

Plenary Lecture

October 17 (Thu), 13:30-14:20, Convention Hall 1+2

Selective, Catalytic Functionalization of C-H Bonds

Chair : Sunwoo Lee (Chonnam National University)



Prof. John F. Hartwig

Department of Chemistry,
University of California, Berkeley,
USA

Brief Profiles

2011-present / University of California,
Berkeley Henry Rapoport Professor of
Chemistry

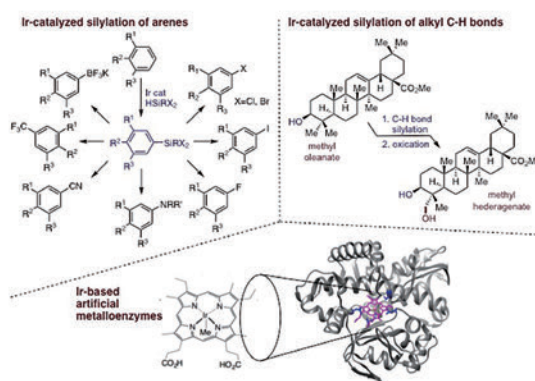
2011-present / Lawrence Berkeley
National Laboratory, Berkeley Senior
Faculty Scientist

2012 / Elected Member, National
Academy of Sciences

The selective introduction of functional groups into complex molecules at the positions of C-H bonds has been a longstanding challenge in catalysis. Our group has developed practical methods for the catalytic functionalization of C-H bonds with main group reagents, such as boranes and silanes, to create a comprehensive strategy to use one C-H bond functionalization process to form a range of products.

This catalysis inspired us to combine the reactions of C-H bonds catalyzed by small transition-metal complexes with the selectivity and evolutionary potential of enzymes. To do so, we have created artificial heme enzymes in which the iron of the heme has been replaced with noble metals to create catalysts for reactions that have not been catalyzed by natural or mutant heme enzymes.

This lecture will present recent directions of research in our group toward discovering selective reactions of C-H bonds catalyzed by both transition metal complexes and artificial metalloenzymes. The design and selection, as well as the intimate mechanism, of catalysts and catalytic reactions for these selective functionalization processes will be presented.



Award Lecture

2019 Taikyue Ree Academic Award

◎ October 18 (Fri), 13:30-14:20, Convention Hall 3

Highly Sensitive *in vitro* Diagnostics Using SERS-based Microdevices: Current Status & Future

Chair : Tae-Young Kim (GIST)



Prof. Jaebum Choo

Department of Chemistry,
Chung-Ang University

Brief Profile

Present / Distinguished Professor,
Department of Chemistry, Chung-Ang
University

Recently, surface-enhanced Raman scattering (SERS)-based bioassay platforms have been developed for highly sensitive *in vitro* diagnostics. For instance, SERS-based lateral flow immunoassay (LFA) biosensor has been developed to resolve problems associated with conventional LFA strips (e.g., limits in quantitative analysis and low sensitivity). With the SERS-based LFA strip, the presence of a target antigen can be identified through a colour change in the test line. Additionally, the highly sensitive quantitative evaluation of target antigens is possible by measuring SERS signals on the test line. To verify the feasibility of the SERS-based LFA strip platform, an immunoassay of staphylococcal enterotoxin B (SEB) and a DNA assay of HIV-1 virus were performed as model reactions. The limit of detection (LOD) values are much more sensitive than those achieved with the corresponding ELISA or PCR methods. The development of SERS-based microfluidic platforms has also attracted significant recent attention in the biological sciences. SERS is a highly sensitive detection modality, with microfluidic platforms providing many advantages over microscale methods, including high analytical throughput, facile automation and reduced sample requirements. Accordingly, the integration of SERS with microfluidic platforms offers significant utility in chemical and biological experimentation. Herein, we report a fully integrated SERS-based microdroplet platform for the automatic immunoassay of specific biomarkers. These novel SERS-based assay platforms are expected to be powerful clinical tools for *in vitro* disease diagnosis. In this presentation, recent advances in *in vitro* diagnostics using optical nanosensor technology will be discussed.

Scientific Programs

Symposium

KCS Symposium 1

October 16 (Wed), Room 301+302

Organizer



Chulbom Lee

Present Professor, Department of Chemistry, Seoul National University, Korea
2001 Assistant Professor, Department of Chemistry, Princeton University, USA
1999 Postdoc, Memorial Sloan-Kettering Cancer Center, USA

Chair



Seunghoon Shin

Present Professor, Department of Chemistry, Hanyang University, Korea
2001 Ph.D. Department of Chemistry, The Ohio State University
1994 B.S. Department of Chemistry, Seoul National University



Bongjin Moon

Present Professor, Department of Chemistry, Sogang University, Korea
2001 Ph.D. Department of Chemistry, University of Minnesota, USA
1990 B.S. Department of Chemistry, Seoul National University, Korea



Sukwon Hong

Present Professor, Department of Chemistry, GIST, Korea
2005 Assistant Professor, Department of Chemistry, University of Florida, USA
2003 Ph.D. Department of Chemistry, Northwestern University, USA

Speaker



Shengming Ma

Present Professor at Fudan University and Shanghai Institute of Organic Chemistry, P. R. China



Louis Fensterbank

1993 Ph.D. SUNY Stony Brook



Sungwoo Hong

Present Professor at the Department of Chemistry at Korea Advanced Institute of Science and Technology
Present Associate Director of the Center for Catalytic Hydrocarbon Functionalizations at the Institute for Basic Science (IBS)



Nicolai Cramer

Present Full Professor EPFL Lausanne, Switzerland

3. [KCS-RSC Joint Symposium] The 6th Organic Chemistry Frontiers International Symposium

Organizer : Chulbom Lee (Seoul National University)

Chair : Seunghoon Shin (Hanyang University)

- 13:20 Opening Remarks
Duck-Hyung Lee
Sogang University, Korea / Chair of the KCS Organic Division
- 13:25 **KCS1-1** Propargylic Alcohol-Based Allene Syntheses
Shengming Ma
Shanghai Institute of Organic Chemistry, CAS, China
- 13:50 **KCS1-2** From Radical Chemistry to Dual Catalysis
Louis Fensterbank
Laboratoire de chimie théorique, Sorbonne Université, Institut Parisien de Chimie Moléculaire, France
- 14:15 **KCS1-3** Visible Light-Induced Site-Selective C-H Heteroarylation
Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 14:40 Break
- Chair : Bongjin Moon (Sogang University)
- 14:55 **KCS1-4** Diimine Multi-Purpose Platform for Chiral Ligands
Nicolai Cramer
Institute of Chemical Sciences and Engineering, Laboratory of Asymmetric Catalysis and Synthesis, Switzerland
- 15:20 **KCS1-5** Understanding Photoexcited States of Functional Organic Materials
Lichang Wang
Department of Chemistry and Biochemistry, Southern Illinois University, United States
- 15:45 **KCS1-6** Porphyrin-based Supramolecular Nano-architectures
Woo-Dong Jang
Department of Chemistry, Yonsei University, Korea
- 16:10 **KCS1-7** Planar and Contorted π -scaffolds for Organic Electronics
Frank Würthner
Universität Würzburg, Institut für Organische Chemie & Center for Nanosystems



Lichang Wang

1993 Ph.D. Chemistry, University of Copenhagen
1988 M.S. Chemical Engineering, Tianjin University
1985 B.S. Chemical Engineering, Tianjin University



Woo-Dong Jang

Present Associate Member, The Korean Academy of Science and Technology
Present Professor, Department of Chemistry, College of Science, Yonsei University, Korea.
Present Visiting Scholar, Korean Institute of Science and Technology



Frank Würthner

Present Professor, Chair of Organic Chemistry II, University of Würzburg



Guy Bertrand

Present Distinguished Professor, University of California, San Diego



Young Ho Rhee

Present Full professor, POSTECH (Pohang University of Science and Technology), Korea



Peng George Wang

Present Chair, Department of Chemistry, Georgia State University



Dan Yang

Present Chair professor of chemistry, Morningside Professor in Chemical Biology
1991- Postdoctoral fellowship, Harvard university
1991 Ph.D, Princeton university

Chemistry, Germany

16:35 Break

Chair : Sukwon Hong (GIST)

16:50 **KCS1-8** Carbenes as Powerful Transition Metal Surrogates

Guy Bertrand

Department of Chemistry, UCSD-CNRS Joint Research Laboratory, United States

17:15 **KCS1-9** Catalytic Asymmetric Addition Reaction of Heteroatom Nucleophiles to Alkoxyallene: A *De Novo* Glycosidic Bond Formation

Young Ho Rhee

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

17:40 **KCS1-10** Automation of Oligosaccharides and Glycopeptide Synthesis

Peng George Wang

Department of Chemistry, Georgia State University, United States

18:05 **KCS1-11** Small-Molecule Fluorescent Sensors for Reactive Oxygen and Reactive Nitrogen Species

Dan Yang

Morningside Laboratory for Chemical Biology and Department of Chemistry, The University of Hong Kong, Hong Kong

18:30 Concluding Remarks

Shengming Ma

Shanghai Institute of Organic Chemistry, China / Editor-in-Chief, Organic Chemistry Frontiers

Organizer

**Taejin Kim**

Present Vice President, Head of Platform
Tech. R&D Center, SK Innovation
2012 Team Leader of Catalyst Lab, SK
Innovation Global Technology
2003 Ph.D. Chemical Engineering, Inha
University

Speaker

**Soon Hyeok Hong**

Present Associate Professor, Department
of Chemistry, KAIST, Korea
2007 Ph.D. California Institute of
Technology, USA
1999 BS & MS, Seoul National
University, Korea

**Jung Woon Yang**

Present Associate Professor, Department
of Energy Science, Sungkyunkwan University, Korea
2003-2009 Post-Doc, Group Leader, Max-
Planck-Institut für
Kohlenforschung, Germany
2003 Ph.D. Korea Institute of Science
and Technology & Korea
University, Seoul, Korea

**Sungho Yoon**

Present Professor, Department of
Chemistry, Chung-Ang
University, Korea
2007 Associate Professor, Kookmin
University, Korea
2005 Researcher, LG Chem, Korea

4. [KCS-SK innovation Joint Symposium] Recent Advances
in Green Chemistry

Organizer : Taejin Kim (SK innovation)

Chair : Myoung Lae Kim (SK innovation)

- 15:00 Opening
- 15:10 **KCS2-1** Homogeneous Catalysis for Sustainable Chemical Synthesis: Utilization of Methanol and Cyclopentadiene for Fine Chemicals and Polymers
Soon Hyeok Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 15:55 **KCS2-2** Conversion of Lignin (Model) Compound and Glycerol to High-Value Chemicals
Jung Woon Yang
Department of Energy Science, Sungkyunkwan University, Korea
- 16:40 **KCS2-3** Catalyst and process technology for producing highly valued C1 compounds from greenhouse gases
Sungho Yoon
Department of Chemistry, Chung-Ang University, Korea
- 17:25 Closing

Organizer

**Sejin Lee**

Present Team Leader, Principal
Researcher, Agency for Defense
Development, Korea
2004 Ph.D, Department of Chemistry,
KAIST, Korea

Speaker

**Byoung Sun Min**

Present Team Leader, Agency for
Defense Development, Korea
2018 Professor, Weapon Systems
Engineering, University of
Science and Technology, Korea
2016 Ph.D, Department of Chemistry,
KAIST, Korea

**Hyoun Soo Kim**

Present Senior Principal Researcher,
ADD, Korea
1994 Explosives Scientist, USAF WL,
USA
1989 Ph.D, Department of Chemical
Engineering, Yonsei University,
Korea

**Jang-Hyeon Cho**

Present Agency for Defense
Development, Korea

**Hyunsuk Kim**

Present Senior Researcher, the 4th R&D
Institute 5th Directorate, ADD,
Korea
2019 Ph. D, Department of Chemistry,
KAIST, Korea
2005 Researcher, LG Chem, Korea

**Juhyun Kim**

Present Principal Researcher
2015 Defense R&D Attache to USA
2011 Team Leader of ADD

**Hyeonwoo Lee**

Present Team Leader, Civil-Military
Technology Cooperation
Directorate

5. [Defense Science Symposium] Introduction of ADD's
Researches and Future

Organizer : Sejin Lee (Agency for Defense Development)

Chair : Sejin Lee (Agency for Defense Development)

- 14:00 Opening Remark : Introduction of ADD
Seong-Taek Lim
Agency for Defense Development
- 14:15 **KCS3-1** History of propellants in Korea and their future trends
Byoung Sun Min
Agency for Defense Development, Korea
- 14:40 **KCS3-2** Basic Technologies for the Development of High Explosives
Hyoun Soo Kim
Agency for Defense Development, Korea
- 15:05 **KCS3-3** Present and future of challenging military battery development
Jang-Hyeon Cho
Agency for Defense Development, Korea
- 15:30 Coffee Break
- 15:45 **KCS3-4** Researches for Development of CBR (Chemical Biological Radiological)
Defense Technology
Hyunsuk Kim
The 4th R&D Insitute - 6th Directorate, Agency for Defense Development, Korea
- 16:10 **KCS3-5** Synthetic Biological Technology as a focal point of ADD's future R&D
efforts
Juhyun Kim
IDAR of ADD, Agency for Defense Development, Korea
- 16:35 **KCS3-6** Introduction of CMTC (Civil Military Technology Cooperation) Programs
Hyeonwoo Lee
Agency for Defense Development, Korea

Speaker

**Ah-Young Jee**

Present Senior researcher, Center for Soft and Living Matter, Institute for Basic Science

**Yaroslav Sobolev**

2016 - Present Research Fellow at IBS Center for Soft and Living Matter

**In Su Lee**

Present Professor, Department of Chemistry, POSTECH

Present Director, Creative Research Initiative Center for Nanospace-Confinement Chemical Reactions

2000 Ph.D., Department of Chemistry, Seoul National University

**John King**

Present Research Fellow, Center for Soft and Living Matter, IBS

Present Adjunct Professor, Department of Chemistry, UNIST

**Ki Tae Nam**

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

2010 Postdoc, Molecular Foundry, Lawrence Berkeley National Laboratory, US

2007 Ph.D. Materials Science and Engineering, MIT, USA

**Yoon-Kyoung Cho**

Present Group Leader, Center for Soft and Living Matter, Institute of Basic Science, Korea

Present Professor, Biomedical Engineering, UNIST, Korea

6. [IBS Symposium] Dynamic Soft and Living Matter

Organizer : Yoon-Kyoung Cho (IBS)

Chair : Yoon-Kyoung Cho (IBS)

- 15:00 **KCS4-1** Diffusion Enhancement of Catalytic Enzymes
Ah-Young Jee, Steve Granick
Center for Soft and Living Matter, Institute for Basic Science, Korea
- 15:30 **KCS4-2** Self-assembly in rotating frames of reference.
Yaroslav Sobolev, Bartosz Grzybowski^{1,*}
Center for Soft and Living Matter, Institute for Basic Science, Russia
¹*IBS Center for Soft and Living Matter / Department, Ulsan National Institute of Science and Technology, Korea*
- 16:00 **KCS4-3** Nanocrystal Conversion Chemistry within Nanosilica Confinement
In Su Lee
Department of Chemistry, Pohang University of Science and Technology, Korea
- 16:30 **KCS4-4** Soft Matter Dynamics at the Nanoscale
John King
Center for Soft and Living Matter, Institute for Basic Science, Korea
- 17:00 **KCS4-5** Biomolecules-controlled Chirality in Gold Nanoparticles
Ki Tae Nam
Division of Material Engineering, Seoul National University, Korea
- 17:30 **KCS4-6** Harnessing tiny cell-derived vesicles
Yoon-Kyoung Cho
Center for Soft and Living Matter, Institute of Basic Science, Korea

Organizer

**Hyosun Lee**

Present Professor, Department of Chemistry, Kyungpook National University, Korea
1989 Ph.D. Department of Chemistry, Columbia University, USA
1992 B.S. Department of Chemistry, Yeungnam University, Korea

Chair

**Hoi Ri Moon**

Present Associate Professor, Department of Chemistry, Ulsan National Institute of Science and Technology
2009 Postdoc, Lawrence Berkeley National Laboratory, USA
2007 Ph.D. Department of Chemistry, Seoul National University

**Ha-Jin Lee**

Present Director & Principal Research Scientist, Western Seoul Center, Korea Basic Science Institute, Korea
2005 Postdoc, National Institute of Standards and Technology, USA
2001 Ph.D. Department of Chemistry, Seoul Women's University, Korea

**Sangwon Ko**

Present Senior Researcher, Transportation Environmental Research Team, Korea Railroad Research Institute, Korea
2012 Ph.D. Department of Chemistry, Stanford University, USA
2001 B.S. Department of Chemistry, Ewha Womans University, Korea

Speaker

**Myunghyun Paik Suh**

Present Emeritus Professor, Department of Chemistry, Seoul National University
2014-2017 Chair Professor, Department of Chemistry, Hanyang University
1977-2014 Professor, Department of Chemistry, Seoul National University

**Mi-Sook Won**

Present Department of Advanced Materials Engineering, Dong-Eui Univ. Korea
1993 Korea Basic Science Institute, Busan Center
1988 Ph.D. Department of Chemistry, Pusan national univ, Korea

**Young Ok Seo**

Present Finetechnology CEO
Present Eogok Regional Industrial Management Corporation
2010 Chairman of Kyungnam Venture Industry Association

7. [KCS-KWSE Joint Symposium] The Lifetime of Woman in Chemistry: The Past, Present, and Future of Woman Chemists

Organizer : Hyosun Lee (Kyungpook National University)

Chair : Hoi Ri Moon (UNIST)

- 09:15 Opening
Hyosun Lee
Kyungpook National University
- 09:20 **KCS5-1** 50 Years of My Life as a Woman Chemist
Myunghyun Paik Suh
Division of Chemistry, Seoul National University, Korea

Chair : Ha-Jin Lee (KBSI)

- 09:50 **KCS5-2** Life with Challenges and Passion
Mi-Sook Won
Advanced Materials Engineering, Dong-Eui University, Korea

Chair : Sangwon Ko (Korea Railroad Research Institute)

- 10:20 **KCS5-3** The Role and Vision of Woman Chemist
Young Ok Seo
Finetechnology Co.,Ltd, Korea
- 10:50 Discussion and Networking

Speaker



Chang Jae Lee
2006- present Safety Management
Department, Education Facility
Disaster Association



ChangHo Park
Present Professor, Department of
Psychology, Chonbuk National
University, Korea
2008- President, Korean Society for
2009 Cognitive and Biological
Psychology
1993 Ph.D. Department of
Psychology, Seoul National
University



Ik-Mo Lee
Present Professor, Department of
Chemistry, Inha University, Korea

8. [Laboratory Safety Education] Laboratory Safety Education for the Graduate Students

Organizer : Ik Mo Lee (Inha University)

Chair : Ik-Mo Lee (Inha University)

- 09:00 **KCS6-1** Guide for the Establishment of Safety Environment to Prevent Damages from Earthquakes in the Laboratories of Educational Institutions including Universities
Chang Jae Lee
Education Facility Disaster Association, Korea
- 09:40 **KCS6-2** Cognitive-Behavioral Approach to Safety
ChangHo Park
Department of Psychology, Chonbuk National University, Korea
- 10:20 **KCS6-3** Characteristics of Chemicals and Examples of Accidents
Ik-Mo Lee
Department of Chemistry, Inha University, Korea

Speaker



Han Young Woo

2015- Present Full Professor, Korea University, Korea
2006-2015 Assistant, Associate and Full Professor, Pusan National University
2003-2006 Post-doctoral Researcher in Department of Chemistry, MC-CAM and CPOS, UCSB, USA



Douglas Harris

Present Global Business Development Manager for Speciality Chemicals, Merck

9. Luncheon Symposium with Sigma-Aldrich Award's Winner

Chair : Hyun-Jung Park (Merck)

- 12:00 **KCS7-1** Organic Solar Cells for Renewable Green Energy Sources
Han Young Woo
Department of Chemistry, Korea University, Korea
- 12:40 **KCS7-2** Long-life Charge Transport Layers for Laser Printers
Douglas Harris
Merck, United States

Organizer

**Hyung-II Lee**

Present Professor, Department of Chemistry, University of Ulsan, Korea
2007 Ph.D., Department of Chemistry, Carnegie Mellon University, USA
1998 B.S., Industrial Chemistry, Hanyang University, Korea

Speaker

**Changsik Song**

Present Associate Professor, Department of Chemistry, Sungkyunkwan University
2011 Assistant Professor, Department of Chemistry, Sungkyunkwan University
2007 Postdoctoral Associate, Department of Chemical Engineering, MIT

**Yong Seok Kim**

Present Head, Advanced Functional Polymers Research Center, KRICT
2011 Guest Researcher, NIST, USA
2001 Ph. D, Department of Materials Sci. & Eng., POSTECH, Korea

**Sung Chul Hong**

Present Professor, Department of Nanotechnology and Advanced Materials Engineering, Sejong University, Korea
2001 Postdoc., Department of Chemistry, Carnegie Mellon University, USA
1996 Ph.D., Department of Chemical Technology, Seoul National University, Korea

**Kyung-Youl Baek**

Present Principal Research Scientist, Center for Materials Architecturing, Korea Institute of Science and Technology (KIST)
2006 Postdoc., Department of Chemical Engineering, UC Berkeley, USA
2002 Ph.D., Department of Polymer Chemistry, Kyoto University, Japan

10. Special Symposium by Mid-career Polymer Synthesis Scientists

Organizer : Hyung-II Lee (University of Ulsan)

Chair : Hyung-II Lee (University of Ulsan)

<Award Lecture: Award for Advanced Research>

- 15:40 **POLY1-1** Supramolecular Polymers from Functional Hydrazones: Helicity Control and Aggregation Induced Emission
Kyung-su Kim, **Changsik Song**
Department of Chemistry, Sungkyunkwan University, Korea
- 16:10 **POLY1-2** Synthesis and Application of Novel Polymer Networks having Covalent Polysulfide Linkages
Yong Seok Kim
Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea
- 16:40 **POLY1-3** Efficient structural transformation of polyacrylonitrile copolymers during thermal oxidative stabilization for carbon materials
Sung Chul Hong
Department of Nanotechnology and Advanced Material, Sejong University, Korea
- 17:10 **POLY1-4** Synthesis of Structure Controlled Polysilsesquioxanes and its applications
Kyung-Youl Baek
Center for Materials Architecturing, Korea Institute of Science and Technology, Korea
- 17:40 Polymer Chemistry Division Meeting

Organizer

**Min Sang Kwon**

Present Assistant Professor, Department of Materials Science and Engineering, UNIST, Korea
2011 Ph. D., Department of Chemistry, Seoul National University, Korea
2006 B. S., Department of Materials Science and Engineering, Seoul National University, Korea

Speaker

**Hyeonuk Yeo**

Present Assistant Professor, Department of Chemistry Education, Kyungpook National University, Korea
2017 Research Scientist, Korea Institute of Science and Technology, Korea
2017 Ph.D. in Polymer Chemistry, Kyoto University, Japan

**Yongju Kim**

Present Associate Professor, KU-KIST Graduate School of Converging Science & Technology, Korea University, Korea
2018 Professor, College of Chemistry, Jilin University, China
2012 Ph.D. Department of Chemistry, Seoul National University, Korea

**Hyungwoo Kim**

Present Assistant Professor, Polymer Science & Engineering, Chonnam National University
2017 Postdoc, Chemistry, Pennsylvania State University
2014 Ph.D., Materials Science & Engineering, Seoul National University

**Kyeongwoon Chung**

Present Senior Researcher, Korea Institute of Materials Science (KIMS), Korea
2016 Ph.D., Macromolecular Sci. & Eng., University of Michigan, Ann Arbor, US
2010 Research Engineer, Samsung SDI, Korea

11. Recent Trends in Early-career Polymer Chemists

Organizer : Min Sang Kwon (UNIST)

Chair : Min Sang Kwon (UNIST)

- 09:00 **POLY2-1** Methodological approach on curing reaction of liquid crystalline epoxy resin for developing thermally conductive networks
Hyeonuk Yeo
Department of Chemistry Education, Kyungpook National University, Korea
- 09:25 **POLY2-2** Adaptive Supramolecular Nanomaterials
Yongju Kim
KU-KIST Graduate School of Converging Science & Technology, Korea University, Korea
- 09:50 **POLY2-3** Selective De-Cross-Linking Enables Macroscopic Responses in Double-Network Hydrogels
Hyungwoo Kim
School of polymer science and engineering, Chonnam National University, Korea
- 10:15 **POLY2-4** Design of Stimuli-responsive Organic Molecules and Polymers based on the Controlled Intermolecular Interactions
Kyeongwoon Chung
Korea Institute of Materials Science (KIMS), Korea

Organizer

**Sung Cheol Yoon**

Present: Principal Researcher, Adv. Mater. Div./KRICT, Korea
2004: Principal Researcher, LG Elite, Korea
1997: Ph.D. Department of Chemistry, Seoul National Univ., Korea

Speaker

**Dongyeop Oh**

2016: Senior Researcher, Korea Research Institute of Chemical Technology, Korea
2016: Depart of Environmental Engineering, POSTECH, Korea
2009: Depart of Chemical Engineering, Hanyang University, Korea

**Dong Soo Hwang**

Present: Associate Professor, Division of Environmental Science and Engineering, POSTECH, Korea
2010: Postdoc, Materials Research Laboratory, University of California, Santa Barbara, CA, USA
2006: Ph.D. Department of Chemical Engineering, POSTECH, Korea

**Jeyoung Park**

Present: Senior Researcher, KRICT
Present: Associate Professor, UST
2014: Researcher, SK Innovation

**Se Youn Cho**

Present: Senior Researcher, Carbon Convergence Materials Research Center, Korea Institute of Science and Technology (KIST), Korea
2017: Postdoc, Department of Industrial Engineering, University of Pittsburgh, USA
2015: Ph.D. Department of Polymer Science and Engineering, Inha University, Korea

12. Recent Trends in Environmental Science-Related Polymer Research

Organizer : Sung Cheol Yoon (KRICT)

Chair : Sung Cheol Yoon (KRICT)

- 14:30 **POLY3-1** Biobased and Biodegradable Plastics
Dongyeop Oh
Center for Bio-based chemistry, Korea Research Institute of Chemical Technology, Korea
- 14:55 **POLY3-2** Nanopolysaccharides and their applications
Dong Soo Hwang
Division of Environmental Science and Engineering, Pohang University of Science and Technology, Korea
- 15:20 **POLY3-3** Microparticles efficiently remove copper ion, retain their structure in aqueous media, and eventually degrade after use
Jeyoung Park
Research Center for Bio-based Chemistry, Korea Research Institute of Chemical Technology, Korea
- 15:45 **POLY3-4** Carbonization of silk protein into pseudographitic pyroprotein
Se Youn Cho
Carbon Convergence Materials Research Center, Korea Institute of Science and Technology, Korea

Organizer

**Mi Hee Lim**

Present Associate Professor, Department of Chemistry, KAIST, Korea
2006 Ph.D, Department of Chemistry, MIT, USA
1999 B.S, Department of Chemistry, Ewha Womans University, Korea

Chair

**Youngjo Kim**

Present Professor, Department of Chemistry, Chungbuk National University, Korea
2000 Ph.D, Department of Chemistry, KAIST, Korea
1994 B.S, Department of Chemistry, KAIST, Korea

**Seungwoo Hong**

Present Assistant Professor, Department of Chemistry, Sookmyung Women's University, Korea
2015 Post-Doc, Department of Chemistry and Chemical Biology, Harvard University, USA
2013 Post-Doc, Department of Chemistry, Ewha Womans University, Korea

Speaker

**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

**Tae-Soo You**

Present Professor, Department of Chemistry, Chungbuk National University
2010 Postdoc, Department of Chemistry, University of Delaware
2006 Ph.D, Department of Chemistry, Iowa State University, U.S.A

**Yunho Lee**

Present Associate Professor, Department of Chemistry, KAIST
2010 Postdoc, MIT/Caltech
2007 Ph.D, Department of Chemistry, the Johns Hopkins University

**Jaeheung Cho**

Present Assistant & Associate Professor, Department of Emerging Materials Science, DGIST, Korea
2012 Professor for Special Appointment and Full-Time Lectures, Ewha Womans University, Korea
2007 Postdoc, Department of Chemistry, University of Delaware, USA

13. Recent Trends in Inorganic Chemistry I: Bioinorganic Chemistry

Organizer : Mi Hee Lim (KAIST)

Chair : Youngjo Kim (Chungbuk National University)

<Award Lecture: Young Inorganic Chemist Award>

15:40 **INOR1-1** Pushing the Limits of N-heterocyclic Carbenes**Eunsung Lee***Department of Chemistry, Pohang University of Science and Technology, Korea*

<Award Lecture: Young Inorganic Chemist Award>

16:05 **INOR1-2** Zintl Phase Solid-State Compounds for Energy Material Applications**Tae-Soo You***Department of Chemistry, Chungbuk National University, Korea*

Chair : Seungwoo Hong (Sookmyung Women's University)

16:30 **INOR1-3** Metal-Ligand Cooperative Transformation of Small Molecules Inspired by Metalloenzyme Reactions**Yunho Lee***Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*16:50 **INOR1-4** Artificial Cell Signaling by Using a Cobalt(III)-Nitrosyl Complex with Light**Jaeheung Cho***Emerging Materials Science, DGIST, Korea*17:10 **INOR1-5** Metal Complexes for Visualization and Photocontrol of Biological Zinc**Youngmin You***Division of Chemical Advanced Materials, Ewha Womans University, Korea*17:30 **INOR1-6** Electrocatalytic H₂ Evolution Systems Inspired by Hydrogenases Active Sites**Junhyeok Seo**



Youngmin You

Present Associate Professor, Division of Chemical Engineering and Materials Science, Ewha Womans University

2011 Postdoc, Department of Chemistry, Massachusetts Institute of Technology

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



Junhyeok Seo

Present Assistant 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

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

17:50 Inorganic Chemistry Division General Meeting

Organizer

**Bo Keun Park**

Present Principal Researcher, Thin Film Materials Research Center, Korea Research Institute of Chemical Technology, Korea
2007 Ph.D., Department of Chemistry, KAIST, Korea
2001 B.S., Department of Chemistry, KAIST, Korea

Speaker

**Seon Joo Lee**

Present Senior Researcher, Advanced Materials Division, KRICT
2016 Postdoc, Advanced Materials Division, KRICT
2014 Ph.D., Department of Chemistry, KAIST

**Sarah Yunmi Lee**

2018- Present Assistant Professor, Department of Chemistry, Yonsei University, Seoul, Korea
2014- 2017 Postdoc, Department of Chemistry, University of California, Berkeley, CA, United States
2009- 2014 Ph.D., Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, United States

**Jeong Hwan Han**

Present Professor, Department of Materials Science and Engineering, Seoul National University of Science and Technology, Korea
2011 Ph.D., Department of Materials Science and Engineering, Seoul National University, Korea
2006 B.S., Department of Materials Science and Engineering, Seoul National University, Korea

**Sang-Il Choi**

Present Assistant Professor, Department of Chemistry, Kyungpook National University, Korea
2015 Postdoc, The Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology, USA
2011 Ph.D., Department of Chemistry, KAIST, Korea

**Hyunjoon Lee**

Present Head, Clean Energy Research Center, KIST, Korea
2005 Postdoc, Yokohama Univ. Japan
2003 Ph. D. Department of Chemistry, Sogang University, Korea

14. Recent Trends in Inorganic Chemistry II:
Organometallic and Inorganic Materials Chemistry

Organizer : Bo Keun Park (KRICT)

Chair : Bo Keun Park (KRICT)

- 09:00 **INOR2-1** Development of Formamidinium Tin Halide Perovskite Thin Film for Photovoltaic Applications
Seon Joo Lee
Advanced Materials Division, Korea Research Institute of Chemical Technology, Korea
- 09:20 **INOR2-2** Mechanistic Studies of Palladium-Catalyzed, Site-Selective Direct Allylation of Arenes by Silver-Mediated C–H Activation
Sarah Yunmi Lee, John F. Hartwig^{1,*}
Department of Chemistry, Yonsei University, Korea
¹*Department of Chemistry, University of California, Berkeley, United States*
- 09:40 **INOR2-3** Improved catalyst performance by SnO_x overcoating using powder atomic layer deposition
Jeong Hwan Han
Seoul National University of Science & Technology, Korea
- 10:00 **INOR2-4** Synthesis of Shape-controlled β-PdH Nanocatalysts for the Liquid Fuel Oxidation Reactions
Mrinal Kanti Kabiraz, Jeonghyeon Kim, **Sang-Il Choi**^{1,*}
Kyungpook National University, Korea
¹*Department of Chemistry, Kyungpook National University, Korea*
- 10:20 **INOR2-5** Methane Oxidation to Methanol Precursor using Homogeneous Catalyst in Acid Media
Hyunjoon Lee
Clean Energy Research Center, Korea Institute of Science and Technology, Korea

Organizer

**Hyun Sung Kim**

Present Associate Professor, Department of Chemistry, Pukyong National University, Korea
2007 Ph. D. Department of Chemistry, Sogang University, Korea
1998 B.S. Department of Chemistry, Sogang University, Korea

Speaker

**Jaheon Kim**

Present Professor, Department of Chemistry, Soongsil University, Korea
1996 Ph.D., Department of Chemistry, POSTECH, Korea
1987 B.S. Department of Chemistry, Seoul National University, Korea

**Nak Cheon Jeong**

Present Associate Professor, Department of Emerging Materials Science, DGIST, Korea
2012 Postdoc, Department of Chemistry, Northwestern University, USA
2008 Ph. D. Department of Chemistry, Sogang University, Korea

**Won Cheol Yoo**

Present Associate Professor, Dept. of Chemical & Molecular Engineering, Hanyang University
2013 Postdoc, Dept. of Chemical Engineering, U of Minnesota
2010 Ph.D., Dept. of Chemistry, U of Minnesota

**Chang Yeon Lee**

Present Associated Professor, Department of Energy and Chemical Engineering, Incheon National University, Korea
2011 Postdoc, Department of Chemistry, Northwestern University, USA
2006 Ph. D. Department of Chemistry, KAIST, Korea

**Minyoung Yoon**

Present Assistant Professor, Department of Chemistry, Kyungpook National University, Daegu, Korea
2019 Assistant Professor, Department of Nanochemistry, Gachon University, Seongnam, Korea
2011 Ph.D. Department of Chemistry, POSTECH, Korea

15. Recent Trends in Inorganic Chemistry III: Metal-Organic Frameworks

Organizer : Hyun Sung Kim (Pukyong National University)

Chair : Hyun Sung Kim (Pukyong National University)

- 14:30 **INOR3-1** Controlled manipulation of the porosity and rigidity characteristics of some zeolitic imidazolate frameworks
Jisu Lee, Kyungkyou Noh¹, Jaheon Kim
Department of Chemistry, Soongsil University, Korea
¹*Department of ICMC convergence technology, Soongsil University, Korea*
- 14:50 **INOR3-2** Coordinative Reduction: A Chemical Strategy to Enhance the Hydrolytic Stability of a Paddle-Wheel MOF
Nak Cheon Jeong
Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea
- 15:10 **INOR3-3** Polymer@MOF Composites: Synthesis and Applications
Won Cheol Yoo
Department of Chemical and Molecular Engineering, Hanyang University, Korea
- 15:30 **INOR3-4** Utilization of excited electron and energy in MOF-based photosensitizers.
Chang Yeon Lee
Department of Energy and Chemical Engineering, Incheon National University, Korea
- 15:50 **INOR3-5** Microporous Metal-Formate Frameworks: Unusual Proton Conduction Behavior and Gas Sorption Properties
Minyoung Yoon
Department of Chemistry, Kyungpook National University, Korea

Organizer

**Hyuksang Kwon**

Present Senior Researcher, Division of Industrial Metrology, Korea Research Institute of Standards and Science, Korea
2012 Postdoc, Department of Chemistry, Korea University, Korea
2011 Ph. D., Department of Chemistry, Seoul National University, Korea

Chair

**Sangwoon Yoon**

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

Speaker

**Jae Kyu Song**

Present Professor, Department of Chemistry, Kyung Hee University, Korea
2002 Ph. D., Department of Chemistry, Seoul National University, Korea
1995 B.S., Department of Chemistry Education, Seoul National University, Korea

**Gyeong-Su Park**

Present Professor, Department of Materials Science and Engineering, Seoul National University
2017 Master Samsung Advanced of Institute of Technology
1992 Senior Researcher, Research Institute of Industrial Science & Technology (RIST)

**Sunmin Ryu**

Present Associate Professor, Department of Chemistry, POSTECH, Korea
2009 Postdoc, Department of Chemistry, Columbia University, USA
2005 Ph.D., Department of Chemistry, Seoul National University, Korea

**Jangwon Seo**

Present Principal Researcher, Korea Research Institute of Chemical Technology, KOREA
2012 Postdoc, University at Buffalo, SUNY, USA
2006 Ph.D., School of Materials Science and Engineering, Seoul National University, USA

**Yun Jeong Hwang**

Present Principal Investigator, KIST
2012 Ph. D. Department of Chemistry, University of California, Berkeley, USA

16. Physical Chemistry Approaches in Advanced Materials

Organizer : Hyuksang Kwon (KRISS)

Chair : Sangwoon Yoon (Chung-Ang University)

<Award Lecture: Kim Myung Soo Award>

- 15:40 **PHYS1-1** Optical properties of heterostructure nanorod laser
Jae Kyu Song
Department of Chemistry, Kyung Hee University, Korea
- 16:10 **PHYS1-2** Atomic-Scale Understanding Microstructure-Property Relationships of Advanced Materials Using Electron Microscopy
Gyeong-Su Park
Materials Science & Engineering, Seoul National University, Korea
- 16:40 **PHYS1-3** Optical Second-Harmonic Generation and its Interference in Atom-Thick Crystals
Sunmin Ryu
Department of Chemistry, Pohang University of Science and Technology, Korea

Chair : Hyuksang Kwon (KRISS)

- 17:10 **PHYS1-4** Efficient and stable perovskite solar cells
Jangwon Seo
Korea Research Institute of Chemical Technology, Korea
- 17:35 **PHYS1-5** Electrocatalyst for durable CO₂ reduction reaction
Yun Jeong Hwang
Clean Energy Research Center, Korea Institute of Science and Technology, Korea

Organizer

**Kiyoung Park**

Present Assistant Professor, Department of Chemistry, KAIST, Korea
2010 Ph.D., Department of Chemistry, University of Wisconsin-Madison, USA
2004 B.S., Department of Chemistry, Seoul National University, Korea

Speaker

**Jung Ho Lee**

Present Assistant Professor, Department of Chemistry, Seoul National University, Korea
2016 Postdoc, Laboratory of Chemical Physics, National Institutes of Health, USA
2003 Ph.D., Biophysics Program, University of Wisconsin-Madison, USA

**Myoung Yong Choi**

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

**Chan Ho Kwon**

Present Professor, Department of Chemistry, Kangwon National University, Korea
2006 Research Associate, Department of Chemistry, University of Wisconsin at Madison, USA
2004 Ph. D., Department of Chemistry, Seoul National University, Korea

**Myeongkee Park**

Present Assistant Professor, Department of Chemistry, Dong-A University
2014-2018 Postdoc, Department of Chemistry, UC Berkeley, USA
2005-2013 Ph. D., Department of Chemistry, POSTECH, Korea

17. Recent Progresses in Physical Chemistry

Organizer : Kiyoung Park (KAIST)

Chair : Kiyoung Park (KAIST)

- 09:00 **PHYS2-1** Toward Higher Resolution in NMR Spectroscopy
Jung Ho Lee
Department of Chemistry, Seoul National University, Korea
- 09:25 **PHYS2-2** IR induced isomerization of invisible isomer (I⁵) spectroscopy
Myoung Yong Choi¹, Cheol Joo Moon
Department of Chemistry, Gyeongsang National University, Korea
- 09:50 **PHYS2-3** Development of Cutting-edge Mass Spectroscopic Techniques and Their Applications
Chan Ho Kwon¹, Yu Ran Lee¹, Sung Man Park
Department of Chemistry, Kangwon National University, Korea
¹*New and Renewable Energy Research Center, Ewha Womans University, Korea*
- 10:15 **PHYS2-4** Structure Studies of Poly(3-hexylthiophene) (P3HT) Using Femtosecond Stimulated Raman Spectroscopy and Computational Chemistry
Myeongkee Park
Department of Chemistry, Dong-A University, Korea

Organizer

**Jae Woo Park**

Present Assistant Professor, Department of Chemistry, Chungbuk National University, Korea
2015 Ph.D., Department of Chemistry, Pohang University of Science and Technology (POSTECH), Korea
2010 B.S., Department of Chemistry, Pohang University of Science and Technology (POSTECH), Korea

Speaker

**Bong June Sung**

Present Professor, Department of Chemistry, Sogang University, Korea
2006 Ph.D., Department of Chemistry, University of Wisconsin-Madison, USA
1999 B.S., Department of Chemistry, Seoul National University, Korea

**Joonsuk Huh**

Present Assistant Professor, Dept. of Chemistry, Sungkyunkwan Univ., Korea
2015 Postdoc, Dept. of Chemistry and Chemical Biology, Harvard Univ., USA
2011 Ph.D. Dept. of Physics, Univ. of Frankfurt, Germany

**Kyung-Bin Cho**

Present Assistant Professor, Department of Chemistry, Chonbuk National University, Korea
2009 Research Professor, Department of Chemistry and Nano Science, Ewha Womans University, Korea
2003 Ph.D., Department of Biochemistry and Biophysics, Stockholm University, Sweden

**Woong-Hee Shin**

Present Assistant Professor, Department of Chemical Science Education, Suncheon University
2014 Ph. D. Department of Chemistry, Seoul National University
2008 B.S. Department of Chemistry, Seoul National University

**Hyun Woo Kim**

Present Senior Researcher, Korea Research Institute of Chemical Technology, Korea

18. Recent Trends in Theoretical and Computational Chemistry

Organizer : Jae Woo Park (Chungbuk National University)

Chair : Jae Woo Park (Chungbuk National University)

<Award Lecture: Young Physical Chemistry Award>

- 14:30 **PHYS3-1** Computer Simulation Studies on Soft Matter
Bong June Sung
Department of Chemistry, Sogang University, Korea
- 15:00 **PHYS3-2** Trends in quantum computational chemistry
Joonsuk Huh
Department of Chemistry, Sungkyunkwan University, Korea
- 15:20 **PHYS3-3** Combined theoretical and experimental studies on C-H activation reactions by metal-oxo species; not as simple as you thought.
Kyung-Bin Cho
Department of Chemistry, Chonbuk National University, Korea
- 15:40 **PHYS3-4** Investigating a protein-ligand interaction using molecular surfaces described by three-dimensional Zernike Descriptors
Woong-Hee Shin
Department of Chemical Science Education, Suncheon National University, Korea
- 16:00 **PHYS3-5** Extending graph convolutional neural network for predicting molecular properties
Hyun Woo Kim, Gyoung S. Na, Hyunju Chang
Chemical Data-driven Research Center, Korea Research Institute of Chemical Technology, Korea

Organizer

**Jeongkwon Kim**

Present Professor, Department of Chemistry, Chungnam National University
2002 Ph.D. Department of Chemistry, University of Michigan
1995 B.S. Department of Chemistry, Korea University

Speaker

**Dai Kato**

2013-present Senior researcher, AIST
2010-2013 Researcher, AIST
2004-2008 Researcher, CREST-JST

**Keunhong Jeong**

Present Associate Professor, Department of Chemistry, Korea Military Academy
2016 Ph. D. Department of Chemistry, University of California at Berkeley
2007 MS. Department of Chemistry, Seoul National University.

**Hiromitsu Hachiya**

Present Researcher, DKK-TOA CORPORATION
2002-2006 Researcher, The Research Association of Micro Chemical Process Technology
2002 Ph.D., Tokyo Metropolitan University

**Yumi Yoshida**

Present Faculty of Molecular Chemistry and Engineering, Kyoto Institute of Technology, Japan

19. [KCS-JAIMA Joint Symposium] Analytical Chemistry with JAIMA: Biosensor Development

Organizer : Jeongkwon Kim (Chungnam National University)

Chair : Jeongkwon Kim (Chungnam National University)

<Invited Lecture>

- 10:00 **ANAL1-1** Design of nanocarbon film electrodes with extended analyte zones
Dai Kato
Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology, Japan
- 10:20 **ANAL1-2** Reaction monitoring researches by using hyperpolarized parahydrogen
Keunhong Jeong
Department of Chemistry, Korea Military Academy, Korea

<Invited Lecture>

- 10:40 **ANAL1-3** Rapid and Sensitive Endotoxin Analyzer using Bioluminescence Reagents
Hiromitsu Hachiya
DKK-TOA CORPORATION, Japan

<Invited Lecture>

- 15:40 **ANAL1-4** Coulometric ion-sensor
Yumi Yoshida
Molecular Chemistry and Engineering, Kyoto Institute of Technology, Japan

Organizer

**Jongwoo Lim**

2017-present Assistant Professor, Department of Chemistry, Seoul National University, Korea
2014-2017 Postdoc, Department of Chemistry, Stanford University, USA
2008-2013 Ph.D., University of California, Berkeley, USA

Chair

**Jaeick Lee**

Present Principal researcher, Korea Institute of Science and Technology, Korea
2001 Ph.D., Yonsei university, Korea
1995 B.S., Yonsei university, Korea

Speaker

**Hyunseob Lim**

Present Assistant Prof. Department of Chemistry, Gwangju Institute of Science and Technology, Korea
2017-2019 Assistant Prof. Department of Chemistry, Chonnam National University, Korea
2014-2017 Research Fellow, Institute of Basic Science, Korea

**Hyun Deog Yoo**

Present Assistant Professor, Department of Chemistry, Pusan National University, Korea
2015 Visiting Assistant Research Professor, Department of Chemistry, University of Illinois at Chicago, USA
2011 Ph.D. School of Chemical & Biological Engineering, Seoul National University, Korea

**Hye Ryung Byon**

Present Associate Professor, Department of Chemistry, KAIST, Korea
2016 Unit Leader, RIKEN, Japan
2008 Ph. D. Department of Chemistry, POSTECH, Korea

**Kyungwon Kwak**

Present Associate Professor, Department of Chemistry, Korea University, Korea
2011 Assistant Professor, Department of Chemistry, Chung-Ang University, Korea
2008 Ph.D. Department of Chemistry, Stanford University, USA

**Han Bin Oh**

Present Dept. of Chemistry, Professor
2003 Postdoc, Dept of Chemistry and Chemical Biology, Cornell Univ., NY, USA
2001 Ph.D. Dept. of Chemistry, Univ. of Toronto

**Hyun Namgoong**

Present Professional Advisor, R&D Division, KOLON, Korea
2001 Postdoc, Solid State NMR, KBSI
2000 Ph.D. B.S. Department of Chemistry, Seoul National University

20. Advanced In-situ/Operando Analysis for Energy and Environmental Applications

Organizer : Jongwoo Lim (Seoul National University)

Chair : Jongwoo Lim (Seoul National University)

- 16:00 **ANAL2-1** Nansoscale Surface Analysis for Investigation of Chemical Engineering on 2D materials
Hyunseob Lim
Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- 16:20 **ANAL2-2** Electrochemical & Spectroscopic Analyses to Probe Intercalation of Magnesium Ions into Layered Hosts
Hyun Deog Yoo
Department of Chemistry, Pusan National University, Korea
- 16:40 **ANAL2-3** In situ observation of Li-O₂ electrochemical reactions using electrochemical atomic force microscopy
Hye Ryung Byon
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 17:00 **ANAL2-4** Electrochemical Reaction Studied by In-Operando Heterodyne IR-Vis Sum Frequency Generation Spectroscopy
Donghwan Kim, **Kyungwon Kwak**¹, Minhaeng Cho¹
Department of Chemistry, Korea University, Korea, CMSD, IBS-Korea University, Korea, Korea
¹*Department of Chemistry, Korea University, Korea*

Chair : Jaeick Lee (KIST)

<Award Lecture: Academic Excellence in Analytical Chemistry>

- 17:20 **ANAL2-5** A Marriage of Modern Mass Spectrometry with other Technologies: A Focus on the Lab-Automation
Han Bin Oh
Department of Chemistry, Sogang University, Korea

<Award Lecture: Distinguished Contribution in Analytical Technology>

- 17:40 **ANAL2-6** From Physical Chemistry to Analytical Chemistry with NMR
Hyun Namgoong
R&D Division, KOLON, Korea
- 18:00 Analytical Chemistry Division General Meeting

Organizer

**Jae-Min Lim**

Present Associate Professor, Department of Chemistry, Changwon National University, Korea
2010 Postdoc, Complex Carbohydrate Research Center, University of Georgia, USA
2009 Ph.D, Department of Chemistry, University of Georgia, USA

Speaker

**Jeongkwon Kim**

Present Professor, Department of Chemistry, Chungnam National University
2002 Ph.D, Department of Chemistry, University of Michigan
1995 B.S. Department of Chemistry, Korea University

**Wonryeon Cho**

2006 Department of Chemistry, Purdue University, USA
1993 Department of Chemistry, POSTECH, Korea
1990 Department of Chemistry Education, Seoul National University, Korea

**Jae-Chul Pyun**

Present Professor, Dept. Materials Science and Engineering
2001 Dr. rer. nat., Saarland University, Germany
1992/1995 B.S./M.S., Dept. Chemistry, Seoul National University

**Jae Hun Jung**

Present Postdoc, Department of Ophthalmology, Yonsei University College of Medicine, Korea
2017-2016 Research Trainee, Institute of Genetic Medicine, Johns Hopkins University School of Medicine, USA
2015 Ph.D, Department of Chemistry, Kyung Hee University, Korea

**Kwangyoul Kim**

Present Senior Researcher, Department of Clinical Pharmacology, Inha University Hospital, Korea
2014 Ph.D, Department of Biochemistry, Yonsei University, Korea

**Min-Sik Kim**

2018- Present Assistant Professor, Department of New Biology, DIGST
2016-2018 Assistant Professor, Department of Applied Chemistry, Kyung Hee University
2013-2016 Postdoc, Johns Hopkins Medical Institution

21. Recent Trends in Mass Spectrometry

Organizer : Jae-Min Lim (Changwon National University)

Chair : Jae-Min Lim (Changwon National University)

- 10:00 **ANAL3-1** Exosome isolation from human serum using different centrifugation speeds
Jeongkwon Kim
Department of Chemistry, Chungnam National University, Korea
- 10:20 **ANAL3-2** Human Cancer Biomarker Discovery with Proteomics
Wonryeon Cho
Department of Bio-nanochemistry, Wonkwang University, Korea
- 10:40 **ANAL3-3** Laser desorption/ionization (LDI) mass spectrometry based on nanomaterials for biomedical applications
Jae-Chul Pyun
Dept. Materials Science and Engineering, Yonsei University, Korea
- 14:30 **ANAL3-4** Deuterium-Free, Three-Plexed Peptide Diethylation for Highly Accurate Quantitative Proteomics
Jae Hun Jung, Jong-Seo Kim^{1,*}
Department of ophthalmology, Yonsei University, Korea
¹*Seoul National University, Korea*
- 14:50 **ANAL3-5** A single-injection with pre-column derivatization LC-MS/MS method for plasma metabolites
Kwangyoul Kim
Clinical pharmacology, Inha University, Korea
- 15:10 **ANAL3-6** Proteomic analysis of human bronchoalveolar lavage fluid towards the biomarker discovery for lung cancers
Min-Sik Kim
Department of New Biology, DIGST, Korea

Organizer

**Soo Hyuk Choi**

Present Associate Professor, Yonsei University, Korea
2008 Ph.D., Department of Chemistry, University of Wisconsin-Madison, USA
1998 B.S., Department of Chemistry, Seoul National University, Korea

Speaker

**James S. Nowick**

Present Professor, Department of Chemistry, University of California, Irvine
1991 Postdoc, Massachusetts Institute of Technology
1990 Ph.D., Massachusetts Institute of Technology

**Anna Maria Papini**

Present Professor, Department of Chemistry, University of Florence, Italy
Present Director, Interdepartmental Laboratory of Peptide & Protein Chemistry & Biology, University of Florence

**Joel P. Schneider**

Present Deputy director, Center for Cancer Research, National Cancer Institute, National Institutes of Health, USA

22. [Life Chemistry Division-Korean Peptide Protein Society Joint Symposium] Recent Trends in Peptide Chemistry

Organizer : Soo Hyuk Choi (Yonsei University)

Chair : Soo Hyuk Choi (Yonsei University)

<Invited Lecture>

- 15:40 **LIFE1-1** Unlocking the Mysteries of Amyloid Diseases with Macrocyclic β -Sheet Peptides & The Supramolecular Chemistry of the Antibiotic Teixobactin
James S. Nowick
Chemistry, University of California, Irvine, United States

<Invited Lecture>

- 16:20 **LIFE1-2** Strategies for modulation of secondary structures to optimise biological recognition
Anna Maria Papini
Chemistry, University of Florence, Italy

<Invited Lecture>

- 17:00 **LIFE1-3** Peptide-based surface-fill hydrogel facilitates miRNA delivery to treat mesothelioma
Poulami Majumder, Anand Singh¹, Caroline Andrews², Ziqiu Wang³, Kingshuk Dutta⁴, Nimit Patel⁵, Natalia De Val Alda³, Chuong D. Hoang¹, **Joel P. Schneider**
Chemical Biology Laboratory, National Cancer Institute, National Institutes of Health, United States
¹Thoracic Surgery Branch, National Cancer Institute, National Institutes of Health, United States
²Cancer and Inflammation Program, Center for Cancer Research, National Cancer Institute, National Institutes of Health, United States
³Advanced Technology Research Facility, United States
⁴Department of Chemistry, University of Massachusetts Amherst, United States
⁵Small Animal Imaging Facility, Leidos Biomedical Research, Inc., United States

Organizer



Yan Lee
Present Associate Professor, Department of Chemistry, Seoul National University, Korea
2005 Ph.D. Department of Chemistry, Seoul National University, Korea
1999 B.S. Department of Chemistry, Seoul National University, Korea

Chair



Seokhee Kim
Present Assistant Professor, Department of Chemistry, Seoul National University, Korea
2014 Postdoc, Biology Department, MIT, USA
2008 Ph.D. Chemistry and Chemical Biology, Harvard University, USA



Hyun-Woo Rhee
2018- Associate Professor, Department of Chemistry, Seoul National University, Korea
2013- Assistant/Associate Professor, Department of Chemistry, UNIST, Korea

Speaker



Jihye Seong
2014- Senior Researcher, KIST, Korea
2013 Postdoc, Stanford University
2012 Ph.D. University of Illinois at Urbana-Champaign



Sung Jee Kim
Professor Department of Chemistry, Pohang University of Science & Technology



Joon-Hwa Lee
Present Department of Chemistry, Gyeongsang National University, Korea
2006 Research Associate, University of Colorado, Boulder, USA
2000 Ph.D. Department of Chemistry, KAIST, Korea



Wonshik Choi
Present Associate Director, IBS Center for Molecular Spectroscopy and Dynamics
Present Professor, Department of Physics, Korea University



Tae Geol Lee
Present Head, Center for Nano-Bio Measurement, KRISS
2000 Senior Researcher, Nortel Networks
1996 Postdoc, Department of Chemistry, University of Toronto, Canada

23. Light Irradiation Deep into Life-Science Chemistry

Organizer : Yan Lee (Seoul National University)

Chair : Seokhee Kim (Seoul National University)

- 09:00 **LIFE2-1** Optical Sensing and Control of Protein Activity in Live Cells by Fluorescent Protein Technology
Jihye Seong
Brain Research Institute, KIST, Korea
- 09:20 **LIFE2-2** Quantum Dots for Imaging Applications
Sung Jee Kim
Department of Chemistry, Pohang University of Science and Technology, Korea
- 09:40 **LIFE2-3** Base-pair opening dynamics study of nucleic acids by NMR spectroscopy
Joon-Hwa Lee
Department of Chemistry, Gyeongsang National University, Korea
- 10:00 Coffee Break

Chair : Hyun-Woo Rhee (Seoul National University)

- 10:15 **LIFE2-4** Label-free optical microscopic imaging deep within living animals
Wonshik Choi
IBS Center for Molecular Spectroscopy and Dynamics, Department of Physics, Korea University, Korea
- 10:35 **LIFE2-5** Label-free Mass Spectrometric Imaging for Biological Applications
Tae Geol Lee
Center for Nano-Bio Measurement, Korea Research Institute of Standards and Science, Korea

Organizer

**Sunwoo Lee**

Present Professor, Department of Chemistry, Chonnam National University, Korea
2001 Postdoc, Department of Chemistry, Yale University, USA
1999 Ph. D. Department of Chemistry, POSTECH, Korea

Chair

**Bongjin Moon**

Present Professor, Department of Chemistry, Sogang University, Korea
2001 Ph.D. Department of Chemistry, University of Minnesota, USA
1990 B.S. Department of Chemistry, Seoul National University, Korea

Speaker

**Soon Hyeok Hong**

Present Associate Professor, Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
2007 PhD, California Institute of Technology, USA
1999 BS & MS, Seoul National University, Korea

**John F. Hartwig**

2011-present Henry Rapoport Professor of Chemistry, University of California, Berkeley
2011-present Senior Faculty Scientist, Lawrence Berkeley National Laboratory, Berkeley
2012 Elected Member, National Academy of Sciences

**Sukbok Chang**

Present Director in IBS and Professor at KAIST

**Chul-Ho Jun**

2019 Emeritus Professor, Department of Chemistry, Yonsei University, Korea
1991 Postdoc, Department of Chemistry, Yale University, USA
1987 Ph.D. Department of Chemistry, Brown University, USA

**Nicolai Cramer**

2007-present Assistant, Associate, and Full Professor EPFL Lausanne, Switzerland
2007-2010 Prof. E. M. Carreira, Habilitation at the ETH Zurich, Switzerland
2006-2007 Prof. B. M. Trost, Postdoctoral research, Stanford University, USA

24. International Symposium on Organic Chemistry: Recent Developments on C-H Activation Reactions

Organizer : Sunwoo Lee (Chonnam National University)

Chair : Bongjin Moon (Sogang University)

<Award Lecture: Sehi Jang Award>

- 15:40 **ORGN1-1** Catalyst and Reaction Development for Sustainable Chemical Synthesis from Readily Available Feedstocks
Soon Hyeok Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

Chair : Sunwoo Lee (Chonnam National University)

<Invited Lecture>

- 16:10 **ORGN1-2** Anti-Markovnikov Hydroarylation of Alkenes Controlled by Non-Covalent Interactions
John F. Hartwig
Department of Chemistry, University of California, United States
- 16:35 **ORGN1-3** Mechanism-Driven C-H Amidation: Reaction Development and Asymmetric Catalysis
Sukbok Chang
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 17:00 **ORGN1-4** From Hydroacylation to Organic-Inorganic Hybrid Material
Chul-Ho Jun
Department of Chemistry, Yonsei University, Korea
- <Invited Lecture>
- 17:25 **ORGN1-5** The Quest for Efficient Ligands in Asymmetric C-H Functionalizations
Nicolai Cramer
Laboratory of Asymmetric Catalysis and Synthesis, Institute of Chemical Sciences and Engineering, Switzerland

Organizer

**Jungmin Joo**

Present Associate Professor, Department of Chemistry, Pusan National University, Korea
2008 Ph.D., Department of Chemistry, Princeton University, USA
2003 B.S. & M.S., Department of Chemistry, Seoul National University, Korea

Speaker

**Chulbom Lee**

Present Professor, Department of Chemistry, Seoul National University, Korea
2001 Assistant Professor, Department of Chemistry, Princeton University, USA
1999 Postdoc, Memorial Sloan-Kettering Cancer Center, USA

**Sung You Hong**

Present Associate Professor, UNIST, Korea
2010 Postdoc, Max Planck Institute of Colloids and interfaces, Germany
2009 DPhil, Department of Chemistry, University of Oxford, UK

**Jun Hee Lee**

Present Assistant Professor, Department of Advanced Materials Chemistry, Dongguk University, Korea
2001 Ph.D., Department of Chemistry, Sogang University, Korea
2005 B.S., Department of Chemistry, Dongguk University, Korea

**Cheol-Hong Cheon**

Present Professor, Department of Chemistry, Korea University, Korea
2011 Postdoc, Department of Chemistry, University of California, Berkeley
2010 Ph.D. Department of Chemistry, University of Chicago, U. S. A.

25. Current Trends in Organic Chemistry I: Synthetic Methodology and Catalysis

Organizer : Jungmin Joo (Busan National University)

Chair : Jung Min Joo (Pusan National University)

- 09:00 **ORG2-1** Transition Metal-Catalyzed Alkyne Functionalization for Use in Organic Synthesis
Chulbom Lee
Division of Chemistry, Seoul National University, Korea
- 09:25 **ORG2-2** Investigation of Nickel-Catalyzed Cycloaddition Reactions
Sung You Hong
Ulsan National Institute of Science and Technology, Korea
- 09:50 Break
- 10:00 **ORG2-3** Visible Light Photoredox-Catalyzed Deoxygenation of N-Heterocyclic N-Oxides
Jun Hee Lee
Department of Advanced Materials Chemistry, Dongguk University, Korea
- 10:25 **ORG2-4** Synthesis of Quinolines from 2-Aminoaldehydes Using A Nucleophile as the Catalyst
Cheol-Hong Cheon
Department of Chemistry, Korea University, Korea

Organizer

**Kyungsoo Oh**

Present Professor, College of Pharmacy,
Chung-Ang University, Korea
2003 Ph.D. Department of Chemistry,
University of Sussex, UK
1999 B.Sc. Department of Chemistry,
Queen Mary University of
London, UK

Speaker

**Cheon-Gyu Cho**

Present Professor, Department of
Chemistry, Hanyang University
1995 Postdoc, Department of
Chemistry, M.I.T. USA
1993 Ph.D. Department of Chemistry,
The Johns Hopkins University,
USA

**Sanghee Kim**

Present Professor, College of Pharmacy,
Seoul National University

**Jongkook Lee**

Present Associate Professor, College of
Pharmacy, Kangwon National
University, Korea
2012 Division of Drug Discovery,
Korea Research Institute of
Chemical Technology, Korea
2007 Department of Chemistry, The
Scripps Research Institute, USA

**Sunkyu Han**

Present Associate Professor, Department
of Chemistry, KAIST, Korea
2014 Postdoc, Department of
Chemistry, Yale University, USA
2012 Ph.D. Department of Chemistry,
MIT, USA

26. Current Trends in Organic Chemistry II: Synthetic
Methodology and Total Synthesis

Organizer : Kyungsoo Oh (Chungang University)

Chair : Kyungsoo Oh (Chung-Ang University)

- 14:30 **ORGN3-1** Asymmetric Syntheses of Uleine and Tubifolidine: General Approach to 2-Azabicyclo[3.3.1]nonane Indole Alkaloids
Dong-Hyun Kim, Jang Yeop Kim, **Cheon-Gyu Cho**
Department of Chemistry, Hanyang University, Korea
- 14:55 **ORGN3-2** Asymmetric Synthesis of Natural Products via Chirality Transfer Processes; Total Synthesis of (+)-Neooxazolomycin from D-Serine
Sanghee Kim
College of Pharmacy, Seoul National University, Korea
- 15:20 Break
- 15:30 **ORGN3-3** Total Synthesis of (+)-Chamuvarinin and (-)-Jimenezin
Mallesham Samala, Thien Nhan Lu¹, **Jongkook Lee**^{2,*}
*Centre for marine natural products and drug, Indian Institute of Chemical
Technology, India*
¹Pharmacy, Ho Chi Minh City University of Technology, Vietnam
²College of Pharmacy, Kangwon National University, Korea
- 15:55 **ORGN3-4** Biosynthetically Inspired Synthesis of Complex Natural Products
Sunkyu Han
*Department of Chemistry, Korea Advanced Institute of Science and Technology,
Korea*

Organizer

**Sun-Joon Min**

Present Professor, Department of Chemical & Molecular Eng., Hanyang University (ERICA), Korea
2005 Ph.D, Department of Chemistry and Biochemistry, UCLA, USA
1998 B.S. Department of Chemistry, Seoul National University, Korea

Chair

**Hwan Jung Lim**

Present Principal Scientist, Information-Based Drug Research Center, Korea Research Institute of Chemical Technology
2010 Postdoc, National Institute on Drug Abuse, National Institute of Health, USA
2009 Ph.D, Department of Chemistry, The Ohio State University, USA

**Jungwook Chin**

2014 Senior Research Scientist, New Drug Development Center, DGMIF
2009 Postdoctoral fellow, Department of Chemistry, Stanford University
2009 Ph.D. in Medicinal & Marine Natural Products Chemistry, Seoul National University

Speaker

**Jong Hyun Cho**

Present Assistant Professor, Department Medicinal Biotechnology, Dong-A University, Korea
2017 Senior Research Scientist, Emory University, USA
2002 Ph.D, Department of Chemistry, Seoul National University, Korea

**Ki Young Choi**

Present Senior Research Scientist, Natural Product Informatics Research Center, Korea Institute of Science and Technology

**Young Dae Gong**

Present Professor/Director, Department of Chemistry, Center for Drug-like Library Research, Dongguk University, Seoul, Korea
2009 Director/Principal Researcher, Drug Discovery Platform Tech. Center, Korea Research Institute of Chemical Technology
1995 Ph.D. Department of Chemistry, University of the Tokyo, Japan

**Jinhwa Lee**

Present 1ST Biotherapeutics, Inc
1999 Postdoc, Department of Chemistry and Chemical Biology, Harvard University, USA
1997 Ph.D. Department of Chemistry, The University of Alabama, USA

27. Innovative Therapeutics and Diagnostic Agents in Medicinal Chemistry

Organizer : Sun-Joon Min (Hanyang University (ERICA))

Chair : Hwan Jung Lim (KRICT)

- 15:40 **MEDI-1** Practical Synthesis and Biological Evaluation of Carbocyclic Nucleoside Analogs
Jong Hyun Cho
Medicinal Biotechnology, Dong-A University, Korea
- 16:10 **MEDI-2** Stimuli-responsive nano-therapeutics based on hyaluronic acid
Ki Young Choi¹, Jae Hyung Park¹
Natural Product Informatics Research Center, Korea Institute of Science and Technology, Korea
¹ *Division of Chemical Engineering, Sungkyunkwan University, Korea*
- 16:40 Coffee Break

Chair : Jungwook Chin (DGMIF)

- 16:50 **MEDI-3** Synthesis and Optimization of 4-Aryl-*N*-(2-alkoxythieno[2,3-*b*]pyrazine-3-yl)-4-arylpiperazine-1-carboxamide Derivatives as an Anti-colorectal Treatment toward a Novel FBW7 Selective Drug Target
Young Dae Gong
Department of Chemistry, Dongguk University, Korea
- 17:20 **MEDI-4** Discovery of FB-101, a novel clinical candidate for the treatment of Parkinson's disease
Jinhwa Lee
1ST Biotherapeutics Inc, Korea

Organizer

**Hyeon Suk Shin**

Present Professor, Department of Chemistry, UNIST, Korea
2006 Postdoc, Department of Chemistry, University of Cambridge, UK
2002 Ph.D., Department of Chemistry, POSTECH, Korea

Speaker

**Seung-Joo Kim**

Present Professor, Department of Energy Systems Research, Department of Chemistry, Aju University, Korea
2016 Director, Institute of NTIT Fusion Technology, Aju University, Korea
2001 Ph.D., ICMCB, University of Bordeaux I, France

**Sang Hoon Joo**

Present Professor, School of Energy & Chemical Engineering, UNIST, Korea
2009 Postdoc, Univ. California, Berkeley, USA
2004 Ph.D., Department of Chemistry, KAIST, Korea

**SungHo Park**

Present Professor, Department of Chemistry, Sungkyunkwan University, Korea
2005 Postdoc, Department of Chemistry, Northwestern University, USA
2003 Ph.D., Department of Chemistry, Purdue University, USA

**So-Jung Park**

Present Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea
2013 Associate Professor, Department of Chemistry, University of Pennsylvania
2012 Assistant Professor, Department of Chemistry, University of Pennsylvania

**Doo-Hyun Ko**

Present Associate Professor, Kyung Hee University
2012 Post-doctoral Associate, University of Cambridge
2010 Ph.D., Department of Chemistry, University of North Carolina at Chapel Hill

28. Special Symposium on the Present and Future of Materials Chemistry

Organizer : Hyeon Suk Shin (UNIST)

Chair : Hyeon Suk Shin (UNIST)

- 15:40 **MAT1-1** Crystallographic approach to design of new fast lithium-ion conductor
Jaegyeom Kim, Doe-hee Park, Minseong Kim, Gunwoo Yoo, **Seung-Joo Kim**
Department of Energy Systems Research, Aju University, Korea
- 16:05 **MAT1-2** Designing Nanostructured Catalytic Materials for Promoting Renewable Energy Conversion Reactions
Sang Hoon Joo
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea
- 16:30 **MAT1-3** Future Directions with Complex Nanoparticles with Tailored Functions: Manipulation of Localized Surface Plasmon Resonance (LSPR)
SungHo Park
Department of Chemistry, Sungkyunkwan University, Korea
- 16:55 **MAT1-4** Dynamic Nanostructures through Self-Assembly of Functional Polymers and Nanoparticles
So-Jung Park
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- <Award Lecture: Young Material Chemistry Award>
- 17:20 **MAT1-5** Entropy driven strategy to harness entire solar spectrum
Doo-Hyun Ko
Department of Applied Chemistry, Kyung Hee University, Korea

Organizer

**Jongnam Park**

Present Associate Professor, School of Energy & Chemical Engineering, Ulsan National Institute of Science and Technology, Korea

2010 Postdoctoral Associate, Department of Chemistry, Massachusetts Institute of Technology, USA

2005 Ph.D, School of Chemical and Biological Engineering, Seoul National University, Korea

Speaker

**Jiwoong Yang**

2019- Present Assistant Professor, Department of Energy Science & Engineering, DGIST

2017- 2019 Postdoc, Lawrence Berkeley National Lab.

2016- 2017 Postdoc, Seoul National University & IBS

**Younghoon Kim**

Present Senior Researcher, Division of Energy Technology, DGIST

**Nuri Oh**

Present Assistant Professor, Division of Materials Science and Engineering, Hanyang University, Korea

2018 Postdoc, Department of Materials Science and Engineering, University of Pennsylvania, USA

2016 Ph.D., Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, USA

**Doh Chang Lee**

Present Associate Professor, Department of Chemical and Biomolecular Engineering, KAIST, Korea

2010 Postdoc, Los Alamos National Laboratory, USA

2007 Ph. D., Department of Chemical Engineering, University of Texas at Austin, USA

29. Current Trends in Quantum Dots: Synthesis and Application

Organizer : Jongnam Park (UNIST)

Chair : Jongnam Park (UNIST)

- 09:00 **MAT2-1** Designed synthesis of colloidal nanocrystals and their optoelectronic applications
Jiwoong Yang
Department of Energy Science & Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea
- 09:30 **MAT2-2** Surface Chemistry and Engineering of Colloidal Semiconductor Nanocrystals for Photovoltaic Applications
Younghoon Kim
Division of Energy Technology, Daegu Gyeongbuk Institute of Science & Technology, Korea
- 10:00 **MAT2-3** General Synthetic Route to High Quality Colloidal III-V Semiconductor Quantum Dots
Nuri Oh
Division of Materials Science and Engineering, Hanyang University, Korea
- 10:30 **MAT2-4** Colloidal II-VI Semiconductor Nanorods: Growth and Assembly Controlled by Surface Ligands
Doh Chang Lee
Department of Chemical Engineering & Biotechnology, Korea Advanced Institute of Science and Technology, Korea

Organizer

**Jaemin Lee**

Present Principal Researcher, Advanced Materials Division, KRICT, Korea
 2007 Senior Researcher, LG Chem Research Park, Korea
 2005 Ph.D., Department of Chemistry, KAIST, Korea

Speaker

**Won Bin Im**

Present Professor, Division of Materials Science and Engineering, Hanyang University, Korea
 2007 Ph.D., Department of Materials Science and Engineering, KAIST, Korea
 2002 B.S., Department of Materials Science and Engineering, Hanyang, Korea

**Myoung Hoon Song**

Present Professor, School of Materials Science and Engineering, UNIST
 2009 Postdoc, Cavendish lab, University of Cambridge
 2005 Ph. D. Department of Organic and Polymeric Materials, Tokyo Institute of Technology

**Gihwan Kim**

present Korea Photonics Institute Technology(KOPTI)
 2015 Postdoc, Department of Electrical Computer Engineering, University of Toronto
 2015 Department of Energy and Chemical Engineering, UNIST

**Jin Woo Choi**

Present Senior Researcher, Korea Institute of Materials Science, Korea

30. Understanding Materials and Device Aspects of Hybrid Light-emitters

Organizer : Jaemin Lee (KRICT)

Chair : Jaemin Lee (KRICT)

- 14:30 **MAT3-1** Probing molecule-like isolated octahedra: Phase stabilization of zero-dimensional cesium lead halide QD
Won Bin Im
Division of Materials Science and Engineering, Hanyang University, Korea
- 15:00 **MAT3-2** Highly Efficient Perovskite Light-Emitting Diodes by Surface Engineering and Defect Passivation
Myoung Hoon Song
Materials Science and Engineering, Ulsan National Institute of Science and Technology, Korea
- 15:30 **MAT3-3** Reversible, full color luminescence by post-treatment of perovskite nanocrystals
Gihwan Kim
Photonics Energy Research Center, Korea Photonics Institute Technology(KOPTI), Korea
- 16:00 **MAT3-4** Optical-electrical characterization of multidimensional perovskite and its applications
Jin Woo Choi
Korea Institute of Materials Science, Korea

Organizer

**Sang-II Choi**

Present Assistant Professor, Department of Chemistry, Kyungpook National University, Korea
2015 Postdoc, The Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology, USA
2011 Ph.D, Department of Chemistry, KAIST, Korea

Speaker

**Young Soo Kang**

Present Department of Chemistry, Sogang University

**Chang Hyuck Choi**

Present Assistant Professor, School of Materials Science and Engineering, GIST, Korea
2016 Postdoc, Electrocatalysis Group, Max-Planck-Institut für Eisenforschung, Germany
2012 Ph.D, Chemical and Biomolecular Engineering, KAIST, Korea

**Youngkook Kwon**

Present Assistant Professor, School of Energy and Chemical Engineering, UNIST, Korea
2016 Postdoc, Joint Center for Artificial Photosynthesis(JCAP), LBNL, USA
2013 Ph.D, Leiden Institute of Chemistry, Leiden University, the Netherlands

**Jong Min Yuk**

Present Assistant Professor, Department of Materials Science and Engineering, KAIST, Korea
2016 Postdoc, Department of Physics, U. C. Berkeley, USA
2012 Ph. D, Department of Materials Science and Engineering, KAIST, Korea

31. In operando? Emerging Techniques for Electrocatalysis

Organizer : Sang-II Choi (Kyungpook National University)

Chair : Sang-II Choi (Kyungpook National University)

- 15:40 **ELEC1-1** Photoelectrochemical CO₂ Reduction into Liquid Products: Multi-electron Shuttling, Reduction Potential Tuning and CO₂ Activation
Young Soo Kang
Department of Chemistry, Sogang University, Korea
- 16:10 **ELEC1-2** Operando characterizations for fundamental understandings of electrochemical reactions in the nitrogen-cycle
Chang Hyuck Choi
School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Korea
- 16:35 **ELEC1-3** Understanding electrocatalytic carbon dioxide conversion
Youngkook Kwon
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea
- 17:00 **ELEC1-4** In- and ex-situ TEM for battery materials
Jong Min Yuk
Department of Materials Science & Engineering, Korea Advanced Institute of Science and Technology, Korea

Organizer

**Soon Hyung Kang**

Present Professor, Department Chemistry Education, Chonnam National University
2011 Postdoc, Department of Chemistry, University of Texas at Austin
2008 Ph. D. Interdisciplinary Program in Nano Science and Technology, Seoul National University

Speaker

**Jeongsuk Seo**

Present Assistant Professor, Research Initiative for Supra-Materials (RISM), Shinshu University, Japan
2014 Ph.D., Department of Chemical System Engineering, The University of Tokyo, Japan

**Hyunwoong Park**

Present Professor, School of Energy Engineering, Kyungpook National University
2008 Postdoc, Caltech, USA
2004 Ph.D., POSTECH

**Jung Kyu Kim**

Present Assistant Professor, School of Chemical Engineering, Sungkyunkwan University, Korea
2018 Postdoc, Department of Chemical Engineering, Stanford University, USA
2015 Ph.D. Nano Science and technology, Sungkyunkwan University, Korea

**Woonsup Shin**

Present Professor, Department of Chemistry, Sogang University, Korea
Present CEO, CareMedi Co
Present Vice President, The Korean Electrochemical Society

32. Recent Progress in Photoelectrochemistry

Organizer : Soon Hyung Kang (Chonnam National University)

Chair : Soon Hyung Kang (Chonnam National University)

- 09:00 **ELEC2-1** Efficient Solar Water Oxidation over Perovskite-type Oxynitride Photoanodes
Jeongsuk Seo
Research Initiative for Supra-Materials (RISM), Shinshu University, Japan, Korea
- 09:30 **ELEC2-2** Photosynthesis of C1-C6 aliphatic acids using mixed oxide films with efficiency exceeding the photosynthesis limit
Hyunwoong Park
School of Energy Engineering, Kyungpook National University, Korea
- 10:00 **ELEC2-3** Rational Design of Metal Oxide Based Nanostructures for Enhancing Photoelectrochemical Water Oxidation with Efficient Light Harvesting, Charge Separation, and Charge Transfer
Jung Kyu Kim
School of Chemical Engineering, Sungkyunkwan University, Korea
- <Award Lecture: Q. Won Choi Academic Award>
- 10:30 **ELEC2-4** Fundamental Understanding of Electrochemical Phenomena Enables the Development of Processes and Products
Woonsup Shin
Department of Chemistry, BioMedical Engineering, Sogang University, CareMedi Co., Korea

Organizer

**JiHoon Park**

present Teacher, Busan Science Highschool, Korea
2018 Ph.D. Department of Chemistry Education, Pusan National University, Korea

Speaker

**Jongseok Park**

Present Professor, Department of Chemistry Education, Kyungpook National University, Korea
Present Director, Science Education Institute for Gifted Youth, Kyungpook National University

**Chang-Hoon Nam**

Present Associate Professor, DGIST
2007 Research Associate, MRC-LMB, UK
2001 Ph.D, UTC, France

**Hyesook Cho**

Present Secondary Teacher, Chemistry, Haknam High School, Korea
2014 Ph. D. Department of Chemical Education, Pusan National University, Korea

33. Current Issues and Research in Chemistry Education

Organizer : JiHoon Park (Busan Science High School)

Chair : JiHun Park (Busan Science High School)

- 09:00 **EDU1-1** Current Status and Issues of IB Curriculum in the Future of Chemistry Education
Jongseok Park
Department of Chemistry Education, Kyungpook National University, Korea
- 09:40 **EDU1-2** Learner's reflection and intellectual humility in higher education.
Chang-Hoon Nam
Daegu Gyeongbuk Institute of Science & Technology, Korea
- 10:20 **EDU1-3** Impacts of Argument-based Modeling(AbM) strategy on the peer assessment and self assessment in high school science
Hyesook Cho, Eugene Kang¹, Jeonghee Nam
Department of Chemical Education, Pusan National University, Korea
¹*Pusan National University, Korea*

Organizer

**Sukjin Kang**Present Professor, Department of
Science Education, Jeonju
National University of Education

Speaker

**Man-Seog Chun**present teacher, Department of
chemistry and Biology, Korea
Science Academy of KAIST,
Korea2003 Ph.D. Department of Chemistry,
Seoul National University, Korea**Sungki Kim**Present Chemistry Teacher, Gwangju
Science Academy for the Gifted,
Korea2016 MS, Korea National University of
Education, Korea2018 Ph. D, Korea National University
of Education, Korea**Eunyoung Kim**Present Teacher, Incheon Academy of
Science and Art**Mi Young Han**2019 Teacher, Daejeon Science High
School1999 M.S. Department of Chemistry
Education, Seoul National
University, Korea1997 B.S. Department of Chemistry
Education, Seoul National
University, Korea

34. Chemistry Education for the Science Gifted Students

Organizer : Sukjin Kang (Jeonju National University of Education)

Chair : Sukjin Kang (Jeonju National University of Education)

- 14:30 **EDU2-1** Study on various methods for determining molar mass
Man-Seog Chun
Chemistry, Korea Science Academy of KAIST, Korea
- 14:55 **EDU2-2** Discussion on the Future of Gifted Education in the Artificial
Intelligence Era: Focusing on the Perspective of Scientists Who Found Scientific
Models
Sungki Kim
Gwangju Science Academy for the Gifted, Korea
- 15:20 Coffee Break
- 15:40 **EDU2-3** Class Design through Dynamic Evaluation for Student Growth
Eunyoung Kim
Incheon Academy of Science and Art, Korea
- 16:05 **EDU2-4** Boyle's Law in History of Science and Science Education
Mi Young Han
Department of Chemistry, Daejeon Science High School for the Gifted, Korea

Organizer

**Wooyul Kim**

Present Assistant Professor, Department of Chemical and Biological Engineering, Sookmyung Women's University

2016 Postdoc, Lawrence Berkeley National Laboratory

2012 Ph.D, Division of Environmental Science and Engineering, POSTECH

Speaker

**Hyunchul Oh**

Present Assistant Professor, Department of Energy Engineering, GNTech, Korea

2015 Associate researcher, KISTEP, Korea

2014 Postdoc, Max Planck Institute for Intelligent Systems, Germany

**Tae-Wook Kim**

Present Assistant Professor, Division of Environmental Science and Ecological Engineering, Korea University, Korea

2012 Ph.D, School of Environmental Science and Engineering

2006 B.S, Division of Environmental Science and Ecological Engineering, Korea University, Korea

**Ki-Tae Park**

Present Senior Researcher, Korea Polar Research Institute

2013 Ph.D, POSTECH

**Kitae Kim**

Present Korea Polar Research Institute

Present Associate Professor, Polar science, UST

35. Current Trends in Environmental Energy

Organizer : Wooyul Kim (Sookmyung Women's University)

Chair : Wooyul Kim (Sookmyung Women's University)

- 15:40 **ENVR-1** Highly effective nanoporous materials for hydrogen isotope separation
Hyunchul Oh
Department of Energy Engineering, Gyeongnam National University of Science and Techn, Korea
- 16:10 **ENVR-2** Impact of atmospheric deposition on the East Sea and the Northwestern Pacific Ocean.
Tae-Wook Kim
Environmental Science and Ecological Engineering, Korea University, Korea
- 16:40 **ENVR-3** How marine phytoplankton help cool the Earth: Dimethyl Sulfide
Ki-Tae Park
Division of Polar Climate Sciences, Korea Polar Research Institute, Korea
- 17:10 **ENVR-4** Intrinsic chemical transformation of iodine species in ice and its implications
Kitae Kim
Korea Polar Research Institute, Korea

Organizer

**Changsik Song**

Present Associate Professor, Department of Chemistry, Sungkyunkwan University

2011 Assistant Professor, Department of Chemistry, Sungkyunkwan University

2007 Postdoctoral Associate, Department of Chemical Engineering, MIT

36. Oral Presentation for Young Polymer Scientists

Organizer : Changsik Song (Sungkyunkwan University)

Chair : Changsik Song (Sungkyunkwan University)

- 09:45 **POLY.O-1** Study of Burn-In Loss in Green Solvent-Processed Ternary Blended Organic Photovoltaics derived from UV-Crosslinkable Semiconducting Polymers and Nonfullerene Acceptors
Junwoo Lee, Hae Un Kim¹, Hyuntae Choi¹, Daehwan Lee¹, Sungjin Park², Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea
¹*Pohang University of Science and Technology, Korea*
²*Chemical Engineering, Pohang University of Science and Technology, Korea*
- 10:00 **POLY.O-2** Anionic Polymerization of Azidoalkyl Glycidyl Ethers and Its Post-Polymerization Modification
Joonhee Lee, Byeong-Su Kim^{1,*}
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
¹*Department of Chemistry, Yonsei University, Korea*
- 10:15 **POLY.O-3** Tuning the Pore Characteristics of Hyper-Cross-Linked Polymer by Selective Removal of Alkylsilyl Groups
Jeonghyeon Lee, Myungeun Seo^{1,*}
Graduate School of Nanoscience and Technology, Korea Advanced Institute of Science and Technology, Korea
¹*Graduate School of Nano Science Technology, Korea Advanced Institute of Science and Technology, Korea*
- 10:30 **POLY.O-4** Predicting colorant usages in engineering plastic using machine learning methods
Jungup Park
Chemicals R&D Center, Samyang Corporation, Korea

Organizer

**Minyoung Yoon**

Present Assistant Professor, Department of Chemistry, Kyungpook National University, Daegu, Korea

2019 Assistant Professor, Department of Nanochemistry, Gachon University, Seongnam, Korea

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

Chair

**Hyunseob Lim**

Present Assistant Professor, Department of Chemistry, GIST, Korea

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

2006 B.S. Department of Chemistry, POSTECH, Korea

37. Oral Presentation of Young Inorganic Chemistry

Organizer : Minyoung Yoon (Kyungpook National University)

Chair : Minyoung Yoon (Kyungpook National University)

- 09:00 **INOR.O-1** New Precursors for Transparent Conducting Oxide Thin Film Transistor by CVD/ALD
Seong Ho Han, Bo Keun Park¹, Seung Uk Son, Taek-Mo Chung^{2,*}
Department of Chemistry, Sungkyunkwan University, Korea
¹Thin Film Materials Research Center, Korea Research Institute of Chemical Technology, Korea
²Advanced Materials Division, Korea Research Institute of Chemical Technology, Korea
- 09:10 **INOR.O-2** First observation of nucleophilic reactivity for a copper(II)-hydroperoxo complex
Bohee Kim, Jaeheung Cho^{1,*}
Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea
¹Emerging Materials Science, DGIST, Korea
- 09:20 **INOR.O-3** Chemical Driving Force for Phase-Transition in the Ca_{2-x}RE_xCdSb₂ (RE = Yb, Eu; 0.11(1) ≤ x ≤ 1.36(2)) System
Ki Won Kim, Tae-Soo You
Department of Chemistry, Chungbuk National University, Korea
- 09:30 **INOR.O-4** Photodriven Water Oxidation by *p*-Benzoquinone Derivatives with an Iron Catalyst as a functional model of Photosystem II
Young Hyun Hong, Yong-Min Lee¹, Wonwoo Nam, Shunichi Fukuzumi^{2,*}
Department of Chemistry and Nano Science, Ewha Womans University, Korea
¹Research Institute for Basic Sciences, Ewha Womans University, Korea
²Osaka University, Japan
- 09:40 **INOR.O-5** Ammonia Adsorption in a Hydrogen-Bonded Organic Framework with S-shaped Isotherm
Dong Won Kang, Minjung Kang, Hyojin Kim, Jong Hyeak Choe, Daewon Kim, Chang Seop Hong
Department of Chemistry, Korea University, Korea

Chair : Hyunseob Lim (GIST)

- 09:50 **INOR.O-6** S-doping in IrO_x as a Stability Enhancement Factor for Oxygen Evolution Reaction
Jun Kim, Kwangyeol Lee

Department of Chemistry, Korea University, Korea

- 10:00 **INOR.O-7** Synthesis of Quinolinol-Based Indium Luminophores and Their Optical Properties
Sang Woo Kwak, Yongseog Chung, Kang Mun Lee¹, Myung Hwan Park^{2,*}
Department of Chemistry, Chungbuk National University, Korea
¹*Department of Chemistry, Kangwon National University, Korea*
²*Department of Chemical Education, Chungbuk National University, Korea*
- 10:10 **INOR.O-8** Dimeric Aluminum Catalysts for the Synthesis of Cyclic Carbonates at Room Temperature and Atmospheric CO₂ Pressure
Yoseph Kim, Youngjo Kim
Department of Chemistry, Chungbuk National University, Korea
- 10:20 **INOR.O-9** Data-Driven Discovery of New Zeolitic Imidazolate Frameworks
Soochan Lee, Seungyun Han¹, Seulchan Lee¹, Yongchul Chung^{2,*}, Wonyoung Choe
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
¹*Pusan National University, Korea*
²*Division of Chemical and Biomolecular Engineering, Pusan National University, Korea*
- 10:30 **INOR.O-10** Low valent ferrocenes: stabilization by *N*-heterocyclic carbene-modified cyclopentadienyl ligands
Hayoung Song, Eunsung Lee^{1,*}
Center for Self-Assembly and Complexity (CSC), Institute for Basic Science (IBS), Korea
¹*Department of Chemistry, Pohang University of Science and Technology, Korea*

Organizer



Young-Sang Youn

Present Assistant Professor, Department of Chemistry, Yeungnam University, Korea
 2018 Senior Researcher, Nuclear Chemistry Research Division, KAERI, Korea
 2011 Ph.D, Department of Chemistry, KAIST, Korea

38. Oral Presentation for Young Physical Chemists

Organizer : Young-Sang Youn (Yeungnam University)

Chair : Young-Sang Youn (Yeungnam University)

- 09:00 **PHYS.O-1** Hydrogen-Bonding-Mediated Enhancement in Nitrogen Electroreduction Reactions on Biomimetic Cu_{2-x}S Catalysts
Min-Cheol Kim, Sang Soo Han
Computational Science Research Center, Korea Institute of Science and Technology, Korea
- 09:15 **PHYS.O-2** Photooxidation Mechanism of Atomically Thin Magnetic Semiconductor CrPS_4
Suhyeon Kim, Sunmin Ryu
Department of Chemistry, Pohang University of Science and Technology, Korea
- 09:30 **PHYS.O-3** Surface study of removal mechanism of fine dust causatives by using photocatalyst-coating on commercial products
Soong Yeon Kim, Byeong Jun Cha, Saqlain Shahid, Shufang Zhao, Young Dok Kim
Department of Chemistry, Sungkyunkwan University, Korea
- 09:45 **PHYS.O-4** The Thermodynamic Behavior of Surfactant into Ceramides and Phospholipids Membranes: A Molecular Dynamics Simulation Approach
Yeonho Song, Hyonseok Hwang
Department of Chemistry, Kangwon National University, Korea
- 10:00 **PHYS.O-5** Packaging process of DNA determines its ejection rate
Chung Bin Park, Bong June Sung
Department of Chemistry, Sogang University, Korea
- 10:15 **PHYS.O-6** Dual Mechanism of Lipid Loss from Human Hair
Sang-Hun Song
LG Household & Health Care Ltd., Korea
- 10:30 **PHYS.O-7** Visible light-responsive Fe-loaded TiO_2 photocatalysts for total oxidation of acetaldehyde
Saqlain Shahid, Byeong Jun Cha, Soong Yeon Kim, Shufang Zhao, Young Dok Kim
Department of Chemistry, Sungkyunkwan University, Korea

Organizer



Tae-Young Kim

Present Assistant Professor, School of Earth Sciences and Environmental Engineering, GIST, Korea
2009 Ph.D, Department of Chemistry, Indiana University, USA
1999 B.S, Department of Chemistry, Seoul National University, Korea

39. Oral Presentation of Young Analytical Chemists I

Organizer : Tae-Young Kim (GIST)

Chair : Tae-Young Kim (GIST)

- 09:00 **ANAL1.O-1** Peroxidase-mimetic catalytic activity of dendrimer-encapsulated Pt nanoparticles for bioanalyses
Youngwon Ju, Joocheon Kim
Department of Chemistry, Kyung Hee University, Korea
- 09:03 **ANAL1.O-2** Digital rectilinear ion trap mass spectrometer
Jae-ung Lee, Han Bin Oh
Department of Chemistry, Sogang University, Korea
- 09:06 **ANAL1.O-3** Near-Infrared Molecularly Imprinted Polymers-Based Sensor for Ultrasensitive Detection of Pharmaceutical Residues in wastewater
Mohamed Ragab Elsayed Ali, Salah Mahmoud Tawfik Ahmed, Yong-III Lee
Department of Chemistry, Changwon National University, Korea
- 09:09 **ANAL1.O-4** A study on the concentration change of inorganic arsenic in rice by the various pretreatment
DongChan Lee, Sang-Ho Nam^{1,*}
Mokpo National University, Korea
¹*Department of Chemistry, Mokpo National University, Korea*
- 09:12 **ANAL1.O-5** Voltammetric layer-by-layer biosensor for metabolite in human serum
Yunpei Si, Hye Jin Lee
Department of Chemistry, Kyungpook National University, Korea
- 09:15 **ANAL1.O-6** Synthesis, dispersion, tribological performance of alkyl functionalized graphene oxide as an oil lubricant additive and synergistic effect with WS₂
Jong Seok Han, Jin-Yeong Choi, Chang-Seop Lee
Department of Chemistry, Keimyung University, Korea
- 09:18 **ANAL1.O-7** Digital and Absolute Quantification of Microdroplets using Wide-Field Imaging System for real-time Droplet Sorting
Sunghyun Ki, Dong-Ku Kang^{1,*}
Chemistry, Incheon National University, Korea
¹*Department of Chemistry, Incheon National University, Korea*
- 09:21 **ANAL1.O-8** Separation of exosomes and lipoproteins in human serum using frit-inlet asymmetrical flow field-flow fractionation with multi-angle light scattering
Young Beom Kim, Myeong Hee Moon

Department of Chemistry, Yonsei University, Korea

- 09:24 **ANAL1.O-9** Reducing Process of Silica Particle by Metallothermic Reduction Reaction
Seunghyun Lee*, **Dong Hwan Nam**¹
Department of Nanochemistry, Gachon University, Korea
¹*nanochemistry, Gachon University, Korea*
- 09:27 **ANAL1.O-10** Chemiluminescent probes-based paper strips for detection of influenza
Jinsol Han, Sharipov Mirkomil, Yong-Il Lee
Department of Chemistry, Changwon National University, Korea
- 09:30 **ANAL1.O-11** Application of SERS active AuNPs-MOF nanocomposite for sensitive detection of MGITC
Anupam Das, Namhyun Choi¹, Kyoung Neon Kim, Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea
¹*Department of Bionano Technology, Hanyang University, Korea*
- 09:33 **ANAL1.O-12** Plasmonic Sensing of Pyridine by Chemical Interface Damping of Single Au/Ag Core Shell Nanorods.
Kyeong Rim Ryu, Ji Won Ha^{1,*}
Chemistry, University of Ulsan, Korea
¹*Department of Chemistry, University of Ulsan, Korea*
- 09:36 **ANAL1.O-13** Probing Structural Change of Protein using Small-angle X-ray Scattering (SAXS) and Cross-linking Mass Spectrometry
Chae Eun Heo, Chae Ri Park, Myungkook Son, Sooyeon Chae, Min Ji Kim, Paul Valery Migisha Ntwali, Hugh I. Kim
Department of Chemistry, Korea University, Korea
- 09:39 **ANAL1.O-14** Synthesis and Biodegradation Evaluation of Biodegradable Microcapsules for Medical and Industrial Applications
Jiwon Kim, Donghyeok Jo¹, Youngbok Lee^{2,*}
Department of Bionano technology, Hanyang University, Korea
¹*Department of Bio Nano Engineering, Hanyang University, Korea*
²*Department of Bio-Nano Engineering, Department of Hanyang University, Korea*
- 09:42 **ANAL1.O-15** lipidomic analysis of serum from mice exposed to ambient particulate matter using LC-MS approach
Seoyoung Jang, Geum-Sook Hwang
Western Seoul Center, Korea Basic Science Institute, Korea
- 09:45 **ANAL1.O-16** Multiple omics analysis related to mesenchymal stem cell mass cultivation
Seung-Eun Lee, Min-Sik Kim^{1,*}
Kyung Hee University, Korea
¹*Department of New Biology, DGIST, Korea*
- 09:48 **ANAL1.O-17** Lipidomic analysis of elaiosomes from Coreanomecon hylomeconoides Nakai by high performance liquid chromatography- tandem mass spectrometry
Hyejin Park, Tae-Young Kim
School of Earth Sciences and Environmental Engeneer, Gwangju Institute of Science

and Technology, Korea

- 09:51 **ANAL1.O-18** Novel ZnBi₂O₄-graphite Composites as Highly Active Visible-Light Photocatalyst for the Mineralization of Rhodamine B
Truong Thi Thuy, Bui The Huy, Yong-Il Lee
Department of Chemistry, Changwon National University, Korea
- 09:54 **ANAL1.O-19** Size fractionation of Graphene Oxide by Asymmetrical Flow Field-Flow Fractionation
Myoungjae Ko, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- 09:57 **ANAL1.O-20** MS-based analysis of 2D and 3D spheroids neuroblastoma cells to explore mechanisms underlying cellular heterogeneity in neuroblastoma cell models.
Paul Valery Migisha Ntwali, Chae Eun Heo, MyungKook Son, Sooyeon Chae, Min Ji Kim, Chae Ri Park, Hugh I. Kim
Department of Chemistry, Korea University, Korea

Organizer



Hyun Joo An

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

Present Director, Asia-Pacific Glycomics Reference Site, Korea

2004 Ph.D. University of California, Davis

40. Oral Presentation of Young Analytical Chemists II

Organizer : Hyun Joo An (Chungnam National University)

Chair : Hyun Joo An (Chungnam National University)

- 09:00 **ANAL2.O-1** Development of an automatic sample preparation system using a Lab-on-a-Disc
Hwa-yong Jang, Han Bin Oh
Department of Chemistry, Sogang University, Korea
- 09:03 **ANAL2.O-2** Luminescence from Au(0)@Au(I)-thiolate core-shell nanoclusters separated by polyacrylamide gel electrophoresis (PAGE)
Yunjeong Kang, Jooheon Kim
Department of Chemistry, Kyung Hee University, Korea
- 09:06 **ANAL2.O-3** Application of Sensitive MRM-MS based Platform to Monitor the Non-human Sialic Acid (Neu5Gc) in Human Tissue
Nari Seo, Hyun Joo An
Graduate School of Analytical Science and Technolo, Chungnam National University, Korea
- 09:09 **ANAL2.O-4** Optical sensing of triclosan with Fluorescence of upconversion nanoparticles composed potassium permanganate
Seong-Soo Lee, Bui The Huy, Yong-Il Lee
Department of Chemistry, Changwon National University, Korea
- 09:12 **ANAL2.O-5** Analyzing and switching chiral structure with magnetoplasmonic nanoparticles.
Dong-kyu Lee, Ki-Jae Jeong, Van Tan Tran¹, Jaebeom Lee¹
Department of Cogno-Mechatronics Engineering, Pusan National University, Korea
¹*Chemistry, Chungnam National University, Korea*
- 09:15 **ANAL2.O-6** Characteristics and Electrochemical Performance of Graphene/Silicon/Carbon nanofibers Composite films as Anode Material for Binder-Free Lithium ion Secondary Batteries
Ruye Cong, Jin-Yeong Choi, Chang-Seop Lee
Department of Chemistry, Keimyung University, Korea
- 09:18 **ANAL2.O-7** Identification multidisciplinary function and analysis active chemical compound structure of natural biological resources that were collected from Southern-east asian countries
Yeseul Park, TaeYeong Park¹, Dong-Ku Kang^{2,*}
Chemistry, Incheon National University, Korea
¹*Department of Cosmetic Science & Management, Incheon National University, Korea*

²Department of Chemistry, Incheon National University, Korea

- 09:21 **ANAL2.O-8** Effective Sample Preparation of Polyphenols in Wine using Deep Eutectic Solvent-based Dispersive Liquid-Liquid Microextraction for HPLC-UV Determination
Jongsung Noh, JinSol Lee, Seung Hoon Song, Won Hoe Koo, Hyun-Woo Cho¹, Seung Woon Myung
Department of Chemistry, Kyonggi University, Korea
¹Department of Natural Science Chemistry, Kyonggi University, Korea
- 09:24 **ANAL2.O-9** Programmable paper-based microfluidic devices with printed patterns for analytical assays
Veasna Soum, Sooyong Park, Albertus Ivan Brilian, Oh-Sun Kwon, Kwanwoo Shin
Department of Chemistry, Sogang University, Korea
- 09:27 **ANAL2.O-10** Investigation of serum lipid signatures of pig in post-hepatectomy liver failure from expanded hepatectomy using nanoflow UHPLC-ESI-MS/MS
HaeA Kim, JongCheol Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- 09:30 **ANAL2.O-11** Control of Desired Aspect Ratio of Gold Nanorods based on Seed-Mediated Method.
Sunghoon Yoo, Seunghyun Lee^{1,*}
NanoChemistry, Gachon University Global Campus, Korea
¹Department of Nanochemistry, Gachon University, Korea
- 09:33 **ANAL2.O-12** Performance evaluation of SERS-PCR sensors for future use in rapid and sensitive genetic assays
Yixuan Wu, Namhyun Choi¹, Hajun Dang, Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea
¹Department of Bionano Technology, Hanyang University, Korea
- 09:36 **ANAL2.O-13** NMR structural studies of tIK fragment with anti-inflammatory effective
Yuyoung Song, Hyunjun Jang, Ji-Ho Jeong, Yongae Kim
Department of Chemistry, Hankuk University of Foreign Studies, Korea
- 09:39 **ANAL2.O-14** An investigation on the change of inorganic arsenic concentration in Hiziki by the pretreatment method using IC-ICP-MS
Seon Hwa Lee, Sang-Ho Nam
Department of Chemistry, Mokpo National University, Korea
- 09:42 **ANAL2.O-15** Synthesis of fluorine doped structured Li₂FeP₂O₇ and its electrochemical and structural characterizations
Chaewon Moon, Youngil Lee
Department of Chemistry, University of Ulsan, Korea
- 09:45 **ANAL2.O-16** The targeted metabolomics profiling of urine in diabetic kidney disease using NMR
Jin Seong Hyeon, Geum-Sook Hwang
Korea Basic Science Institute, Korea
- 09:48 **ANAL2.O-17** Antioxidative Activity of Oligosaccharides on UV-induced Photoaging in human skin cells
Ara Lee, Dong-Ku Kang

Department of Chemistry, Incheon National University, Korea

- 09:51 **ANAL2.O-18** Comparison of Solvent Effects on Cytotoxicity of Pt-based Drugs in 2D Cells and 3D Spheroid Cells
Min Ji Kim, Chae Eun Heo, Sooyeon Chae, Paul Valery Migisha Ntwali, Chae Ri Park, MyungKook Son, Da Gyeong Hyun, Hugh I. Kim
Department of Chemistry, Korea University, Korea
- 09:54 **ANAL2.O-19** Hybrid Magnetic Carbon Nanoparticles for Removal Organic Dyes
Quy Son Luu, Jihye Jung¹, Youngbok Lee^{2,*}
Hanyang University, Vietnam
¹*Bio-Nano Technology, Hanyang University, Korea*
²*Department of Bio-Nano Engineering, Department of, Hanyang University, Korea*
- 09:57 **ANAL2.O-20** Quantitative lipidome analysis of serum from mouse exposed to microplastic using deuterium oxide labeling
Jin Young Park, Tae-Young Kim
School of Earth Sciences and Environmental Enginee, Gwangju Institute of Science and Technology, Korea

Organizer



Jung-Min Kee

Present Assistant Professor, Department of Chemistry, UNIST, Korea
2014 Postdoc, Princeton University (Tom Mair lab), USA
2008 Ph.D., Stanford University (Paul Wender lab), USA

41. Oral Presentations by Young Life Chemists

Organizer : Jung-Min Kee (UNIST)

Chair : Jung-Min Kee (UNIST)

- 09:00 **LIFE.O-1** Key Structural Determinants of the Hyper-thermostability and Global Folding of Acyl Carrier Protein from *Thermotoga maritima*
Yeongjoon Lee, Jungwoo Park, Yangmee Kim
Department of Biotechnology, Konkuk University, Korea
- 09:15 **LIFE.O-2** Sequestering ATP inside Mitochondria by Nucleopeptide inducing Cancer Cell death
Huyeon Choi, Ja-Hyoung Ryu^{1,*}
Ulsan National Institute of Science and Technology, Korea
¹*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*
- 09:30 **LIFE.O-3** A DNA-Encoded Combinatorial Library of Macrocyclic Peptoids Targeting Skp2
Min Hyeon Shin, Hyun-Suk Lim
Department of Chemistry, Pohang University of Science and Technology, Korea
- 09:45 **LIFE.O-4** MMOD-induced structural changes of hydroxylase in soluble methane monooxygenase
Hanseong Kim, Minseok Kwak, Seung Jae Lee¹, Uhn-Soo Cho^{2,*}
Department of Chemistry, Pukyong National University, Korea
¹*Department of Chemistry, Chonbuk National University, Korea*
²*Department of Biological Chemistry, University of Michigan, U.S.A., United States*
- 10:00 **LIFE.O-5** Mimicry of the Cytoskeleton: Actin and Microtubule Polymerization in Giant Unilamellar Vesicle causing Shape Changing
Sungwoo Jeong, ChangHo Kim¹, Kwanwoo Shin
Department of Chemistry, Sogang University, Korea
¹*Institute of Biological Interfaces, Sogang University, Korea*
- 10:15 **LIFE.O-6** NIR Emissive C2V Symmetric Pyridinium Salt: Selective Discrimination Capabilities G-Quadruplexes over Canonical/Non-Canonical Nucleic Acids and Their In-Cellulo Demonstrations
Anup Pandith
Department of Chemistry, Chonbuk National University, Korea
- <Award Lecture: Dae-Sill Lee Academic Excellence Prize for Young Researchers>
- 10:30 **LIFE.O-7** Cell Penetration of Multimeric Cationic Amphipathic Peptides at Nanomolar Concentrations
Yan Lee
Division of Chemistry, Seoul National University, Korea

Organizer



Jun Hee Lee

Present Assistant Professor, Department of Advanced Materials Chemistry, Dongguk University, Korea

2001 Ph.D., Department of Chemistry, Sogang University, Korea

2005 B.S., Department of Chemistry, Dongguk University, Korea

42. Oral Presentations for Young Scholars in Organic Division

Organizer : Jun Hee Lee (Dongguk University)

Chair : Jun Hee Lee (Dongguk University)

- 09:00 **ORGN.O-1** Europium Catalysis for Aerobic Oxidation of Alcohols and Photoluminescence Tracking
Seongwoo Kim, Min Kim
Department of Chemistry, Chungbuk National University, Korea
- 09:15 **ORGN.O-2** Structural design-promoted tuning of morphological and physical properties in azobenzene-tethered β -peptide foldamer
Lianjin Zhang, Hee-Seung Lee
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 09:30 **ORGN.O-3** Oppenauer oxidation with allylic aluminum reagents through Cu-catalyzed hydroalumination of allenes
Sangback Lee, SangHyun Lee, Yunmi Lee
Department of Chemistry, Kwangwoon University, Korea
- 09:45 **ORGN.O-4** Silyloxymethanesulfinate for Desulfinylation and Sulfonation
Hyun-Suk Um, Dae-Kwon Kim, Chulbom Lee
Department of Chemistry, Seoul National University, Korea
- 10:00 **ORGN.O-5** Cyclosporin O: orally bioavailable cyclic undecapeptide scaffold
Dongjae Lee, Jiwon Seo
Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- 10:15 **ORGN.O-6** Synthesis of Polycyclic Heteroaromatics Doped with Nitrogen
So Jung Kim, Young S. Park
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- 10:30 **ORGN.O-7** BTC5A (Bis-Triethylene glycol-functionalized Crown-5-calix[4]Arene) analogs as a new phase-transfer catalysts for nucleophilic aromatic ^{18}F -fluorination
Wonchang Lee, Byung Chul Lee¹, Dong Wook Kim²
Seoul National University, Korea
¹Department of Nuclear Medicine, Seoul National University Bundang Hospital, Korea
²Department of Chemistry, Inha University, Korea
- 10:45 **ORGN.O-8** Lewis Acid-Catalyzed Synthesis of Organophosphine Oxides via Hydrophosphinylation of *N*-Heteroaryl-Substituted Alkenes
Jimin Han, Jongwon Kim, Yunmi Lee
Department of Chemistry, Yonsei University, Korea

Organizer



Sang Min Lim

Present Senior Researcher, Convergence Research Center for Diagnosis, Treatment and Care System of Dementia, KIST, Korea

2015 Postdoc, California Institute for Biomedical Research, USA

2013 Ph.D. Department of Chemistry and Chemical Biology, Harvard University, USA

43. Oral Presentation of Young Discovery Chemists

Organizer : Sang Min Lim (KIST)

Chair : Sang Min Lim (KIST)

- 09:00 **MEDI.O-1** Water-Soluble Organic Nanoparticles for Biocompatible Photodynamic Therapy In Vitro and In Vivo
Il Yoon
PDT Laboratory, Inje University, Korea
- 09:15 **MEDI.O-2** Targeted Protein Degradation via the N-End Rule Pathway
Yeongju Lee, Hyun-Suk Lim
Department of Chemistry, Pohang University of Science and Technology, Korea
- 09:30 **MEDI.O-3** Discovery of Novel β -arrestin-biased S1P1 Agonists for Treatment of Multiple Sclerosis
WooSeung Son, Hyeon Jeong Kim¹, Siwon Kim², Jong-Hyun Park³, Sang Min Lim², Ki Duk Park¹, Kyu-Sung Jeong, Ae Nim Pae²
Department of Chemistry, Yonsei University, Korea
¹ *Convergence Research Center for Dementia, Korea Institute of Science and Technology, Korea*
² *Korea Institute of Science and Technology, Korea*
³ *Convergence Research Center for Dementia DTC, Korea Institute of Science and Technology, Korea*
- 09:45 **MEDI.O-4** Hydrogel Fibers Network for Three-Dimensional Cell Cultures
Sungrok Wang, Myung-Han Yoon
School of Materials Science and Engineering, Gwangju Institute of Science and Technology, Korea
- 10:00 **MEDI.O-5** Identification of new human targets of antibiotics toward drug repositioning
Sung Min Cho, Ho Jeong Kwon^{1,*}
Biotechnology, Yonsei University, Korea
¹ *Department of Biotechnology, Yonsei University, Korea*
- 10:15 **MEDI.O-6** Rh(III)-Catalyzed Synthesis of N-heterocyclic compounds and its application to bioimaging agent
Sangbong Lee, Ye Ri Han, Jungwook Chin, Su-Jeong Lee, Minseon Jeong, Sung Jin Cho, **Dong-Su Kim**
New Drug Development Center, Daegu Gyeongbuk Medical Innovation Foundation, Korea
- 10:30 **MEDI.O-7** Monitoring Mitochondrial Response to Oxidative Stress via an Intramolecular Energy Transfer-based Iridium(III) Photosensitizer

Chalheon Lee, Jung Seung Nam, Tae-Hyuk Kwon

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

10:45

MEDI.O-8 Total Synthesis of Biemamide B and D from chiral Aziridine

Nikhil Srivastava, Hyun-Joon Ha

Department of Chemistry, Hankuk University of Foreign Studies, India

Organizer

**Kwang Seob Jeong**

Present Associate Professor, Korea University, Korea
 2015 Postdoc, James Franck Institute, University of Chicago, USA
 2013 Ph.D. Department of Chemistry, Pennsylvania State University, USA

44. Oral Presentation for Young Material Chemists

Organizer : Kwang Seob Jeong (Korea University)

Chair : Kwang Seob Jeong (Korea University)

- 09:00 **MAT.O-1** Plasmonic Nanodisks Embedded in Magnetic Gyro-Nanorods for Fourier Transform Surface Plasmon Resonance Based Biosensing
Seongkeun Ih, Jieun Shin, Sungho Park
Department of Chemistry, Sungkyunkwan University, Korea
- 09:15 **MAT.O-2** Plasmonic Metal-Semiconductor Ternary Hybrid Nanostructures for Efficient Visible-Light Photocatalysis
Dae Han Wi, Jong Wook Hong¹, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
¹*Chemistry, University of Ulsan, Korea*
- 09:30 **MAT.O-3** AIPE Active Deep-Red to Near-Infrared Phosphorescence from Iridium(III) Complexes for Solution Processable PhOLEDs
Hae Un Kim, Seung Un Ryu, Sungjin Park, Seyeong Lim, Taehyun Kim, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea
- 09:45 **MAT.O-4** Controlling Polymorphism of Polymer-Coated Nanocrystal Superlattices
Hongseok Yun, Bumjoon Kim^{1,*}
Korea Advanced Institute of Science and Technology, Korea
¹*Department of Chemical Engineering & Biotechnology, Korea Advanced Institute of Science and Technology, Korea*
- 10:00 **MAT.O-5** Considering Critical Factors of Advanced Anode Material for High Performance Lithium-Ion Batteries
Minseong Ko
Pukyong National University, Korea
- 10:20 **MAT.O-6** Anisotropic Plasmonic Nanoparticle Self-Assembly in Liquids
Juyeong Kim
Chemistry, Gyeongsang National University, Korea
- 10:40 **MAT.O-7** Excited-State Polaron Formation Dynamics of Hybrid Organic-Inorganic Perovskites
Myeongkee Park
Department of Chemistry, Dong-A University, Korea

Organizer



Sang-II Choi

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

2015 Postdoc, The Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology, USA

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

45. Oral Presentation of Young Scholars in Electrochemistry

Organizer : Sang-II Choi (Kyungpook National University)

Chair : Sang-II Choi (Kyungpook National University)

- 09:00 **ELEC.O-1** Enhanced Electrocatalytic Performance of Fe@Pt Core-Shell Nanoparticles for Cathode of PEMFC
Ah-Hyeon Park, Young-Uk Kwon
Department of Chemistry, Sungkyunkwan University, Korea
- 09:10 **ELEC.O-2** Wide-temperature operation of lithium metal batteries enabled by localized high-concentration electrolytes
Kisung Park, Hochun Lee
Department of Energy Science and Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea
- 09:20 **ELEC.O-3** Development of Covalent Organic Frameworks-based Lithium-ion Batteries using Azo moiety
Vikram Singh, Hye Ryung Byon^{1,*}
Chemistry, Korea Advanced Institute of Science and Technology, Korea
¹*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*
- 09:30 **ELEC.O-4** Over a 16% Solar-to-CO Conversion from Dilute CO₂ Streams Catalyzed by Gold Nanoclusters Exhibiting a High CO₂ Binding Affinity
Hoeun Seong, Dongil Lee
Department of Chemistry, Yonsei University, Korea
- 09:40 **ELEC.O-5** Synthesis of Nanoscale Pt(100) Surface Decorated with Ni(OH)₂ for Alkaline Hydrogen Evolution Reaction
Youngmin Hong, Sang-II Choi
Department of Chemistry, Kyungpook National University, Korea
- 09:50 **ELEC.O-6** Meniscus configuration of Porous Substrate to Characterize Catalysts for Oxygen Reduction Reaction
Jisu Kim, Hyun Deog Yoo
Department of Chemistry, Pusan National University, Korea
- 10:00 **ELEC.O-7** Design of organic molecular electrode for aqueous zinc-ion batteries
Moony Na, Hye Ryung Byon
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 10:10 **ELEC.O-8** Instability of platinum catalyst in ammonia oxidation reaction

Haesol Kim, Chang Hyuck Choi
Gwangju Institute of Science and Technology, Korea

10:20 **ELEC.O-9** Co-catalyst onto Fluorinated BiVO₄ Photoelectrode for efficient Solar Water Oxidation

Maheswari Arunachalam, Soon Hyung Kang^{1,*}
Department of Chemistry, Chonnam National University, Korea
¹*Department of Chemical Education, Chonnam National University, Korea*

<Award Lecture: i-SENS Young Electrochemistry Award>

10:30 **ELEC.O-10** Getting Wonderfully Lost in Electrochemistry; From Old Sites of electrochemistry To Popular Attractions

Seongpil Hwang
Department of Advanced Materials Chemistry, Korea University, Korea

Organizer



Jaeyoung Lee

Present Professor, School of Earth Sciences and Environmental Engineering, GIST
2002 Senior Scientist, RIST and KIST, Korea
2001 Dr. rer. nat., FHI der MPG and FU Berlin, Germany

Chair



Kiyoung Lee

Present Assistant Professor, School of Nano&Materials Science and Engineering, Kyungpook National University Kyungpook
2013 Dr.-Ing., University of Erlangen-Nurnberg, Germany
2009 M.Sc. Department of Chemical Engineering, Inha University, Korea

46. General Student Session

Organizer : Jaeyoung Lee (GIST)

Chair : Kiyoung Lee (Kyungpook National University)

- 09:20 **ENVR.O-1** Electrochemical Behavior of CO₂ Reduction Reaction on Copper Phosphide Catalyst using in-situ ATR-SEIRAS
Minjun Choi, Jaeyoung Lee
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea
- 09:40 **ENVR.O-2** Enhanced Water Splitting of Tungsten Trioxide Photoanode with TiO₂ Overlayer
Cheolwoo Park, Seunghwan Han¹, Tae Kyu Ahn, Wooyul Kim^{2,*}
Department of Energy Science, Sungkyunkwan University, Korea
¹*Underwater weapon systems, LIGNEX1, Korea*
²*Department of Chemical and Biological Engineering, Sookmyung Women's University, Korea*
- 10:00 **ENVR.O-3** Strategies for fast intercalation kinetics of LiCoO₂ cathode with high capacity
Fuead Hasan, Jisu Kim, Hyun Deog Yoo
Department of Chemistry, Pusan National University, Korea
- 10:20 **ENVR.O-4** High Performance of Anion Exchange Membrane Water Electrolyzer through pH-Controlled CuCo Oxides Catalyst via Co-Precipitation
Myeong Je Jang, Sungmin Park¹, Sung Mook Choi^{2,*}
Advanced Materials Engineering, University of Science & Technology, Korea
¹*material science & engineering, Pusan National University, Korea*
²*Surface Technology Division, Korea Institute of Materials Science, Korea*
- 10:40 **ENVR.O-5** Copper cobalt oxide using various precursors for oxygen evolution reaction electrocatalysts by coprecipitation method for AEMWE
Sungmin Park, Myeong Je Jang¹, Sung Mook Choi^{2,*}
material science & engineering, Pusan National University, Korea
¹*Advanced Materials Engineering, University of Science & Technology, Korea*
²*Surface Technology Division, Korea Institute of Materials Science, Korea*

Organizer



Kyutae Kim
Present Geographic Communication
Specialist, Dow Korea
2010 Communication Associate,
Samsung Engineering

47. Oral Presentation for 2019 DOW Korea Award

Organizer : Kyutae Kim (Dow Korea Limited)

Chair : Kyutae Kim (Dow Korea Limited)

- 09:00 Opening
- 09:45 **KCS.O-1** Selective formation of γ -lactams via C–H amidation enabled by tailored iridium catalysts
Seung Youn Hong, Yoonsu Park, Yeongyu Hwang, Yeong Bum Kim, Mu-Hyun Baik, Sukbok Chang
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 09:53 **KCS.O-2** Cascade Polymerization via Controlled Tandem Olefin Metathesis/Metallotropic 1,3-Shift Reactions for the Synthesis of Fully Conjugated Polyenyne
Cheol Kang, Tae-Lim Choi
Division of Chemistry, Seoul National University, Korea
- 10:01 **KCS.O-3** Copper-Catalyzed Tandem Hydrocupration and Diastereo- and Enantioselective Borylalkyl Addition to Aldehydes
Won Jun Jang, Jaesook Yun
Department of Chemistry, Sungkyunkwan University, Korea
- 10:09 **KCS.O-4** The Chemical Fluctuation Theorem governing gene expression
Seong-jun Park, Sanggeun Song¹, Gil-Suk Yang², Philip M. Kim³, Sangwoon Yoon^{4*}, Ji-Hyun Kim², Jaeyoung Sung¹
Creative Research Initiative Center for Chemical Dynamics in Living Cells, Chung-Ang University / National Institute of Innovative Functional Imaging, Chung-Ang University, Korea
¹*Creative Research Initiative Center for Chemical Dynamics in Living Cells, Chung-Ang University / Department of Chemistry, Chung-Ang University / National Institute of Innovative Functional Imaging, Chung-Ang University, Korea*
²*Creative Research Initiative Center for Chemical Dynamics in Living Cells, Chung-Ang University, Korea*
³*Terrence Donnelly Center for Cellular and Biomolecular Research, Department of Molecular Genetics and Department of Computer Science, University of Toronto, Toronto M5S 3E1 ON, Canada*
⁴*Department of Chemistry, Chung-Ang University, Korea*
- KCS.O-5** **[Withdrawal]** Unravelling Excited Singlet State Aromaticity via Vibrational Analysis
Juwon Oh, Young Mo Sung, Hirotaka Mori¹, Seongchul Park², Kjell Jorner³, Henrik Ottosson³, Manho Lim², Atsuhiko Osuka¹, Dongho Kim

Department of Chemistry, Yonsei University, Korea

¹*Department of Chemistry, Graduate School of Science, Japan*

²*Department of Chemistry, Pusan National University, Korea*

³*Department of Chemistry, Uppsala University, Sweden*

- 10:17 **KCS.O-6** A Nonheme Manganese(III)-Iodosylarene Complex: Synthesis, Characterization and Electrophilic Reaction
Donghyun Jeong, Takehiro Ohta¹, Jaeheung Cho
Emerging Materials Science, DGIST, Korea
¹*Picobiology Institute, Graduate School of Life Science, University of Hyogo, Japan*
- 10:25 Break
- 10:33 **KCS.O-7** Structural features and their functions in surfactant-armoured methylammonium lead iodide perovskites for highly efficient and stable solar cells.
Minsu Jung, Tae Joo Shin¹, Jangwon Seo², Gwisu Kim, Sang Il Seok
School of Energy and Chemical Engineering, UNIST, Korea
¹*UNIST Central Research Facilities, UNIST, Korea*
²*Division of Advanced Materials, Korea Research Institute of Chemical Technology, Korea*
- 10:41 **KCS.O-8** π -Conjugated Polymers Incorporating a Novel Planar Quinoid Building Block with Extended Delocalization and High Charge Carrier Mobility
Yunseul Kim, Hansu Hwang, Nam-Koo Kim, Kyoungtae Hwang, Jong-Jin Park, Ga-In Shin, Dong-Yu Kim
School of Materials Science and Engineering (SMSE), Gwangju Insititute of Science and Technology (GIST), Korea
- 10:49 **KCS.O-9** Mixed Copper States in Anodized Cu Electrocatalyst for Stable and Selective Ethylene Production from CO₂ Reduction
Si Young Lee, Yun Jeong Hwang
Division of Energy and Environmental Technology, KIST School, Korea
- 10:57 **KCS.O-10** New Approach for Large-Area Thermoelectric Junctions with a Liquid Eutectic Gallium–Indium Electrode
Sohyun Park, Hyo Jae Yoon
Department of Chemistry, Korea University, Korea
- 11:05 **KCS.O-11** Single-Crystal Poly[4-(4,4-dihexadecyl-4H-cyclopenta[1,2-b:5,4-b']dithiophen-2-yl)-alt-[1,2,5]thiadiazolo[3,4-c]pyridine] Nanowires with Ultrahigh Mobility
Yoonkyoung Park, Jin Won Jung, Hungu Kang, Jhumur Seth, Youngjong Kang, Myong Mo Sung
Department of Chemistry, Hanyang University, Korea
- 11:13 **KCS.O-12** Direct Synthesis of a Covalent Triazine-Based Framework from Aromatic Amides
Soo-Young Yu, Javeed Mahmood, Hyuk-Jun Noh, Jeong-Min Seo, Sun-Min Jung, Sun-Hee Shin, Yoon-Kwang Im, In-Yup Jeon¹, Jong-Beom Baek
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea
¹*Department of Chemical Engineering, Wonkwang University, Korea*

- POLY.P-1** Synthesis and ring-opening polymerization of alpha-amino acid N-carboxyanhydrides
Ji hoon Lee, Kyung-sun Son
Department of Chemistry, Chungnam National University, Korea
- POLY.P-2** Relationship between the light sources and performance of organic photocatalysts in organo-catalyzed atom transfer radical polymerization
Chung Soo Kim, Jisu Back¹, Eunsung Lee¹, Kyung-sun Son^{2,*}
Chungnam National University, Korea
¹*Department of Chemistry, Pohang University of Science and Technology, Korea*
²*Department of Chemistry, Chungnam National University, Korea*
- POLY.P-3** Alternating ring-opening copolymerization using a sterically demanding chromium complex
Ho Kyun Ryu, Dae Young Bae¹, Eunsung Lee¹, Kyung-sun Son^{2,*}
Chungnam National University, Korea
¹*Department of Chemistry, Pohang University of Science and Technology, Korea*
²*Department of Chemistry, Chungnam National University, Korea*
- POLY.P-4** Zr(IV)-Mediated, Versatile Heparin Coating on Solid Surfaces for Antiplatelet Application
Yeonwoo Jeong, Sung Min Kang
Department of Chemistry, Chungbuk National University, Korea
- POLY.P-5** Role of fluorescent Waste Tea Residue -Carbon Dots (WTR-CDs) hybrid thin films on blocking the Ultra-violet radiations as direct application
Govind Kolekar, Daewon Sohn^{1,*}
Chemistry, Hanyang University, Korea
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- POLY.P-6** Injectable, biocompatible conjugated catechol chitosan hydro-gels with ion inducement and ethylenediamine tetra-acetic acid treatment
Quang Nguyen Ngoc, Daewon Sohn
Department of Chemistry, Hanyang University, Korea
- POLY.P-7** Synthesis of Dynamic Imine Polymeric Micelles for Efficient Drug Delivery
Sohee Han, Byeong-Su Kim^{1,*}
Chemistry, Yonsei University, Korea
¹*Department of Chemistry, Yonsei University, Korea*
- POLY.P-8** Preparation and Characterization of a Novel Polyimide/Surface Modified BaTiO₃ Nanocomposite for Solution Processable High k Dielectric
Kyeongmin Kim, Taek Ahn
Department of Chemistry, Kyungsoong University, Korea
- POLY.P-9** Synthesis and Thin Film Properties of a Novel Polyimide/Surface Modified TiO₂ Nanocomposite Layer for Solution Processable High k Dielectric
Kyeongmin Kim, Taek Ahn
Department of Chemistry, Kyungsoong University, Korea
- POLY.P-10** Syntheses and Characterization of Donor-acceptor Polymers Based on Polyphenazine with BDT Derivatives for Solar Cells
Sanghun Ahn, Won Ki Lee¹, Youngeup Jin^{2,*}
Industrial Chemistry, Pukyong National University, Korea
¹*Department of Polymer?Engineering, Pukyong National University, Korea*
²*Engineering Chemistry, Pukyong National University, Korea*
- POLY.P-11** Properties of Alternating Copolymers Based on Fluorinated Phenazine
JoungJin Im, Won Ki Lee¹, Youngeup Jin^{2,*}
Industry chemistry, Pukyong National University, Korea
¹*Department of Polymer?Engineering, Pukyong National University, Korea*
²*Engineering Chemistry, Pukyong National University, Korea*
- POLY.P-12** Water absorption of random poly(styrene-co-itaconate) (PSITA) ionomers and PSITA / PEG blends
Joon-Seop Kim^{*}, **Yoon Gwan Jeong**¹
Department of Polymer Science and Engineering, Chosun University, Korea
¹*Department of Polymer chemistry Engineering, Chosun University, Korea*
- POLY.P-13** Synthesis of 1,1-Diisopropyl(or dihexyl)-2,5-ethynyl-3,4-diphenyl-siloles and their Glaser Oxidative Coupling Polymerization Reactions
Jong Wook Lim, Young Tae Park^{1,*}
Keimyung University, Korea
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- POLY.P-14** Co-oligomerization Reactions of 2,5-Dibromo-1,1-diisopropyl (or dihexyl)-3,4-diphenylsiloles with 4,4'-(Hexafluoroisopropylidene)diphenol (or Bisphenol A or 4,4'-Biphenol) and their Characterizations
Jong Wook Lim, Young Tae Park^{1,*}
Keimyung University, Korea
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- POLY.P-15** Investigation of dithienosilole-co-5-fluoro-2,1,3-benzothiadiazole-containing polymeric regioisomers for organic field-effect transistors
SeungLok Lee, Jeongwon Lee¹, Buyeong Kim², Junghoon Lee¹
Advanced Materials Engineering, Dongseo University, Korea
¹*Dongseo University, Korea*
²*chemical engineering/advanced materials, Dongseo University, Korea*
- POLY.P-16** Interfacial behavior of amphiphilic heteroarm core cross-linked star polymers
Yunji Jung, Myungeun Seo
Graduate School of Nano Science Technology, Korea Advanced Institute of Science and Technology, Korea
- POLY.P-17** Supramolecular chirality from internal and external origins
Jun Su Kang, Myungeun Seo^{1*}
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
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- POLY.P-18** Investigation of QSPR methods for predicting melting temperature of polymers
Hyeon Ki Kim, Shin Dong Ryeol¹, Sung Kwang Lee¹
Department of chemistry, Hannam university, Korea
¹*Department of Chemistry, Hannam University, Korea*
- POLY.P-19** In silico approach for the prediction of surface tension for polymers based on QSPR methods
Inhyeok Song, Shin Dong Ryeol, Sung Kwang Lee
Department of Chemistry, Hannam University, Korea
- POLY.P-20** Zwitterionic Polysulfobetaine Brushes with the Resistance to Nonspecific Protein Adsorption and Platelet Adhesion
Hyeon Min Shin, Woo Kyung Cho^{1*}, Yeonwoo Jeong², Sung Min Kang²
chemistry, Chungnam National University, Korea
¹*Department of Chemistry, Chungnam National University, Korea*
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- POLY.P-21** Mechanical Properties of Low Ion Concentration PSPA Ionomer
Joon-Seop Kim*, **InHwa Choi**¹, YoonGwan Jeong²
Department of Polymer Science and Engineering, Chosun University, Korea
¹*department of biochemical polymer engineering, Chosun University, Korea*
²*Department of Polymer chemistry Engineering, Chosun University, Korea*
- POLY.P-22** Mechanical Properties of PLA and Random (Styrene-co-sulfonate) Ionomer Blends
Joon-Seop Kim*, **Sang Hui Park**¹, YoonGwan Jeong²
Department of Polymer Science and Engineering, Chosun University, Korea
¹*Chosun University, Korea*
²*Department of Polymer chemistry Engineering, Chosun University, Korea*
- POLY.P-23** Furanyl-Diketopyrrolopyrrole-Based Chalcogenophene Copolymers with Siloxane Side Chains for Organic Field-Effect Transistors
Buyeong Kim, Junghoon Lee^{1*}
chemical engineering/advanced materials, Dongseo University, Korea
¹*Dongseo University, Korea*
- POLY.P-24** Improvement of Asphaltene Dispersibility by Ionomers Neutralized with Various Cations
Joon-Seop Kim*, **Ki-cheol Song**¹
Department of Polymer Science and Engineering, Chosun University, Korea
¹*Department of Renewable Energy Convergence, Chosun University, Korea*
- POLY.P-25** Dual Cross-Linked Hydrogels That Undergo Structural Transformation via Selective Triggered Depolymerization
Yuree Oh, Hyungwoo Kim^{1*}
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¹*School of polymer science and engineering, Chonnam National University, Korea*
- POLY.P-26** Preparation of compressible polymer monoliths that contain mesopores capable of rapid oil-water separation
Ji Ae Chae, Hyungwoo Kim
School of polymer science and engineering, Chonnam National University, Korea
- POLY.P-27** 3D Printing Ink Formulation for Soft Matter Photo-Actuator
Monica cahyaning Ratri, Nahee Kim¹, Yeongheon Jung¹, Kwanwoo Shin¹
chemistry, Sogang University, Indonesia
¹*Department of Chemistry, Sogang University, Korea*
- POLY.P-28** Synthesis of Amino-Functionalized Polymers via Staudinger Reduction
Haeji Jung, Yeong-Gweon Lim, Sejin Lee
Agency for Defense Development, Korea
- POLY.P-29** Polyimide as a functional binder for Ni-rich cathode of high energy Li-ion batteries
Jeongdong Kim, Hyun Min Jung^{1*}
Kumoh National Institute of Technology, Korea
¹*Department of Applied Chemistry, Kumoh National Institute of Technology, Korea*
- POLY.P-30** Donor-Acceptor Random configuration of semiconducting polymer for efficient, flexible and green-solvent processable solar cells

- Daehwan Lee**, Taewan Kim, Hae Un Kim, Hyuntae Choi, Sungjin Park, Seyeong Lim, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea
- POLY.P-31** Synthesis and Characterization of Polyurethane Ionomers Based on Pyrrolidinium Ionic Liquids
Jongchan Shin, Minjae Lee
Department of Chemistry, Kunsan National University, Korea
- POLY.P-32** PEG-PA-SC copolymer as polymeric micelle for paclitaxel drug delivery system
Min Hee Park, Heeju Kim, Hanbyul Jang, Byeongmoon Jeong
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- POLY.P-33** Approach to synthesis of peptide mimic antimicrobial polymer using functional glycidyl ether monomer
Minseong Kim, Byeong-Su Kim^{1,*}
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
¹*Department of Chemistry, Yonsei University, Korea*
- POLY.P-34** New Conjugated Copolymer Using Selenophene Monomer and Manufacturing Method, Organic Solar Cell Device Using The New Conjugated Copolymer
Minhyung Kim, Intae Kim, Eunsang Yu
Department of Chemistry, Kwangwoon University, Korea
- POLY.P-35** Synthesis and characterization of transparent polyimides derived from 4,4'-oxydiphthalic anhydride, 9,9-bis(4-aminophenyl)fluorene and 2,2'-bis(trifluoromethyl)benzidine
Dohoon Kim, Hyeonuk Yeo
Chemistry Education Major, Graduate School of Education, Kyungpook National University, Korea
- POLY.P-36** Microemulsion with near-infrared dye for surface adhesion and photothermal effect
Jayun Ha, Minseok Kwak
Department of Chemistry, Pukyong National University, Korea
- POLY.P-37** Synthesis of thiazole derivative bearing thiophene and its electropolymerization and application
Minsub Kim, Intae Kim
Department of Chemistry, Kwangwoon University, Korea
- POLY.P-38** Electrophoretic determination of aggregation number of Pluronic F127
Naz Fathma Tumpa, Minseok Kwak
Department of Chemistry, Pukyong National University, Bangladesh
- POLY.P-39** 3D Printing of Carbon-nanotube/Polydimethylsiloxane Composites for Moldless Flexible Pressure Sensor
Daeyeon Cho, Kwanwoo Shin
Department of Chemistry, Sogang University, Korea
- POLY.P-40** Enhancing Resolutuon with One nozzle diameter for Viscoelastic Ink of 3D Bioprinting
Nahee Kim, Monica Cahyaning Ratri¹, Tra Thanh Nhi², Kwanwoo Shin
Department of Chemistry, Sogang University, Korea
¹*chemistry, Sogang University, Korea*
²*chemistry, Sogang university, Korea*
- POLY.P-41** 3D printed vascular system with mechanical properties of real blood vessel
Yeongheon Jung, Kwanwoo Shin
Department of Chemistry, Sogang University, Korea
- POLY.P-42** Synthesis of Well-defined Poly(arylene ether sulfone)-b-Polylactide by Chain Growth Condensation Polymerization and Ring Opening Polymerization
Jongmin Park, Myungeun Seo^{1,*}
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
¹*Graduate School of Nano Science and Technology, Korea Advanced Institute of Science and Technology, Korea*
- POLY.P-43** Function and oxygen tolerance of initiator-transfer agent-terminator (iniferter) in photomediated reversible addition-fragmentation chain transfer (photo-RAFT)
Youngmu Kim, Min Sang Kwon^{1,*}
Materials Science and Engineering, Ulsan National Institute of Science and Technology, Korea
¹*Division of Advanced Materials Engineering, Ulsan National Institute of Science and Technology, Korea*
- POLY.P-44** Study of Click Chemistry Reaction on Poly(glycidyl azide-co-tetrahydrofuran) (PGT) with an Alkyne-containing Reactive Energetic Plasticizer and Its Application in Manufacturing Polymer-Bonded Explosives (PBXs)
Mingu Han^{*}, SeungHee Kim
Agency for Defense Development, Korea
- POLY.P-45** Single-Component Organic Solar Cells Materials based on C70-Triads with Controlled Alkyl Chain Spacer
Lim HyoJin, Han Young Woo
Department of Chemistry, Korea University, Korea
- POLY.P-46** Change of Electronic Properties of DPP-Based Small Molecules Depending on Alkyl Chain Position
Sungjoon Cho, Han Young Woo^{1,*}
Chemistry, Korea University, Korea
¹*Department of Chemistry, Korea University, Korea*
- POLY.P-47** Highly conductive and flexible fluoro sulfonyl imide-based Single-Ion Conducting Solid Polymer

Electrolyte for all solid state Li-ion Battery

Inhwan Choi, Whangi Kim
Department of Applied Chemistry, Konkuk University, Korea

POLY.P-48 Synthesis and Evaluation of Porous Nanoparticles to Improve Hygroscopicity of Fabrics

Eun Ji Park
Advanced material research division, Korea Institute of Footwear & Leather Technology, Korea

POLY.P-49 Formation of Chiral Supramolecules Containing Multiple Hydrogen Bondings

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POLY.P-50 Photostable polymeric nanoparticle containing organic near-infrared dye with enhanced biocompatibility under hyperthermal irradiation at low-temperature.

Banyu firdaus Soeriawidjaja, Mingyeong Kang, Hanseong Kim, Minseok Kwak
Department of Chemistry, Pukyong National University, Korea

POLY.P-51 Synthesis of Characterization Polyacrylates Containing Cycdotetrasiloxane for Fouling-Release Coating Applications

Jeong Yong Park, Jong Woon Ha, Do-Hoon Hwang
Department of Chemistry, Pusan National University, Korea

- IND.P-52 MnO₂ and banana peel derived porous carbon composites for high performance supercapacitors
Guijun Yang, Soo-Jin Park
Department of Chemistry, Inha University, China
- IND.P-53 Synthesis of Li₄Ti₅O₁₂ anode materials with high specific capacity for lithium-ion batteries
Guijun Yang, Soo-Jin Park
Department of Chemistry, Inha University, China
- IND.P-54 Synthesis of carbon-based NiCo₂O₄ as electrodes for an asymmetric supercapacitors
Guijun Yang, Soo-Jin Park
Department of Chemistry, Inha University, China
- IND.P-55 Effect of N-doped TiO₂/g-C₃N₄ composites for enhanced visible light photocatalytic activity.
SeongJun Mun, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-56 Effect of Pt-loaded g-C₃N₄/TiO₂ nanofibers for Enhanced visible light photocatalytic activity via electrospinning
SeongJun Mun, Soo-Jin Park^{1,*}
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- IND.P-57 Highlighting the role of ultra-micropores for CO₂ and methylene blue adsorption
Adeela Rehman, Soo-Jin Park
Department of Chemistry, Inha University, Korea
- IND.P-58 Delineating the role of heteroatoms in CO₂ adsorption
Adeela Rehman, Soo-Jin Park
Department of Chemistry, Inha University, Korea
- IND.P-59 Carbon capture by nitrogen-enriched microporous carbons
Adeela Rehman, Soo-Jin Park
Department of Chemistry, Inha University, Korea
- IND.P-60 Synthesis of PIBSI derivatives with heterocycles containing S and N and friction reducing effects
Joonho Kim, Yeong-Joon Kim, Jaehee Song¹
Department of Chemistry, Chungnam National University, Korea
¹*Department of Chemistry, Suncheon National University, Korea*
- IND.P-61 Hydrogen storage in porous carbons from silica-eliminated coconut shells at low temperature and high pressure
Ji-Hye Park, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-62 Hydrogen storage capacity of activated carbons from coffee wastes
Ji-Hye Park, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-63 Improvement of Properties and Processes of Cyanoacrylate based UV Absorbers with Methoxy Substituent
JoungJin Im, Won Ki Lee¹, Youngeup Jin^{2,*}
Industry chemistry, Pukyong National University, Korea
¹*Department of Polymer Engineering, Pukyong National University, Korea*
²*Engineering Chemistry, Pukyong National University, Korea*
- IND.P-64 Eco-friendly Process Improvement without Using Toluene of Acrylic cyanate UV Absorber with Fluorine Substituent
Sanghun Ahn, Won Ki Lee¹, Youngeup Jin^{2,*}
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¹*Department of Polymer Engineering, Pukyong National University, Korea*
²*Engineering Chemistry, Pukyong National University, Korea*
- IND.P-65 Modification of pristine titanium oxide materials for lithium adsorption and desorption
Urooj Kamran, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-66 Influence of Nickel contents on MnO₂ nanoparticles decorated on rGO sheet for Lithium adsorption and recovery
Urooj Kamran, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-67 Role of Nickel ratio in MnO₂/graphene oxide hybrid as an adsorbent for Lithium capture and recovery
Urooj Kamran, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-68 Effect of porosities and surface characteristics on polythiophene-derived carbons for lithium ion recovery from sea water

- Young-Jung Heo**, Soo-Jin Park
Department of Chemistry, Inha University, Korea
- IND.P-69 Synthesis of amine-modified titanate nanotubes for CO₂ capture under flue gas condition
Young-Jung Heo, Soo-Jin Park
Department of Chemistry, Inha University, Korea
- IND.P-70 A study of controlling pore size on carbon aerogels using physical activation for efficient hydrogen storage and supercapacitor applications
Young-Jung Heo, Soo-Jin Park
Department of Chemistry, Inha University, Korea
- IND.P-71 Research trends and chemical approaches in seawater desalination
Jae Young Ha
Department of Chemistry, Hankuk University of Foreign Studies, Korea
- IND.P-72 Influence of amino-functionalized MoS₂ nanosheets on fracture toughness and thermal stability of epoxy nanocomposites
Shahina Riaz, Soo-Jin Park^{1,*}
Chemistry, Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-73 Fracture toughness of epoxy nanocomposites filled with melamine functionalized WS₂ nanosheets
- Shahina Riaz**, Soo-Jin Park^{1,*}
Chemistry, Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- IND.P-74 Non-radiative decay and Photophysical Investigation of Ir(III) Dopants with *N*-heterocyclic carbene ligands: Geometries, electronic structure, and blue PHOLED device performance
Bo-Sun Yun, Su-Jin Kwak, Changhyun Back, Min Su Choe, Dae won Cho, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea
- IND.P-75 Development of highly efficient deep blue Phosphorescent Ir(III) dopant through incorporation of an electron-withdrawing -SO₂CF₃ substituent to cyclometalating C^N-phenyl pyridine (ppy)
Jin-Hyoung Kim, Su-Won Na, Daehan Lee, Jeong-Wan Yu, Dae won Cho, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea
- IND.P-76 Home-built solid-state NMR probes for many static samples
Ji-Ho Jeong, Yongae Kim
Department of Chemistry, Hankuk University of Foreign Studies, Korea

- INOR.P-1** Selective Nitric Oxide Transmission in Cell Signaling by Using a Photodegradable Cobalt(III)-Nitrosyl Complex
Jisu Choe, Jaeheung Cho^{1,*}
Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea
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- INOR.P-2** Nucleophilic Reactivity Difference between Macrocyclic and Open-Chain Nickel(II)-Peroxo
Nam Kwon, Jaeheung Cho^{1,*}
Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea
¹*Emerging Materials Science, DGIST, Korea*
- INOR.P-3** Polydiacetylene Loaded with Metal Complexes for Visible-Light-Driven Photocatalytic NADH Regeneration and CO₂ Conversion
Jinheung Kim^{*}, YeEun Kim¹, **Yejin Jang**², Euiyoung Jung³
Chemistry Department of Nano-Science, Ewha Womans University, Korea
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³*Chemistry, Ewha W. Univ., Korea*
- INOR.P-4** Electrochemical Oxidation of Guanines of DNA Loaded on Reduced Graphene Oxides
Jinheung Kim
Chemistry Department of Nano-Science, Ewha Womans University, Korea
- INOR.P-5** Synthesis and properties of (phosphine)gold azides
Heekwon Park, MinGyu Ham, Yong-Joo Kim
Department of Chemistry, Kangnung-Wonju National University, Korea
- INOR.P-6** Overview of Chemical Crystallography Beamline in Pohang Light Source II
Dae-Woong Kim, Dohyun Moon
Beam Operation Team, Pohang Accelerator Laboratory, Korea
- INOR.P-7** A Mononuclear Nonheme Chromium(V)-Oxo Complex and Its One-Electron Oxidized Species
Yuri Jang, Yong-Min Lee¹, Taeyeon Kim, Seungwoo Hong², Wonwoo Nam
Department of Chemistry and Nano Science, Ewha Womans University, Korea
¹*Research Institute for Basic Sciences, Ewha Womans University, Korea*
²*Department of Chemistry, Sookmyung Women's University, Korea*
- INOR.P-8** Synthesis and Structural Characterization of Cadmium(II), Cobalt(II), Copper(II) and Zinc(II) Complexes Containing 4,4'-Oxybis-*N,N*-bis((1H-pyrazol-1-yl)methyl)aniline
Solhye Choe, Hyosun Lee
Department of Chemistry, Kyungpook National University, Korea
- INOR.P-9** Structures and Luminescent Properties of Heterometallic Au(I)-Ag(I) Complexes
Heehun Moon, Sung Kwang Lee, Daeyong Um, Young-A Lee
Department of Chemistry, Chonbuk National University, Korea
- INOR.P-10** Dynamic Jahn-Teller effect in inorganic-organic hybrid perovskite (C₆H₅CH₂CH₂NH₃)₂CuCl₄ (Cu-PEA)
In-Hwan Oh^{*}, Garam Park¹, Dohyun Moon²
Korea Atomic Energy Research Institute, Korea
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²*Beam Operation Team, Pohang Accelerator Laboratory, Korea*
- INOR.P-11** Synthesis and electrochemical properties of CoFe hollow nanostructure using ZIF template method
Jihye Son, Longhai Piao, Jinkwon Kim
Department of Chemistry, Kongju National University, Korea
- INOR.P-12** N-doped microporous carbon derived from Zn-porphyrin MOF
Hyun-Chul Kim, Suk Bin Yoon, Suk Joong Lee¹, Sung-Jin Kim², Youngmee Kim³, Seong Huh
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¹*Department of Chemistry, Korea University, Korea*
²*Department of Chemistry, Ewha Womans University, Korea*
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- INOR.P-13** Preparation of large-pore mesoporous silica nanospheres by a Ca ion-etching method using a cheaper Ca ion source
Minsun Park, Sangwon Cha, Seong Huh
Department of Chemistry, Hankuk University of Foreign Studies, Korea
- INOR.P-14** A facile ultrasonic-assisted fabrication of carbon nitride/carbon dots composites for photocatalytic degradation behaviors of rhodamine B
Yifan Zhang, Soo-Jin Park^{1,*}

- Graduate School of Chemistry & Chemical Engineerin, Inha University, Korea
¹Department of Chemistry, Inha University, Korea
- INOR.P-15** In-situ synthesis of BiOClx/BiOBry/BiOIz nanofibers for visible-light photocatalytic investigation
Yifan Zhang, Soo-Jin Park^{1,*}
 Graduate School of Chemistry & Chemical Engineerin, Inha University, Korea
¹Department of Chemistry, Inha University, Korea
- INOR.P-16** In-situ growth of Graphene Oxide/BiOCl composites nanofibers and their application in photocatalytic degradation of RhB
Yifan Zhang, Soo-Jin Park^{1,*}
 Graduate School of Chemistry & Chemical Engineerin, Inha University, Korea
¹Department of Chemistry, Inha University, Korea
- INOR.P-17** Synthesis of bimetallic catalyst derived from Co/Ni containing Zeolitic-imidazolate Framework-67 (CoNi-ZIF) and Ni doped CoNi-ZIF-67 for oxygen reduction and evolution reactions
 Gyeongse Park¹, **Sheraz Ahmed**¹, Minyoung Yoon²
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²Department of Nano Chemistry, Gachon University Global Campus, Korea
- INOR.P-18** Coordinative Networking and Adaptive Guest Binding of Pillar[5]-bis-crowns
Mingyeong Shin, Shim Sung Lee
 Department of Chemistry, Gyeongsang National University, Korea
- INOR.P-19** Formation of a Four-bladed Waterwheel-type Diccopper(II) Complex with Thiaoxa-macrocycle via an Adaptive Exo/exo-coordination Mode
Seulgi Kim, Shim Sung Lee
 Department of Chemistry, Gyeongsang National University, Korea
- INOR.P-20** Pairs of Dynamic-but-Tight Peanut Cage Isomers: Modulation/Isomerism via Anions, Anion Exchange, and Thermal Energy
SeongHyeon Park, SooMin Hyun¹, Ok-Sang Jung^{2,*}
 chemistry, Pusan National University, Korea
¹Chemistry, Pusan National University, Korea
²Department of Chemistry, Pusan National University, Korea
- INOR.P-21** Hexafluorosilicate Anion: A Template for Coordination Cage
Jeyoung Lee
 chemistry, Pusan National University, Korea
- INOR.P-22** Reversible Structural Flexibility of Pd₆L₈ Cages via Recognition of Alkyl Sulfate Surfactants: The Alkyl Chains of Surfactants Predictions
Dongwon Kim, Soojin Lee, Ok-Sang Jung^{1,*}
 Pusan National University, Korea
¹Department of Chemistry, Pusan National University, Korea
- INOR.P-23** Flexible Molecular Double Cages as Ruler for Various Anions: Construction and Anion Exchange of [X₂Pd₃L₄]⁴⁺ Double Cages
Ahreum Kim, Hyejin Oh, Ok-Sang Jung
 Department of Chemistry, Pusan National University, Korea
- INOR.P-24** Formation and Structures of Metal–Organic Frameworks Including Enolate
EunSoo Yi, Junhee Kim, Ok-Sang Jung
 Department of Chemistry, Pusan National University, Korea
- INOR.P-25** Thermally Activated Delayed Fluorescent Properties of Ortho-Donor-Appended Oxaborin Compounds
Juhee Kim, Hanif Mubarak, Min Hyung Lee
 Department of Chemistry, University of Ulsan, Korea
- INOR.P-26** A diamine-grafted metal-organic framework with excellent regeneration energy efficiency and CO₂ capture properties
Minjung Kang, Dong Won Kang, Jong Hyeak Choe, Hyojin Kim, Jeoung Ryul Park, Jinkyoung Park, Daewon Kim, Yun Seok Chae¹, Chang Seop Hong
 Department of Chemistry, Korea University, Korea
¹inorganic chemistry, Korea University, Korea
- INOR.P-27** Adsorption of carbon dioxide from indoor air by diamine-functionalized metal-organic frameworks
Jeoung ryul Park, Saemi Kim¹, Jee Yeon Kim¹, Dong Won Kang, Minjung Kang, Jong Hyeak Choe, Daewon Kim, Jinkyoung Park, Yun Seok Chae², Chang Seop Hong
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²inorganic chemistry, Korea University, Korea
- INOR.P-28** Postmodification of amine-grafted Mg₂(dobpdc) composite for carbon dioxide capture in humid conditions
Jong Hyeak Choe, Chang Seop Hong, Hyojin Kim¹, Minjung Kang, Dong Won Kang, Jeoung Ryul Park¹, Daewon Kim¹, Yun Seok Chae², Jinkyoung Park¹
 Department of Chemistry, Korea University, Korea
¹Department of chemistry, Korea University, Korea
²inorganic chemistry, Korea University, Korea
- INOR.P-29** Synthesis of Bimetallic Metal–Organic Framework from a One-Dimensional Zn-based Precursor
Hyojin Kim, Chang Seop Hong^{1,*}, Dong Won Kang¹, Minjung Kang¹, Jong Hyeak Choe¹, Jeoung Ryul Park, Daewon Kim, Jinkyoung Park, Yun Seok Chae²
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- INOR.P-30 *Ortho*-Donor-Acceptor TADF Compounds with Different Triarylboron Acceptors
Hanif Mubarak, Juhee Kim, Min Hyung Lee
Department of Chemistry, University of Ulsan, Korea
- INOR.P-31 Synthesis and characterization of Cu(II) complexes bearing (+)-Camphor derivative of (E or R, S)-1-(2-Pyridyl)ethylamine
Juhyun Cho, Jong Hwa Jeong
Department of Chemistry, Kyungpook National University, Korea
- INOR.P-32 Electrophoretic deposition of Iron Oxide thin films as anode electrode materials for pseudocapacitor
Yo Seob Won, Duk-Young Jung^{1,*}
Chemistry, Sungkyunkwan University, Korea
¹*Department of Chemistry, Sungkyunkwan University, Korea*
- INOR.P-33 Surface modification of a metal-organic framework Cr-MIL-101 with amine and carboxylic acid for attachment of alcohols through hydrogen bonds
Jongbum Oh, Jiwon Kim, You Jin Oh¹, Jaheon Kim¹
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- INOR.P-34 Syntheses of isorecticular metal-organic frameworks functionalized with alkoxy groups for enhanced methane storage at room temperature and under high pressure
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- INOR.P-35 Hydrothermal synthesis, structures, and characterization of new quaternary iodates
Geonju Park, Kang Min Ok
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- INOR.P-36 A New Pb-based Non-centrosymmetric Coordination Polymer with a Chiral Organic Ligand
Yunseung Kuk, Kang Min Ok
Department of Chemistry, Sogang University, Korea
- INOR.P-37 Competitive and Selective Formation between 2D and 3D Metal-Organic Frameworks
Sojin Oh, Moonhyun Oh
Department of Chemistry, Yonsei University, Korea
- INOR.P-38 Bimetallic Conductive Two-Dimensional Metal-Organic Framework and Its Enhanced Electrochemical Oxygen Reduction Activity
Jian Yeo, Sujeong Lee, Moonhyun Oh
Department of Chemistry, Yonsei University, Korea
- INOR.P-39 Nonlinear optical properties of a series of new noncentrosymmetric molybdenum oxyfluorides
Hongil Jo, Kang Min Ok
Department of Chemistry, Sogang University, Korea
- INOR.P-40 Superexchange Effect on Thermopower: Thermoelectric Characteristics of Oligo(Ethylene Glycol) in Large-Area Molecular Junctions
Nayoung Cho, Seohyun Kang, Jiwoong Jang, Hyo Jae Yoon
Department of Chemistry, Korea University, Korea
- INOR.P-41 Molecule Positioning in 1-D Channel of MOF-74 for Efficient Hydrogen Isotope Separation
Junsu Ha, Jin Yeong Kim, Hoi Ri Moon
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- INOR.P-42 In situ High Temperature XRD study of Bismuth Titanate.
Dongwoo Lee
Nuclear Chemistry Research Team, Korea Atomic Energy Research Institute, Korea
- INOR.P-43 SuFEx-based Post-synthetic Modification of Metal-organic Frameworks
Seungjae Park, Eunsung Lee
Department of Chemistry, Pohang University of Science and Technology, Korea
- INOR.P-44 Properties of water-soluble Ruthenium Nitrosyl Complexes with Schiff base ligand
Minyeong Kim, Hong In Lee
Department of Chemistry, Kyungpook National University, Korea
- INOR.P-45 A Mononuclear Titanium-imide Complex Derived from Dinitrogen Splitting
Dae Young Bae, Eunsung Lee
Department of Chemistry, Pohang University of Science and Technology, Korea
- INOR.P-46 Synthesis of Benzoxazole-Functionalized Metal-Organic Frameworks
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- INOR.P-47 Carborane-Functionalized Metal-Organic Frameworks for Photophysical Properties
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- INOR.P-48 Flexibility Controls of Metal-Organic Frameworks within Regioisomerisms
Dopil Kim, Hyeon Bin Ha, Min Kim

- Department of Chemistry, Chungbuk National University, Korea*
- INOR.P-49** Unravelling a unified mechanistic principle of the tubular shape evolution of microporous organic polymer using ionic building blocks.
Chang Wan Kang, Seung Uk Son
Department of Chemistry, Sungkyunkwan University, Korea
- INOR.P-50** Engineering of Suzuki coupling-based microporous organic network (MON) using Sonogashira coupling-based MON for enhanced sensing
Sang Hyun Ryu, Seung Uk Son
Department of Chemistry, Sungkyunkwan University, Korea
- INOR.P-51** Evidence of Wheland Intermediate in the Acetate Assisted C-H Activation by Pd(IV) Active Catalyst Species Studied via DFT Calculations.
Ji Eun Park, Young Keun Chung¹, Youn Kyung Kang^{2,*}
Department of Chemistry, Seoul National University, Korea
¹*Division of Chemistry, Seoul National University, Korea*
²*Department of Chemistry, Sangmyung University, Korea*
- INOR.P-52** Zn-Phthalocyanine-Loaded Microporous Organic Nanoparticles for Dual Chemo-Photodynamic Cancer Therapy
DongWook Kim, Seung Uk Son
Department of Chemistry, Sungkyunkwan University, Korea
- INOR.P-53** "Hyper-Cross-Linked Polymer on the Hollow Conjugated Microporous Polymer as an Acidic Heterogeneous Catalyst for Ring-Opening Polymerization of Caprolactone"
Sungjae Choi, Seung Uk Son
Department of Chemistry, Sungkyunkwan University, Korea
- INOR.P-54** Post-synthetic modification of microporous organic network based on AB₂ polymerization: Engineering of solid acid catalysts for the chemical transformation of cellulose to soluble cellulose derivatives
Su Kyung Chae, Seung Uk Son
Department of Chemistry, Sungkyunkwan University, Korea
- INOR.P-55** Photophysical Properties and Photoredox Catalytic Activities of Ru(II) Complexes Encapsulated into Metal-Organic Frameworks
Suk bin Yoon, Youngmee Kim¹, Seong Huh
Department of Chemistry, Hankuk University of Foreign Studies, Korea
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- INOR.P-56** Valence Selectivity of Copper Complex by Counteranion Size Effect
Eun su Chae, Jang Hoon Cho, Hong In Lee
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- INOR.P-57** Three Platinum Complexes with Tetradentate Dipyridine Ligands and Their Application As Electroluminescent Materials
Suk-Hee Moon, Youngjin Kang^{1,*}, Ki-Min Park^{2,*}
Department of Food & Nutrition, Kyungnam College of Information & Technology, Korea
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²*Research Institute of Natural Science, Gyeongsang National University, Korea*
- INOR.P-58** Comparison of various crystal structures of hexaaquavalentmetal bis((E)-4-((4-(dimethylamino)phenyl)benzenesulfonate), C₂₈H₄₀N₆MO₁₂S₂ (M=Mn²⁺, Ni²⁺, Mg²⁺)
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- INOR.P-59** Kinetically Controlled Ag⁺-Coordinated Supramolecular Polymerization
Jeong Sang Oh, Jong Hwa Jung^{1,*}
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- INOR.P-60** Development of hybrid nanomaterials and self-assembly
Su Hyeon Park, Cheongwon Bae, Jaedeok Lee, Juyeong Kim
Department of Chemistry and Research Institute of Natural Sciences, Gyeongsang National University, Korea
- INOR.P-61** Theoretical Perspectives in CONY-Grubbs Catalysts
Hyunho Kim, Eunsung Lee^{1,*}
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¹*Department of Chemistry, Pohang University of Science and Technology, Korea*
- INOR.P-62** Ammonia Synthesis by Penta-Pyridine Molybdenum Complex
Jeongmin Cha, Hyunchul Kwon¹, Hayoung Song, Eunsung Lee
Department of Chemistry, Pohang University of Science and Technology, Korea
¹*Chemistry, UC Berkeley, United States*
- INOR.P-63** Single-particle plasmonic imaging of multistep nanoscale sulfidation of Ag nanocubes by L-cysteine
Hyuncheol Oh, Hyunjoon Song
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- INOR.P-64** Synthesis of bis-pyridinium nicotinamide for phosphate detection

- Young il Kim**, Jin Seong Oh, Jungseok Heo^{1,*}
Chemistry, Chungnam National University, Korea
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- INOR.P-65 Oxygen atom transfer: a mild and efficient method for generating iminyl radicals
Youngsuk Kim, Eunsung Lee
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- INOR.P-66 Detection of Phosphate anion through Membrane Electrode and NMR titration based on Diimidazolium complex.
Jin Seong Oh, Young Il Kim, Jungseok Heo^{1,*}
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- INOR.P-67 Series of g-C₃N₄@M_xWO₃ (M=K, Na) nanocomposites as smart window coating for energy savings and environmental decontamination
Shihui Hu, Kang Hyun Park^{1,*}
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- INOR.P-68 Mechanism study of direct C-H arylation of Pd(II)/Pd(0) nanoparticles using diaryliodonium oxidants.
Minjun Kim, Hyunjoon Song
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- INOR.P-69 A New Visible Light Photocatalyst for Lignin Biomass : Cadmium sulfide Nanoparticles with silver compound
Hyeonji Yoo, Hyun Sung Kim^{1,*}
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- INOR.P-70 Bodipy based Palladium complexes formed via Oxidative Addition Reaction
Gajendra Gupta, Chang Yeon Lee
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- INOR.P-71 Reversible Ammonia Uptake in an Imidazolium-based Metal Organic Framework at Room Temperature
Jaechul Lee, Dae-Woon Lim^{1,*}, Kimoon Kim, Eunsung Lee
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- INOR.P-72 Rapid Adsorption and Removal of Sulfur Mustard with Zeolitic Imidazolate Frameworks ZIF-8 and ZIF-67
- Son Yerim**, Hyun Sung Kim^{1,*}
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- INOR.P-73 Synthesis of the high functional supramolecular building block
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- INOR.P-74 Investigation of CO₂ capturing capacity for various amino acids incorporated MOFs
Miyeon Kim, Jiwon Kim, Se-In Kang, Chaeyeon Yoo, Chang Yeon Lee
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- INOR.P-75 Partial Pt²⁺ insertion into ZIF-8 nanocubes toward the formation of face-centered-tetragonal PtZn intermetallic nanoparticles
Taehyun Kwon, Sunghyun Lim, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-76 Morphology transformation in Cu_{2-x}S/Ag₂S nanoplates induced by surface energy modulation and phase miscibility
Taekyung Kim, Jongsik Park, Yongju Hong, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-77 The transition metal doping of IrRu shell of Cu_{2-x}S@IrRu nanoparticles for oxygen evolution reaction in acidic media
 Jinwhan Joo, **Ye Ji Park**, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-78 Synthesis of Carbazole Conjugated Salen-In Systems and Their Photophysical Properties
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- INOR.P-79 Observation of new phases between K and Cd under ambient CO₂ pressure.
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- INOR.P-80 Synthesis of AuPt@RuO_x core@shell ternary nanowires and their morphology dependent performance toward the oxygen evolution reaction

- Heesu Yang**, Taehyun Kwon, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-81 Evaluation of functional magnesium silicate synthesis using diatomite as filter aids.
HongBeom Shin, Kyung Min Yoo, Sungho Park^{1,*}
Chemistry, Daejin University, Korea
¹*Department of Chemistry, Daejin University, Korea*
- INOR.P-82 New Germanium complexes for thin film application
Hee Nang Choi, Bo Keun Park, Seung Uk Son¹, Taek-Mo Chung^{2,*}
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- INOR.P-83 Construction and Characterization of Metalcages Based by Tantalum(V) Cluster.
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²*Department of Chemistry, Hallym University, Korea*
- INOR.P-84 Longitudinal Strain Engineering of Cu_{2-x}S-based Nanosandwich
Sunghyun Lim, Jongsik Park, Taehyun Kwon, Kwangyeol Lee
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- INOR.P-85 Synthesis of Porous Pt-based Nanoparticles as Catalysts for Selective Hydrogenation Reactions
Minki Jun, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-86 Non-enzymatic Glucose Biosensor Utilizing High Purity TiO₂ Nanoparticles Deposited Directly by Thermal Plasma
Jhong Ryul Yoo, Sungho Park^{1,*}
chemistry, Daejin University, Korea
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- INOR.P-87 Development of a Lower Energy Photosensitizer for Photocatalytic Water or Carbon Dioxide Reduction: Modification of Squaraine Dye in Ternary Hybrid System (Dye/TiO₂/Re(I))
Sunghan Choi, Ju Hyoung Jo, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea
- INOR.P-88 Spontaneous formation of 3D zinc blende-CdTe by using 2D wurtzite hexagonal CdS template
Seokpyo Jeon, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-89 Elemental segregation in Ir-based nanoframes for efficient water oxidation in acidic media
Songa Choi, Jongsik Park, Kwangyeol Lee
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- INOR.P-90 The binding Constants between Tetrazine Metallamacrocycles with π -Aromatic Guests
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- INOR.P-91 High catalytic activity of electrochemically activated rhodium phosphosulfide toward hydrogen evolution reaction
Yongju Hong, Haneul Jin, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-92 Synthesis and structural analysis of unsymmetry heteroleptic strontium complexes
Chanwoo Park, Bo Keun Park¹, Chang Seop Hong, Taek-Mo Chung^{2,*}
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- INOR.P-93 **[Withdrawal]** Transition metal doped copper nitride nanocubes for carbon dioxide reduction reaction
Jinwhan Joo, Chung Man Yu, Kwangyeol Lee
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- INOR.P-94 An Investigation on Photocatalytic CO₂-to-CO Conversion Activities of Heteroleptic [Ir(C[^]N)₂(N[^]N)]⁺-type Complexes-Sensitized TiO₂ Ternary Hybrids (IrPS/TiO₂/Re(I)): Immobilization Effect of Ir(III) Photosensitizer on TiO₂ Nanoparticles
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¹*Korea University Sejong Campus, Korea*
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- INOR.P-95 Enhanced Kinetics and Stability of Water Electrolysis through Synergistic Effects of Cobalt Phosphosulfide
Jinhyoung Jo, Jun Kim, Yongju Hong, Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- INOR.P-96 Green synthesis of silver nanoparticles using plant extract and simple quantification with UV-visible light spectra
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- INOR.P-97 π -Delocalization Effect of Photosensitizing Heteroleptic Ir^{III} Complex in Photocatalytic CO₂-to-CO Conversion by Semi-Heterogeneous Hybrid Catalyst (IrPS + TiO₂/Re(I))
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- INOR.P-98 Synthesis and Characterization of Cu Precursors for Atomic Layer Deposition of Cu Oxide Thin Films
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- INOR.P-99 Electropolymerized Molecular Chromophore-Catalyst Assemblies for Stable Dye-sensitized Photoelectrosynthesis Cell
So-Yeon Kim, Kyung-Ryang Wee^{1,*}
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- INOR.P-100 Synthesis of Polymer@MOFs for improved water-resistance
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- INOR.P-101 Reductase components and its electron transfer through
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- INOR.P-102 Concanavalin A and structural features through metal coordination
Hara Jang, Seung Jae Lee
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- INOR.P-103 Diiron monooxygenase and substrate hydroxylation through multicomponent enzymes
Jaewoong Park, Heeseon Yoo, Seung Jae Lee
Department of Chemistry and Institute for Molecular Biology and Genetics, Chonbuk National University, Korea
- INOR.P-104 Zinc fingers and its structural feature to generate specific interactions with their binding partners
Ka Young Son, Seung Jae Lee
Department of Chemistry and Institute for Molecular Biology and Genetics, Chonbuk National University, Korea
- INOR.P-105 Synthesis of Highly Bright Green Zn-Ag-In-S/Zn-In-S/ZnS Quantum Dots for White Down-Converted LEDs with a High CRI
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- INOR.P-106 Single crystal to single crystal transformation of non-interpenetrated metal-organic frameworks to doubly interpenetrated metal-organic frameworks with topology conversion
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- INOR.P-107 Elucidation of defensive mechanisms of halophytes through ROS regulation by indole derivatives
Heeseon Yoo, Ka Young Son, Seung Jae Lee
Department of Chemistry and Institute for Molecular Biology and Genetics, Chonbuk National University, Korea
- INOR.P-108 Lectins and its carbohydrate binding through heterometal coordinated interactions
Yung Min Lee, Seung Jae Lee
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- INOR.P-109 Fabrication of a Red, Green and Blue Integrated Copper Indium Gallium Sulfide Selenide Solar Cell with a Narrow-Bandwidth Stop Filter
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- INOR.P-110 Luminescence Differences in InGaN/GaN Blue LEDs According to the Electrode and ITO Shape
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- INOR.P-111** Stable CsPbX₃/CsPb₂Br₅ Core/Shell Perovskite Nanocubes for Wide-Color-Gamut LCDs
Hyeongjin Lee, Minji Ko, Young rag Do
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- INOR.P-112** Three-Package White LED Backlighting Applications Using Narrow-Band SrMgAl₁₀O₁₇:Eu,Mn Green Phosphors and Photoluminescence Properties
Heejoon Kang, Keyong Nam Lee¹, Young rag Do
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- INOR.P-113** Analysis of the Visual and Nonvisual Properties of a CCT-Tunable White LED on Human Retinal Photoreceptors
Yun Jae Eo, Keyong Nam Lee, Young rag Do
 Department of Applied Chemistry, Kookmin University, Korea
- INOR.P-114** Fabrication of a Moth-Eye Structure via Polystyrene Nanosphere Lithography to Reduce Reflective Losses
SeungJe Lee, Gang Yeol Yoo¹, Woong Kim², Young rag Do^{3,*}
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- INOR.P-115** Size and Thickness Effects of Surface Passivation on an ITO-Insulator-Metal Structure with Atomic-Layer-Deposited Al₂O₃
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- INOR.P-116** Synthesis and Structural Characterization of [(L_{DTEDA})MBr₂] (M = Co, Zn, Cd) for Ring Opening Polymerization of *rac*-Lactide
Kyeonghun Kim, Hyosun Lee
 Department of Chemistry, Kyungpook National University, Korea
- INOR.P-117** Carbon Nano-Onion-Based Twin mode 'Turn-On/Off' Sensor Array for Perilous Organic Solvents
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- INOR.P-118** Adsorption of silicon tetrahalides for atomic layer deposition of silicon nitride: a theoretical study
Neung-Kyung Yu, Bonggeun Shong
 Department of Chemical Engineering, Hongik University, Korea
- INOR.P-119** Non-Planarity in 2D porphyrinic Metal-Organic Frameworks
Junghye Lee, Eunji Jin, Wonyoung Choe
 Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- INOR.P-120** Isorecticular Zr-Based Metal-Organic Polyhedra as Multivariate Porous Platforms
 Dongsik Nam, **Jiyeon Kim**, Wonyoung Choe
 Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- INOR.P-121** Decomposition of dimethylmethylphosphonate (DMMP) with UV-C radiation
Jongho Yoon, Etae Choi, Suk Joong Lee
 Department of Chemistry, Korea University, Korea
- INOR.P-122** Synthesis and Characterization of Transition Metal Complexes of Bis(thiosemicarbazone) Ligand
Haewon Jeong, Hyeri Jeon, Seungwoo Hong
 Department of Chemistry, Sookmyung Women's University, Korea
- INOR.P-123** Synthesis and Characterization of First-Row Transition Metal Complexes with Bis(semicarbazone) Ligand
Hyeri Jeon, Haewon Jeong, Seungwoo Hong
 Department of Chemistry, Sookmyung Women's University, Korea
- INOR.P-124** Investigation of the Driving Force for the Phase-Transition in the Ca_{2-x}RE_xCdSb₂ (M = Yb, Eu; 0.11(1) ≤ x ≤ 1.36(2)) System
Ki Won Kim, Tae-Soo Yoo
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- INOR.P-125** DFT/TD-DFT study on the a symmetric cyclometalated platinum (II) complexes with tetradentate ligands: Structural feature and photo-chemical properties
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¹Department of Materials Engineering and Convergence Technology and ERI, Gyeongsang National University, Korea
- INOR.P-126** DFT/TD-DFT Study on the Geometric preference and Photo-chemical properties of Ir(PPy)₂(L), L=PPy, Pic, bpy and acac

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INOR.P-127

Tuning of the flexibility in metal-organic frameworks based on pendant arm macrocycles

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INOR.P-128

Selenium-based ROS Biological Probes: Mycophenolic acid Core Intermediates as a New Chemosensing Fluorophore Class

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INOR.P-129

MOF-derived CdS nanocomposite for photocatalytic H₂O₂ production under visible light

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- PHYS.P-130 Condition in which nanodiscs produced by **SMA(styrene:maleic acid)copolymer** reliably change the orientation by **Ytterbium(Yb³⁺)**
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- PHYS.P-131 Kinetics and Mechanism of 2-Furoyl Chloride
Han Joong Koh
General Science Education, Jeonju National University of Education, Korea
- PHYS.P-132 Density Functional Calculation of the warfarin and Vitamin K epoxide reductase
Suhyun Park, Sangwook Wu
Department of Physics, Pukyong National University, Korea
- PHYS.P-133 Evaluation of thermal hysteresis activity of ice-binding protein using molecular dynamics simulation
Suhyun Park, Hak Jun Kim¹, Sangwook Wu
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- PHYS.P-134 Branching Ratio of 1-Bromo-3-chlorobenzene Cation
BongGyu Jeong, HyunWook Choi, Jae Kyu Song, Seung Min Park
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- PHYS.P-135 Free Energy Landscape of Coupled Folding and Binding
Song-Ho Chong, Haeri Im, Sihyun Ham
Department of Chemistry, Sookmyung Women's University, Korea
- PHYS.P-136 Extraction of Biomass using Ionic liquid
Insol Jo, Kisub Kim
Korea National University of Transportation, Korea
- PHYS.P-137 Observation of the thermal influenced quantum behavior of water solutions near a solid interface
Byoung-Jip Yoon
Department of Chemistry, Gangneung-Wonju National University, Korea
- PHYS.P-138 Detection of Azoxystrobin Using Surface-enhanced Raman Scattering
Eungyeong Park, Sila Jin, Yeonju Park, Young Mee Jung
Department of Chemistry, Kangwon National University, Korea
- PHYS.P-139 Spectroscopic studies on thermal behavior of poly(3-hydroxybutyrate-co-3-hydroxyhexanoate)
Myeongwon Hwang, Yeonju Park, Young Mee Jung
Department of Chemistry, Kangwon National University, Korea
- PHYS.P-140 Study of Reusable Photocatalyst for Organic Dye Molecule Degradation
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- PHYS.P-166 The adsorption behavior of guanine on Ge(100) surface : A theoretical study
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- PHYS.P-179 Thickness-dependent bandgap and electrical properties of GeP nanosheets
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- PHYS.P-186 Generation of broadband Near-Ultra-Violet (NUV) source
Minhyuk Lee, Junwoo Kim¹, Seung Min Park
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- PHYS.P-187 Theoretical and experimental branching ratio about ternary cluster cations
HyunWook Choi, BongGyu Jeong, Jae Kyu Song, Seung Min Park
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- PHYS.P-188 Physical Properties of Self-Doped Colloidal Quantum Dots and Tellurium Element
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- PHYS.P-189 The Structural Origin of the Electron Affinity of Poly-Aromatic Hydrocarbon
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- PHYS.P-191 Quantum chemical dynamics of the dissociative electron attachment to SF₅-X:Cl, Br, F, C₂H₃, C₆H₅, CF₃ and SF₃
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- PHYS.P-192 Interpretation of Hofmeister series: Formation of an amide tautomer by divalent cations
Hyejin Kwon, Yung sam Kim, Jin Gyu Seol
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- PHYS.P-193 The Effect of the *ortho* Nitro Group in the Solvolysis of Benzyl and Benzoyl Halides
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- PHYS.P-194 Identification of CPN-mediated Glutamate transport mechanisms upon its ionic charged status
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Department of Chemistry, Kangwon National University, Korea
- PHYS.P-195 A DFT Study on the Mechanism of Lithium Halides Catalyzed Hydroboration of Aldehydes with Pinacolborane
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- PHYS.P-196 Fluorescence spectroscopic investigation of the interaction of cationic surfactants with water-soluble polymers in aqueous solution
Hyomin Kim, Han Gook Cho, Byeong-Seo Cheong
Department of Chemistry, Incheon National University, Korea
- PHYS.P-197 Solvent effects on the Raman spectra of p-nitroaniline, N,N-dimethyl-p-nitroaniline, and p-nitrophenol in solution
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- PHYS.P-198 Excited-state proton transfer of 7-hydroxy-4-methylcoumain in reverse micelles composed of various water-organic solvents by fluorescence spectroscopy
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- PHYS.P-201 Vacuum ultraviolet mass-analyzed threshold ionization (VUV-MATI) spectroscopy of piperidine: Determination of accurate ionization energy and conformation structure
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- PHYS.P-204 Dual frequency comb vibrational optical activity spectroscopy
HyunMin Jang, Junwoo Kim¹, Minhaeng Cho
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- PHYS.P-206 Quantitative study of mammalian gene expression based on chromatin looping structure
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- PHYS.P-208 Electrochemical Reduction of CO₂ on Gold Nanoparticles-Reduced Graphene Oxide Modified Electrode
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- PHYS.P-210 ProWaVE: Web-based Computational Platform for Protein Solvation Free Energy
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- PHYS.P-211 Pulse Electrodeposition of Silver Nanoparticles on Carbon Paper Electrode for Non-Enzymatic Electrochemical Detection of Nitric Oxide
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- PHYS.P-212 Excitation Wavelength Selective Control of the Reactivity of Photoacids
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- PHYS.P-213 Immobilization of lipid vesicle using His-tagged biocytin on a supported lipid bilayer.
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- dopants through MX₂-substrate
Haneul Kang, Sunmin Ryu
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- PHYS.P-215 Observation of non-Condon effects on intensity modulations of transient absorption signals
Jungsoo Ahn, Taiha Joo
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- PHYS.P-216 Formation and Phase Behaviors of Binary Self-Assembled Monolayers on Au(111) by Coadsorption of Two Thiols with Geometrically Controlled Backbones
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- PHYS.P-217 Raman-pump power dependent artifact signal of trans-stilbene
Dong-gu Kang, David W. McCamant¹, Sang Kyu Kim
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- PHYS.P-218 Controllable Gold Nanoparticles Ablated by Pulse Laser in Organic Solvent for SERS Substrate
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- PHYS.P-219 Crystal Structures and Photoluminescent Properties of Dimethyl Sulfonium Salts based on π -Electron Deficient Spacers
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- PHYS.P-220 Effect of Different Solvents on the Properties of Copper Nanoparticles Produced Via Pulsed Laser Ablation and its Enhanced Catalytic Activity
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- PHYS.P-221 Fluorescence Correlation Spectroscopy of Gold Nanoclusters
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- PHYS.P-222 Electronic and Vibrational Spectroscopic Studies of Jet-cooled 2-cyanoindole and Its water cluster, 2Cl-(H₂O)_n (n = 0 - 3)
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- PHYS.P-223 Novel plasmonic ZnO/Au/g-C₃N₄ nanocomposites for visible-light-active photocatalysts
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- PHYS.P-224 Synthesis of ZnO/Au/RGO nanocomposites using PLAL for Photocatalytic degradation of Organic pollutants.
Shreyanka Shankar Naik, Seung Jun Lee, Talshyn Begildayeva, Hyeon Ju Kim, Myong Yong Choi
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- PHYS.P-225 Electronic circular Dichroism Spectra of L-Protonated Phenylalanine Ion Obtained Using Cold Ion spectroscopy
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- PHYS.P-226 NiFe OER catalytic reaction study using in situ Sum-frequency generation spectroscopy
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- PHYS.P-227 NiO as Back Ohmic Contact Hole Transport Layer to p-type doped CuBi₂O₄ for Photoelectrochemical Water Splitting
Madhusudana Gopannagari, Yujin Kim, Tae Kyu Kim
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- PHYS.P-228 Effect of Tethering Probes on the Rotational Dynamics of a Polymer near the Glass Transition
Jiwon Choi, Soohyun Lee, Keewook Paeng
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- PHYS.P-229 X-ray Absorption Study of Photo-Induced Tautomeric Interconversion of Co-dioxolene complexes
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- PHYS.P-230 Tip-enhanced Raman spectroscopy of thiol monolayers on gold nanoparticle

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PHYS.P-231 Estimation of a molecule's excited-state absorption spectra by vibronic transition calculations

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PHYS.P-232 Chemical application of machine learning to predict optical properties

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PHYS.P-233 Molecular dynamics simulation study on ion-pairing dynamics in polar solvents

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PHYS.P-234 Construction of 1-D ternary nanohybrid CdS/ZnS/Pt for high selective CO₂ reduction with water

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PHYS.P-235 Fluorescence calculation of exciplex state of magnetic field effect (MFE) peptoid using density functional theory

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- ANAL.P-77 One-pot synthesis of iron hydroxide hierarchical supraparticles
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- ANAL.P-78 A Radiochemical Purification for ⁵⁵Fe Measurement
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- ANAL.P-79 The case study of selective zirconium elimination for the determination of impurity elements in nuclear-grade zirconium alloys
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- ANAL.P-80 Magnetic field-induced self-assembly of magnetoplasmonic nanoparticles into chain structures and chiroptical property
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- ANAL.P-81 Voltammetric layer-by-layer biosensor for metabolite in human serum
Yunpei Si, Hye Jin Lee
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- ANAL.P-82 Amperometric detection of neurotransmitter molecules using chemically modified screen-printed carbon electrodes
Jingjing Li, Hye Jin Lee
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- ANAL.P-83 Synthesis of Alkaline Ionic Liquid Electrolytes
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- ANAL.P-84 Electrochemical Sensors for Alkaline Fuel
Dieudonne Tanue, Hye Jin Lee
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- ANAL.P-85 Near-Infrared Molecularly Imprinted Polymers-Based Sensor for Ultrasensitive Detection of Pharmaceutical Residues in wastewater
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- ANAL.P-86 Colorimetric paper based probe for the Detection of Amine-Containing Gases
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- ANAL.P-88 Chemiluminescent probes-based paper strips for detection of influenza
Jinsol Han, Sharipov Mirkomil, Yong-III Lee
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- ANAL.P-89 The determination of folic acid using paper-based analytical devices
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- ANAL.P-90 Novel ZnBi₂O₄-graphite Composites as Highly Active Visible-Light Photocatalyst for the Mineralization of Rhodamine B
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- ANAL.P-92 Optical sensing of triclosan with Fluorescence of upconversion nanoparticles composed potassium permanganate
Seong-Soo Lee, Bui The Huy, Yong-III Lee
Department of Chemistry, Changwon National University, Korea
- ANAL.P-93 Novel Fluorescence "Turn off-on" sensors for Highly Sensitive Detection of Spermine Based on

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Jimin Shim, Salah Mahmoud Tawfik Ahmed, Yong-Il Lee
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- ANAL.P-94 Analyzing and switching chiral structure with magnetoplasmonic nanoparticles.
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- ANAL.P-96 Characteristics and Electrochemical Performance of Graphene/Silicon/Carbon nanofibers Composite films as Anode Material for Binder-Free Lithium ion Secondary Batteries
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- ANAL.P-100 Determination of heat of formation using bomb calorimetric analysis for energetic materials
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- ANAL.P-101 Development of QSAR modeling of fat-air and brain-air partition coefficients
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Department of Chemistry, Hannam University, Korea
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Department of Chemistry, Hannam University, Korea
- ANAL.P-103 Identification multidisciplinary function and analysis active chemical compound structure of natural biological resources that were collected from Southern-east asian countries
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Chemistry, Incheon National University, Korea
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- ANAL.P-104 Electrochemical Detection of Lung-Cancer Specific Exosomal miRNA
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- ANAL.P-105 Resonance Raman Analysis of Korean Traditional & Modern Pigment
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- ANAL.P-106 Carbon-polymer composite electrode by 3D-printing for heavy metal ions detection
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- ANAL.P-107 Synthesis of whitlockite nanocrystals in tri-solvent system and biocompatibility evaluation
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- ANAL.P-109 Thickness Measurements of Pharmaceutical Coatings using Hyperspectral Raman Spectroscopy
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- ANAL.P-110 Development of comprehensive analytical method of Persistent organic pollutants (POPs) in human serum by two different gas chromatography-mass spectrometry
Joeun Lee, Han Bin Oh¹, Kihun Kim
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- ANAL.P-111 The optimized purification progression of mutations in melanocortin 4 receptor related to obesity for biochemical study.
Soyeon Jo, Ji-Ho Jeong¹, Yongae Kim¹
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- ANAL.P-112 Effective Sample Preparation of Polyphenols in Wine using Deep Eutectic Solvent-based Dispersive Liquid-Liquid Microextraction for HPLC-UV Determination
Jongsung Noh, JinSol Lee, Seung Hoon Song, Won Hoe Koo, Hyun-Woo Cho¹, Seung Woon Myung
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- ANAL.P-113 Development and identification of biocompatible antimicrobial materials target sepsis from endophytic microbials
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- ANAL.P-114 Digital and Absolute Quantification of Microdroplets using Wide-Field Imaging System for real-time Droplet Sorting
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- ANAL.P-115 Integration of Surface-enhanced Raman Scattering (SERS) with droplet digital PCR for the Monitoring *Klebsiella pneumoniae* at a single-cell sensitivity.

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- ANAL.P-116 Programmable paper-based microfluidic devices with printed patterns for analytical assays
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Department of Chemistry, Sogang University, Korea
- ANAL.P-117 Highly Sensitive Chemiluminescent Probe for Detecting NQO1 Levels in Cancer Models
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Department of Chemistry, Korea University, Korea
- ANAL.P-118 Optimization of nanoflow ultrahigh performance liquid chromatography (nUHPLC) for high-throughput and rapid lipid analysis by ESI-MS/MS
Gwang Bin Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- ANAL.P-119 Global analysis of polyglycerophospholipids using isotope-labeled methylation and nUHPLC-ESI-MS/MS
JongCheol Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- ANAL.P-120 Separation of exosomes and lipoproteins in human serum using frit-inlet asymmetrical flow field-flow fractionation with multi-angle light scattering
Young Beom Kim, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- ANAL.P-121 Size fractionation of Graphene Oxide by Asymmetrical Flow Field-Flow Fractionation
Myoungjae Ko, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- ANAL.P-122 Lipidomic alterations in lipoproteins of patients with postmenopausal osteoporosis by asymmetrical flow field-flow fractionation and nUHPLC-ESI-MS/MS
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- ANAL.P-123 Optimizations in simultaneous analysis of free fatty acid and other lipid classes using nUHPLC-ESI-MS/MS
Kang uk Kim, JongCheol Lee, Myeong Hee Moon
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- ANAL.P-124 Investigation of serum lipid signatures of pig in post-hepatectomy liver failure from expanded hepatectomy using nanoflow UHPLC-ESI-MS/MS
HaeA Kim, JongCheol Lee, Myeong Hee Moon

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- ANAL.P-125 NMR study of human transmembrane proteins related to disease
Minseon Kim, Ji-Ho Jeong, Yongae Kim
Department of Chemistry, Hankuk University of Foreign Studies, Korea
- ANAL.P-126 Wavelength-Dependent Defocused Imaging of Single Gold Nanorods under Three-Color Total Internal Reflection Scattering Microscopy
Jaeran Lee, Ji Won Ha
Department of Chemistry, University of Ulsan, Korea
- ANAL.P-127 Reducing Process of Silica Particle by Metallothermic Reduction Reaction
Seunghyun Lee*, **Dong Hwan Nam**¹
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- ANAL.P-128 Viscoelastic Nanocomposites with Boron Nitride in Polymer Matrix
TaeHyeong Kim, Seunghyun Lee
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- ANAL.P-129 Control of Desired Aspect Ratio of Gold Nanorods based on Seed-Mediated Method.
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- ANAL.P-130 Electrochemical Immunosensor using Nanotriplex of Graphene Quantum Dots, Fe₃O₄, and Ag Nanoparticles for Tuberculosis
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- ANAL.P-131 Performance evaluation of SERS-PCR sensors for future use in rapid and sensitive genetic assays
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- ANAL.P-132 Functionalization of gold nanoparticles using guanidine thiocyanate for sensitive and selective visual detection of Cd²⁺ ion
Jigna Bhamore, Seung Hoon Baek, ChanYeong Park, Tae Jung Park
Department of Chemistry, Chung-Ang University, Korea
- ANAL.P-133 Advanced studies of antimicrobial peptides derived from bovine milk with structural analysis using NMR
Jinyoung Son, Ji-Ho Jeong¹, Yongae Kim¹
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- ANAL.P-134 Fluorescent Displaying Time-dependent Iron selenide Quantum dots
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- ANAL.P-135 NMR structural studies of tIK fragment with anti-inflammatory effective
Yuyoung Song, Hyunjun Jang, Ji-Ho Jeong, Yongae Kim
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- ANAL.P-136 Ultrathin multi-functional NiCoFe/Ni nanostructured electrocatalyst for water-splitting
Lemma Teshome Tufa, **Sohyun Kang**¹, Jaebeom Lee¹
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- ANAL.P-137 Photoluminescence enhancement by Ag@Fe₃O₄ nanoparticles
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- ANAL.P-138 Synthesis of viral-magnetic hybrid Janus nanoparticles
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- ANAL.P-139 Enrichment of phenolic compounds using PTAD functionalized particles
Jisu Kim, Geunhyeok Yu, Geon-Young Yoo, Woon-Seok Yeo
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- ANAL.P-140 Application of SERS active AuNPs-MOF nanocomposite for sensitive detection of MGITC
Anupam Das, Namhyun Choi¹, Kyoung Neon Kim, Jaebum Choo
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- ANAL.P-141 Functionalization of gold nanoparticles using guanidine thiocyanate for sensitive and selective visual detection of Cd²⁺ ion
Jigna Bhamore, Seung Hoon Baek, ChanYeong

- Park, Tae Jung Park
Department of Chemistry, Chung-Ang University, Korea
- ANAL.P-142 An investigation on the change of inorganic arsenic concentration in Hiziki by the pretreatment method using IC-ICP-MS
Seon Hwa Lee, Sang-Ho Nam
Department of Chemistry, Mokpo National University, Korea
- ANAL.P-143 Micro headspace extraction for chlorophenols
Xamyo Noulorsaytour, Doo Soo Chung
Division of Chemistry, Seoul National University, Laos
- ANAL.P-144 Plasmonic Sensing of Pyridine by Chemical Interface Damping of Single Au/Ag Core Shell Nanorods.
Kyeong Rim Ryu, Ji Won Ha^{1,*}
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- ANAL.P-145 Detection of the norovirus using magneto-plasmonic film
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- ANAL.P-146 Synthesis of ultrathin Ni-Fe LDH nanosheets for efficient water oxidation
Birhanu Bayissa Gicha, Jaebeom Lee^{1,*}
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¹*Chemistry, Chungnam National University, Korea*
- ANAL.P-147 Evaluation of skin whitening efficacy of catechin by inhibiting mushroom tyrosinase activity
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Food Science and Biotechnology, Cha university, Korea
- ANAL.P-148 Anti oxidant effect of green tea extract and its application to the herb material of emulsion drug base
Young Jun Park
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- ANAL.P-149 Synthesis of fluorine doped structured Li₂FeP₂O₇ and its electrochemical and structural characterizations
Chaewon Moon, Youngil Lee
Department of Chemistry, University of Ulsan, Korea
- ANAL.P-150 The targeted metabolomics profiling of urine in diabetic kidney disease using NMR
Jin Seong Hyeon, Geum-Sook Hwang
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- ANAL.P-151 Quantitative multi-element analysis for assessing environmental exposure during early childhood with deciduous teeth
Youngjoo Kal, Sangwon Cha^{1,*}
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- ANAL.P-152 Development and validation of a multi-element quantitation method for whole blood samples by ICP DRC MS
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- ANAL.P-153 Antioxidative Activity of Oligosaccharides on UV-induced Photoaging in human skin cells
Ara Lee, Dong-Ku Kang
Department of Chemistry, Incheon National University, Korea
- ANAL.P-154 Probing Structural Change of Protein using Small-angle X-ray Scattering (SAXS) and Cross-linking Mass Spectrometry
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Department of Chemistry, Korea University, Korea
- ANAL.P-155 MS-based analysis of 2D and 3D spheroids neuroblastoma cells to explore mechanisms underlying cellular heterogeneity in neuroblastoma cell models.
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- ANAL.P-156 Characterization of Structural Change of Protein during Gas Phase Transition Using Electrospray Ionization (ESI) with Fourier Transform-Infra red (FT-IR) spectrometer
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- ANAL.P-157 Inhibition and dissociation effect of gold nanoparticles on amyloid fibrils induced by Near-IR laser irradiation
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Department of Chemistry, Korea University, Korea
- ANAL.P-158 Comparison of Solvent Effects on Cytotoxicity of Pt-based Drugs in 2D Cells and 3D Spheroid Cells
Min Ji Kim, Chae Eun Heo, Sooyeon Chae, Paul Valery Migisha Ntwali, Chae Ri Park, MyungKook Son, Da Gyeong Hyun, Hugh I. Kim

- Department of Chemistry, Korea University, Korea*
- ANAL.P-159** Uncovering dose-dependent chemoresistance of serum-starved SK-N-SH neuroblastoma cells against the anticancer drug
Sooyeon Chae, Min Ji Kim, Paul Valery Migisha Ntwali, Chae Eun Heo, Chae Ri Park, MyungKook Son, Hugh I. Kim
Department of Chemistry, Korea University, Korea
- ANAL.P-160** Synthesis and Biodegradation Evaluation of Biodegradable Microcapsules for Medical and Industrial Applications
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- ANAL.P-161** Hybrid Magnetic Carbon Nanoparticles for Removal Organic Dyes
Quy Son Luu, Jihye Jung¹, Youngbok Lee^{2,*}
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¹*Bio-Nano Technology, Hanyang University, Korea*
²*Department of Bio-Nano Engineering, Department of Hanyang University, Korea*
- ANAL.P-162** New analytic method to measure the atomic weight of neon using GC-TCD
Jeong Eun Kim, Jin seog Kim¹, Kiryong Hong¹
Science of measurement, University of Science & Technology, Korea
¹*Center for Gas Analysis, Korea Research Institute of Standards and Science, Korea*
- ANAL.P-163** lipidomic analysis of serum from mice exposed to ambient particulate matter using LC-MS approach
Seoyoung Jang, Geum-Sook Hwang
Western Seoul Center, Korea Basic Science Institute, Korea
- ANAL.P-164** Characterization of Various Refined Lacquer Saps with Analytical Techniques
Hyehyun Yu, Jihye Lee¹, Minhwa Kang¹, Seung Wook Ham, Yeon Hee Lee¹
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¹*Advanced Analysis Center, Korea Institute of Science and Technology, Korea*
- ANAL.P-165** Average structure parameters of Asphaltenes by Magnetic resonance spectroscopy
Yongnam Joe
Analysis unit, Sk Innovation, Korea
- ANAL.P-166** Multiple omics analysis related to mesenchymal stem cell mass cultivation
Seung-Eun Lee, Min-Sik Kim^{1,*}
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- ANAL.P-167** Utilizing accurate precursor mass information from MS data for interpreting data-independent acquisition(DIA) mass spectrometry significantly improves peptide identification
Dwoon Nam, Hokeun Kim¹, Jingi Bae¹, Sang-Won Lee¹
Korea University, Korea
¹*Department of Chemistry, Korea University, Korea*
- ANAL.P-168** Efficient and comprehensive proteomic analysis by fully automated DO-NCFC-RP/RPLC
Chaewon Kang, Dwoon Nam, Sang-Won Lee
Department of Chemistry, Korea University, Korea
- ANAL.P-169** Investigation of Physical Properties in Nano-structured Copolymer Films by Atomic Force Microscopy
Minhwa Kang, Jihye Lee, Yeon Hee Lee
Advanced Analysis Center, Korea Institute of Science and Technology, Korea
- ANAL.P-170** Construction of substrate PI property analysis process applied to flexible OLED.
Ji Sun Kim
Chemical analysis technology team, LG Display, Korea
- ANAL.P-171** Structural and mechanical properties of jewel beetle elytra
Jihye Lee, Yeon Hee Lee
Advanced Analysis Center, Korea Institute of Science and Technology, Korea
- ANAL.P-172** Extensive proteome profiling of IDH1 mutated U87MG cell line for investigating the tumorigenic roles in glioblastoma
Seunghoon Back, Jiwon Hong, Chaewon Kang¹, Su-Jin Kim, Sang-Won Lee
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- ANAL.P-173** Comprehensive proteome profiling to investigate RNAi effect on the human Pancreatic ductal adenocarcinoma (PDAC) tissues
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- ANAL.P-174** Monitoring the changes of mitochondrial membrane potential using SERS in the live single cell
Ji Hye Lee, Dongkwon Lim
KU-KIST Graduate School, Korea University, Korea
- ANAL.P-175** Lipidomic analysis of elaiosomes from Coreanomecon hylomeconoides Nakai by high performance liquid chromatography- tandem mass spectrometry
Hyejin Park, Tae-Young Kim
School of Earth Sciences and Environmental Engin...

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Quantitative lipidome analysis of serum from mouse exposed to microplastic using deuterium oxide labeling

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Digital rectilinear ion trap mass spectrometer

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Development of an automatic sample preparation system using a Lab-on-a-Disc

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LIFE.P-179 Bioactive MOFs embedded Hydrogels

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Mimicry of the Cytoskeleton: Actin and Microtubule Polymerization in Giant Unilamellar Vesicle causing Shape Changing

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Fibronectin coated Polydioxanone Surgical Suture for Wound Healing Improvement

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Sensitive Detection of CCP peptide Using Metal-Enhanced Fluorescence Nanoparticles

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Quantitative Analysis of LIMK1 in a Single Cell with Atomic Force Microscopy

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Multifunctional Glycosylated Fluorescent Probes for Assessment, Imaging, and Separation of Glycosidases

Yujun Kim, Injae Shin*Department of Chemistry, Yonsei University, Korea*

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Structural Basis for the Psychrophilic Adaptation of Cold Shock Protein from *Colwellia psychrerythraea*. Tyr51 in the Hydrophobic Core**Yeongjoon Lee**, Jungwoo Park, Yangmee Kim*Department of Biotechnology, Konkuk University, Korea*

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Kinetic characterization of macrophage stimulating 1 receptor (MST1R) kinase inhibitors identified from kinase-focused library screening

Woosuk Choi, Jinho Lee, Victor Sukbong Hong*Department of Chemistry, Keimyung University, Korea*

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The discovery of new MNK2 inhibitors using a homogenous time-resolved fluorescence resonance

energy transfer (TR-FRET) assay

Hyojun Lim, Jinho Lee, Victor Sukbong Hong*Department of Chemistry, Keimyung University, Korea*

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Amyloid fibril formation of α -synuclein by LOV2 protein in the presence of blue light**Dawon Lee**, Lee Kyunghee*Department of Chemistry, Sejong University, Korea*

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Molecular modeling of metal ion binding in zinc-ovalbumin nanocomposites as antimicrobial candidates

Myunggi Yi, A Krol¹, P Pomastowski¹, V Railean-Plaugaru¹, P Zuvela², M. W. Wong², B Buszewski¹*Department of Biomedical Engineering, Pukyong National University, Korea**¹Interdisciplinary Centre of Modern Technologies, Nicolaus Copernicus University, Poland**²Department of Chemistry, National University of Singapore, Singapore*

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Simultaneous Detection of Multiple Pathogenic Targets with Novel Stem-tagged Primer Sets

Yongtae Kim, In seok Hong*Department of Chemistry, Kongju National University, Korea*

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Phase diagram and motility of actins and microtubules on bulk; interaction and morphological aspects.

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Self-assembled DNA tetrahedron as a carrier for in vivo liver delivery of siRNA

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SOB2 serves as an inhibitor of protein-tyrosine phosphatase MEG2 relevant to insulin resistance

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Structural and dynamic properties of type I human and type II bacterial acyl carrier proteins and their interactions with fatty acid synthesis proteins

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Yangmee Kim

- Department of Biotechnology, Konkuk University, Korea*
- LIFE.P-195 The Structure and Substrate Specificity of *Propionibacterium acnes* FAS proteins
Dasom Cheon, Jungwoo Park, Yangmee Kim
Department of Biotechnology, Konkuk University, Korea
- LIFE.P-196 Sequestering ATP inside Mitochondria by Nucleopeptide inducing Cancer Cell death
Huyeon Choi, Ja-Hyoung Ryu^{1,*}
Ulsan National Institute of Science and Technology, Korea
¹*Department of Chemistry, Ulsan National Institute of Science and Technology, Korea*
- LIFE.P-197 Purification and Biochemical Characterization of homoserine dehydrogenase from *Pseudomonas aeruginosa* and *Bacillus subtilis*
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Chemistry, Soongsil University, Korea
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- LIFE.P-198 Anticancer effects of a small organic compound with inhibition of Importin β 1 binding with transcriptional factor NF- κ B.
Jiwon Oh, Chohee Lee, A Ran Kim, Seung Wook Ham^{1,*}
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- LIFE.P-199 Synthesis of 2-aminothiazole derivatives with EGC as a anticancer compound
Seung il Yoon, Seung Wook Ham
chemistry, Chung-Ang University, Korea
- LIFE.P-200 Phloretin is a natural TLR2/1 inhibitor suppressed TLR2-mediated pathway
Jieun Kim, Jungwoo Park¹, Yangmee Kim¹
Structure and biochemistry, Konkuk University, Korea
¹*Department of Biotechnology, Konkuk University, Korea*
- LIFE.P-201 Design of 12-meric antimicrobial peptide analogs derived from Papiliocin for Gram-negative sepsis
Jieun Kim, Jungwoo Park¹, Yangmee Kim¹
Structure and biochemistry, Konkuk University, Korea
¹*Department of Biotechnology, Konkuk University, Korea*
- LIFE.P-202 Transcriptome-wide identification of L1TD1-target RNA interactions in human embryonic stem cells
Young-Soo Kwon
Department of Bioscience and Biotechnology, Sejong University, Korea
- LIFE.P-203 Global analysis of RBM39 protein-RNA interactions in human embryonic stem cells by CLIP-seq
Young-Soo Kwon
Department of Bioscience and Biotechnology, Sejong University, Korea
- LIFE.P-204 CRISPR-Cas9 system modifies the gene sequence of MITF transcription factor modulating melanin synthesis
So jeong Jeon, Moon-Moo Kim^{1,*}
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- LIFE.P-205 Antidiabetic effect of DH047 and DH049 dual-targeting of protein tyrosine phosphatases
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- LIFE.P-206 MITF and IGF-1 signaling pathways are involved in the aging of human melanocytes
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- LIFE.P-207 Identification of KDH02 and Baicalin synergy effect for obesity treatment
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- LIFE.P-208 Cell-Free Expression in Giant Unilamellar Vesicle with Phase Separation by Emulsion Transfer Method
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- LIFE.P-209 NMR Dynamics Study of DNA Binding Domain of Transcription Factor MEIS1
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- LIFE.P-210 Optimization of loading hydrophobic fluorescent probes within F127 siPN
Gyurin Kim, Minseok Kwak
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- LIFE.P-211 Administration of functional DNA nanoparticle for cancer immunotherapy
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- LIFE.P-212 Synthesis of O-Acylated Shikonin derivatives to discover adipogenic inhibitors
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- LIFE.P-213** Synthesis and application of peptide libraries using unnatural amino acids
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- LIFE.P-214** Photostable polymeric nanoparticle containing hydrophobic Lumogen® dye as cellular biomarkers
Mingyeong Kang, Minseok Kwak
 Department of Chemistry, Pukyong National University, Korea
- LIFE.P-215** A bioorthogonal turn-on fluorescent strategy for post-synthetic modification of DNA
Van Thang Nguyen^{*}, Anup Pandith
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- LIFE.P-216** N-Arylation of Adenosine: A Divergent Approach from Nucleoside to DNA
Ravi Kumara Guralamatta Siddappa
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- LIFE.P-217** EXTRACELLULAR MATRIX PROTEIN DELIVERY SYSTEM FOR TISSUE REGENERATION
Huong Thanh Nguyen, Kwanwoo Shin^{1,*}
 Chemistry, Sogang University, Vietnam
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- LIFE.P-218** Application of bacterial expression system and an amphipathic polymer to characterize mechanosensitive channel, tentonin-3
Sumin Kang, Nam Hyuk Kim, Yeon Gyu Yu^{1,*}
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- LIFE.P-219** Functional expression of human prostaglandin e2 receptor 4 (EP4) in E. coli and characterization of the binding property of EP4 with G alpha proteins
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- LIFE.P-220** Isolation of single-chain variable fragments about Lysophosphatidic acid receptor 2 (LPA2) using purified recombinant LPA2 as the target
Ji Young Lee, Yeon Gyu Yu^{1,*}
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- LIFE.P-221** Detection of Gram-negative bacterial outer membrane vesicles using DNA aptamers
Hye-Su Shin, Dong-ki Lee
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- LIFE.P-222** Quest for Eukaryotic Histone H4 Histidine Kinases
Hoyoung Jung, Jung-Min Kee
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- LIFE.P-223** Molecular dynamics simulations revealed a gating mechanism of nicotinic acetylcholine receptors
Myunggi Yi
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- LIFE.P-224** Aptamer-bead mediated separation of gram-negative bacteria using microfluidic acoustophoresis
Byung Woo Kim, Dong-ki Lee^{1,*}
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- LIFE.P-225** NMR study of fusion protein Zα Domain of ADAR1 linked N-terminal domain of the vaccinia virus protein E3L
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- LIFE.P-226** Can the aqueous microdroplets work as reaction vessels for the building block of primitive lifeforms?
Hani Jeon, Sangmoon Lee
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- LIFE.P-227** A novel siRNA delivery complex using Cell-Penetrating Peptide (CPP)-Peptide Nucleic Acid (PNA) conjugates.
Prajwala Devarapalli, Yong Ho Kim^{1,*}
 Nanoscience and Technology, Sungkyunkwan University, Korea
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- LIFE.P-228** NIR Emissive C2V Symmetric Pyridinium Salt: Selective Discrimination Capabilities G-Quadruplexes over Canonical/Non-Canonical Nucleic Acids and Their In-Cellulo Demonstrations
Anup Pandith
 Department of Chemistry, Chonbuk National University, Korea
- LIFE.P-229** Proteogenomics Study for Identifying Cancer Biomarker Peptide Candidate with PTMs based on Novel Data Analysis Strategy utilizing Multi-Stage approach
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Supported Lipid Bilayer Platform for
Macromolecular Detection Applications

Bo Kyeong Yoon, Joshua Alexander Jackman
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- ORGN.P-231 Enhanced thermoelectric performance of SWNT/organic small molecule (OSM) hybrid materials by tuning the electronic structure of OSMs
Tae-hoon Kim, Jong-in Hong^{1*}
Department of Chemistry, Seoul National University, Korea
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- ORGN.P-232 Recyclable Anhydride Catalyst for H₂O₂ Oxidation: N-oxidation of Pyridine Derivatives
Sang Hee Lee^{*}, Dong Hee Kim, **Ghellyn Gajeles**, Se Mi Kim
Department of Chemistry, Kunsan National University, Korea
- ORGN.P-233 Highly Efficient One-Pot Synthesis of Coumarins from Ynamides and Salicylaldehydes
Huen Ji Yoo, So Won Youn
Department of Chemistry, Hanyang University, Korea
- ORGN.P-234 Cu(I)-Catalyzed Divergent Syntheses of Pyrazoles and Pyrroles from β -Enamino Esters
Jun Yeong Chang, Su San Jang, So Won Youn
Department of Chemistry, Hanyang University, Korea
- ORGN.P-235 Borane-catalyzed Nucleophilic Double-Addition of *N*-Heterocycles to Ketones: Synthesis of Bis(heteroaryl)compounds with All-Carbon Quaternary Center
Seunghoon Kook, Yunmi Lee
Department of Chemistry, Yonsei University, Korea
- ORGN.P-236 A benzothiazole-based azo compound as chemosensor for detecting Cu²⁺ and S²⁻ in aqueous media
Seon Min Park, Doo OK Jang
Department of Chemistry, Yonsei University, Korea
- ORGN.P-237 A ratiometric fluorescent chemosensor based on naphthoimidazolium-cholesterol derivative for carboxylates chiral recognition
Chaeon Bae, Songyi Lee
Department of Chemistry, Pukyong National University, Korea
- ORGN.P-238 fluorescent probe-based rhodamine for detection of pH changes in living lysosomal cells
Yongkyun Kim, Songyi Lee
Department of Chemistry, Pukyong National University, Korea
- ORGN.P-239 Small Trimiinopyrrolic Molecular Cage with High Affinity and Selectivity for Fluoride
Hye Jin Han, Sung Kuk Kim
Department of Chemistry, Gyeongsang National University, Korea
- ORGN.P-240 Phenanthroline-Strapped Calix[4]pyrroles as Bicarbonate-Selective Receptors and Anion Binding Affinity Reversal in Highly Polar Solvent System
Nam Jung Heo, Sung Kuk Kim
Department of Chemistry, Gyeongsang National University, Korea
- ORGN.P-241 Tripodal receptors for anion and ion pair recognition
Juho Yang, Sung Kuk Kim
Department of Chemistry, Gyeongsang National University, Korea
- ORGN.P-242 Dual sensing of the mercury cation using the anthracene appending diazocalix[4]arene
Seung Hyeon Kim, Sung Kuk Kim
Department of Chemistry, Gyeongsang National University, Korea
- ORGN.P-243 Synthesis and Anion Recognition Features of a Molecular Cage Containing Both Hydrogen Bond Donors and Acceptors
Ju hyun Oh, Sung Kuk Kim
Department of Chemistry, Gyeongsang National University, Korea
- ORGN.P-244 A Dual Colorimetric and Fluorometric Sensor for Cadmium Ion Based on Conjugated Polydiacetylenes
Thanh Chung Pham, Songyi Lee
Department of Chemistry, Pukyong National University, Korea
- ORGN.P-245 Design of donor material containing fluorinated benzothiadiazole unit for increasing of power conversion efficiency
Shimiao Zhang, Hongsuk Suh^{1*}
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- ORGN.P-246 Design of pyrimidine-based polymers consist of thiazolo[5,4-*b*]pyridine as electron-deficient unit applied to the polymer solar cells
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- ORG.N.P-247 Characteristics of thiazolo[5,4-*b*]pyridine as electron-withdrawing units in the PSCs
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- ORG.N.P-248 Synthesis of conjugated random copolymers consisting bithiophene-dicarboximide and thienyl-thieno-indole for improving performance for organic solar cells
Lingxin Meng, Hongsuk Suh^{1,*}
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- ORG.N.P-249 Syntheses of Conjugated Polymers Containing Carbazole derivate as a Donor in PSCs
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- ORG.N.P-250 Synthesis of Isoindigo-based Conjugated Polymers Consisting of 6-(2-thienyl)-4*H*-thieno[3,2-*b*]indole (TTI) for the Improvement of Performance of Organic Solar Cells
Lingxin Meng, Hongsuk Suh^{1,*}
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- ORG.N.P-251 Transition-Metal-Free Diarylation of Isocyanates with Arynes
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- ORG.N.P-252 Synthesis of Benzofulvenes or Naphthalenes through Transition Metal-Catalyzed Transannulation of Enynyl Triazoles
Kiun Cheong, Ji Kwon Lee, Kyungsup Lee, Phil Ho Lee
Department of Chemistry, Kangwon National University, Korea
- ORG.N.P-253 Pyrazinoindole-Based Lewis-Acid/Base Assembly through Intriguing Intramolecular Charge-Transfer Switching from the Dual-Sensing of Acid and Fluoride
Seong Bin Jang, Kiun Cheong, Chanyoung Maeng, Phil Ho Lee
Department of Chemistry, Kangwon National University, Korea
- ORG.N.P-254 Rh-Catalyzed Regioselective C3-Alkylation of 2-Arylimidazo[1,2-*a*]pyridines with Aryl Diazoesters
Hyeonsik Eom, Seong Bin Jang, Sang Hoon Han, Phil Ho Lee
Department of Chemistry, Kangwon National University, Korea
- ORG.N.P-255 Selective C–C bond formation through Rh-catalyzed C–H activation reaction of 2-arylpiperidines with 3-aryl-2H-azirines
Ji Kwon Lee, Hyeonsik Eom, Mu-Hyun Baik^{1,*}, Phil Ho Lee
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- ORG.N.P-256 Brønsted Acid-Promoted One-pot Synthesis of Tricyclic Benzofuro[2,3-*b*]pyrroles Utilizing Reactive Nitrilium Trapping Approach
Sandip gangadhar Balwe, Yeon Tae Jeong
Department of Display Engineering, Pukyong National University, Korea
- ORG.N.P-257 A Metal-free Synthesis of nitrogen fused Polycyclic Dihydroisoquinolinium (DHIQ) derivatives: One-pot Double-Annulation Cascade
Sandip gangadhar Balwe, Yeon Tae Jeong
Department of Display Engineering, Pukyong National University, Korea
- ORG.N.P-258 L-proline catalyzed highly efficient and green method for the synthesis of novel naphtho-bis[1,3]oxazine derivatives under solvent-free conditions
Amol Jadhav, Yeon Tae Jeong
Department of Display Engineering, Pukyong National University, Korea
- ORG.N.P-259 One-pot three-component synthesis of novel chromeno pyrimido[1,2-*b*]indazolone derivatives using ionic liquid as a reusable catalyst under solvent-free conditions
Amol Jadhav, Yeon Tae Jeong
Department of Display Engineering, Pukyong National University, Korea
- ORG.N.P-260 Aerobic Oxidative Cyclization Approaches to 2-Phenylisoquinolin-1(2H)-one
Jiyeon Lee, Hun Young Kim^{1,*}, Kyungsoo Oh¹
Chung-Ang University, Korea
¹College of Pharmacy, Chung-Ang University, Korea
- ORG.N.P-261 Strategy to develop tumor homing therapy utilizing protein sequence responsive nanophotosensitizer complex
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- ORGN.P-262 A One-for-all Switchable Nanotheranostics: Photosensitizer Detecting Albumin *In Vivo* From the Disassembly of Nanovesicles
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- ORGN.P-263 Turn-on fluorescent probe for the selective detection of ATP in mitochondria and lysosomes
Gain Baek, Juyoung Yoon
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- ORGN.P-264 Albumin dimers binding phthalocyanine photosensitizers: green and efficient way enhancing PDT efficacy
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- ORGN.P-265 Studies of photocatalytic artificial photosynthesis by molecular water oxidation catalyst and photosensitizer
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Department of Chemistry, Yonsei University, Korea
- ORGN.P-266 Improvement of mechanical properties of silica aerogels by hybridization of organic linkers
Gahyeon Kim, Eunji Han, Jinsung Tae
Department of Chemistry, Yonsei University, Korea
- ORGN.P-267 Conversion from Heterometallic to Homometallic Metal-Organic frameworks
Kangin Kwon, Giseong Lee, Chang Seop Hong, Hogyu Han
Department of Chemistry, Korea University, Korea
- ORGN.P-268 Dibenzocarbazole based bipolar host materials for phosphorescent OLEDs
Kyu Yun Chai^{*}, **Youngee Park**¹, Braveenth Ramanaskanda, Sohyeon Kim¹, Leero Lee¹
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¹Wonkwang University, Korea
- ORGN.P-269 Indolocarbazole based bipolar host material for phosphorescent and fluorescent OLED applications
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- ORGN.P-270 Metal-free carbonylation of amines via TBD-CO adducts
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- ORGN.P-271 2,6-Disubstituted Dibenzofuran and Dibenzothiophene-Based Novel Hole Blocking Materials for High-Efficiency and Long-Lived Blue Phosphorescent OLEDs.
Seokhoon Jang, Youngu Lee
Department of Energy Systems Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea
- ORGN.P-272 Metal-free oxidation of amines and hydrocarbons
Si Ae Kim, Hye-Young Jang^{1,*}
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- ORGN.P-273 Heavy Atom Effect on Xanthene Dyes for Interfacial Photopolymerization by Visible Light
Young Jae Jung, JungKyu Lee
Department of Chemistry, Kyungpook National University, Korea
- ORGN.P-274 The first total synthesis and structural confirmation of pactalactam, a minor metabolite of pactamycin-producing actinomycetes
Taejung Kim, Young-Tae Park, Jungyeob Ham
Natural Products Research, Korea Institute of Science and Technology, Korea
- ORGN.P-275 Continuous Flow Synthesis of 1-Sulfonyl and 1-Sulfamoyl-1,2,3-Triazoles and Cu (I)/Rh(II) Dual Catalysis in One Flow System
Yong-Ju Kwon, Wonsuk Kim
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- ORGN.P-276 Design and Synthesis of Thienylthiazole Small Molecules Containing B ← N-Bridge for Organic Photovoltaic Cells
Jae-Yeon Lee, Wonsuk Kim
Department of Chemistry and Nanoscience, Ewha Womans University, Korea
- ORGN.P-277 New synthetic strategy for novel flavonoids derivatives from Houttuynia cordata.
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- ORGN.P-278 Cu-catalyzed 1,6-aza-Michael Addition of (Hetero)arylamines to 1,3-Dienes

- Subin Park, **Hanseul Lee**, Yunmi Lee
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- ORG.N.P-279 Stereoselective Synthesis of 2-Alkyl-1,3,3-Trinitroazetidene Derivatives
Bora Kim, Chang-Woo Cho
Department of Chemistry, Kyungpook National University, Korea
- ORG.N.P-280 Stereoselective Synthesis of Chiral Pyrimidine Acyclonucleosides by Organocatalytic Aza-Michael Reaction
Heun-Jong Ha, Chang-Woo Cho
Department of Chemistry, Kyungpook National University, Korea
- ORG.N.P-281 Development and Bioactivity Evaluation of New Anticonvulsants with Valproic Acid Derivatives
Songmi Bae, Dai Il Jung, Ju Hyun Song
Department of Chemistry, Dong-A University, Korea
- ORG.N.P-282 Copper-Catalyzed Hydroamination of Anilines with Allylic Sulfones
Kundo Kim, Subin Park, Yunmi Lee
Department of Chemistry, Kwangwoon University, Korea
- ORG.N.P-283 Synthesis and characterization of amino-oxy modified Sphingosine-1-phosphate (S1P) derivative that can replace thiolated-S1P in competitive ELISA
Ji hye Park, Yongtae Kim, In seok Hong
Department of Chemistry, Kongju National University, Korea
- ORG.N.P-284 Tandem C–H Alkylation and [3+2] Dipolar Cycloaddition under Ruthenium(II) catalysis
Heeyoung Lee, In Su Kim^{1,*}
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- ORG.N.P-285 Sulfur and Sulfonyl substitution effect on the C-N Bond Rotation of Dibenzylamino-1,3,5-triazines
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- ORG.N.P-286 Synthesis of compounds containing oxepine and phenylanthracene for the use of OLED materials
Joonho Kim, Yeong-Joon Kim
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- ORG.N.P-287 Design and Synthesis of Transglutaminase 2 Inhibitors to Improve Isozyme Selectivity
Sol Han, Suhyeon Min, Kihang Choi^{1,*}
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- ORG.N.P-288 Transfer Hydrogenation of inorganic carbonates with Glycerol
Kihyuk Sung, Yeon Joo Cheong, Hye-Young Jang^{1,*}
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- ORG.N.P-289 A fluorescent probe for the sequential detection of nitroreductase and nitric oxide under hypoxic condition
Jung Won Yoon, Min Hee Lee
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- ORG.N.P-290 Off-On fluorescent probe for imaging cancer-specific hNQO1 in living cells
Sun Young Park, Eugene Jung¹, Jongseung Kim², Min Hee Lee
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- ORG.N.P-291 A development of red-emitting fluorescent probes for NAD(P)H and its use for the real-time imaging in cancer cells
Jin Hui Joo, Min Hee Lee
Department of Chemistry, Sookmyung Women's University, Korea
- ORG.N.P-292 A naphthalimide based turn-on fluorescent probe for detection of nitric oxide in living cells
Su Jung Kim, Sun Young Park, Min Hee Lee
Department of Chemistry, Sookmyung Women's University, Korea
- ORG.N.P-293 A coumarin-appended naphthalimide ratiometric fluorescent probe for detection of nitroreductase and its application to live cells.
Shin A Yoon, Min Hee Lee
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- ORG.N.P-294 A development of ratiometric fluorescent probe for imaging of hydrazine
Minjoon Jung, Min Hee Lee
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- ORG.N.P-295 PEG-assisted One-pot three-component synthesis of [1, 3] Oxazino [5, 6-c] quinolin-5-one and 4-methyl-9-phenylchromeno [8, 7-e] [1, 3] oxazin-2(8H)-one under catalyst free condition
Maruti Yadav, Yeon Tae Jeong
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- ORG.N.P-296 Highly efficient and cascade synthesis of densely functionalized quinoline alkaloids under catalyzed reaction conditions

- Maruti Yadav**, Yeon Tae Jeong
Department of Display Engineering, Pukyong National University, Korea
- ORGN.P-297 A Two-photon Probe for TNF- α . Detection of Human Colon Inflammation by Two Photon Microscopy
Byumseok Koh, **Eunyoung Yoon**, Jung-Nyoung Heo^{1,*}, Bong rae Cho^{2,*}
Korea Research Institute of Chemical Technology, Korea
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- ORGN.P-298 A Solvent- and Metal-Free Method for Preparation of *N*-Aryl-Substituted Azacycles from Arylamines and Cyclic Ethers Using Phosphoryl Chloride
Van Hieu Tran, **Hee-Kwon Kim**
Department of Nuclear Medicine, Chonbuk National University, Korea
- ORGN.P-299 The Directly Conversion of *N*-Troc-Cabamates to Ureas Using Catalytic Ca₂
Van Hieu Tran, **Hee-Kwon Kim**
Department of Nuclear Medicine, Chonbuk National University, Korea
- ORGN.P-300 Cooperative Stereocontrol by Proximal and Distal Chlorine Substituents in the Chiral Lewis Base-Catalyzed Kinetic Resolution of *cis*-Vinyl Epoxide
Jungi Jung, Won-jin Chung
Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- ORGN.P-301 Simple Isothiouonium salt type organocatalyst for transfer hydrogenation of 2-substituted quinoline derivatives
Sungmin Kang, Taek Hyeon Kim
School of Chemical Engineering, Chonnam National University, Korea
- ORGN.P-302 Synthesis of gem-1,3-Enynes: Ni/Cu-Catalyzed Decarboxylative Dimerization of Alkynoic Acids and Terminal Alkyne
Hyojin Jeon, Sunwoo Lee
Department of Chemistry, Chonnam National University, Korea
- ORGN.P-303 Multi-modal stimuli-responsive poly(2-oxazoline)-based supramolecular hydrogel
Jieun Baek, Woo-Dong Jang
Department of Chemistry, Yonsei University, Korea
- ORGN.P-304 Study on Improvement of TKX-50 Synthetic Method
Su-jin Oh, Yeong-Gweon Lim
Agency for Defense Development, Korea
- ORGN.P-305 Simple Synthesis Of Heterocyclic Compounds Via Oxidative Deacetylation Reaction
Tingshu Wang, Sangho Koo^{1,*}
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¹*Department of Chemistry, Myungji University, Korea*
- ORGN.P-306 Bromoacetate Olefination Protocol for Norbixin and Julia–Kocienski Olefination for Its Ester Syntheses
Aleksei Golikov, Sangho Koo^{1,*}
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- ORGN.P-307 Fast Assembly and High-Throughput Screening of Structure and Antioxidant Relationship of Carotenoids
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- ORGN.P-308 Research of on the synthetic methodsynthesis of Unnatural carotenoids
Bo-ram Lim, Sangho Koo
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- ORGN.P-309 Synthesis of unnatural carotenoids with good electrical properties
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- ORGN.P-310 Synthesis of various Pyrrole compound from Amino acid and Reducing sugar
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- ORGN.P-311 Synthesis and application of Ir(III)-(bis-NHC) Complexes : the Effect of Carboxylate Ligand on Catalytic Reactions
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- ORGN.P-312 Synthesis of Reversible Fluorescence Thiol Sensors Targeting Endoplasmic Reticulum
Suhyeon Min, Kihang Choi^{1,*}
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- ORGN.P-313 A High Sensitive and Selective Fluorescent Probe for the Monitoring of Primary Amines
Sung Jin Jeon, Youngmi Kim
Department of Chemistry, Kyung Hee University, Korea
- ORGN.P-314 A Self-Assembled Micellar Aggregate for the Selective Detection of Heparin.
Dami Kim, Youngmi Kim
Department of Chemistry, Kyung Hee University, Korea

- ORG.N.P-315 Direct Allylic C(sp³)-H Thiolation with Disulfides Enabled by Visible-Light Photoredox Catalysis
Jungwon Kim, Byungjoon Kang, Soon Hyeok Hong^{1,*}
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- ORG.N.P-316 Highly Active Ruthenium Metathesis Catalysts at Low Temperatures: Unprecedented Ring-Opening Metathesis Polymerization of Cyclopentadiene
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- ORG.N.P-317 Pd-Catalyzed Carbonylation of Thioacetates and Aryl Iodide
Yeojin Kim, Sunwoo Lee
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- ORG.N.P-318 Catalytic C-H Amination for Unsymmetrical Urea Synthesis
Kwangho Yoo, Jooyeon Lee, Hyunjin Kim^{1,*}, Min Kim
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¹*Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea*
- ORG.N.P-319 Synthesis of sulfones and sulfonyl derivatives using a novel sulfinate
Dae-Kwon Kim, Hyun-Suk Um, Chulbom Lee
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- ORG.N.P-320 Silver-Mediated Decarboxylative Halogenation of Alkynoic Acids: Synthesis of Regio- and Stereoselective Fluoroalkenes
Beomseok Ryu, Sunwoo Lee
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- ORG.N.P-321 Enhancing the Performance and Stability of Perovskite Solar Cells by Applying Multifunctional Pt(II) Complex
Eunhye Hwang, Tae-Hyuk Kwon
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- ORG.N.P-322 Palladium-Catalyzed Coupling Reactions of Imine Anion Equivalent of Silyl-Ketimines
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- ORG.N.P-323 Conformational analysis of 12/10-helical β -peptides with various acyclic β -amino acids
Jieun Kim, Soo Hyuk Choi
Department of Chemistry, Yonsei University, Korea
- ORG.N.P-324 Persistent Boryl Radical-Promoted Pinacol Coupling of Diaryl ketones
Junhyuk Jo, Won-jin Chung
Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- ORG.N.P-325 Control of Electronic Coupling for Retarding Back Electron Transfer in Molecular Solar Cells
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- ORG.N.P-326 Cobalt-Catalyzed C-F Bond Silylation of Aryl Fluorides
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- ORG.N.P-327 Synthesis and Biological Investigation of Novel Hybrid Molecules for Anti-inflammatory Activity
Ju Mi Lee, Jeong Tae Lee
Chemistry, Hallym University, Korea
- ORG.N.P-328 Resveratrol Analogues having Nitrogen Heterocycles : Syntheses and Biological Activity Evaluation
Lee Seul Park, Jeong Tae Lee
Chemistry, Hallym University, Korea
- ORG.N.P-329 Synthesis of Resveratrol Derivatives Containing Heteroatoms
Hyeongryeol Woo, Jeong Tae Lee
Chemistry, Hallym University, Korea
- ORG.N.P-330 Synthesis of cyclic amidines from quinolines via cascade hydrosilylation and [2+3] cycloaddition
Vinh Do Cao, Seewon Joung
Department of Chemistry, Mokpo National University, Korea
- ORG.N.P-331 Synthesis of Phenolic Amides from the Leaves of *Nicotiana tabacum* and Their Derivatives
Kongara Damodar, Jeong Tae Lee
Chemistry, Hallym University, Korea
- ORG.N.P-332 Synthetic Investigation of Disubstituted Benzene Derivatives Containing Aromatic Imides
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- ORGN.P-333 Molecular Design Strategy toward Robust Organic Dyes in Thin-Film Photoanodes
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- ORGN.P-334 A Theoretical Study on the Effects of Various Counter Cations in Alkylation of Ambident Enolates Ionpairs
Jiin Oh, Keehyung Nahm
Department of Chemistry, Yeungnam University, Korea
- ORGN.P-335 Polyphenols for the Synthesis of Cyclic Carbonates at Room Temperature and Atmospheric CO₂
Jieun Lee, Youngjo Kim
Department of Chemistry, Chungbuk National University, Korea
- ORGN.P-336 Synthesis of fluorinated-2-phosphonobutanoic acid and fluorinated-ethylphosphonic acid
Kyung-min Choi, Yeonsu Choi, Jihye Park, Dong-Soo Shin
Department of Chemistry, Changwon National University, Korea
- ORGN.P-337 Synthesis and Properties of Structurally Different Pyrazine Derivatives and Investigation of Their Optical, Thermal and Electrochemical Properties for Optoelectronic Applications
Dong Jin Park, Hyungha Park, Young Dae Gong
Department of Chemistry, Dongguk University, Korea
- ORGN.P-338 Comparative Study on Photophysical Properties of Methyl Salicylate Derivatives
Miyeon Yoon, Nam Gi Cho¹, Intae Kim
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- ORGN.P-339 Synthesis of evaluation of 3', 4'-dihydronucleosides and their phosphoramidate prodrugs
JiSu Kim, SeMyeong Choi¹, Jong Hyun Cho
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- ORGN.P-340 Alkylative Aziridine Ring Openings
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- ORGN.P-341 Drug activation and tumor imaging under hypoxic conditions with azo-based small molecule
Wonseok Choi, Hyeong Seok Kim, Jinwoo Shin, Subin Son, Ji Hyeon Kim, Myung Sun Ji, Jusung Ahn, Jongseung Kim
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- ORGN.P-342 Minimizing Background Fluorescence in Brightly Emissive Two-Photon β -Amyloid Dyes
Jinwoo Shin, Jiseon Kim, Jusung Ahn, Hyeong Seok Kim, Ji Hyeon Kim, Subin Son, Myung Sun Ji, Wonseok Choi, Jongseung Kim
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- ORGN.P-343 Transamidation of Primary Amides by using Trimethylsilyl Chloride
Eunkeyeong Seo, Sunwoo Lee^{1,*}
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- ORGN.P-344 Ni-Catalyzed Transamidation of Secondary Amides by using Trimethylsilyl Chloride
Dahyeon Yang, Sunwoo Lee^{1,*}
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- ORGN.P-345 The Chemoselectivity between S- and N-Acylation of β -mercaptoamine with Acid Chloride Depending on Reaction Conditions
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- ORGN.P-346 Development of a theranostic platform with dual-modal NIR-ii/photoacoustic imaging and photothermal effect
Hyeong seok Kim, Subin Son, Ji Hyeon Kim, Jinwoo Shin, Jiseon Kim, Wonseok Choi, Jusung Ahn, Jongseung Kim
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- ORGN.P-347 Thermal phase behaviors of dicationic pyridinium salts
A Reum Lee, JongChan Shin, Minjae Lee
Department of Chemistry, Kunsan National University, Korea
- ORGN.P-348 Planar Chirality Inversion of Alanine-Appended Pillar[5]arenes with Achiral Guest Molecules
Jaehyeon Park, Jong Hwa Jung
Department of Chemistry, Gyeongsang National University, Korea
- ORGN.P-349 Novel Activatable Prodrug for Overcoming Drug

- Resistance by Targeting Cancer Bioenergetics
Ji Hyeon Kim, Hyeong Seok Kim, Myung Sun Ji, Subin Son, Jinwoo Shin, Jiseon Kim, Jongseung Kim
Department of Chemistry, Korea University, Korea
- ORGN.P-350 Hypoxia-responsive Anti-angiogenic prodrug potentiates Cancer Therapeutic effect via COX-2 inhibition
Jusung An, Hyeong Seok Kim, Jinwoo Shin, Subin Son, Ji Hyeon Kim, Myung Sun Ji, Wonseok Choi, Jongseung Kim
Department of Chemistry, Korea University, Korea
- ORGN.P-351 Synthesis of N-1 Substituted 5-fluorouracil Derivatives and Testing for Inhibitory Effects of Cell Proliferation
Junghun Ha, Jong Hyun Cho
Dong-A University, Korea
- ORGN.P-352 Synthesis and Bioactivity evaluation of new Gallic acid derivatives with anticancer effects by Niche chemistry
Minhoe Gu, Ju Hyun Song
Department of Chemistry, Dong-A University, Korea
- ORGN.P-353 Synthesis of Acid-degradable Cationic Polyacrylates with 1,3,5-Hexahydrotriazine Core for Nucleic Acid Delivery
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- ORGN.P-354 Co-facially Stacked, Antiaromatic Hexaphyrin(1.0.1.0.1.0) Dimer
Chang Hee Lee*, **Ranjan Dutta**
Department of Chemistry, Kangwon National University, Korea
- ORGN.P-355 Bimetallic Rhodium (I) Complex of Anti-aromatic, pi-Extended Planar Hexaphyrin[1.0.1.0.1.0]
Chang Hee Lee*, **Srinivas Samala**¹, Ranjan Dutta, Qing He², Vince Lynch³, Jonathan Sessler³
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- ORGN.P-356 Bidentate Imidazo[1,5-*a*]pyridine *M*-Heterocyclic Carbene Nickel(II) Complexes for Acrylate Synthesis from Ethylene and CO₂.
Jiyun Kim, Ji Yeon Ryu¹, Junseong Lee¹, Sukwon Hong
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- ORGN.P-357 Facile Synthesis of Highly Functionalized tetrahydrofuran through Allenolate Gamma-addition/Gold Catalysis followed by ADD: Construction of Cytotoxic Arenicolide C Unit
Euijin Park, Gyungah Pak, Jimin Kim
Department of Chemistry, Chonnam National University, Korea
- ORGN.P-358 Copper-catalyzed one-pot synthesis of functionalized 2-quinolones.
Ah Reum Kim, Jongseung Kim, Hee Nam Lim^{1,*}
Department of Chemistry, Korea University, Korea
¹Center for Eco-Friendly New Materials, Korea Research Institute of Chemical Technology, Korea
- ORGN.P-359 Post synthetic modification of antiaromatic, β,β'-phenylene fused hexaphyrin [1.0.1.0.1.0]
Chang Hee Lee*, **Brijesh Chandra**¹
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- ORGN.P-360 Total Synthesis of Taxamairin B via an Intramolecular Heck Reaction
Chang Ho Oh*, **Le Thuy Quynh**¹, Uiseong Chai²
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- ORGN.P-361 Theranostic Agent based on Glycyrrhetic Acid Structure for Hepatocellular Carcinoma
Myung Sun Ji, Subin Son, Jinwoo Shin, Jusung An, Ji Hyeon Kim, Wonseok Choi, Jongseung Kim
Department of Chemistry, Korea University, Korea
- ORGN.P-362 Application and Synthesis of Linalool Derivatives as Aroma Chemicals
JiEun Lee, Chuljin Ahn
Department of Biology and Chemistry, Changwon National University, Korea
- ORGN.P-363 Visible readout by Interfacial photo-polymerization comparing with Absorption and Fluorescence using Hg(II)-fluorescein hydrazide complex
Hyungwook Kim, Young Jae Jung¹, Jungkyu Lee
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- ORGN.P-364 An Indomethacin guided fluorescent probe for targeting cyclooxygenase 2 (COX-2) can discriminate cancer cells over normal cells
Zehra Zunbul, Hyeong Seok Kim¹, Jongseung Kim¹
Chemistry, Korea University, Turkey
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- ORGN.P-365 Asymmetric Total Synthesis of (-)-Bulgecinine via Regioselective and Diastereoselective Amination Using Chlorosulfonyl Isocyanate

- Yong Sun Cho**, Ji Eun Kang, Young Hoon Jung
School of Pharmacy, Sungkyunkwan University, Korea
- ORGN.P-366 Selective Mono- and Di-alkynylation of 2-fluoro-1,1-diiodovinylarenes using Pd-catalyzed Decarboxylative Coupling Reactions
Joseph Devaneyan, Sunwoo Lee
Department of Chemistry, Chonnam National University, Korea
- ORGN.P-367 Design and synthesis of homolytically photocleavable compound for Free Radical-Initiated Peptide Sequencing Mass spectrometry (FRIPS MS)
Jiho Park
chemistry, Sogang University, Korea
- ORGN.P-368 A Synthesis of abietanes via Gold and Copper-Catalyzed Cyclization as Key Steps
Chaehyeon Seong, Juyeon Kang, Uiseong Chai, Chang Ho Oh
Department of Chemistry, Hanyang University, Korea
- ORGN.P-369 A multi-responsive Schiff base as dual mode chemosensor for colorimetric and fluorometric detection of heavy metal ions at nano-molar levels
Prasad Gajanan Mahajan, Nilam Chandrakant Dige¹, Balasaheb Daniyal Vanjare, Ki Hwan Lee
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- ORGN.P-370 Synthesis via Palladium-Catalyzed Cyclization of 2,3-Dihydronaphtho[2,3-b]furan
SeungLyeol Lee, Le Thuy Quynh¹, Chang Ho Oh
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- ORGN.P-371 Synthesis of marine illudalane sesquiterpenoid Alcyopterosin series via [2+2+2] triene cyclization.
Juyeon Kang, Jegeun Jo, Chang Ho Oh
Department of Chemistry, Hanyang University, Korea
- ORGN.P-372 Palladium-catalyzed decarboxylative aminocarbonylation with alkynoic acid and tertiary amine for the synthesis of alkynyl amide
Muhammad Aliyu Idris, Sunwoo Lee
Department of Chemistry, Chonnam National University, Korea
- ORGN.P-373 Synthesis and Structural Activity Relationship of Mushroom Tyrosinase Inhibiting Novel 1, 2,4-Triazole Based Derivatives: Kinetic Mechanism, Molecular Docking and Dynamic Simulation Insights
Balasaheb Daniyal Vanjare, Ki Hwan Lee, Prasad Gajanan Mahajan, Nilam Chandrakant Dige¹
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- ORGN.P-374 The bisannulation applying platinum-catalyzed cyclization of o-alkynyl benzaldehyde to synthesis polycyclic compound containing 7-membered rings.
Uiseong Chai, Chang Ho Oh
Department of Chemistry, Hanyang University, Korea
- ORGN.P-375 Design and Synthesis of a New fluorescent TEMPO-FRIPS Reagent for Glycan Analysis
Gunwoo Kim
chemistry, Sogang University, Korea
- ORGN.P-376 Functionalized Novel Cell-Penetrating Peptide-mediated Platinum Conjugate for Cancer Therapy
Tejinder Singh, Akula Murthy, Jungkyun Im
Department of Chemical Engineering, Soonchunhyang University, Korea
- ORGN.P-377 Harnessing Secondary Coordination Sphere Interactions Enables the Selective Amidation of Benzylic C–H Bonds
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- ORGN.P-378 Synthetic Utility of N-Benzoyloxyamides as an Alternative Precursor of Acylnitrenoids for γ -Lactam Formation
Soohee Huh, Seung Youn Hong, Sukbok Chang
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- ORGN.P-379 Construction of Spirosystem of Naturally Occurring Cyclocalopin Family: Toward a Synthesis of (+)-Cyclocalopin E
Weonju Yu, Sehui Yang, Jimin Kim
Department of Chemistry, Chonnam National University, Korea
- ORGN.P-380 Studies on the selective N- or O-alkylation of 1-phenylbenzof[f]indazol-3-one and its biological evaluation
Hyunjin Lee, Hakwon Kim
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- ORGN.P-381 Synthesis and biological evaluation of various 2-naphthalenacetyl thiazolium salts as potential AGEs breakers
Hakwon Kim*, **JISue Lee**
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- ORGN.P-382 Development of new near-infrared emitting

- benzothiazine dyes
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- ORG.N.P-383 Synthesis of 2-phenylbenzofuran derivatives via Kukhtin-Ramirez-type reaction and photochemical cyclization
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- ORG.N.P-384 Synthesis of Indole Derivatives in a Continuous Flow Reactor under Mild Conditions
Sumin Nam, Chan Pil Park
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- ORG.N.P-385 Syntheses of Oxidized *Securinega* Alkaloids
Gyumin Kang, Sanghyeon Lee, Hee-Yoon Lee, Sunkyoo Han
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- ORG.N.P-386 Synthesis and biological evaluation of cholesterol, cholesterol amine and their hydrophilic derivatives
Hyejin Moon, Hakwon Kim
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- ORG.N.P-387 Alkoxide-Promoted Selective Hydroboration of *N*-Heteroarenes: Pivotal Roles of in situ Generated BH₃ in the Dearomatization Process
Eunchan Jeong, Joon Heo, Sukbok Chang
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- ORG.N.P-388 Synthesis and Biological Evaluation of Cholest-8(14)-en-3-ol and Its Glycosides
Yeseul Park, Hakwon Kim
Department of Applied Chemistry, Kyung Hee University, Korea
- ORG.N.P-389 A Flow Approach to Synthesis of Isoxazoles
Hyungmo Koo, Hun Young Kim, Kyungsoo Oh
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- ORG.N.P-390 Copper-Mediated Amination of Aryl C–H Bonds with the Direct Use of Aqueous Ammonia via a Disproportionation Pathway
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- ORG.N.P-391 Convenient Synthesis of Bioactive Natural Butenolides through Direct or Stepwise
- Cyclocarbonylation
Jeun Song, Chaofei Wu, Jimin Kim
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- ORG.N.P-392 Nitrene Transfer Reactions for Lactam Synthesis: Catalyst Design, Mechanism and Application
Seung Youn Hong, Sukbok Chang^{1,*}
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- ORG.N.P-393 Oxidatively Induced Reductive Elimination: Exploring the Scope and Catalyst Systems with Ir, Rh, and Ru Complexes
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- ORG.N.P-394 Chlorinative Ring Contraction of 1,4-Dimethoxyphthalazines
Jeong Kyun Im, Ilju Jeong, Won-jin Chung
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- ORG.N.P-395 Abnormal *N*-heterocyclic carbene Pd complexes for copolymerization of ethylene and polar monomers
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- ORG.N.P-396 A Cryptocyanine-Based Mitochondria-Targeted Photothermogenic Photosensitizer
JaeHyeon Kim, Subin Son, Hyeong Seok Kim, Jiseon Kim, Myung Sun Ji, Jusung An, Ji Hyeon Kim, Jongseung Kim
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- ORG.N.P-397 Bioinspired Total Synthesis of Oxidized *Securinega* Alkaloids: Chemical Insights for the Elucidation of Biogenetic Pathway
Sanghyeon Lee, Gyumin Kang, Sunkyoo Han, Hee-Yoon Lee
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- ORG.N.P-398 Revisiting Arene C(sp²)–H Amidation by Intramolecular Transfer of Iridium Nitrenoids: Evidence for a Spirocyclization Pathway
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- ORGN.P-399 1H NMR Chiral Analysis of Chiral Alcohols Enabled by a Gallium-Based Chiral Solvating Agent
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- ORGN.P-400 Synthesis and Biological Evaluation of 4,5 substituted 1, 2,4-Triazoles: A Novel Class of Inhibitors of Mushroom Tyrosinase
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- ORGN.P-401 Sequential C-H Borylation and *N*-Demethylation of 1,1'-Biphenylamines: An Alternative Route to Polycyclic BN-Heteroarenes
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- ORGN.P-402 Pd-Catalyzed Regioselective C-H Alkenylation of Azoles Using Alkynes
Woohyeong Lee, Jung Min Joo
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- ORGN.P-403 Pd-Catalyzed Synthesis of Strained-Alkene-Fused Heterocycles
Birakishore Padhi, Eunmin Kim, Jung Min Joo
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- ORGN.P-404 Effective HMF Production in the Microreactor System
Yea seul Jang, Chan Pil Park
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- ORGN.P-405 Synthesis of Epoxy Alcohols via Tandem reaction in microreactor.
Goeun Son, Chan Pil Park
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- ORGN.P-406 A new fluorescent sensing platform: self-assembled conjugated polyelectrolyte micelles with amplifying signal transduction
Yeonjin Jang, Seoung Ho Lee
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- ORGN.P-407 Micellization-induced amplified fluorescence response for highly sensitive detection of NTBI in serum
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- ORGN.P-408 A ratiometric fluorescence sensor based on enzymatic activatable micellization for quantitative detection of alkaline phosphatase activity
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- ORGN.P-409 α -Naphthoquinone-Catalyzed Cross-Coupling of Amines: A Unified Amine Oxidation Strategy to Heteroaromatic Compounds
Kyeongha Kim, Hun Young Kim, Kyungsoo Oh
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- ORGN.P-410 Self-assembly of pyrene boronic acid-based chemodosimeters for highly efficient mercury (II) ion
Seung Yeob Lee, Seoung Ho Lee
Department of Chemistry, Daegu University, Korea
- ORGN.P-411 Synthesis of benzo[g]quinazoline-2,4,5,10-tetraone derivatives for antibacterial
Kyungmin Kim, Hakwon Kim
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- ORGN.P-412 Functionalization of Organic Ligand in Alumina Surface : Photoluminescence Properties
Yongcheol Jung, Chuljin Ahn
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- ORGN.P-413 Design, Synthesis and Photophysical properties of Spiro[isoidoline-1,9'-xanthen]-3-ones
Eun hui Song, Chaeun Lee, Hui Jeong Cho, Prasad Gajanan Mahajan, Balasaheb Daniyal Vanjare, Ki Hwan Lee
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- ORGN.P-414 Chelation enhanced fluorescence of rhodamine based organic nanoparticles for selective detection of mercury ions in aqueous medium
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- University, Korea
- ORGN.P-415 Development and Biological activity evaluation of saccharin Derivatives from N-hydroxymethyl saccharin
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- ORGN.P-416 Radical Fluorination and 1,2-Alkyl Migration Cascades of Vinyl Cyclobutanols: Synthesis of Fluoromethyl-Substituted Cyclopentanones
Juhee Kim, Dae Young Kim
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- ORGN.P-417 Synthesis of 3-selenylated imidazo[1,2- α]pyridines using electrochemical oxidation
Juhee Lee, Dae Young Kim
Department of Chemistry, Soonchunhyang University, Korea
- ORGN.P-418 Photoredox-Catalyzed Selenylation/Ring-Expansion Cascades of Alkenyl Cyclobutanols: Synthesis of β -Selenylated Cyclopentanones
Hyeim Jeong, Dae Young Kim
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- ORGN.P-419 Synthesis of β -CF₃-substituted ketones via electrochemical trifluoromethylation/1,2-carbon migration sequences of alkenyl alcohols
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- ORGN.P-420 Synthesis and characterization of liquid crystalline epoxy containing cyano biphenyl moieties as a mesogen
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- ORGN.P-421 Electrogenerated chemiluminescence probe for glutathione based on cyclometalated Ir(III) complex
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- ORGN.P-422 Hierarchical Chirality Transfer of Peptide Foldamer
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- ORGN.P-423 Efficient and Safe Synthesis of Molecular Explosives via Flow Chemistry
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- ORGN.P-424 From p-Xylene to Ibuprofen in Flow: 3-Step Synthesis via Unified Sequence of Chemoselective C-H Metalations
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- ORGN.P-425 Chirality Amplification in Water Cages
Choong eui Song¹, **Si Joon Park**, InSoo Hwang, Han Yong Bae¹, Jiyeon Jung
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- ORGN.P-426 Photochromic Reaction of Spiropyran-Anthracene Dyad
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- ORGN.P-427 Photochromic Reaction of Spiropyran-sulfonate Containing Nitro Group
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- ORGN.P-428 pH Dependence on Spectroscopic Properties of Spiropyran-sulfonate Containing Methoxy Group
Gunhee Kim, Eun Ju Shin
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- ORGN.P-429 Fe³⁺ Detection Based on Absorption Spectral Change of Rhodamine-thiophene
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- ORGN.P-430 Highly Diastereo- and Enantioselective Catalytic Addition of 1,1-Diborylalkanes to Ketimines Using Copper(I)-Catalysis
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- ORGN.P-431 Catalyst-Controlled Divergent C-H Bond Insertion of α -Diazoamides
Yu lim Lee, Sang-gi Lee
Chemistry Department of Nano-Science, Ewha Womans University, Korea
- ORGN.P-432 Enantioselective Radical Addition to Various Aldehydes Using Lewis Acid and Photoredox Catalyst
Jae Yeon Kim, Do Hyun Ryu

- Department of Chemistry, Sungkyunkwan University, Korea
- ORGN.P-433 Synthetic Anion Transporters as Endoplasmic Reticulum (ER) Stress Inducers
Jae Won Song, Min-sung Ko, Dong-gyu Cho
Department of Chemistry, Inha University, Korea
- ORGN.P-434 Photodynamic Therapy of Iridium complexes by Lysosomal Protein Oxidation
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- ORGN.P-435 An Efficient Synthesis of Quaternary Vinylated Oxindoles by Alkyl to Alkyl Palladium Migration
Da Sol Chung, **Jiwon Hwang**, Sang-gi Lee
Department of Chemistry and Nanoscience (BK 21 PLUS), Ewha Womans University, Korea
- ORGN.P-436 (E)-Selective C-H Alkenylation of (Hetero)arenes under Cobalt(III) Catalysis
Suh Young Choi, Juhyun Kim
Department of Chemistry, Gyeongsang National University, Korea
- ORGN.P-437 β -Functionalization of Ketone via Pd-Catalyzed γ -C(sp³) Arylation of Cyclohexylamine with a Transient Directing Group
Hahyoun Park, Yunyeong Gwon, Byunghyuck Jung^{1,*}
School of Undergraduate Studies, Daegu Gyeongbuk Institute of Science & Technology, Korea
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- ORGN.P-438 Total Synthesis of PGF₂ α and 6,15-Diketo-PGF₁ α and Formal Synthesis of 6-Keto-PGF₁ α via Three-Component Coupling
Taehyeong Kim, Do Hyun Ryu
Department of Chemistry, Sungkyunkwan University, Korea
- ORGN.P-439 Asymmetric Methallylation and Allylation Reactions with Silane Compounds Catalyzed by a Chiral Lewis Acid
Taehyeong Kim, **Hye Min Jeong**¹, Do Hyun Ryu
Department of Chemistry, Sungkyunkwan University, Korea
¹Sungkyunkwan University, Korea
- ORGN.P-440 Pd/Cu-Catalyzed Diastereo- and Enantioselective Arylboration of Borylalkenes
Hyesu Lee, Lee Soyeon¹, Jaesook Yun
Department of Chemistry, Sungkyunkwan University, Korea
¹Chemistry, Sungkyunkwan University, Korea
- ORGN.P-441 Synthesis and Characterization of Ultraviolet curable coating agent using urethane acrylate
Eun Ji Park
Advanced material research division, Korea Institute of Footwear & Leather Technology, Korea
- ORGN.P-442 β -Chiral Organoboron Compounds through Copper-Catalyzed Enantioselective Reduction
Yeji Park, Jaesook Yun
Department of Chemistry, Sungkyunkwan University, Korea
- ORGN.P-443 Purification and characterization of surfactant intermediate LAL-(EO)_n-PO derivatized from lauryl alcohol (LAL) with ethylene oxide and propylene oxide
Md. Maniruzzaman Manir, Surk-Sik Moon, Byeong Jo Kim¹, Hyon Pil Yu², Seok-Hyeon Kim³
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³Surfactant R&D team, AKCHEMTECH, Korea
- ORGN.P-444 Copper-Catalyzed Enantioselective Conjugate Addition of 1,1-Diborylmethane to α,β -Unsaturated Diesters
Won Jun Jang, Jaesook Yun
Department of Chemistry, Sungkyunkwan University, Korea
- ORGN.P-445 Characterization of surfactant intermediate LAC-(EO)_n-Me prepared from the reaction of lauric acid (LAC) with ethylene oxide followed by methylation.
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¹R&D Center, AK CHEMTECH, Korea
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- ORGN.P-446 Synthesis structures and spectroscopic properties of mono and dimeric BODIPYs
Galam Jung, Se Won Bae^{1,*}
Chemistry, Sungkyunkwan University, Korea / Green Chemistry and Materials Group, Korea Institute of Industrial Technology, Korea
¹Green Chemistry and Materials Group, Korea Institute of Industrial Technology, Korea
- ORGN.P-447 Enantioselective Oxygenative Arylation of Ynamides Employing Chiral *N*-Oxides
Tae-Woong Um, Girim Lee, Seunghoon Shin
Department of Chemistry, Hanyang University, Korea
- ORGN.P-448 Silica-gel supported One-pot Synthesis of 2-Amido benzo[b]thiophenes
Solbin Kim, Hyun Suk Yeom^{1,*}
Chemistry, Hanyang University, Korea
¹Center for Eco-Friendly New Materials, Korea Research Institute of Chemical Technology, Korea

- ORG.N.P-449 Pd-Catalyzed Three-Component-Coupling Reactions of Heteroarenes and Strained Alkenes
Eunmin Kim, Si Yeon Jung, Jung Min Joo
Department of Chemistry, Pusan National University, Korea
- ORG.N.P-450 Visible-Light Induced C-O Bond Formation for Construction of Cyclic Ethers and Lactones
Honggu Im, Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- ORG.N.P-451 Remote and Site-Selective Functionalization of Pyridinium Salts via Quinolinone Photocatalysis
Inwon Kim, Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- ORG.N.P-452 Site-Selective C-H Acylation of Pyridine Scaffolds by Photoredox Catalysis
Sungwoo Jung, Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- ORG.N.P-453 1,1-Difunctionalization of Unactivated Alkenes through Cationic Palladium Catalysis
Jinwon Jeon, Sungwoo Hong
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- ORG.N.P-454 Synthesis and Characterization of DPP-Based Conjugated Polymers *via* Dehydrogenative Direct Alkenylation Polycondensation
Hea Jung Park, Jung Min Joo, Do-Hoon Hwang
Department of Chemistry and Chemistry Institute for Functional Materials, Pusan National University, Korea
- ORG.N.P-455 A Study on the Chemoselective Hydroalkoxylation of 2,3,4-Triol Hexopyranosides
Bhawna Barpuzary, Young Ho Rhee
Department of Chemistry, Pohang University of Science and Technology, Korea
- ORG.N.P-456 A Synthetic Study towards Total Synthesis of 7-Oxostaurosporine by using Palladium-Catalyzed Asymmetric Addition Reaction of Bis-indole to Alkoxyallenes
Seok Hyeon Jang, Young Ho Rhee
Department of Chemistry, Pohang University of Science and Technology, Korea
- ORG.N.P-457 *De Novo* Synthetic Approach toward Tetrasaccharides of Cerivimycin
Jihun Kang, Young Ho Rhee
Department of Chemistry, Pohang University of Science and Technology, Korea
- ORG.N.P-458 **[Withdrawal]** Palladium Catalyzed Asymmetric Decarboxylative Addition of β -keto acid to alkoxyallene
Sukhyun Lee, Dong-Jin Jang, Young Ho Rhee
Department of Chemistry, Pohang University of Science and Technology, Korea

- MEDI.P-236 Design and synthesis of Potential SULT4A1 Substrates
Karim El-Baz, Gyo chang Keum^{1,*}
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¹*Chemoinformatics Research Center, Korea Institute of Science and Technology, Korea*
- MEDI.P-237 Fabrication and Characteristic Evaluation of Polymer Composite Scaffold Using 3D Bio-Printing
Sang Hyeob Lee, Il Yoon^{1,*}
Department of Nanoscience, Nano Drug Delivery Lab, Korea
¹*PDT Laboratory, Inje University, Korea*
- MEDI.P-238 Water soluble Organic Nano Particles for Effective Drug Delivery in Photodynamic Therapy
Yang Liu¹, Il Yoon¹
Nano Science and Engineering, Inje University, Korea
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- MEDI.P-239 QSAR modeling of the acute contact toxicity to honeybees
Young eun Song, Hyung Sik Jo¹, Sung Kwang Lee^{2,*}
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- MEDI.P-240 The effect of butyric acid produced by engineered E.coli on treatment of ulcerative colitis
Young-Tae Park, Taejung Kim, Jungyeob Ham
Natural Products Research, Korea Institute of Science and Technology, Korea
- MEDI.P-241 Molecular Docking Study for Biaryl Sulfate Core Based Hepatitis C Virus NS5A Inhibitor
Jung Woo Park, Byeong Moon Kim¹, Eun-Kyoung Bang², Gyo chang Keum^{3,*}
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¹*Division of Chemistry, Seoul National University, Korea*
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³*Chemoinformatics Research Center, Korea Institute of Science and Technology, Korea*
- MEDI.P-242 Studies on the Development of Novel Tau Aggregation Inhibitors for the Treatment of Alzheimer's Disease
Hye Yeon Lee, Haeun Lee¹, WooSeung Son², Ae Nim Pae³, Hak Joong Kim, Sang Min Lim³
Department of Chemistry, Korea University, Korea
¹*Biochemistry, Korea University of Science and Technology, Korea*
²*Department of Chemistry, Yonsei University, Korea*
³*Korea Institute of Science and Technology, Korea*
- MEDI.P-243 Structure-activity relationship of 2,4-disubstituted pyrimidine derivatives as TAM kinase inhibitors
Yeonkyung Lee, Yeonji Kim, Hyunjin Kim¹, Jong Yeon Hwang¹, Pilho Kim¹, Jae du Ha¹, Sang Hun Jung², Sung Yun Cho¹
Chungnam National University, Korea
¹*Bio & Drug Discovery Division, Korea Research Institute of Chemical Technology, Korea*
²*College of Pharmacy, Chungnam National University, Korea*
- MEDI.P-244 An Efficient One-Pot Synthesis of Dibenzoxepino[4,5-c]pyrrole via Aldol Condensation and Etherification
Sungil Park, Jung-Nyoung Heo^{1,*}
Department of Chemistry, Chungnam National University, Korea
¹*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*
- MEDI.P-245 Synthesis of (2*H*)-Indazoles via Rh(III)-Catalyzed C-H Activation Using Paraformaldehyde
Saegun Kim, Sukhun Lee, In Su Kim^{1,*}
School of Pharmacy, Sungkyunkwan University, Korea
¹*College of Pharmacy / Department of Pharmacy, Sungkyunkwan University, Korea*
- MEDI.P-246 Direct access to alkyl diazines, Wittig reagents in an unconventional role
Na Yeon Kwon, Dongeun Kim, In Su Kim^{1,*}
School of Pharmacy, Sungkyunkwan University, Korea
¹*College of Pharmacy / Department of Pharmacy, Sungkyunkwan University, Korea*
- MEDI.P-247 A Novel Orally Active Inverse Agonist of Estrogenrelated Receptor Gamma (ERRg), DN200434, A Booster of NIS in Anaplastic Thyroid Cancer
Jina Kim, Sangbong Lee, Jungwook Chin, Sung Jin Cho
New Drug Development Center, DGMI, Korea
- MEDI.P-248 Development and structure-activity relationship study of SHP2 inhibitors
Bohee Kim, Seungjin Jo¹, Jeong-Hun Sohn, Byumseok Koh², Inji Shin^{3,*}
Department of Chemistry, Chungnam National University, Korea
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MEDI.P-249 Novel Hypoxia-Inducible Factor 1 α (HIF-1 α) Inhibitors for Angiogenesis-Related Ocular Diseases: Discovery of a New Scaffold via Ring-Truncation Strategy

Hongchan An, Young Ger Suh^{1,*}
Daegu Gyeongbuk Medical Innovation Foundation, Korea
¹Seoul National University, Korea

MEDI.P-250 Microwave-assisted glycosylation of Korean mistletoe improved tyrosinase inhibition

Jaehyun Kim, Kooyeon Lee, Jung Won Choe, Hakhyun Kim
Department of Bio-Health Technology, Kangwon National University, Korea

MEDI.P-251 Anti-BACE compounds from the Chinese and Korean Propolis

Kayoung Shin, **Jintaek Oh**, Byong Wook Choi, Bong Ho Lee
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MEDI.P-252 Carbapenem-based fluorogenic substrate for detection of pathogenic carbapenemase-expressing bacteria

Lee KangJoo, Juhyeon Kim¹, Sun-Joon Min^{2,*}
Department of Chemistry, Hanyang University, Korea
¹Department of Chemistry, Korea University, Korea
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MEDI.P-253 Reduced-Lipoic acid (Dihydrolipoic acid; DHLA)

Derivatives for Butyrylcholinesterase Inhibitor
Ji hyun Hwang, Minyeong Choi, Haneul Lee, Yujung Kang, Jintaek Oh, Jeong Ho Park
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MEDI.P-254 Discovery of highly selective csf1r inhibitors.

Danbee Jung, Jungwuk Lee¹, Soyeon Jang¹, Jiwon Park¹, Kyung Hoon Min¹
College of pharmacy, Chung-Ang University, Korea
¹College of Pharmacy, Chung-Ang University, Korea

MEDI.P-255 High throughput oligonucleotide sandwich assay for genomic biomarker detection in prostate cancer

Rashid Tonmoy, Youngdo Jeong¹, Hyojin Lee¹, Kwan Hyi Lee¹
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¹Biomedical Research Institute, Korea Institute of Science and Technology, Korea

MEDI.P-256 Solid-phase Parallel Synthesis of 2,4,5-thiazole Derivatives Based on Peptidomimetics

Min jeong Cha, Su Jin Lim, Sun Hwa Jung, Young Dae Gong

Department of Chemistry, Dongguk University, Korea

MEDI.P-257 Hypoxylonol F Isolated from Annulohypoxylon annulatum regulates pancreatic β -cell metabolism to improve insulin secretion.

Bong Geun Song, Pilju Choi¹, Buyng Su Hwang², Seon-Jun Choi¹, Sang Il Jeon, Jungyeob Ham¹
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¹Natural Products Research, Korea Institute of Science and Technology, Korea
²Industry Materialization Research Team, Nakdonggang National Institute of Biological Resou, Korea

MEDI.P-258 Design and evaluation velutin derivatives for investigation of molecular structure and its inhibitory effect against tyrosinase activity.

Jung won Choe, Jaehyun Kim, Hakhyun Kim, Kooyeon Lee
Department of Bio-Health Technology, Kangwon National University, Korea

MEDI.P-259 Protective effect of hypoxylonol C and BNT against streptozotocin induced damage in INS-1 cells.

Cheol Hee Yoon, Pilju Choi¹, Buyng Su Hwang², Young Seok Kim³, Sang Il Jeon⁴, Jungyeob Ham¹
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²Industry Materialization Research Team, Nakdonggang National Institute of Biological Resou, Korea
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MEDI.P-260 Comparison and Expectations of Drug Tests in 3D Printing Bioink with *In vitro*, *In vivo*Test.

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¹PDT Laboratory, Inje University, Korea

MEDI.P-261 Synthesis and Biological Evaluation of Potent β -Arrestin-biased S1P1 Agonist for Multiple Sclerosis Treatment

Jee yun Ahn, WooSeung Son¹, Hyeon Jeong Kim, Kyu-Sung Jeong¹, Jong-Hyun Park, Ki Duk Park, Sang Min Lim, Ae Nim Pae
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MEDI.P-262 Discovery of Novel tau aggregation inhibitors for treatment of Alzheimer's Disease

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MEDI.P-263 Discovery of Novel β -arrestin-biased S1P1 Agonists

for Treatment of Multiple Sclerosis

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MEDI.P-264

KR-26827, a novel and selective anti Zika virus agent based on the 1,2,4-oxadiazole scaffold

Hyo Gyeong Na, Eunhye Oh¹, Yeonhee Lee, Euntaek Kim², Ali Imran², Chang-Soo Yun², Hyejin Kim², Young-Sik Jung², Soo Bong Han²

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Research Institute of Chemical Technology, Korea

MEDI.P-265

Discovery of zinc-dependent deacetylase LpxC inhibitors against gram-negative bacteria

Sunjong Yu, JunYean Hwang, So Yeong Park¹, Prashant Chakrasali¹, Avinash G V¹, Chang-Soo Yun, Hyejin Kim, Young-Sik Jung, Soo Bong Han

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MEDI.P-266

Phage display based development of melamine specific bindable bioreceptors, and their verification by melamine mediated GOQD-Hg²⁺ quenching system

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Department of Chemistry, Chung-Ang University, Korea

MEDI.P-267

Sensitive and selective "turn-on" strategy for fluorescence detection of histamine based on Phage display derived peptide and carbon quantum dots

Shi Rongjia, Feng Shuaihui, ChanYeong Park, Seung Hoon Baek, Tae Jung Park

Department of Chemistry, Chung-Ang University, Korea

MEDI.P-268

Lead optimization of the anti-cancer agents inhibiting aminoacyl-tRNA synthetase

Yoojin Park, Eunhye Lee, Seri Bae, Soong-Hyun Kim, Ga Young Park, Eun Bi Ko, JiHee Kang, Youjeong Choi, Minsoo Song

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

MEDI.P-269

Design, Synthesis and Biological evaluation of Novel non-covalent Keap1-Nrf2 PPI inhibitors

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MEDI.P-270

Lead optimization of triple reuptake inhibitor to treat attention deficit hyperactivity disorder (ADHD)

Jlhee Kang, Seri Bae, Ga Young Park, Eun Bi Ko, Chunyoung Im, Eunhye Lee, Yoojin Park, Youjeong Choi, Soong-Hyun Kim, Minsoo Song

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MEDI.P-271

Discovery of Novel Kelch-like ECH-Associated Protein 1 (Keap1)-Nrf2 Interaction Inhibitors for Neurodegenerative Disease

Chae won Kim, Ashwini Londhe¹, Hyeon Jeong Kim, Siwon Kim, Ji Won Choi, Ki Duk Park, Sang Min Lim, Ae Nim Pae

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MEDI.P-272

A progress in discovery of an inhibitor for 53BP1 tandem Tudor domain

Sangeun Shin, Hak Joong Kim

Department of Chemistry, Korea University, Korea

MEDI.P-273

Identification of new potent anticancer 7-deazapurines with dual induction of apoptosis and TrkA inhibitory activities

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MEDI.P-274

Molecular dynamic simulation and Binding free energy estimation using Umbrella Sampling technique for Keap1-Nrf2 inhibitors

Ashwini Londhe, Sang Min Lim¹, Ae Nim Pae¹

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MEDI.P-275

Development of Novel biased agonists against S1P1 receptor for Treatment of Multiple Sclerosis

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MEDI.P-276

Next Generation Antibody-Drug Conjugate(ADC) Technology; Evaluation of LCB's Pyrrolobenzodiazepine(PBD)-ADC.

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Legochem Biosciences, Inc., Korea

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MEDI.P-277 YPN005, an oral CDK7 inhibitor, exhibits a significant antitumor activity in Myc-driven cancers. **Mijung Lee**, Jieun Min¹
Department of Chemistry, Yungjin Pharm. Co., Ltd, Korea
¹*Medicinal Chemistry, Yungjin Pharm. Co., Ltd, Korea*

MEDI.P-278 Identification of Target Protein of Novel Antifungal Agents Using an Affinity Bait and Chemical Reporter Strategy
Ji Won Choi, Bo Ko Jang, Siwon Kim, Hyeon Jeong Kim, Sun Jun Park, Jong Seok Yoo, AReum Song, Byung Eun Kim, Yoowon Kim, Jong-Hyun Park, Ki Duk Park
Convergence Research Center for Dementia, Korea Institute of Science and Technology, Korea

MEDI.P-279 Synthesis of siderophore equipped antibiotic to penetrate cell wall of Gram negative bacteria.
Byung soo Lee, Jeungsoon Choi
Legochem Biosciences, Inc., Korea

MEDI.P-280 Synthesis and Evaluation of Halogenated Vinyl Sulfones as Nrf2 Activators
Jong Seok Yoo, Ki Duk Park
Convergence Research Center for Dementia, Korea Institute of Science and Technology, Korea

MEDI.P-281 Design, synthesis, and anti-inflammatory evaluation of hydrogen sulfide donor-peptide hybrids
Jae Wook Lee, **Chung-Min Park**^{1,*}
Convergence Research Center for Dementia DTC, Korea Institute of Science and Technology, Korea
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MEDI.P-282 Conjugated Polymer-based Fibrillar Hydrogel for Artificial Extracellular Matrix
MD Saifur Rahman, Myung-Han Yoon

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

MEDI.P-283 Structural analysis and substrate synthesis of peptidoglycan peptidase3, a metallopeptidase that control the shape of helical cell
Jisu Park, Byeong Moon Kim, Se Won Suh
Division of Chemistry, Seoul National University, Korea

MEDI.P-284 Leucine-Rich Repeat Kinase 2 (LRRK2) small molecular inhibitors for Parkinson's disease (PD)
Heeyeon Kang, Seonghyeon Sim¹, Jee Hee Suh, Ge Hyeong Lee^{2,*}
Korea Research Institute of Chemical Technology, Korea
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MEDI.P-285 Construction of Thiazole Derivatives using Liquid-Phase Synthesis
SuJeong Kim, Yeeun Noh, Hyeok Jin Lee, Jimin Moon, YoungBeom Kim, Taeho Lee
Department of Pharmacy, Kyungpook National University, Korea

MEDI.P-286 Construction of Chemical Library and Preparation of Drug-like Thiazole Derivatives using Solid-Phase Synthesis
Yeeun Noh, SuJeong Kim, Hyeok Jin Lee, Jimin Moon¹, YoungBeom Kim, Taeho Lee^{2,*}
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²*Department of Pharmacy, Kyungpook National University, Korea*

- MAT.P-287** Air cleaner miniature equipped with movable air filters for fast and efficient removal of PMs
Yoseph Lee, Won san Choi
Department of Chemical & Biological Engineering, Hanbat National University, Korea
- MAT.P-288** Multifunctional Magnetic Sponge Ball for Environmental Remediation
Han bi Lee, Won san Choi^{1,*}
Chemical & biological Engineering, Hanbat National University, Korea
¹*Department of Chemical & Biological Engineering, Hanbat National University, Korea*
- MAT.P-289** Magnetic sponge absorbent for cleanup of highly hazardous aqueous solutions
Sol Park, Won san Choi^{1,*}
Chemical&Biological Engineering, Hanbat National University, Korea
¹*Department of Chemical & Biological Engineering, Hanbat National University, Korea*
- MAT.P-290** Fabrication of Conductive Fibers through Dip-Coating Surface-Modified AgNWs on Nylon Fibers
Sumin Oh, Jinkwon Kim, Longhai Piao^{1,*}
Department of Chemistry, Kongju National University, Korea
¹*Department of Chemistry, Kongju National University, 182 Shinkwan-dong, Kongju-si, Chungnam, 314-701, Korea*
- MAT.P-291** Fabrication of Bi-Containing Sea Urchin-like Pt Nanoparticles and Their Enhanced Electrocatalytic Properties for Methanol Oxidation
Kang Yeol Lee
Department of Materials Science and Engineering, Gachon University, Korea
- MAT.P-292** Intimately Coupled Plasmonic Metal-Semiconductor-Graphene Ternary Heteronanostructures for Red-Light Responsive Photocatalysis
Hayoon Jung, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- MAT.P-293** AgBiS₂ Colloidal Nanocrystal Inks Prepared Using Solution-Phase Ligand Exchange for Solar Cell Applications
Sung Yong Bae, Hyosung Choi, Younghoon Kim^{1,*}
Department of Chemistry, Hanyang University, Korea
¹*Division of Energy Technology, Daegu Gyeongbuk Institute of Science & Technology, Korea*
- MAT.P-294** Highly Sensitive, Flexible and Transparent Polymer Thermistors Based on Silver Fractal Dendrites and Polyacrylate
Jongyoun Kim, Youngu Lee
Department of Energy Science & Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea
- MAT.P-295** Preparation of Self-Healable and durable Superhydrophobic Film under facile UV Process at Room Temperature with Self-assembled Nanoparticles
Yeonah Park, Young-Geun Ha
Department of Chemistry, Kyonggi University, Korea
- MAT.P-296** Sensitive Detection of the Target Molecular by Biosensor using Electrolyte-gate Thin-Film Transistor
Young min Song, Young-Geun Ha
Department of Chemistry, Kyonggi University, Korea
- MAT.P-297** Hydrogenation of Nitroarenes by Pd-decorated QDs
JiSoo Kim, Hyun Chul Choi^{1,*}
Chemistry, Chonnam National University, Korea
¹*Department of Chemistry, Chonnam National University, Korea*
- MAT.P-298** Highly Efficient Perovskite Solar Cells via Additive Engineering
Seungjoo Lee, Kye Chun Nam^{1,*}, Nam Joong Jeon^{2,*}
chemistry, Chonnam National University, Korea
¹*Department of Chemistry, Chonnam National University, Korea*
²*Solar Energy Materials, Korea Research Institute of Chemical Technology, Korea*
- MAT.P-299** Synthesis of Magnetite/Polystyrene Magnetic Composite Particle with Controllable Morphology
Eunjin Jeong, Geondae Moon
Korea Institute of Industrial Technology, Korea
- MAT.P-300** Promoting Activity and Selectivity of Electrochemical Chlorine Evolution Reaction by Atomically Dispersed Pt Catalysts
Taejung Lim, Gwan Yeong Jung, Sang Kyu Kwak, Sang Hoon Joo
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea
- MAT.P-301** Fabrication of Highly Conductive Nylon AgNWs/Fibroin Fiber Through Plasma Treatment
Seunghan Song, Jinkwon Kim¹, Longhai Piao¹
Department of chemistry, Kongju National University, Korea

¹Department of Chemistry, Kongju National University, Korea

- MAT.P-302 Interfacial Property Dominates Thermopower of Molecular Junctions: Length Dependence of Seebeck Coefficient in Large-Area Junctions of *n*-Alkanethiolates
Sohyun Park, Nayoung Cho, Dong Il Park, Jiwoong Jang, Hyo Jae Yoon
Department of Chemistry, Korea University, Korea
- MAT.P-303 Photodegradation of Rhodamine B based on TiO₂/Ag Nanoparticles supported on thiol-functionalized CNTs
Ji Dang Kim, Hyun Chul Choi
Department of Chemistry, Chonnam National University, Korea
- MAT.P-304 High Performance Plasmonic Perovskite Photodetectors with High Photocurrent and Low Dark Current Mediated by PEIE Buffer Layer Interfacial Engineering
Hannah Kwon, Dong Ha Kim
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- MAT.P-305 Non-hygroscopic F4-TCNQ doped TFB as Hole-Transporting Material for Efficient and Stable Perovskite Solar Cells
Hannah Kwon, Dong Ha Kim
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- MAT.P-306 Nonionic Biopolymer-Coated Upconversion Nanoparticles for the Highly Efficient Drug Delivery and NIR-Imaging
Salah Mahmoud Tawfik Ahmed, Yong-Il Lee
Department of Chemistry, Changwon National University, Korea
- MAT.P-307 Detection of Catecholamines and cell imaging using NaLuGdF₄:Yb³⁺/Er³⁺ upconversion nanoparticle
Bui The Huy, Seong-Soo Lee, Yong-Il Lee
Department of Chemistry, Changwon National University, Korea
- MAT.P-308 Study on Top-gate Top-contact Structure Thin-Film Transistor Based Bio-sensor Application
Byung Seok Yu, Young-Geun Ha^{1,*}
Kyonggi University, Korea
¹Department of Chemistry, Kyonggi University, Korea
- MAT.P-309 Well-dispersed Ni-/MnO-nanoparticle@porous carbon: highly reactive redox catalysts
Subin Shin, Sung Hwa Jhung
Department of Chemistry, Kyungpook National University, Korea

- MAT.P-310 Adsorptive removal of a wide range of contaminants of emerging concern with MOF-74(Zn)-derived carbon
Jongmin Park, Sung Hwa Jhung
Department of Chemistry, Kyungpook National University, Korea
- MAT.P-311 CO₂ capture with polyaniline-loaded metal-organic framework MIL-101(Cr)
Dongkyu Yoo, Sung Hwa Jhung
Department of Chemistry, Kyungpook National University, Korea
- MAT.P-312 The delivery of POSS (polyhedral oligomeric silsesquioxanes)-porphyrin nanomaterials into cells for possible PDT application
Eunhee Jeoung^{*}, **Young Kwan Yoo**
Department of Chemistry, Gangneung-Wonju National University, Korea
- MAT.P-313 Development of low temperature operating catalyst for exhaust gas treatment by using Fe-oxide
Byeong jun Cha, Soong Yeon Kim, Saqlain Shahid, Shufang Zhao, Young Dok Kim
Department of Chemistry, Sungkyunkwan University, Korea
- MAT.P-314 Fabrication and characterization of thermo-responsive film
Yejin Kim, Hoyoul Kong
Green Fine Chemical Research Center, Korea Research Institute of Chemical Technology, Korea
- MAT.P-315 High-performance anion-redox cathode in potassium ion batteries
Su Cheol Han, MyoungHo Pyo
Department of Printed Electronics Engineering, Suncheon National University, Korea
- MAT.P-316 Porous tin nanoparticles: As an anode material for Mg-ion battery
Amol Bhairuba Ikhe, MyoungHo Pyo
Department of Printed Electronics Engineering, Suncheon National University, Korea
- MAT.P-317 Methane Chlorination with Chlorine Molecules using Zeolite Catalysts: Effects of Si/Al Ratios and Framework Types
Seungdon Kwon, Sunghyun Park, Yuyeol Choi, Kyungsu Na
Department of Chemistry, Chonnam National University, Korea
- MAT.P-318 CO₂ Hydrogenation Using Mesoporous Metal Oxide Spinel Having Basicity
Yongseok Kim, Yohan Song, Youngjae Yu, Seulgi Lim, Kyungsu Na
Department of Chemistry, Chonnam National University, Korea

- MAT.P-319 A Study on Surface coating of DNAM(Dinitroamelide)
SeungHee Kim^{*}, Hae-Wook Yoo, So Jung Lee
Agency for Defense Development, Korea
- MAT.P-320 Synthesis of supported Pt NPs on TiO₂ toward oxygen reduction reaction
Young Wook Lee
Energy & Environment Division, Korea Institute of Ceramic Engineering and Technology, Korea
- MAT.P-321 Thermalstability of new ion exchangers based on Acrylonitrile
Nuritdin Kattaev, Yong-ill Lee^{1,*}
Department of chemistry, Changwon National University, Korea
¹*Department of Chemistry, Changwon National University, Korea*
- MAT.P-322 Hydrogen Evolution Reaction Kinetics of Pd@Pt Core-Shell Nanocrystals in Alkaline Electrolytes
Jeonghyeon Kim, Chang Hyuck Choi¹, Sang-Il Choi^{2,*}
Kyungpook National University, Korea
¹*Gwangju Institute of Science and Technology, Korea*
²*Department of Chemistry, Kyungpook National University, Korea*
- MAT.P-323 Synthesis and Electrochemical Performance of π -Conjugated Molecule Bridged Silicon Quantum Dots Cluster as Anode Material for Lithium Ion Batteries
Young-Hwa Choi, Hyun-Dam Jeong
Department of Chemistry, Chonnam National University, Korea
- MAT.P-324 Synthesis of CuIn(S,Se)₂ thin films from molecular precursor solution for photovoltaic device
HyunJong Lee, Seonho Jung, Ji-Hyun Cha, Duk-Young Jung
Department of Chemistry, Sungkyunkwan University, Korea
- MAT.P-325 Anion effect on growth of LiAl-layered hydroxides nanocrystal on aluminium metal substrates
Yongju Lee, Duk-Young Jung
Department of Chemistry, Sungkyunkwan University, Korea
- MAT.P-326 Investigation of self-bias magnetoelectric responses in multiferroic polymer composites
Byung-Il Noh, Su Chul Yang
Department of Chemical Engineering, Dong-A University, Korea
- MAT.P-327 Microwave-assisted synthesis of reduce graphene oxide with hollow nanostructure for advanced lithium storage application
Minseop Lee, Seung-Min Paek^{1,*}
Chemistry, Kyungpook National University, Korea
¹*Department of Chemistry, Kyungpook National University, Korea*
- MAT.P-328 Ge/GeO₂/graphene nanocomposites as anode materials for lithium ion batteries
Jihye Koo, Seung-Min Paek^{1,*}
Department of chemistry, Kyungpook National University, Korea
¹*Department of Chemistry, Kyungpook National University, Korea*
- MAT.P-329 Hydrogen Production from Formic Acid Decomposition Using Pd–Ag Bimetallic Core–Shell Nanostructure
Bon Seung Goo, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- MAT.P-330 Synthesis and Structural Characterization of New Cluster Quaternary Chromium Thiophosphates, A₂CrPS₆. (A=Rb, Cs)
Woojin Yoon, Hoseop Yun
Department of Energy Systems Research and Department of Chemistry, Ajou University, Korea
- MAT.P-331 Synthesis and Structural Studies of a New Two-dimensional Quaternary Sulfide, Cs₂HfPd₃S₆
Sanghyun Bae, Hoseop Yun
Department of Energy Systems Research and Department of Chemistry, Ajou University, Korea
- MAT.P-332 Facile synthesis of PtNi alloy nanodendrites on CeO₂ nanosheets as supporting materials with fine electrocatalytic performances toward methanol oxidation and oxygen reduction reaction
Yongmin Kwon, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- MAT.P-333 Near-infrared phosphorescence emissive Iridium (III) complexes with substituent variation for solution processable red-NIR organic light-emitting diodes
Sungjin Park, Hae Un Kim, Hyuntae Choi, Daehwan Lee, Seyeong Lim, Dohyun Kim, Taiho Park^{1,*}
Chemical Engineering, Pohang University of Science and Technology, Korea
¹*Department of Chemical Engineering, Pohang University of Science and Technology, Korea*
- MAT.P-334 Virus-based Directed Growth of Ultralong Single-Crystal Silver Nanowires
Kyounga Lim, Jin-Woo Oh^{1,*}, Yong-Cheol Kang², Sujin Park
Pusan National University, Korea
¹*Department of Nanoenergy Engineering, Pusan National University, Korea*
²*Department of Chemistry, Pukyong National University, Korea*
- MAT.P-335 Antimony Doped Layered Cathode Materials for Sodium Ion Batteries with Improved Cyclic Stability
Korea

and Rate Performance

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Myoungho Pyo
Department of Printed Electronics Engineering, Suncheon National University, India

MAT.P-336 Ca-ion dual graphite battery utilizing ternary ionic liquid based electrolyte
Prabakar Richard, Myoungho Pyo
Department of Printed Electronics Engineering, Suncheon National University, Korea

MAT.P-337 Preparation of red emitting Rb₂KSiF₇:Mn⁴⁺ phosphor for white light LED application
Kangsik Choi, Younbong Park
Department of Chemistry, Chungnam National University, Korea

MAT.P-338 pH Dependent Energy Transfer in the Fluorescein-Functionalized Au Nanoclusters
Hongmei Xu, Dongil Lee, Kyunglim Pyo, SangMyeong Han^{1,*}
Department of Chemistry, Yonsei University, Korea
¹*department of chemistry, Yonsei University, Korea*

MAT.P-339 Enhanced electrochromic properties of Ti doped WO₃ films by simple wet-coating method
Young hee Jung, Hyun-Kwan Shim¹, Yeong Il Kim¹
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MAT.P-340 Synthesis and Thermoelectric properties of metal-doped Ternary sulfide
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¹*Department of Chemistry, Ewha Womans University, Korea*
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MAT.P-341 Electrochemical Performances of Amorphous Transition Metal Polysulfides for Li-ion Batteries
Yuna Kim, Sung-Jin Kim^{1,*}
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MAT.P-342 Highly selective synthesis of organic and inorganic materials *via* solid state reaction using solid methylamine
Sunjoon Kim, Hee Jung Yang, Hee Sun Park, Si Eun Jang, Kyu Hyung Lee, Nam hwi Hur
Department of Chemistry, Sogang University, Korea

MAT.P-343 MOF-derived hierarchical porous carbons for supercapacitor applications
Hyuna Kyung, Jeho Suh¹, Won Cheol Yoo^{2,*}
Department of Applied chemistry, Hanyang University, Korea

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²*Department of Chemical and Molecular Engineering, Hanyang University, Korea*

MAT.P-344 Major Electronic Transition Shift from Bandgap to Localized Surface Plasmon Resonance in Alloy Nanocrystals
Gyeonguk Ko, Kwang Seob Jeong^{1,*}, Dongsun Choi¹, Jong-ho Choi¹
Chemistry, Korea University, Korea
¹*Department of Chemistry, Korea University, Korea*

MAT.P-345 A Critical Role of the Interlayer Distance of Nanosheets in Tailoring Their Optical and Electronic Properties
Tae-Ha Gu, Seong-Ju Hwang^{1,*}
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¹*Department of Materials Science and Engineering, Center for Hybrid Interfacial Chemical Structure (CICS), Yonsei University, Korea*

MAT.P-346 [Withdrawal] 2D Ternary Superlattice of MoS₂/RuO₂-Reduced Graphene Oxide Nanosheets with Excellent Electrocatalytic Hydrogen Evolution Reaction Performance
Namhee Kwon, Seong-Ju Hwang
Center for Hybrid Interfacial Chemical Structure (CICS), Department of Materials Science and Engineering, Korea

MAT.P-347 Synergistic Effects of Amorphization and Surface Modification on the Electrocatalyst and Li-O₂ Electrode Functionalities of Manganese Oxide
Xiaoyan Jin, Seong-Ju Hwang
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MAT.P-348 Adjusting the Compositional Structure of Trimetallic Nanocrystals by Regulating Reduction Kinetics for Improved Electrocatalysis
Hochan Ahn, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

MAT.P-349 Thermal Insulation Properties of Porous Silica Nanoparticles Synthesized from Water-Glass Precursor
Suguan Jang, Jae Young Bae
Department of Chemistry, Keimyung University, Korea

MAT.P-350 The synthesized method 3D-dendritic mesoporous silica using biphasic stratification approach strategy for CO₂ adsorption.
Hanjun Mun, Jae Young Bae
Department of Chemistry, Keimyung University, Korea

MAT.P-351 Thin Film of Core-Shell Type MnCoO Spinel Nanocrystals On Porous Carbon Paper Electrode For

Oxygen Evolution Reaction

Haeun Lee, Sunglun Kwon, Jong Hyeon Lee
Department of Chemistry, The Catholic University of Korea, Korea

- MAT.P-352 Printing of interdigitated electrodes pattern for open paper-based DMF chip
Sooyong Park, Veasna Soum, Albertus Ivan Brillian¹, Oh-Sun Kwon, Kwanwoo Shin
Department of Chemistry, Sogang University, Korea
¹*Chemistry, Sogang University, Korea*
- MAT.P-353 One-Pot Decoration of Gold Nanoparticles On Porous Layered Double Hydroxides By Hydrothermal Treatment
Ho Jung Hwang, Sunglun Kwon¹, Jong Hyeon Lee¹
Department of chemistry, The Catholic University of Korea, Korea
¹*Department of Chemistry, The Catholic University of Korea, Korea*
- MAT.P-354 Enhancement of Mechanical Properties of Urushiol@Carbon Nanotube Composite Fibers
Chul jun Yoon, Kyoungsoo Kim^{1,*}, Youngkwan Kim^{2,*}
Chemistry, Chonbuk National University, Korea
¹*Department of chemistry, Chonbuk National University, Korea*
²*Korea Institute of Science and Technology, Korea*
- MAT.P-355 Highly Emissive Octahedral Rhenium Metal Cluster and Core/Shell Quantum dots with Massive Stokes shift and Its Application on Luminescent Solar Concentrator
Jun Choi, Sung-Jin Kim^{1,*}
Department of Chemistry and Nano Science, Ewha Womans University, Korea
¹*Department of Chemistry, Ewha Womans University, Korea*
- MAT.P-356 A General Synthetic Route to Atomically Dispersed Catalysts for Revealing Their Catalytic Trends in Oxygen Reduction Reaction
Jae Hyung Kim, Hyungjun Kim¹, Sang Hoon Joo^{2,*}
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea
¹*Korea Advanced Institute of Science and Technology, Korea*
²*Division of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea*
- MAT.P-357 Cr, W co-doping effect on the phase transition of VO₂
Seong Cheol Hong, Myeongsoon Lee, Don Kim
Department of Chemistry, Pukyong National University, Korea
- MAT.P-358 Sugar detection of graphitized carbon nanotubes attached with gold particles
Myeongsoon Lee, Don Kim
Department of Chemistry, Pukyong National University,

Korea

- MAT.P-359 Enhanced lithium storage and rate capability of Mn₂O₄/graphene hybrid with macroporous structure
Min-Jae Kim, Seung-Min Paek^{1,*}
Department of chemistry, Kyungpook National University, Korea
¹*Department of Chemistry, Kyungpook National University, Korea*
- MAT.P-360 Critical Evaluation of Solid-like Adsorption of H₂ on Porous Materials Using BET Theory: A Molecular Simulation Study
Seulchan Lee, Seungyun Han, Yongchul Chung
School of Chemical and Biomolecular Engineering, Pusan National University, Korea
- MAT.P-361 Enhanced Adsorption and Photocatalytic Degradation of Organic Dyes by HNTs/TiO₂/La₂O₃ Nanocomposites under UV and Visible Light Irradiation
Jewon Lee, Jongik Park, Jaegun Noh^{1,*}
Department of Convergence Nanoscience, Hanyang University, Korea
¹*Department of Chemistry, Hanyang University, Korea*
- MAT.P-362 Conductive Hole Transporting Polymers without dopant for Highly Efficient and Stable Perovskite Solar Cells
Seyeong Lim, Junwoo Lee, Hyuntae Choi, Daehwan Lee, Jihyun Min, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea
- MAT.P-363 Mechanistic Studies of CO₂ Cycloaddition in Propylene Oxide (PO): A Density Functional Theory Study
SungHyun Yun, Yongchul Chung
School of Chemical and Biomolecular Engineering, Pusan National University, Korea
- MAT.P-364 Annual meadow grass (*Poa annua*) mediate green synthesis of biologically active silver nanobeads and their biocompatibility evaluation
Tae Jung Park¹, Shahid Waseem¹, **Anam Rana Gul**
Department of Chemistry, Chung-Ang University, Korea
¹*Department of Biochemistry, Quaid i Azam University, Pakistan*
- MAT.P-365 Highly Efficient and Thermally Stable Perovskite Solar Cells with Zwitterion interlayer and Polymeric Hole Transport Material.
Hyuntae Choi, Taewan Kim, Daehwan Lee, Seyeong Lim, Yelim Choi, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea
- MAT.P-366 Synthesis and Characterization of Murdochite-Type Copper Oxyhalides

- Si Eun Jang**, Kang Hyun Song, Seok Won Yoon, Hee Jung Yang, Hee Sun Park, Nam hwi Hur
Department of Chemistry, Sogang University, Korea
- MAT.P-367** Size-dependent Photocatalytic Activities of Gold Nanoparticles
Donghee Kim, Juhee Ha¹, Youngsoo Kim
Department of Chemistry, Yeungnam University, Korea
¹*Department of Chemistry, Yeungnam university, Korea*
- MAT.P-368** Structural variation of ultrathin Pt-Co nanowires and their oxygen reduction reaction (ORR) performance
Mrinal kanti Kabiraz, Sang-Il Choi^{1,*}
Kyungpook National University, Korea
¹*Department of Chemistry, Kyungpook National University, Korea*
- MAT.P-369** Visible Light-Driven Gold Photocatalysts: Comparison of Photocatalytic Activities between Gold Nanoparticles and Gold Nanoclusters
Jueun Bae, Jihye Yoon, Youngsoo Kim
Department of Chemistry, Yeungnam University, Korea
- MAT.P-370** Photoluminescence and lasing of bulk Tellurium solid and microcrystals at mid-infrared region
Gahyeon Kim, Dongsun Choi, Kwang Seob Jeong
Department of Chemistry, Korea University, Korea
- MAT.P-371** Photoreactivity of Plasmonic Photocatalysts with an Anisotropic Gold Nanostructures
Jeong gi Lee, Hyeon Ji Kim¹, Youngsoo Kim^{2,*}
Department of Chemistry, Yeungnam university, Korea
¹*Department of Chemistry, Yeungnam university, Korea*
²*Department of Chemistry, Yeungnam University, Korea*
- MAT.P-372** In silico prediction of crystal density for high energy materials using machine learning methods
Hyung Sik Jo, Soo Gyeong Cho¹, Sung Kwang Lee
Department of Chemistry, Hannam University, Korea
¹*Agency for Defense Development, Korea*
- MAT.P-373** Application of ensemble method for prediction of electric properties of polymer composites
Dong Ryeol Shin, Woo Jin Choi¹, Namjung Cho¹, Sung Kwang Lee
Department of Chemistry, Hannam University, Korea
¹*Korea Research Institute of Chemical Technology, Korea*
- MAT.P-374** Rhombic dodecahedral Pd@Pt core-shell nanocrystals with Pt {110} shell for enhanced activity towards oxygen reduction reaction
Hojin Ahn, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- MAT.P-375** Synthesis and Characteristics of Multi-Shell Mesoporous Hollow Silica Nanomaterials with Controlled Shell Thickness
Yeon Mi Lee, Jae Young Bae
Department of Chemistry, Keimyung University, Korea
- MAT.P-376** Bi-Te covered nanorods: Facile Preparation with Heterogeneous Precursors and its Computer Tomography Guided Cancer Phototherapy
Gyeonghye Yim, Hongje Jang
Department of Chemistry, Kwangwoon University, Korea
- MAT.P-377** Scalable Synthesis of Superparamagnetic Fe₃O₄ Nanoclusters for Bioseparation and Bioimaging
Jeonghyo Kim, Van Tan Tran, SangJin Oh, Jaebeom Lee^{1,*}
Research Institute of Materials Chemistry, Chungnam National University, Korea
¹*Chemistry, Chungnam National University, Korea*
- MAT.P-378** Growth Inhibition of Harmful Cyanobacteria by silver doped molybdenum photocatalyst: Efficiency and Its Mechanisms
Sondavid Nandanwar
Marine Convergence Design Collaboration Course, Pukyong National University, Korea
- MAT.P-379** Control of TiO₂ nanostructures from hollow microsphere to microtube
Youngin Jeon, Wan-In Lee^{1,*}
Department of Chemistry and Chemical engineering, Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- MAT.P-380** Synthesis of Cu-based delafossite nanocrystals for hole-conductor applications
Juhee Jo, Wan-In Lee^{1,*}
Department of Chemistry and chemical engineering, Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*
- MAT.P-381** A Hollow 3D Architecture Formation by Self-assembly of Helical Peptide Mimetic with Poor Macrodipole
Kim Jaewook, Jintaek Gong, Hee-Seung Lee
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- MAT.P-382** Synthesis of Polymeric Drug Carrier Particles with Hierarchically Interconnected Nanopores using PLGA-PEI for Rapid Drug Delivery
Yoon Hyuck Kim, Jae-Seung Lee
Division of Advanced Materials Engineering, Korea University, Korea
- MAT.P-383** Charge transfer control by steric effect on the non-conjugated xanthene backbone based donor-acceptor molecule
Jeongwook Hwang, Kyung-Ryang Wee^{1,*}
Department of Chemistry, Daegu University, Korea
¹*Department of Applied Chemistry, Daegu University, Korea*
- MAT.P-384** Distinctive Substituent Effect of 2,7-Bis(p-

(R)triphenylamino)pyrene on the Intramolecular Charge Transfer

Minji Kim, Kyung-Ryang Wee^{1,*}

Department of Chemistry, Daegu University, Korea

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MAT.P-385 Bio-inspired surface wrinkle structures templated by self-assembled M13 bacteriophages

Won-Geun Kim, Jin-Woo Oh^{1,*}

Nano-Convergence Technology, Pusan National University, Korea

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MAT.P-386 Development of a Highly Stable Donor-Acceptor Type Fluorophore Based on Naphthoxazepine Scaffold and Its Applications in Bio-imaging

Heejo Moon, Youngseo Kim¹, Sunnam Park¹,

Byeong Moon Kim^{2,*}, Dokyoung Kim^{3,*}

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MAT.P-387 Study on the Tungsten Oxide Immobilized in Nitrogen-doped Mesoporous Graphene (NMG/WO₃) nanohybrid

Yein Kang, Hyun Jung

Department of Chemistry, Dongguk University, Korea

MAT.P-388 Enhanced gas sensing properties of nitrogen doped mesoporous graphene at room temperature

Rosalynn Nankya, David Odhiambo Opar¹, Hyun

Jung

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MAT.P-389 High electrocatalytic performance of three-dimensional nitrogen-doped mesoporous graphene-modified carbon felt electrodes for vanadium redox flow batteries

David Odhiambo Opar, Rosalynn Nankya¹, Hyun

Jung¹

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MAT.P-390 Synthesis and characterization of nitrogen-doped mesoporous graphene for the removal of volatile

organic compounds

JeongWon Park, Hyun Jung

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MAT.P-391 A highly sensitive and multiplexed target DNA detection strategy using DNA-modified magnetic microparticles

Min Ji Hwang, Dongkwon Lim

KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea

MAT.P-392 A highly sensitive and stable Radio-isotope embedded AuNPs for PET imaging agent

Wonseok Yang, Dongkwon Lim

KU-KIST Graduate School, Korea University, Korea

MAT.P-393 Reversible surface chemistry to assemble microchips on the hole array in solution

Yong Duk Kim, Dongkwon Lim

KU-KIST Graduate School, Korea University, Korea

MAT.P-394 Synthesis of 2D Complex Nanoframes with dual rims

Sungjae Yoo, Sang Baek Jung, Eun Byeol Cho,

Sungho Park

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MAT.P-395 Fabrication of 2D Tripod Nanoframe Structures for Single-particle Surface-enhanced Raman Scattering Measurement

Jeongwon Kim, Sungho Park, Sungwoo Lee,

Junghwa Lee

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MAT.P-396 Fabrication of floor polyurethane using environmental -friendly curing agent MBEA

Sang won Lee, Dongwoon Jung

Department of Chemistry Engineering, Wonkwang

University, Korea

MAT.P-397 CdHgSe/HgS/CdZnS Colloidal Quantum Dots Exhibiting Bright Short-Wave Infrared Luminescence

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- ELEC.P-398** Attempt to Electrochemical Reduction of Carbon dioxide at LaOCl nanofiber
Jieun Park, Chongmok Lee, Youngmi Lee
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ELEC.P-399** Electrochemical Sensor for Drug Detection Using Ion Transfer Reaction at Liquid/Gel Interfaces
Jisu Lee, Hye Jin Lee^{1,*}
Chemistry and Green-Nano Materials Research Center, Kyungpook National University, 80 Daehakro, Buk-gu, Daegu-city, 702-701, Korea
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- ELEC.P-400** Influence of super activation on Nanoporous Au in alkaline solution
Gahyun Kim, Jongwon Kim
Department of Chemistry, Chungbuk National University, Korea
- ELEC.P-401** Fabrication of an Amperometric Microsensor for Simultaneous Measurement of Nitric Oxide, Carbon Monoxide and Hydrogen Sulfide
Sunghwa Seo, Youngmi Lee
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ELEC.P-402** Electrospun Gold-Ruthenium Alloy Nanofibers: An Efficient Bifunctional Catalyst for Overall Water Splitting
Taehui Kwon, Areum Yu, Chongmok Lee, Youngmi Lee
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ELEC.P-403** Electrofibrous Nickel-Rhodium Oxide Nanocomposites for Efficient Electrocatalytic Oxygen Evolution Reaction.
Dasol Jin, Areum Yu, Youngmi Lee, Myung Hwa Kim, Chongmok Lee
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ELEC.P-404** Dry-deposition of LiNbO₃ or Li₂ZrO₃ on LiNi_{0.6}Co_{0.2}Mn_{0.2}O₂ assisted by resonant-acoustic technique for all-solid-state lithium batteries
Youngjin Kim, Kwang Sun Ryu
Department of Chemistry, University of Ulsan, Korea
- ELEC.P-405** Highly disperse Palladium nanoparticles: synthesis and the role of pyrrolic and pyridinic nitrogen on reduced graphene oxide boosting superior electrocatalytic activity for ORR
Nipa Roy, seungwon Jeon Jeon seung-won^{1,*}
Chemistry, Chonnam National University, Korea
¹*Department of Chemistry, Chonnam National University, Korea*
- ELEC.P-406** Galvanic Displacement Reaction as a Versatile Approach to obtain the Free-standing Gold Nanoflakes on Prussian blue Surface and Its Electrochemical Applications
Juwon Jeong, Manivannan Shanmugam, Kyuwon Kim
Department of Chemistry, Incheon National University, Korea
- ELEC.P-407** Highly Elastic Polyrotaxane Binders for Mechanically Stable Lithium Hosts in Lithium-Metal Batteries
Dong-Joo Yoo, Jang Wook Choi
School of Chemical and Biological Engineering, Seoul National University, Korea
- ELEC.P-408** Improving cycle performance of Li-O₂ batteries by immobilized TEMPO on cathode
Ji Hyeon Kang, Inho Nam^{1,*}
Chung-Ang University, Korea
¹*Chemical Engineering & Materials Science, Chung-Ang University, Korea*
- ELEC.P-409** High Performance Aqueous Zinc Ion Batteries Mediated via Hydrated Intercalation
Jaeho Shin, Jang Wook Choi
Chemical and Biological Engineering, Seoul National University, Korea
- ELEC.P-410** In-Situ Synthesis of Bi₂S₃ Nanowire on Bi₂MoO₆ for Highly Improved Photoelectrochemical Performance
Jihyeon Kim, Ki Min Nam
Department of Chemistry, Pusan National University, Korea
- ELEC.P-411** Modification of Oxygen Reduction Electrode with Gold Nanocluster
Hanseok Yi, Kyuju Kwak, Young Lim Byeon, Dongil Lee
Department of Chemistry, Yonsei University, Korea
- ELEC.P-412** Functional Blocking Layer of Twisted Tungsten Oxide Nanorod Grown by Electrochemical Anodization for Photoelectrochemical Water Splitting
Pran Krisna Das
Advanced Chemicals & Engineering, Chonnam National University, Bangladesh

- ELEC.P-413** Efficient oxygen evolution reaction of hollow cobalt mesospheres improved by corrosion reactions
Sunguk Noh, Jun Ho Shim
Department of Chemistry, Daegu University, Korea
- ELEC.P-414** 2nd Generation Fourier Transform Electrochemical Impedance Spectroscopy (FT-EIS) with Commercial Potentiostat
Long Ha Duong, Kyungsoon Park, Seongpil Hwang
Department of Advanced Materials Chemistry, Korea University, Korea
- ELEC.P-415** Synthesis and application of polycationic ruthenium redox polymer mediator for detection of glucose using glucose dehydrogenase(GDH).
Chang Jun Lee, Ryang Hyeon Kim¹, Subin Park¹, Young Bong Choi, Hyug-Han Kim
Department of Chemistry, Dankook University, Korea
¹*Dankook University, Korea*
- ELEC.P-416** Fe₂O₃ Nanoparticles Coated by N-doped Graphitic Carbon Using Dopamine as an Anode Material for Sodium-Ion Batteries
Jungwook Song, Jongsik Kim
Department of Chemistry, Dong-A University, Korea
- ELEC.P-417** FeF₂ Nanoparticles Embedded with Graphitic Carbon Derived from Fe-MIL-88B as a Cathode Material for Sodium-Ion Batteries
Achmad Yanuar Maulana, Jongsik Kim
Department of Chemistry, Dong-A University, Korea
- ELEC.P-418** Electrochemical non-enzymatic glucose sensor based on nickel oxide with polydopamine
Tae-Won Seo, Hyewon Jang¹, Young Bong Choi², Hyug-Han Kim²
chemistry, Dankook university, Korea
¹*chemistry department, Dankook University, Korea*
²*Department of Chemistry, Dankook University, Korea*
- ELEC.P-419** Pore size effects on the oxygen-involving electrocatalysis in truncated CoFe nanocubes
Sujin Jo, Sunguk Noh, Jun Ho Shim
Department of Chemistry, Daegu University, Korea
- ELEC.P-420** Insight into the role of a host-dopant in co-doping systems for efficient water splitting devices
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Chemical Engineering, Ulsan National Institute of Science and Technology, Korea
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- ELEC.P-421** A Hierarchically Structured Multi-dimensional Carbon Composite Anchored to Polymer Mat for Super-flexible Supercapacitor
MyungJun Kwak, Ji-Hyun Jang^{1,*}
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- ¹*Eco-Friendly Energy Engineering, Ulsan National Institute of Science and Technology, Korea*
- ELEC.P-422** Preparation and Electrochemical Investigation of TEMPOL Derivatives : Apply to Redox Flow Battery
Hyunil Cho, Chuljin Ahn
Department of Biology and Chemistry, Changwon National University, Korea
- ELEC.P-423** Fe₂O₃ nanostructures for enhanced capacity of electrochemical capacitor
Jihee Kim, Hyun Min Jung^{1,*}
Applied Chemistry, Kumoh National Institute of Technology, Korea
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- ELEC.P-424** Understanding reaction kinetics by tailoring metal co-catalysts of BiVO₄ photocatalyst
Hye Rin Choe, Ki Min Nam
Department of Chemistry, Pusan National University, Korea
- ELEC.P-425** Solar energy conversion by cyanobacterium *Anabaena variabilis* using double mediators
Jinhwan Lee, Hyejun Cho, Sunghyun Kim^{1,*}
Department of Biotechnology, Konkuk University, Korea
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- ELEC.P-426** Photoelectrochemical Coulometric Sensing of *Anabaena variabilis* Through a Mediated Electron Transfer System
Hyejun Cho, Jinhwan Lee, Sunghyun Kim^{1,*}
Department of Biotechnology, Konkuk University, Korea
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- ELEC.P-427** Comparing activity of δ -MnO₂ with various intercalated cation toward alkaline oxygen evolution reaction
Kahyun Ham, Jaeyoung Lee^{1,*}
School of Earth Science and Environmental Engineering, Gwangju Institute of Science and Technology, Korea
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- ELEC.P-428** Quantitative analysis of electrochemically generated polyiodides (I_{2n+1}⁻, n = 1 - 3) in acidic media by electrochemical titration on Pt ultramicroelectrode
Yun Jin Leem, Jinho Chang
Department of Chemistry, Hanyang University, Korea
- ELEC.P-429** Viologen-bromide dual-redox ionic solid complexes: understanding their electrochemical formation and redox-chemistry via proton-coupled electron transfer (PCET)
Semi Lee, Jinho Chang
Department of Chemistry, Hanyang University, Korea
- ELEC.P-430** Stochastic electrochemical cytometry of human platelets via particle collision approach
Jihye Lee, Jinho Chang

- Department of Chemistry, Hanyang University, Korea*
- ELEC.P-431** Time Transient Electrochemical Monitoring of Tetraalkylammonium Polybromide Solid Particle Formation: Observation of Ionic Liquid-to-Solid Transitions
Yejin Choi, Jinho Chang
Department of Chemistry, Hanyang University, Korea
- ELEC.P-432** Synthesis, Characterization and Photoelectrochemical Properties of Green Route Deposited Iron Vanadate Thin Films
Mayur Gaikwad, Soon Hyung Kang
Department of Chemical Education, Chonnam National University, India
- ELEC.P-433** Facile Synthesis of Ni(OH)₂ Decorated Pt-Cu Octahedra and Their Electrocatalytic Activity toward Ethanol Oxidation Reaction
Hee Jin Kim, Youngmin Hong¹, Sang-II Choi
Department of Chemistry, Kyungpook National University, Korea
¹*Kyungpook National University, Korea*
- ELEC.P-434** Wiring system for direct electron transfer between electro-inactive bacteria and electrodes using modified carbon nanoparticles
Youngrok Lee, Jinhwan Lee, Sunghyun Kim^{1,*}
Department of Biotechnology, Konkuk University, Korea
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- ELEC.P-435** Highly Graphitized Carbon for Oxygen and Nitrogen Electrochemistry
Sunki Chung, Jaeyoung Lee^{1,*}
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- ELEC.P-436** Fabrication g-C₃N₄@SnO₂ for Photoelectrochemical watersplitting
Young Jun Seo, Soon Hyung Kang^{1,*}
Department of Chemistry Education, Chonnam National University, Korea
¹*Department of Chemical Education, Chonnam National University, Korea*
- ELEC.P-437** Overestimation of photoelectrochemical hydrogen evolution reactivity induced by noble metal impurities dissolved from counter/reference electrodes
Sanggu Ji, Chang Hyuck Choi
Materials Science and Engineering, Gwangju Institute of Science and Technology, Korea
- ELEC.P-438** Flexible TiO₂ nanotubes/Ti mesh electrodes for carbon dioxide reduction
Hyun Kim, Bee Lyong Yang^{1,*}
Advanced Materials Science and Engineering, Kumoh National Institute of Technology, Korea
- ¹*Department of Advanced Materials Engineering, Kumoh National Institute of Technology, Korea*
- ELEC.P-439** Double walled TiO₂ nanotubes for photo-catalytic CO₂ reduction
Hyun Kim, Bee Lyong Yang^{1,*}
Advanced Materials Science and Engineering, Kumoh National Institute of Technology, Korea
¹*Department of Advanced Materials Engineering, Kumoh National Institute of Technology, Korea*
- ELEC.P-440** Electrical property of epoxy resin-double walled TiO₂ nanotubes composites
Hyun Kim, Bee Lyong Yang^{1,*}
Advanced Materials Science and Engineering, Kumoh National Institute of Technology, Korea
¹*Department of Advanced Materials Engineering, Kumoh National Institute of Technology, Korea*
- ELEC.P-441** Large-scale synthesis of high-quality carbon nanoparticles and their electrocatalytic performance
Anh.T.N Nguyen, Jun Ho Shim
Department of Chemistry, Daegu University, Korea
- ELEC.P-442** Enhanced Catalytic Activity of SO_x-Incorporated Graphene for Hydrogen Evolution Reaction
Chiho Lee, Sang Uck Lee^{1,*}
Department of Bionano Technology, Hanyang University, Korea
¹*Department of Chemical and Molecular Engineering, Hanyang University, Korea*
- ELEC.P-443** Comparing Activity of S-doped Carbon Nanofiber depending on C-S bond toward Alkaline Oxygen Reduction Reaction
Kahyun Ham, **Minjun Choi**, Jaeyoung Lee
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea
- ELEC.P-444** Metal-Free Heteroatom (B, N)-doped Carbon as Bi-functional oxygen catalyst for Zinc-Air Battery
Seonghee Kim, Oi Lun Helena Li^{1,*}, Jihun Kim², Jihun Kim²
Material Science and Engineering, Pusan National University, Korea
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²*Pusan National University, Korea*
- ELEC.P-445** Red Phosphorescent Phenylisoquinoline-based Iridium(III) Complexes using for Solution-Processed Organic Light-Emitting Diodes
Jae-Ho Jang, Do-Hoon Hwang
Department of Chemistry, Pusan National University, Korea
- ELEC.P-446** Addition of Ultra-thin Au Layer underneath Mn oxide for Alkaline Oxygen Evolution Reaction
Kahyun Ham, Jaeyoung Lee
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea

ELEC.P-447 Label-Free Electrochemical Detection of Protein Kinase A Activity with C-Kemptide-AuNP/rGO-GCE
Da eun Oh, Tae Hyun Kim^{1,*}
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ELEC.P-448 Electrochemical Aptasensor for Detection of Pb²⁺-using Methylene Blue Tagged DNA and ERGO
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ELEC.P-449 Ultrasensitive electrochemical aptasensor for Hg²⁺ using DNA coated reduced graphene oxide

electrode

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ELEC.P-450 The few-layer graphene produced by urea-assisted liquid phase exfoliation of graphite
Sujin Shim, Tae Hyun Kim
Department of Chemistry, Soonchunhyang University, Korea

- EDU.P-459 Exploring the Variation and Relationship with Actual Practice of Meta-Modeling Knowledge(MMK) Progression Levels for the Science Gifted
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- EDU.P-460 The Effects and Changes that Argument-based Inquiry Activities Have upon the Claim-Evidence of Scientific Writings by Elementary School Students
Jiaeng Park, Hyesook Cho, Eugene Kang, Jaekyoung Jun, Geonu Kim, Jeonghee Nam
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- EDU.P-461 The Relationships Between Integrative Creativity and Creativity in Scientific Humor of Elementary Students
Hunsik Kang
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- EDU.P-462 Electrolysis: What Textbooks Don't Tell Us
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- EDU.P-463 Writing and Reflecting on the Educational Volunteer Activity in Middle America
JaeYoung Han
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- EDU.P-464 Analysis of conceptions and classification results of 10th grade students related to the three states of matter
Seounghey Paik*, **Eunhye Cho**
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- EDU.P-465 Analysis of Modeling Ability of 12th grade Science Department Students on Acid and Base Models
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- EDU.P-466 Analysis of Problems in the Representation of Acid-Base Model of Chemistry I Textbooks in 2009 Revised Curriculum and 2015 Revised Curriculum
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- EDU.P-467 Evaluation of K-MOOC Science Courses Based on Universal Design for Learning Framework
Mushrat Jahan, **Jeongho Cha**
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- EDU.P-468 Development of Responsive Teaching Capacity through Pre-service teachers' class analysis
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- EDU.P-469 Introduction of the Korean Translation of the Periodic Table of the Chemical Elements prepared by ACS
Choon Ho Do
Korean Chemical Industry Specialists Association, Korea
- EDU.P-470 The characteristics on the chemistry students in the science high school: comparative analysis between the mathematics/science achievement and individual differences.
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- ENVR.P-451 Aqueous plutonium chemistry and thermodynamics at reducing and elevated temperature conditions
Hye-Ryun Cho^{*}, Sangki Cho¹, Hee-Kyung Kim, Wansik Cha
Korea Atomic Energy Research Institute, Korea
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- ENVR.P-452 Assessment of mercury bioavailability in Hyeongsan River deposits for earthworm *Eisenia Fetida* using diffusive gradient in thin films technique
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KyuJin Ko, Su Chul Yang
chemical engineering, Dong-A University, Korea
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- ENVR.P-455 Rhenium Sulfite Clusters for Solar Cell Application
Thi giang Ly, Sung-Jin Kim^{1,*}
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Dieu Nguyen, Sungjin Kim
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- ENVR.P-457 Application of As(III) Oxidation using Titania and Tungsten Trioxide Composite Catalyst Filters
Jiyeon Park, Hyunwoong Park^{1,*}
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- ENVR.P-458 Dissolved oxygen and nitrate effects on the reduction and removal of divalent mercury by pumice supported nanoscale zero-valent iron
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- ENVR.P-459 Development of magnetically separable Cu catalyst supported by steel slag for p-nitrophenol reduction
Sunho Yoon, Sungjun Bae
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- ENVR.P-460 Rational design of Indium-doped TiO₂ modified g-C₃N₄ for improved gas-solid phase CO₂ Photoreduction: Interfacial coupling effect and reaction mechanism
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- ENVR.P-461 Effect of humic acid on TiO₂ photocatalytic activity under visible light illumination by ligand-to-metal charge transfer (LMCT) via surface complex formation
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- ENVR.P-462 Anatase-rutile synergistic effect in TiO₂ photocatalysis: an assessment of the water-oxidation and pollutant-degradation mechanism
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- ENVR.P-463 Electrochemical energy storage evaluation of the nanostructured V₂O₅ prepared via one-step anodization
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- ENVR.P-464 Formation behavior of nanoporous oxide films formed by anodization on stainless steel in hot glycerol electrolyte

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