lee, Myong Yong Choi
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PHYS.P-79 Theoretical Investigation of the Ultrafast Photoisomerization of 2*H*-1,2-Oxaborine
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PHYS.P-80 Identifying Protein-Protein Interaction Utilizing Unique Behavior of Elastin-Like Polypeptide (ELP).
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PHYS.P-81 Non-Gaussian Center-of-Mass Diffusion of a Polymer Chain in Crowded Entangled Polymer Solutions
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PHYS.P-82 Nanoparticles of All-in-One BODIPYs for NIR Imaging-Guided Photodynamic Therapy
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PHYS.P-83 Real-time exciton and biexciton recombination dynamics of perovskite quantum dots and improved emission stability on Ag photonic array
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PHYS.P-84 Theoretical investigation of the origin of triplet state stability of F_2PNS
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PHYS.P-85 Intramolecular Charge Transfer of Stilbazolium Derivatives Investigated by Time-Resolved Vibrational Spectroscopy
Jongwon Im, Taehyung Jang, Sebok Lee, Yoonsoo Pang
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PHYS.P-86 Excitation energy hopping in covalently linked cyclic carbaporphyrins.
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PHYS.P-87 Resolution Improvement Using Time Lag Focusing in a Linear Time-of-flight Mass Spectrometer
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PHYS.P-88 Network model for bacterial persistence to survive in adverse conditions.
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PHYS.P-89 In situ Time-of-Flight Mass Spectrometry for Real-time Process Control
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PHYS.P-90 Diffusion of oxygen in silver under high pressures studied by X-ray photoelectron spectroscopy (XPS) depth profiling
Kyungwoo Kim, Chang Min Kim
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PHYS.P-91 The New Protein-Protein Interaction Search Method: Rapid Interacting Molecular Screening (RIMS)
Tae Rin Woo, Hanbin Shin, Young Kee Chae
Department of Chemistry, Sejong University, Korea

PHYS.P-92 Ultra-Low Frequency Polarized Raman Spectra of Monolayer Tetracene Crystals
Jiyeon Kim, Sunmin Ryu
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PHYS.P-93 Comparison of Different Programs Solving Time-Dependent Schrödinger Equation for the Early-Time Dynamics of Proton-Coupled Electron-Transfer Processes
Pinit Ariyageadsakul, Kyoung-Koo Baeck
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PHYS.P-94 The adsorption structure of a thiomorpholine molecule with sulfur and nitrogen atoms on Ge(100) surface
Yeonju Lee, Young-Sang Youn
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PHYS.P-95 Revealing the structure of benzene-I atom charge transfer complex by time-resolved X-ray solution scattering
Seoyoung Lee, Kyung Hwan Kim
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PHYS.P-96 Emission and Reflectance Spectroscopy Study of Excitonic Behaviors in 2D $CrCl_3$
Hyesun Kim, Sunmin Ryu
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PHYS.P-97 Circular Dichroism Spectroscopy of L-Phenylalanyl-L-alanyl-L-alanine Ions Stored in the Quadrupole Ion Trap
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PHYS.P-98 Top-Down Approach for Two-Dimensional Tetracene Molecular Crystals Studied with Wide-Field Polarimetric Photoluminescence Imaging
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PHYS.P-99 Spectroscopic Elucidation on Exciton Dynamics of Perylene Bisimide Dye Assemblies in Solutions and Films
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PHYS.P-100 Revealing a hypothetical fragile to strong transition in deeply supercooled water using anisotropic X-ray scattering under Optical Kerr Effect condition
MyeongSik Shin, Kyung Hwan Kim
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PHYS.P-101 Examination of the alpha-hydrogen dissociation mechanism promoted by carbonyl group in cyclohexanone and cyclopentanone on a Ge(100)
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PHYS.P-102 Stimulated Raman spectroscopy for characterizing two-dimensional insulators
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PHYS.P-103 Heterogeneous transport dynamics of synaptic vesicles at presynaptic terminals
Gyunam Park, Ji-Hyun Kim, Jaeyoung Sung
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PHYS.P-104 Allotropes of phosphorus and their conversion via PLAL: Real-time Raman spectroscopy analysis of levitated phosphorous droplet
Juhyeon Park, Ahreum Min, Cheol Joo Moon, Jiwon Kim, Myong Yong Choi
Department of Chemistry, Gyeongsang National University, Korea

PHYS.P-105 Metal ion tuned two dimensional CoFe-LDH electrocatalyst for superior electrochemical water splitting: A Collaborative study through insitu-Raman analysis and DFT calculation
Shreyanka Shankar Naik, Theerthagiri Jayaraman, Seung Jun Lee, Yiseul Yu, Myong Yong Choi
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PHYS.P-106 Revealing the Photolysis Process of Nickel Complex with Time-Resolved X-ray Absorption Spectroscopy
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Department of Chemistry, Pohang University of Science and Technology, Korea

PHYS.P-107 Electrospun carbon nanofibers containing Ru and VO2 nanostructures via electrospinning and its electrochemical performances for OER
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PHYS.P-108 Investigation of Binding Free Energy of SARS-CoV-2 Neutralizing Antibodies by Atomic-Level Thermodynamics Analysis
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PHYS.P-109 Searching for the liquid-liquid critical point in supercooled water with time-resolved X-ray scattering
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PHYS.P-110 Microtubule-based motional changes of the motor protein multiplex under hyperphosphorylated conditions
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PHYS.P-111 Differentiation of competitive vs. noncompetitive reaction process
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Department of Chemistry, Chung-Ang University, Korea

PHYS.P-112 Phase Behaviors of Self-Assembled Monolayers Formed by Coadsorption of Alkanethiols and N-heterocyclic Carbenes on Au(111)
Haeri Kim, Young Ji Son, Sicheon Seong, Hyun Su Oh, Jun Hyeong Lee, Jaegeun Noh
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PHYS.P-113 The chemical fluctuation theorem governing expression, protein maturation and annihilation.
Jin Hyung Kim, Ji-Hyun Kim, Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea

PHYS.P-114 Formation and Structure of Self-Assembled Monolayers of Alicyclic Thiocyanates on Au(111)
Jun Hyeong Lee, Sicheon Seong, Young Ji Son, Haeri Kim, Hyun Su Oh, Jaegeun Noh
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PHYS.P-115 Surface Structure and Characteristics of N-heterocyclic Carbene Self-Assembled Monolayers on Au(111)
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PHYS.P-116 Charge-Transfer Absorption Band in Two-Dimensional PTCDA Molecular Crystals
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and Technology, Korea

PHYS.P-117 Carbon nanotubes with MnCr2O4 by electrospinning and its application for supercapacitors
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PHYS.P-118 UV photodissociation spectroscopy of protonated tyrosine at room temperature with a new QIT-TOF mass spectrometer
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PHYS.P-119 Enhancing charge diffusivity by pyrene incorporation in multi-cation halide perovskites
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PHYS.P-120 Deep learning based model for early prediction of sepsis
In-Chun Jeong, Ji-Hyun Kim, Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea

PHYS.P-121 Hydration level dependent diffusional heterogeneity of water molecule near cell membrane surfaces
Minho Lee, Ji-Hyun Kim, Minhaeng Cho[1,*], Jaeyoung Sung
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PHYS.P-122 UVC-Induced Formation of AgNPs on Cellulose Paper as SERS Substrate for Thiol Gas Detection
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Department of Chemistry, Chungnam National University, Korea

PHYS.P-123 Predicting the number of reaction sites in multisite reaction system.
Jingyu Kang, Ji-Hyun Kim, Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea

PHYS.P-124 Resonant Raman Scattering of PTCDA Monolayers on Graphene
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PHYS.P-125 Plasmonic Catalytic Activity of Au@TiO_2–Au Core–Satellite Nanoassemblies
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PHYS.P-126 Fractional derivative as an ingredient of density functional
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PHYS.P-127 Effective simulation method of Light Extraction Efficiency of GaN nanocrystal
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PHYS.P-128 Combined electrochemical production of hydrogen fuel and value-added furoic acid on Pt decorated Co_3O_4 nanocomposite
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PHYS.P-129 Single Metals Decorated CuO Nanorods for Electrochemical Fufrural Valorization
Jiwon Kim, Talshyn Begildayeva, Yiseul Yu, Theerthagiri Jayaraman, Seung Jun Lee, Myong Yong Choi
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PHYS.P-130 Synthesis of transition metal carbides (M_xC, M: Co, Fe, Ti, and Mo) using pulsed laser ablation in acetone as solvent and carbon source for water splitting
Yewon Oh, Yiseul Yu, Theerthagiri Jayaraman, Seung Jun Lee, Myong Yong Choi
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PHYS.P-131 Architecture of flower-like Co-doped CuO via a novel pulsed laser ablation technique for enhanced electrocatalytic methanol oxidation with hydrogen fuel production
Sieon Jung, Senthil Raja Arumugam, Shreyanka Shankar Naik, Seung Jun Lee, Myong Yong Choi
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PHYS.P-132 Nonlinear Susceptibility Modulation in 2D Hetero-bilayers of Transition Metal Dichalcogenides with Wavelength-Scanned Second-Harmonic Generation Spectroscopy
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PHYS.P-133 Architecture of nitrogen doped carbon supported RuO_2/Co_3O_4 composite from metal-organic

frameworks as a bifunctional electrocatalyst for efficient overall water splitting
Senthil Raja Arumugam, Ujwal Mukkati Praveena, Sieon Jung, Seung Jun Lee, Myong Yong Choi
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PHYS.P-134 Ni-doped reduced graphene oxide via pulsed laser process for enhanced electrochemical hydrogen evolution reaction
Yeryeong Lee, Yiseul Yu, Seung Jun Lee, Theerthagiri Jayaraman, Myong Yong Choi
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PHYS.P-135 Investigation on the corrosion rate of alloy 600, 617, and Hastelloy N in molten salts
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PHYS.P-136 High-entropy metal alloy materials with Ru, Rh, Pd, Pt, and Ir via microwave and CO_2laser
Chae Eun Park, Gyoung Hwa Jeong, Myong Yong Choi
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PHYS.P-137 Pulsed laser synthesized metal-organic frameworks derived IrO_2@Co_3O_4 composite as an effective electrocatalyst for overall water splitting
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PHYS.P-138 Non-classical chemical dynamics of the enzyme reaction process
Sanggeun Song, Ji-Hyun Kim, Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea

PHYS.P-139 Independently Tunable Stimulated Raman Excited Fluorescence
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PHYS.P-140 Selectively Grown Monolayer and Spiral $MoSe_2$ by Flux-Controlled Chemical Vapor Deposition
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PHYS.P-141 The dynamics of bimolecular proton transfer in aqueous solution using Time-resolved Infrared spectroscopy
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Department of Chemistry, Pusan National University, Korea

PHYS.P-142 Direct Observation of Electron Coupling Effect with Monitoring Hot Electron Behavior on Au@Pd Core-Shell Nanocatalysts
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PHYS.P-143 Photodissociation Dynamics of CF_2BrCF_2I in Solution Investigated by Time-resolved Infrared Spectroscopy
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PHYS.P-144 Pt/Ag/TiO_2 Plasmonic Nanodiodes for Extraction of Surface Plasmon-driven Chemicurrent
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PHYS.P-145 Utilization of $PtSe_2$ atomic layers as a nanostructured heterogeneous catalyst for the CO oxidation reaction
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PHYS.P-146 Manipulating Hot Electron Lifetime and Flux by Controlling Perovskite Bandgap on a Perovskite Plasmonic Nanodiode
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PHYS.P-147 Revealing Loss Mechanism and Obtaining Mean Free Path of Hot Electrons on Catalytic Nanodiodes
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PHYS.P-148 Boosting hot electron generation and catalytic performance by engineering metal-oxide interfaces
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PHYS.P-149 Phase Digram of Dipalimitoyl—glyeryl-trimethylhomoserine and Chlorosulfolipid Mixtures: Molecular Dynamics Simulation Studies
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PHYS.P-150 Controlled Synthesis of Low-Dimensional Mo/Te Compounds by Te Flux Change
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PHYS.P-151 Lactate sensor using surface-enhanced Raman scattering
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PHYS.P-152 A New Cancer Screening Method using SERS by Attracting Target Signal Easier as Magnetic Nano-Particle Bio-markers.
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Department of Chemistry, Kangwon National University, Korea

PHYS.P-153 Photodissociation dynamics of Molsidomine (SIN-10) probed by Time-resolved IR spectroscopy
Hojeong Yoon, Manho Lim, Seongchul Park
Department of Chemistry, Pusan National University, Korea

PHYS.P-154 Effect of SERS activity for organic semiconductor PEDOT:PSS by temperature-mediated microstructural changes
Shuang Guo, Eungyeong Park, Sila Jin, Lei Chen, Young Mee Jung
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PHYS.P-155 Thermal Stability of Lignin Peroxidase Mutants : Molecular Dynamics Simulation Studies
Youhyun Nam, Rakwoo Chang
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PHYS.P-156 **[Withdrawal]** Effects of PHMG Concentration on Lung Surfactant Membrane Deformation: Molecular Dynamics Simulation Studies
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PHYS.P-157 Development of the Convolutional Neural Network Model Characterizing DNA Knots Conformations by Contact Probability Map
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PHYS.P-158 Structure and Dynamics of Theophylline in D_2O Investigated by 2D IR
Jin Gyu Seol, Hyejin Kwon, Yung sam Kim
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PHYS.P-159 Structural and Dynamical Characteristics of D_2O in $CHCl_3$ Investigated by 2D IR
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PHYS.P-160 Facile Fabrication of Hematite Thin Film for Hydrogen Evolution Reaction
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PHYS.P-161 Improving Photocatalytic Properties of BiVO4 for Biomass Valorization
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PHYS.P-162 Upcycling Melamine Resin with Urea and Their Application on Photo(electro)catalytic Reactions
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PHYS.P-163 Theoretical study on fifth-order multidimensional spectroscopy for studying ground state chemical reaction based on equation-of-motion phase-matching-approach
Minhyeok Lee, Junwoo Kim
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PHYS.P-164 Effect of the enhanced solvent-solute interaction in the deeply supercooled regime on the structure of triiodide ion
Kyeongmin Nam, Kyung Hwan Kim, Seonju You
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PHYS.P-165 AFM Probing of Nanoscale Triboelectric Charge on Gamma-ray Irradiated Fluorinated Ethylene Propylene (FEP)
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PHYS.P-166 A simulation study of the deformation mechanism of semi-crystalline block copolymer
Hyungshick Park, Bong June Sung
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PHYS.P-167 Mercury(II) Sensor Based on Thin Film Transistor Consist of Supramolecular Flavin-Wrapped Single-Chirality Single-Walled Carbon Nanotube
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PHYS.P-168 Kinetic Monte Carlo (KMC) Simulation of Monolayer MoS_2 Grown by Chemical Vapor Deposition
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PHYS.P-169 Mica-Induced Uni-Directional Growth of MoS_2 using Chemical Vapor Deposition
Insu Lim, Sang-Yong Ju
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PHYS.P-170 MoS_2 Growth with Varying Thickness of MoO_3 Film Using Chemical Vapor Deposition
Jehyun Oh, Sang-Yong Ju
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PHYS.P-171 Optical and Structural Characterizations of MoS_2 Edges *via* Darkfield Hyperspectral Spectroscopy
Sungmin Bong, Sang-Yong Ju
Department of Chemistry, Yonsei University, Korea

PHYS.P-172 Ultraviolet Photodissociation Spectroscopy of Protonated and Sodiated Methyladenine Derivatives in a Cryogenic Ion Trap
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PHYS.P-173 Highly Sensitive Near-Infrared SERS Nanoprobes for In Vivo Imaging using Gold-Assembled Silica Nanoparticles with Controllable Nanogaps
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PHYS.P-174 SERS Substrate for Detecting Gardenia Jasminoides Extract
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PHYS.P-175 Raman Phase Transformation Study of Cesium Tin Iodide Perovskite Quantum Dots Produced from Ligand Engineering Approach
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ANAL.P-176 Development of new NMR techniques with enhanced sensitivity and resolution to study SARS-CoV-2-derived RNA fragments
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ANAL.P-177 Tuning chemical interfaces of adsorbate molecules and plasmonic nanoparticles by electrochemical potential
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ANAL.P-178 Metabolite profiling of chestnut (Castanea crenata) according to origin and harvest time using 1H NMR spectroscopy
Miso Nam, Sae Rom Jo, Min-sun Kim
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ANAL.P-179 Modeling provenances of fermented soybean paste products based on the elemental concentration obtained by inductively-coupled plasma optical emission spectroscopy
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ANAL.P-180 Experimental Design of Pharmaceutical Quality Science (Pharmacopoeia Practice)
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ANAL.P-181 Size sorting and lipidomic analysis of exosomes and microvesicles by flow field-flow fractionation and nUHPLC-ESI-MS/MS
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ANAL.P-182 Lipidomic analysis of fecal and saliva from patients with lung cancer
Bo Young Hwang, Jaewon Seo, Gwang Bin Lee, Myeong Hee Moon
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ANAL.P-183 Optimization of skin lipid sampling for lipidomic analysis by nanoflow UHPLC-ESI-MS/MS
Seunghee Shin, Gwang Bin Lee, Myeong Hee Moon
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ANAL.P-184 Optimization of storage solvent for lipid of human saliva sample
SeungMin Jeon, Bo Young Hwang, Gwang Bin Lee, Myeong Hee Moon
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ANAL.P-185 Optimization of miniaturized asymmetrical flow field-flow fractionation channel
Hyeju Yu, Young Beom Kim, Myeong Hee Moon
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ANAL.P-186 Particle separation by thickness-tapered channel in flow field-flow fractionation
SeungYeon Shin, Jaewon Seo, Young Beom Kim, Myeong Hee Moon
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ANAL.P-187 Quantitative analysis of tire wear particle contents in road dust generated from the exclusive median bus lane
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ANAL.P-188 Consecutive detection of mercury(II) ion and miRNA-21 by electrochemical sensor
Su Bin Han, Min Ji Kim, Soo Suk Lee
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ANAL.P-189 Detection of explosive peaks overlapped with interference peaks in ion mobility spectrometry
He-Ryun Choi, Sung-Seen Choi
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ANAL.P-190 Influence of formulation and crosslink density on pyrolysis behavior of wear particles

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ANAL.P-191 Feasibility of infrared spectroscopy for identification of pancreatic cancer by analysis of urine
Yunjung Kim, Hoeil Chung
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ANAL.P-192 Machine learning in cross-column density functional theory-based quantitative structure retention relationships model development
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ANAL.P-193 Structure-Based Simultaneous Absolute Quantitation of Monosaccharides using LC/MRM-MS
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ANAL.P-194 Tuning Plasmonic Properties by Promoting the Inward Hg Diffusion via Oxygen Plasma Treatment in Gold Nanorods Coated with Mesoporous Silica Shell
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ANAL.P-195 A Structure-Based Approach to Quantify Keratan Sulfate in Biological Samples Using LC/MRM-MS
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ANAL.P-196 Metabolomic profiling of multi-sample types exposed to particulate matter in mice using LC-MS
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ANAL.P-197 Rapid Determination of Sulfites in Foods Using Paper Spray Ionization Tandem Mass Spectrometry
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ANAL.P-198 Fabrication of printing and paper-based Digital microfluidics PCR device using Polysulfone (PSU)
Hyuckjin Lee, Oh-Sun Kwon, Kwanwoo Shin
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ANAL.P-199 Characterizing the Optical Properties of Single Palladium Coated Gold Nanorods (AuNRs@Pd) Using Dark-Field Microscopy and Spectroscopy
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ANAL.P-200 Synthesis and electrochemical studies of $LiMn_{1-x}Co_xBO_3$ composite material as a anode material for Li–ion battery
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ANAL.P-201 Comparative Proteomic and Glycomic Analysis of Human Red Blood Cells and Pig Red Blood Cells for Xenotransfusion
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ANAL.P-202 Block copolymer-dispersed graphene for simultaneous electrochemical determination of dopamine and ascorbic acid
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ANAL.P-203 Enzyme based amperometric lactate biosensor for the quantification of lactate biomarker
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ANAL.P-204 Disposable voltammetric sensor modified with de-bundled single-walled carbon nanotubes for norepinephrine estimation
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ANAL.P-205 Characterization and preparation of iodine-substituted $LiFeBO_3$/C cathode material for lithium-ion batteries
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ANAL.P-206 Synthesis of $LiFe_{0.4}Mn_{0.6}PO_4$ with a hybrid ionic and electronic coating layer as a cathode material for high performance Li-ion batteries
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ANAL.P-207 Development of SERS-based microdroplet sensor for sensitive and reproducible detection of SARS-

CoV-2
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ANAL.P-208 Raman spectroscopic analysis for composition of sintered ore
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ANAL.P-209 Metabolomic and lipidomic analysis of liver tissues from RagA/B double knockout obese mice
Yeajin Ju, Geum-Sook Hwang
Korea Basic Science Institute, Korea

ANAL.P-210 Study on evaporation characteristics of chemical warfare agent Novichok using wind tunnel and micro-chamber thermal extractor
Nahye Park
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ANAL.P-211 Single-Particle Study: Removal of Organothiols on Mesoporous Silica Coated Gold Nanorods Using Sodium Borohydride Solution
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ANAL.P-212 Effect of Silver Coating on Plasmonic Properties of Single Gold Nanorods Coated with Mesoporous Silica Shell
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ANAL.P-213 CRISPR/Cas-assisted Nanoneedle Sensor for Detection of ATP
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ANAL.P-214 Fluorescent Polydopamine Nanoparticles Incorporated Hydrogel for Photothermal Therapy of Cancers
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ANAL.P-215 Investigating the multitarget potential of a natural product on amyloid protein aggregation
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ANAL.P-216 Proteomic evaluation of the natural antibacterial feed in Paralichthys Olivaceus on a large-scale fish farm
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ANAL.P-217 Electrochemical Platform for Cellular Reactions of Gas Molecules
Chanju Won, Sojin Kim, Dongvin Kwak, Sooyeon Chae, MyungKook Son, Dongjoon Im, Da Gyeong Hyun, Gyusub Yoon, Jinhui Kim, Soohyeong Kim, Kyoungsuk Jin, Hugh I. Kim
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ANAL.P-218 Development of self-assembled AuNPs using an instant dehydration of in butanol for the preparation of sensitive SERS platforms
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ANAL.P-219 Sensitive detection of thyroid-stimulating hormone using SERS-based lateral flow assay (LFA) strip
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ANAL.P-220 Enhanced catalytic activity of Pd nanoparticles supported on amidated GOs for the reduction of nitroarenes
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ANAL.P-221 Effect and Application of Carbon Chain Length of Aminated DNA on Chemical Interface Damping in Single Gold Nanorods
Jaeran Lee, Ji Won Ha
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ANAL.P-222 Development and Optimization of 3D-Printed Cone Spray Ionization Mass Spectrometry (3D-PCSI MS)
Gyuha Park, Sangwon Cha
Department of Chemistry, Dongguk University, Korea

ANAL.P-223 Supersensitive Hypoxia Detection by Quantum Dot-Based Sandwich Immunoassay
Seungah Lee, Seong Ho Kang
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ANAL.P-224 Paper-based Electrophoresis for the Rapid Detection of Point-of-care PCR Devices
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ANAL.P-225 High Sensitivity Hydrogel-Coated Lateral Flow Assay for the Rapid SARS-CoV-2 Antibody Detection
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ANAL.P-226 Elucidating Co-resistance Mechanisms in Cytarabine Resistance Human Acute Myeloid Leukemia Cells Using Biochemical Analysis
Jinhui Kim, Sooyeon Chae, Gyusub Yoon, Chanju Won, MyungKook Son, Dongjoon Im, Dongvin Kwak, Da Gyeong Hyun, Soohyeong Kim, Hugh I. Kim
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ANAL.P-227 Quantification of Total Saponins in herbal drugs using Vanillin-Sulfuric acid reaction
Ji Yoon Song, Ji Young Kim
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ANAL.P-228 Estimation of uncertainty in concentration measurement processes of nicotine from mainstream smoke in Heat-not-burn tobacco
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ANAL.P-229 A new alternating laser-ablation data sampling for precise laser-induced breakdown spectroscopy analysis of K, Mg, Ca, and S in edible salt products
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ANAL.P-230 Fetal gene detection using magnetoplasmonic nematic film
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ANAL.P-231 Development of a DNA based drug substrate analysis method using a dual-hybridization
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ANAL.P-232 Development for Determination of trace level or arsenic using hydride generation coupled to ICP-OES(HG-ICP-OES)
Jian Kim, Ji Young Kim
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ANAL.P-233 Electrochemical Analysis of various FeSe nanomaterials
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ANAL.P-234 HR-MAS NMR Spectroscopy for various types of Artificial skin: The potential of exploring the structural properties and water mobility of skin tissue
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ANAL.P-235 Non-Destructive Monitoring of Dye Depth Profile in Dye-Sensitized Photoelectrode with Micro-SORS
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ANAL.P-236 Influence of Liposome Surface Chemistry on Natural Production of Serum Lipid Coronas Investigated by Non-targeted Mass Spectrometry
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ANAL.P-237 Development and Characterization of Stationary Phase for High-resolution Microfabricated Gas Chromatography using UV Curable Polymer
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ANAL.P-238 A novel online 3D Separation for comprehensive phosphoproteome analysis
Chaewon Kang, Dowoon Nam, Jiwon Hong, Sang-Won Lee
Department of Chemistry, Korea University, Korea

ANAL.P-239 Wide band PRM provides quantitative information of target peptides with enhanced accuracy and enables large-scale global targeting
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ANAL.P-240 Study on the Various Electrocatalytic Properties of Pt and Ag Nanoparticle Depending on the Applied Potential
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ANAL.P-241 Synthesis and analysis FeSe quantum dots for bio-application
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ANAL.P-242 Synthesis of Cu-based quantum dots (QDs) and its characterization

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ANAL.P-243 Study on Stimuli-Responsive Behavior and Microbial Degradation Performance of Synthetic Microcapsules Incorporating Hyaluronic Acid
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ANAL.P-244 Dynamic Nuclear Polarization of 29Si Spin in Crystalline α-Quartz Nanoparticles
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ANAL.P-245 Enhanced NMR Signal by Parahydrogen Method with Optimizing Home-Built Instrument
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ANAL.P-246 Efficient blue organic electrochemiluminescence luminophore based on a pyrenyl–phenanthroimidazole conjugate
Jiwoo Kim, Jong-in Hong[1,*], Joohoon Kim
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ANAL.P-247 Europium-doped magnetoplasmonic nanoparticle and its application in monitoring copper(II)
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ANAL.P-248 Metabolic profiling of lung tissue from hamster infected by Covid-19 Delta and Omicron variant
Sunho Lee, Jueun Lee, Geum-Sook Hwang[1,*]
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ANAL.P-249 Lipidomic analysis of liver tissue from mouse model of diabetes induced atherosclerosis using LC/MS
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ANAL.P-250 Antidoping assay for insulin and insulin-mimetics with a new application of AF4-ESI-MS
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ANAL.P-251 Magnetoplasmonic nematic film for genetic hearing loss
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ANAL.P-252 Cell Glycome Fingerprinting for Cell Therapy Quality Control Using LC/MS/MS
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ANAL.P-253 Synthesis of two-dimensional FeSe layered nanostructure
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ANAL.P-254 Three-dimensional superlocalization-based nanoimmunosensor for detection of various biomarkers
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ANAL.P-255 Development of a Targeted Proteomic Approach in Disease Subtype Identification with its Application on Pancreatic Ductal Adenocarcinoma
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ANAL.P-256 Synthesis and Surface Enhanced Raman Scattering of Mesoscopic Star-Shaped Gold Particles
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ANAL.P-257 Differential Interference Microscopy and

Spectroscopy for Single Particle Analysis of Anisotropic Gold Nanoparticles
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ANAL.P-258 Fabricate uniformed Surface enhanced Raman Scattering active substrate using Au nanoparticles deposited on a conical anodic aluminum oxide template
Dong Hwan Nam, Seunghyun Lee[1,*]
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ANAL.P-259 Fabrication of Highly Sensitive 3-Dimensional SERS Substrate for Immunoassay
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ANAL.P-260 Fabrication of Multipods Silica Nanoparticle coated with gold as SERS-active Substrates
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ANAL.P-261 Fabrication of Multi-Vacancy-Defect MWCNTs by the Removal of Metal Oxide Nanoparticles
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ANAL.P-262 NMR Structural study of Amyloid ion channel with zinc ion concentration
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Department of Chemistry, Hankuk University of Foreign Studies, Korea

ANAL.P-263 Structural analysis of tIK peptides through NMR and its possibility as a candidate substance for autoimmune disease
Jinhee Jeong, Minseon Kim, Yongae Kim
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ANAL.P-264 Structural study of antimicrobial peptides, LPcin-YK series, by using NMR Spectroscopy
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ANAL.P-265 Structural study of human melanocortin-4 receptor through NMR analysis
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ANAL.P-266 NMR structural analysis of the interaction between syndecan-4 and PIP_2 associated with protein kinase Cα
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ANAL.P-267 Polymorphic transition analysis of ε-HNIW mixed with plasticizers according to aging.
So Jung Lee*, SeungHee Kim, Kuktae Kwon, Hae-Wook Yoo
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LIFE.P-227 Long-Term Effects of In Vivo Genome Editing in the Mouse Retina via Adeno-Associated Virus
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LIFE.P-228 Dynamics study of miRNA390a Precursor using NMR
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LIFE.P-229 NMR study on the interaction of human HoxA1 with target DNA
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LIFE.P-230 NMR study on the interaction of human ZBP1 with its target Z-DNA
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LIFE.P-231 A dual mutator system enables targeted *in vivo* hypermutation and introduces all transition mutations without biases
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LIFE.P-232 Fishing new phosphoarginine binding proteins using chemoproteomic methods
Seungmin Ahn, Jung-Min Kee
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LIFE.P-233 Screening and Optimization of Small C-terminal Phosphatase 1's inhibitors
Youngjun Kim
Medicinal Bioscience, Konkuk University, Korea

LIFE.P-234 The simplest cellular model for cellular motion with fully controllable actin polymerization
Sungwoo Jeong, Keel Yong Lee[1], Seohyeon Min[2], Chang Ho Kim[3], Kwanwoo Shin[2]
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LIFE.P-235 Cell-free Protein Synthesis Using Cell Lysate in Giant Unilamellar Vesicle (GUV)
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LIFE.P-236 Cleavage-Responsive Biofactory T Cells Suppress Infectious Diseases-Associated Hypercytokinemia
Hye-Jin Lee, Jinyoung Park, Hyeon-Jin Ahn, Wonhwa Lee
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LIFE.P-237 Cation Regulation of Actin Bundle Mechanics, Actin Elongation, and Networks
Chang Ho Kim, Sang Ho Lee[1], Sungwoo Jeong[2], Albertus Ivan Brilian[3], Keel Yong Lee[4], Kwanwoo Shin[1]
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LIFE.P-238 Citrate-based formation of fluorophores on N-terminal proteins
Yun Jung Choi, Yan Lee
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LIFE.P-239 Sterically hindered peptide bond formation onto β-branched *N*-methyl amino acid on solid support
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Department of Chemistry, Gwangju Institute of Science and Technology, Korea

LIFE.P-240 Studies on the substrates and activators of LHPP
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LIFE.P-241 Design, synthesis, and evaluation of chemical probes for photolabeling of arginine kinases
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LIFE.P-242 A strategy to overcome Malonyl-CoA related negative effects in metabolic engineering
So yeon Kim, Jung-Min Kee
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LIFE.P-243 *C*-Terminus modified ultrashort peptoids: Broad

spectrum antimicrobial agents with enhanced cell selectivity
Heewoong Yoon, Jieun Choi, Jiwon Seo
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

LIFE.P-244 Searching for the pHis readers with chemical tools
Solbee Choi, Seungmin Ahn, Jung-Min Kee
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LIFE.P-245 Introducing a ROS-generating moiety into antimicrobial peptoids allows for multiple mechanisms of action.
Dasom Song, Jieun Choi[1], Jiwon Seo[1]
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LIFE.P-246 Design of Novel Antimicrobial Peptides effective Against Multidrug-resistant Gram-negative bacteria
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LIFE.P-247 Structures, Dynamics, and foldings of acyl carrier proteins from Enterococcus faecalis regulating fatty acid synthesis
Jiwon Yeon, Yangmee Kim
Bioscience and Biotechnology, Konkuk University, Korea

LIFE.P-248 Protein-protein interactions in aryl polyene biosynthase of cabapenem-resistant Acinetobacter baumannii studied by NMR spectroscopy
Seoyeong Yoo, Yangmee Kim
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LIFE.P-249 Synthesis and mechanism study of antimicrobial peptoids with guanidine side chains
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LIFE.P-250 SARS-CoV-2 Model: Artificial Liposomal Assembly, Conjugated with Recombinant Spike Proteins and Encapsulated mRNA
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LIFE.P-251 Bone regeneration effect of BMP-2-loaded poly(lactic-*co*-glycolic acid) (PLGA) microparticles with strong calcium-binding property in posterolateral spine fusion in rat model
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LIFE.P-252 Predicting reference dose for water safety assessment
Hyeong Do Moon, Dong Ryeol Shin, Sung Kwang Lee
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LIFE.P-253 A thiol-activated fluorogenic probe for detection of a target protein
Chang-hee Lee, Hui Li[1], Injae Shin
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LIFE.P-254 Visualization of mRNA transcription in Artificial Cell using click-chemistry
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LIFE.P-255 Design and Fabrication of Pumpless PCR device for POCT application
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LIFE.P-256 Artificial photosynthetic organelles using novel rhodopsin operating in extreme environment.
Seohyeon Min, Keel Yong Lee[1], Sungwoo Jeong[2], Hyun Park[3], Kwanwoo Shin
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LIFE.P-257 Overexpression of α5β1 Integrin on Mammalian Cells to Enhance Cell-Extracellular Matrix and Cell-Surface Interactions
Albertus Ivan Brilian, Sang Ho Lee[1], Agustina Setiawati[2], Keel Yong Lee[3], Kwanwoo Shin[1]
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LIFE.P-258 Deformation Threshold of Cytoplasmic Protein Structures in Mammalian Cells on the Mechanosensing on a Nanoscale
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LIFE.P-259 A ratiometric fluorescent probe for detection of O-GlcNAcase
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LIFE.P-260 A Fluorogenic Probe Targeting Two Spatially Separated Enzymes for Selective Imaging of Cancer Cells
Yujun Kim, Hyoje Jung, Injae Shin
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LIFE.P-261 Enhancing Endosomal Escape of siRNA Drugs by Mimicking Gene Delivery of Influenza A Virus
Ryu Si Yeon, Nam Hyeong Kim, Yong Ho Kim
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LIFE.P-262 Skin Penetration Promoting Formulation through Controlled Emulsion Structure
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LIFE.P-263 Photocatalytic membrane oxidation triggers pyroptotic cell death
Chaiheon Lee, Mingyu Park, Duyoung Min[1,*], Tae-Hyuk Kwon[1]
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LIFE.P-264 A study of differential expression genes in the caecum of 1-week-old broilers
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LIFE.P-265 Effect of restricted dietary of amino acid content on community composition from cecum microbiota of chickens identified using 16sRNA amplicon sequencing
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LIFE.P-266 Discovery of a small molecule synergistically activating STING pathway with natural agonist
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LIFE.P-267 Using click chemistry in chemically modification of OmpG Nanopore for single molecule sensing of an Anticancer Therapeutic Protien-Protein Interaction.
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ORGN.P-268 Functionalized Fullerene-Catalyzed C-C Bond Cleavage Reactions of b-O-4 & b-1 Lignin Model Compounds
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Department of Chemistry, Yeungnam University, Korea

ORGN.P-269 Photooxygenation of Oxophilic Silyl Group Containing Electron-Deficient Enaminoesters: Direct Access to Oxamates Formation
Suk hyun Lim, Hye Mi Yoo, Dae won Cho
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ORGN.P-270 A highly selective ultrafast fluorescent chemosensor for detecting hydrogen sulfide and cadmium ions
So Yeon Bong, Doo OK Jang[1,*]
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ORGN.P-271 Au-Catalyzed Cyclization of Alkynyl Norbornene Derivatives for the Synthesis of Benzofused Heteroarenes
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ORGN.P-272 DRL-TAM: Targeting and Visualization Peptide to the Synovial membrane
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ORGN.P-273 Ligand-Controlled meta-Selective C–H Alkenylation of Arenes
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ORGN.P-274 Selective Photoluminescence and Electrochemiluminescence Detection of Homocysteine by a Cyclometalated Ir(III) Complex with Two Reaction Sites
Hyun Seung No, Jong-in Hong
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ORGN.P-275 Effect of boron-nitrogen bonding modifications on synthetic conditions and photophysical properties
Youngnam Lee, **Jiyun Kim**[1], Jong-in Hong
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ORGN.P-276 Catalyst-free, direct synthesis of dibenzothiophenes
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ORGN.P-277 Skeletal Editing of Arenes through a Cycloaddition–Cycloreversion Sequence
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Chemistry and Nanoscience, Ewha Womans University, Korea

ORGN.P-278 Cascade Synthesis of *N*-Trifluoromethanesulfinyl Ketimines from Ketoximes
Heun-Jong Ha, **Yu Jin Pyo**, Chang-Woo Cho
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ORGN.P-279 Surface Coating Property of Naphthalene Trisulfonate
Yejin Kim, Inho Kim, Sung Min Kang
Department of Chemistry, Chungbuk National University, Korea

ORGN.P-280 Synthesis of novel PNA monomers and PNA oligomers containing an alkyl group in alpha position of PNA base acetic acid
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ORGN.P-281 Cobalt-Nitrenoid Insertion Enables Structural Diversity of Arenes
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ORGN.P-282 Photoinduced Transition-Metal-Free Chan–Evans–Lam-Type Coupling: Dual Photoexcitation Mode with Halide Anion Effect
Jeonguk Kweon, Hoimin Jung, Dongwook Kim[1], Sangwon Seo[2,*], Sukbok Chang[3,*]
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ORGN.P-283 A Boronic Acid-Based Fluorescent Sensor for Detection of amino-compound

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ORGN.P-284 A genetically encoded fluoride sensing system.
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ORGN.P-285 An ncAA dependent and temperature sensitive switch system for conditional gene expression in *E. coli*
Jongdoo Choi, Minseob Koh
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ORGN.P-286 A benzothiazole-based probe for detection of Ni2+ and CN- ions in an aqueous media
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ORGN.P-287 Mechanochemical Synthesis of Thioflavones via Selenium Radical Mediated Cascade Cyclization
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ORGN.P-288 Catalyst-Free, One-Pot, Three-Component Synthesis of 3-Arylsulfonylated Thioflavones
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ORGN.P-289 ^{18}F-Isotopic Functionalization of Sulfur-heteroatom Scaffolds with Cyclotron-produced, Heavily Hydrated [^{18F}]Fluoride Ions
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ORGN.P-290 Enzyme-responsive disulfide polymerization inside cells for selective removal of aging cells
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ORGN.P-291 Reaction of Dioxazolones with Phosphines: Copper-Mediated Synthesis of *N*-Acyl Iminophosphoranes
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ORGN.P-292 Manganese(I)-Catalyzed Ortho-Selective Alkenylation of 6-Arylpurines
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ORGN.P-293 Gold nanorod-water soluble photosensitizer nanoparticles for photodynamic/photothermal combination therapy
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ORGN.P-294 Degradation of organic dyes by Metal-Porous Organic Polymer (M-POP)
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ORGN.P-295 A BODIPY-based J-aggregate for the Selective Fluorogenic Detection of Albumins in Both Solution and Solid States
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ORGN.P-296 Synthetic Methods of *o*-Carborane-Fused Pyrazoles through Sequential C–N Bond Formation
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ORGN.P-297 Regioselective ortho alkynylation of (hetero) aryl tosylates
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ORGN.P-298 Biannulated ring expansion of the Thioflavin T-derived fluorophores for enhancing optical imaging performance toward Amyloid beta fibrils
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ORGN.P-299 Synthesis of Peptoid-Based Alpha-Helix Mimetics
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ORGN.P-300 Ir(III)-Catalyzed Regioselective B(4)–H Allenylation of *o*-Carboranes by Ball Milling
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ORGN.P-301 Rh(III)-Catalyzed B(4)–H and B(3)–H Alkylation Reaction of Pyridyl *o*-Carboranes with α-Diazodicarboxylates
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ORGN.P-302 Pd-Catalyzed Oxidative Cyclization of Azulene-2-Carboxylic Acids with 1,3-Dienes for the Synthesis of Alkenyl Azulenolactones
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ORGN.P-303 Next generation of Antibody-Drug Conjugates via Supramolecular Self-Assembly
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ORGN.P-304 Transition-metal-free radical C–H annulation of simple azine to access polycyclic N-heteroarene
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ORGN.P-305 Dinuclear Pt(II) Complexes with Red and NIR Emission Governed by Ligand Control of the Intramolecular Pt−Pt Distance
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ORGN.P-306 Hydroacylation of Allenes with Acyl Chlorides via Cu-Catalyzed Hydroalumination using Diisobutylaluminum Hydride
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ORGN.P-307 Development of NAD(P)H-activatable fluorescent probe effective for the detection of aggressive cancer cells
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ORGN.P-308 Development of azide-containing naphthalimide-based fluorescent turn-on probe for the detection of hydrogen sulfide
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Department of Chemistry, Sookmyung Women's University, Korea

ORGN.P-309 Human Telomeric i-Motif DNA Replaced with 2-Dimethylaminofluorene-Labeled 2′-Deoxyuridine as a Fluorescent Probe
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ORGN.P-310 Boronic probes for the detection of amino acids and dipeptides
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ORGN.P-311 Development of naphthalimide-based fluorescent probe for imaging various redox molecules
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ORGN.P-312 Naphthalimide-based fluorescent probe for detection of nitric oxide in lysosomes during autophagy
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ORGN.P-313 A naphthalimide-based mitochondria targeting fluorescence probe for the selective detection of peroxynitrite
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ORGN.P-314 Rearrangement of Oxaziridines to Nitrones Using HFIP as solvent
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ORGN.P-315 Synthesis and Properties of New Hole-injection Polymer with High Hole Mobility and Excellent Solvent Resistance for Solution-Processed OLEDs
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ORGN.P-316 Zirconium(IV)-coordination driven zwitterionic antifouling coating
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ORGN.P-317 Markovnikov selective nickel catalyzed hydroboration
SeoYeong Jeong, Jeong Woo Lee, Sung You Hong
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ORGN.P-318 Synthesis of amine-containing zwitterion and coordination-driven non-biofouling coatings for medical titanium
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ORGN.P-319 One-step poly(OEGMA) Antibacterial Coatings through Mussel-Inspired L-DOPA Chemistry
Jong Hyeon Byeon, Woo Kyung Cho
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ORGN.P-320 Mussel-inspired, one-step L-DOPA/zwitterion coatings through radical polymerization for antibacterial applications
Seo Young Kim, Woo Kyung Cho
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ORGN.P-321 The Effect of Oxidizing Agents in Mussel-Inspired One-step L-DOPA/DMAEMA Coatings
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ORGN.P-322 On-DNA Mannich and Suzuki-Miyaura Reactions
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ORGN.P-323 Intra-Lysosomal Assembly of Peptides for Highly Selective Cancer Cell Death and Overcoming of Drug Resistance
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ORGN.P-324 Photodynamic therapy of hypoxic cancer with lysosomal-tagged AIEgen and heavy atom-free photosensitizers through dual molecular design
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ORGN.P-325 Structure-oriented design strategy to construct NIR AIEgens to selectively combat gram (+) multidrug-resistant bacteria in vivo
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ORGN.P-326 Visible-Light Photoredox Catalyzed Defluoro-aryloxymethylation of Trifluoromethyl Alkenes and α-Silyl ethers
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ORGN.P-327 (10-phenylanthracene-9-yl)-naphthoquinoline derivatives for deep-blue organic light-emitting diodes
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ORGN.P-328 D-A type deep-blue thermally activated delayed fluorescence materials based oxygen-bridged boron acceptor and acridine donor
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ORGN.P-329 Light-controlled dual-functional amphiphilic probe with NO-release and simultaneous intramitochondrial self-assembly of nanostructures for supramolecular cancer therapeutics
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ORGN.P-330 Cu-Catalyzed Regio- and Stereoselective Diboration of 1-Alkyl or Aryl-substituted-buta-2,3-dien-1-ols
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ORGN.P-331 Eggshell membrane hydrolysate-based poly(carboxybetaine) grafting and its non-biofouling effects
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ORGN.P-332 Non-Biofouling coatings Using L-DOPA and Sulfobetaineamine
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ORGN.P-333 Dual-channel Imaging of ATP With Rhodamine-thiourea linked Naphthalimide Derivative
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ORGN.P-334 Synthesis and Antioxidant Measurements of Glyceride Compounds
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ORGN.P-335 Total synthesis of Grifolin : Competition and optimization between C- alkylation and O-alkylation
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ORGN.P-336 Effective one-pot conversion of carbohydrates to Pyrrole-2-carbaldehyde as a sustainable platform chemical
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ORGN.P-337 Design of Benzofuran Fluorescent Substance using Mn(III)-Catalyzed Furan Rearrangement
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ORGN.P-338 Bromoacetate and Julia−Kocienski Olefination for Synthesis of Norbixin and its Ethyl Ester
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ORGN.P-339 Synthesis of 7-substituted Juglone-derived scaffolds
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ORGN.P-340 Single Benzene-Based Fluorescent Nanoprobe for Detecting Lipid Droplets and Its Practical Application
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ORGN.P-341 Palladaelectro-catalyzed hydrofluorination of aryl substituted alkenes with nucleophilic fluorinating reagents
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ORGN.P-342 Disulfide-Mediated siRNA Delivery System based on in situ Polymerization for Synergistic Antitumor Therapy
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ORGN.P-343 Attaching Pd-catalyst to carbohydrate-based molecular transporter for improved catalytic activity inside cellular environment
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ORGN.P-344 Synthesis of Arginine-PNA Based Metal Free Artificial Ribonucleases to Efficient Cleavage of RNA in a Sequence-Specific Manner
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ORGN.P-345 Synthesis and Characterization of Benzo[*b*]thiophene Derivatives as Organic Semiconductors for Organic Thin-Film Transistors(OTFTs)
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ORGN.P-346 Total Syntheses of Ervatamine and Methuenine
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ORGN.P-347 Asymmetric Total Syntheses of (-)-Alloaristoteline and (+)-Aristoteline
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ORGN.P-348 Asymmetric Total Synthesis of Subincanadine F via semi-Pinacol Rearrangement
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ORGN.P-349 Study for total synthesis of (-)-platensimycin by internal H-bonding mediated intramolecular Diels-Alder reaction
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ORGN.P-350 Dioxa-1,7-naphthicorrole and its Oxidized Porphyrinoid
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ORGN.P-351 Dimeric and Hexameric Bundles of Helical Carbazole-Pyridine Foldamers
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ORGN.P-352 One-pot synthesis of 2-sulfonamido benzo[b]thiophenes enabled by a mild protonative activation of ynamides
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ORGN.P-353 Synthesis of Mevalonate Intermediates via $LiNTf_2$ catalyzed Mukaiyama Aldol Reaction
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ORGN.P-354 Studies toward a Construction of the Tricyclic Framework of Cyclocalopins
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ORGN.P-355 Synthesis of thiophene-modified methyl salicylate derivatives and comparin g photophysical properties.
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ORGN.P-356 Convenient Synthesis of Bis-lactone through a Three-Component Assembly: Synthesis of (-)-Avenaciolide
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ORGN.P-357 Stereoselective Synthesis of Tri- and Tetra-Substituted Halo-borylalkenes by Boron-Wittig Reaction
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ORGN.P-358 Synthesis of Sequence-Controlled Iterative Polysulfate Oligomer
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ORGN.P-359 Rational Molecular Design of Efficient Heavy-Atom-Free Photosensitizers for Cancer Photodynamic Therapy
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ORGN.P-360 Stereodivergent Conjugate Additions of a-Fluoro Azaaryl Acetamides by Synergistic Iminium and Lewis Acid Catalysis
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ORGN.P-361 A Facile Synthesis of Highly Efficient Green Plasticizer Using Recyclable Organocatalyst: Access to Eco-Friendly Styrene-Butadiene Rubber Composites for Tire
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ORGN.P-362 Synthesis and Characteristic Analysis of Azo dyes for microdisplay Color Conversion Layer
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ORGN.P-363 Fluorescent diagnostic probe of Hcy selectivity detection based on Thiol Coordination for Glioblastoma (GBM) Diagnosis
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ORGN.P-364 Divergent Electrochemical Synthesis of 1H-indazole N-oxides and 1H-indazoles: Catalytic and Non-catalytic C-H Functionalizations of 1H-indazole N-oxides
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ORGN.P-365 Visible-light-induced photoredox catalysis of fluorescein derivatives
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ORGN.P-366 Pd Nanoparticles on triazine solid support as recyclable catalyst and its catalytic reactivity towards coupling reaction.
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ORGN.P-367 Synthesis of 2-Aryl Substituted Azaindole-3-Acetic Acid Derivatives via Cyanide-Mediated Imino-Stetter Reaction
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ORGN.P-368 Total Syntheses of Hirsutine and Isoajmalicine
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ORGN.P-369 Synthesis of Monomeric Masked ortho-Benzoquinone via Oxidative Dearomatization of Phenol MIDA Boronates
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ORGN.P-370 Base-mediated Synthesis of 2-Acylindole-3-acetate : Synthetic Studies of Ngouniensine
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ORGN.P-371 A Cyanide-catalyzed Imino-Stetter Reaction Enables the Concise Total Syntheses of Rucaparib
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ORGN.P-372 Flap-Extended Triazoliptycene To Build Non-Stackable Fluorophores
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ORGN.P-373 Anion-Responsive Fluorescent Foldamer: Ambidentate Hydrogen Bonds for Conformational Preorganization
Jungjeong So, Soohyung Kim, Dongwhan Lee
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ORGN.P-374 Studies for Total Synthesis of Aristolactams CII and DII
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ORGN.P-375 Catalytic Reductive Vinylidene Transfer via 1,5-O-H Insertions
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ORGN.P-376 Supramolecular Cyanine Displacement Assays for Choline Derivatives and Nitro Explosives Detection
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ORGN.P-377 Efficient synthesis of 2-acyl NH pyrroles *via* tandem reaction using 1,2,3-triazoles and allylic alcohols
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ORGN.P-378 Rh(III)-Catalyzed C−H Alkylation of Quinolones and Hetero-Aryl Migration via Metal Carbene Migratory Insertion/Smiles Rearrangement
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ORGN.P-379 Dual Rh(II)/Pd(0) Relay Catalysis Involving Sigmatropic Rearrangement Using N-Sulfonyl-1,2,3-Triazoles and 2-Hydroxymethylallyl Carbonates
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ORGN.P-380 Synthesis of Functionalized Naphthalene Derivatives from Acyl Fluorides and 1,3-Dicarbonyl Compounds
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ORGN.P-381 Asymmetric synthesis of multisubstituted 2*H*-pyrrole *via* Pd-catalyzed trimethylenemethane [3+2] cycloaddition
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ORGN.P-382 Studies for Coumaranone α-Alkylation, α-Arylation, and Oximations

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ORGN.P-383 Investigation of Radical Species of Perylene-Based D−π−A compounds Depending on Electron Push-Pull Effect
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ORGN.P-384 Direct Synthesis of γ,γ-Diketophosphonates from Pentacovalent 1,2λ^5-Oxaphosphorane
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ORGN.P-385 NBD-based Gold Nano Particle Fluorescence sensor for Detection of Hydrogen Sulfide and Selective Discrimination at Varied pH Conditions
Su Jin Na, Haemin Choi, Hyoyun Jang, Seoung Ho Lee
Department of Chemistry, Daegu University, Korea

ORGN.P-386 Fluorescence turn-on sensor based on aggregation of pyrene derivatives for highly sensitive detection of trypsin activity in human urine
Taemin Park, Minwoo Han, Seoung Ho Lee
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ORGN.P-387 Orthogonally Tunable π-conjugation To Build ER-Targeting Fluorescent Probes for Early Diagnosis of Avian Influenza Infection
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ORGN.P-388 Surface tension and interfacial tension of fluorine-containing sulfonamide based succinates prepared from perfluoroalkyl sulfonyl halides with alkyl amines and succinic anhydride.
Myoung-Hoon Kim, Eun Sil Kim[1], Surk-Sik Moon, Byeong Jo Kim[2], Hyon Pil Yu[3], Inhye Jeon[3]
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ORGN.P-389 Evaluation of Small-Molecule Fluorescent Probes for O-GlcNAcase Enzyme Assay
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ORGN.P-390 Continuous-Flow Tubular Reactor with Passive Mixer for Enhanced Mixing Efficiency
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ORGN.P-391 Synthesis of A−D−A′−D−A Structured Non-Fullerene Acceptors with alkylated π-Conjugated building block for Organic Solar Cells
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ORGN.P-392 High-Performance Thienopyrrolodione-based Polymer Solar Cells and Photodetectors
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ORGN.P-393 Direct Generation of Polysulfides in Cells for H_2S donors
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ORGN.P-394 Synthesis of the fused structure of indolizine and indole via Cu-catalyzed Ullmann-type double C-N couplings
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ORGN.P-395 Calix[4]pyrrole-Based Molecular Capsule: Dihydrogen Phosphate-promoted 1:2 Fluoride Anion Complexation
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ORGN.P-396 Urea strapped calix[4]pyrrole for oxo-anion and halide anion recognition
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ORGN.P-397 Tripyrrolic Anion Receptors for the Selective Fluoride Recognition
Nam Jung Heo, Sung Kuk Kim
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ORGN.P-398 Fluorescence sensor based on Calix[4]pyrrole using strategy of IDA.
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ORGN.P-399 A Calix[4]crown-5 Strapped Calix[4]pyrrole as a Multitopic Receptor for Potassium and Cesium ions
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ORGN.P-400 Calix[n]bispyrrolylnaphthalene: A new kind of Expanded Calixpyrrole
Jaehyeon Kim, Sung Kuk Kim
Department of Chemistry, Gyeongsang National University, Korea

ORGN.P-401 Development and application of a fluorescence turn-on probe for the nanomolar cysteine detection in serum and milk samples
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ORGN.P-402 Mass Production of meta-Phenolsulfonic Acid-Formaldehyde Resin Catalyst for Continuous Flow Esterification of Various Carboxylic Acids and Alcohols
Heeyoel Baek, Hao Hu, Hajime Ota, Kenta Shinohara, Toshiaki Mase[1], Yasuhiro Uozumi[1], Yoichi M. A. Yamada
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ORGN.P-403 $Sc(OTf)_3/BF_3{\cdot}OEt_2$-Catalyzed Annulation of 3-Formylchromones and Alkenes: A Facile Access to Diverse 2-Hydroxybenzophenones
Peter Yuosef Rubio, Hari Datta Khanal, Yong Rok Lee
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ORGN.P-404 Synthesis of 2-Pyridones via Fe(III)-Catalyzed Tandem Cyclization of 3-Formylchromones with Phenylpropiolamides and Water
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ORGN.P-405 PHOTOACTIVE SIGMA-HOLE FOR SMART WINDOW PHOTOVOLTAICS
Sung Jun Lim, Tae-Hyuk Kwon[1,*]
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ORGN.P-406 Fluorescence 'turn-on' probe for nanomolar Zn (II) detection in live cells
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ORGN.P-407 Introduction of Various Succinimides to Carbazoles and Indolines through C–H activation
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ORGN.P-408 N-Heterocyclic Carbene catalyzed Enantioselective and C4-selective Functionalization of Pyridinium salts
Seonghyeok Hong, Sungwoo Hong[1,*]
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ORGN.P-409 *N*-Cyano Sulfilimine as a Bioisostere of an Amide bond
On-Yu Kang, Eunsil Kim[1], Guldana Issabayeva[2], Yaeji Lee[3], Soyoung Pak[3], Do Hyun Ryu, Hwan Jung Lim[3], Seong Jun Park[3]
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ORGN.P-410 Synergistic N-Triflyl Phosphoric Triamide-Brønsted Acid Aquacatalysis for Formal Synthesis of Fingolimod
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ORGN.P-411 Visible Light-mediated Aquacatalytic Intermolecular [2+2] Cycloaddition of β-Aryl Ethenesulfonyl Fluoride
Subok Kim, Han yong Bae
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ORGN.P-412 Isolation of a Melanoblast Stimulator from Dimocarpus longan, Its Structural Modification, and Structure–Activity Relationships for Vitiligo
Pradeep prakash Desale, Sungwook Choi, Dong-gyu Cho
Department of Chemistry, Inha University, Korea

ORGN.P-413 The effects of PEG hydrogel crosslinking density on drug diffusion
HyeonBi Jung, Se Won Bae, Hyojun Ko[1]
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ORGN.P-414 A BODIPY-based Highly Efficient Photothermal Therapeutic Agent
Myunghwan Shin, Youngmi Kim[1,*]

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[1]Department of Chemistry, Kyung Hee University, Korea

ORGN.P-415 Small molecular strategy toward ROS-responsive anticancer prodrug for overcoming multidrug resistance
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ORGN.P-416 Pd(II)-catalyzed β-C(sp^3)–H arylation of *N*-Fmoc/Cbz-protected *N*-methylalanine using a carboxylic acid as a directing group
Jimin Park, Suyeon Yeom, Hak Joong Kim[1,*]
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ORGN.P-417 Effective Combination of Iridium-Based Photosensitizers in Various Cancer Cells
Chae Gyu Lee, Tae-Hyuk Kwon[1,*]
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ORGN.P-418 Total Synthesis of (±)-Woodfordiamycin
Han yong Bae[*], **Jungmin Shin**
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ORGN.P-419 Synthesis of Thiadiazinone 1-Oxides through Intramolecular Cyclization of *N*-Cyano Sulfoximines
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ORGN.P-420 Strain-released pyridylation of [1.1.1]Propellane via visible light irradiation
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ORGN.P-421 Nickel-Catalyzed Regioselective Asymmetric Hydroaminations of Carbonyl-Containing Unactivated Alkenes
Changseok Lee, Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

ORGN.P-422 A STUDY ON CHARGING MECHANISM FOR DYE-SENSITIZED PHOTO-RECHARGEABLE BATTERY FOR INDOOR LIGHT HARVESTING SYSTEM
So Yeon Yoon, Tae-Hyuk Kwon
Department of Chemistry, UNIST, Korea

ORGN.P-423 Rhodium(II)-Catalyzed Highly Selective 1,3-Insertion Reactions Using *N*-Sulfonyl-1,2,3-Triazoles with Heteroaryl Ethers or Heteroaryl Alcohols
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ORGN.P-424 Preparation and Utilization of Contiguous Bisaziridines as Chiral Building Blocks
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ORGN.P-425 Stereoselective Dehydroxylative Cross Coupling via α–Aziridinyl Intermediates
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ORGN.P-426 Trimethylenemethanes in total synthesis of complex natural products: toward conidiogenones
Jiheon Kim, Hee-Yoon Lee
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ORGN.P-427 Highly Efficient and Stereoselective Mukaiyama Aldol Reaction with Chiral Aziridine-2-carboxaldehyde and Its Synthetic Applications
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ORGN.P-428 Riboflavin-Catalyzed Templated Oxidation of Rhodamine Derivatives for Nucleic Acid Sensing
Hokyung Kim, Hayeon Choi, Ki Tae Kim
Department of Chemistry, Chungbuk Natioanl University, Korea

ORGN.P-429 Environmentally sensitive fluorescent nucleoside analogues constructed by aldol-type condensation
Hayeon Choi, Hokyung Kim, Ki Tae Kim
Department of Chemistry, Chungbuk Natioanl University, Korea

ORGN.P-430 Divergent Electrochemical Synthesis of 1H-indazole N-oxides and 1H-indazoles: Catalytic and Non-catalytic C-H Functionalizations of 1H-indazole N-oxides
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ORGN.P-431 Remote C-H Pyridylation of Hydroxamate via Direct Excitation of In Situ Generated Oxime Pyridinium Salts
Changha Kim, Sungwoo Hong

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ORGN.P-432 Gold in Total Synthesis of Spiroketal containing Natural Products
Ji Soo Shin, Hee-Yoon Lee, Seewon Joung[1]
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ORGN.P-433 Photocatalyzed pyridylic functionalization enabled by radical cascade strategy
Myojeong Kim, Sungwoo Hong
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ORGN.P-434 Impact on photo-current generation of natural photosynthetic protein complex with electrode engineering via ultrasonic spray technique
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ORGN.P-435 Preventing retro-Knoevenagel Condensation of Photosensitizer to Enhance Water Stability in Dye-Sensitized Photoanode
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ORGN.P-436 Photo-Induced Regiodivergent Pyridylation of Alkenes to Branched or Linear Alkyl Pyridines
Minseok Kim, Sungwoo Hong
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ORGN.P-437 Investigation of D-Amino Acid-Based Surfactants and Nanocomposites with Gold and Silica Nanoparticles as against multidrug-resistant (MDR) bacteria agents
Jae Ho Shim*, Sungduk Kwak[1]
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ORGN.P-438 Synthesis of Ir(Ⅲ)-based Dendrimer-Conjugated Sonosensitizer to Overcome Shortages of Sonodynamic Therapy
Gwang su Yoon, Tae-Hyuk Kwon
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ORGN.P-439 Structural elucidation of Metal-Coordinated tripeptide network consists of Helical Unnatural β-peptides decorated with 2-Methyl-Beta-Alanine and Valine residue
Chan Wook Kim, Soo Hyuk Choi
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ORGN.P-440 Unstabilized Aryldiazoalkanes: Application for Catalytic Enantioselective 1,3-Dipolar Cycloadditions
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ORGN.P-441 Enantioselective Friedel-Craft Alkylation of Furan with Phenyl Glyoxal Catalyzed by Chiral Oxazaborolidinium Ion Catalyst
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ORGN.P-442 DNA-Templated Photooxidation of Benzylamine/Benzylether for Nucleic Acid Sensing
Yeojin Kim, Hokyung Kim, Ki Tae Kim
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ORGN.P-443 Catalytic Asymmetric Synthesis of β-Keto Ester : Construction of All-Carbon Quaternary Centers
Hye-Min Jeong, **Dong kyu Kim**, Do Hyun Ryu
Department of Chemistry, Sungkyunkwan University, Korea

ORGN.P-444 Umpolung Haloalknylation of Ynamides Enabled by 1,3-Alkynyl Migration
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ORGN.P-445 Acid-Base Dual Doped Graphene for Electrochemical Urea Synthesis.
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ORGN.P-446 Suppressing hydrogen evolution in N_2 reduction by heteroatom doped graphene.
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ORGN.P-447 Acid catalyst promoted syntheses of 2,3-dihydronaphtho[2,3-b]furan and 3,4-dihydro-2H-benzo[g]chromene derivatives
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ORGN.P-448 Synthesis of Oxacyclic compounds via iodine-mediated Cyclization
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ORGN.P-449 Molecular Design Strategy for Realizing Vectorial Electron Transfer in Photoelectrodes

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ORGN.P-450 Visible-Light Mediated Oxidative Dehydrogenation of N-Heterocycles Using Reusable TiO2 Catalyst.
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ORGN.P-451 Visible-Light Photoredox-Catalyzed Giese Reaction of α-Silyl Sulfide and Further Oxidation in Flow Process
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ORGN.P-452 Introduction of Flow Chemistry for Synthesis of Polyacrylate Polyols in Industrially Relevant Scale
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ORGN.P-453 Synthesis of Aryl Azide from the Reaction of amide and sodium azide
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ORGN.P-454 Sulfoxides and Sulfones Synthesis via Electrochemical Oxidation of Sulfides
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ORGN.P-455 Synthesis of Acyl Fluorides from Amides via C-N Bond Cleavage
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ORGN.P-456 Transamidation of benzoylpyrrolidin-2-one and amines under aqueous conditions
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ORGN.P-457 Synthesis of ß-Ketonitriles using Coupling of Amides and Acetonitrile
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ORGN.P-458 Dual catalytic activity of copper nanocluster-bound graphitic carbon nitride for the photo-induced synthesis of arylsulfones
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ORGN.P-459 Copper-Mediated Preparation of *N*-Aryl Amides
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ORGN.P-460 An efficient synthesis of Dichloroglyoxime using N-Chlorosuccinimide through precipitation method
Kuktae Kwon*, Hae-Wook Yoo, So Jung Lee, SeungHee Kim
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MEDI.P-268 Sustained release of Doxorubicin hydrochloride-loaded PLA/PLGA microspheres
Jihyang Lim*, ByungCheol Shin
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MEDI.P-269 Pharmacological Mechanism of *N*-ethylmaleimide (NEM) in Schwann Cells during Peripheral Nerve Degeneration: Pharmacoinformatics Approaches
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MEDI.P-270 Solid lipid nanoparticles of aspirin for three-step smart release in oral disintegrating film
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MEDI.P-271 Identification of 3-Oxindole Derivatives as Small Molecule HIV-1 Inhibitors Targeting Tat-Mediated Viral Transcription
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MEDI.P-272 Discovery of 1,6-Disubstituted-1*H*-benzo[*d*]imidazol-2(3*H*)-one analogs as PIM Kinase Inhibitors
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MEDI.P-273 Discovery of a novel PIM Kinase Inhibitors
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MEDI.P-274 Studies on the Mechanism of Inhibition of Serum and Glucocorticoid-Inducible Kinase (SGK) Inhibitors
Jihoon Park, Jinho Lee, Victor Sukbong Hong
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MEDI.P-275 Studies on the Mechanism of inhibition of PIM Kinases Using a Fluorescence Polarization Method
Yeonwoo Kim, Jinho Lee, Victor Sukbong Hong
Department of Chemistry, Keimyung University, Korea

MEDI.P-276 Photodynamic and photothermal combination therapy using graphene oxide complex of purpurinimide derivative
Hyerim Kim, Il Yoon[1,*]
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MEDI.P-277 Comparative study of propylamine- and propargylamine-based purpurins photosensitizers for photodynamic therapy
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MEDI.P-278 ATXN3 targeted polymer-lipid nanoparticle formulation study encapsulated with antisense oligonucleotide
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MEDI.P-279 Synthesis of a Novel Class 4-Quinolone Compounds as SIRT6 Activator Targeted for Pancreatic Cancer
Jin Woo Choi, Hak Hyun Lee[1], Kwang-Rok Kim[2], Sang Jeon Chung[3], Hee Jung Jung[4,*]
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MEDI.P-280 Development of biocompatible scaffolds as a suitable alternative for in vitro and in vivo study
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MEDI.P-281 Statistical analysis of radiopharmaceuticals patent for technology development and market trend inspection.
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MEDI.P-282 Synthesis of thiazole compounds and investigation of inhibitory activity for cholinesterase

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MEDI.P-283 Biological activities of alcohol extracts of *cinnamomum verum* (ceylon cinnamon)
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MEDI.P-284 The identification and anti-cholinesterase activity of essential oil in *Cinnamomum verum*
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MEDI.P-285 A novel core skeleton design and synthesis of *N*-alkyl-1'-(substituted sulfonyl)spiro[chromene-2,4'-piperidin]-6-amine derivatives as 5-lipoxygenase inhibitors
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MEDI.P-286 A new pharmaceutical way to using benzopyran scaffold as NF-κB inhibitor: Design, Synthesis and Biological Evaluation
Young-Chang Kim, Young Dae Gong
Department of Chemistry, Dongguk University, Korea

MEDI.P-287 Construction of a drug-like 2-(piperazine-1-yl) benzo[d]oxazole and benzo[d]thiazole Libraries toward Anti-Cancer Agent
Eun Hwan Kim, Sung Mi Baek, Eun Hyo Lee, Young-Chang Kim, Young Dae Gong
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MEDI.P-288 Optimization strategy of a novel N-((6-(substituted-amino)-2-methyl-2H-chromen-2-yl)methyl)-N-methylbenzenesulfonamide derivatives as 5-lipoxygenase inhibitors
Dong Kyun Han, Ye Jin Shin[1], Young-Chang Kim[1], Young Dae Gong[1]
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MEDI.P-289 Development of NIR Fluorescence Probes for Detection of Alzheimer's disease (AD)-Associated Protein Aggregation
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MEDI.P-290 BS5 activates Nrf2-ARE and autophagy pathway via the AMPK-mTOR-TFEB axis and reduces tau phosphorylation.
Baskar Selvaraj, Sang Hyuk Lee[1], Sang Nguyen Qui[1], Sang Min Lim, Ae Nim Pae, Jae Wook Lee[2,*]
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MEDI.P-291 Xanthones from Garcinia cowa and Their Neuroprotective Effects on Glutamate-Mediated HT22 Cell Death
Sang Hyuk Lee, Sang Nguyen Qui, Heesu Lee[1], Thi Thu Thuy Tran[2,*], Jae Wook Lee[3,*]
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MEDI.P-292 Discovery of LCN2 inhibitors for regulation of neuroinflammation
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MEDI.P-293 AchE independent Neuroprotective effects of Corydaline against Glutamate Induced Oxidative Cytotoxicity in HT22 Mouse Hippocampal Neuronal Cells
Sang Nguyen Qui, Baskar Selvaraj[1], Heesu Lee[2], Jae Wook Lee[3,*]
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MEDI.P-294 Micelles formulation of low generation polyamidoamine dendrimer derivatives as drug carriers for the treatment of melanoma and E.coli infection
Thi Thuy Le, **Kang Namyoung**, Joon Sig Choi
Department of Biochemistry, Chungnam National University, Korea

MEDI.P-295 General Synthetic Approaches toward Azaindole Analogues via Imino-Stetter Reaction
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MEDI.P-296 Discovery of 5-HT_7R ligands acting on G12 signaling pathway
Hyunji Oh, Diana Avramets, Jeong Hyun Jeong, Yeonji Oh, Eunseo Park, Bongjin Moon[1], Hyunah Choo
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MEDI.P-297 Cationic purpurinimide-polyoxometalate supramolecular complex for photodynamic and chemo combination therapy.
SeungHun Kwak, Il Yoon[1,*]
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MEDI.P-298 In silico design and synthesis of fluorescence imaging probes for detection of protein aggregates in Alzheimer's disease
Sun Hwa Jung, Sun-Joon Min[1,*]
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MEDI.P-299 Synthesis and biological evaluation of MASTL inhibitors targeting MASTL-PP2A in breast cancer cells
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MEDI.P-300 Analysis of Amikacin Sulfate with electrochemical detection according to EP Method.
Jaehyun Park
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MEDI.P-301 Identification of Tryptophan Hydroxylase 1 (TPH1) inhibitors for metabolic disease
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MEDI.P-302 Preparation of kanamycin and polyethylenimine conjugates as polymeric gene carriers
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MEDI.P-303 Synthesis of polyamidoamine dendrimers conjugated with cholesteryl-dipeptide with enhanced transfection efficiency in HeLa cells
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MEDI.P-304 Development of Hydrogen Peroxide (H_2O_2)-sensitive and Glioblastoma-targeted Prodrug
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MEDI.P-305 Discovery of 5HT2A receptor antagonists for Nonalcoholic Fatty Liver Disease
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MEDI.P-306 Development of Novel Prodrug Structures Based on Reversibly Degradable Imides for Oral Administration of Guanidine Drugs
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MEDI.P-307 QSPR models for predicting skin permeability of diverse compounds
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Department of Chemistry, Hannam University, Korea

MEDI.P-308 Prediction of Human Intestinal Absorption Using QSPR Model
Nayeong Koo, Dong Ryeol Shin, Sung Kwang Lee
Department of Chemistry, Hannam University, Korea

MEDI.P-309 In silico Prediction of Blood-Brain Barrier Permeability for Drug Discovery
Jae An Kim, Dong Ryeol Shin, Sung Kwang Lee
Department of Chemistry, Hannam University, Korea

MEDI.P-310 Discovery of helios (IKZF2) molecular glue degrader
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MEDI.P-311 Synthesis and characterization of new adjuvants enhancing the antimicrobial activity of aminoglycosides
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MEDI.P-312 In silico method for the prediction of plasma protein binding
Changmin Lee, Dong Ryeol Shin, Sung Kwang Lee

Department of Chemistry, Hannam University, Korea

MEDI.P-313 Discovery of novel β-arrestin-biased S1P1 agonists for the treatment of Multiple Sclerosis
Chang Yong Lee, Jushin Kim[1], Sang Min Lim[1], Ki Duk Park[2], Jae Yeol Lee, Ae Nim Pae[1]
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MEDI.P-314 Synthesis and Antiviral Evaluation of N^4-*O*-Isobutyrylcytidine Prodrug against RNA virus *in vitro*
Yeon Jin An, Se Myeong Choi, Ye Eun Nam, Eun Woo Seo, Eun Rang Choi, Ji Yeon Yang, Yong Hun Choi, Jong Hyun Cho
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MEDI.P-315 Design, Synthesis, and Biological evaluation of Pyridine-based derivatives to enhance motile cilia
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MEDI.P-316 Synthesis and Antiviral Evaluation of Entecavir Acyclic Analogs with 5-membered Base
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MEDI.P-317 Identification of Aryl Hydrocarbon Receptor (AhR) antagonists for Cancer
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MEDI.P-318 Synthesis of Penfluridol with mosquitocidal activity
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MEDI.P-319 Discovery of MAO B inhibitor, 2-imidazoline derivatives for the treatment of the Alzheimer's disease
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MEDI.P-320 Promising vinyl sulfone Nrf2 activator discovery based on the chalcone derivative using LPS-induced Alzheimer's disease mouse model
Byungeun Kim, Ki Duk Park
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MEDI.P-321 Novel Synthesis and Evaluation of 2,6-Dihalo-3-deazaneplanocin Derivatives against Influenza Viruses
Se Myeong Choi, Yeon Jin An, Eun Rang Choi, Ye Eun Nam, Eun Woo Seo, Jong Hyun Cho
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MEDI.P-322 Discovery of Novel Pyruvate Dehydrogenase Kinase 4 (PDK4) Inhibitors for Metabolic Diseases and Cancer.
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MEDI.P-323 Designing novel 1,3,4-oxadizol-2(3H)-one derivative for Dravet syndrome
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MEDI.P-324 Preparation, Characterization and Molecular Modelling Studies of the Antiviral Drug/Methyl-β-Cyclodextrin Supramolecular Inclusion Complex Interaction with SARS-CoV-2 Main Protease (3CLpro)
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MEDI.P-325 Enhanced tumor-targeting efficacy via pH-responsive fatty acid-based albumin-binding ligand within tumor microenvironment for photodynamic therapy
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MEDI.P-326 Identification of anti-cancer effect of Novel 4-aryl-N-(2-alkoxythieno[2,3-b]pyrazine-3-yl)-4-arylpiperazine-1-carboxamide DGG200064 as a

novel G2/M inhibitor in colorectal cancer
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MEDI.P-327 Disclosure of Novel NUAK1 Inhibitor for Pancreatic Cancer Treatment
Kewon Kim, Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

MEDI.P-328 A Topological Water Network Based Approach for Fragment-Based Drug Design
Hye Ree Yoon, Anand Balupuri, Kwang-Eun Choi, Chan-yeong Ohn, Dong-Hyun Son, Gyoung Jin Park, Re Gin Jeoung, NamSook Kang
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MEDI.P-329 Development of a Novel Non-superimposed Water-Based Virtual Screening Technique
Chan-yeong Ohn, Anand Balupuri, Kwang-Eun Choi, Gyoung Jin Park, Dong-Hyun Son, Re Gin Jeoung, NamSook Kang
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MEDI.P-330 Development for Protein Binding Site Comparison Method using Topological Water Network
Kwang-Eun Choi, Anand Balupuri, Hye Ree Yoon, Chan-yeong Ohn, Gyoung Jin Park, Dong-Hyun Son, Re Gin Jeoung, NamSook Kang
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MEDI.P-331 The Impact of Spike Protein Mutations on the Structural Stability of SARS-CoV-2 Omicron Variants
Anand Balupuri, Kwang-Eun Choi, Hye Ree Yoon, Chan-yeong Ohn, Dong-Hyun Son, Gyoung Jin Park, Re Gin Jeoung, NamSook Kang
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MEDI.P-332 Synthesis of Lithocholic Acid Derivatives as Vitamin D Receptor Agonists
Hyejin Moon, Jeong Ho Kim, Hakwon Kim
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MEDI.P-333 Synthesis and antitumor activity of novel 1,4-dialkoxynaphthalene-2-methyl imidazolium salts
Haena Lee, Kyungmin Kim[1], Hakwon Kim[1]
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MAT.P-334 Electrochemical Nitrate Reduction to Ammonia with Fe/FeO_x decorated MoS_2 nanosheets
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MAT.P-335 A photocatalytic solar evaporator for wastewater purification and desalination
HeeJu Kim, Won san Choi
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MAT.P-336 Multi-module sponge balls for fast and efficient filtration of particulate matters
Youngju Jung, Won san Choi
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MAT.P-337 Superhydrophilic membranes to separate oil/water mixture and reject organic solids
Yujin Seo, Won san Choi
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MAT.P-338 Soluble and insoluble filters loaded with mesoporous SiO_2 nanoparticles for water purification
JiHee Choi, Won san Choi
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MAT.P-339 A photothermal adsorbent/evaporator system for wastewater purification
Su Hyeon Son, Won san Choi
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MAT.P-340 Effects of Hierarchical Carbon Materials as Sulfur Support for High Performance Li-S batteries
Yelim Kwon, Taeyeob Kim[1], Ji Man Kim
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MAT.P-341 A study on high-purity copper recovery method using scrap secondary battery
Sechul Hong
Test analysis research center, Gumi Electronics & Information Technology Research, Korea

MAT.P-342 A Study on the removal of silicon using adsorbent for recycling waste phosphoric acid
Sechul Hong
Gumi Electronics & Information Technology Research, Korea

MAT.P-343 Mesoporous polydopamine encapsulation of fluorescent nanodiamond for biomedical applications
Haksung Jung, Sihwa Joo[1], Mina Lee[2], Nam Woong Song[1], Jeong Hyun Shim[1], Keir C. Neuman[3,*]
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MAT.P-344 Selective capture of carbon dioxide using Zr-based metal-organic framework functionalized with ethyleneamines
HyeokJoon Jun
Department of Chemistry, Kyungpook National University, Korea

MAT.P-345 Strategic molecular design of carboline-based benzothiadiazole for revealing intriguing a high-contrast mechanochromic phenomenon
Dong Kyun You, Mingi Kim, Kang Mun Lee
Department of Chemistry, Kangwon National University, Korea

MAT.P-346 Organic/inorganic nanohybrid of deoxycholic acid and layered double hydroxide as an efficient emulsifier for oil-in-water emulsion
Kyoung Hyoun Lee, Jae-Min Oh[1,*], Hyun Jung
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MAT.P-347 Adsorptive elimination of sulfanilamide and chloroxylenol from aqueous solution using porous carbon converted from a non-porous metal-organic framework
Jeongbin Lee
Chemistry, Kyungpook National University, Korea

MAT.P-348 Investigation of anionic pollutants adsorption by layered double hydroxide for water remediation
Tae-Hyun Kim, Yuhoon Hwang
Department of Environmental Engineering, Seoul National University of Science & Technology, Korea

MAT.P-349 Synergistic Engineering of Side Chains and Backbone Regioregularity of Polymer Acceptors for High-Performance All-Polymer Solar Cells with 15.1% Efficiency
Xuyao Song, Bumjoon Kim[1,*], Yun Hi Kim[2,*]
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MAT.P-350 The Isomer Chemistry of Magic Sized Clusters
Youngjae Ryu, Sung Jee Kim
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MAT.P-351 Synthesis and Characterization of thermally activated delayed fluorescence sensitizers for hyperfluorescence in organic light-emitting diodes
Subin Lee, Yun Hi Kim[1,*]
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MAT.P-352 Development of carbon quantum dots deposited TiO2 nanocomposites and application for enhanced photodegradation of tetracycline under UV-Vis region
Yuri Park, Yuhoon Hwang
Department of Environmental Engineering, Seoul National University of Science & Technology, Korea

MAT.P-353 Preparation of functionalized mesoporous silica films with adjustable pore size for exosome isolation
Guanghai Piao, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-354 Intramolecular Locking-Induced Heavy-Atom-Free TADF and RTP Emitters with the AIE Effect for Non-Doped OLEDs
Taehyun Kim, Jihyun Min, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea

MAT.P-355 Mesoporous Mn-Co-Ce mixed oxide catalysts for CO PROX
Zhengyang Li, Jung-ho Lee, Jin Seo Park, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-356 Non-fullerene Acceptors with Alkylthiothiophene Side Chain Engineering for Indoor Organic Photovoltaics
Ji Eun Lee, Soon-Ki Kwon[1], Yun Hi Kim
Department of Chemistry, Gyeongsang National University, Korea
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MAT.P-357 A study on the physical property of fibroin capsulated hydrotalcite as a pigment
Sehun Jung, Seog Woo Rhee, Jinkwon Kim
Department of Chemistry, Kongju National University, Korea

MAT.P-358 Difference Between Spherical vs. Rod type Ordered Mesoporous Carbon, and Its Application in Lithium-Ion Battery
Jae Ik Lee, Ji Man Kim[1,*]
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MAT.P-359 Modification of ordered mesoporous carbons for advanced adsorbents with activating agents
Hyeon Ji Park, Zhengyang Li, Ji Man Kim[1,*]
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MAT.P-360 Making Dynamic Microscope Images Using a Software
Mansoor Suniya, Tae Kyu Ahn[1,*]
Energy Science, Sungkyunkwan University, Korea
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MAT.P-361 Flow-based Reversible Nanoscale Molecular Communication
Hyunbin Park, SeoYeah Oh[1], Jihyeon Park[1], Jiwon Kim[1]
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MAT.P-362 Designing Highly Active and Selective Mesoporous Ni–N/C Electrocatalysts for H_2O_2 Electrosynthesis
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MAT.P-363 Crown Ether-Functionalized Fluorinated Aromatic Compounds for ^{19}F NMR-Based Lithium Sensors
Haneul Kim, Byungjin Koo
Department of Polymer Science and Engineering, Dankook University, Korea

MAT.P-364 Electrochemical Comparison of Anatase TiO_2 Hollow Spheres and Layered Titanate Hollow Spheres as Anode Materials for Lithium-Ion Batteries
Ji-Ho Park, Seung-Min Paek
Department of Chemistry, Kyungpook National University, Korea

MAT.P-365 Sulfides-occluded zeolites for near-complete removal of aqueous Hg
Jeong-Hun Jang, Seung-Min Paek
Department of Chemistry, Kyungpook National University, Korea

MAT.P-366 Advanced Graphene-Based Nanoarchitecture of Anode Materials for Lithium-Ion Batteries: Electrostatic Self-Assembled Hollow Structures of rGO/a-NiO/$NiFe_2O_4$ Nanocomposites
Minseop Lee, Seung-Min Paek, Jae-Min Oh[1,*]
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MAT.P-367 The noble methods of deposition of conducting polymer using molecular layer deposition for improving electrical properties
Hee Jeong Shin, Jin Seok Lee[1,*]
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MAT.P-368 Ru Nanoparticle Catalyzed Alkaline Hydrogen Evolution Reaction: Interplay of Geometric and Electronic Effects
Du San Baek, Jinjong Kim, Sang Hoon Joo
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

MAT.P-369 Surface Engineering of High-Voltage $LiFe_{0.4}Mn_{0.3}Co_{0.3}PO_4$ Cathode by a Hybrid Ionic and Electronic Coating Layer
Dung Nguyen, Jimin Kim[1], Youngil Lee[1]
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MAT.P-370 Synthesis and Characterization of Non-Fullerene Acceptors Based on Spirobifluorene for the Environmentally Friendly Solution-Processed of OPV
Landep Ayuningtias, Soon-Ki Kwon[1,*], Yun Hi Kim
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MAT.P-371 Thermally stable and mechanically robust superhydrophobic surfaces using multifunctional NPs based-nanocomposite films
Siwoo Park, Young-Geun Ha[1,*]
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MAT.P-372 Ultrasensitive Extended-Gate Thin-Film Transistor Biosensors using the Surface Roughness of Sensing parts
Ga Young Won, Young-Geun Ha[1,*]
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MAT.P-373 Synthesis of Si/SiO_x-graphite composite as an anode material for Li-ion battery
Taeyeob Kim, Yelim Kwon[1], Jung-ho Lee[1], Ji Man Kim[1]
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MAT.P-374 Fabrication of Silica Aerogel-based Hybrid Sheet by Ambient Pressure Drying Method
Chungsub Lee, Seongyo Jeong, Won Gyu Kim, Shin-Woo Ha, Sung Woong Kim
R&D Center, Extol Co., Korea

MAT.P-375 Independent Dual-excitation and Dual-emission of Lanthanide-doped Perovskite Quantum Dots for Advanced Anti-counterfeiting
Jiyeon Lee, Jaehyeok Ryu[1], Jiwon Kim
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MAT.P-376 Highly ordered mesoporous WO_3/SBA-15 catalyst for glycerol acetalization into 1,3-dioxolane
Jin Seo Park, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-377 Redox-Regulated Robust Boundary Interactions between Covalent Organic Nanosheets and MnO2 for Effective Oxygen Reduction Electrocatalysis
Soohyeon Park, Jin Kuen Park
Department of Chemistry, Hankuk University of Foreign Studies, Korea

MAT.P-378 Induce surface dipole by adjusting voltage through conductive polyurethane/organic/inorganic hybrid film to prevent biofouling
Byeong Hwak Bae, Jin Kuen Park[1,*]
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MAT.P-379 A facile and robust approach to reduce contact resistance to enable high-performance p-type soft organic transistors
Haechan Park, Kyoseung Sim
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MAT.P-380 Soft artificial fingertip electronics for bimodal sensing capability
Ju yeong Lee, Kyoseung Sim[1,*]
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MAT.P-381 Crosslinked PEDOT:PSS based soft OECTs for on-skin bioelectronics
Sujitkumar Bontapalle, Kyoseung Sim
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MAT.P-382 Light responsiveness and self-assembled structures of pyrene-containing azobenzene derivatives
Pyae Myat Phyo Thu, Sanghyuk Park[1,*], Mina Han[2,*]
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MAT.P-383 MOFs derived carbon mediated interfacial reaction for synthesis of bimetallic oxide catalysts

Lianghao Song, Ji Man Kim
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MAT.P-384 High Performance Separator for Li-S Battery Using Langmuir-Blodgett
Geonho Kim, Jiwon Kim
School of Integrated Technology, Yonsei University, Korea

MAT.P-385 Vacancy-controlled quaternary sulfide $Na_{3-x}Zn_{1-x}Ga_{1+x}S_4$ for high ionic conductivity and ambient stability
Suyeon Han, Woon Bae Park[1,*]
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MAT.P-386 Highly Stable MEMS Capacitive Photodetector Based on Azobenzene-incorporated Photoresponsive Polymer
Sehun Jang, Dongjun Kim[1], Jiyeon Lee[1], Geonho Kim[1], Seoyoung Yoon, Jiwon Kim[1]
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MAT.P-387 Porous Aromatic Framework of PAF-41 as Sulfur Host for Improving Lithium-Sulfur Battery Performances
Qian Wang, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-388 Self-luminous C-14 incorporated Material with Core-shell Structure
Seoyoung Yoon, Dongjun Kim[1], Jiwon Kim[1]
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MAT.P-389 Selenium-incorporated Ruthenium phosphide Nanotubes for Accelerated Hydrogen Evolution Reaction in Alkaline Media
Eunsoo Lee, Kwangyeol Lee
Department of Chemistry, Korea University, Korea

MAT.P-390 Dual Cation-exchange Synthesis of Ir_2P/Ru_2P Dendritic nanotube for Highly Efficient Hydrogen Evolution Reaction in Alkaline Media
Sangyeon Jeong, Kwangyeol Lee
Department of Chemistry, Korea University, Korea

MAT.P-391 NiCo Layered Double Hydroxide Nanomesh Grown on Porous Carbon via Electrodeposition for High-Performance Hybrid Supercapacitor
Geonho Kim, **Yubin Son**[1], Jiwon Kim
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MAT.P-392 Monolayer Assembly of Two-dimensional Single-Crystalline Metal Nanosheets via Ultrasonochemical deposition
Seung Yeon Kim, Kim Tae-wook
Department of Flexible and Printable Electronics, Jeonbuk National University, Korea

MAT.P-393 Improving the sensitivity of the FET biosensor through the nanoscale-rough structure of the indium gallium oxide semiconductor
Jong Yu Song, Young-Geun Ha
Department of Chemistry, Kyonggi University, Korea

MAT.P-394 A new type hydrated-vanadium bronze as a cathode material for non-aqueous Ca-ion Batteries
Jihun Roh, Hyeri Bu, Seung-Tae Hong
Energy Science and Engineering, DGIST (Daegu Gyeongbuk Institute of Science and Technology), Korea

MAT.P-395 Time-controlled nanoscale delivery system
Jihyeon Park, SeoYeah Oh, Dongjun Kim, Geonho Kim, Seoyoung Yoon, Jiyeon Lee, Hyunbin Park[1], Jiwon Kim
School of Integrated Technology, Yonsei University, Korea
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MAT.P-396 Zeolitic Imidazolate Framework-8 (ZIF-8) as an anti-termite agent
Seog Woo Rhee*, Sanha Park, In Soo Koo, Jinkwon Kim
Department of Chemistry, Kongju National University, Korea

MAT.P-397 Synthesis and Characterization of Triphenylmethine Dyes for Color Filter of the Digital Signage Large Area Display
Seong Hyun Jang, Dah Hee Kim[1], Jeon Byungkyu[1], Jun Choi[1]
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MAT.P-398 Synthesis and Characterization of Novel Quaternary Compound of $KAgBi_2S_4$
Younbong Park
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MAT.P-399 Synthesis, defect control, and ionic conductivity of Li_3AlSiO_5
Dong Hyun Lim, Young-il Kim
Department of Chemistry, Yeungnam University, Korea

MAT.P-400 Exfoliated single layers of layered cobalt hydroxide as a new type of heterogeneous catalyst for the p-nitrophenol reduction reaction
Han Kyeol Bae, Hanbi Kim, Jong Hyeon Lee
Department of Chemistry, The Catholic University of Korea, Korea

MAT.P-401 Highly Stable Light-emitting Diodes based on Perovskite Quantum Dot/polymer Nanocomposites via Charge Transport Pathways on Dielectrics
Dongjun Kim, Jiwon Kim

School of Integrated Technology, Yonsei University, Korea

MAT.P-402 Development of multi-objective based inverse design model of composition of polymer composite
Dong Ryeol Shin, Sung Kwang Lee
Department of Chemistry, Hannam University, Korea

MAT.P-403 Synthesis of Mg(OH)2 using Bittern and Dolomite
Min sol Park, Jungbin Cho, Yoojin Kim[1,*]
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MAT.P-404 The lithium ion conductor with new structure and new composition of Li-Ge-S-cl
Seo Hyeonjin, Seung-Tae Hong[1,*]
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MAT.P-405 Mesoporous carbon-based composites coated on stir bar for sorptive extraction of fluoroquinolones from wastewater
Zhiyong Zheng, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-406 Ultra-fast charging in carbon coated $LiFeBO_3$ cathode material
Rajeev Kumar, Jeongin Kim[1], Yujin Jeong[1], Youngil Lee[1]
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MAT.P-407 Synthesis and Characterization of New Deep Blue Phosphorescent Organic Light Emitting Materials.
Ji Hyun Lee, Yun Hi Kim
Department of Chemistry, Gyeongsang National University, Korea

MAT.P-408 The fabrication of P doped 2d CdS nanosheets-Ti_3C_2 Mxene composites boosting charge transfer for efficient photocatalytic hydrogen evolution.
Azizar Ghufran Aulia Bin, Jong Wook Hong[1,*]
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MAT.P-409 Highly Enhanced Electrocatalytic Performances with Dendritic Bimetallic Palladium-Based Nanocrystals
Pramadewandaru Respati Kevin, Jong Wook Hong
Chemistry, University of Ulsan, Korea

MAT.P-410 A Study on the Growth of Hexagonal Plate Mg(OH)2 for Flame Retardant
Min sol Park, Jungbin Cho, Yoojin Kim[1,*]
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MAT.P-411 Phosphorus-Doped Pt Nanowires as Efficient Catalysts for Electrochemical Hydrogen Evolution and Methanol Oxidation Reaction
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MAT.P-412 Development of Efficient Vapochromic Naphthalene Diimide for Volatile Organic Compounds Detection
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MAT.P-413 Core-shell MOF derived Porous Carbon with hierarchical pore structure and composition as Lithium-Sulfur Battery Cathodes
SeoYeah Oh, Seoyoung Yoon, Jiwon Kim
School of Integrated Technology, Yonsei University, Korea

MAT.P-414 Ordered Mesoporous Nickel Manganese Oxide In Strong Acidc electrolytes condition for Aqueous zinc-ion battery
Chenglin Cui, Ji Man Kim[1,*], Yelim Kwon[1]
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MAT.P-415 Phosphorus-Doped Pt Nanowires as Efficient Catalysts for Electrochemical Hydrogen Evolution and Methanol Oxidation Reaction
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MAT.P-416 Light-induced reversible switching between capacitive and memristive properties of nanorod array based nanocomposite
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MAT.P-417 Rechargeable Magnesium Battery Full Cell Comprising Intercalation-type Vanadium Oxide Cathode and Noncorrosive Electrolyte
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MAT.P-418 Controllable Synthesis of Ceria Nanoparticles with Morphological Dependent Properties for Biomedical Applications
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MAT.P-419 Synthesis of Nickel-based catalyst for energy-related application
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MAT.P-420 CdHgSe/CdSSe Core/Thick Shell Quantum Dots Exhibiting Bright and Large Stokes Shifted Infrared Photoluminescence
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MAT.P-421 Binary metal oxide as bifunctional electrocatalyst for the electrochemical sensing of dopamine and HER
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MAT.P-422 Multi-variable Bayesian optimization for a new composition with superb Na^+ conductivity in the Na_3PS_4 family
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MAT.P-423 Synthesis and Characterization of Silica-Coated SWIR Quantum Dots
Hwajun Jeong, Sung Jun Lim
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MAT.P-424 Formation of Wrinkling Patterns for Flexible Electrodes by Using Direct Printing
SeungYeon Lee, Yeeun Cho, Hyuckjin Lee, Oh-Sun Kwon, Kwanwoo Shin
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MAT.P-425 Heterostructured Au-Cu_2O Nanocatalysts for Enhanced C-C coupling towards Electrochemical CO_2 Reduction into CH_{2+} Products
Minah Kim, Kwangyeol Lee
Department of Chemistry, Korea University, Korea

MAT.P-426 Co-salt system enabling Reversible calcium electrodeposition for a Calcium Battery
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MAT.P-427 High mass-loading of NiCo-LDH on 3D printed electrode for the cathode of asymmetric supercapacitor.
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MAT.P-428 Utilizing Ligand Flexibility for Designing Heteroleptic Triple-Stranded Helicate and Mesocate
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MAT.P-429 Introducing PDI-Cb interlayer for improved photo- and thermal-stability of inverted perovskite solar cells
Sunhee Lee, Won-Sik Han
Department of Chemistry, Seoul Women's University, Korea

MAT.P-430 Intercalative transformation of layered oxide $Sr_5M_4O_{15}$ (M = Nb, Ta) to perovskite oxynitride $SrAl_{0.2}M_{0.8}O_{2.4}N_{0.6}$
YangHun Kim, Young-il Kim
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MAT.P-431 Pt-embedded transition metal-based carbide nanostructure for enhanced electrochemical reaction
Doyeop Kim, Kwangyeol Lee
Department of Chemistry, Korea University, Korea

MAT.P-432 Nano-Scale Oxidation Patterning Performed by Non-Contact Atomic Force Microscopy Lithography
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MAT.P-433 Orientation change of electrospun fibers according to gap design
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MAT.P-434 Development of multifunctional biosensors using nanodiamond
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MAT.P-435 Amorphous Quaternary Sulfide Compound for Solid-State Electrolyte
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MAT.P-436 Enhancement of Thermoelectric Properties of Lead-free Materials by Exchange Interaction with Magnetic Impurities
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MAT.P-437 Highly Emissive Hexa-Metal Nano Cluster with Polymerizable Ligand for Transparent Luminescent Solar Concentrator
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MAT.P-438 Design of Hot Exciton Materials based on Anthracene–Benzophenone Scaffold: Design, Synthesis, Photophysical-, and Electrochemical Properties and Application to OLEDs
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Department of Chemistry, Seoul Women's University, Korea

MAT.P-439 Evaluation of ZIF-8 and ZIF-67 for linear α-olefin adsorption from binary liquid olefin/paraffin mixture
Jayeon Kim, Chung-Yul Yoo
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MAT.P-440 Identification of the electrochemical processes for flow-electrode capacitive deionization cell characterization using distribution of relaxation time analysis
Nahyun Kim, Chung-Yul Yoo
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MAT.P-441 Rational design of gradated CuS/CuSe hetero-structure for enhanced electrocatalytic reaction
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MAT.P-442 High Capacity $Ca_xV_2O_5$ as a New Viable Calcium Ion Battery Cathode
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MAT.P-443 Superacids for Protonation of Diamondoids
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MAT.P-444 Nicotinic Acid-Layered Double Hydroxide Nanohybrid as a Controlled Drug Release System
Seungjin Yu, Huiyan Piao[1], Sanoj Rejinold Nirichan[1], Goeun Choi[2,*], Jin-Ho Choy[3,*]
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MAT.P-445 A bioprinting technique for fabricating functionally graded hydrogel architectures : 3D ear cartilage structure with locally changed mechanical strength.
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MAT.P-446 High-efficiency sky-blue thermally activated delayed fluorescence emitters based on nicotinonitrile derivatives with symmetry molecular structure
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MAT.P-447 Comparison of selective 1-octene adsorption capacity of zeolites from binary 1-octene/n-octane mixture at different temperature
Sungbin Jo, Jayeon Kim, Chung-Yul Yoo
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MAT.P-448 Computational Design of Photo-switchable Calcium Indicator via Peptide-Spiropyran Hybridization.
Zinah Hilal Khaleel, Hojae Choi[1], Do Hyun Bae[1], Yong Ho Kim[2,*]
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MAT.P-449 2D-Inorganic Drug Delivery System for Enhanced Biocompatibility of Dexamethasone
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MAT.P-450 Graphitization of Different Geometric Forms of Polyacrylonitrile
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MAT.P-451 Electrochemical Functionalization of Graphene Grown on Cu Including Dependence of the Reactivity on Cu Facet Type
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MAT.P-452 A crucial role of crystal defect on substrate in improving the electrocatalytic activity of single-atom catalysts
Jihyeong Lee, Xiaoyan Jin, Seong-Ju Hwang
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MAT.P-453 Strongly-coupled heterojunction of ultrathin 2D semiconductor nanosheets with enhanced photocatalytic N_2 reduction activity
Taehoon Kim, Xiaoyan Jin, Seong-Ju Hwang
Department of Materials Science and Engineering, Yonsei University, Korea

MAT.P-454 A Novel Intercalation-type Cathode Material for Nonaqueous Calcium-ion Batteries
Ye-On Jeong, Hyeri Bu, Seung-Tae Hong
Energy Science and Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea

MAT.P-455 Potassium Vanadium Phosphate as a Cathode material for Non-aqueous Calcium-ion Batteries
Sooyeon Park, Hyeri Bu, Seung-Tae Hong
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MAT.P-456 A cation/anion co-doped Na3SbS4 superionic solid electrolyte for Na-batteries
Dongyeon Yun, Seung-Tae Hong
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MAT.P-457 2D/3D Inorganic/Organic Nanohybrids for Enhanced Stability of Vitamin C
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MAT.P-458 Fine-modulation of the defect and stacking structures of MXene nanosheets to enhance supercapacitor electrode performances
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MAT.P-459 All-solid-state battery using composite cathode with mixed conductive solid electrolyte and their electrochemical performance
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MAT.P-460 Fractal-like Assembled Recombinant Adhesive Protein based Antimicrobial Treatment for Inflammatory Skin Diseases
Ye Ji Kim, Deok Hyang Sa[1], Su Hyeon Kim[2], Yong Ho Kim
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MAT.P-461 Thermopower of Natural Compounds
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Department of Chemistry, Korea University, Korea

MAT.P-462 Holey Titanium Nitride Nanosheet as an Effective Hybridization Matrix for Strongly-coupled Electrode Materials
Yeon Hu Park, Xiaoyan Jin, Seong-Ju Hwang
Department of Materials Science and Engineering, Yonsei University, Korea

MAT.P-463 Improving battery performance by electrolyte additives in aqueous Zn/meso-MnO_2 battery system
Hansol Kim, Chenglin Cui[1], Yelim Kwon[2], Ji Man Kim[2]
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MAT.P-464 Small Molecule Approach to Modulating Perovskite Dimensions for Blue Light-Emitting Diode
Ji Yeong Lee, GaYeong Lim, Hyo Jae Yoon
Department of Chemistry, Korea University, Korea

MAT.P-465 Performance Evaluation of Composite Electrolyte with GQDs for All-Solid-State Lithium devices
Sungwon Hwang, Junehyeok Song
Department of System Semiconductor Engineering, Sangmyung University, Korea

MAT.P-466 Ordered mesoporous metal-Co3O4 composites for improving CO-PROX activity
Jung-ho Lee, Jin Seo Park, Zhengyang Li, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-467 Synthesis of dye-conjugated fibroin and its application to termite staining
Sanha Park, Jinkwon Kim, Seog Woo Rhee
Department of Chemistry, Kongju National University, Korea

MAT.P-468 The Study of Strain Effect on the Pt{110} Facet Using the Rhombic Dodecahedral Pd@Pt Core–Shell Nanocrystals for Oxygen Reduction Reaction
Hojin Ahn, Sang Woo Han
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MAT.P-469 In Situ Raman Monitoring of Hydrogen Passing Through Graphene
Younghyun Wy, Sang Woo Han
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MAT.P-470 Direct Decoupling of the Different Active Sites on Pd Nanocatalysts via Surface Engineering
Bon Seung Goo, Jong Wook Hong[1,*], Sang Woo Han
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MAT.P-471 Enhanced Catalytic Performance of Hybrid MOF Structure for Water Oxidation
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MAT.P-472 Ni-Fe/ZIF-67 Composites for a Promising Electrocatalytic Oxygen Evolution Reaction
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MAT.P-473 Eco-friendly approach for the preparation of soft polymeric electrodes capable of direct skin mounting with high adhesion
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MAT.P-474 A study on the process conditions of cold isostatic pressing according to the kneading conditions
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MAT.P-475 Investigation of Solid additives for Efficient Solar CElls
Minsoo Lee, Tae-Hyuk Kwon
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MAT.P-476 Solution-based Pt size engineering of Pt/Graphene nanoribbon : from single atom to nanoparticle
Heehyeon Lee, Youngtak Oh
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MAT.P-477 On Surface Quantum Chemistry
Luciano Colazzo
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MAT.P-478 Application Study of Carbon Dots
Juhea Kim[*], MiYeon Kwon
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ELEC.P-461 Enhanced performances of lithium metal batteries by synergistic effect of low concentration bisalt electrolyte
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ELEC.P-462 Spontaneous synthesis of copper nanoparticles with N-doped carbon dot/activated carbon nanotube composites as a high-performance catalyst for oxygen reduction reaction
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ELEC.P-463 Anode-free Li batteries sustainable for 3000 cycles with 91% retention
Amol Bhairuba Ikhe, Myoungho Pyo
Department of Advanced Components and Materials Engineering, Sunchon National University, Korea

ELEC.P-464 Nitrogen-doped electrocatalysts derived from coffee waste for electrochemical energy conversion
Hyun Joo Lee, Hyun Jin Kim, Je Seung Lee, Sung Yul Lim
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ELEC.P-465 Electrochemical properties evaluated of carbon-Pt coated by using furnace carbon black and acetylene black
Soo Youl Park
Chemical & Process Technology Division / C1 Gas & Carbon Convergent Research Center, Korea Research Institute of Chemical Technology, Korea

ELEC.P-466 Conversion of a CPE to an equivalent capacitor when parallel and serial faradaic processes are accompanied
Byoung-Yong Chang*, Jiwon Choi
Department of Chemistry, Pukyong National University, Korea

ELEC.P-467 Effect of Manganese Contents on the Performance of Cobalt-Free High-Nickel Layered Cathode Materials
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ELEC.P-468 Influence of Gas Atmospheres on the Synthesis of Lithium Titanate
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ELEC.P-469 1,1-Dialkyl-2,5-bis(trimethylsilylethynyl)-3,4-diphenyl-siloles : application to batteries materials
Hyeong Rok Si, Se Yeon Park, Ji Hun Lee, Young Tae Park
Department of Chemistry, Keimyung University, Korea

ELEC.P-470 Relationship Between Ion Transport and Non-ideality of Capacitance at Nanoporous Pt Electrodes
Hyunju Yang, Jinju Kim, Je Hyun Bae
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ELEC.P-471 **[Withdrawal]** High-Performance Electrochemical Oxygen Evolution Reaction of Nanostructured CeO2 Catalyst
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ELEC.P-472 **[Withdrawal]** High-Performance Oxygen Evolution Reaction Activity of Nanostructured NiO and Au Implanted NiO@Au Electrocatalysts
Jeongsik Choi, Que Nguyen, Sungjune Park[1,*]
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ELEC.P-473 Ni−Mo-based Electrocatalysts for Seawater Splitting
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Department of Chemistry, Kyung Hee University, Korea

ELEC.P-474 Fabrication of Selective and Stable Counter Electrodes for Seawater Splitting
Nayeon Lee, Choi HyunSeung, Sung Yul Lim
Department of Chemistry, Kyung Hee University, Korea

ELEC.P-475 $Ir_xMo_{1-x}O_y$ Nanomaterials Catalyzing pH-universal Oxygen Evolution Reaction
Sunghwa Ahn, Dasol Jin, Chongmok Lee, Youngmi Lee
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ELEC.P-476 Ruthenium-Chromium Mixed Oxide Core-Shell Nanofibers for Highly Efficient Oxygen Evolution Reaction Catalysis under pH-Universal Condition
Chaewon Song, Yoonkyeong Kim, Dasol Jin,

Chongmok Lee, Youngmi Lee
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ELEC.P-477 Cr, Ni Dual Doped WS2 Hollow Nanotube Growing on Nickel Foam for Enhanced Hydrogen Evolution Reaction
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ELEC.P-478 Tailored glass-ceramic ZnO co-doped $Li_7P_2S_8I$ solid electrolyte with high electrochemical and air stability for all-solid-lithium batteries
Geumji Jang, Kwang Sun Ryu
Department of Chemistry, University of Ulsan, Korea

ELEC.P-479 One-pot synthesis of carbon dots modified MoFe for electrocatalytic ammonia production via nitrogen reduction reaction
Shinyoung Kweon, Minseo Jeon, Yunhwi Seong, Jun Ho Shim
Department of Chemistry, Daegu University, Korea

ELEC.P-480 Photolectrochemical Analysis of Electrolyte Oxidation on WO_3 Surface
Min Kyo Kim, So Yeong Jo, Ki Min Nam
Department of Chemistry, Pusan National University, Korea

ELEC.P-481 Selectivity Control between Chloride and Water Oxidation on WO_3 Photoelectrode
So Yeong Jo, Min Kyo Kim, Ki Min Nam
Department of Chemistry, Pusan National University, Korea

ELEC.P-482 Effects of Ionic Size on Charging Dynamics at Microporous Pt Electrodes
Jinju Kim, Hyunju Yang, Je Hyun Bae
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ELEC.P-483 Boosting electrochemical performance and air stability through SeS_2 doping in Li_6PS_5Cl for all-solid-state lithium batteries
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ELEC.P-484 Enhanced electrochemical performance of SiO_2 doped superionic halogen-rich argyrodites for all-solid state lithium batteries
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ELEC.P-485 ZIF-67-derived bimetallic CoM (M = Mn, Fe, Ni, Cu) nanoparticles for efficient oxygen reduction reaction
Sunguk Noh, Hyejin Oh, Yunkyung Lee, Jun Ho Shim
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ELEC.P-486 Suppression of H2 Bubble Formation on an Electrified Pt Electrode Interface in an Acidic "Water-In-Salt" Electrolyte Solution
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ELEC.P-487 Cl^-/Cl_3^- Redox Voltammetry to Recognize the Interfacial Layers on Positively Electrified Electrode in "Water-in-salt" Electrolytes
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ELEC.P-488 Influence of Two-Dimensional Structure of Zr-doped SrNbO2N on Photoelectrochemical Water Splitting
Thanh Tam Thi Tran, Jeongsuk Seo
Department of Chemistry, Chonnam National University, Korea

ELEC.P-489 Metallic Indicator Electrode in Galvanic Cell Revisited: Quantitative Interrogation of Horseradish Peroxidase Activity
Heejung Chung, Jinho Chang[1,*]
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ELEC.P-490 Investigation of I- electro-oxidation mechanism at a platinum microelectrode
Sehyeok Ki, Jinho Chang
Department of Chemistry, Hanyang University, Korea

ELEC.P-491 Single Spinel $Co_xRh_{3-x}O_4$ Nanoparticles as Highly Performed Oxygen Evolution Reaction Catalysts in Alkaline Media
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ELEC.P-492 Two-step Electrodeposition of Nanoflake Ag structure: High-performance SERS Substrate for Sensitive Detection of Trace Pesticides
Dasol Jin, Youngmi Lee, Myung Hwa Kim, Chongmok Lee
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ELEC.P-493 IrO_2-ZnO Composite Oxide Multi-Walled Nanotubes as pH-Universal Electrocatalysts for Oxygen Evolution Reaction with Morphological and Crystallographic Control
Yoonhee Nam, Dasol Jin, Chongmok Lee[1], Youngmi Lee
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ELEC.P-494 N-doped NbOx/CB Bifunctional Electrocatalyst for Oxygen Reduction and Evolution Reactions in Alkaline Electrolytes
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ELEC.P-495 Tuning Electronic Structure of MnO_2 with Ru and F Introduction for Efficient Proton Exchange Membrane Water Electrolysis
Sol Kim, Anastasiia Voronova, Bora Seo[1,*]
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ELEC.P-496 Degradation Analysis under Dynamic Cycling Loads with Various Voltage Ranges in Proton Exchange Membrane Water Electrolysis
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ELEC.P-497 In-situ Growth of Porous Cubic-like SrNbO2N Crystals on Nb Substrate for Solar-driven Neutral Seawater Splitting
Van-Huy Trinh, Jeongsuk Seo
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ELEC.P-498 Enhancing hydroxylamine production during electrochemical reduction of nitric oxide on iron single-atom catalyst through controlling catalyst oxygen content
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Items Cloud-based materials/chemistry simulation platform; Materials Square (MatSQ)

YOUNG IN Chromass Co., Ltd.

Address 60, Anyangcheondong-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea
Tel 031-428-8700
Fax 031-428-8787
Web Site https://www.youngincm.com
Contacts MINJIN KONG
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Gas Chromatograph, Liquid Chromatograph, Water purification system

YoungIn Chromtech

Address 22, Apgujeong-ro 28-gil, Gangnam-gu, Seoul, Republic of Korea
Tel 02-6207-1480
Fax 02-6207-1481
Web Site http://younginct.com
Contacts Hyunsun Jo
E-mail hsjo@younginct.com
Items Analyzing/Measuring/Preprocessing instruments, LAB products

Transportation

Access to HICO

▣ From Singyeongju station

1. City Bus

❶ Singyeongju Station → HICO

* Bus No. : 700 (Interval : 50-60 min., Travel Time: 40-50 min.)

❷ Singyeongju Station → Gyeongju Express–intercity Bus Terminal → HICO

- Singyeongju Station → Gyeongju Express-intercity Bus Terminal
  * Bus No. : 50, 51, 70 (Interval: 15-20 min., Travel Time: 20 min.)
  * Bus No. : 60, 61 (Interval: 60-70 min., Travel Time: 20 min.)
- Gyeongju Express-intercity Bus Terminal → HICO
  * Bus No. : 10, 100-1 (Interval: 20 min., Travel Time: 30 min.)
  * Bus No. : 150-1 (Interval: 50 min., Travel Time: 30 min.)
  * Bus No. : 16, 18 (Interval: 120-140 min., Travel Time: 30 min.)
  * Bus No. : 11 (Interval: 20 min., Travel Time: 50 min.)

    (Bus No. 11 takes 20 minutes longer than the other bus route because it runs by roundabout.)

2. Taxi

- Distance 22 km / Approx 30-40 min
- Fare : 25,000 ~ 30,000 KRW
  * Surcharge added between 12 am ~ 4 am
  * Taxis in Gyeongju have a surcharge added to the basic fare when traveling to neighboring regions.
  * 55% added surcharge

    (Singyeongju Station → Downtown Gyeongju, Downtown Gyeongju → Bomun Zone)

Transportation

▣ Shuttle Bus Information

All participants of the 130th General Meeting of the Korean Chemical Society can use the shuttle bus services.

Shuttle Bus Schedule			
Singyeongju Station → HICO		HICO → Singyeongju Station	
10/19 (Wed)	10/20 (THU)	10/20 (THU)	10/21 (FRI)
Departure Time		Departure Time	
12:00	8:15	17:30	17:00
12:10	8:30	18:00	17:15
12:20	8:45		17:30
12:30	9:00		17:45
12:40	9:15		18:00
12:50	9:30		
13:00	9:45		
13:10	10:00		
13:20	10:15		
13:30	10:30		
14:00	11:00		
14:30	11:30		
15:00	12:00		
15:30			
16:00			
16:30			
17:00			

Singyeongju Station → HICO

City Tour stop

(Go straight 100 m from the exit of Singyungju Station)

HICO → Singyeongju Station

GATE 5

Food

Sikgaek

Menu	Barbecued pork
Address	Daemyung Resort 1F, 402-12, Bomun-ro, Gyeongju-si
Tel	+82-(0)54-778-8441

Now China

Menu	Chinese food
Address	45, Expo-ro, Gyeongju-si
Tel	+82-(0)54-753-0011

Bomun Hanu

Menu	Barbecued beef short ribs
Address	220-6, Sinpyeong-dong, Gyeongju-si
Tel	+82-(0)54-776-9200

Unsudaetong

Menu	Barbecued beef short ribs
Address	132-5, Bomun-ro, Gyeongju-si
Tel	+82-(0)54-763-6767

Yugane Gomtang

Menu	Gomtang (Beef bone soup)
Address	80, Expo-ro, Gyeongju-si
Tel	+82-(0)54-777-5704

Gyeongju Millennium Hanwoo

Menu	Barbecued beef short ribs
Address	545-9, Bomun-ro, , Gyeongju-si
Tel	+82-(0)54-777-1735

Food

Pulipchae

Menu	Barbecued pork
Address	Mitam City Food Court 2F, 80, Expo-ro, Gyeongju-si
Tel	+82-0507-1343-6638

Mugunghwa

Menu	Korean food
Address	45, Expo-ro, Gyeongju-si
Tel	+81-(0)54-770-9122

Eomma Gomtang

Menu	Beef bone soup
Address	545-14. Bomun-ro, Gyeongju-si
Tel	+82-[0)54-774-5500

Mr. Kim

Menu	Gimbap, Dumpl ing
Address	GT Land 2F,465-67, Bomun-ro, Gyeongju-si
Tel	+82-[0)54-774-4150

Maetdol Sundubu

Menu	Soft tofu stew
Address	7, Bukgun-gil, Gyeongju-si
Tel	+82-(0)54-745-2791

Donggunbanjeom

Menu	Chinese cuisine
Address	27, Bukgun-gil, Gyeongju-si
Tel	+82-(0)54-741-1233

Food

Nakjimasil

Menu	Spicy stir-fried octopus
Address	9, Bukgun-gil, Gyeongju-si
Tel	+82-0507-1498-0049

Jeonjuga

Menu	Bibimbap(mixed-rice bowl]
Address	3, Bukgun 2-gil, Gyeongju-si
Tel	+82-(0)54-745-0279

Burger King

Menu	Burger
Address	Mitam City Food Court 2F, 80, Expo-ro, Gyeongju-si
Tel	+82-070-8801-5704

Whasoobrewery

Menu	Beer, Pizza
Address	465-67, Bomun-ro, Gyeongju-si,
Tel	+82-0507-1391-8015

CINE Q Food Court

Menu	Food Court
Address	465-67, Bomun-ro, Gyeongju-si,
Tel	+82-1544-1533

Starbucks

Menu	Coffee, Cake, Sandwich
Address	510-6, Bomun-ro, Gyeongju-si
Tel	+82-1522-3232

ROYAL SOCIETY OF CHEMISTRY

어떻게 리서치의 잠재력을 극대화 할 수 있을까요?

이 툴을 통해 전 세계인으로 소통의 범위를 넓혀보세요

rsc.li/author-hub

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답은 기본에 충실하게

DONGWOO FINE-CHEM

지속적인 기술 혁신을 지향하는 **동우화인켐**은

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GLOBAL COMPANY

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