

"과학기술로 사회에 기여한다"

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과학기술은, 최근 눈부신 속도로 진화해, 더욱 복잡하고 어려워지고 있습니다. 이러한 과학기술에 고객이 더욱 쉽게 다가갈 수 있도록 Shimadzu Scientific Korea Corp.은 매일 노력하고 있습니다.

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분석기기

■ 분석기기 질량 분석 장치 / 크로마토 분석 장치 / 광 분석 장치 /
표면 분석 · 관찰 장치 / 바이오 관련 해석 장치

■ 환경 계측 기기 수질 계측 장치 / 배기가스 측정 장치

계측기기

■ 시험·측정 기기 재료 시험기 / 피로 · 내구 시험기 / 구조물 시험기 / 비파괴 검사 장치 / 분체 분석 / 저울



총유기탄소 분석기

가스 크로마토그래프 질량 분석기

분광광도계

액체 크로마토그래프 질량 분석기

마이크로칩 전기 영동 장치

만능재료 시험기

MALDI-8020

Award Lecture 2020 Academic Excellence Prize

July 6 (Mon), 10:00 – 11:00

Small Molecule-based Drug Delivery System and its Bio-imagings

Chair : Dongwhan Lee (Seoul National University)



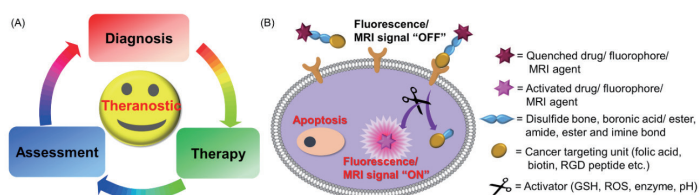
Jong Seung Kim

Korea University

Present

- * Present: Department of Chemistry, Korea University, Seoul, Korea
- * 2003 – 2007, Professor, Dankook University, Seoul, Korea
- * 1994 – 2003, Associate Professor, Konyang University, Nonsan, Korea
- * 1993 – 1994, Post-doctoral Fellow, University of Houston, USA
- * 1993 Ph.D (Organic Chemistry), Department of Chemistry, Texas Tech University, USA
- * 1988 M.S. (Organic Chemistry), Department of Chemistry, Chungnam Nat'l University, Korea
- * 1986 B.S. (Chemistry Education) Department of Chemistry Education, Kongju Nat'l University, Korea

The advances in genomics, proteomics, and bioinformatics have directed the development of new anticancer agents to reduce drug abuse and increase safe and specific drug treatment. Theranostics, combining therapy and diagnosis, is an appealing approach for chemotherapy in medicine which exhibit improved biodistribution, selective cancer targeting ability, reduced toxicity, masked drug efficacy, and minimum side effects. The role of diagnosis tool in theranostic is to collect the information of diseased state before and after specific treatment. Magnetic particle-, mesoporous silica-, various carbon allotrope-, and polymer nanoparticle-based theranostic systems are well accepted and clinically significant. Currently, small conjugate-based systems have received much attention for cancer treatment and diagnosis. The structural architecture of these systems is relatively simple, compact, biocompatible, and unidirectional. In this talk, the latest developments on small conjugate based theranostic agents for tumor treatment and diagnosis using fluorescence undertaken in my lab will be given



Organizer



Kyungwon Kwak

2020-present Professor, Department of Chemistry, Korea University, Korea

2016-2020 Associate Professor, Department of Chemistry, Korea University, Korea

2011-2016 Associate Professor, Department of Chemistry, Chungang University, Korea

Chair



Jongwoo Lim

2017-present Assistant Professor, Seoul National University

2014-2017 Postdoctoral Researcher, Stanford University

2008-2013 PhD, University of California, Berkeley

Speaker



Jongwon Kim

Present Professor, Chungbuk National University

2005 Ph. D. University of Illinois at Urbana-Champaign

1995 B.S. Seoul National University



Taek Dong Chung

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

Present Chair, Electrochemistry Division, Korean Chemical Society

Present Vice Chair, Bioelectrochemistry Division, International Society of Electrochemistry

2. [Tutorial] Electrochemistry for Electrosynthesis

Organizer : Kyungwon Kwak (Korea University)

Chair : Jongwoo Lim (Seoul National University)

- 13:00 **KCS1-1** Electrochemistry 100, Basic concepts
Jongwon Kim
Department of Chemistry, Chungbuk National University, Korea
- 14:00 **KCS1-2** Electrochemistry 101 for electrosynthesis
Taek Dong Chung
Department of Chemistry, Seoul National University, Korea

Organizer



Byeong-Su Kim

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

2009-
2018 Assistant and Associate
Professor, Department of
Chemistry, UNIST, Korea

2007 Ph.D. Department of Chemistry,
University of Minnesota, USA

Speaker



Byeongmoon Jeong

2002-
present Professor, Ewha Womans
University

1999-
2002 Senior Research Scientist,
Pacific Northwest National
Laboratory (PNNL)

1989-
1994 Senior Research Scientist, LG
Chem

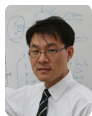


Youngjong Kang

2007~current Professor, Department of
Chemistry, Hanyang
University

2020.01-
current Vice Chair of The PSK
Academic Committee

2018.01-
current Organizing Committee of
IUPAC-MACRO2020



Woo-Dong Jang

2003-
2005 Post Doctoral Researcher,
Japan Science and Technology
Agency

2005-
2006 Assistant Professor,
Department of Materials
Engineering, The University of
Tokyo

2006-
Present Professor, Department of
Chemistry, Yonsei University,
Korea



Han Young Woo

2015-
present Professor, Department of
Chemistry, Korea University

2006-
2015 Professor, Pusan National
University

2003-
2006 Postdoc, University of
California, Santa Barbara

4. Special Symposium by Leading Mid-career Polymer Scientists

Organizer : Byeong-Su Kim (Yonsei University)

Chair : Byeong-Su Kim (Yonsei University)

- 10:40 **POLY1-1** Metal complexing thermogels and their biomedical applications
Byeongmoon Jeong
Department of Chemistry and Nanoscience, Ewha Womans University, Korea
- 11:10 **POLY1-2** 1D Hypo-Crystals: A Novel Concept for the Crystallization of Stereo-Irregular Polymers
Youngjong Kang
Department of Chemistry, Hanyang University, Korea
- 11:40 **POLY1-3** Formation of Porphyrin-based Supramolecular Polymers
Woo-Dong Jang
Department of Chemistry, Yonsei University, Korea
- 12:10 **POLY1-4** Semicrystalline conjugated polymers for thermoelectric devices
Han Young Woo
Department of Chemistry, Korea University, Korea

Organizer



Dong Ki Yoon

Present Associate Professor, Graduate School of Nanoscience and Technology and Department of Chemistry, KAIST, Korea

2007 Ph.D, Department of Chemical & Biomolecular Engineering, KAIST, Korea

2001 BS, Department of Chemical Engineering, Yonsei Univ., Korea

Speaker



Jeewoo Lim

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

2013 Senior Researcher, Samsung Total Petrochemical (Currently Hanwha Total Petrochemical)

2011 Ph.D, Department of Chemistry, MIT



Beom-Goo Kang

2005 B.S, Department of Polymer Science and Engineering, Sungkyunkwan University, Korea

2012 Ph.D, Department of Materials Science and Engineering, Gwangju Institute of Science and Technology, Korea

2019 Assistant Professor, Department of Chemical Engineering, Soongsil University, Korea



Sungmin Park

Present Senior Research Scientist, Advanced Materials Division, Korea Research Institute of Chemical Technology, Korea

2019 Post-doc, Dept. of Chemical and Biological Engineering & Dept. of Chem, Rensselaer Polytechnic Institute, USA

2017 Ph. D, Dept. of Chemical and Biomolecular Engineering, Yonsei University, Korea



Dongyeop Oh

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

2016 POSTECH

5. Recent Trends in Early-career Polymer Chemists

Organizer : Dong Ki Yoon (KAIST)

Chair : Dong Ki Yoon (KAIST)

- 13:30 **POLY2-1** Polymer Solubility Modulation Through Controlled Photochemical Reactions
Jeewoo Lim
Department of Chemistry, Kyung Hee University, Korea
- 13:55 **POLY2-2** Well-Defined Functional Polymers via Anionic Polymerization: Synthesis and Applications
Beom-Goo Kang
Department of Chemical Engineering, Soongsil University, Korea
- 14:20 **POLY2-3** Precisely Tailored Polymer with Anionic Polymerization and Nanostructure Characterization
Sungmin Park
Advanced Materials Division, Advanced Functional Polymers Research Center, Korea Research Institute of Chemical Technology, Korea
- 14:45 **POLY2-4** Sustainable, Safe, and Smart Materials for Food Packaging
Dongyeop Oh^{*}, Jeyoung Park¹
Center for Bio-based chemistry, Korea Research Institute of Chemical Technology, Korea
¹*Center for Biochemistry, Korea Research Institute of Chemical Technology, Korea*

Organizer



Tae-Lim Choi

Present Professor, Chemistry, SNU
2003 PhD, Chemistry, Caltech
1999 BS, Chemistry, KAIST

Speaker



Min Sang Kwon

Present Assistant Professor, Department of Materials Science and Engineering, Seoul National University, Korea
2016-2020 Assistant Professor, Department of Materials Science and Engineering, UNIST, Korea
2011 Ph.D, Department of Chemistry, Seoul National University, Korea



Myungeun Seo

Present Associate Professor, Graduate School of Nanoscience and Technology, KAIST, Korea
2008 Ph.D., Department of Chemistry, KAIST, Korea
2002 B.S., Department of Chemistry, KAIST, Korea



Jeung Gon Kim

Present Associate Professor, Department of Chemistry, Jeonbuk National University, Korea
2015 Research Fellow, IBS, Center for Catalytic Hydrocarbon functionalizations



Jeyoung Park

Present Senior Researcher, Korea Research Institute of Chemical Technology
Present Associate Professor, University of Science and Technology
2014 Researcher, SK Innovation

6. Recent Trends in Polymer Synthesis

Organizer : Tae-Lim Choi (Seoul National University)

Chair : Tae-Lim Choi (Seoul National University)

- 15:10 **POLY3-1** Visible-light driven RAFT polymerization
Min Sang Kwon
Department of Materials Science and Engineering, Seoul National University, Korea
- 15:35 **POLY3-2** Synthesis of polyolefins via postpolymerization deoxygenation
Myungeun Seo
Graduate School of Nano Science Technology, Korea Advanced Institute of Science and Technology, Korea
- 16:00 **POLY3-3** Chemical Upcycling of Poly(bisphenol A carbonate)
Jeung Gon Kim
Department of Chemistry, Jeonbuk National University, Korea
- 16:25 **POLY3-4** Classic condensation polymerization transplants in situ method for filler-interactive all-organic nanocomposites
Jeyoung Park
Research Center for Bio-based Chemistry, Korea Research Institute of Chemical Technology, Korea

Organizer



Seungwoo Hong

2016-present Assistant Professor, Department of Chemistry, Sookmyung Women's University, Korea

2015-2016 Post-Doc, Department of Chemistry and Chemical Biology, Harvard University, USA

2014-2015 Post-Doc, Department of Chemistry, Ewha Womans University, Korea

Speaker



SeungJun Hwang

Present Assistant Professor, Department of Chemistry, POSTECH

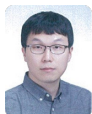
2018 NIH Postdoctoral fellow, Department of Chemistry, MIT

2012 PhD, Department of Chemistry and Chemical Biology, Harvard University



Dae Woon Lim

Present Assistant Professor, Department of Chemistry and Medical Chemistry, Yonsei University, Korea



Jaesung Kwak

Present Senior researcher, Korea Research Institute of Chemical Technology



Sarah Sunah Park

2020 Assistant Professor, Department of Chemistry, POSTECH

2019 Postdoctoral Fellow, Department of Chemistry, Northwestern University

2017 Ph. D. Department of Chemistry, MIT



Hongje Jang

2016-present Assistant professor, Department of Chemistry, Kwangwoon University, Korea

7. Emerging Researchers in Inorganic Chemistry

Organizer : Seungwoo Hong (Sookmyung Women's University)

Chair : Seungwoo Hong (Sookmyung Women's University)

- 10:40 **INOR1-1** Earth Abundant Molecular HX-Splitting Photocatalysts for Solar Energy Storage
SeungJun Hwang
Department of Chemistry, Pohang University of Science and Technology, Korea
- 11:00 **INOR1-2** Proton conducting media confined in metal-organic frameworks
Dae Woon Lim
Department of Chemistry and Medical Chemistry, Yonsei University, Korea
- 11:20 **INOR1-3** Synthesis and Characterization of Triiron-phosphide complexes
Jaesung Kwak
Green Carbon Catalysis Research Center, Korea Research Institute of Chemical Technology, Korea
- 11:40 **INOR1-4** Electrically Conductive Metal-Organic Frameworks
Sarah Sunah Park
Department of Chemistry, Pohang University of Science and Technology, Korea
- 12:00 **INOR1-5** Synthesis of multi-component nanoparticles from precursor heterogeneity for cancer therapy
Hongje Jang
Department of Chemistry, Kwangwoon University, Korea
- 12:20 Inorganic Chemistry Division General Meeting

Organizer



Juyeong Kim

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

2018 Postdoc, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, USA

2015 Ph.D. Department of Chemistry, The Pennsylvania State University, USA

Speaker



Ji-Hyun Jang

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

2004-2009 Post. Doc. Dept. of Materials Science and Engineering, MIT

2003 Ph. D. Dept. of Chemistry, KAIST



In Su Lee

Present Professor, Department of Chemistry, POSTECH

Present Director, Creative Research Initiative Center for Nanospace-Confining Chemical Reactions (NCCR), POSTECH

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



Kwangyeol Lee

Present Professor, Department of Chemistry, Korea University, Korea



Seong-Ju Hwang

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

2005-2019 Professor, Department of Chemistry and Nanoscience, Ewha Womans University, Korea

8. Recent Trends in Nano-Inorganic Chemistry

Organizer : Juyeong Kim (Gyeongsang National University)

Chair : Juyeong Kim (Gyeongsang National University)

- 13:00 **INOR2-1** **[Withdrawal]** Co-doping Strategy for Enhanced Photoelectrochemical Water Splitting Performance
Ji-Hyun Jang
Eco-Friendly Energy Engineering, Ulsan National Institute of Science and Technology, Korea
- 13:25 **INOR2-2** Functionalized Hollow Nanoparticles as Catalytic Nanoreactor Platform
In Su Lee
Department of Chemistry, Pohang University of Science and Technology, Korea
- 13:50 **INOR2-3** Ion exchange reaction in nanoparticles
Kwangyeol Lee
Department of Chemistry, Korea University, Korea
- 14:15 **INOR2-4** From Monolayered Inorganic Nanosheets to Multifunctional Nanohybrids
Seong-Ju Hwang
Department of Materials Science and Engineering, Yonsei University, Korea

Organizer

Hoi Ri Moon

Speaker



Jinhee Park

Present Assistant professor, Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea
2015 Senior researcher, Korea Electrotechnology Research Institute, Korea



Wonyoung Choe

2012-present Associate Professor, UNIST, Korea
2004-2012 Assistant Professor, University of Nebraska, USA



Dongwhan Lee

Present Professor, Department of Chemistry, Seoul National University, Korea
2003-2013 Assistant/Associate Professor, Department of Chemistry, Indiana University Bloomington, USA
2001 Ph.D. Department of Chemistry, MIT, USA

9. Recent Trends in Coordination Chemistry

Organizer : Hoi Ri Moon (UNIST)

Chair : Hoi Ri Moon (UNIST)

- 14:40 **INOR3-1** Post-synthetic modification of metal-organic materials via the conversion of phenyl C-H bonds
Jinhee Park
Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea
- 15:05 **INOR3-2** Extreme Self-Assembly for Metal-Organic Materials
Wonyoung Choe
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- 15:30 **INOR3-3** Chemomechanics of Metal-Ligand Crosslinks: The Art of Making, Breaking, and Restoring
Dongwhan Lee
Department of Chemistry, Seoul National University, Korea

Symposium

Physical Chemistry Symposium 1
July 7 (Tue), Room 402 (Live Streaming)

Organizer

Hangil Lee

Chair

Han Bin Oh

Present Division of Physical Chemistry,
Secretary general

2003-present Sogang University, Professor

2003. 02. Cornell University, Dept. of
Chemistry and Chemical
Biology, PostDoc.

Speaker

Joonyoung Jang

Present Professor, Department of
Nanoenergy Engineering, Pusan
National University, Korea

2000-2003 Postdoc., Department of
Chemistry, Northwestern
University, USA

2000 Ph.D., Department of Chemistry,
Brown University, USA

Woo youn Kim

Present Professor, Department of
Chemistry, KAIST, Korea

2010 Postdoc, MPI for Microstructure
Physics, Germany

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

Sangsu Bae

Present Assistant Professor, Department
of Chemistry, Hanyang University

2012 Ph.D. Department of Physics,
Seoul National University, Korea

2005 B.S., Department of Physics,
Seoul National University, Korea

Daeha Seo

Duyoung Min

Present Assistant Professor, Department
of Chemistry, UNIST, Korea

2019 Postdoc, Department of
Chemistry and Biochemistry,
UCLA, USA

2014 Ph.D., Department of Physics,
KAIST, Korea

10. Recent Research Trends in Biophysical Chemistry as a Point of Physical Chemist: Bioinformatics and Bio-single Molecule Analysis.

Organizer : Hangil Lee (Sookmyung Women's University)

Chair : Han Bin Oh (Sogang University)

<Award Lecture: IPJAE Physical Chemistry Award>

11:00 **PHYS1-1** Understanding the Phase and Molecular Structure and Dynamics of Water at Interfaces

Joonyoung Jang

Department of Nanoenergy Engineering, Pusan National University, Korea

Chair : Hangil Lee (Sookmyung Women's University)

11:30 **PHYS1-2** Acceleration of Drug Discovery using Deep Learning

Woo youn Kim

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

11:50 **PHYS1-3** Recent genome editing studies using CRISPR

Sangsu Bae

Department of Chemistry, Hanyang University, Korea

12:10 **PHYS1-4** Single Molecule Imaging and Machine Learning Analysis: Estimation of diffusive states hidden by Ensemble-average

Daeha Seo

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

12:30 **PHYS1-5** Single-molecule Force Spectroscopy Unfolds Membrane Protein Folding Mystery

Duyoung Min

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

Organizer



Sungnam Park

2009. 3 Assistant Professor, Associate
u2013 Professor, Full Professor,
Present Department of Chemistry,
Korea University, Korea

2005. 9 Post-doctoral research
u2013 associate, Department of
2009. 2 Chemistry, Stanford
University, USA

2005.8 Ph.D., Department of
Chemistry, University of
Chicago, USA.

Speaker



Jong Min Lim

present research fellow, IBS CMSD /
research professor, Department
of Chemistry, Korea University,
Korea

2017 Postdoc, Department of
Chemistry, University of Oxford,
UK

2013 Ph.D, Department of Chemistry,
Yonsei University, Korea

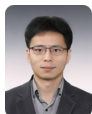


Kyung Hwan Kim

Present Assistant Professor Department
of Chemistry, POSTECH

2018 PostDoc, Department of Physics,
Stockholm University

2013 Ph. D., Department of Chemistry
KAIST



Nam Ki Lee

2017~ Associate Professor,
Department of Chemistry,
Seoul National University

2009~2016 Assistant and Associate
Professor, Department of
Physics, POSTECH

2006~2008 Post-doctoral fellow, Harvard
University



Hohjai Lee

2020 Associate Professor, Department of
Chemistry, GIST

2013 Assistant Professor, Department of
Chemistry, GIST

11. Recent Progresses in Physical Chemistry

Organizer : Sungnam Park (Korea University)

Chair : Sungnam Park (Korea University)

- 13:40 **PHYS2-1** The vibrational microscopy - Coherent Raman and Photothermal techniques
Jong Min Lim^{*}, Minhaeng Cho
Department of Chemistry, Korea University, Korea
- 14:00 **PHYS2-2** X-ray studies on Nuclear Quantum Effects of the Structure of Water
Kyung Hwan Kim
Department of Chemistry, Pohang University of Science and Technology, Korea
- 14:20 **PHYS2-3** Single-protein imaging for direct observation of transcription in a living cell
Nam Ki Lee
School of Chemistry, Seoul National University, Korea
- 14:40 **PHYS2-4** Observation of MFE at high and low solvent polarities
Hohjai Lee
Chemistry, Gwangju Institute of Science and Technology, Korea

Organizer

**Hyungjun Kim**

Present Associate Professor, Department of Chemistry, KAIST
2009 Ph.D, Department of Chemistry, Caltech
2004 B.S, Department of Chemistry, KAIST

Chair

**Han Bin Oh**

Present Division of Physical Chemistry, Secretary general
2003-present Sogang University, Professor
2003.02. Cornell University, Dept. of Chemistry and Chemical Biology, PostDoc.

Speaker

**Chaok Seok**

2017 - present Editor-in-Chief, Journal of the Korean Chemical Society
2004 - Assistant, Associate, and Full Professor, Department of Chemistry, Seoul National University
2008 - Affiliate Professor, Computational Science, Korea Institute for Advanced Study

**Chang yun Son**

Present Professor, Department of Chemistry, POSTECH, Korea
2017.09-2020.01 Postdoctoral Scholar, Caltech, Pasadena, CA, USA
2017.08 Ph.D. in Physical Chemistry, University of Wisconsin-Madison

**Won June Kim**

Present Assistant Professor, Department of Biology and Chemistry, Changwon National University
2019 Postdoc, CNRS-Universite de Lorraine, France
2017 Ph. D, Department of Chemistry, KAIST, Korea

**Sunghwan Choi**

2017-present Senior Researcher, Korea Institute of Science and Technology Information

12. Recent Progress in Theoretical and Computational Chemistry

Organizer : Hyungjun Kim (KAIST)

Chair : Han Bin Oh (Sogang University)

<Award Lecture: Shin Kook Joe Award>

15:20 **PHYS3-1** Prediction of protein structure and interaction by physics and informatics
Chaok Seok
Division of Chemistry, Seoul National University, Korea

Chair : Hyungjun Kim (KAIST)

15:50 **PHYS3-2** Enabling Predictive Molecular Simulations of Electrolytes for Next Generation Energy Storage Devices
Chang yun Son
Department of Chemistry, Pohang University of Science and Technology, Korea

16:10 **PHYS3-3** Theoretical studies on the electronic structure and band alignment of photoactive materials with self-consistent hybrid functional
Won June Kim
Department of Biology and Chemistry, Changwon National University, Korea

16:30 **PHYS3-4** Quantum chemical database and prediction of spin coupling constants
Sunghwan Choi
Korea Institute of Science and Technology Information, Korea

16:50 Physical Chemistry Division General Meeting

Symposium

Analytical Chemistry Symposium 1
July 7 (Tue), Room 301 (Live Streaming)

Organizer

Seunghyun Lee

Chair



Joohoon Kim

President Professor, Department of Chemistry, KHU-KIST
Department of Converging Science and Technology, Kyung Hee University, Kor

2009 Postdoc, Department of Chemistry, University of Chicago, USA

2007 PhD, Department of Chemistry, The University of Texas at Austin

Speaker



Jin-Woo Oh

Present Associate Professor, Department of Nanoenergy Engineering, Pusan National University

Present Director, Center for Phage Meta-Materials (Future Materials Discovery Business)

Present Director, Institute of BIT convergence Technology, Pusan National University

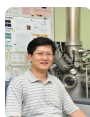


Inhee Choi

Present Associate Professor, Dept. of Life Science, University of Seoul

2014 Postdoc, Bioengineering, University of California at Berkeley, USA

2011 Postdoc, Mechanical engineering, Cornell University, USA



Tae geol Lee

Present Head, Center for Nano-Bio Measurement, KRISS, Korea

2000 Postdoc, Department of Chemistry, University of Toronto, Canada

1995 Ph.D, Department of Chemistry, Seoul National University, Korea



Hye Jin Lee

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

2007 Associate Researcher, Department of Chemistry, University of California-Irvine, USA

1999 Ph. D, Department of Chemistry, Ecole Polytechnique Federale de Lausanne, Switzerland



Jiung Cho

2010 Ph. D, Department of Materials Science and Engineering, Korea University, Korea

2014 Postdoc, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign

13. Current Trends of Bio/Chemical Sensors in Analytical Chemistry

Organizer : Seunghyun Lee (Gachon University)

Chair : Seunghyun Lee (Gachon University)

- 13:00 **ANAL1-1** 3rd Generation Colorimetric Sensor: Selective Electronic Nose
Jin-Woo Oh
Department of Nanoenergy Engineering, Pusan National University, Korea
- 13:20 **ANAL1-2** Nanoplasmonic Sensor Platforms for Biological and Chemical Analyses
Inhee Choi
Department of Life Science, University of Seoul, Korea
- 13:40 **ANAL1-3** Top-down Nanostructure-based Bio-Imaging and Bio-Sensor
Tae geol Lee
Center for Nano-Bio Measurement, Korea Research Institute of Standards and Science, Korea
- 14:00 **ANAL1-4** Better Analysis with Metallic and Non-metallic Nanoparticle-integrated Biochip Sensors
Hye Jin Lee
Department of Chemistry, Kyungpook National University, Korea
- 14:20 **ANAL1-5** FET sensor researches in KBSI (Metal oxide semiconductor-based thin film transistors for sensor application)
Jiung Cho
Western Seoul Center, Korea Basic Science Institute, Korea
- 14:40 Break

Chair : Joohoon Kim (Kyung Hee University)

< Award Lecture: Young Analytical Chemist Award >

- 14:50 **ANAL1-6** Liquid Chromatography and Mass Spectrometry for Biological and Clinical Analyses
Min-Sik Kim
Department of New Biology, DGIST, Korea

Present Senior Researcher, Korea Basic
Science Institue



Min-Sik Kim

2020- Associate Professor,
present Department of New Biology,
DGIST

2018- Assistant Professor,
2019 Department of New Biology,
DGIST

2016- Assistant Professor,
2018 Department of Applied
Chemistry, Kyung Hee
University

Organizer



Youngsoo Kim

Present Assistant Professor, School of Chemistry and Biochemistry, Yeungnam University, Korea

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

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

Chair

Young-Kwan Kim

Speaker



Dong Ha Kim

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

Present Associate Editor, Nanoscale and Nanoscale Advances

2000 Ph.D., Department of Fiber and Polymer Science, Seoul National University, Korea



Dongkwon Lim

2015-present Associate Professor, KU-KIST graduate school of converging science and technology, Korea University, Korea

2013-2015 Assistant Professor, Chonbuk National University, Korea

2011-2013 MIT, David Koch Institutes



Doory Kim

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

2017 Postdoc, College of Chemistry, UC Berkeley, USA

2015 Ph.D, Department of Chemistry and Chemical Biology, Harvard University, USA



Tae Jung Park

2007-2011 Research professor, KAIST

2011-2012 Senior researcher, National Nanofab Center

2012-Present Professor, Chung-Ang University



Youngsoo Kim

Present Assistant Professor, School of Chemistry and Biochemistry, Yeungnam University, Korea

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

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

14. Recent Trends in Analytical Chemistry: Sensing and Imaging via Light-to-Matter Interactions

Organizer : Youngsoo Kim (Yeungnam University)

Chair : Youngsoo Kim (Yeungnam University)

- 15:20 **ANAL2-1** Coupled Plasmons: Identity and Sensing
Dong Ha Kim
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- 15:40 **ANAL2-2** Raman scattering based live cell analysis as a new tool for potential drug screening
Dongkwon Lim
KU-KIST Graduate School of Science and Technology, Korea University, Korea
- 16:00 **ANAL2-3** Spectral STORM : super-resolution fluorescence microscopy for single-molecule sensing
Doory Kim
Department of Chemistry, Hanyang University, Korea
- 16:20 Break

Chair : Young-Kwan Kim (Dongguk University)

- 16:30 **ANAL2-4** Development of rapid diagnosis for active Tuberculosis using bio-nano convergence technology
Tae Jung Park
Department of Chemistry, Chung-Ang University, Korea
- 16:50 **ANAL2-5** Turning Photons into Chemical Reactions: Kinetic Study on Plasmonic Au Photocatalysts
Youngsoo Kim
School of Chemistry and Biochemistry, Yeungnam University, Korea
- 17:10 Analytical Chemistry Division General Meeting

Symposium

Life Chemistry Symposium 1

July 7 (Tue), Room 304 (Live Streaming)

Organizer



Junseok Lee

Present Principal Investigator &
Associate Professor, KIST

Chair



Young Jun Seo



Eun Gyeong Yang

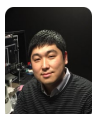
Speaker



Dong-ki Lee

Professor Department of Chemistry,
Sungkyunkwan University,
Korea

CEO Olix Pharmaceuticals, Korea



Seung Soo Oh

Present Il-Beom Chaired Assistant
Professor, Department of
Materials Science and
Engineering, POSTECH, Korea

2016 Research Fellow, Massachusetts
General Hospital/Harvard
Medical School, U.S.A.

2012 PhD, Materials Department,
University of California, Santa
Barbara, U.S.A.



Ki Soo Park

Assistant Professor Department of Biological
Engineering, Konkuk
University, Korea



Jinha Yu

2014.09-
2016.02 Post Doc. Department of
Pharmacy, Seoul National
University, Korea

2016.03-
2018.02 Post Doc. NIDDK, National
Institutes of Health, United
State

2018.02-
2019.08 Research professor,
Department of Pharmacy,
Seoul National University,
Korea



Kyeong Kyu Kim

Present Professor, Department of
Precision Medicine,
Sungkyunkwan University School
of Medicine, Korea

1994 Ph.D, Department of Chemistry,
Seoul National University, Korea

1989 B.S, Department of Chemistry,
Seoul National University, Korea

15. Nucleic Acid and Its Derivative Chemistry

Organizer : Junseok Lee (KIST)

Chair : Young Jun Seo (Jeonbuk National University)

- 11:00 **LIFE1-1** Therapeutic development using chemically modified asymmetric small interfering RNAs
Dong-ki Lee
Department of Chemistry, Sungkyunkwan University, Korea
- 11:20 **LIFE1-2** Generation of Nucleic Acid Nanomachines That Perform Complex Functions
Seung Soo Oh
Department of Materials Science and Engineering, Pohang University of Science and Technology, Korea
- 11:40 **LIFE1-3** Sequence-specific DNA detection utilizing a 2-aminopurine-containing, split G-quadruplex
Ki Soo Park
Department of Biological Engineering, Konkuk University, Korea
- 12:00 **LIFE1-4** Development of Biologically Active 4'-Selenonucleoside Analogues
Jinha Yu
Chemical kinomics research center, Korea Institute of Science and Technology, Korea

Chair : Eun Gyeong Yang (KIST)

<Award Lecture: Park Inwon Scholar Award>

- 12:20 **LIFE1-5** Structure and functions of noncanonical DNAs
Kyeong Kyu Kim
Department of Medicine, Sungkyunkwan University, Korea

Organizer



Yongwon Jung

Present Associate Professor, Department of Chemistry, KAIST, Korea
 2012 Senior Research Scientist, BioNano Research Center, KRIBB, Korea
 2005 Ph.D, Department of Chemistry, MIT, USA

Speaker



Taejoon Kang

2012 ~ Present Senior Researcher, Bionanotechnology Research Center, KRIBB
 2017 ~ Present Adjunct Professor, Department of Biological Sciences, KAIST



Kyeng Min Park

Present Group leader/Research Fellow, Center for Self-assembly and Complexity (CSC), Institute for Basic Science (IBS), Korea
 2012 Postdoc. Department of Chemistry and Chemical Biology, Harvard University, U.S.A.
 2009 Ph.D. Department of Chemistry, POSTECH, Korea



Dal-Hee Min

Present Professor, Department of Chemistry, Seoul National University, Korea
 Present CTO, Co-founder, Lemonex Inc.



Sung Jee Kim

2017~present Professor, Dept. of Chemistry, Pohang University of Science and Technology
 2010~2017 Associate Professor, Dept. of Chemistry, Pohang University of Science and Technology
 2005~2010 Assistant Professor, Dept. of Chemistry, Pohang University of Science and Technology

16. Current issues in Nanobio Science

Organizer : Yongwon Jung (KAIST)

Chair : Yongwon Jung (KAIST)

- 13:00 **LIFE2-1** Noble Metal Nanostructures for Biomolecular Sensing
Taejoon Kang
Bionanotechnology Research Center, Korea Research Institute of Bioscience & Biotechnology, Korea
- 13:30 **LIFE2-2** Supramolecular latch: Synthetic high-affinity molecular anchoring tool for chemical biology and biomedicine
Kyeng Min Park
Center for Self-assembly and Complexity, Institute for Basic Science, Korea
- 14:00 **LIFE2-3** Development of biosensors and biopharmaceuticals by using chemically well-defined nanomaterials
Dal-Hee Min
Department of Chemistry, Seoul National University, Korea
- 14:30 **LIFE2-4** Zwitterionic Surfaced Nanoparticles for Biomedical Applications
Sung Jee Kim
Department of Chemistry, Pohang University of Science and Technology, Korea

Organizer



Eun Jin Cho

2015-present Associate Professor/Professor, Department of Chemistry, Chung-Ang University, Korea

2011-2015 Assistant Professor, Department of Applied Chemistry, Hanyang University (ERICA campus), Korea

Chair



Seunghoon Shin

Present Professor, Department of Chemistry, Hanyang University, Korea

2002-4 Postdoc, Department of Chemistry, Stanford University, USA

2001 Ph.D. Department of Chemistry, Ohio State University, USA

Speaker



Jin Kyoong Park

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

2012 Postdoc, Department of Chemistry and Biochemistry, Florida State University, USA

2004 Ph.D. Department of Chemistry, Seoul National University, Korea



Anna Lee

2019-present Associate Professor, Department of Chemistry, Myongji University, Korea

2015-2019 Assistant Professor, Department of Chemistry, Myongji University, Korea

2013-2015 Post-doctoral researcher, Northwestern University, USA (Supervisor: Prof. Karl A. Scheidt)



Sang Kook Woo

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



Eun Jin Cho

2015-present Associate Professor/Professor, Department of Chemistry, Chung-Ang University, Korea

2011-2015 Assistant Professor, Department of Applied Chemistry, Hanyang University (ERICA campus), Korea



Cheol Min Park

Present Associate Professor, Department of Chemistry, UNIST, Korea

1995 Department of Chemistry, Seoul National University, Korea

1990 B.S. Department of Chemistry, Seoul National University, Korea

17. Shim Sang Chul Memorial Symposium: Synthetic Methodology and Photocatalysis

Organizer : Eun Jin Cho (Chung-Ang University)

Chair : Seunghoon Shin (Hanyang University)

< Award Lecture: Shim Sang Chul Award >

10:50 **ORGN1-1** Selective Addition Reactions to Electron-rich Unsaturated π System: N-alkynyl- and N-allenylamides
Jin Kyoong Park
Department of Chemistry, Pusan National University, Korea

Chair : Eun Jin Cho (Chung-Ang University)

11:15 **ORGN1-2** Green Synthesis of Bioactive Molecules with Visible Light
Anna Lee
Department of Chemistry, Myongji University, Korea

11:35 **ORGN1-3** Photoredox catalyzed C-C bond forming reactions using silicon-based activation group
Sang Kook Woo
Department of Chemistry, University of Ulsan, Korea

Chair : Anna Lee (Myongji University)

11:55 **ORGN1-4** Photocatalytic C-N Bond Forming Transformations
Eun Jin Cho
Department of Chemistry, Chung-Ang University, Korea

12:15 **ORGN1-5** Photocatalyzed Cycloaddition Reactions
Cheol Min Park
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

Organizer

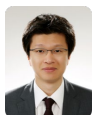
**Jung Woon Yang**

Present Associate Professor, Department of Energy Science, Sungkyunkwan University, Korea

2009 Group Leader, Max-Planck-Institut fuer Kohlenforschung, Germany

2003 Ph.D. Korea Institute of Science and Technology & Korea University, Korea

Speaker

**Youngmin You**

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

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

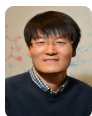
Ph.D. Department of Materials Science and Engineering, Seoul National University, Korea

**Dongwhan Lee**

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

2003-2013 Assistant/Associate Professor, Department of Chemistry, Indiana University Bloomington, USA

2001 Ph.D. Department of Chemistry, MIT, USA

**Kyungsoo Oh**

1999 B.Sc. School of Chemistry, Queen Mary, University of London, UK

2003 D.Phil. School of Chemistry, University of Sussex, UK

Present Professor, College of Pharmacy, Chung-Ang University, Korea

**Byeong-Su Kim**

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

2009-2018 Assistant and Associate Professor, Department of Chemistry, UNIST, Korea

2007 Ph.D. Department of Chemistry, University of Minnesota, USA

18. Current Trends in Bioinspired Synthetic Chemistry

Organizer : Jung Woon Yang (Sungkyunkwan University)

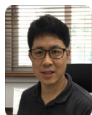
Chair : Jung Woon Yang (Sungkyunkwan University)

- 13:30 **ORGN2-1** Photon-Harvesting Biomimetic Catalysis
Youngmin You
Division of Chemical Engineering and Materials Science, Ewha Womans University, Korea
- 13:50 **ORGN2-2** Shape-Changing Assemblies of Crowded and Frustrated Polyheteroaromatics
Dongwhan Lee
Department of Chemistry, Seoul National University, Korea
- 14:10 **ORGN2-3** ortho-Naphthoquinone-Catalyzed Aerobic Oxidations of Amines
Kyungsoo Oh
College of Pharmacy, Chung-Ang University, United States
- 14:30 **ORGN2-4** Functional Epoxide Monomer Library toward Peptidomimetic Polyethers
Byeong-Su Kim
Department of Chemistry, Yonsei University, Korea

Symposium

Organic Chemistry Symposium 3
July 7 (Tue), Room 305 (Live Streaming)

Organizer



Hyun-Suk Lim

Present Associate Professor, Department of Chemistry, POSTECH, Korea
2004 Ph.D, Department of Chemistry, POSTECH, Korea
1991 B.S, Department of Chemistry, Hanyang University, Korea

Chair



Seunghoon Shin

Present Professor, Department of Chemistry, Hanyang University, Korea
2002-4 Postdoc, Department of Chemistry, Stanford University, USA
2001 Ph.D, Department of Chemistry, Ohio State University, USA

Speaker



Kwangho Lee

Present Principal Investigator, Korea Research Institute of Chemical Technology
Present Professor, University of Science & Technology



James Jungkue Lee

present CEO, Bridge Biotherapeutics, Inc.
2015 Founded Bridge Biotherapeutics, Inc.
2008 Founded Rexbio, Inc



Lak Shin Jeong

1995 - 2013 Professor, Ewha Womans University
2008 - 2013 Principal Investigator of WCU Type 1 Project of NRF, Korea
2013 - Present Professor, Seoul National University



Taebo Sim

Present Professor, College of Medicine, Yonsei University, Korea
2012-2019 Director of Chemical Kinomics Research Center, Korea Institute of Science and Technology, Korea
2012-2019 Professor, KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea



Jung-Nyoung Heo

Present Principal Scientist, KRICT, Korea
2003 Postdoc, Department of Chemistry, University of Michigan, USA
2001 Ph.D, Department of Chemistry, Case Western Reserve University, USA

19. Current Trends in Medicinal Chemistry & Chemical Biology

Organizer : Hyun-Suk Lim (POSTECH)

Chair : Hyun-Suk Lim (POSTECH)

- 15:00 **ORGN3-1** Chronicles of EGFR TKIs
Kwangho Lee
Korea Research Institute of Chemical Technology, Korea
- 15:20 **ORGN3-2** NRDO, New Business Model for Innovative Drug Development and Its Case Story
James Jungkue Lee
Business Development, Commercialization, Drug Development, Bridge Biotherapeutics, Inc., Korea
- 15:40 **ORGN3-3** Development of Fluoro-carbocyclic Nucleosides as Potent Anti-RNA Virus Agents
Lak Shin Jeong
Department of Pharmacy, Seoul National University, Korea
- 16:00 **ORGN3-4** Identification of Unique Resorcylic Acid Lactone Derivatives That Targets ALK1 or VEGFR2&3
Taebo Sim^{*}, Sandip Sengupta¹
Severance Biomedical Science, Yonsei University, Korea
¹*Chemical Kinomics Research Center, Korea Institute of Science and Technology, Korea*
- 16:20 Break

Chair : Seunghoon Shin (Hanyang University)

<Award Lecture: Organic Chemistry Academic Award Lecture>

- 16:30 **ORGN3-5** Polycyclic Compounds in Drug Discovery
Jung-Nyoung Heo
Organic Chemistry, Korea Research Institute of Chemical Technology, Korea
- 16:55 Organic Chemistry Division General Meeting

Symposium

Material Chemistry Symposium 1
July 7 (Tue), Room 303 (Live Streaming)

Organizer



Min Hyung Lee

Present Associate Professor, Department of Applied Chemistry, Kyung Hee University, Korea
2012 Postdoc, Department of EECS, UC Berkeley, USA
2010 Ph.D, Department of Chemistry, Northwestern University, USA

Speaker



Hyuneui Lim

Present Head, Dept. of Nature-Inspired Nano-convergence Systems, Korea Institute of Machinery & Materials, Korea
2003 Postdoc, College of Chemistry, University of California Berkeley, USA
2002 Ph.D, Department of Chemistry, Korea University, Korea



Haeshin Lee

Present Professor, Department of Chemistry, KAIST
2008 Ph.D. Northwestern University
1996 Department of Biological Sci., KAIST



Ki Tae Nam

2010 - Present Professor (Tenured in 2014), Seoul National University (SNU)
2011 - Present Adjunct Professor, Division of Bioengineering (SNU)
2017.08 - Present Director, Nano System Institute, SNU, Korea

20. Recent Trends in Bio-inspired Materials Development

Organizer : Min Hyung Lee (Kyung Hee University)

Chair : Min Hyung Lee (Kyung Hee University)

- 11:00 **MAT1-1** Nature inspired functional nanosurfaces
Hyuneui Lim
Dept. of Nature-Inspired Nanoconvergence Systems, Korea Institute of Machinery & Materials, Korea
- 11:30 **MAT1-2** Plant- and Mussel-inspired Polydopamine and Pyrogallol Surface Chemistry
Haeshin Lee
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 12:00 **MAT1-3** Peptide Induced Chirality Evolution in Single Gold Nanoparticle
Ki Tae Nam
Division of Material Engineering, Seoul National University, Korea

Symposium

Material Chemistry Symposium 2
July 7 (Tue), Room 303 (Live Streaming)

Organizer



Jiwon Kim

Present Assistant Professor, School of Integrated Technology, Yonsei University, Korea
2013 Ph.D, Department of Chemistry, Northwestern University, USA
2006 B.S, Department of Chemistry, KAIST, Korea

Speaker



Young Jin Sa

Present Assistant Professor, Department of Chemistry, Kwangwoon University, Korea
2019 Postdoc, Korea Institute of Science and Technology (KIST), Korea
2018 Ph.D, Ulsan National Institute of Science and Technology (UNIST), Korea



Jeong-Mo Choi

2019- Present Research Assistant Professor, Natural Science Research Institute, KAIST, Republic of Korea
2016- 2019 Postdoctoral associate, Department of Biomedical Engineering, Washington University in St. Louis, USA
2016 Ph.D, Department of Chemistry and Chemical Biology, Harvard University, USA



Hyun Seo Ahn

Present Assistant Professor, Yonsei University



Seungwoo Hong

2016- present Assistant Professor, Department of Chemistry, Sookmyung Women's University, Korea
2015- 2016 Post-Doc, Department of Chemistry and Chemical Biology, Harvard University, USA
2014- 2015 Post-Doc, Department of Chemistry, Ewha Womans University, Korea

Daeha Seo

21. Recent Trends in Materials Chemistry

Organizer : Jiwon Kim (Yonsei University)

Chair : Jiwon Kim (Yonsei University)

- 13:00 **MAT2-1** Designed Carbon Nanomaterials for Efficient Electrochemical H₂O₂ Production
Young Jin Sa
Department of Chemistry, Kwangwoon University, Korea
- 13:24 **MAT2-2** Molecular Grammar for In-Cell Biomolecular Phase Separation
Jeong-Mo Choi
Natural Science Research Institute, Korea Advanced Institute of Science and Technology, Korea
- 13:48 **MAT2-3** Surfactant-free Electrochemical Synthesis of Metallic Nanoparticles via Stochastic Collisions of Aqueous Nanodroplet Reactors
Hyun Seo Ahn
Department of Chemistry, Yonsei University, Korea
- 14:12 **MAT2-4** Bioinorganic chemistry approaches towards investigating systems chemistry in cellular biomolecular network
Seungwoo Hong
Department of Chemistry, Sookmyung Women's University, Korea
- 14:36 **MAT2-5** Nanomaterials for Live Cell Imaging and Manipulation
Daeha Seo
Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, Korea

Organizer

Young S. Park

Speaker



Seok Ju Kang

Present Associate Professor, Energy and Chemical Engineering, UNIST, Korea
2014 Postdoc, IBM Almaden Res. Ctr., USA
2010 Ph.D, Department of Materials Science & Engineering, Yonsei University, Korea



Byeong-Seon Kim

2018 - Present Assistant Professor, Department of Chemistry Education, Gyeong Sang National University
2016 - 2018 Postdoc, Department of Chemistry, Rice University



Jin-sil Choi

2018 Assistant Professor, Hanbat National University
2017 Researcher, Y-IBS, Yonsei University
2013 Post-doc, University of California, Los Angeles



Seung-Hun Lee

Present KRF Fellow, Postdoc, Department of Food Science and Biotechnology, Kyung Hee University, Korea
2019 Ph.D, Department of Life Science and Chemistry, Jacobs University Bremen, Germany
2014 Champion, Home Brewers Cup Bremen 2014

22. Recent Trends in Organic Materials Chemistry

Organizer : Young S. Park (UNIST)

Chair : Young S. Park (UNIST)

- 15:00 **MAT3-1** Contorted Polycyclic Aromatic Hydrocarbons: Promising Organic Anodes for Alkali-ion Batteries
Seok Ju Kang
School of energy and chemical engineering, Ulsan National Institute of Science and Technology, Korea
- 15:25 **MAT3-2** Transition Metal-Catalyzed Functionalization of Arylmethanes for Use in Material Chemistry
Byeong-Seon Kim
Department of Chemistry Education, Gyeongsang National University, Korea
- 15:50 **MAT3-3** Functional nanomaterials for cancer diagnosis
Jin-sil Choi
Department of Chemical and Biological Engineering, Hanbat National University, Korea
- 16:15 **MAT3-4** Coffee as a future biomaterial
Seung-Hun Lee
Department of Food Science and Biotechnology, Kyung Hee University, Korea
- 16:40 Break
- 16:50 Materials Chemistry Division General Meeting

Organizer

Inho Nam

Speaker

**Changshin Jo**

Present Assistant Professor, School of Chemical Engineering and Materials Science, Chung-Ang University, Kor

2019 Marie-Curie Fellow, Department of Engineering, University of Cambridge, UK

2016 Ph.D. Chemical Engineering, Pohang University of Science and Technology, Kor

**Seung-Ho Yu**

2019-present Assistant Professor, Department of Chemical and Biological Engineering, Korea

2015-2019 Postdoctoral Associate, Department of Chemistry and Chemical Biology, Cornell University, USA

2014-2015 Senior Researcher, Center for Nanoparticle Research, Institute of Basic Science, Korea

**Jin Ho Bang**

Present Professor, Hanyang University (ERICA), Korea

2008 Ph.D., University of Illinois at Urbana-Champaign, USA

1999 B.S., Seoul National University, Korea

**Won Sub Yoon**

Present Professor, Sungkyunkwan University, Suwon, Korea

2011 Assistant/Associate Professor, Kookmin University, Seoul, Korea

2008 Principal Investigator, Brookhaven National Laboratory, NY11973, USA

**Seung-Tae Hong**

2012-present Professor, Dept. of Energy Science & Engineering, DGIST (Daegu Gyeongbuk Institute of Science & Technology, Korea

2000-2012 Principal Researcher, Battery and Corporate R&D, LG Chem Research Park, Korea

1994-1999 Research Associate, Oregon State Univ. / Iowa State Univ., USA

23. Recent Technologies for Renewable Energy Storage and Conversion

Organizer : Inho Nam (Chung-Ang University)

Chair : Inho Nam (Chung-Ang University)

- 10:00 **ELEC1-1** Synthesis of nanostructured anode materials for lithium ion battery applications
Changshin Jo
School of Chemical Engineering and Materials Science, Chung-Ang University, Korea
- 10:25 **ELEC1-2** Visualization of Lithium Dendrite Growth via Operando X-ray Imaging
Seung-Ho Yu
Department of Chemical and Biological Engineering, Korea University, Korea
- 10:50 Break
- 11:00 **ELEC1-3** Devising A New Solid-State Reaction for Oxide-Based Electrode Materials
Jin Ho Bang
Department of Bionano Technology and Department of Chemical and Molecular Engineering, Hanyang University, Korea
- 11:25 **ELEC1-4** Extraordinary Li Storage in Nanostructured Electrode Materials for Next Generation Li Batteries
Won Sub Yoon
Department of Energy Science, Sungkyunkwan University, Korea
- 11:50 **ELEC1-5** Emerging intercalation chemistry of cathode materials for calcium-ion batteries
Seung-Tae Hong
Energy Science and Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea

Organizer

**Jongwoo Lim**

2017-present Assistant Professor, Seoul National University
 2014-2017 Postdoctoral Researcher, Stanford University
 2008-2013 PhD, University of California, Berkeley

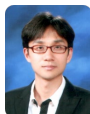
Speaker

**Seongpil Hwang**

2014-present Professor, Department of Advanced Materials Chemistry, Korea University
 2008-2014 Assistant/Associate Professor, Department of Chemistry, Myongji University
 2006-2008 Postdoctoral Fellow, Department of Chemistry, Northwestern University

**Joohoon Kim**

President Professor, Department of Chemistry, KHU-KIST Department of Converging Science and Technology, Kyung Hee University, Korea
 2009 Postdoc, Department of Chemistry, University of Chicago, USA
 2007 PhD, Department of Chemistry, The University of Texas at Austin

**Hochun Lee**

Assistant Professor Kumoh Nat'l Institute of Technology
 Senior Researcher Batteries R&D, LG Chem
 PhD Chemistry, KAIST

**Seung Joon Yoo**

Present Assistant Professor, School of Materials Science and Engineering, GIST, Korea
 2015 Postdoc, University of California, Santa Barbara
 2008 Ph.D. Department of Chemistry, University of California, Santa Barbara

**Jungdon Suk**

present Principal research Scientist, KRICT, Korea
 2012 Research Scientist, Battery R&D, LG Chem. Research Park, Korea
 2011 Ph.D. Department of Chemistry, University of Texas at Austin, USA

24. Recent Trends in Electrochemistry: Physical Electrochemistry and Applications

Organizer : Jongwoo Lim (Seoul National University)

Chair : Jongwoo Lim (Seoul National University)

- 13:30 **ELEC2-1** 2nd Generation Fourier Transform Electrochemical Impedance Spectroscopy; Correlation with amperometry and Implementation with commercial potentiostat
Seongpil Hwang
Department of Advanced Materials Chemistry, Korea University, Korea
- 13:55 **ELEC2-2** Water-Soluble Au Nanoclusters with Near-Infrared Electrochemiluminescence
 Yunjeong Kang, Joohoon Kim
Department of Chemistry, Kyung Hee University, Korea
- 14:20 Break
- 14:30 **ELEC2-3** Determination of hydration numbers of ionic species using dielectric relaxation spectroscopy: its implication in thermocells and aqueous LIBs
Hochun Lee
Energy Science & Engineering, DGIST, Korea
- 14:55 **ELEC2-4** Utilization of electron transfer redox mediators: application to organic electrosynthesis and energy storage
Seung Joon Yoo
Materials Science and Engineering, Gwangju Institute of Science and Technology, Korea
- 15:20 **ELEC2-5** Electrochemical Characteristics of All-solid-state Lithium Batteries Using Solid Polymer Electrolytes
Jungdon Suk
Energy Materials Research Center, Korea Research Institute of Chemical Technology, Korea

Organizer



Seounghey Paik
Present Professor, Korea National
University of Education

Speaker



Seounghey Paik
Professor Korea National University of
Education



Dae Hong Jeong
Professor Department of Chemistry
Education, Seoul National
University
Editor School Science Journal



Hyun Kyung Kim
2020 Assistant Porfessor, Department of
Chemistry Education
2008 Research Fellow, Korea Institute of
Curriculum and Evaluation
2002 Visting Scholar, National Institute
of Health



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

25. Revitalizing School Inquiry Experiments and Improving Experimental Safety Education

Organizer : Seounghey Paik (Korea National University of Education)

Chair : Seounghey Paik (Korea National University of Education)

- 15:05 **EDU-1** Proposal for laboratory safety and experiment activation
Seounghey Paik
Department of Chemical Education, Korea National University of Education, Korea
- 15:25 **EDU-2** Lab for Chemistry Inquiry Activities by Considering Safety and Core
Competencies
Dae Hong Jeong
Department of Chemical Education, Seoul National University, Korea
- 15:45 Break
- 15:55 **EDU-3** A Study on the Establishment and Operation of the Future Chemical
Classroom for Experimental Safety Education and Exploration Experiment
Hyun Kyung Kim
Chemistry Education, Jeonbuk National University, Korea
- 16:15 **EDU-4** Analysis of the reality of science exploration experiments in Korea:
focusing on gender and achievement level
Hyun Jung Kim
Chemistry Education, Kongju National University, Korea

Symposium

Environmental Energy Symposium
July 7 (Tue), Room 302 (Live Streaming)

Organizer



Sungjun Bae

present Associate Professor, Department of Civil and Environmental Engineering, Konkuk University, Republic of Korea

2015 Postdoc, Institute for Nuclear Waste Disposal (INE), Karlsruhe Institute of Technology (KIT), Germany

2014 Postdoc, Chimie et Ingénierie des Procédés (CIP), École Nationale Supérieure de Chimie de Rennes (ENSCR), France

Chair



Jung-Je Woo

Present Senior Researcher, Korea Institute of Energy Research, Korea

2014 Postdoc, Chemical Science and Engineering Division, Argonne National Laboratory, USA

2011 Ph.D. Department of Environmental Science and Engineering, GIST, Korea

Speaker



Yiseul Park

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

2013 Senior Researcher, Daegu Gyeongbuk Institute of Science & Technology, Korea

2010 Ph.D. Division of Environmental Science & Technology, Pohang University of Science and Technology, Korea



Jaeshik Chung

2018 Ph.D., Environmental Engineering Sciences, University of Florida, USA

2009 M.S., Civil and Environmental Engineering, Seoul National University, Korea

2007 B.S., Civil, Urban and Geosystem Engineering, Seoul National University, Korea



Chang-Gu Lee

Present Assistant Professor, Department of Environmental and Safety Engineering, Ajou University, Korea



Jaehwan Kim

Present Senior researcher(KIGAM)

2017 Lotte Chemical R&D center

26. Advances in Environmental Energy Technologies using Iron Materials

Organizer : Sungjun Bae (Konkuk University)

Chair : Jung-Je Woo (Korea Institute of Energy Research)

- 10:30 **ENVR-1** Spontaneous degradation of pollutants on Fe₂O₃/CNF sheet under ambient conditions
Yiseul Park
Department of Chemical Engineering, Pukyong National University, Korea
- 11:00 **ENVR-2** Approximation of transient redox boundary conditions: its application to numerical analysis of iron plumes near landfills
Jaeshik Chung*, Jae Chung¹, Timothy Townsend²
Water Cycle Research Center, Korea Institute of Science and Technology, Korea
¹*Civil and Coastal Engineering, University of Florida, United States*
²*Environmental Engineering Sciences, University of Florida, United States*
- 11:30 **ENVR-3** Removal of organic dyes from aqueous solution using food waste-based magnetic biochar
Chang-Gu Lee
Ajou University, Korea
- 12:00 **ENVR-4** Iron nanoparticles could make plant behave like the genetically modified organisms
Jaehwan Kim
Division of Environmental Engineering, Korea Institute of Geoscience and Mineral Resources, Korea

Organizer



Hyeonuk Yeo

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

2017 Ph.D, Department of Polymer Chemistry, Kyoto University, Japan

2011 B.S, Department of Industrial Chemistry, Kyoto University, Japan

27. Oral Presentation for Young Polymer Scientists

Organizer : Hyeonuk Yeo (Kyungpook National University)

Chair : Hyeonuk Yeo (Kyungpook National University)

- 09:00 **POLY.O-1** **[Withdrawal]** Synthesis and Utilization of Paracyclophane Dienes in Polymer Chemistry
Nilufa Khatun, Jeewoo Lim^{1,*}
Chemistry, Kyung Hee University, Korea
¹*Department of Chemistry, Kyung Hee University, Korea*
- 09:20 **POLY.O-2** Aliphatic Green-Solvent-Processable, Additive-Free, and Lead-Capturable Polymeric Hole Transporting Materials for Environmental Issues of Perovskite Solar Cells
Junwoo Lee, Dasol Chung¹, Kyoungwon Choi¹, Hae Un Kim¹, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea
¹*Pohang University of Science and Technology, Korea*
- 09:40 **POLY.O-3** AgNW-rGO crosslinked electrode for OPV application
Youngun Kim, Dong Hoon Choi
Department of Chemistry, Korea University, Korea
- 10:00 **POLY.O-4** Universal three-dimensional crosslinker for all-photopatterned electronics
MyeongJae Lee, Jong-ho Choi, BongSoo Kim^{1,*}
Department of Chemistry, Korea University, Korea
¹*Department of Chemistry, UNIST, Korea*
- 10:20 **POLY.O-5** Supramolecular dendrimer for creating of sub-5nm nanostructure
Kiok Kwon
Green Chemistry and Materials Group, Korea Institute of Industrial Technology, Korea

Organizer



Tae Hwan Noh

2017- Assistant Professor, Department of Chemistry Education, Jeonbuk National University, Korea
2015 Ph.D, Department of Chemistry, Pusan National University, Korea
2008 B.S, Department of Chemistry, Pusan National University, Korea

28. Oral Presentation for Young Inorganic Chemists

Organizer : Tae Hwan Noh (Jeonbuk National University)

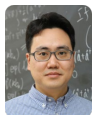
Chair : Tae Hwan Noh (Jeonbuk National University)

- 09:00 **INOR.O-1** Mechanistic approaches for chemically modifying the coordination sphere of copper-amyloid- β complexes
Jiyeon Han, Mi Hee Lim
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
- 09:10 **INOR.O-2** Highly Stable All Inorganic Perovskite Quantum Dots by Metal and Ligand: Application of Highly Efficient Light-Emitting-Diodes and Film
SeungMin Baek, Sangwook Kim^{1,*}
Department of Molecular Science and Technology, Ajou University, Korea
¹*Division of Applied Chemistry & Biological Enginee, Ajou University, Korea*
- 09:20 **INOR.O-3** Enhancement of Electrical Conductivity in Organic Radical Crystals by an increase in Radical Population through Structural Change
Taeyeon Kwon, Hee Cheul Choi
Department of Chemistry, Pohang University of Science and Technology, Korea
- 09:30 **INOR.O-4** Post-synthetic ligand functionalization of defect-engineered IRMOF-74
Jaewoong Lim, Seung Bin Baek, Myoung Soo Lah
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- 09:40 **INOR.O-5** Diverse protein assembly driven by metal and chelating amino acids with selectivity and tunability
Woon Ju Song*, Minwoo Yang
Department of Chemistry, Seoul National University, Korea
- 09:50 **INOR.O-6** Combinative Process of MOF-on-MOF Growth, Etching, and Structure Transformation for the Production of Atypical Hybrid MOFs
Sujeong Lee, Sojin Oh, Moonhyun Oh
Department of Chemistry, Yonsei University, Korea
- 10:00 **INOR.O-7** Stable Organic Radicals Derived from N-Heterocyclic Carbenes
Youngsuk Kim, Eunsung Lee
Department of Chemistry, Pohang University of Science and Technology, Korea
- 10:10 **INOR.O-8** Solid-State Dynamics of Frustrated Molecular Stacks
Taewon Kang, Hongsik Kim, Dohyun Moon^{1,*}, Hoi Ri Moon^{2,*}, Dongwhan Lee
Division of Chemistry, Seoul National University, Korea
¹*Beam Operation Team, Pohang Accelerator Laboratory, Korea*
²*Department of Chemistry, Ulsan National Institute of Science and Technology,*

Korea

- 10:20 **INOR.O-9** Morphological Transformation of Supramolecular Nanostructure via Co-Assembly
Ka Young Kim, Jong Hwa Jung
Department of Chemistry, Gyeongsang National University, Korea
- 10:30 **INOR.O-10** Reticular Chemistry of Zr-Based Metal-Organic Polyhedra
Jiyeon Kim, Eunyoung Kang, Wonyoung Choe
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea

Organizer



Joonsuk Huh

Present Assistant professor, SKKU, Korea
2015 Postdoctoral researcher, Harvard Univ., USA
2011 Ph.D in physics, Frankfurt Univ., Germany

29. Oral Presentation for Young Physical Chemists

Organizer : Joonsuk Huh (Sungkyunkwan University)

Chair : Joonsuk Huh (Sungkyunkwan University)

- 09:00 **PHYS.O-1** Structural Dynamics during Charge Separation in Donor-Acceptor-Donor Type Quadrupolar Perylene Bisimide with Ultrafast Time-Domain Raman Spectroscopy
Woojae Kim, Dongho Kim
Department of Chemistry, Yonsei University, Korea
- 09:15 **PHYS.O-2** Optical Anisotropy of Two-Dimensional Tetracene Crystal Studied with Polarized Photoluminescence Spectroscopy and Imaging
Seonghyun Koo, Sunmin Ryu
Department of Chemistry, Pohang University of Science and Technology, Korea
- 09:30 **PHYS.O-3** On the Reliability of Kohn-Sham Inversion Methods to Density-Driven Error Calculation
Seungsoo Nam, Eunji Sim
Department of Chemistry, Yonsei University, Korea
- 09:45 **PHYS.O-4** Efficient Multiexciton State Generation in Charge-Transfer Coupled Perylene Bisimide Dimers via Structural Control
Yongseok Hong, Hyungjun Kim^{1,*}, Dongho Kim
Department of Chemistry, Yonsei University, Korea
¹*Department of Chemistry, Incheon National University, Korea*
- 10:00 **PHYS.O-5** Reduction of NO by CO over Fe-oxide/Al₂O₃ catalyst: Strong metal-support interaction for improved catalytic activity
Byeong jun Cha, Soong Yeon Kim, Saqlain Shahid, Shufang Zhao, Young Dok Kim
Department of Chemistry, Sungkyunkwan University, Korea
- 10:15 **PHYS.O-6** Fe-oxide impregnated mesoporous Al₂O₃ for the decontamination of chemical warfare (dimethyl methylphosphonate)
Byeong Jun Cha, Young Dok Kim, Hyun Ook Seo^{1,*}
Department of Chemistry, Sungkyunkwan University, Korea
¹*Department of Chemistry and Energy Engineering, Sangmyung University, Korea*
- 10:30 **PHYS.O-7** Control of Proton Displacement in Matrix-Isolated Hydrogen Chloride–Water Complexes with Electric Fields
Youngwook Park, Heon Kang^{1,*}
Department of Chemistry, Seoul National University, Korea
¹*Division of Chemistry, Seoul National University, Korea*

Organizer



Yang-Rae Kim

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

2016 Assistant Professor, Department of Chemistry, Kwangwoon University, Korea

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

30. Oral Presentation of Young Analytical Chemists I

Organizer : Yang-Rae Kim (Kwangwoon University)

Chair : Yang-Rae Kim (Kwangwoon University)

- 09:00 **ANAL1.O-1** Monochromatic dual-emission carbon nanodots as a ratiometric fluorescence probe for detection of Fe(III) ion
Youngwon Ju, Joohoon Kim
Department of Chemistry, Kyung Hee University, Korea
- 09:03 **ANAL1.O-2** Effective Separation of Chiral Nicotine in E-Liquid Using HPLC/UV-Vis
Seung Hoon Song, Seung Woon Myung
Department of Chemistry, Kyonggi University, Korea
- 09:06 **ANAL1.O-3** A study on the concentration change of inorganic arsenic in rice by the various pretreatment
 Sang-Ho Nam*, DongChan Lee
Department of Chemistry, Mokpo National University, Korea
- 09:09 **ANAL1.O-4** Effect of Removing Surfactant Bilayer and Changing Shape of Single Gold Nanorods by Oxygen Plasma Treatment
Geun Wan Kim, Ji Won Ha
Department of Chemistry, University of Ulsan, Korea
- 09:12 **ANAL1.O-5** Proteomics Approaches for the Development of Antibacterial Feed for Commercial Aquaculture
Jihoon Shin, Miseon Jeong, Wonryeon Cho
Department of Chemistry, Wonkwang University, Korea
- 09:15 **ANAL1.O-6** Synthesis, Properties and Electrochemical Characteristics of rGO/B-GQD/SiNPs Composite for Anode Material of Li Secondary Batteries.
Eunhee Noh, Jin-Yeong Choi¹, Chang-Seop Lee¹
Department of Chemistry, Keimyung University, Korea
¹*Department of Chemistry, Keimyung University, Korea*
- 09:18 **ANAL1.O-7** Development of a highly sensitive plasmonic substrate using multilayered gold nanoparticle encoded M13 bacteriophage networks
Joung-Il Moon*, Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea
- 09:21 **ANAL1.O-8** Synthesis and Electrochemical Properties Studies for Vanadium Sulfate-Based Polyanionic Cathode Material of Li-ion Battery
Reyhan Puji Putranto, Youngil Lee^{1,*}
Department of Chemistry, University of Ulsan, Indonesia

- 09:24 **ANAL1.O-9** Study of coated LiFeBO₃ as a cathode material for lithium-ion battery
Yujin Son, Youngil Lee
Department of Chemistry, University of Ulsan, Korea
- 09:27 **ANAL1.O-10** Coal fly ash derived Ag⁰-nanocomposites for iodide remediation from the aqueous phase
Zhandos Tauanov, Jaebeom Lee^{1,*}
Research Institute of Materials Chemistry, Chungnam National University, Korea
¹Chemistry, Chungnam National University, Korea
- 09:30 **ANAL1.O-11** Forming and stabilizing mechanism of the pores in FeOOH nanorod
Dong-kyu Lee, Jaebeom Lee^{1,*}
Department of Cogno-Mechatronics Engineering, Pusan National University, Korea
¹Chemistry, Chungnam National University, Korea
- 09:33 **ANAL1.O-12** Detection of the norovirus using magneto-plasmonic film
Youngmi Kim, Jaebeom Lee
Chemistry, Chungnam National University, Korea
- 09:36 **ANAL1.O-13** LC/MS-based metabolomic profiling to investigate the intake effects of rice containing *Aspergillus terreus* in human plasma
Heeyeon Lee, Geum-Sook Hwang
Western Seoul Center, Korea Basic Science Institute, Korea
- 09:39 **ANAL1.O-14** Development of ultrasensitive plasmonic sensors using Au nanoparticles-internalized Au nano-dimple arrays
Hajun Dang, Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea
- 09:42 **ANAL1.O-15** One-pot synthesis of water-soluble Iron Selenide Quantum Dots with chiral stabilizer
YeongEun Choi, Jaebeom Lee
Chemistry, Chungnam National University, Korea
- 09:45 **ANAL1.O-16** Shell thickness Effect on the Refractive Index Sensitivity at Localized Surface Plasmon Resonance Inflection Points of Au/Ag core shell nanorods
Kyeong Rim Ryu, Ji Won Ha^{1,*}
Chemistry, University of Ulsan, Korea
¹Department of Chemistry, University of Ulsan, Korea
- 09:48 **ANAL1.O-17** Quantitative analysis of short chain fatty acids in biological sample by high performance liquid chromatography-tandem mass spectrometry
Hyoun Hyoung Jang, Tae-Young Kim^{1,*}
Chemistry, Gwangju Institute of Science and Technology, Korea
¹School of Earth Sciences and Environmental Enginee, Gwangju Institute of Science and Technology, Korea
- 09:51 **ANAL1.O-18** Folic acid detection using paper-based analytical devices
Nguyen ngoc Nghia, Bui The Huy, Yong-Ill Lee
Department of Chemistry, Changwon National University, Korea

- 09:54 **ANAL1.O-19** Study on the factors affecting the ionization efficiency of paper spray ionization
Thi Minh Hoa Nguyen, Tae-Young Kim^{1,*}
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Vietnam
¹*School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea*
- 09:57 **ANAL1.O-20** Separation and On-line Direct Detection using Stable Isotope Yb/Lu for Application to Radioisotope Separation
Aran Kim, Kang Hyuk Choi
Korea Atomic Energy Research Institute, Korea

Organizer



Jiung Cho

Present Senior Researcher, Korea Basic Science Institute

2014 Postdoc, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign

2010 Ph. D, Department of Materials Science and Engineering, Korea University, Korea

31. Oral Presentation of Young Analytical Chemists II

Organizer : Jiung Cho (Korea Basic Science Institute)

Chair : Jiung Cho (Korea Basic Science Institute)

- 10:15 **ANAL2.O-1** Structural deformation-induced tunable chiroptical properties of Au-coated elastomeric grating
Juyong Gwak, Ki-Jae Jeong^{1,*}, Dong-kyu Lee¹, Jaebeom Lee^{2,*}
Department of Biomaterials Science, Pusan National University, Korea
¹*Department of Cogno-Mechatronics Engineering, Pusan National University, Korea*
²*Chemistry, Chungnam National University, Korea*
- 10:18 **ANAL2.O-2** Triplex Quantification Glycomics by Metabolic Isotope-Labeled Glycan in Cell Culture
Thao Pham Thi, Jae-Min Lim, JiHee Yun¹, Hai Ngo Dang Truong²
Department of Chemistry, Changwon National University, Korea
¹*chemistry department, Changwon National University, Korea*
²*Changwon National University, Korea*
- 10:21 **ANAL2.O-3** Investigation of Nanoparticle-Protein Coronas: Dependence of Corona Formation on Size and Surface-Coating of Nanoparticles
Gwi Ju Jang, Soo-hyun Kim, Sang Yun Han
Department of Chemistry, Gachon University, Korea
- 10:24 **ANAL2.O-4** NMR-based Metabolic Profiling of Feces from Adolescent Obesity Intervention
Dain Kim, Geum-Sook Hwang
Integrated Metabolomics Research Group, Western Seoul Center, Korea
- 10:27 **ANAL2.O-5** Improvement of separation speed and efficiency of nanoflow ultrahigh performance liquid chromatography (nUHPLC) conditions for lipidomic analysis by ESI-MS/MS
 Myeong Hee Moon*, Gwang Bin Lee
Department of Chemistry, Yonsei University, Korea
- 10:30 **ANAL2.O-6** Improvement of lipid separation for the accurate quantification by nUHPLC-ESI-MS/MS
Jong Cheol Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- 10:33 **ANAL2.O-7** Separation of exosomes and microvesicles from cell 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
- 10:36 **ANAL2.O-8** Paper sensor based on CdTe QDs/CP for efficient visual detection

of cholinesterase activity

Qi Ou, Yong-Il Lee^{1,*}

Department of chemistry, Changwon National University, Korea

¹*Department of Chemistry, Changwon National University, Korea*

- 10:39 **ANAL2.O-9** Size fractionation of Graphene Oxide by Asymmetrical Flow Field-Flow Fractionation
Myoungjae Ko, Jinyong Kim, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea
- 10:42 **ANAL2.O-10** Metabolic profiling in atherosclerotic aorta from high-fat diet mice using liquid chromatography/ mass spectrometry
Yeyoung Han, Do Hyun Ryu^{1,*}, Geum-Sook Hwang
Integrated Metabolomics Research Group, Western Seoul Center, Korea
¹*Department of Chemistry, Sungkyunkwan University, Korea*
- 10:45 **ANAL2.O-11** Detection of carbamazepine using UCNPs@MIP: Molecular simulation, adsorption properties, and mechanisms
Mohamed ragab elsayed Ali, Yong-Il Lee^{1,*}
Department of chemistry, Changwon National University, Korea
¹*Department of Chemistry, Changwon National University, Korea*
- 10:48 **ANAL2.O-12** Examination of 2,4,6-Trichlorobenzoyl Chloride as A Linking Reagent for Chiral Separation of Enantiomers Using GC-MS
Jeong Hyeok Park, Chae Won Lee, Soo-hyun Kim, Sang Yun Han
Department of Chemistry, Gachon University, Korea
- 10:51 **ANAL2.O-13** Development of Analytical Method to Characterize Lipoproteins in Protein Coronas on Nanoparticles
Soo-hyun Kim, Gwi Ju Jang, Sang Yun Han
Department of Chemistry, Gachon University, Korea
- 10:54 **ANAL2.O-14** A Comparative Study of Collision-Induced Dissociation of Metal Ion-Bound Guanine Tetrads
Chae Won Lee, Yoonkyung Choi¹, Sang Yun Han
Department of Chemistry, Gachon University, Korea
¹*Korea Basic Science Institute, Korea*
- 10:57 **ANAL2.O-15** Quantification of intracellular drug-uptake in non-differentiated and differentiated neuroblastoma cells using LC-MS/MS
Paul valery Migisha ntwali, Sooyeon Chae¹, MyungKook Son², Chae Ri Park¹, Min Ji Kim², Hugh I. Kim¹
Department of Chemistry, Korea University, Rwanda
¹*Department of Chemistry, Korea University, Korea*
²*Chemistry, Korea University, Korea*
- 11:00 **ANAL2.O-16** Magnetic field-driven self-assembly and real-time plasmonic chirality modulation
Ki-Jae Jeong, Jaebeom Lee^{1,*}
Department of Cogno-Mechatronics Engineering, Pusan National University, Korea
¹*Chemistry, Chungnam National University, Korea*
- 11:03 **ANAL2.O-17** Fabrication and Characterization of Carbon Coated Silicon-Cobalt Nanocomposites
Dong Hwan Nam, Seunghyun Lee^{1,*}

- 11:06 **ANAL2.O-18** Elucidating the Difference of Hydrophobic Interactions of Amyloidogenic Proteins in Light Water and Heavy Water
MyungKook Son, Chae Ri Park, Min Ji Kim, Sooyeon Chae, Paul Valery Migisha Ntwali, Hugh I. Kim
Department of Chemistry, Korea University, Korea
- 11:09 **ANAL2.O-19** Amyloid protein fibril dissociation with star-shaped gold nanoparticles induced by Near-IR laser irradiation
Chae Ri Park, MyungKook Son, Min Ji Kim, Sooyeon Chae, Paul Valery Migisha Ntwali, Hugh I. Kim
Department of Chemistry, Korea University, Korea
- 11:12 **ANAL2.O-20** Dynamic Nuclear Polarization NMR of Silicon and Carbon Nanoparticles
Donghyeok Jo, Jeong Hyun Shim^{1,*}, Youngbok Lee
Department of Bionano Technology, Hanyang University, Korea
¹Korea Research Institute of Standards and Science, Korea

Organizer



Nak-Kyoon Kim

Present Associate professor, School of Life sciences, GIST, Korea
2008 Ph. D, Department of Chemistry, KAIST, Korea
2004 B.S, Department of Chemical Engineering, Sogang University, Korea

Chair



Mi Sun Jin

Present Associate professor, School of Life sciences, GIST, Korea
2008 Ph. D, Department of Chemistry, KAIST, Korea
2004 B.S, Department of Chemical Engineering, Sogang University, Korea

32. Oral Presentations by Young Life Chemists

Organizer : Nak-Kyoon Kim (KIST)

Chair : Mi Sun Jin (GIST)

- 09:00 **LIFE.O-1** Controlling the Reactivity and Regioselectivity of Flavin-Dependent Halogenases
Jaehee Lee, Woon Ju Song
Department of Chemistry, Seoul National University, Korea
- 09:12 **LIFE.O-2** Investigation of RPA-WRN interactions and application of RPA-aptamer interactions to the biosensor
Gyuhoo Yeom, Juyoung Kang, Chin-ju Park
Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- 09:24 **LIFE.O-3** Pharmacological activation of PERK signaling ameliorates tauopathy via proteostasis regulation
Young-Hee Shin, Seung Bum Park
Department of Chemistry, Seoul National University, Korea
- 09:36 **LIFE.O-4** Determinants of Ion-Transporter Cancer Cell Death
Sang-Hyun Park, Injae Shin
Department of Chemistry, Yonsei University, Korea
- 09:48 **LIFE.O-5** Adenine base editors catalyze cytosine conversions in human cells
You Kyeong Jeong, Sangsu Bae^{1,*}
Hanyang University, Korea
¹*Department of Chemistry, Hanyang University, Korea*
- 10:00 **LIFE.O-6** Developing Workflow for Simultaneous Analyses of Phosphoproteomics and Glycoproteomics
Kyung-cho Cho, Hui Zhang^{1,*}, Yingwei Hu¹, Michael Schnaubelt¹, Lijun Chen¹
Medical Research Center, Seoul National University, Korea
¹*Pathology, Johns Hopkins University, United States*
- 10:12 **LIFE.O-7** Uncovering the pumping mechanism of light-driven bacterial chloride importer by photo-excitation in cryogenic conditions
Ji Hye Yun, Mio Ohki¹, Naoya Shibayama², Sam-Yong Park¹, Weontae Lee
Department of Biochemistry, College of Life Science and Biotechnology, Yonsei University, Korea
¹*Drug Design Laboratory, Graduate School of Medical Life Science, Yokohama City University, Japan*
²*Department of Physiology, Jichi Medical University, Japan*
- 10:24 **LIFE.O-8** Highly efficient genome editing by CRISPR-Cpf1 using CRISPR RNA with a uridylate-rich 3'-overhang

Su Bin Moon, Yong-Sam Kim^{1,*}

Biomolecular Science, University of Science & Technology (KRIIBB School), Korea

¹*Genome Editing Research Center, KRIIBB(Korea Research Institute of Bioscience and Biotechnology), Korea*

10:36 **LIFE.O-9** Development of Label-Free Biosensing Strategies to Detect Biomacromolecular Interactions at Supported Lipid Membrane Interfaces

Bo Kyeong Yoon, Joshua Alexander Jackman

School of Chemical Engineering, Sungkyunkwan University, Korea

10:48 **LIFE.O-10** Cooperative inhibition of α -Syn oligomers with monomer on SNARE-mediated membrane fusion and its reversal.

Gyeongji Yoo, Nam Ki Lee^{1,*}

School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology, Korea

¹*Division of Chemistry, Seoul National University, Korea*

Organizer



Jinho Kim

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

2012 Ph.D. Department of Chemistry, KAIST, Korea

2006 B.S. Department of Chemistry, Hanyang University, Korea

33. Oral Presentations for Young Scholars in Organic Division

Organizer : Jinho Kim (Incheon National University)

Chair : Jinho Kim (Incheon National University)

- 09:00 **ORGN.O-1** Control of Handedness by Substituting Residues of β -Peptides Containing cis-2-Aminocycloheptanecarboxylic Acid
Yonghan Kim, Soo Hyuk Choi
Department of Chemistry, Yonsei University, Korea
- 09:12 **ORGN.O-2** Alkyne-Alkene [2+2] Cycloaddition based on Visible Light Photocatalysis
Cheol Min Park*, Sujin Ha¹
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
¹*Chemistry, Ulsan National Institute of Science and Technology, Korea*
- 09:24 **ORGN.O-3** Enhanced Multimodality Imaging Guided Tumor Photodynamic Therapy Delivered by Covalent Organic Frameworks (COFs)
Chan Ho Park, Kyo-Chul Lee^{1,*}, Dong Wook Kim
Department of Chemistry, Inha University, Korea
¹*Korea Institute of Radiological & Medical Science, Korea*
- 09:36 **ORGN.O-4** Highly Efficient Cyclocarbonylation of Allenyl Glyoxylates via Transition Metal Catalysis and Their Synthetic Application
Jieun Song, Weonju Yu, Jimin Kim
Department of Chemistry, Chonnam National University, Korea
- 09:48 **ORGN.O-5** A fluorescent probe for butyrylcholinesterase activity in human serum based on a fluorophore with specific binding affinity for human serum albumin
Soyeon Yoo, Min Su Han
Department of Chemistry, Gwangju Institute of Science and Technology, Korea
- 10:00 **ORGN.O-6** Pharmacologically active *N*-Heterocyclic Moiety alkylation with Sulfonium salts
Won An, In Su Kim^{1,*}
School of Pharmacy, Sungkyunkwan University, Korea
¹*College of Pharmacy / Department of Pharmacy, Sungkyunkwan University, Korea*
- 10:12 **ORGN.O-7** A coumarin-appended naphthalimide dual-channel fluorescent probe responsive to nitroreductase and its application to various live cells
Shin A Yoon, Min Hee Lee
Department of Chemistry, Sookmyung Women's University, Korea

10:24

ORGN.O-8 Total Synthesis of Dimeric Securinega Alkaloids

Sangbin Jeon, Sunkyu Han^{1,*}

Chemistry, Korea Advanced Institute of Science and Technology, Korea

¹*Department of Chemistry, Korea Advanced Institute of Science and Technology, 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

34. Oral Presentation for Young Material Chemists

Organizer : Hyeon Suk Shin (UNIST)

Chair : Hyeon Suk Shin (UNIST)

- 09:00 **MAT.O-1** Ammonium Vanadium Bronze as a Cathode Material for Nonaqueous Calcium-Ion Batteries
Hyeri Bu, Seung-Tae Hong
ENERGY SCIENCE AND ENGINEERING, Daegu Gyeongbuk Institute of Science & Technology, Korea
- 09:15 **MAT.O-2** Deep-Red to NIR Emission and Aggregation-Induced Enhancement of Iridium(III) Complexes for Solution-Processable OLEDs
Hae Un Kim, Sungjin Park, Taehyun Kim, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea
- 09:30 **MAT.O-3** High-throughput evolution of near-infrared serotonin nanosensors
Markita Landry*, Sanghwa Jeong¹
Chemical and Biomolecular Engineering, University of California, Berkeley, United States
¹Chemical and Biomolecular Engineering, University of California, Berkeley, Korea
- 09:45 **MAT.O-4** Synthesis of polymer precursor and its conversion to diamond
Sun Hwa Lee*, Jaehong Seo¹, Rodney Ruoff^{2,*}
Center for Multidimensional Carbon Materials, Institute for Basic Science, Korea
¹Chemistry, Institute for Basic Science (IBS), UNIST, Korea
²Center for Multidimensional Carbon Materials / Dep, IBS CMCM / UNIST, Korea
- 10:00 **MAT.O-5** Time-Controlled Nanoscale Delivery System
SeoYeah Oh, Jiwon Kim
School of Integrated Technology, Yonsei University, Korea
- 10:15 **MAT.O-6** Mesoporous zeolite as a promising support for metal catalysts
Jaeheon Kim, Ryong Ryoo
Center for Nanomaterials and Chemical Reactions, Institute for Basic Science, Korea
- 10:30 **MAT.O-7** Photocatalytic Nanoarchitectonics Toward Efficient Overall Water Splitting Reaction
Dongseok Kim, Byeong-Su Kim
Department of Chemistry, Yonsei University, Korea
- 10:45 **MAT.O-8** XMg/Mg₂Sn: Phase controlled synthesis and high-performance anode materials for magnesium-ion batteries
Amol Bhairuba Ikhe, Myoungho Pyo

Speaker



Won-Jin Kwak

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

35. Oral Presentation of Young Scholars in Electrochemistry

Organizer : Inho Nam (Chung-Ang University)

Chair : Inho Nam (Chung-Ang University)

- 16:00 **ELEC.O-1** Elucidating the Extraordinary Rate and Cycling Performance of Phenanthrenequinone in Aluminum Complex-Ion Batteries
Dong-Joo Yoo, Jang Wook Choi
School of Chemical and Biological Engineering, Seoul National University, Korea
- 16:15 **ELEC.O-2** Redox Capacitor for Nanoconfinement-Assisted Electrochemical Analysis of Bacterial Communication
Mijeong Kang
Advanced Nano-Surface Department, Korea Institute of Materials Science, Korea
- 16:30 **ELEC.O-3** Electrochemical Approaches for Efficient Production of High-Value Fuels and Organics
Bora Seo
Fuel Cell Research Center, Korea Institute of Science and Technology (KIST), Korea
- 16:45 **ELEC.O-4** Singlet Oxygen: New Origin of Parasitic Chemistry in Lithium-Oxygen Batteries
Won-Jin Kwak
Department of Chemistry, Ajou University, Korea
- 17:00 Electrochemistry Division General Meeting

Organizer

Sungki Kim

36. Research in Chemistry Education

Organizer : Sungki Kim (Gwangju Science Academy for the Gifted)

Chair : Sungki Kim (Gwangju Science Academy for the Gifted)

- 13:00 **EDU.O-1** Development of modeling education materials for understanding the crystal structure of metal
Seounghey Paik*, [Kyeongsik Choi](#)¹
Department of Chemical Education, Korea National University of Education, Korea
¹*Sejong Academy of Science and Arts, Korea*
- 13:15 **EDU.O-2** Research in Pre-service Chemistry Teachers' Perceptions of the Nature of Science
[Eunhye Cho](#), Seounghey Paik
Department of Chemical Education, Korea National University of Education, Korea
- 13:30 **EDU.O-3** A Study on the Problem Solving Processes for Scientific Graph Construction of Middle-School Students
[Jaewon Lee](#), Taehee Noh
Department of Chemistry Education, Seoul National University, Korea
- 13:45 **EDU.O-4** The Effect of Responsive Teaching on Understanding of Cross-Cutting concepts in High School Grade 11st
[NaYeon Jo](#), Seounghey Paik^{1,*}
Korea National University of Education, Korea
¹*Department of Chemical Education, Korea National University of Education, Korea*
- 14:00 Break
- 14:10 **EDU.O-5** An Analysis of Science Teachers' NOS-PCK in Their Lessons for Science Inquiry Experiment
[Minhwan Kim](#), Taehee Noh
Department of Chemistry Education, Seoul National University, Korea
- 14:25 **EDU.O-6** Analysis of Chemistry Teachers' Perceptions related to Two Types of Acid-Base Models based on Epistemological and Ontological viewpoint
[Eunju Lyu](#), Seounghey Paik^{1,*}
Department of Chemical Education, Shintanjin High School, Korea
¹*Department of Chemical Education, Korea National University of Education, Korea*
- 14:40 **EDU.O-7** Why Should We do Coding in Science Education?
[Sungki Kim](#), Seounghey Paik^{1,*}
Gwangju Science Academy for the Gifted, Korea
¹*Department of Chemical Education, Korea National University of Education, Korea*

Oral Presentation

Environmental Energy Oral Presentation

July 7 (Tue), Room 302 (Live Streaming)

Organizer



Eunju Kim

Present Senior Researcher, Water Cycle Research Center, KIST, Korea
2014 Postdoc, Earth Science Division, Lawrence Berkeley National Laboratory, USA
2013 Ph.D., School of Environmental Science and Engineering, POSTECH, Korea

Chair



Kiyoung Lee

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

37. Oral Presentation: General Student Session

Organizer : Eunju Kim (KIST)

Chair : Kiyoung Lee (Kyungpook National University)

- 09:15 **ENVR.O-1** Anodic Formation of NiS / NiO Heterostructures to Improve OER Performance
Jaewon Lee, Kiyoung Lee^{1,*}
School of Nano & Materials Science and Engineerin, Kyungpook National University, Korea
¹*School of Nano & Materials Science and Engineering, Kyungpook National University, Korea*
- 09:30 **ENVR.O-2** Anatase-rutile synergistic effect in TiO₂ photocatalysis: Charge separation yield and recombination kinetics
Sojung Park, Wooyul Kim^{1,*}
Department of Chemical and Biological Engineering, Sookmyung Women's University, Afghanistan
¹*Department of Chemical and Biological Engineering, Sookmyung Women's University, Korea*
- 09:45 **ENVR.O-3** Tailorable Bifunctional Electrochemical Biomass Reforming and H₂ Production: Architecture–Performance Relationship in Bimetallic Multilayer Electrodes
Minju Park, Byeong-Su Kim
Department of Chemistry, Yonsei University, Korea
- 10:00 **ENVR.O-4** Alkaline hydrazine fuel cell using all non-precious metal catalysts
Jihyeon Park, Jaeyoung Lee
School of Earth Sciences and Environmental Eng., Gwangju Institute of Science and Technology, Korea

POLY.P-1

Uniaxially aligned organic semiconducting polymers by adjusting shearing force within eutectic system
SangWon Eom, Hyorin Choi, Youngjong Kang
Department of Chemistry, Hanyang University, Korea

POLY.P-2

Crystallization of PMMA with Chain Stretching Agent by Melting Time Variation
Soyoung Park, Youngjong Kang^{1,*}
Department of chemistry, Hanyang University, Korea
¹Department of Chemistry, Hanyang University, Korea

POLY.P-3

3D Printing of Carbon-nanotube/Polydimethylsiloxane Composites for Moldless Flexible Pressure Sensor
Daeyeon Cho, Nayoon Pyun, Kwanwoo Shin
Department of Chemistry, Sogang University, Korea

POLY.P-4

Symmetry-Assisted Assembly of Acylhydrazone-Conjugated Amino Acid Derivatives
Eun Jung Choi, Changsik Song^{1,*}
Institute of Basic Science, Sungkyunkwan University, Korea
¹Department of Chemistry, Sungkyunkwan University, Korea

POLY.P-5

Analysis of Hydration Lubricating Properties of Norbornene-Based Bottle-Brush Polymers Synthesized by ROMP and RAFT
Changsik Song*, Hwi Hyun Moon¹
Department of Chemistry, Sungkyunkwan University, Korea
¹Chemistry, Sungkyunkwan University, Korea

POLY.P-6

Controlling Mechano-Responsive Property of LDPE Organogel by Converting Temperature
Jinwoo Choi, Youngjong Kang^{1,*}
chemistry, Hanyang University, Korea
¹Department of Chemistry, Hanyang University, Korea

POLY.P-7

Solid-State Emissive Supramolecular Assemblies Based on *N*-Acylhydrazone and Its Metal Complex
Hye Jin Cho, Hyunwoo Kim, Changsik Song
Department of Chemistry, Sungkyunkwan University, Korea

POLY.P-8

Anisotropically Conductive Thiourea-coated Functional Separators for Rechargeable Lithium-Sulfur Battery
Seonggyun Ha, Changsik Song
Department of Chemistry, Sungkyunkwan University, Korea

POLY.P-9

Comparison of Thiocarbamate and Urethane Moieties in Vitrimers for Self-Healing Property
Changsik Song*, Hyunwoo Kim¹
Department of Chemistry, Sungkyunkwan University, Korea
¹Sungkyunkwan University, Korea

POLY.P-10

Porous Thiourea-Based Ionogel Electrolytes for Flexible and Durable Energy Storage Devices
Chaeyeon Ha, Seonggyun Ha¹, Changsik Song¹
Department of chemistry, Sungkyunkwan University, Korea
¹Department of Chemistry, Sungkyunkwan University, Korea

POLY.P-11

Design, Synthesis, and Morphology Control of Porous Thiourea Gels
Sun Gu Song, Changsik Song, Seonggyun Ha, Chaeyeon Ha
Department of Chemistry, Sungkyunkwan University, Korea

POLY.P-12

Synthesis and Properties of D-A alternating structure with Difluorophenazine and BDT unit in PSCs
JoungJin Im, Won Ki Lee¹, Youngeup Jin^{2,*}
Industry chemistry, Pukyong National University, Korea
¹Department of Polymer?Engineering, Pukyong National University, Korea
²Engineering Chemistry, Pukyong National University, Korea

POLY.P-13

DfPz based composite polymer with various alkyl chains for solar cells
Sanghun Ahn, Won Ki Lee¹, Youngeup Jin^{2,*}
Pukyong National University, Korea
¹Department of Polymer?Engineering, Pukyong National University, Korea
²Engineering Chemistry, Pukyong National University, Korea

POLY.P-14

Stabilization of oil/water interface by amphiphilic heteroarm core cross-linked star polymer
Yunji Jung, Myungeun Seo
Graduate School of Nano Science Technology, Korea Advanced Institute of Science and Technology, Korea

POLY.P-15

Synthesis of Biomass-derived Polyurethanes with Photo-degradability via Curtius Rearrangement
Juhyen Lee, Changsik Song
Department of Chemistry, Sungkyunkwan University, Korea

POLY.P-16

The Synthetic Pathway of UV-curable Silicone Derivatives Having High Oxygen Permeability and Hydrophilicity for Silicone Hydrogels
Jong Bae Seong, Joon soo Han^{1,*}
Chemistry, Korea University, Korea
¹Materials Architecturing Research Center, Korea Institute of Science and Technology, Korea

POLY.P-17

Enhanced thermal and mechanical properties of epoxy composites at ultra-low loading of functionalized MoS2 nanosheets

Shahina Riaz, Soo-Jin Park^{1,*}
Chemistry, Inha University, Pakistan
¹*Department of Chemistry, Inha University, Korea*

POLY.P-18 Effective reinforcement of melamine functionalized WS2 nanosheets in Epoxy nanocomposites at low loading via enhanced interfacial interaction

Shahina Riaz, Soo-Jin Park^{1,*}
Chemistry, Inha University, Pakistan
¹*Department of Chemistry, Inha University, Korea*

POLY.P-19 Antifreezing Copolymers

Jinkyung Park, Soyeon Kim, Zhengyu Piao,
Byeongmoon Jeong
Department of Chemistry and Nano Science, Ewha Womans University, Korea

POLY.P-20 Optical Resonator Fabricated Using Bicomponent Copolymer; Thermo-responsive and Photo-responsive

Dongwan Son, Myungwoong Kim
Department of Chemistry, Inha University, Korea

POLY.P-21 Role of circularly polarized light in chiral amplification of supramolecular system

Myungeun Seo*, Jun Su Kang¹
Graduate School of Nano Science Technology, Korea Advanced Institute of Science and Technology, Korea
¹*Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea*

POLY.P-22 Synthesis of Polymer Brushes on Various Substrates by Cu(0)-Catalyzed Alkyne-Azide Click Reaction

Myungwoong Kim*, Jieun Nam
Department of Chemistry, Inha University, Korea

POLY.P-23 Synthesis of Functional Polyethylene Block Polymers via Post-polymerization Deoxygenation

Taeseok Oh, Myungeun Seo^{1,*}
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
¹*Graduate School of Nano Science Technology, Korea Advanced Institute of Science and Technology, Korea*

POLY.P-24 3D Printing Nanocomposite- Ink Formulation for Soft Matter Photo-actuator

Monica cahyaning Ratri, Kwanwoo Shin^{1,*}
chemistry, Sogang University, Indonesia
¹*Department of Chemistry, Sogang University, Korea*

POLY.P-25 Should a Mechanophore be Vulnerable? Mechanical Force-induced Cycloaddition of Intact Aziridines

Sangmin Jung, Hyo Jae Yoon
Department of Chemistry, Korea University, Korea

POLY.P-26 Facile Viscoelastic Polymers Processing with Diphenylamine and Carbon Nanotube for Strain Sensor

Jiyun Yang, Gyeonghyeon Choi, Wansu Cho, Chiyoung Park

Energy Science and Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea

POLY.P-27 Mechanoresponsive Gel-Capsule Composites

Gyeonghyeon Choi, Chiyoung Park^{1,*}
Daegu Gyeongbuk Institute of Science & Technology, Korea
¹*Department of Energy Science and Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea*

POLY.P-28 From quick dispersion to in situ self-healable supramolecular composite fabrication with carbon nanotubes.

Wansu Cho, Chiyoung Park^{1,*}
Daegu Gyeongbuk Institute of Science & Technology, Korea
¹*Department of Energy Science and Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea*

POLY.P-29 RuPhos Pd-catalyzed Suzuki-Miyaura catalyst-transfer polycondensation with a coil-type macroinitiator: A novel synthetic route for the preparation of conjugated rod-coil block copolymers

Hae-Nam Choi, In-Hwan Lee^{1,*}
Department of Energy System Research, Ajou University, Korea
¹*Department of Chemistry, Ajou University, Korea*

POLY.P-30 Block Copolymer/Tannic Acid Hydrogel with Tunable Mechanical and Adhesive Property

Jongmin Park, Haeshin Lee, Myungeun Seo^{1,*}
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
¹*Graduate School of Nano Science Technology, Korea Advanced Institute of Science and Technology, Korea*

POLY.P-31 Synthesis and characterization of lactam-based novel acceptor unit conjugated polymer donor for organic solar cells (OSCs)

Suha Lee, Do-Hoon Hwang^{1,*}
Department of Chemistry, Pusan National University, Korea
¹*Department of Chemistry, Pusan National University, Korea*

POLY.P-32 Acoustic trapping set up by using polymer beads

Hoyeon Lee, Daewon Sohn^{1,*}
Graduate student in chemistry, Hanyang University, Korea
¹*Department of Chemistry, Hanyang University, Korea*

POLY.P-33 Characteristics of oxazoline based gradient and block copolymers by Langmuir-Blodgett method

Jiwon Jeong, Daewon Sohn
Department of Chemistry, Hanyang University, Korea

POLY.P-34 Peptidomimetic Antimicrobial Poly(glycidyl ethers)

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-35

Synthesis of 1,1-Diisopropyl (or Dihexyl)-2,5-ethynyl-3,4-diphenyl-siloles and their Glaser Oxidative Coupling Polymerization Reactions
 Young Tae Park*, [Jong Wook Lim](#)¹
Department of Chemistry, Keimyung University, Korea
¹*Keimyung University, Korea*

POLY.P-36

Synthesis of Co-oligomer containing 1,1-Diisopropyl (or Dihexyl) -3,4-diphenyl-2,5-silolene and 4,4'-(Hexafluoroisopropylidene)diphenolene (or Bisphenolene A or 4,4'-Biphenolene) and their Photoelectronic and Electrochemical Characteristics
[Jong Wook Lim](#), Young Tae Park^{1,*}
Keimyung University, Korea
¹*Department of Chemistry, Keimyung University, Korea*

POLY.P-37

Dispersion Polymerization of Highly Fluorinated Norbornenes through Ring-Opening Metathesis Polymerization
[Sanghoon Song](#), Jeewoo Lim
Department of Chemistry, Kyung Hee University, Korea

POLY.P-38

Preparation of Marine Antifouling Surfaces Using Tannic Acid-Zr(IV) Complex and Carrageenan
[Dahee Kim](#), Sung Min Kang
Department of Chemistry, Chungbuk National University, Korea

POLY.P-39

Ultralow biofouling of fibrinogen and human platelets on ulvan multilayer-coated solid surfaces
[Arisu Lee](#), Sung Min Kang
Department of Chemistry, Chungbuk National University, Korea

POLY.P-40

New Conjugated Copolymer : Synthesis, Properties, Application
 Intae Kim*, [Nam Gi Cho](#)¹
Department of Chemistry, Kwangwoon University, Korea
¹*chemistry, Kwangwoon university, Korea*

POLY.P-41

Synthesis of Super-Hydrophobic Monomer based Polymeric Micelles for pH-Responsive Drug Delivery Systems
[Iloh Son](#), Byeong-Su Kim
Department of Chemistry, Yonsei University, Korea

POLY.P-42

Liquid crystalline epoxy based on cyano bipenyl as a mesogen : Synthesis and characterization
[Soyeong Choe](#), Hyeonuk Yeo^{1,*}
Department of Chemistry, Kyungpook National University, Korea
¹*Department of Chemistry Education, Kyungpook National University, Korea*

POLY.P-43

Poly(ethylene oxide) Grafted Silicone Polymers for Hydrophilic Liquid Silicone Rubber
[Hyunjin Kang](#), Joon soo Han
Materials Architecturing Research Center, Korea Institute of Science and Technology, Korea

POLY.P-44

Synthesis and thin film properties of a soluble polyimide/tetrafluorophthalate attached BaTiO₃ nanocomposite for solution processable high k dielectric
[Kyeongmin Kim](#), Taek Ahn
Department of Chemistry, Kyungsung University, Korea

POLY.P-45

Synthesis and characterization of a low-temperature crosslinked polyimide using a (hydroxymethyl)benzoguanamine as a cross-linker
[Kyeongmin Kim](#), Taek Ahn
Department of Chemistry, Kyungsung University, Korea

POLY.P-46

RAFT-mediated Synthesis of Zwitterionic/Metal-Chelating Block-Copolymers
[Minho Choi](#), Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-47

ATRP-Mediated Synthesis of End-functionalized Double-Hydrophilic Block-Copolymers with Pyrene-Modified Radical Initiator
[Ji-Hyeon Lee](#), Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-48

Europium-mediated Self-assembly of Double-Hydrophilic Block-Copolymers for Template-Assisted Formation of Arsenite-Incorporated Nanoparticles.
[Yoojin Jang](#), Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-49

ATRP-Mediated Synthesis of Chelating Double-Hydrophilic Block-Copolymers for Metal-Induced Self-Assembly
[Wonjeong Yu](#), Sang-Min Lee
Department of Chemistry, The Catholic University of Korea, Korea

POLY.P-50

ULTRAFast DRUG RELEASE SYSTEM USING 4D PRINTED HELICAL MICROROBOTS
[Bobby Aditya Darmawan](#), Sangbong Lee¹, Eunpyo Choi
School of Mechanical Engineering, Chonnam National University, Korea
¹*Nano-Bio materials lab, Korea Institute of Medical Microrobotics (KIMIRo), Korea*

POLY.P-51

Functional polyimide binder for high-nickel, high-voltage cathode materials of lithium rechargeable batteries
[Jeongdong Kim](#), Farkhod Azimov¹, Hyun Min Jung, Jun Woo Park, Seung-Wan Song²
Department of Applied Chemistry, Kumoh National Institute of Technology, Korea
¹*Department of Advanced Materials Science and Engineering, Kumoh National Institute of technology, Korea*

²Department of Chemical Engineering and Applied Chemistry, Chungnam National University, Korea

POLY.P-52

Investigation of monomer reactivity in melting sulfur polymerization for polyphenylene sulfide
Kyuwon Sim, Seungmin Choe, Hyun Min Jung
Department of Applied Chemistry, Kumoh National Institute of Technology, Korea

POLY.P-53

The glycolysis process of poly 1,4-cyclohexanedimethyl terephthalate (PCT) - PET derivative under effectively combined catalyst conditions
Thi Nguyet Linh Ho, Hyun Min Jung, Minh Dieu Ngo¹
Department of Applied Chemistry, Kumoh National Institute of Technology, Korea
¹Department of Applied chemistry, Kumoh National Institute of Technology, Korea

POLY.P-54

Preparation of high biomass content epoxy-amine thermosets from furan derivatives and their flame retardancy

Gyeong Seok Chae, Seunghan Shin^{1,*}
Department of Industrial and Technology, University of Science & Technology, Korea
¹Korea Institute of Industrial Technology, Korea

POLY.P-55

Catechol substituted polyvinylpyrrolidone for gel printing research
Jongok Won*, Hyeongsu Kim
Department of Chemistry, Sejong University, Korea

POLY.P-56

Synthesis and characterization of natural urushi organogel based on ethanol
Eunyeong Yang, Jongok Won^{1,*}
Department of chemistry, Sejong University, Korea
¹Department of Chemistry, Sejong University, Korea

POLY.P-57

A Study on the Composition and Characteristics of urush gel according to Fe³⁺ Ratio
Jihyeon Hur, Jongok Won
Department of Chemistry, Sejong University, Korea

IND.P-58

Comprehensive study of heteroatom doped ultra-microporous carbon for CO₂ capture

Adeela Rehman, Soo-Jin Park
Department of Chemistry, Inha University, Korea

IND.P-59

Activated carbons prepared from potassium salts activation used as adsorbents for CO₂ capture

Adeela Rehman, Soo-Jin Park
Department of Chemistry, Inha University, Korea

IND.P-60

Delineating the key role of ultramicroporosity for efficient CO₂ capture by KOH activated carbons

Adeela Rehman, Soo-Jin Park
Department of Chemistry, Inha University, Korea

IND.P-61

A Versatile Method for the Functionalization of Cellulose Nanofibers via Thiol-Based Chemistry

Sol An, Myungwoong Kim
Department of Chemistry, Inha University, Korea

IND.P-62

Defining the relative effect of activating agents on polyacrylonitrile-based porous carbon materials for efficient CO₂ capture

Urooj Kamran, Soo-Jin Park^{1,*}
Inha University, Pakistan
¹*Department of Chemistry, Inha University, Korea*

IND.P-63

Tuning the ratios of KOH/NaOH activators on acetic acid mediated Chitosan-based porous carbons for improving textural features and CO₂ capture capacities

Urooj Kamran, Soo-Jin Park^{1,*}
Inha University, Pakistan
¹*Department of Chemistry, Inha University, Korea*

IND.P-64

Role of activators on polyacrylonitrile derived carbon adsorbents for improving CO₂ uptakes.

Urooj Kamran, Soo-Jin Park^{1,*}
Inha University, Pakistan
¹*Department of Chemistry, Inha University, Korea*

IND.P-65

A study of activated carbons derived from coffee wastes for hydrogen storage

Ji-Hye Park, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*

IND.P-66

Preparation and characterization of cigarette filters-derived activated carbons for hydrogen storage

Ji-Hye Park, Soo-Jin Park^{1,*}
Inha University, Korea
¹*Department of Chemistry, Inha University, Korea*

IND.P-67

Supercapacitive behaviors of S-doped activated carbons derived from coffee grounds

Ui-Won Lee, Soo-Jin Park
Department of Chemistry, Inha University, Korea

IND.P-68

Preparation and characterization of waste coffee ground based activated carbon for improving specific capacitance

Ui-Won Lee, Soo-Jin Park
Department of Chemistry, Inha University, Korea

IND.P-69

Hydroxylation of benzene to phenol by using 20% O₂/CO₂ over Cu-ZSM-5

Soo-Jin Park*, Sheikh Tareq Rahman¹
Department of Chemistry, Inha University, Korea
¹*Chemistry, Inha University, Korea*

IND.P-70

Synthesis and photophysical properties of bulky substituents of homoleptic iridium(III) complexes

Su-Won Na, Changhyun Back, Daehan Lee, Dae won Cho, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea

IND.P-71

Silicon-based deep blue phosphorescence electron-transport materials with high thermal stability and triplet energy

Su-Won Na, Changhyun Back, Min Su Choe, Sang Ook Kang, Ho-Jin Son
Department of Advanced Materials Chemistry, Korea University, Korea

IND.P-72

Development of technology to recover valuable materials of harmless asbestos

Seok-Chan Kim*, Dong Nyeon Kim, Donghyeon Yang¹
Department of Chemistry, Kookmin University, Korea
¹*chemistry, Kookmin University, Korea*

IND.P-73

A study of zeolite-templated carbons amine modified by ethylenediamine for CO₂ capture

Choong-Hee Kim, Soo-Jin Park
Department of Chemistry, Inha University, Korea

IND.P-74

Synthesis of polyethylenimine-impregnated zeolite-templated carbon for CO₂ capture

Choong-Hee Kim, Soo-Jin Park
Department of Chemistry, Inha University, Korea

IND.P-75

Effect of Pt-loaded g-C₃N₄/TiO₂ nanofibers for Enhanced visible light photocatalytic activity via electrospinning

Seong-Jun Mun, Soo-Jin Park^{1,*}

Inha University, Korea

¹Department of Chemistry, Inha University, Korea

IND.P-76

Fabrication of N-doped TiO₂ nanotubes/g-C₃N₄ composites Prepared by hydrothermal for photocatalytic degradation of rhodamine B
Seong-Jun Mun, Soo-Jin Park^{1,*}
Inha University, Korea

¹Department of Chemistry, Inha University, Korea

IND.P-77

Pretreatment of Cellulose for hydrogen production
Im Jaewan, Kisub Kim
Department of Chemical and Biological Engineering, Korea National University of Transportation, Korea

INOR.P-78

Mechanistic approaches for chemically modifying the coordination sphere of copper-amyloid- β complexes

Jiyeon Han , Mi Hee Lim
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

INOR.P-79

Tunable regulatory activities of 1,10-phenanthroline derivatives towards acid sphingomyelinase and Zn(II)-amyloid- β

Yelim Yi , Jiyeon Han, Mi Hee Lim
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

INOR.P-80

Understanding Different Catalytic Reactivities on Ketone Hydrosilylation by a Base Metal-Bis(imino)pyridine Catalyst with Electronic Structure Calculations

Jun-Hyeong Kim , Ryan J. Trovitch¹, Mu-Hyun Baik
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea
¹*School of Molecular Sciences, Arizona State University, United States*

INOR.P-81

Synthesis and Structural Characterization of [(L_{DTEA})MCl₂] (M = Co, Zn, Cu, Pd) for Ring Opening Polymerization of *rac*-Lactide

Kyeonghun Kim , Hyosun Lee
Department of Chemistry, Kyungpook National University, Korea

INOR.P-82

Synthesis and Structural Characterization of Cadmium(II), Cobalt(II), and Zinc(II) Complexes Containing α -Methyl-*N,N*-bis((1H-pyrazol-1-yl)methyl)benzylamine Derivatives

Solhye Choe , Hyosun Lee
Department of Chemistry, Kyungpook National University, Korea

INOR.P-83

Installing a Molecular Truss Beam Stabilizes MOF Structures

Hong Ki Kim , Eun-Young Choi^{1,*}, Mu-Hyun Baik
Chemistry, Korea Advanced Institute of Science and Technology, Korea
¹*Chemistry & Biology, Korea Science Academy of KAIST, Korea*

INOR.P-84

[Withdrawal] A Tip-to-Middle Anisotropic MOF-on-MOF Growth Involving a Self-Adjustment of Cell Lattices

Gihyun Lee , Sujeong Lee, Sojin Oh, Moonhyun Oh
Department of Chemistry, Yonsei University, Korea

INOR.P-85

Synthesis and properties of Pd(II) and Pt(II) complexes bearing poly aromatic conjugated groups

Yong-Joo Kim*, Heekwon Park ¹, Seung Yun Oh¹, Soon W. Lee²
Department of Chemistry, Gangneung-Wonju National University, Korea
¹*Chemistry, Gangneung-Wonju National University, Korea*
²*Department of Chemistry, Sungkyunkwan University, Korea*

INOR.P-86

In-situ Single Particle Monitoring of Copper Morphological Controlled Growth on Ag and Au Nanocrystals

Hysunsik Hwang , Hyunjoon Song
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

INOR.P-87

Morphology Effect of Metal Cocatalysts for Efficient Photocatalytic Hydrogen Evolution

Bumjin Park , Hyunjoon Song
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

INOR.P-88

Polymorphism control of zinc phthalocyanine nanowires in physical vapor transport system for increased water dispersibility

Youngkwan Yoon , Hee Cheul Choi
Department of Chemistry, Pohang University of Science and Technology, Korea

INOR.P-89

Reactivity Comparison of Nonheme Iron(IV)-Imido versus Iron(IV)-Oxo Species bearing the Same Supporting Ligand

Tae Yeon Kim , Yong-Min Lee^{1,*}, Wonwoo Nam
Department of Chemistry and Nano Science, Ewha Womans University, Korea
¹*Research Institute for Basic Sciences, Ewha Womans University, Korea*

INOR.P-90

Second harmonic generation and photoluminescence properties of noncentrosymmetric molybdenum oxyfluorides

Hongil Jo , Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-91

Synthesis and Characterization of a New Bismuth Fluoride Selenite

Jee Yoon Chung , Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-92

Chiral Ligand-induced Crystallization of Pb-based Chiral Coordination Polymers

Yunseung Kuk, Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-93

A series of main group metal iodates: Syntheses, structures, characterizations, and third harmonic generation properties.

Geonju Park, Kang Min Ok
Department of Chemistry, Sogang University, Korea

INOR.P-94

Pseudo-2D Porous Networks via Interpenetration of 1D Coordination Polymers: Adsorption and Separation of *o*-, *m*-, and *p*-Xylenes

Soojin Lee, Junmyung Park, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-95

Construction of Mercury(II) Metal-Organic Frameworks Including Enolate anion

Hong Kangsan, Hyejin Oh, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-96

Construction of Zn(II) complexes as a catalyst in transesterification: notable differences due to anion

Do Heon Kim, Heehun Moon, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-97

Flexible [X₂@Pd₃L₄]⁴⁺ Double Cages as A Molecular Ruler: Structural Change via Anion Exchange

Junhee Kim, Ahreum Kim, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-98

Hexafluorosilicate Anion in formation of Coordination Cage : anion competition

Sangwoo Lim, Jeyeong Lee, Ok-Sang Jung
Department of Chemistry, Pusan National University, Korea

INOR.P-99

Recognition of Chiral Amino Acids using Chiral Pd₆L₈ Nano-Cube Pairs

Dongwon Kim, In-Hyeok Park, Ok-Sang Jung
Department of chemistry, Pusan National University, Korea

INOR.P-100

Comparison of the performances of different phases of lotus-root shaped TiO₂ anodes for lithium-ion batteries

Minsun Park, Seong Huh
Department of Chemistry, Hankuk University of Foreign Studies, Korea

INOR.P-101

Zn-MOFs containing a new C_{2h}-symmetric quaterphenyl-3,3'-dicarboxylate ligand

Hyun-Chul Kim, Suk Bin Yoon, Seong Huh, Sung-Jin Kim¹, Youngmee Kim^{2,*}
Department of Chemistry, Hankuk University of Foreign Studies, Korea

¹Department of Chemistry, Ewha Womans University, Korea

²Department of Chemistry and Nano Science, Ewha Womans University, Korea

INOR.P-102

Postsynthetic Double Modified Porous Organic Adsorbents for Ammonia Capture under Dry and

Humid condition

Dong Won Kang, Minjung Kang, Daewon Kim, Chang Seop Hong
Department of Chemistry, Korea University, Korea

INOR.P-103

Synthesis and Physical Properties of New Au(I) Complexes with Diphenylphosphine Ligands

Jiyeong Song, Daeyong Um, Young-A Lee
Department of Chemistry, Jeonbuk National University, Korea

INOR.P-104

Synthesis of Multimetallic Metal-Organic Framework using a Mechanochemical Strategy

Hyojin Kim, Dong Won Kang, Minjung Kang, Jong Hyeak Choe, Daewon Kim, Yun Seok Chae, Doo San Choi, Hyein Park, Eun Gyung Ju, Chang Seop Hong
Department of Chemistry, Korea University, Korea

INOR.P-105

Hydrophobic MOF beads for carbon dioxide capture

Jinkyong Park, Dong Won Kang, Minjung Kang, Jong Hyeak Choe, Daewon Kim, Yun Seok Chae, Saemi Kim¹, Jee Yeon Kim¹, Chang Seop Hong
Department of Chemistry, Korea University, Korea
¹Samsung Research, Samsung Electronics Co., Korea

INOR.P-106

Hydrophobic MOF composite for carbon dioxide capture

Jong Hyeak Choe, Hyojin Kim, Minjung Kang, Dong Won Kang, Daewon Kim, Yun Seok Chae, Doo San Choi, Hyein Park, Eun Gyung Ju, Chang Seop Hong
Department of Chemistry, Korea University, Korea

INOR.P-107

High and reversible ammonia uptake in the Mg based metal-organic framework

Daewon Kim, Dong Won Kang¹, Minjung Kang¹, Jong Hyeak Choe¹, Hyojin Kim², Yun Seok Chae³, Doo San Choi¹, Chang Seop Hong¹
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INOR.P-108

Synthesis of Salen-In/Carbazole Conjugate Systems and Their Intriguing Photophysical Properties

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INOR.P-109

In-situ synthesis of BiOClx/BiOBry/BiOIz decorated on polyacrylonitrile based nanofibers for visible-light photocatalytic investigation

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INOR.P-110

In-situ growth of Graphene Oxide/BiOCl decorated on polyacrylonitrile based nanofibers and their application in photocatalytic degradation of RhB
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INOR.P-111

Influence of Titanium Dioxide on Photocatalytic of Polyvinylpyrrolidone based nanofibers Synthesized via Electrospinning
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INOR.P-112

Low thermal conductivity from liquid like behavior of Cu in SnTe
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INOR.P-113

Synthesis of Mn catalysts derived from MOF and their electrochemical performances for the OER and ORR in rechargeable zinc-air batteries
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¹Department of Chemistry, Kyungpook National University, Korea

INOR.P-114

Synthesis of Palladium complexes containing diketonate and NHC ligands and their catalytic activities towards functional norbornene copolymerization
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INOR.P-115

The effect of lanthanide (RE = La, Eu) doping on thermoelectric properties of n-type Bi₂Te₃ system
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INOR.P-116

Frustrated Lewis Pairs with Thermally Activated Delayed Fluorescence: Activation of Formaldehyde
Young Hoon Lee, Hanif Mubarak, Kihoon Shin, Min Hyung Lee
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INOR.P-117

Isolation of the First Supramolecular Ion-Triplet Complex: [I⁻•Hg²⁺•I⁻]@Pillar[5]-bis-Trithiacrown
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INOR.P-118

Supramolecular Polymerization by Enzymatic Reaction
Wonjin Choi, Jong Hwa Jung
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INOR.P-119

Rheological Property and Morphology Change of Co-Assembled Supramolecular Gel
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INOR.P-120

Self-Assembly Variation of Supermolecular Gel with Zn²⁺
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INOR.P-121

Mechanistic Study on Buchwald-Hartwig Amination for Densely Functionalized Substrates: How Can We Make It Catalytic?
Suyeon Kim, Seoung-Tae Kim, Mu-Hyun Baik
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INOR.P-122

[Withdrawal] Exquisite silica nano-structures for geometrically-diversified collections; origination on Ni-based nano-octahedrons
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INOR.P-123

Hollow nanocube CuO decorated on ZnO nanospheres for ultrasensitive acetone gas sensors
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INOR.P-124

Synthesis of Copper(I) and Copper(II) Complexes by Bisquinoline Schiff Base Ligand
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INOR.P-125

Porous Gold-Silver Alloy Nanoparticles for Photoacoustic Signal Enhancement
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INOR.P-126

Synthesis of hetero-nanostructure by anion exchange reaction based on highly-strained

templates

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Kwangyeol Lee
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INOR.P-127

Simulated reaction path of the paddle-wheel-like complex formation of tetrakisacetatodimolybdenum(II) from monomers
Hyo Weon Jang
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INOR.P-128

Synthesis of Magnetic Nanoparticle Cluster-Quantum Dot Composites and Application for Fluorescent Barcoding Nanomaterials
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INOR.P-129

Kinetically Controlled Supramolecular Polymerization using Silver Ion
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INOR.P-130

Influence of the *p*-type Double Dopants for the Thermoelectric Properties of
 $\text{Ca}_{10.88(4)}\text{Li}_{0.12}\text{Sb}_{9.32(1)}\text{Ge}_{0.42(1)}$ and
 $\text{Ca}_{10.94(3)}\text{Na}_{0.06}\text{Sb}_{9.43(1)}\text{Ge}_{0.45(1)}$
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INOR.P-131

Influence for the Thermoelectric Property of the $\text{Ca}_{5-x}\text{Yb}_x\text{Al}_{2-y}\text{In}_y\text{Sb}_6$ ($3.07(1) \leq x \leq 4.88(2)$; $y = 0.16(2), 0.32(1), 2$) system via the Multi-Substitution
JunSu Lee, Tae-Soo You
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INOR.P-132

Copper Phosphosulfide in a Unique Hollow Toroidal shape
Yongju Hong, Taekyung Kim, Jinhyoung Jo,
Kwangyeol Lee
Department of Chemistry, Korea University, Korea

INOR.P-133

Near-Infrared Probe of Rhodamine for Emission Detection of ATP in Lysosomes in Living Cells
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INOR.P-134

Pseudo-heteroepitaxial growth of zinc blende-CdTe on 2D wurtzite hexagonal CdS template
Seokpyo Jeon, Kwangyeol Lee

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INOR.P-135

The inter-ligand energy transfer control in Ir-complex with expanding ancillary ligands
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INOR.P-136

Electropolymerized Multilayer Chromophore-Catalyst Assemblies for Stable Photoanode in Dye-sensitized Photoelectrosynthesis Cell (DSPEC)
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INOR.P-137

An Efficient Strategy for Activation of Metal–Organic Frameworks: Microwave Irradiation
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INOR.P-138

Correlation between the matrix metalloproteinases and natural products
DongWoo Son, Eungchan Kim, Hyuck Jin Lee
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INOR.P-139

Conjugated Donor-Acceptor-Donor Chromophore/Catalyst Assembly: Visible-Light Driven Photocatalytic Water Oxidation
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INOR.P-140

Direct Observation of Non-Radiative Thermal Relaxation with Vibrational Paddlewheel Cu–Cu Node in Metal–Organic Frameworks
Jinhee Bae, Nak Cheon Jeong
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INOR.P-141

Rapid Exciton Migration in Re(I) Complex-Doped Porphyrinic MOF hybrid photocatalyst for Carbon Dioxide Reduction : Inspired by Multi-porphyrin Arrays in Photosystem I
Daehan Lee, Min Su Choe, Changhyun Back, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son
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INOR.P-142

Functional Consequences of Zinc Finger Domains from Classical C₂H₂ Transcriptional Factors
Seung Jae Lee*, Yunha Hwang, Jaewoong Park
Department of Chemistry and Institute for Molecular

INOR.P-143

Highly Efficient Photocatalytic Degradation of Rhodamine B by Nanoscale Mixed-ligand Metal-Organic Frameworks (nMLMs)
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INOR.P-144

Interfacial strain engineering via the anion framework distortion in the $\text{Cu}_{1.81}\text{S}/\text{CuCrS}_2$ heteronanostructure
Ye Ji Park, Taehyun Kwon, Kwangyeol Lee
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INOR.P-145

Rational Design of Photosensitizing Organometallic Ir^{III} Complex for Efficient Photocatalytic CO_2 -to- CO Conversion: Intraligand Electron Delocalization Effects on the Excited-state Properties of Heteroleptic $\text{Ir}(\text{III})$ Complexes
Min Su Choe, Daehan Lee, Changhyun Back, Chul Hoon Kim, Dae won Cho, Sang Ook Kang, Ho-Jin Son
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INOR.P-146

Molecular sieving effect of nonporous 3-D MOF induced by selective removal of a ligated solvent molecule
Junmo Seong, Seonghwan Lee, Seok Jeong, Myoung Soo Lah
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INOR.P-147

Pt-doped and vacancy abound RuO_2 to Increase Stability in Oxygen Evolution Reaction
Jinhyoung Jo, Jun Kim, Kwangyeol Lee
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INOR.P-148

Specific Interactions of Complex Carbohydrates with Non-Antibody Metalloproteins
Hara Jang, Seung Jae Lee, Yung Min Lee
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INOR.P-149

Coordination Bonding and Coordination Equilibrium of Neutral Chloroform
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INOR.P-150

Surface engineering of $\text{AuPt}@ \text{RuO}_x$ nanowires for efficient oxygen evolution reaction in acidic media
Heesu Yang, Taehyun Kwon, Kwangyeol Lee
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INOR.P-151

Rare-Earth Metal Doped Quaternary Zintl Phases for Thermoelectric Application: the $\text{M}_{5-x}\text{RE}_x\text{Al}_2\text{Sb}_6$ (M

= Ca, Yb; RE = Pr, Sm, Nd, Gd) System
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INOR.P-152

Collisional Electron Transfer-Based Photosensitization Reaction of Zn Porphyrin Dye in TiO_2 -Mediated Photocatalytic CO_2 to CO Conversion System
Daehan Lee, Su-Won Na, Min Su Choe, Chul Hoon Kim, Sang Ook Kang, Ho-Jin Son
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INOR.P-153

Recent Development of BODIPY-based Metal Macrocycles
Gajendra Gupta, Chang Yeon Lee
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INOR.P-154

Defense Mechanisms of *Suaeda glauca* through Indole-3-Acetic Acid
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INOR.P-155

Electron Transport Pathway from Reductase to Hydroxylase
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INOR.P-156

Structural Diversities of ConA through Coordination and Complexation
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INOR.P-157

Systematic studies on solid-state phase transformation toward a metal-organic framework of 7-connected Zn_4O units
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INOR.P-158

$\text{Ag}@ \text{Cu}_3\text{N}$ core-shell nanoparticles for carbon dioxide reduction reaction
Chung man Yu, Jinwhan Joo, Kwangyeol Lee
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INOR.P-159

2,3'-Bipyridine-Based $\text{Ir}(\text{III})$ Complexes Applicable to Blue Phosphorescent OLEDs (PHOLEDs)
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INOR.P-160

Controlled Syntheses of Secondary Building Units in Zn-based Metal-Organic Frameworks

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INOR.P-161

Synthesis and Structural Studies on the Regioisomers of Bis-Dithiamacrocycle Incorporating a Spirobiphenyl Group and Their Copper(I) Iodide Coordination Polymers

Seulgi Kim, Shim Sung Lee

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INOR.P-162

Ligand Modification of Cobalt Complexes for Enhancing Hydrogen Evolution Reactivity

Seungjin Song

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INOR.P-163

Size and Thickness-Controlled Insulator in M-I-M Structure with Atomic-Layer-Deposited Al₂O₃

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INOR.P-164

[Withdrawal] Synthesis of Bright I-III-VI Quantum Dots for High Stability on White Down-Converted LEDs

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INOR.P-165

[Withdrawal] Enhanced Stability of I-III-VI Quantum Dot Micro-powders by Coating with SiO₂/Al₂O₃ Matrix

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INOR.P-166

Fabrication of SiO₂ Nano-Rod Structure via Polystyrene Nanosphere Lithography to Reduce Optical Reflection

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INOR.P-167

Fabrication of Green InP/ZnSeS/ZnS Quantum-Dot Embedded Highly Efficient Powder

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INOR.P-168

Copper(II), Cobalt(II) and Zinc(II) Complexes Containing 4-(quinolin-2-ylmethyl)morpholine: Synthesis, Characterization and Application towards Ring Opening Polymerization of rac-Lactide

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INOR.P-169

Synthesis and structural characterization of strontium complexes with tridentate ligands and β -diketonates

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INOR.P-170

High Performance Zr-Porphyrin Metal-Organic Framework for Adsorptive Removal of Quinolone Drugs

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INOR.P-171

Reversible Fluorescence Switching of MOF Nanoparticles: Security Ink and Ultrasensitive Detection of Pb²⁺ Ions in Aqueous Media

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INOR.P-172

Synthesis of New Indium Complexes as Precursors for In₂O₃ Thin Films

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INOR.P-173

Microscopic and Mesoscopic Dual-Post-Synthetic Modification of Metal-Organic Frameworks
Byeongchan Lee, Dohyun Moon¹, Jinhee Park
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INOR.P-174

Thermally Reduced Radical Anionic Metal-Organic Framework
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INOR.P-175

Stable Radical Anionic Metal-Organic Frameworks
Bongkyeom Kim, Jinhee Park
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INOR.P-176

Titanium-Porphyrinic Aerogel as a Photocatalyst
Yesub Keum, Jinhee Park
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INOR.P-177

Crystal structure and ionic conductivity in LiAlSiO₄-AlPO₄ solid solution
Gunwoo Yoo, Seung-Joo Kim, Jaegyeom Kim, Minseong Kim, Fouzia Kheif
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INOR.P-178

Rapid Capture of Cs⁺ via Multiple-Supramolecular Interactions in an Anionic Metal-Organic Framework
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INOR.P-179

Regulation of Interpenetration in UiO-type Metal-Organic Frameworks
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INOR.P-180

Ln(III)CrWO₆ (Ln = Y and Lu): Polar and Magnetic Oxides with CaTa₂O₆-Related Structure
Sun Woo Kim
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INOR.P-181

Synthesis of molecular cage using propeller-shape ligand
Soocheon Kim, Eunsung Lee
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INOR.P-182

Porous Organic Crystals Having Adaptive Voids
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INOR.P-183

Cyclometalated Platinum(II) Complexes Displaying Circularly Polarized Phosphorescence
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INOR.P-184

Synthesis of Yolk/shell type Si@C anode for high initial coulombic efficiency lithium-ion batteries
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INOR.P-185

Enhancement Photocatalytic Efficiency of Ruthenium complexes Encapsulated into Zeolitic Imidazolate Frameworks
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INOR.P-186

Near-Infrared-Fluorescent Zinc Probe
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INOR.P-187

New approach for metal-sulfide quantum dot Encapsulated into Zeolitic Imidazolate Framework-11
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INOR.P-188

Various Titanium(IV) Complexes Containing N-Heterocyclic Ligands for Cycloaddition of CO₂ to Epoxides
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INOR.P-189

Synthesis and photophysical studies of Iridium (III) complexes with various N-heterocyclic ligands
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INOR.P-190

Palladium Complexes Containing Pincer-Type [ONO] and [NNO] ligands and Their Reactivity Towards Unusual Formation of MeCN-bridged Dimer and benzoxazole moiety

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INOR.P-191

Construction of heterometallic Pt(II) and Ir(III) Trigonal Prismatic Cage

Ume Farwa, Junseong Lee

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INOR.P-192

Synthesis, Characterization and Application towards Polymerization of lactide by Precatalyst [LQMMPMCl₂] (M = Co, Cu, Zn)

Suhyun Park, Hyosun Lee

Department of Chemistry, Kyungpook National University, Korea

INOR.P-193

Observation of new carbonate phases in the carbonation reaction of K₂CO₃-added CdO.

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INOR.P-194

Synthesis of Nickel Complexes Using N-Alkoxy Carboxamide Ligand for Nickel Oxide Films

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INOR.P-195

Synthesis and Analysis of New Germanium Complexes for Thin Film Application: Ge(β -diketonate)(N-alkoxy carboxamide)

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INOR.P-196

Hybridizing of metal organic framework in clay nanotube for enhanced gas adsorption capacity

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INOR.P-197

Facile synthesis of silver nanostructures under ionic liquid media for photodegradation of methyl orange

Hyeonhan Lim, Kang Hyun Park

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INOR.P-198

Observation of ligand field strength of NCX-type pseudohalide ions

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INOR.P-199

Crytal Structure of a Mononuclear Nonheme Cobalt(III)-Iodosylbenzene Complex and Its Reactivity

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INOR.P-200

Hydrothermal Synthesis, structure determination, and characterization of a new noncentrosymmetry strontium niobium oxyfluoride

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INOR.P-201

Capturing C8 Aromatic Compounds in Flexible Zn-based Breathing Metal-Organic Frameworks

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INOR.P-202

Flow field-flow fractionation (FIFFF) for analysis of silver nanoparticles (AgNPs) in simulated human body fluids: a study of aggregation and dissolution

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INOR.P-203

Preparation of Liquid Polycarbosilane and Development of Cross-linking Properties

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PHYS.P-204

In vivo neutron capture therapy of cancer using ultrasmall gadolinium oxide nanoparticles with cancer-targeting ability
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PHYS.P-205

Polyacrylic acid coated lanthanide-based nanocolloids as T₂-contrast agents for Magnetic resonance imaging
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PHYS.P-206

Synthesis and characterization of core-shell Fe₃O₄@SiO₂ nanobeads as adsorbents for magnetic separation of nucleic acids
Huan Yue, Gang Ho Lee
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PHYS.P-207

Magnetic Properties, Water Proton Relaxivities and Fluorescent Properties of Amorphous Carbon Nanoparticles
Tirusew Tegafaw, Gang Ho Lee
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PHYS.P-208

Non-toxic ultrasmall gadolinium oxide nanoparticle coated by PAA-glucosamine as high-performance tumor-targeting MRI contrast agent
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PHYS.P-209

In vivo T₁ MR imaging application of water soluble Poly(methyl vinyl ether-alt-maleic acid)-coated Ultrasmall Gd₂O₃ Nanoparticles
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PHYS.P-210

A two-step charge separation via intermediate partial charge transfer state in a molecular dyad
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Department of Chemistry, Yonsei University, Korea

PHYS.P-211

Jet-cooled spectroscopy of the isomeric chloro-p-

xyl radicals in a corona excited supersonic expansion

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PHYS.P-212

Cooperative Dynamics in Protein Folding
Song-Ho Chong, Sihyun Ham
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PHYS.P-213

Effect of humidity on the removal of volatile organic compounds over Fe loaded TiO₂: Unveiling photocatalytic removal paths by operando FT-IR
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PHYS.P-214

Solvation Free Energy Change in Monoclonal Antibodies by Point Mutations
Jihyeon Lee, Song-Ho Chong, Sihyun Ham
Department of Chemistry, Sookmyung Women's University, Korea

PHYS.P-215

Stimulated Raman spectroscopy for characterizing two-dimensional crystals
Hwansoo Jeon, Sunmin Ryu
Department of Chemistry, Pohang University of Science and Technology, Korea

PHYS.P-216

Systematical Investigation on Spatial Coherence in Size-Defined Merocyanine Dye Stacks
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PHYS.P-217

Two-Dimensional Organic-Inorganic Heterostructures Studied with Ultra-Low Frequency Polarized Raman Spectroscopy
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Department of Chemistry, Pohang University of Science and Technology, Korea

PHYS.P-218

Counterintuitive motion of synaptics vesicles in stimulated neurons
Gyunam Park, Ji-Hyun Kim, Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea

- PHYS.P-219 Co-facially Stacked, Non-covalently Interacting 24- π Antiaromatic Hexaphyrin Dimer
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- PHYS.P-220 Super-Resolution Microscopy Study of the Mechanism of Platelet Release
Seok Ran Go, Geun-ho Kim, Doory Kim
Department of Chemistry, Hanyang University, Korea
- PHYS.P-221 Dynamics of a Continuous Time Random Walker in the reversible boundary condition
Minho Lee, Ji-Hyun Kim, Jaeyoung Sung
Department of Chemistry, Chung-Ang University, Korea
- PHYS.P-222 Visible light - responsive FeO_x deposited on TiO₂ photocatalysts for oxidation of acetaldehyde and NO_x
Shufang Zhao, Soong Yeon Kim, Byeong Jun Cha, Saqlain Shahid, Jiyeon Choi, Young Dok Kim
Department of Chemistry, Sungkyunkwan University, Korea
- PHYS.P-223 Conformation Controlled Excited State Dynamics of Hückel [26] and Möbius[28] Pd(II) Hexaphyrins Probed by Time-resolved Electronic and Vibrational Spectroscopies
Jinseok Kim, Dongho Kim
Department of Chemistry, Yonsei University, Korea
- PHYS.P-224 Ultrastructural study of asymmetric differentiation process of stem cells
Jin Kyoung Chung, Geun-ho Kim, Doory Kim
Department of Chemistry, Hanyang University, Korea
- PHYS.P-225 Kinetic Study of Reactions of the 5-Dimethylamino-Naphthalene-1-Sulfonyl Chloride
Han joong Koh
General Science Education, Jeonju National University of Education, Korea
- PHYS.P-226 **[Withdrawal]** New Synthetic Method of Organic Inorganic Hybrid Material using Pulsed Laser
Juhyeon Park, Jineun Kim, Yujeong Jeong, Ahreum Min, Seung Jun Lee, Tae Ho Kim, Myong Yong Choi
Department of Chemistry, Gyeongsang National University, Korea
- PHYS.P-227 Two Charge Transfer Routes for Graphene in Acidic Solutions
Sunmin Ryu*, Kwanghee Park
Department of Chemistry, Pohang University of Science and Technology, Korea
- PHYS.P-228 Non-Classical Kinetics of two state fluctuating enzyme
Heemo Yang, Jaeyoung Sung^{1,*}, Ji-Hyun Kim¹
Chung-Ang University, Korea
- PHYS.P-229 Real-time Observation of DNA Cleavage by CRISPR-Cas9 using Pyrene Molecule as a Sensitive Probe for Detecting Sub-nm Structural Change
Jinho Park, Keewon Sung, Hye Ran Koh¹, Seong Keun Kim
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- PHYS.P-230 Analysis of Thermal Fluctuation of Magnetic Weight of Magnetite Nanoparticles at different Agglomeration Conditions
Hackjin Kim
Department of Chemistry, Chungnam National University, Korea
- PHYS.P-231 A Relationship between Surface Composition and Spectroscopic Properties in CsPbBr₃ Perovskite Nanocrystals : Focusing on the Photoluminescence Efficiency
Jumi Park, Dongho Kim
Department of Chemistry, Yonsei University, Korea
- PHYS.P-232 Correlative super-resolution microscopy unveils molecular mechanisms of platelet activation.
Geun-ho Kim, Seokran Go, Jin Kyoung Chung, Doory Kim
Department of Chemistry, Hanyang University, Korea
- PHYS.P-233 Comparative Investigation on the Structural and Thermodynamic Characteristics between Wild-Type and Mutation of SOD1
Haeri Im, Song-Ho Chong, Sihyun Ham
Department of Chemistry, Sookmyung Women's University, Korea
- PHYS.P-234 Auger recombination in InP/ZnSe/ZnS quantum dots: the role of ZnSe midshell layer
Taehee Kim, Dongho Kim
Department of Chemistry, Yonsei University, Korea
- PHYS.P-235 **[Withdrawal]** Epitaxial Growth of Silver and Palladium Nanoplates by Chemical Vapor Deposition
JooHyeon Ahn, Youngdong Yoo^{1,*}
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- PHYS.P-236 Optimized Photoluminescence Properties of Cesium Lead Perovskite by Sulfobetaine Zwitterion
Yunseop Shin, Dongho Kim
Department of Chemistry, Yonsei University, Korea
- PHYS.P-237 Graph theory-based reaction pathway searches and DFT calculations for the mechanism studies of free radical-initiated peptide sequencing mass spectrometry (FRIPS MS)

Jae-ung Lee, Woo youn Kim^{1,*}, Han Bin Oh
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PHYS.P-238

Crystal Morphology of Energetic Ink Formulations in Direct-write Printed Patterns

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PHYS.P-239

[Withdrawal] Bandgap Tuning of Monolayer MoS₂(1-x)Se_{2x} Alloys by Flux-Controlled Chemical Vapor Deposition

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PHYS.P-240

Influence of density error on the excited states of diatomic molecules

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PHYS.P-241

Multiexcitonic Triplet Pair Generation in TIPS-Pentacene Dendrimers as Amorphous Solid-state Miniatures

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PHYS.P-242

Determination of azoxystrobin using Surface-enhanced Raman Spectroscopy based on AuNP@tyramine

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PHYS.P-243

Fe₃O₄@TiO₂-Au Heterostructure as a SERS-active Reusable Photocatalyst

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PHYS.P-244

The electronic spectroscopy of jet-cooled 6-cyanoindole; Frank-Condon Simulation

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PHYS.P-245

Study on Mechanism of Photo-induced Charge Transfer Using rGO-based Materials as SERS Substrate

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PHYS.P-246

Configurational Entropy Convergence in Protein Folding Simulations

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PHYS.P-247

Plasma-based One-step Fabrication of Plasmonic Black Gold Paper and Their Characterization and Application

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PHYS.P-248

Effects of the interaction types of nanoparticles on the size dependence of glass transition temperature of polymer nanofibers

Taejin Kwon, Bong June Sung

Department of Chemistry, Sogang University, Korea

PHYS.P-249

Effects of alkali ion-doping on Rotator phases of Organic Ionic Plastic Crystal

Chung Bin Park, Bong June Sung

Department of Chemistry, Sogang University, Korea

PHYS.P-250

Plasma *in-Situ* Fabrication of Paper-Based SERS Substrate with Highly Impregnated AuNPs of Small nm Gaps: Parts Per Trillion Detection of Melamine in Milk

Rashida Akter, Trinh Ba Thong, Ilsun Yoon

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PHYS.P-251

Controlled Growth of In-Plane MoS₂/MoTe₂ Heterostructures by Chemical Vapor Deposition

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PHYS.P-252

Synthesis, DFT Calculation, and Crystal structure of N,N'-bis[3-(methylsulfanyl)propyl]-1,8:4,5-naphthalenetetracarboxylic diimide

Yujeong Jeong, Jineun Kim, Juhyeon Park, Cheol

Joo Moon, Yiseul Yu, Tae Ho Kim, Myong Yong Choi

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PHYS.P-253

Investigating the structural and thermodynamic characteristics of Tau43 monomer

Thi Diem Le, Sihyun Ham

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University, Korea

PHYS.P-254

Light-controlled Nitric Oxide release dynamics of Roussin's Red Ester
Hojeong Yoon, Manho Lim, Seongchul Park, Jisik Jung
Department of Chemistry, Pusan National University, Korea

PHYS.P-255

Time-resolved Raman spectroscopy probes the structural changes of "push-pull" dyes during the intramolecular charge transfer
Sebok Lee, Myungsam Jen, Taehyung Jang, Yoonsoo Pang
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

PHYS.P-256

Solubility and Structure Analysis of FAS1 Domain 4 Mutant Associated with Corneal Dystrophies
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PHYS.P-257

Photodissociation Dynamics of CF2I2 in Solution
Seongchul Park, JuHyang Shin, Manho Lim
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PHYS.P-258

Twisted Intramolecular Charge Transfer Dynamics in Confined Environments of Reverse Micelles
Taehyung Jang, Gisang Lee, Yoonsoo Pang
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PHYS.P-259

Importance of DFT Error Classification
Suhwan Song, Eunji Sim
Department of Chemistry, Yonsei University, Korea

PHYS.P-260

Substituent Effect of 3-(*p*-(R)diphenylamino)perylene on the Intramolecular Charge Transfer
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PHYS.P-261

Rebinding Dynamics of CO with Cytochrome c in Aqueous Solution
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PHYS.P-262

Site-Directed Thermodynamics Analysis of WW Domain Folding
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PHYS.P-263

Syntheses of Indium Phosphide Magic Sized Clusters and Branched Nanostructures
Yongju Kwon, Sung Jee Kim
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PHYS.P-264

Chamber for Evaporative Cooling of Water Droplets
Cheolhee Yang, Kyung Hwan Kim
Department of Chemistry, Pohang University of Science and Technology, Korea

PHYS.P-265

Ligand Exchange Reactions of Ag₂S Nanocrystals According to the Surface Compositions
Yunmo Sung, Sung Jee Kim
Department of Chemistry, Pohang University of Science and Technology, Korea

PHYS.P-266

Lifetime and diffusion distance of singlet oxygen under atmospheric conditions
Sanggeun Song, Ji-Hyun Kim, Jaeyoung Sung, Jin-Kyu Lee^{1,*}, Yong-rok Kim^{2,*}
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PHYS.P-267

Hybrid nanostructured material of rGO supported ZnO-Au using Pulsed Laser Ablation in Liquid for Photocatalytic Degradation of Hazardous Pollutant
Shreyanka Shankar Naik, Talshyn Begildayeva, Juhyeon Park, Myong Yong Choi
Department of Chemistry, Gyeongsang National University, Korea

PHYS.P-268

[Withdrawal] Highly Electrocatalytic Active Nickel-Palladium Alloys for Hydrogen Evolution Reaction Produced by Pulsed Laser in Liquids
Yiseul Yu, Seung Jun Lee, Theerthagiri Jayaraman, Tae Ho Kim, Myong Yong Choi
Department of Chemistry, Gyeongsang National University, Korea

PHYS.P-269

Construction of a New Quadrupole Ion Trap – Time of Flight Mass Spectrometer for Spectroscopy of Biomolecular Ions
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¹*Department of Energy System, Ajou University, Korea*

PHYS.P-270

Synthesis, photophysical, and metal binding properties of thiophene derivative compounds
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PHYS.P-271

Fluorescence Enhancement of Dyes by the Quadrupole Plasmon Resonance of Homogeneous Silver Colloidal Surfaces

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Yoonsoo Pang
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and Technology, Korea*

PHYS.P-272

Solvation dynamics of dimethyl sulfoxide strongly
coupled to the excited-state intramolecular charge
transfer of curcumin

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PHYS.P-273

Preparation of 2-dimensional MoS₂ nanosheets in a
colloidal solution and formation of composites with
TiO₂ for photocatalytic applications

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PHYS.P-274

Evaluation and synthesis of coupled 2D MoS₂/SnS₂
heterojunction and the significance of the
heterojunction in photocatalytic remediation

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PHYS.P-275

Dimensional effect on photocatalytic activity of 1D-
Bi₂S₃@2D-GO/3D-BiOI ternary nanocomposites for
tetracycline degradation under visible-light
irradiation

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Shankar Naik, Myong Yong Choi
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PHYS.P-276

Pulsed laser-induced surface modification of TiO₂
nanoparticles

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¹Department of Chemistry, Ajou University, Korea

PHYS.P-277

A Study on the Characteristics of N-heterocyclic
Carbene Ir(III) Complexes Derived from Bulky
Substituent

Changhyun Back, Su-Won Na, Daehan Lee, Dae
won Cho, Sang Ook Kang, Ho-Jin Son
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University, Korea*

PHYS.P-278

Fabrication of Iron Nickel Diselenide/MWCNT
Nanocomposite as Highly Efficient Electrocatalyst
For Hydrogen Evolution Reaction

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Yong Choi
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Korea*

PHYS.P-279

Synthesis of Gold Nanoparticles Encapsulated with
Thin Graphitic Carbon Layers by Pulsed Laser
Ablation in Liquid for SERS Substrate

HyeYeon Lee, Seung Heon Lee, Shreyanka Shankar
Naik, Yiseul Yu, Tae Ho Kim, Myong Yong Choi
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Korea*

PHYS.P-280

[Withdrawal] Laser Assisted Green Synthesis of
Lignin Mediated Silver Nanoparticles in Aqueous
Media

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Lee, Myong Yong Choi
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PHYS.P-281

Assessment of long-range corrected density
functional theory on fluorescence spectrum of
carbon nanobelt

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Chemistry Education, Daegu University, Korea

PHYS.P-282

Plasmonic Gatekeeping: Hole Transfer Opens an
Electron-Transfer Channel in Plasmon-Driven
Reactions

Dokyung Lee, Sangwoon Yoon
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PHYS.P-283

Plasmon-Driven C-B Bond Cleavage in Nanogaps
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PHYS.P-284

Facile Method for Preparation of Bare Gold
Nanoparticles and Comparison of Their Catalytic
Activity

Sungwoon Lee, Sangwoon Yoon
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PHYS.P-285

Structural Properties of Self-Assembled Monolayer
of Thiols with Bipyridine on Au(111) surfaces

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PHYS.P-286

The inter- and intra-molecular charge transfer
excitation in conjugated long-chained polyene: the
effect of donor and acceptor

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PHYS.P-288

Evidencing Surrounding Gas-Induced Electron
Transfer Process in Sulfur Chain-Encapsulated

Single-Walled Carbon Nanotubes

Jonghee Yang, Whikun Yi

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PHYS.P-289

Optical properties of CuInS₂ nanoparticles

Seongkyu Jeong, Jae Kyu Song

Department of Chemistry, Kyung Hee University, Korea

PHYS.P-290

The Best Density Functional Theory for Water OH Vibrational Frequencies

Ki Young Jeon, Mino Yang

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PHYS.P-291

Study on principal the factors to affect surface roughness of tungsten

Sangjune Park, Young-Sang Youn

Department of Chemistry, Yeungnam University, Korea

PHYS.P-292

[Withdrawal] Theoretical Study on Electronic Structure and Optical Properties of Tetraphenylethylene (TPE) and Its derivatives

Ahreum Ahn, Min Sun Yeom

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PHYS.P-293

An automated approach to the optimization of classical molecular dynamics force fields via genetic algorithms

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PHYS.P-294

Electronic circular Dichroism Spectra of L-Protonated Phenylalanine Alanine Ion Obtained Using Cold Ion spectroscopy

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PHYS.P-295

Solvation Structure and Dynamics Study of high Concentrated Lithium Ion Battery Electrolyte System by Ultrafast IR spectroscopy

Chaiho Lim, Kyungwon Kwak, Minhaeng Cho

Department of Chemistry, Korea University, Korea

PHYS.P-296

Enhanced Photocatalytic CO₂ Reduction Performance Using a Au₂₅(SR)₁₈ cluster/1D-CdS Composite

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PHYS.P-297

Selective Synthesis of Au and Graphitic Carbon-Encapsulated Au (Au@GC) Nanoparticles: Catalytic Au and Acid-Resistant Au@GC Nanoparticles

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PHYS.P-298

Enhancing photoelectrochemical performance of Bismuth vanadate photoanode with Silver Plasmonic Nanoparticles as Photosensitizers and Cobalt phosphate as Oxygen evolution catalyst. Kethireddy Arun Joshi Reddy, Amaranatha Reddy, Madhusudana Gopannagari, Tae Kyu Kim
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PHYS.P-299

Nucleoside triphosphate aggregation induced by charge-charge interaction

Juyoung Kang, Jinmin Lee, Hyeryeong Lee, Won Heo, Sang Hak Lee

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PHYS.P-300

Built-in compressed air tank coupled electronic pressure control unit for a field-portable gas chromatograph

Yeongsik Seon, Kwang woo Jung

Department of Chemistry, Wonkwang University, Korea

PHYS.P-301

The tellurium elemental solid and microcrystals as the promising materials for a novel Mid-IR light source

Gahyeon Kim, Dongsun Choi, Kwang Seob Jeong

Department of Chemistry, Korea University, Korea

PHYS.P-302

Role of Cu-vacancies in CuBi₂O₄ photocathode and doping effects on back Ohmic contact layer for photoelectrochemical water splitting

Madhusudana Gopannagari, Amaranatha Reddy, Tae Kyu Kim

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PHYS.P-303

Chemisorption of thymine on Ge(100)

Jeonghui Choi, Do hwan Kim

Department of Chemistry Education, Jeonbuk National University, Korea

PHYS.P-304

Steady-state Intraband Transition of Self-doped Silver Selenide Nanocrystals in Mid-IR regime

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PHYS.P-305

Photoisomerization of o-Alkylphenyl ketones: Stereospecific Excited-state relaxation to the ground state

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PHYS.P-306

Indium Phosphide Quantum Dots Integrated with Cadmium Sulfide Nanorods for Photocatalytic Carbon Dioxide Reduction

Hoang khai Do, Praveen Kumar Dharani, Putta Rangappa, Yul Hong, Amaranatha Reddy, Tae Kyu

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Department of Chemistry, Yonsei University, Korea

PHYS.P-307

Constructing ordered paths to improve the charge separation and light harvesting capacity towards efficient solar water oxidation performance
Amaranatha Reddy, Kethireddy Arun Joshi Reddy¹, Praveen Kumar Dharani, Tae Kyu Kim
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PHYS.P-308

Construction of 1-D Ternary Nano hybrid CdS/ZnS/Pt for Selective Reduction of CO₂ in Water: Efficient and Durable Nanohybrid System for Photo-reduction of CO₂
Putta Rangappa, Praveen Kumar Dharani¹, Tae Kyu Kim¹
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PHYS.P-309

Hyperpolarization studies on Nitrile functional groups by using *parahydrogen* via Signal Amplification by Reversible Exchange (SABRE)
Sarah Kim, Keunhong Jeong^{1,*}, Sung-keon Namgoong
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¹*Department of Chemistry, Korea Military Academy, Korea*

PHYS.P-310

Hyperpolarizing 1-Aminoisoquinoline by using *parahydrogen* via Signal Amplification by Reversible Exchange (SABRE)
Sein Min, Hyejin Jeong, Sung-keon Namgoong, Keunhong Jeong^{1,*}
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PHYS.P-311

pH dependence of transient GC Hoogsteen base pair in duplex DNA
HyeonJun Kim
chemistry, Pusan National University, Korea

PHYS.P-312

Effect of polar solvent on ion pairing equilibrium between cation and SCN⁻ studied by molecular dynamics simulation
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PHYS.P-313

Generating novel molecules using combinatorial search of chemical space
Yongbeom Kwon, Juyong Lee
Department of Chemistry, Kangwon National University, Korea

PHYS.P-314

Fluorescence spectrum calculation of 3,9-Bis(p-(R)-diphenylamino)perylene compounds using long-range corrected DFT calculation.
Seongbin Jo, Dae-Hwan Ahn, Jong-Won Song
Chemistry Education, Daegu University, Korea

PHYS.P-315

Study on Luminescence Mechanism of Upconversion Materials Using Pulse Modulation
SooYeong Lim, Jin IL Jang, Chan Ryang Park, Hyung Min Kim
Department of Chemistry, Kookmin University, Korea

PHYS.P-316

Coating Dual Metal–Organic Framework on Hematite Photoanode to Enhance the Solar Water Oxidation Performance
Da hye Hong, Amaranatha Reddy¹, Kethireddy Arun Joshi Reddy¹, Madhusudana Gopannagari¹, Praveen Kumar Dharani¹, Tae Kyu Kim¹
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¹*Department of Chemistry, Yonsei University, Korea*

PHYS.P-317

Development of an experimental apparatus for tender X-ray absorption spectroscopy to study ultrafast dynamics
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PHYS.P-318

Observation of the thermal influenced quantum behaviour of water-EtOH mixture near a solid interface
Byoung-Jip Yoon
Department of Chemistry, Gangneung-Wonju National University, Korea

PHYS.P-319

Jet-cooled spectroscopy of the isomeric chloro-p-xylyl radicals in a corona-excited supersonic expansion
Changsoon Huh*, Yu Jin Song
Department of Applied Chemistry, Dong-Eui University, Korea

PHYS.P-320

The effect of growth orientation to the property of the Nd substituted Bi₄ Ti₃ O₁₂ fabricated at different growth condition
Eunyoung Kim, Sang Don Bu
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PHYS.P-321

Quantum chemical study of the activation energy in dissociative electron attachments to SF₅-X
Hyoung-Chul Ham, Kyoung-Koo Baek
Department of Chemistry, Gangneung-Wonju National University, Korea

PHYS.P-322

Quantum Wave-Packet Studies of NH₃Cl⁻ using Reactant Jacobi Coordinate as a Reduced Three-Dimensional Space
Pinit Ariyageadsakul, Kyoung-Koo Baek
Department of Chemistry, Gangneung-Wonju National University, Korea

PHYS.P-323

Shot-Noise-Limited Two-Color Stimulated Raman Scattering Microscopy with a Balanced Detection Scheme
Youngjin Choi, Jong Min Lim^{1,*}, Minhaeng Cho¹

chemistry, Korea University, Korea

¹Department of Chemistry, Korea University, Korea

PHYS.P-324

Enhanced Photocatalytic Performance via Attachment of SnO₂ to ZnSe(N₂H₄)_{0.5} Nanostructure
Dong-Won Jeong, Du-Jeon Jang
Department of Chemistry, Seoul National University, Korea

PHYS.P-325

Structural modification of porous gold nanoshells via laser irradiation: effect of the laser wavelength and the surface condition
Tae-Hyeon Park, Dong-Won Jeong, Du-Jeon Jang^{1,*}
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PHYS.P-326

Studies on the binding interaction of 2-naphthol sulfonate derivatives with bovine serum albumin by fluorescence spectroscopy
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PHYS.P-327

Substructure-based Neural Machine Translation for Retrosynthetic Prediction
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PHYS.P-328

Raman enhancement of thin Copper phthalocyanine film on twisted bilayer graphene
Younghoon Cheon, Sang-Yong Ju
Department of Chemistry, Yonsei University, Korea

PHYS.P-329

Synthesis of Hybrid Organic-Inorganic Perovskite Nano Quantum Dots and Structural Analysis
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Department of Chemistry, Dong-A University, Korea
¹Chemistry, Dong-A University, Korea

PHYS.P-330

Analysis of the Ultra-low frequency Vibration Raman Modes of Perovskite blended with FAPbI₃ and MAPbBr₃.
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¹Chemistry, Dong-A University, Korea

PHYS.P-331

Signature of N-terminal domain (NTD) structural re-orientation after cholesterol receive for cholesterol transport: A computational study
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PHYS.P-332

Construction of the negative ion mass spectrometer for the time-resolved IR photodetachment spectroscopy
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¹Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

PHYS.P-333

Electrical properties and relaxor phase evolution of (Bi_{0.5}Na_{0.5-x}K_x)TiO₃ ceramics due to K ion substitution
Eunyoung Kim, Sang Don Bu
Physics, Jeonbuk National University, Korea

PHYS.P-334

Autler-Townes splitting in polyatomic molecules
Junggil Kim, Sang Kyu Kim
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

PHYS.P-335

Prediction Model for Redox Properties of Organic Photoredox Catalysts
Jiyeon Choi, Hyungjun Kim
Department of Chemistry, Incheon National University, Korea

PHYS.P-336

Role of alkali metal cations in organic photoredox reactions
Junseok Kim, Hyungjun Kim
Department of Chemistry, Incheon National University, Korea

PHYS.P-337

Dissociation of Arylhalides in Terms of Reduction Potential and Reaction Barrier to Form σ⁺ State
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¹Department of Chemistry and Nanoscience, Ewha Womans University, Korea

ANALP-338

MALDI-MS protein analysis of exosomes from human serum revealed Platelet Factor 4 as a potential exosome marker
Huu-Quang Nguyen, Jeongkwon Kim
Department of Chemistry, Chungnam National University, Korea

ANALP-339

Effective Separation of Chiral Nicotine in E-Liquid Using HPLC/UV-Vis
Seung Hoon Song, Seung Woon Myung
Department of Chemistry, Kyonggi University, Korea

ANALP-340

A study on the concentration change of inorganic arsenic in rice by the various pretreatment
Sang-Ho Nam*, DongChan Lee
Department of Chemistry, Mokpo National University, Korea

ANALP-341

Physical Sensors Using Photonic Crystals
Dajeong Hwang
Department of Chemistry, Chungnam National University, Korea

ANALP-342

Effect of Removing Surfactant Bilayer and Changing Shape of Single Gold Nanorods by Oxygen Plasma Treatment
Geun Wan Kim, Ji Won Ha
Department of Chemistry, University of Ulsan, Korea

ANALP-343

Proteomics Approaches for the Development of Antibacterial Feed for Commercial Aquaculture
Jihoon Shin, Miseon Jeong, Wonryeon Cho
Department of Chemistry, Wonkwang University, Korea

ANALP-344

Tuning the Electronic Structure of FeOOH nanorod via Ni Doping for the Efficient Oxygen Evolution Reaction
Sohyun Kang, Jaebeom Lee
Chemistry, Chungnam National University, Korea

ANALP-345

Synthesis, Properties and Electrochemical Characteristics of rGO/B-GQD/SiNPs Composite for Anode Material of Li Secondary Batteries.
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¹*Department of Chemistry, Keimyung University, Korea*

ANALP-346

Characteristics and Electrochemical Performance of Silicon/Carbon nanofibers/Graphene Composite films as Anode Material for Binder-Free Lithium ion Secondary Batteries
Ruye Cong, Jin-Yeong Choi, Chang-Seop Lee
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ANALP-347

Development of a highly sensitive plasmonic substrate using multilayered gold nanoparticle encoded M13 bacteriophage networks
Joung-II Moon*, Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea

ANALP-348

Structural and electrochemical studies of Fe and Mn composite materials as a cathode material for Li-ion battery
Inyoung Lee, Youngil Lee
Department of Chemistry, University of Ulsan, Korea

ANALP-349

Synthesis and Electrochemical Properties Studies for Vanadium Sulfate-Based Polyanionic Cathode Material of Li-ion Battery
Reyhan Puji Putranto, Youngil Lee
Department of Chemistry, University of Ulsan, Korea

ANALP-350

Synthesis of I-doped LiFeBO₃ as a cathode material of lithium-ion battery
Yujin Son, Youngil Lee
Department of Chemistry, University of Ulsan, Korea

ANALP-351

Coal fly ash derived Ag⁰-nanocomposites for iodide remediation from the aqueous phase
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Research Institute of Materials Chemistry, Chungnam National University, Korea
¹*Chemistry, Chungnam National University, Korea*

ANALP-352

Forming and stabilizing mechanism of the pores in FeOOH nanorod
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ANALP-353

Tuning plasmonic properties of 1D plasmonic oligomer with self-assembled nanoparticles
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ANALP-354

Detection of the norovirus using magneto-plasmonic film
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¹*Chemistry, Chungnam National University, Korea*

ANALP-355

Mercury remediation from water using Ag⁰ doped synthetic nanocomposites

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ANALP-356

Characterization and electrocatalytic activity of plasma treated trimetallic NiFeCoOx nanosheet as an efficient electrocatalyst for oxygen evolution reaction

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ANALP-357

Investigation of catalytic activity of NiFe oxy(hydroxide) nanosheets for efficient electrochemical water oxidation

Gicha Birhanu Bayissa, Jaebeom Lee
Chemistry, Chungnam National University, Korea

ANALP-358

LC/MS-based metabolomic profiling to investigate the intake effects of rice containing *Aspergillus terreus* in human plasma

Heeyeon Lee, Geum-Sook Hwang
Western Seoul Center, Korea Basic Science Institute, Korea

ANALP-359

Analysis of Residual Quaternary Ammonium Compounds (QACs) in Laundry Samples by Ultra Performance Liquid Chromatography-Mass Spectrometry

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ANALP-360

A Target Analysis of Metabolite Biomarkers in Urine for Miscarriage/Pre-term Birth using LC-MS/MS

Sae yoon Oh, Han Bin Oh
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ANALP-361

Development of an automated derivatization system for quantitative analysis using a Lab-on-a-Disc

Han Bin Oh*, Hwa-yong Jang
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ANALP-362

Construction of a Liquid Handler for the Automated Sample Preparation

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ANALP-363

Toward the construction of the hazardous accident site gas database using a TD-GC/MS method

Eun Woo Choi, Han Bin Oh
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ANALP-364

Development of ultrasensitive plasmonic sensors using Au nanoparticles-internalized Au nano-dimple arrays

Hajun Dang, Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea

ANALP-365

In-tube microextraction: Simplest possible headspace extraction for capillary electrophoresis/mass spectrometry
Joon Yub Kwon, Doo Soo Chung
Department of Chemistry, Seoul National University, Korea

ANALP-366

Two Dimensional Gas Chromatography/Mass Spectrometry for the complicated sample analysis

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ANALP-367

Identification of the unknown compounds formed in the reaction of 2,4 DNPH derivatization of aldehydes using LC-MS/MS

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ANALP-368

One-pot synthesis of water-soluble Iron Selenide Quantum Dots with chiral stabilizer

YeongEun Choi, Jaebeom Lee
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ANALP-369

Ultra-sensitive Detection of Trace Disease-related Biomarker by Plasmonic Scattering Immunosensor
Seungah Lee, Seong Ho Kang
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ANALP-370

Quantitative Analysis of Influenza A/B Viruses Using SERS-based Lateral Flow Immunoassays

Younju Joung, Jaebum Choo
Department of Chemistry, Chung-Ang University, Korea

ANALP-371

Shell thickness Effect on the Refractive Index Sensitivity at Localized Surface Plasmon Resonance Inflection Points of Au/Ag core shell nanorods

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ANALP-372

Quantitative analysis of short chain fatty acids in biological sample by high performance liquid chromatography-tandem mass spectrometry
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ANALP-373

Catalytic Reactions and Kinetics of Single Silver-coated Gold Nanorods in Three-color Total Internal Reflection Fluorescence Microscopy

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ANALP-374

Folic acid detection using paper-based analytical devices

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ANALP-375

Study on the factors affecting the ionization efficiency of paper spray ionization

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ANALP-376

Chirality of fingerprint

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ANALP-377

Structural studies of anti-inflammatory candidate tIK epitopes using NMR spectroscopy

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ANALP-378

NMR Structural analysis of antimicrobial peptides, LpCin analogs with enhanced activities derived from bovine milk

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ANALP-379

Triplex Quantification Glycomics by Metabolic Isotope-Labeled Glycan in Cell Culture

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ANALP-380

Investigation of Nanoparticle-Protein Coronas: Dependence of Corona Formation on Size and Surface-Coating of Nanoparticles

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ANALP-381

NMR-based Metabolic Profiling of Feces from Adolescent Obesity Intervention

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ANALP-382

Improvement of separation speed and efficiency of nanoflow ultrahigh performance liquid chromatography (nUHPLC) conditions for lipidomic analysis by ESI-MS/MS

Myeong Hee Moon*, Gwang Bin Lee
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ANALP-383

Improvement of lipid separation for the accurate quantification by nUHPLC-ESI-MS/MS

Jong Cheol Lee, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea

ANALP-384

Analysis of apolipoproteins from plasma using on-line miniaturized asymmetrical flow field-flow fractionation coupled with ESI-MS

Jinyong Kim, Myeong Hee Moon
Department of Chemistry, Yonsei University, Korea

ANALP-385

Separation of exosomes and microvesicles from cell 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

ANALP-386

Paper sensor based on CdTe QDs/CP for efficient visual detection of cholinesterase activity

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ANALP-387

Size fractionation of Graphene Oxide by Asymmetrical Flow Field-Flow Fractionation

Myoungjae Ko, Jinyong Kim, Myeong Hee Moon
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ANALP-388

Optimizations in simultaneous analysis of fatty acids with other lipid classes using nUHPLC-ESI-MS/MS

Kang uk Kim, Jong Cheol Lee, Myeong Hee Moon
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ANALP-389

Metabolic profiling in atherosclerotic aorta from high-fat diet mice using liquid chromatography/mass spectrometry

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ANALP-390

Detection of carbamazepine using UCNPs@MIP: Molecular simulation, adsorption properties, and mechanisms

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ANALP-391

Gold Nanoclusters as a Fluorometric Nanosensor for Metal Ions Detection

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ANALP-392

Examination of 2,4,6-Trichlorobenzoyl Chloride as A Linking Reagent for Chiral Separation of Enantiomers Using GC-MS

Jeong Hyeok Park, Chae Won Lee, Soo-hyun Kim, Sang Yun Han
Department of Chemistry, Gachon University, Korea

ANALP-393

Development of Analytical Method to Characterize Lipoproteins in Protein Coronas on Nanoparticles

Soo-hyun Kim, Gwi Ju Jang, Sang Yun Han
Department of Chemistry, Gachon University, Korea

ANALP-394

Verification of size determination method of Cu nanoparticles using single particle ICP-MS.

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¹Chemistry, Dankook University, Korea

ANALP-395

A Comparative Study of Collision-Induced Dissociation of Metal Ion-Bound Guanine Tetrads

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ANALP-396

Quantitative Analysis of Advanced Glycation Endproducts in Bovine Serum Albumins Glycated by Glucose and its Metabolites

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ANALP-397

Cell-based Phototoxicity Testing of Chemicals Using Microfluidic Chips

Hyeyoung Kim, Seog Woo Rhee
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ANALP-398

Test and Evaluation Method Development of Chemical Accidents related Plant Damage by NMR Spectroscopy

Minseon Kim, Yongae Kim
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ANALP-399

Expression, purification and NMR-based structural characterization of membrane proteins related to human disease

Minseon Kim, Yongae Kim
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ANALP-400

Quantification of intracellular drug-uptake in non-differentiated and differentiated neuroblastoma cells using LC-MS/MS

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ANALP-401

Magnetic field-driven self-assembly and real-time plasmonic chirality modulation

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ANALP-402

Synthesis and formation mechanism of whitlockite nanocrystals in tri-solvent system

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ANALP-403

Color-tunable biocompatible Tb3+ doped hydroxyapatite nanorods for efficient cell imaging

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ANALP-404

Proteomic Analysis of BALF using the PASEF method: toward Lung Cancer Biomarker Discovery with 1D LC separation

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ANALP-405

Chiromagnetic film and gel for tunable plasmonic chirality

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ANALP-406

Stand-off Raman spectroscopy for detection of toxic chemicals on the ground surfaces

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ANALP-407

The reduction of glass background in direct Raman measurements of pharmaceutical samples in glass vials

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ANALP-408

Feasibility for Raman spectroscopic analysis of microplastics in water using perfluorocarbon (PFC) as an extracting medium

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ANALP-409

Fabrication and Characterization of Carbon Coated Silicon-Cobalt Nanocomposites

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ANALP-410

Fabrication and Characterization of Viscoelastic Boron Nitride Nanotubes-Polymer Nanocomposite
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ANALP-411

Synthesis of Fat Gold Nanorods more than 30nm in Width on Seed-Mediated Method
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ANALP-412

DMSO-Induced Deterioration in the Cytotoxicity of Cisplatin and Carboplatin on Spheroid Neuroblastoma Cells and Suspended Bone Marrow Stem Cells
Min Ji Kim, Sooyeon Chae¹, Chae Ri Park¹, Paul Valery Migisha Ntwali¹, Myungkook Son, Hugh I. Kim¹
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¹Department of Chemistry, Korea University, Korea

ANALP-413

Elucidating the Difference of Hydrophobic Interactions of Amyloidogenic Proteins in Light Water and Heavy Water
Myungkook Son, Chae Ri Park, Min Ji Kim, Sooyeon Chae, Paul Valery Migisha Ntwali, Hugh I. Kim
Department of Chemistry, Korea University, Korea

ANALP-414

Amyloid protein fibril dissociation with star-shaped gold nanoparticles induced by Near-IR laser irradiation
Chae Ri Park, Myungkook Son, Min Ji Kim, Sooyeon Chae, Paul Valery Migisha Ntwali, Hugh I. Kim
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ANALP-415

Quantitative Analysis of Blended Lacquer Sap Using Various Analytical Techniques
Hyeheyun Yu, Yun Jung Jang¹, Seung Wook Ham, Yeon Hee Lee¹
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ANALP-416

Incorporation of Comprehensive Proteomic Analysis of IDH1 mutated cell-lines with Clinical TCGA GBM patient Gene Signatures for investigation of the role of IDH1 mutation in GBM
Jiwon Hong, Seunghoon Back, Chaewon Kang, Sang-Won Lee
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ANALP-417

Assigning exact precursor mass information significantly improves peptide identification in data-

independent acquisition(DIA) mass spectrometry
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ANALP-418

Electrical Properties of Nano-structured Polymer Films using I-AFM and KPFM
Minhwa Kang, Jihye Lee, Yeon Hee Lee
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ANALP-419

DO-NCFC-RP/RPLC combined with BoxCar acquisition method for comprehensive proteomics analysis
Chaewon Kang, Dowoon Nam, Sang-Won Lee
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ANALP-420

Structural studies of single mutant adenylate kinase from mycobacterium tuberculosis (AKmtE122K) by NMR
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ANALP-421

Principal component analysis (PCA)-based k-nearest neighbor (k-NN) analysis of lipsticks using ToF-SIMS spectra
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ANALP-422

Quantitative NMR Analysis of Polytetramethylene ether glycol(PTMEG) compounds
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ANALP-423

Band-gap study of Ag doping in CIGS solar cell using surface techniques
Yun Jung Jang, Yeon Hee Lee
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ANALP-424

In situ Real-time Identification of Packaged Chemicals using Dual-Offset Optical Probe
Si Won Song, Chan Ryang Park, Hyung Min Kim
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ANALP-425

Dynamic Nuclear Polarization NMR of Silicon and Carbon Nanoparticles
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ANALP-426

Pharmacodynamic analysis of neuroblastoma cells

to the anticancer drug.

Sooyeon Chae, Min Ji Kim, Paul Valery Migisha Ntwali, Chae Ri Park, MyungKook Son, Hugh I. Kim
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ANALP-427

Monochromatic dual-emission carbon nanodots as a ratiometric fluorescence probe for detection of Fe(III) ion

Youngwon Ju, Joohoon Kim
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ANALP-428

Pt Dendrimer-Encapsulated Nanoparticle: A Feasible Alternative to Oxidase

Hyein Lee, Joohoon Kim
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ANALP-429

Electrochemical Measurements of Neurotransmitter Molecules on Screen-printed Carbon Electrode

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ANALP-430

Electrochemical analyses of dopamine and uric acid on poly(amino acid), carbon complexes, and Au nanoparticle composites modified screen printed carbon electrodes in human urine solutions

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ANALP-431

Synthesis of alkaline ionic liquids electrolytes for future electrochemical applications

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ANALP-432

Electrochemical Sensors Based on Conducting Polymers and Metal Alloy nanoparticles for Alkaline Fuel

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Korea

ANALP-433

Electrochemical study on Nitrate Ion Transfer process at a Liquid/Liquid Interface

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ANALP-434

Mixture Toxicity of Cu-containing Antifouling Agents on the Marine Luminescent Bacteria *Aliivibrio fischeri*

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Chemical Safety Research Center, Korea Research Institute of Chemical Technology, Korea

ANALP-435

Mixture toxicity of biocidal mixture products to *Aliivibrio fischeri*: A case study of dish detergents

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ANALP-436

Investigation on effect of molar mass of dispersing agent on dispersion of silver nanoparticles using flow and sedimentation field-flow fractionation

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ANALP-437

Signal Amplification by Reversible Exchange for COVID-19 Antiviral Drug Candidates

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ANALP-438

Separation and On-line Direct Detection using Stable Isotope Yb/Lu for Application to Radioisotope Separation

Aran Kim, Kang Hyuk Choi
Korea Atomic Energy Research Institute, Korea

- LIFE.P-439** Biochemical and Molecular characterization of glycerol dehydrogenase from *Klebsiella pneumoniae*
Gyeong Soo Ko
chemistry, Soongsil University, Korea
- LIFE.P-440** A bioorthogonal enrichment tag for purification of biomolecules from complex mixtures
Seungmin Ahn, Solbee Choi, Jung-Min Kee
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- LIFE.P-441** Design of copper-bound functional amyloid structure and show its catalytic activity
Min Young Lee, Kyungtae Kang, Hye Yeon Park
Department of Applied Chemistry, Kyung Hee University, Korea
- LIFE.P-442** Induced Morphological Change of Giant Unilamellar Vesicles
Sungwoo Jeong, ChangHo Kim, Kwanwoo Shin^{1,*}
Institute of Biological Interfaces, Sogang University, Korea
¹*Department of Chemistry, Sogang University, Korea*
- LIFE.P-443** A quantitative approach to study Lipid Phase Separation in Giant Unilamellar Vesicles
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- LIFE.P-444** Auto-Inducible Stationary Phase Promoter (SPP) for Recombinant Protein Production
Hakbeom Kim, Young Kee Chae
Department of Chemistry, Sejong University, Korea
- LIFE.P-445** Development of Chemical Tools for Identification of Histone H4 Histidine Kinase
Jung-Min Kee*, Hoyoung Jung
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- LIFE.P-446** Extracellular matrix crowding on giant lipid vesicles for novel artificial cell models with controlled mechanical properties
Kwanwoo Shin*, Huong Thanh Nguyen¹
Department of Chemistry, Sogang University, Korea
¹*Chemistry, Sogang University, Vietnam*
- LIFE.P-447** A Controllable Destruction of Lipid Membranes by Formation of Alpha-synuclein Aggregates from Synthetic Cell System
Hong-guen Lee, Yoonkyung Kim¹, Kyeng Min Park^{2,*}, Young-Tae Chang^{3,*}, Kimoon Kim³
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¹*Center for Theragnosis, Biomedical Research Institute, Korea*
²*Center for Self-assembly and Complexity, Institute for Basic Science, Korea*
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- LIFE.P-448** Supramolecular Latching inside Live Animals and Its Application for *in Vivo* Cancer Imaging
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¹*Center for Self-assembly and Complexity, Institute for Basic Science, Korea*
²*Department of Chemistry, Pohang University of Science and Technology, Korea*
- LIFE.P-449** Over-activation of a DegP, a Periplasmic Protease, as an Antibiotic Strategy
Hyunjin Cho, Seokhee Kim^{1,*}
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¹*Division of Chemistry, Seoul National University, Korea*
- LIFE.P-450** Insertion of Bifunctionality into the ω -Ester-Containing Peptide Plesiocin by using its Multidomain Architecture
Chanwoo Lee, Seokhee Kim^{1,*}
Chemistry department, Seoul National University, Korea
¹*Division of Chemistry, Seoul National University, Korea*
- LIFE.P-451** Sequestering ATP and Self-assembly inside Mitochondria by Nucleopeptide inducing Cancer Cell Apoptosis
Huyeon Choi, Ja-Hyoung Ryu
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
- LIFE.P-452** Construction of Bacterial Cells with an Active Transport System for Unnatural Amino Acids
Hyunsoo Lee*, Sang kil Kim
Department of Chemistry, Sogang University, Korea
- LIFE.P-453** Development of specific L-methionine sensors by FRET-based protein engineering.
Sang kil Kim, Hyunsoo Lee
Department of Chemistry, Sogang University, Korea
- LIFE.P-454** Hetero-oligomers from Amyloid-beta and Alpha-synuclein Revealed by Bio-AFM
Eun Ji Shin, Joon Won Park
Department of Chemistry, Pohang University of Science and Technology, Korea

- LIFE.P-455 Recognition of 5-Methylcytosine at a Specific Site by Atomic Force Microscopy
Woo Cheol Shim, Joon Won Park
Department of Chemistry, Pohang University of Science and Technology, Korea
- LIFE.P-456 Binding Kinetics of Methylated Cytosine in Active Site of DNA Polymerase for dGTP at the Single Molecule Level
Ji Yoon Lee, Joon Won Park
Department of Chemistry, Pohang University of Science and Technology, Korea
- LIFE.P-457 Development of modified SpyTag and SpyCatcher pair for application in affinity chromatography
Jin Young Son, Sang Jeon Chung^{1,*}
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- LIFE.P-458 Target analysis of herbal medicine prescription related to diabetes by high-throughput screening and network analysis
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- LIFE.P-459 DH047 stimulates glucose uptake in C2C12 cells via AMPK and AKT signaling pathway
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- LIFE.P-460 Lysate-based Cell Free Expression of Membrane Proteins, Integrated into the Membrane of Giant Unilamellar Vesicles
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- LIFE.P-461 NMR investigation of cyclic-di-GMP riboswitch folding pathway
Ji-Yeon Shin, Nak-Kyoon Kim, Kyeong-Mi Bang, So-young Kim
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- LIFE.P-462 Investigation of human splicing factor SART3 interaction with U6 snRNA
Kyeong-Mi Bang, Ji-Yeon Shin, So-young Kim, Nak-Kyoon Kim
Advanced Analysis Center, Korea Institute of Science and Technology, Korea
- LIFE.P-463 NMR investigation of pre-miRNA-155 solution structure
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- LIFE.P-464 Characterization of a novel cold-active epoxidase, *RruEPH1* from *Rhodospirillum rubrum* ATCC 11170
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- LIFE.P-465 Characterization of a novel cold-active hydrolase, *Ha28* from *Halomonas elongata* DSM2581.
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- LIFE.P-466 Characterization of a novel hydrolases from psychrophilic bacteria.
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- LIFE.P-467 Molecular characterization of a novel hydrolase from *Halocynthiaibacter arcticus* strain PAMC 20958
Sangeun Jeon, Doo Hun Kim
Department of Chemistry, Sookmyung Women's University, Korea
- LIFE.P-468 Biochemical Characterization of a novel esterase (LcEst) from *Leuconostoc citreum*
Sangeun Jeon, Doo Hun Kim
Department of Chemistry, Sookmyung Women's University, Korea
- LIFE.P-469 Successful cloning, expression and purification of a novel alpha/beta hydrolase from *Glaciecola nitratreducens* strain FR1064
Doo Hun Kim*, Ha Thu Nguyen
Department of Chemistry, Sookmyung Women's University, Korea
- LIFE.P-470 High-level expression of an alpha/beta hydrolase enzyme in E.coli Lemo21 (DE3) from *Sanguibacter antarticus* DSM 18966
Ha Thu Nguyen, Doo Hun Kim^{1,*}
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- LIFE.P-471 Studies on the Development of Novel Tau Aggregation Inhibitors for the Treatment of Alzheimer's Disease
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LIFE.P-472

Catalase Conjugated Metal-Organic-Framework for Effective Photodynamic Therapy by Relieving Tumor Hypoxia

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LIFE.P-473

Biodegradable Mesoporous Organosilica Nanoparticle Drug Delivery Platform with Dual-targeting Protein affibody

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LIFE.P-474

Identification and molecular characterization of a Novel hydrolase, from *Flavobacterium psychrolimnae* strain LMG 22018

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LIFE.P-475

Proteogenomics Analysis Study for Cancer Precision Medicine towards Personalized Biomarker Discovery

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LIFE.P-476

Mitochondria localized supramolecular polymerization using Host-guest reaction

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LIFE.P-477

In Vivo Self-degradable Graphene Nanomedicine Operated by DNazyme and Photo-switch for Controlled Anticancer Therapy

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LIFE.P-478

Development of theranostic agents multiply targeting cancer cells

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LIFE.P-479

Development of metabolite-based prediction model to discover the gut health-promoting plant

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LIFE.P-480

Study of Discovery of Small Molecules That Regulate Protein Function

Jee Hyeon Lee, Injae Shin
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LIFE.P-481

Mechanism of ATP-independent SSB Displacement by RecO Revealed by Single-molecule Observation

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LIFE.P-482

Evaluation of housekeeping genes in various species: A review

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LIFE.P-483

Therapeutic protein & drug co-loaded biodegradable silica nanoparticle for synergistic anticancer therapy

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LIFE.P-484

Tannin-based nanocarrier for hydrophobic therapeutics stabilization in aqueous medium

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LIFE.P-485

Molecular structural characterization of porcine integrins

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ORGN.P-486

AI Egen based Tetraphenylethylene(TPE) for sensing of hydrazine

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ORGN.P-487

Ratiometric fluorescent probe for monitoring tyrosinase activity in melanosomes of melanoma cancer cells

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ORGN.P-488

Development of a single fluorescent probe capable of detecting dual imaging viscosity and nitric oxide

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ORGN.P-489

Linear-shaped thermally activated delayed fluorescence emitter using 1,5-naphthyridine as an electron acceptor for efficient light extraction

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ORGN.P-490

Synthesis of substituted 2-aryl-quinoline derivatives by a three component reaction using Aza-Henry (Nitro-Mannich) reaction under neat conditions

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ORGN.P-491

A metal-free three-component sequencing for efficient assembly of 2,4-diphenylquinoline-3-carbonitrile derivatives

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ORGN.P-492

One-pot four-component synthesis of methyl 4-(4-chlorophenyl)-5,7-dioxo-1-phenyl-1,4,5,6,7,8-hexahydropyrazolo [4',3':5,6] pyrano[2,3-d] pyrimidine -3- carboxylate

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ORGN.P-493

Effect of Amyloid Fibril on Oxidative Assembly of

Catechol Derivatives

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ORGN.P-494

Rapid synthesis of hindered α -amino acid derivatives and benzodiazepin-3-ones from aza-oxyallyl cations

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ORGN.P-495

HFIP-Mediated decarboxylative [4+3] cycloaddition of aza-oxyallyl cations with isatoic anhydride: formation of 1,4-benzodiazepinediones

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ORGN.P-496

Rapid metal-free [3+3] and [4+3] cycloaddition of γ -hydroxy- and δ -hydroxy- α,β -unsaturated carbonyls and aza-oxyallyl cations

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ORGN.P-497

Oxadiazole- and indolocarbazole-based bipolar materials for green and yellow phosphorescent organic light emitting diodes

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ORGN.P-498

Fluorene-Triphenylamine-Based Bipolar Materials:Fluorescent Emitter and Host for Yellow Phosphorescent OLEDs

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ORGN.P-499

High efficiency green TADF emitters of acridine donor and triazine acceptor D-A-D structures

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ORGN.P-500

Synthesis and Biological Activity of Esculetin Derivatives as Anti-oxidant and Anti-inflammatory Agents

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ORGN.P-501

New Organic Ionic Plastic Crystals of 1,2-Bis[*N*-(*N*-alkylimidazolum)]propane Salts
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ORGN.P-502

Construction of 9-Membered 1,4-Oxazonine via Synergistic Rh(II)/Pd(0) Dual Catalytic [6+3] Dipolar Cycloaddition Reaction
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ORGN.P-503

Metal-free Oxidation of Benzylic Carbons Using Guanidine Base and Oxygen as an Oxidant
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ORGN.P-504

Synthesis of Ir Complexes Bearing New tris-*N*-heterocyclic Carbene Ligands: Application to Hydrogen Mediated Catalytic Reactions
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ORGN.P-505

Catalytic Depolymerization of Lignin
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ORGN.P-506

Theoretical Studies of Stereoselective Synthesis of E-Tetrasubstituted Olefins via Dynamic Kinetic Resolution
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ORGN.P-507

Development of Idebenone Derivatives with pharmacological activity by Niche Chemistry
Songmi Bae, Ju Hyun Song, Dai Il Jung
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ORGN.P-508

Ligand Effect on the Ir(I)-bis-NHC Catalyzed Transfer Hydrogenation
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ORGN.P-509

Synthesis of novel (pyrazolo[1,5-*a*]pyrimidin-3-yl)acetamide derivatives with branch propoxyl and dimethyl as potent translocator protein ligand
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ORGN.P-510

Cal₂-Catalyzed direct conversion of *N*-Cbz-protected amines to asymmetrical ureas
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ORGN.P-511

A Dual-Recognitive Two-Photon Fluorescent Probe for Applications in Human Colorectal Neoplasms
DongJoon Lee, Hwan Myung Kim
Department of Energy Systems Research, Ajou University, Korea

ORGN.P-512

Ratiometric Two-Photon Fluorescent Probe for γ -Glutamyltransferase in Colon Cancer Tissues
Duek Hwa Song, Hwan Myung Kim
Department of Energy Systems Research, Ajou University, Korea

ORGN.P-513

An Investigation on the Optical and Thermal Characteristics of a Pyrazine Derivatives
Dong Jin Park, Young Dae Gong
Department of Chemistry, Dongguk University, Korea

ORGN.P-514

Design and Synthesis of Pyrazine Derivatives According to Conjugation Type Based on Push-Pull System.
Hyungha Park, Young Dae Gong
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ORGN.P-515

Synthesis of Type III Post-Iboga Alkaloids
Sikwang Seong, Sunkyu Han
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ORGN.P-516

Studies Toward the Synthesis of Dimeric Post-Iboga Alkaloids
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ORGN.P-517

Rhodium(III)-Catalyzed Regioselective ortho C-H Alkenylations of *N*-Benzylpyrazoles
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ORGN.P-518

Construction of Spirosystem of Naturally Occurring Cyclocalopin via Retroaldol/Realdol Process: Toward Synthesis of (+)-Cyclocalopin A and E
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ORGN.P-519

Ultrasound assisted efficient synthesis of quinazolinones: Comparative studies on optical properties, Bioevaluation and molecular docking
Nam Gyu Choi, Balasaheb Daniyal Vanjare, Ki Hwan Lee
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ORGN.P-520

A Highly Efficient Carbocyclization of Allenyl Glyoxylates: Synthesis of Bioactive Avenaciolide
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ORGN.P-521

Novel synthesis of benzophenone derivatives and their application to UV-A/B filters.
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ORGN.P-522

Convenient Synthesis of Benzoquinolinones via Aryne Insertion into N-tosylbut-2-enamides
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ORGN.P-523

Total Synthesis and Stereochemical Revision of Biomamides B and D
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ORGN.P-524

Facile Route to 3-Thioindoles via Copper(I)-Phosphine Complex-Catalyzed Sequential C–S/C–N Bond Formation
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ORGN.P-525

Towards the Total Synthesis of Dimeric Epoxynoids: Diels-Alder Reaction-Based Dimerization of Epoxyquinoids
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ORGN.P-526

Preparation of novel SSR180575 derivatives containing 2 halogen groups as potential TSPO ligands
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University, Korea

ORGN.P-527

An Intramolecular Energy Transfer-based Iridium(III) Photosensitizer for Analyzing Mechanism of Mitochondrial Oxidation-induced Cell Death
Chaiheon Lee, Tae-Hyuk Kwon
Chemistry, Ulsan National Institute of Science and Technology, Korea

ORGN.P-528

Band-gap Narrowing of ZrO₂-ZnO Nanocomposites for the Reductive Amination of Carbonyl Compounds
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ORGN.P-529

Fundamental Studies and Applications for Electro-Inductive Effect: Correlation between Hammett Constant and Voltage
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ORGN.P-530

Practical Conversion of *N*-Ethyl Arylamines to *N*-Aryl-Substituted Azacycles via Phosphoryl Chloride-Mediated Protocol
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ORGN.P-531

Rh(III)-catalyzed cascade C—H activation/spirocyclization for direct construction of diverse polyheterocycles bearing pyrrolidinediones
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ORGN.P-532

N,N'-Diphenyl-S-benzylisothiuronium iodide as a highly efficient organocatalyst for transfer hydrogenation of 2-substituted quinoline derivatives
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ORGN.P-533

Alkylative Aziridine Ring Openings
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ORGN.P-534

Ruthenium-catalyzed construction of diversely functionalized γ -butenolides
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ORGN.P-535

Novel 1, 3, 5-Oxadiazole Analogues Inhibit the Tyrosinase and Melanin Level: Synthesis, In-Vitro and In-Silico Studies

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ORGN.P-536

Support-free Pd₃Co NCs as an efficient heterogeneous nanocatalyst for novel C-C coupling reactions of iodonium ylides

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ORGN.P-537

Ruthenium(II) Catalyzed C-H Hydroxyalkylation and Mitsunobu Cyclization of *N*-Aryl Phthalazinones

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ORGN.P-538

Rh(III) Catalyzed C-H Amidation of Phthalazinone using Dioxazolones

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ORGN.P-539

A straightforward transformation to alkyl diazines by reductive alkylation of diazine *N*-oxides

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ORGN.P-540

Silica-Polyphenol Hybrid Nanocoating for Enhanced Durability and Antifogging Effect

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ORGN.P-541

Synthesis and Photophysical Properties of New Imidazole-Silicone Frame for Organic Light Emitter.

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Soo Shin

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ORGN.P-542

A MDM2-Associated Spiropolymer Theranostic: Clusterization-Triggered Emission and Effectuating Apoptosis

Jinwoo Shin, Jusung An, Ji Hyeon Kim, Subin Son, Wonseok Choi, Youmi Choe, Jongseung Kim

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ORGN.P-543

Turn-on/off colorimetric and fluorescent sensor for accurate detection of Nitrite in groceries

Jusung An, Jinwoo Shin, Subin Son, Ji Hyeon Kim, Wonseok Choi, Youmi Choe, Jongseung Kim
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ORGN.P-544

Direct Construction of Pyrazole-Core Substituted Furans via Rhodium(III)-Catalyzed Regioselective C-H Activation/Annulation

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ORGN.P-545

A theoretical study of the origin of regioselectivity in the transannulation reaction of 1,2,3-thiadiazoles
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ORGN.P-546

COX-2 Specific Small Molecule Based Dual Drug Theranostic Probe with Higher Cytotoxicity

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ORGN.P-547

A hypoxia responsive azo-based agent for tumor imaging and treatment

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ORGN.P-548

Thermal properties of 1,2-bis(*N*-alkyl-*N,N*-dimethylammonium)ethane salts

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ORGN.P-549

Articulated structures of D-A type dipolar dye with AIEgen

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ORGN.P-550

Pd-Catalyzed Carbofluorination of Alkene: Reaction Design *via* Theoretical Method

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ORGN.P-551

Functionalized Naphthalene-based Hydrazine-Selective Fluorescent Probes

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ORGN.P-552

Enhancement of Photoacoustic and Photothermal Activity Using Phthalocyanine Based Supramolecular Complexes

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ORGN.P-553

Precise "Double-lock" Photodynamic Therapy: Assembled Pthalocyanine-Azobenzene for Photoswitchable Photosensitizer

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ORGN.P-554

A multifunctional Theranostic Platform for Dual-modal NIR-II / Photoacoustic Imaging and Photothermal Therapy

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ORGN.P-555

A thionaphthalimide based lysosome targeted heavy-atom free photosensitizer for photodynamic therapy

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ORGN.P-556

Change of homometallic to heterometallic metal-organic frameworks upon exchange of framework metal ion

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ORGN.P-557

Flow Synthesis of Arylsilanes Through the Alkali-Metal Catalyzed Reaction of Functional Aryllithiums with Hydrosilanes

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ORGN.P-558

Synthesis of Sulfonyl-substituted Indoles through Base-catalyzed Hydroamination

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ORGN.P-559

Synthesis of Melanin Derivatives and Their Photosensitive Properties

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ORGN.P-560

Visible-light mediated amination of aromatic compounds by using DDQ as organo photocatalyst.

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ORGN.P-561

An Indolocarbazole-Naphthyridine Hybrid Oligomer with a One-handed Helical Cavity

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ORGN.P-562

Indolocarbazole–Bromopyridine Foldamers Capable of Folding into Single Helices or Duplexes

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ORGN.P-563

Double Helix Formation of Methylated Carbazole-Pyridine Foldamers

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ORGN.P-564

Supramolecular assemblies of bisporphyrin derivatives in two-component system

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ORGN.P-565

Persistent Boryl Radical-Promoted Pinacol Coupling of Diaryl ketones

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ORGN.P-566

Enhanced Controllability of Fries Rearrangements in High-Resolution 3D-Printed Metal Flow Microreactor

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ORGN.P-567

Lysosome Targeting Photodynamic Therapeutic Iridium complexe
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ORGN.P-568

Effects of Surface Charge on Polydopamine Formation
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ORGN.P-569

Friction reduction effects of Polyisobutylene Derivatives Containing Thiadiazole
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ORGN.P-570

Synthesis of Tribenzo-oxepine derivatives for the use of OLED materials
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ORGN.P-571

Calix[4]pyrrole with extended indole Compound and Their Anion Biding Properties
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ORGN.P-572

Lithium Chloride selective recognition ion pair receptors
Juho Yang, Sung Kuk Kim
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ORGN.P-573

Fluoride-Selective Calix[4]pyrroles Strapped with Small Rigid Linkers: Anion Binding-Induced Deuterium Exchange of Pyrrolic NH Protons with Aprotic Solvents
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ORGN.P-574

A Anthracene-Appending Triazole-Based Diazocalix[4]arene : as a Fluorescent and Chromogenic sensor
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ORGN.P-575

Total Syntheses of Taxamairin B by using Gold and Platinum Catalyzed Cycloisomerization Strategy
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ORGN.P-576

tert -Amide directing group for efficient C-H bond alkenylation and following transformation toward lactone
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ORGN.P-577

A Selective Conversion of Alcohols to Aldehydes and Carboxylic Acids using MOF Catalysts
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ORGN.P-578

Iridium-Catalyzed C-H Amidation for Unsymmetrical Urea Synthesis
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ORGN.P-579

Eu-loaded and/or TEMPO-functionalized MOFs for Aerobic Oxidation of Alcohols and Enhanced Selectivity by Simple Postsynthetic Ligand Exchange
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ORGN.P-580

Palladium-Catalyzed Thiocarbonylation using Thiol Surrogates for the Synthesis of S-Aryl Thioesters
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ORGN.P-581

Simple & One-pot Decarboxylative Halogenation of Alkynoic Acids: Synthesis of (Z)-Selective Fluoroalkenes
Beomseok Ryu, Sunwoo Lee
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ORGN.P-582

Palladium-Catalyzed C-H Annulation for the Synthesis of Redox-Active Phenanthrene-Fused Heteroarenes
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ORGN.P-583

Study Of Electrochemical And Optical Properties Of Tetrathiafulvalene (TTF)-Annulated Core-Modified Expanded Porphyrin

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ORGN.P-584

Transition metal catalyzed decarboxylative addition of alkynoic acids to terminal alkynes

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ORGN.P-585

Metal Free-Transamidation of Primary Amides for the Synthesis of Secondary Amides

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ORGN.P-586

Divergent Cyclopropanation via Site- and Stereoselective Dearomative Reaction of Activated N-Heteroarenes

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ORGN.P-587

Nickel-catalyzed transamidation of secondary & tertiary amides in the presence of trimethylsilyl chloride

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ORGN.P-588

3D-Hydrogen bonded Organic frameworks using orthogonal porphyrin dimer for large pore size

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ORGN.P-589

Dearomative cycloaddition of activated N-aromatic compounds and alkynes: Stereoselective synthesis of six-membered heterocyclic compounds

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ORGN.P-590

Selective Mono- and Dialkynylation of 1-Fluoro-2,2-diiodovinylarenes Using Pd-Catalyzed

Decarboxylative Coupling Reactions

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ORGN.P-591

Development of Stereoselective Synthesis of Geminal Bromofluoroalkenes via Thermodynamic Control

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ORGN.P-592

Synthesis of Lepenine via copper-catalyzed cyclization

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ORGN.P-593

Nickel-Catalyzed Claisen Type Condensation Reaction Between Two Different Amides: Synthesis of beta-ketoamides.

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ORGN.P-594

Generation of α -anionic tetrahydrofuran and its functionalization without the intramolecular decomposition in flow

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ORGN.P-595

A Highly Sensitive Detection of Heparin Based on Micellization of Amphiphilic Fluorescence Sensors

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ORGN.P-596

Micellization of Amphiphilic Fluorescence Sensors for Efficient Detection of Alkaline Phosphatase Activity

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ORGN.P-597

A Self-Assembled Conjugated Polyelectrolyte Micelle Based on Amplified Fluorescence Quenching for Highly Sensitive Detection of Heparin in Serum

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ORGN.P-598

Detection of β -Glucuronidase in Metastatic Cancer Using Chemiluminescent Probe In Vivo

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ORGN.P-599

Organophosphorus agent detoxification using Cu(II) complexes of tridentate amine

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ORGN.P-600

Fluorescent Visualization of Nucleolar G-Quadruplex RNA and Dynamics of Endonuclear Viscosity
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ORGN.P-601

Efficient TADF Emitters Containing a Novel Electron Donating Group of Rigid and Planar Conformation Based on Phenoxazine
Dongwook Yang
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ORGN.P-602

Studies Towards the Total Synthesis of Suffruticosine
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ORGN.P-603

Synthesis, Characterization, Optical, and Electrochemical properties of Quinoxaline-TTF-Pyrrole Sulfoxide Derivatives
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ORGN.P-604

General Synthetic Route for Antirrhine Alkaloids
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ORGN.P-605

Synthesis of α -Substituted ketones through Cu-catalyzed hydride addition to allenes
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ORGN.P-606

Palladium-Catalyzed transamidation of tertiary amides with unactivated tertiary amines through double C-N activation
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ORGN.P-607

Synthesis and Characterization of BTA and its high-nitrogen salts for a insensitive high energetic explosives
 SeungHee Kim*, Youngdae Won, So Jung Lee
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ORGN.P-608

Total Synthesis of Iheyamine A via Cyanide-Catalyzed Imino-Stetter Reaction
Jiye Jeon, Cheol-Hong Cheon
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ORGN.P-609

Effect of Bromine Substituent on Cyanide-Catalyzed Imino-Stetter Reaction of Nitrobenzaldehyde Derivatives
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ORGN.P-610

Catalyst-Free and Solvent-Free Approach for Hydroboration of alkynes
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ORGN.P-611

Development of A Novel Synthetic Method for Construction of 2-Substituted Tryptamine Derivatives
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ORGN.P-612

Safe synthesis of bistetrazole energetic compound
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ORGN.P-613

A Novel Strategy for the Synthesis of Functionalized Aryl Boronic Acids
Jinjaek Park, Cheol-Hong Cheon
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ORGN.P-614

Total syntheses of Naphthylisoquinoline Alkaloids via Atropselective Intermolecular Biaryl Coupling Using an Internal Central Chirality
Young-In Jo, Cheol-Hong Cheon
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ORGN.P-615

New Catalytic Hydroboration of Nitriles with Simple Mg Catalyst
 Ji Eun Seok, Duk Keun An, Jea Ho Kim
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ORGN.P-616

Relative stability of the α/β peptide 11/9-helix depending on β -residue types
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ORGN.P-617

Effective Catalytic Hydroboration of Imines with LiBr as catalyst
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ORGN.P-618

Efficient Catalytic Hydroboration of Esters Using LDBBA
 Duk Keun An*, Hwan Hwi Kim
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ORGN.P-619

"Selective Sensors for Cadmium Ion Based on Conjugated Polydiacetylenes"
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ORGN.P-620

Design Principles, Sensing Mechanisms, and Applications of Two-photon Probes for HOCl/OCl⁻
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ORGN.P-621

Development of new Methyl gallate Derivatives with high Anticancer property
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ORGN.P-622

Synthesis of 1,3-bis (2-hydroxyethyl) -5-fluorouracil derivatives with anti-carcinogenic effects by Niche Chemistry
Junghun Ha, Dai Il Jung
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ORGN.P-623

Anhydride Catalyst for H₂O₂ Oxidation
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ORGN.P-624

The Preparation of Aniline Radical Derivatives and Investigation of Their Electrochemical Properties.
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ORGN.P-625

Application and Synthesis of Linalool Derivatives as Aroma Chemicals
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ORGN.P-626

Synthesis of novel bipyrydyl corroles from diaza-triphenylene analogues
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ORGN.P-627

Fluorescence Dye Displacement Assay for Anions Using meso-aryl Calix[4]pyrroles
Chang Hee Lee*, Ranjan Dutta
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ORGN.P-628

Meso-Substituted, Antiaromatic Hexaphyrins[1.0.1.0.1.0]: Synthesis, Substituents Effects and Redox Property
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ORGN.P-629

Visible-light-mediated direct C3-arylation of 2H-indazoles enabled by an electron-donor-acceptor complex
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ORGN.P-630

Efficient reaction pathways for the synthesis of Norditerpenoids
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ORGN.P-631

Copper-catalyzed formation of C-S bond with thioglycolic acid
Youngjin Shin, Kyungmi Kim¹, Junghyun Chae¹
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ORGN.P-632

Room temperature and Selecive synthesis of hydroxyalkyl sulfides with copper-catalyzed C-S coupling
Soyae Choi, Junghyun Chae, Kyungmi Kim
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ORGN.P-633

Design and synthesis of a new organic electron-transfer mediator for glucose monitoring biosensor
Sangeun Yoon, Bongjin Moon
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ORGN.P-634

[Withdrawal] Geminal Aminofluorination of 1,2-Dicarbonyl Compound
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ORGN.P-635

Characterization and calculation of average number of propylene oxide (PO) unit presents in surfactant intermediate LAL-(PO)_n prepared from lauryl alcohol (LAL) with propylene oxide.
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ORGN.P-636

Highly Chemoselective Deoxygenation of N-Heterocyclic N-Oxides
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ORGN.P-637

A Green Organic Catalyst for the Efficient Utilization of Atmospheric Carbon Dioxide

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ORGN.P-638

New synthetic strategy for preparing the Natural product, Amyrin

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ORGN.P-639

Remodelling of Indole skeleton to substituted Niacin via cascade 6 π -electrocyclization/ring opening reaction

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ORGN.P-640

A study on the reactions of pyridoxine and straight chain or branched chain aliphatic chlorides

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ORGN.P-641

Synthesis Of Native Heterocyclic Compounds Via Mn/Co Oxidative Deacetylation Reaction

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ORGN.P-642

Bromoacetate Olefination Protocol for Norbixin and Julia–Kocienski Olefination for Its Ester Syntheses

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ORGN.P-643

Synthesis, Optimisation, further Cyclization of Pyrrole Derivatives

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ORGN.P-644

Synthesis of unnatural carotenoids with good electrical properties

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ORGN.P-645

Simple Synthesis Of Heterocyclic Compounds Via Oxidative Deacetylation Reaction

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ORGN.P-646

Fast Assembly and High-Throughput Screening of Structure and Antioxidant Relationship of Carotenoids

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ORGN.P-647

Iron(III) *N*-heterocyclic Carbene Complex : Green-Light-Driven Photocatalytic Radical Cation Diels-Alder Reaction

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ORGN.P-648

Iron-polypyridyl catalyzed C-H azidation of 3-acyl substituted indoles

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ORGN.P-649

Synthesis of γ -Lactones via the Kowalski Homologation Reaction: Protecting-Group-Free Divergent Total Syntheses of Eupomatilones- 2,5,6, and 3-epi-Eupomatilone-6

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ORGN.P-650

Structural analysis of quinoline derivatives via 2-quinolylzincates with acyl chlorides.

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ORGN.P-651

Concise syntheses of (+)-talaumidin, (+)-galbacin, (+)-fragransin A₂, (+)-galbelgin.

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ORGN.P-652

Utilizing Enamine Intermediate from Boron-catalyzed Silylative Dearomatization of Quinolines for Cyclic Amidine Synthesis

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ORGN.P-653

Blue fluorescent Organic Light-Emitting Diodes based on 7,7-dimethyl-9-(10-phenylanthracen-9-yl)-7H-benzo[b]fluoreno[3,4-d]thiophene derivatives

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ORGN.P-654

Development of 7'-(10-phenylanthracen-9-yl)spiro[fluorene-9,5'-indeno[1,2-b]pyridine] for highly efficient blue fluorescent Organic Light-

Emitting Diodes.

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ORGN.P-655

6-Membered cyclic amidine synthesis from *N*-heterocycles via dearomatization strategy

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ORGN.P-656

Synthesis and photophysical properties of methyl salicylate derivatives with aromatic heterocyclic compound

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ORGN.P-657

IMPACT OF THIENYLENE-VINYLENE-THIENYLENE UNITS ON THE PERYLENE DIIMIDE-BASED ON ACCEPTORS IN ORGANIC PHOTOVOLTAICS

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ORGN.P-658

Spatio-temporal Self-Assembly Determines Cancer Selective Toxicity

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ORGN.P-659

Efficient Synthesis of Sulfenamides through Mitsunobu-type Coupling Reaction of Thiols with Amines using Dibenzyl Azodicarboxylate

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ORGN.P-660

Simple *N,N'*-Diphenyl *S*-Benzylisothiuronium Iodide as a highly efficient organocatalyst for transfer hydrogenation of 2-substituted quinoline derivatives

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ORGN.P-661

Benzynes-Induced Ring Opening Reactions of DABCO: Synthesis of 1,4-Disubstituted Piperazines and Piperidines

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ORGN.P-662

A novel approach for the synthesis of polycyclic tetrahydroisoquinolines

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ORGN.P-663

Cobalt-Catalyzed Direct C(sp²)-H Alkylation with Unactivated Alkenes

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ORGN.P-664

Asymmetric Synthesis of *N*-Fused 1,3-Oxazepines via Pd-Catalyzed Decarboxylative [5+2]

Cycloaddition

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ORGN.P-665

Catalytic Asymmetric Methallylation and Allylation Reactions of Aldehydes with Silanes : Using a Chiral Lewis Acid

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ORGN.P-666

Synthesis of Polysubstituted *N*-H Pyrroles Through Oxidative Dimerization of the Zinc Bromide Complex of β -Enaminoesters

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ORGN.P-667

Interaction between K⁺ ions and G-quadruplex DNA inside hydrogels

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ORGN.P-668

Efficient and Safe Nitration Methods for the Synthesis of Molecular Explosives via Flow Chemistry

Se Won Bae

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ORGN.P-669

Photoredox-Ir(ppy)₃ catalyst of stereoselective anti-halotrifluoromethylation of alkynes

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ORGN.P-670

Rapid, Selective and Highly Stable Fluorescent Probe for Detection of Esterase

Uisung Lee, Youngmi Kim

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ORGN.P-671

Synthesis of the chiral receptor based on diaminocyclohexane for chiral discrimination of

amine compounds.

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ORGN.P-672

Iridium-Catalyzed Cyclative Indenylation and Dienylation via Sequential B(4)–C Bond Formation, Cyclization, and Elimination from *o*-Carboranes and Propargyl Alcohols

[Sang Hoon Han](#), Gi Hoon Ko, Phil Ho Lee

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ORGN.P-673

Rhodium(II)-Catalyzed Regioselective C3-Alkylation of 2-Arylimidazo[1,2-*a*]pyridine Derivatives with Aryl Diazoesters

[Sang Hoon Han](#), Kyungsup Lee, Phil Ho Lee

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ORGN.P-674

Rhodium-Catalyzed Amidation of the Cage B(4)–H Bond in *o*-Carboranes with Dioxazolones by Carboxylic Acid-Assisted B(4)–H Bond Activation

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ORGN.P-675

Selective C–C Bond Formation from Rhodium(III)-Catalyzed C–H Activation Reaction of 2-Arylpyridines with 3-Aryl-2H-Azirines

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ORGN.P-676

Pyrazinoindole-Based Lewis-Acid/Base Assembly: Intriguing Intramolecular Charge-Transfer Switching through the Dual-Sensing of Acid and Fluoride

[Chanyoung Maeng](#), Kyungsup Lee, Phil Ho Lee

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ORGN.P-677

Expansion of Azulenes as Nonbenzenoid Aromatic Compounds for C–H Activation : Rh- and Ir-Catalyzed Oxidative Cyclization of Azulene Carboxylic Acids with Alkynes for the Synthesis of Azulenolactones and Benzoazulenes

[Chanyoung Maeng](#), Kyungsup Lee, Phil Ho Lee

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ORGN.P-678

Chiral Lewis Acid Catalyzed Asymmetric Synthesis of β -Amino Alcohols via Dual Catalysis

[Yea Suel Lee](#), Do Hyun Ryu^{1,*}

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ORGN.P-679

Enantioselective Synthesis of 2-Aryl-2,3-

Dihydrobenzofurans by Lewis Acid Catalyzed Tandem Reactions.

[Seung Tae Kim](#), Do Hyun Ryu

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ORGN.P-680

Synthesis of Chiral Acyloins via Asymmetric Acyloin Rearrangement of Aldehydes Using Chiral Oxazaborolidinium Ion Catalyst

Soo Min Cho, [Si Yeon Lee](#), Do Hyun Ryu

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ORGN.P-681

Toward the Total Syntheses of Cyclopiane Diterpenoids via TMM-diyl mediated Tandem Cycloaddition Reaction

[Sanghyeon Lee](#), Hee-Yoon Lee

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

ORGN.P-682

Oppenauer oxidation with vinyl Grignard reagents through Ni-catalyzed carbomagnesation of internal alkyne

[Hanseul Lee](#), Chanmi Lee, Yunmi Lee

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ORGN.P-683

Total Synthesis of Quinolizidine Alkaloid via CSI-Amination Reaction at Anomeric Site of Sugars

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ORGN.P-684

The tendency of interfacial photopolymerization according to the heavy atom of the phenyl ring on xanthene ring

[Jinsol Kim](#), Jungkyu Lee

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ORGN.P-685

Convergent Synthesis of Unsymmetrical dendrimers via Double Click Reactions of the Fréchet-type Dendrons

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ORGN.P-686

Diblock Dendrimer by stitch

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ORGN.P-687

Polymer-Supported Bis-oligo-ethylene Glycolic Crown-5-Calix[4]arene: An Highly Efficient Reusable Organic Catalysts for SN2 Fluorination Using Potassium Fluoride in Protic and Aprotic Media.

[Ashokkumar Veeramanoharan](#), Dong Wook Kim^{1,*},

Minji Nam¹, Wonhyeok Yun¹

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ORGN.P-688

Preparation and Biological Evaluations of Cell-penetrating peptide Mediated Drug Conjugate for Cancer Therapy

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ORGN.P-689

Naphthoquinone as a potential colorimetric and fluorescence chemosensor for sensing of Fe²⁺ ion: Its application in bio-imaging of live cells and zebrafish

Ravichandiran Palanisamy, Dong Jin Yoo
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ORGN.P-690

Intra-mitochondrial Disulfide Polymerization Controls Cancer Cell Necroptosis

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MEDI.P-691

9,10-Dihydro-9-oxa-10-phosphaphenanthrene-10-oxide derivatives for Butrylcholinesterase Inhibitor.
Jintaek Oh, Ji Hyun Hwang, Jeong Ho Park
Department of Chemical & Biological Engineering, Hanbat National University, Korea

MEDI.P-692

Pyrazolo[1,5-a][1,3,5]triazin-4-amine derivatives : Synthesis of a Novel Class of SIRT6 Activators
Hyouunwoo Lim
new medical development, Chungbuk Natiaoal University, Korea

MEDI.P-693

Development of new target protein catalyst compounds as a novel class of H₂O₂ scavenger for treatment of Alzheimer's Disease
Elijah Lee, Ki Duk Park
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MEDI.P-694

Solid-Phase Synthesis of thiazolo[4,5-*d*] pyrimidine derivatives via Intramolecular Cyclization
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MEDI.P-695

Synthesis and biological evaluation of novel 5-HT7R ligands with biaryl moiety
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MEDI.P-696

Synthesis and biological activity of biphenyl derivatives as 5-HT7R ligands
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MEDI.P-697

Solid-phase Parallel Synthesis of 2,4,5-thiazole Derivatives Based on Peptidomimetics
Min Jeong Cha, Sun Hwa Jung, Young Dae Gong
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MEDI.P-698

Discovery of Two-Photon MAO-B Fluorescence Probes for Neurodegenerative Diseases
Rina Kwag, Hyunah Choo
Center of Neuro-Medicine, Brain Science Institute, Korea Institute of Science and Technology, Korea

MEDI.P-699

Synthetic approaches to a chemical library of azacyclic compounds via DDQ-mediated oxidative cyclization

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MEDI.P-700

Exploration of secondary metabolites with antioxidant effect from a Halophyte *Sonchus brachyotus* DC

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MEDI.P-701

Identification of novel allosteric inhibitors of AurkA
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MEDI.P-702

Pharmacophore-based Virtual Screening of Novel Competitive Inhibitors of Kynurenine Monooxygenase for the treatment of Alzheimer's Disease
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MEDI.P-703

Synthesis and biological evaluation of 6-Amino-4-anilinoquinazoline as potential MERS-CoV inhibitors
Jun Young Lee, Chul Min Park, Hyoung Rae Kim
CEVI, Korea Research Institute of Chemical Technology, Korea

MEDI.P-704

Synthesis and Biological Evaluation of the Novel SHIP2 Inhibitors for the Treatment of Alzheimer's Disease
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MEDI.P-705

Synthesis of novel, selective agonists against Sphingosine-1-Phosphate 1 (S1P1) receptor for Multiple Sclerosis

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MEDI.P-706

Synthesis, Optimization and Evaluation of Novel
Functionalized Amino Acid Derivatives for
Treatment of Meningitis
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MEDI.P-707

Investigation of inhibitory effect of 7-azaindoles
derivatives against cholinesterase activity
Kooyeon Lee*, Jeong Ju Oh
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MEDI.P-708

Synthetic velutin derivatives as potent inhibitors
against melanin formation
Kooyeon Lee*, Jung Won Choe
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University, Korea*

MEDI.P-709

Inhibitory effect of lung cancer metastasis by new
benzofuran compounds from Korean Mushroom,
Suillus granulatus
Seon-Jun Choi, Young Seok Kim¹, Sang Il Jeon¹,
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MEDI.P-710

Increased biological activity by microwave-
processing of white ginseng
Pilju Choi, Haneul Ju¹, Buyng Su Hwang², Chung-
Min Park³, Jungyeob Ham^{4,*}
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MEDI.P-711

Discovery of orally bioavailable estrogen-related
receptor gamma (ERRγ) inverse agonists for the
treatment of anaplastic thyroid cancer
Jina Kim, Sung Jin Cho
New Drug Development Center, DGMIF, Korea

MEDI.P-712

Synthesis and Biological Evaluation of Glycosylated
Arylnaphthalene Lactone Derivatives as Anticancer
Agents
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MEDI.P-713

Induced target degradation of BET by target
degraducers(TDs)
Hyung Soo Kim, Pilho Kim¹, Sung Yun Cho², Jae du
Ha², Jong Yeon Hwang¹
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MEDI.P-714

Synthesis and antifungal activity of novel hybrid
compounds of 1,4-dialkoxy-naphthalene and
thiazolium salts moieties
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MEDI.P-715

The Antibacterial Activity of New Pyrimidinone-
fused 1,4-naphthoquinones against Oral bacteria
Kyungmin Kim, Taehoon Lee¹, Heejae Choi²,
Hakwon Kim¹
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MEDI.P-716

Synthesis and comparative anti-inflammatory
activity of various sterols containing one double
bond in the steroid backbone
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Kim², Dowon Yoon¹, Taehoon Lee
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MEDI.P-717

Development of a New Synthetic Method for the
Preparation of Pyridinium Salts by Rh(III)-Catalyzed
Reaction and Application to Surface Modification of
SBA-15
Ye Ri Han, Dong-Su Kim¹, Chunyoung Im²,
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MEDI.P-718

Identification of reference compounds in sprout
barley and mycelium complex of medicinal
mushrooms
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MEDI.P-719

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

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MEDI.P-720

Development of Selective S1P1 Receptor Agonists for Treatment of Multiple Sclerosis

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MEDI.P-721

Nrf2 activator via interference of Nrf2-Keap1 interaction has antioxidant and anti-inflammatory properties in Parkinson's disease animal model

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MEDI.P-722

A β modulates actin cytoskeleton via SHIP2-mediated phosphoinositide metabolism

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MEDI.P-723

Discovery of selective estrogen receptor- α (ER α) modulators by structural rigidification of DN200434, a selective estrogen-related receptor- γ (ERR γ) inverse agonist

Su-Jeong Lee, Hongchan An, Younghye Park, MinYoung Kim, Sung Jin Cho

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MEDI.P-724

Spatiotemporal GPCR activity and function during endosomal trafficking pathway

Hyunbin Kim, Jihye Seong

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MEDI.P-725

Optical regulation of endogenous RhoA reveals switching of cellular responses by signal amplitude

Jeongmin Ju, Jihye Seong

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MEDI.P-726

Synthesis of evaluation of 3', 4'-dihydronucleosides and their phosphoramidate prodrugs

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Junkwon Park, Jong Hyun Cho^{1,*}

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MEDI.P-727

Selective Tumor Treatment Targeting CAIX with Low Toxicity Range by Interrupting Lysosome

Dohyun Kim, Ja-Hyoung Ryu

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MEDI.P-728

Synthesis and Biological Evaluation of Isoliquiritigenin Derivatives as a Neuroprotective Agent against Glutamate mediated Neurotoxicity in HT22 Cells

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MEDI.P-729

Rb2 alleviates HT22 mouse hippocampal neuronal cell death mediated by glutamate induced oxidative stress.

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MEDI.P-730

Synthesis and Cytotoxic Effects of 2-Thio-3,4-dihydroquinazoline Derivatives as Novel T-type Calcium Channel Blockers

Yunchan Nam, Minji Kang, Jae Yeol Lee

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MEDI.P-731

Arylsulfonamide Derivatives as mPGES-1 Inhibitors for the Discovery of Novel Anti-inflammatory Agents

Mi Song Kim, Geuntae Kim, Jae Yeol Lee

Department of Chemistry, Kyung Hee University, Korea

MEDI.P-732

Scale-Up Studies of **KCP10043F** as a Novel T-Type Calcium Channel Blocker for Pre-Clinical Test

Ki deok Ryu, Dohyeong Ko, Jae Yeol Lee

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MEDI.P-733

KSP siRNA/paclitaxel-loaded PEGylated cationic liposomes for overcoming resistance to KSP inhibitors: Synergistic antitumor effects in drug-resistant ovarian cancer

Hyung Jun Ahn

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- MEDI.P-734** Cytoplasmic expression of EGFR shRNA using a modified T7 autogene-based hybrid mRNA/DNA system induces long-term EGFR silencing and prolongs antitumor effects
Hyung Jun Ahn
Theragnosis, Korea Institute of Science and Technology, Korea
- MEDI.P-735** Cyclic Lipopeptides with Anti-Mycoplasma Activity from a Marine-Derived *Bacillus subtilis*
Hwa-Sun Lee, Byeoung-kyu Choi, Hee Jae Shin
Marine Natural Products Chemistry Laboratory, Korea Institute of Ocean Science & Technology, Korea
- MEDI.P-736** Design and synthesis of novel N-(2-hydroxy-3-(4-phenylpiperidin-1-yl)propyl)-4-(morpholine-4-carbonyl)benzamide derivatives as PRMT5 inhibitors
Yeonji Kim^{*}, Hyesu Yeom¹, Sung Yun Cho², Jae du Ha², Pilho Kim³, Jong Yeon Hwang³, Hyunjin Kim⁴, Do Hyun Ryu⁵
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⁵*Department of Chemistry, Sungkyunkwan University, Korea*
- MEDI.P-737** Synthesis and biological evaluation of vinyl-stilbene series as potential anti-norovirus agents
Dipesh Harmalkar, Min Kyoung Kim¹, Yongseok Choi, Kyeong Lee¹
College of Life Sciences and Biotechnology, Korea University, Korea
¹*College of Pharmacy, Dongguk University, Korea*
- MEDI.P-738** Discovery of Bruton's tyrosine kinase degraders
Vineetkumar Bapusaheb Patil, Hyeon Park, Yunha Choi¹, Hyunjin Kim², Jae du Ha³, Sung Yun Cho³, Jong Yeon Hwang⁴, Je Ho Ryu⁵, Song Hee Lee⁵, Pilho Kim⁴
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⁴*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*
⁵*Research Center, Ubix Therapeutics, Korea*
- MEDI.P-739** **[Withdrawal]** Isolation and Identification of Secondary Metabolites from Marine-Derived Fungi and their Inhibitory Activity on the NO Production in BV-2 Microglia Cells
Byeoung-kyu Choi, Hwa-Sun Lee, Vananh Cao, Changsu Heo, Hee Jae Shin
Marine Biotechnology, Korea Institute of Ocean Science & Technology, Korea
- MEDI.P-740** Disordered region of cereblon is required for efficient degradation by proteolysis-targeting chimera
Chunghoon Shin, Jae du Ha¹, Jong Yeon Hwang^{2,*}
organic chemistry, Sogang University, Korea
¹*WCI, Korea Research Institute of Chemical Technology, Korea*
²*Center for Medicinal Chemistry, Korea Research Institute of Chemical Technology, Korea*
- MEDI.P-741** Isolation and Identification of Secondary Metabolites from a Marine-Derived Strain of *Streptomyces* sp. Isolated from Dokdo
Changsu Heo, Byeoung-kyu Choi, Hwa-Sun Lee, Vananh Cao, Hee Jae Shin
Korea Institute of Ocean Science & Technology, Korea
- MEDI.P-742** Molecular Docking Study for BRAFV600E and CRAF inhibitor
Jung Woo Park, Gyo chang Keum^{1,*}
Korea Institute of Science and Technology Information, Korea
¹*Chemoinformatics Research Center, Korea Institute of Science and Technology, Korea*
- MEDI.P-743** Cloaking Protein Shield Zr-MOF Delivery Platform for Targeted Nanomedicine
Wonyoung Choe^{*}, Ja-Hyoung Ryu, Jun Yong Oh¹
Department of Chemistry, Ulsan National Institute of Science and Technology, Korea
¹*Department of Chemistry / Department of Chemical E, Ulsan National Institute of Science and Technology, Korea*
- MEDI.P-744** Self-Assembly of Mitochondria-Targeted Photosensitizer to Increase Photostability and Photodynamic Therapeutic Efficacy in Hypoxia
Batakrishna Jana, Ja-Hyoung Ryu^{1,*}
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MAT.P-745

Effect of Halogen substitution on ionic conductivities of Li6PS5Cl argyrodites
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¹*Department of Printed Electronics Engineering, Suncheon National University, Korea*

MAT.P-746

Heterogeneous Nucleation of Alkaline Earth Metal Incorporated Glass Adsorbent to Capture CO₂
Hyung-Ju Kim
Decommissioning Technology Research Division, Korea Atomic Energy Research Institute, Korea

MAT.P-747

self-crosslinking chalcogenide aerogel with local coordination control and effective Cs⁺ remediation functionality
Heehyeon Lee, Youngtak Oh
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MAT.P-748

Study of Power Factor in One Molecule-thick Films
Sohyun Park, Minsang Cho, Hyo Jae Yoon
Department of Chemistry, Korea University, Korea

MAT.P-749

Does 2D Scale of Molecular Junctions Matter for Quantum Tunneling Performance?
Minsang Cho, Hun Gu Kang, Hyunju Lee, Hyo Jae Yoon
Department of Chemistry, Korea University, Korea

MAT.P-750

Thermal analysis of disorder-order transition in rock-salt Li₃TaO₄
Chaeun Kim, Young-il Kim^{1,*}
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MAT.P-751

Enhancing H₂ Production from Formic Acid Decomposition Using (PdAg alloy core)@(ultrathin Pd shell) Catalysts
Bon Seung Goo, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

MAT.P-752

Synthesis of Rhombic Dodecahedral Pd@Pt Core-Shell Nanocrystals, and Electrocatalytic Studies on Pt {110} Facet
Hojin Ahn, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

MAT.P-753

Facile synthesis of PtNi alloy nanodendrites on CeO₂ nanosheets as supporting materials with fine electrocatalytic performances for direct methanol

fuel cell

Yongmin Kwon, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

MAT.P-754

One-Pot Synthesis of Multimetallic Core-Shell Nanocrystals with Controlled Compositional Structure for Enhanced Electrocatalysis
Hochan Ahn, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

MAT.P-755

The effect of crystal plane of Cu on the decision of stacking angle for bilayer graphene
Hyeyeon Cho, Hee Cheul Choi^{1,*}
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MAT.P-756

Enhanced photocatalytic activity of C₃N₄ materials for H₂ production by removal of carbon impurities
 Sungjin Park*, Jinyoung Son, Minseon Choi¹, Haeju Kim¹
Department of Chemistry, Inha University, Korea
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MAT.P-757

Elucidation of Operation Principle in The Simplest One-cell System for Electroless Deposition of Noble Metal Nanoparticles on Conductors
Yohwan Park, Hee Cheul Choi
Department of Chemistry, Pohang University of Science and Technology, Korea

MAT.P-758

Development of Solution-Phase Alkali Metal Doping System for High Yield Organic Superconductors
Taekyung Yoon, Hee Cheul Choi
Department of Chemistry, Pohang University of Science and Technology, Korea

MAT.P-759

Synthesis of Smooth and Large scale Organometallic Complex Thin Film by Vapor-Phase Reaction
Myeonggeun Choe, Hee Cheul Choi
Department of Chemistry, Pohang University of Science and Technology, Korea

MAT.P-760

Synthesis of AgCl-trimetal composite nanostructures for visible-light photocatalysis and SERS monitoring
Han-Jung Ryu, Jae-Seung Lee
Material Science and Engineering, Korea University, Korea

MAT.P-761

Enhancing n-type thermoelectric performance of Bi₂Te₃-based materials via co-doping process
Hyungseok Lee, Chung In^{1,*}
School of Chemical and Biological Engineering, Seoul National University, Korea
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MAT.P-762

Ge/GeO₂/Graphene Nanocomposite with Enhanced Discharge Capacity for Lithium Ion Batteries
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MAT.P-763

Synthesis and characterization of reduced graphene oxide with hollow sphere nanostructure for advanced anode material of lithium-ion batteries
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MAT.P-764

Directional Self-assembly of Nanoparticles into Low-Dimensional Assemblies
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MAT.P-765

Efficient BTX collection using photothermal conversion-based solar oil evaporation system
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MAT.P-766

The enhancement of thermoelectric performance in hole-doped polycrystalline Sn_{1-x}Cr_xSe
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MAT.P-767

Amphiprotic solar oil evaporators for cleanup and collection of BTX
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MAT.P-768

Enhancing thermoelectric performance of n-type polycrystalline SnSe by halogen doping
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MAT.P-769

The most environmentally friendly air filter with high capture efficiency and low pressure drop
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MAT.P-770

Antibacterial activity of Ag-ZnO nanoparticles against clinical isolates of methicillin-resistant Staphylococcus aureus
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MAT.P-771

Tuning bandgap from deep-red to near-infrared phosphorescence from tris-heteroleptic iridium complexes via substituent engineering for solution processable Red-NIR organic light emitting diodes.
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MAT.P-772

Deep-Red to Near-Infrared Emitting Solution Processable Phosphorescent Organic Light-Emitting Diodes by Aggregation Induced Phosphorescent Iridium(III) Complexes.
Taehyun Kim, Hae Un Kim, Dasol Chung, Sungjin Park, Taiho Park^{1,*}
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MAT.P-773

Synthesis and Characterization of Graphitic Ordered Mesoporous Carbon by Using Metal Catalysts
Ju-Hyun Ryu, Ye Lim Kwon, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-774

Study on the Electrochemical Performance of Ordered Mesoporous Nickel Manganese Oxide for Lithium Ion Batteries
Kyoung Ho Kim, Ye Lim Kwon, Ju-Hyun Ryu, Sujin Kim¹, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea
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MAT.P-775

Realizing Ultrahigh Electron Mobility and Temperature-Independent Power Factor in Thermoelectric SnSe₂ via Combined Cu Intercalation and Br Doping

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MAT.P-776

Remarkable Enhancement in Open-Circuit Voltages for Tin-based Perovskite Solar Cells by Introducing a New Charge Transporting Layer
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MAT.P-777

Details of Human Hair Studied by LVEM and Imaging FTIR Spectroscopy
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MAT.P-778

Boron-based AlEgens for Efficient Solution-Processable Non-doped Deep-Blue to Sky-Blue TADF-OLEDs
Hyung Jong Kim, Chae Yeong Kim¹, Dong Hoon Choi
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¹*chemistry, Korea University, Korea*

MAT.P-779

Metal Oxide Nanoparticles as Electron Transport Materials for High-Performing Quantum Dot-Light Emitting Diodes
Chai won Kim, Jinwhan Joo, Hyung Jong Kim, Chae Yeong Kim, Kwangyeol Lee, Dong Hoon Choi
Department of Chemistry, Korea University, Korea

MAT.P-780

Uncomplicated thermal treated molybdenum silicide and its application in lithium ion batteries
Zhiyong Zheng, Ji Man Kim
Department of Chemistry, Sungkyunkwan University, Korea

MAT.P-781

Ultrasonic Spray Chemistry: In-Situ C-C coupling and Film Engineering of Conjugated Microporous Polymer for Energy Storage System
Deok-Ho Roh, Tae-Hyuk Kwon^{1,*}
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MAT.P-782

Improving Lithium-Sulfur Battery Performances by Using Conjugative Porous Polymer as the Sulfur Support: the Case of N-containing Porous Aromatic Framework 41
Qian Wang, Yongnan Zhao^{1,*}, Young-Uk Kwon, Ji Man Kim
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MAT.P-783

Electrospinning of hyperbranched polymers and conversion to sp³-rich carbon nanofiber
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MAT.P-784

Modification of Ordered Mesoporous Carbon with Physical Block and Catalytic Effects for Li-S Batteries
Ye Lim Kwon, Ju-Hyun Ryu, Su Jin Kim¹, Ji Man Kim
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MAT.P-785

Coordination of Jacobsen catalyst with N-doped graphene electrocatalytic active species for oxygen reduction reaction
Dawoon Jang, Sungjin Park, Yunseok Shin, Sunghye Park
Department of Chemistry, Inha University, Korea

MAT.P-786

Burn-in loss study of ternary organic photovoltaics system with UV-crosslinkable conjugated polymers and non-fullerene acceptors, processed in a green solvent
Dasol Chung, Junwoo Lee, Sungjin Park¹, Taiho Park
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MAT.P-787

Improvement of efficiency and stability of perovskite solar cell via introducing Tungsten oxide/spiro-OMeTAD double layer for hole transporting material
Dohyun Kim, Taehyun Kim¹, Kyoungwon Choi, Taiho Park^{2,*}
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MAT.P-788

K_{0.78}Fe_{1.61}S₂ as a high-performance anion-redox cathode in potassium ion batteries
Su Cheol Han, Myoung-ho Pyo
Department of Printed Electronics Engineering, Suncheon National University, Korea

MAT.P-789

Structural Isomers of Xanthone-based Bipolar Host Molecules and their Application to Solution-processable TADF-OLEDs

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MAT.P-790

Calcium based dual graphite battery using ternary ionic liquid electrolyte
Prabakar Richard, Myoungcho Pyo
Department of Printed Electronics Engineering, Suncheon National University, Korea

MAT.P-791

Structurally Stable and Highly Enhanced Luminescent Perovskite Based on Quasi-Two-Dimensional Structures upon Addition of Guanidinium Cations
Wonhee Cha, Dongho Kim^{1,*}
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MAT.P-792

Surface-localized doping of metal cation on cesium lead halide nanocrystals for stable, near-unity photoluminescence quantum yield
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MAT.P-793

Comparison of as-synthesized P2-K_{0.70}[Cr_{0.85}Sb_{0.15}]O₂ and ion-exchanged P2-K_{0.62}Na_{0.08}[Cr_{0.85}Sb_{0.15}]O₂ as a potassium-ion battery cathode
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MAT.P-794

Self-Supported Ordered Mesoporous Molybdenum Carbides as an Efficient Electrocatalysts for Alkaline Hydrogen Evolution Reaction
Du San Baek, Sang Hoon Joo
School of Energy and Chemical Engineering and Department of Energy Engineering, Ulsan National Institute of Science and Technology, Korea

MAT.P-795

Evolution of Coordination Environment and Activity Induced by Silica Coating on Fe-N/C Electrocatalysts for Oxygen Reduction Reaction
Jinwoo Woo, Young Jin Sa¹, Sang Hoon Joo
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MAT.P-796

Surface Modified Polydioxanone Suture for Biocompatibility and Tissue-Suture Interface Improvement
Agustina Setiawati, Monica Cahyaning Ratri¹, Daeyeon Cho¹, Soo Ryeon Ryu², Kwanwoo Shin¹

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²*Institute of Biological Interfaces, Sogang University, Korea*

MAT.P-797

Study of modified polymer based electrospun titania nanofibers incorporated graphene oxide and graphene quantum dots for enhancement of visible light photocatalysis
Jishu Rawal, Soo-Jin Park^{1,*}
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MAT.P-798

[Withdrawal] Synthesis of mesoporous silica with various core materials and 3D-dendritic shell for CO₂ adsorption
Hanjun Mun, Jae Young Bae
Department of Chemistry, Keimyung University, Korea

MAT.P-799

Upconversion fluorescence and magnetical properties of Cr³⁺-doped NaLuErF₄
DaeHyun Kwon, Bui The Huy¹, Yong-Il Lee¹
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¹*Department of Chemistry, Changwon National University, Korea*

MAT.P-800

Preparation of Sr₂YF₇ doped with lanthanide ions for improving solar cell efficiency
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MAT.P-801

Chemically modified and functionalized graphene quantum dot synthesis via 1-D carbon nanomaterials and formation of stabilized GQDs-TiO₂ interfaces as a visible light photocatalysis activity promoter
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MAT.P-802

The Synthesis and Characterization of Highly Water Soluble Triphenylmethine and Phthalocyanine Acid Dyes for Digital Textile Printing
Seong Hyun Jang, Sang Yoon Lee¹, Jun Choi
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MAT.P-803

The Fabrication of Green and Red Perovskite Nanoparticles for inkjet-printed Color Conversion Layer of Blue-OLED Display
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of Industrial Technology, Korea

MAT.P-804

Structure and Composition Optimization of MOF derived Porous Carbon as Lithium-Sulfur Battery Cathodes

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MAT.P-805

Hollow janus nanoparticles of Mn-silicate@SiO₂ as nanomotors and delivery carriers

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MAT.P-806

Fabrication of YVO₄:Yb,Ho nanoparticles for NIR-screening and up-conversion films

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MAT.P-807

Energy transfer behavior from organic carboxylate sensitizers to Eu³⁺ activators in layered rare earth hydroxide matrix

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MAT.P-808

Wide Bandgap Two dimensional IV-V Semiconductor Nanosheets

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MAT.P-809

Nickel Sulfide/Silicon Nanowire Photocatalysts for Light-Driven Hydrogen Evolution Reaction

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MAT.P-810

Se rich 1T' phase MoSe₂ Nanosheets for Enhanced Catalytic Hydrogen Evolution Reaction

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MAT.P-811

Composition Control of Re_{1-x}Mo_xSe₂ Nanosheets for Enhanced Electrocatalytic Hydrogen Evolution Reaction

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MAT.P-812

Synthesis, crystal structure and color properties of the complex perovskite oxynitrides AM_{0.2}Ta_{0.8}O₃-XNX (A = Sr, Ba; M = Li, Na, Mg, Ca)

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MAT.P-813

Improved ability of Eu-doped Bi₂WO₆ for the photocatalytic degradation of 2,4,5-Trichlorophenoxyacetic acid under visible light irradiation

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Department of Chemistry, Changwon National University, Korea

MAT.P-814

Low-toxicity lead-free CsSnBr₃ perovskite Nanowires

Jong Hyun Lee, In Hye Kwak¹, Ik Seon Kwon², Doyeon Kim², Jaemin Seo³, Jeunghee Park³
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MAT.P-815

Encapsulation of ascorbic acid into layered yttrium hydroxides for improving its stability against UV, heat, and oxygen.

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MAT.P-816

Mineralization of Indigo Carmine Using ZnBi₂O₄-Bi₂S₃ Composites under Visible light

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MAT.P-817

Development of novel phospholipase-A2 responsive phosphate micelles for Selective delivery of anti-prostate cancer drug "Estramustine phosphate"

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MAT.P-818

Photocatalytic Activities of Doped WO₃ Nanocrystallites for Decomposition of Organic Dye
Young Hee Jung, Hyun-Kwan Shim, Yeong Il Kim
Department of Chemistry, Pukyong National University, Korea

MAT.P-819

Calcium intercalation mechanism and properties into NASICON-type NaV₂(PO₄)₃
Seung-Tae Hong*, Boosik Jeon¹
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MAT.P-820

Electrochromic Performance of NiO Thin Film on PET/ITO Substrate in Nonaqueous Electrolyte Solution Prepared by Nanocrystallite-Dispersed Sol
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MAT.P-821

Morphological Effect of Multiscale Porous Carbon as a Lithium Sulfur Battery Cathode
Seoyoung Yoon, Jiwon Kim
School of Integrated Technology, Yonsei University, Korea

MAT.P-822

A Colormetric Sensor for Detection of Hexavalent Chromium based on Graphene Oxide
Jinsol Han, Nguyen Ngoc Nghia, Bui The Huy, Yong-Il Lee
Department of Chemistry, Changwon National University, Korea

MAT.P-823

Improved Optical Performance of Lanthanide-Assembled All Dielectric Photonic Platform
Jae Gyeong Choi, Doo-Hyun Ko^{1,*}
Applied chemistry, Kyung Hee University, Korea
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MAT.P-824

Multicolor Ensemble of Ratiometric Upconversion Luminescence
Gyu Hee Kim, Doo-Hyun Ko^{1,*}
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MAT.P-825

Thermoelectric property of Cu-Sn-S compounds.
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MAT.P-826

Study on Thin-Film Transistors (TFTs) Based Bio-sensor Application with Electrolyte-gate structure

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MAT.P-827

Synthesis of Sub 3 nm-Sized Uniform Magnetite Nanoparticles Using Reverse Micelle Method for Biomedical Application
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MAT.P-828

Size-Dependent Electron Transfer Kinetics on Plasmonic Gold Photocatalysts
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MAT.P-829

Thio-lithium Ionic Superconductors for Li-ion Batteries
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MAT.P-830

Inducing a catalytic activity of quantum dot light absorbers via ligand chemistry
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MAT.P-831

Photocatalytic Intramolecular C-H Bond Amination Using Plasmonic Au and Au@Pd Core-Shell Nanoparticles
Hyeonji Kim, Youngsoo Kim
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MAT.P-832

Facet-Dependent Reaction Kinetics on Anisotropic Plasmonic Gold Nanomaterials
Jeonggi Lee, Youngsoo Kim
Department of Chemistry, Yeungnam University, Korea

MAT.P-833

Photocatalytic Degradation of N-doped Mesoporous TiO₂ Nanomaterials Under Visible Light Irradiation
Suguan Jang, Jae Young Bae
Department of Chemistry, Keimyung University, Korea

MAT.P-834

Manipulation of fluid on open paper-based DMF chip
Nayoon Pyun, Kwanwoo Shin
Department of Chemistry, Sogang University, Korea

MAT.P-835

Synthesis of Mesoporous Hollow Silica without Thermal Processes
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MAT.P-836

Synthesis of PS/SiO₂ Double-shell Hollow

Nanosphere with Enhanced Thermal Insulation Properties

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MAT.P-837

Comparison of Photocatalytic Activities Between Plasmonic Au Nanoparticles and Au Nanoclusters

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MAT.P-838

Polymerization of Poly(acrylic acid) on Gold Nanoparticles by Plasmon-Induced Heating

Jeonghyeon Lee, Hyeonji Kim, Youngsoo Kim

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MAT.P-839

Visible Light-Induced Intermolecular C-C Bond Formation Using Plasmonic Au Nanoparticles

Juhee Ha, Youngsoo Kim

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MAT.P-840

Microwave-Assisted Synthesis of [M₂(DOBDCEG)₂] (M = Mg, Co, Ni, Cu, Mn, Zn) Nanocrystals and Their CO₂/N₂ Separation

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MAT.P-841

Extra Surface Passivation of PbS Colloidal Quantum Dot by Thiocyanate Toward High-Performance Infrared-Active Photovoltaics

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MAT.P-842

Synthesis and Optical/Electrical Properties of Ga₂S₃-Ga₂Se₃

Jaemin Seo, Jeunghee Park, Ik Seon Kwon¹, In Hye Kwak², Doyeon Kim¹, Jisun Yoo¹, Jong Hyun Lee¹

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MAT.P-843

Strong Interfacial Interaction and Efficient Electrode Functionality of Prussian Blue-Monolayered Metal Oxide Nanocomposites

Xiaoyan Jin, Seong-Ju Hwang

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MAT.P-844

Fine-Control of the Defect and Stacking Structure of Inorganic Nanosheets for Optimizing Their Electrode and Electrocatalyst Performances

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MAT.P-845

Nanocavities Assisted Blue TiO₂ Nanorods Integrated on Exfoliated Porous g-C₃N₄ Nanosheets for Enhanced Photocatalytic CO₂ Conversion into Solar Fuels

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MAT.P-846

Evaluation of natural and calcined eggshell as adsorbent for phosphorous removal from water

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MAT.P-847

Fine Tuning of Metal-CNT Composites to Achieve High-Efficiency Oxygen Evolution Reaction Electrocatalysts

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MAT.P-848

Effective Removal of Pollutant Using Photocatalysis Properties of TiO₂ and Covalent Organic Nanosheets(CON)10 complex

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MAT.P-849

XPS analysis and main electrical charge carrier in oxygen and homovalent ion doped CuAlO₂

Seong Cheol Hong, Myeongsoon Lee, Don Kim

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MAT.P-850

Carbon nanotubes attached with gold particles prepared by a conversion of carbon precursor using AAO template with a diameter over than 200 nm

Myeongsoon Lee, Don Kim

Department of Chemistry, Pukyong National University, Korea

MAT.P-851

Microcystins-LR detection by synthetic DNA modified CNT based paper sensor

Yebin Kang, Myeongsoon Lee, Don Kim

Department of Chemistry, Pukyong National University, Korea

MAT.P-852

Polyacrylonitrile-Layered Double Hydroxide Composite Nanofiber for Lithium Recovery

Yongju Lee, Duk-Young Jung

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MAT.P-853

Metal Ions Removal from Aqueous Solution by Polymer Nanoparticles

Jihyun Lee, Byeong-Kwan An
Department of Chemistry, The Catholic University of Korea, Korea

MAT.P-854 Indoloinole-Based π -Conjugated Molecules with Different Side Groups: Synthesis, Characterization and Structural Effects
Jihyeon Yun, Soo young Park^{1,*}, Byeong-Kwan An
Department of Chemistry, The Catholic University of Korea, Korea
¹*Division of Material Engineering, Seoul National University, Korea*

MAT.P-855 Mid-Infrared Study in Metal Chalcogenide and Chalcogenide Nanocrystals
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MAT.P-856 Mechanism-Based Design of Fluoride-Responsive Metallogels: Chemically-Triggered Phase Change as Signal Amplification
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MAT.P-857 Development of Fe Ion Exchanged Ni₂P₂O₇ Electrocatalyst For Oxygen Evolution Reaction
Jinju Kim, Min Hyung Lee
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MAT.P-858 Variation of Catalytic Performance Depending on Structure of Dopamine-Assisted Cu Nanoparticles
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MAT.P-859 Modified- mesoporous graphene electrode for independent and selective detection of dopamine in presence of a high concentration of ascorbic acid
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MAT.P-860 Study on nitrogen-doped mesoporous graphene for the removal of volatile organic compounds
JeongWon Park, Hyun Jung
Department of Chemistry, Dongguk University, Korea

MAT.P-861 Highly stable and efficient three-dimensional boron-doped mesoporous graphene electrocatalyst as a high-performance electrode material for all-vanadium redox flow batteries
David Odhiambo Opar, Rosalynn Nankya¹, JeongWon Park¹, Hyun Jung¹
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MAT.P-862 Carborane Based Hole Transporting Material for Perovskite Optoelectronic Devices
Won-Sik Han^{*}, Sunhee Lee
Department of Chemistry, Seoul Women's University, Korea

MAT.P-863 Influence of Bulky Substituent on Photophysical- and Electrochemical Properties in Carbazole-Benzophenone Dyad System
SoHee Lee, Sooyeon Kim¹, Taebin Cha¹, Won-Sik Han
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MAT.P-864 New Type of Reversible Bond between 1,3-Dicarbonyl Group and Boronic Acid for Drug Delivery as A Self-Assembled Core-Shell Nano-Construct
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MAT.P-865 Ultrasound-Responsive Smart Nanogenerator for Deep Brain Stimulation via Nitric Oxide-Mediated Temporal Disruption of Blood-Brain Barrier, and Piezoelectric Neural Stimulation
Taejeong Kim, Won jong Kim
Department of Chemistry, Pohang University of Science and Technology, Korea

MAT.P-866 Mechanochromic Sensors from Dielectric Gratings on Silver
Hyesu Chae, Jerome Hyun
Chemistry Department of Nano-Science, Ewha Womans University, Korea

MAT.P-867 Semi-transparent Blue, Green and Red Self-assembled Diffractive Color Filters in Organic Solar Cells
Minji Kim, Jerome Hyun
Chemistry Department of Nano-Science, Ewha Womans University, Korea

MAT.P-868 Pressure-Dependent Dual Growth Modes in MoS₂ Thin Film Growth with Penta-Coordinated Inorganic Vapor Precursor, MoOCl₄
Chaehyeon Ahn, Hyunseob Lim
Department of Chemistry, Gwangju Institute of Science and Technology, Korea

MAT.P-869 Facile Conversion of Carbon Dioxide into Cyclic Carbonate Using Abundant Iron-Based Catalysts
Hee Jung Yang, Hee Sun Park, Si Eun Jang, Sunjoo Kim, Nam hwi Hur
Department of Chemistry, Sogang University, Korea

MAT.P-870

Enhanced Photocatalytic Activity of noble metal coated Fe₃O₄@ZnO Nanomaterials
Jin-Seung Jung
Department of Chemistry, Gangneung-Wonju National University, Korea

MAT.P-871

Evaluation of raw and calcined eggshell for removal of Cd²⁺ from aqueous solution
Keon Sang Ryoo
Department of Applied Chemistry, Andong National University, Korea

MAT.P-872

Graphene-Masked Selective Sulfurization of Mo Thin Films for High Performance Field-Effect Transistors
Jong-Hwan Lee, Byung Hee Hong^{1,*}
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MAT.P-873

Single Molecule Study for Understanding Effect of Thiophene Bridging Group in Organic Polymer Semiconductors
Hyunju Lee, Hun Gu Kang¹, Hyo Jae Yoon¹
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MAT.P-874

Polyamide 6-based Nanocomposite by Cross-stacked Multi-walled Carbon Nanotube Structure and its High Electrical Conductivity via Flavin Coating
Minsuk Park, Sang-Yong Ju
Department of Chemistry, Yonsei University, Korea

MAT.P-875

Zirconium metal-organic framework (MOF) UiO-66-NH₂ for the decomposition of nerve agents in solid-state conditions
Hyunsook Jung
CBR Division, Agency for Defense Development, Korea

MAT.P-876

Simulation-guided discovery and experimental validation of nanoporous materials for high-pressure adsorptive separation of SF₆/N₂
Jaehoon Cha, Yongchul Chung
Division of Chemical and Biomolecular Engineering, Pusan National University, Korea

MAT.P-877

Understanding ethane/ethylene separation in a DABCO pillar-layered metal-organic frameworks with a high capacity: molecular simulation and experimental validation
SungHyun Yun, Jaehoon Cha, Yongchul Chung
Division of Chemical and Biomolecular Engineering, Pusan National University, Korea

MAT.P-878

NIR dye-loaded mesoporous silica nanoparticles for a multifunctional theranostic platform: Visualization of tumor and ischemic lesions, and performance of photothermal therapy
Sangbong Lee
Nano-Bio materials lab, Korea Institute of Medical

Microrobotics (KIMIRo), Korea

MAT.P-879

Construction of BP-4/LGdH hybrid structure to block the entire range of UV
Juyeong Choi, Song-ho Byeon
Department of Applied Chemistry, Kyung Hee University, Korea

MAT.P-880

Simple route for the synthesis of cerium oxide nanoparticles, cerium oxide/polymer composite films, and cerium oxide@silica particles
WooJu Jeon, Song-ho Byeon
Department of Applied Chemistry, Kyung Hee University, Korea

MAT.P-881

Immobilization of YVO₄:Eu nanophosphors on vertically oriented layered yttrium hydroxide film for detection and removal of Cu²⁺
Bora Kang, Song-ho Byeon
Department of Applied Chemistry, Kyung Hee University, Korea

MAT.P-882

Flexible white-light converting composite films based on single sensitizer/LRH:RE hybrid nanosheets
Hong-Gu Jeon, Song-ho Byeon
Department of Applied Chemistry, Kyung Hee University, Korea

MAT.P-883

Metal-Mediated Self-Assembly of Chelating Double-Hydrophilic Block-Copolymers for Morphology Regulation and Enhanced Functionality
Sang-Min Lee
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MAT.P-884

Selection of stabilizers for synthesis of nanocrystal
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MAT.P-885

Development of Temperature Sensitive Discoloration Smart indicator for Optimal Ingestion Display
June Hyuck Park, Yong-Hoon Kim
National Institute of Agricultural Sciences, Korea

MAT.P-886

Microstructural, mechanical and thermal properties of microwave sintered lunar regolith simulant
Young-jae Kim
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MAT.P-887

Inorganic-Organic Cluster Hybrid Coupled with Core/Shell Quantum Dots for Zero-Reabsorption and Durable Luminescent Solar Concentrator
Jun Choi, Sung-Jin Kim^{1,*}
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¹Department of Chemistry, Ewha Womans University, Korea

MAT.P-888

Large-sized graphene synthesis and transfer on fabrics for chemical protection and e-textile
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CBR Division, Agency for Defense Development, Korea

MAT.P-889

Removal of Anionoc Dyes or Heavy Metal Ions Using Silica Nanospheres or Macroporous Silica Microparticles Modified Using (2-aminopropyl)triethoxysilane
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MAT.P-890

Impact property improvement of epoxy-based structural adhesives by thermoplastic additives
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¹Korea Institute of Industrial Technology, Korea

MAT.P-891

Adhesion properties modification of acrylic pressure sensitive adhesive on low surface energy substrates with Silicone urethane methacrylate
Hee-woong Park, Seunghan Shin
Korea Institute of Industrial Technology, Korea

MAT.P-892

Seasonal variation of chemical composition and anti-oxidant activity of essential oil in *C. natsudaoides* peel
Jiyeon Yang, Mi-jin Park, Youngseok Ham, Hyunsu Lee
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MAT.P-893

Self-Aligned and Conductive Patterns for Stretchable and Skin-Conformal Sensors
Sungwon Hwang
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ELEC.P-894

Computational Understanding of Electrocatalytic Selective CO₂ Conversion to Formic acid with Amine-tethered Manganese Bipyridine Catalyst
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ELEC.P-895

The Analysis of Serotonin Level in a Single Platelet using Single-entity Electrochemistry
Jungeun Lee, Byung-Kwon Kim
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ELEC.P-896

Polymer Molecular Weight Measurement by Estimating the Degree of Steady-state Current Reduction
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ELEC.P-897

Aqueous emulsion droplet-mediated electrodeposition of palladium nanoparticles
Byung-Kwon Kim*, Nguyen Thi Thu Ha
Department of Chemistry, Sookmyung Women's University, Korea

ELEC.P-898

Iron oxide nanoparticle/carbon nanotube nanocomposite as sulfur host for high-performance Li-S battery cathode
Youngmoo Jeon, Yuanzhe Piao
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ELEC.P-899

Enhance Cycling Performance of FeF₂ Nanoparticles@N-Doped Graphitic Carbon as a Sodium-Ion Cathode Material
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ELEC.P-900

Fe₂O₃/N-doped Graphitic Carbon Nanoparticles Using Dopamine with Enhanced Electrochemical Performance as an Anode Material for Sodium-Ion Batteries
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¹*Chemistry, Dong-A University, Korea*

ELEC.P-901

Understanding electrochemical reduction of

tetrabutylammonium tribromide ionic liquid and solid

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¹*Department of Chemistry, Hanyang University, Korea*

ELEC.P-902

Self-templating route for the synthesis of Pd-Pt-Ag ternary hollow nanostructures with acute size control

Yonghyeon Kim, Sang Woo Han
Department of Chemistry, Korea Advanced Institute of Science and Technology, Korea

ELEC.P-903

Real-Time Electrochemical Measurements of Reactive Oxygen and Nitrogen in Single Adipose-Derived Stem cell

Hyun Seo Ahn*, Dong Hoon Im
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ELEC.P-904

Stoichiometric and electrocatalytic production of hydrogen peroxide driven by a water-soluble copper(ii) complex

Suhyuk Choi, Hyun Seo Ahn
Department of Chemistry, Yonsei University, Korea

ELEC.P-905

Electrochemical Synthesis of PEDOT:PF6 Nanoparticles in Organic Droplets
Hyun Seo Ahn*, Myoung Won
Department of Chemistry, Yonsei University, Korea

ELEC.P-906

Photoelectron extraction via inserted carbon nanotube in photosynthetic cells and Analysis by scanning electrochemical microscopy (SECM)
Hyojin Gwon, Hyun Seo Ahn^{1,*}
chemistry, Yonsei University, Korea
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ELEC.P-907

Facile hydrothermal synthesis of NiCo₂O₄-decorated filter carbon as electrodes for high performance asymmetric supercapacitors
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Department of Chemistry, Inha University, China
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ELEC.P-908

Electrodeposited Cu-Ag-Hg Multimetallic Thin Films for Improved CO₂ Conversion: Dramatic Impact of Hg Incorporation on Product Selectivity
Jooyeon Kim, Hyun Seo Ahn
Department of Chemistry, Yonsei University, Korea

ELEC.P-909

The formation mechanism of Li₄Ti₅O₁₂-y solid solutions prepared by carbonthermal reduction and the effect of Ti³⁺ on electrochemical performance

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ELEC.P-910 MnO₂ and biomass-derived 3D porous carbon composites electrodes for high performance supercapacitor applications

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ELEC.P-911 Electrochemical monitoring formation of iodine film during electro-oxidation of I⁻ in aqueous solution through rotating ring disk electrode

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ELEC.P-912 Electrochemical Synthesis of Multimetallic Nanoparticles and Their Applications in Alkaline Oxygen Reduction Catalysis

Joon Ho Park, Hyun Seo Ahn
Department of Chemistry, Yonsei University, Korea

ELEC.P-913 Development of glucose dehydrogenase(GDH)-glucose sensor using [Ru(1,10-phenanthroline)₂Cl₂] complex

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ELEC.P-914 Room-temperature prepared iron-doped nickel pyrophosphate with high chemical stability for improved oxygen evolution reaction catalyst and high-performance supercapacitor

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ELEC.P-915 Covalent Functionalization of Graphene on Cu (111) Substrate by an Electrochemical Method.

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ELEC.P-916 Enhancing activity and stability of cobalt oxide electrocatalysts for the oxygen evolution reaction

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ELEC.P-917 Exfoliation of cobalt hydroxide and its application to electrochemical water splitting

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ELEC.P-918 ELECTROCHEMICAL PERFORMANCE OF RICE HUSK-DERIVED ACTIVATED CARBON AS ANODE MATERIAL FOR LITHIUM ION BATTERIES

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ELEC.P-919 Synthesis of Porous TaN by Electrochemical Anodization for Photoelectrochemical Water Splitting

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ELEC.P-920 Li-O₂ battery based on Au nanosheets covered carbon cathode through hydro dipping process

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ELEC.P-921 Electropolymerization of PEDOT/Carbon-dots Composites for Supercapacitor Application

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ELEC.P-922 Electrochemical sensor for the detection of glucose on the Screen-printed Carbon Electrodes modified PEGDGE core-shelled MWCNT

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ELEC.P-923 Efficient Photoelectrochemical characterization of nanostructured ABO₃ (A, B=Transition Metal) Type Photoelectrode for Solar Water Splitting

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- ELEC.P-924** Fabrication of an Amperometric/Potentiometric Dual Microsensor for Direct Detection of Hydrogen Sulfide and Calcium Ion
Jaeyoung Lee, Youngmi Lee^{1,*}
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¹*Department of Chemistry and Nano Science, Ewha Womans University, Korea*
- ELEC.P-925** Electrospun Gold-Ruthenium Alloy Nanofibers as a Bifunctional Electrocatalyst in Acidic Environments: Overall Water Splitting
Taehui Kwon, Areum Yu, Chongmok Lee, Youngmi Lee
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ELEC.P-926** Electrochemical Microsensor for Concurrent Detection of Gasotransmitters – Nitric Oxide, Carbon Monoxide and Hydrogen Sulfide
Sunghwa Seo, Youngmi Lee
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ELEC.P-927** Fabrication of Oxygen Reduction Electrode with Au₂₅ Nanocluster
Hanseok Yi, Dongil Lee
Department of Chemistry, Yonsei University, Korea
- ELEC.P-928** Single Phase NiRh₂S₄ Nanofibers for Electrocatalyst: Sulfidation of NiRh₂O₄ without H₂S(g) Flow.
Dasol Jin, Youngmi Lee, Myung Hwa Kim, Chongmok Lee
Department of Chemistry and Nano Science, Ewha Womans University, Korea
- ELEC.P-929** Design and synthesis of new electron-transfer mediators for continuous glucose monitoring system (CGMS) based on osmium complex with carbon-nitrogen ligands
GwangJin Kim, Bongjin Moon
Department of Chemistry, Sogang University, Korea
- ELEC.P-930** Nanoscale CoFe/N-doped carbon nanoparticles for enhanced electrocatalytic oxygen evolution reaction
Sujin Jo, Sunguk Noh, Jun Ho Shim
Department of Chemistry, Daegu University, Korea
- ELEC.P-931** Synthesis and characterization of cobalt-based hollow/porous nanostructures for oxygen-involving reactions
Sunguk Noh, Jihyun Kim, Jun Ho Shim
Department of Chemistry, Daegu University, Korea
- ELEC.P-932** Fabrication of high mass loading MnO₂ based electrodes for asymmetric supercapacitors
Yuanzhe Piao*, Lulu Lyu¹
Graduate School of Convergence Science and Technol, Seoul National University, Korea
- ELEC.P-933** Heteroatom-doped carbon-supported iron oxide nanostructures as efficient catalysts for oxygen electrocatalysis
Yongdeog Kweon, Sunguk Noh, Jun Ho Shim
Department of Chemistry, Daegu University, Korea
- ELEC.P-934** Synthesis, characterization, and applications of carbon nanotube decorated with carbon nanoparticles
Anh.T.N Nguyen, Jun Ho Shim
Department of Chemistry, Daegu University, Korea
- ELEC.P-935** Highly Active and Stable Electrocatalysts for the Oxygen Evolution Reaction
Hyeyoung Shin
Graduate School of energy science and technology, Chungnam National University, Korea
- ELEC.P-936** Germinating Porous Graphitized Carbon Nanonets on Silicon Microparticles for Stress-Relievable and High Energy Density Anodes
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-937** Investigation on the critical role of dopants in hematite nanostructure for unique structural and electrochemical evolution.
Ji-Hyun Jang*, Ki-Yong Yoon¹
Eco-Friendly Energy Engineering, Ulsan National Institute of Science and Technology, Korea
¹*Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Korea*
- ELEC.P-938** A highly transparent thin film hematite with controlled dopability for an efficient unassisted water splitting system
JuHyung Park, Ji-Hyun Jang^{1,*}
Energy Engineering, Ulsan National Institute of Science and Technology, Korea
¹*Eco-Friendly Energy Engineering, Ulsan National Institute of Science and Technology, Korea*
- ELEC.P-939** Photoluminescence and Electrochemiluminescence of Glutathione-stabilized Au Nanoclusters Conjugated with Pyrene, Dopamine, and L-Dopa
Jaehyun Kim, Joohoon Kim
Department of Chemistry, Kyung Hee University, Korea
- ELEC.P-940** Synthesis, Separation, and Electrochemiluminescence Properties of Glutathione-Stabilized Au Nanoclusters in Water
Yunjeong Kang, Joohoon Kim
Department of Chemistry, Kyung Hee University, Korea

ELEC.P-941

Ion complexes based on carbon-dots as a supporting electrolyte

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ELEC.P-942

Wireless and efficient photoelectrochemical water splitting using triple-junction solar cell

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ELEC.P-943

New durable PtMg binary electrocatalyst for oxygen reduction reaction

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ELEC.P-944

Insight into the Boosted Electrocatalytic Oxygen Evolution Performance of Highly Hydrophilic Nickel-Iron Hydroxide

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ELEC.P-945

Light-Controlled Nanoparticle Collision Experiments

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ELEC.P-946

N-doped Donut-Shaped Carbon from ZIF-8/PDA as

an Anode Material for Lithium-Ion Batteries with Enhanced Electrochemical Performances

Da Won Lee, Jongsik Kim

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ELEC.P-947

Cobalt Oxide/C Prepared with Abietic Acid as an Anode Material for Li-Ion Batteries

Chaeun Lee, Jongsik Kim

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ELEC.P-948

Effects of structure on the electrochemical chlorine evolution reaction using Ru-electrodeposited Pt electrode

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ELEC.P-949

NiCo₂Se₄ supported on sulfur-doped graphene oxide nanostructure towards HER/OER applications

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ELEC.P-950

Topnotch Pt-Ru nano particles developed on Manganese oxide as an efficient electrocatalyst for hydrogen evolution reaction

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ELEC.P-951

Carbon fiber brush anodes for increased power production in stacked microbial fuel cells

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ELEC.P-952

Photo-assisted microbial fuel cells (PAMFCs) using photoanode to improve performance

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EDU.P-953

The Effects of Science Classes Emphasizing Digital Literacy on Science Attitudes and Core Competencies

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EDU.P-954

Effects of Smart-Device-Using Science Learning in Free Semester System on Academic Achievement and Scientific Attitude for Middle School Students

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EDU.P-955

The Influences of Integrated Science and Science Inquiry Experiment Developed Under the 2015 Revised National Curriculum on Students' Interest in Science, Scientific Attitude, Views on STS Relationship, and Views on NOS

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EDU.P-956

An Analysis for Gender-Role Stereotyping of Illustrations in Elementary Science Paper Textbooks and Digital Textbooks Developed Under 2015 Revised National Curriculum

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EDU.P-957

The Characteristics of Lessons Using Student-centered Analogies by Pre-service Science Teachers

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EDU.P-958

Analysis of Teachers' and Students' Perception and Difficulties of Science Class applying the Collaborative Problem Solving for Character Competency Instruction model(CoProC)

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EDU.P-959

The Change in Character Competence of High School Students in the Argumentation Process

During the Collaborative Problem Solving for Competency(CoProC) Instruction Model class

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EDU.P-960

Study on teachers conducting the CoProC(Collaborative Problem-Solving for Character Competence) program

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EDU.P-961

An Investigation of Verbal and Physical Interactions among Students in Small Group Science Learning Using Augmented Reality

Haerheon Kim, Jaewon Lee, Taehee Noh

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EDU.P-962

Development of chromatography experiment kit using smartphone for high school students

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EDU.P-963

Analysis of Secondary Science teachers' change of perceptions in character education and practice through the Collaborative Problem-Solving Instruction Model(CoProC)

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EDU.P-964

Analysis of thinking patterns of 10th grade students for the classification of three states of matter

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EDU.P-965

Study of Chemistry Teacher's Certification Programs in US and Korea

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EDU.P-966

The Effect of STEAM Camp Program for the Gifted High School Students on Their Creative Leader Competency and STEAM Literacy
Hak Bum Kim
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EDU.P-967

The concept of hydrogen ion concentration based on the difference between the calculated and measured values
Wonhyeong Jang, Hun-gi Hong
Department of Chemistry Education, Seoul National

University, Korea

EDU.P-968

Analysis of Elements' Emergence Frequency in High School Chemistry Textbooks using Periodic Table Cartogram
Jaehyeok Lee, Seounghey Paik
Chemistry Education, Korea National University of Education, Korea

ENVR.P-969

Toluene side chain alkylation with methanol by CO₂ over Cs-X catalyst

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ENVR.P-970

Highly stable planar perovskite solar cells at 85 °C/85% relative humidity without encapsulation

[Kyoungwon Choi](#), Dohyun Kim, Hae Un Kim, Junwoo Lee, Taiho Park
Department of Chemical Engineering, Pohang University of Science and Technology, Korea

ENVR.P-971

Bimetallic Fe,Cu-Blue TiO₂/WO₃ Nanocomposite for Visible light driven Toluene Decomposition

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ENVR.P-972

[Withdrawal] Photocatalytic Conversion of CO₂ to Hydrocarbon Fuel using Carbon and Nitrogen co-doped Sodium Titanate Nanotubes

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ENVR.P-973

[Withdrawal] Sustained, Photocatalytic CO₂ Reduction to CH₄ by Earth-Abundant Materials: Reduced Titania-Cu₂O Z-Scheme heterostructures

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ENVR.P-974

[Withdrawal] Photo-coupled Bio-anode: A New Approach for Improved Microbial Fuel Cell Performance

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ENVR.P-975

Hierarchical Micro/Nano Porous Acupuncture Needles Offering Enhanced Therapeutic Properties

[Monica Claire Flores](#), Su Il In
Energy Science & Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea

ENVR.P-976

[Withdrawal] Enhanced therapeutic treatment of colorectal cancer using surface-modified

nanoporous acupuncture needles

[Hong Soo Kim](#), Su Il In
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ENVR.P-977

Enhancement of photoelectrochemical property with Fe₂O₃ electrodeposition on electrochemical modified FTO

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ENVR.P-978

Detection of Explosive Contaminant Using Titanium Oxide Nanostructure Electrode

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ENVR.P-979

[Withdrawal] Solar spectrum photocatalytic conversion of CO₂ to CH₄ utilizing TiO₂ NT arrays embedded with graphene QDs

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ENVR.P-980

Electrochromic properties of digitally patterned TiO₂ nanotubes

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ENVR.P-981

The Role of TiO₂ Crystal Phases (Anatase/Rutile) for Surface Fluorination on TiO₂ photocatalysis

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ENVR.P-982

[Withdrawal] Hybrid mesoporous CuZnSnS₄(CZTS)-TiO₂ photocatalyst for efficient photocatalytic conversion of carbon dioxide into methane under solar irradiation

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- ENVR.P-983 Anatase-rutile synergistic effect in TiO₂ photocatalysis: Charge separation yield and recombination kinetics
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Department of Chemical and Biological Engineering, Sookmyung Women's University, Korea
¹*Department of Chemical and Biological Engineering, Sookmyung Women's University, Korea*
- ENVR.P-984 **[Withdrawal]** Improved Microbial Electrolysis Cell Hydrogen Production by Hybridization with a TiO₂ Nanotube Array Photoanode
Junho Lee, Su Il In^{1,*}
Daegu Gyeongbuk Institute of Science & Technology, Korea
¹*Department of Energy Systems Engineering, Daegu Gyeongbuk Institute of Science & Technology, Korea*
- ENVR.P-985 Degradation of Oxygen Evolution Reaction Performances Due to the Interfacial Changes of Carbon and Titanium Based Materials
Hansaem Jang, Jaeyoung Lee
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea
- ENVR.P-986 Key factors of morphological transitions of Ni/C catalyst for hydrazine oxidation
Jihyeon Park, Jaeyoung Lee^{1,*}
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¹*School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea*
- ENVR.P-987 Investigation on Methanol Tolerance of Pt Catalyst with Heteroatom-doped Carbon Layer for DMFC
Jung-goo Choi, Kahyun Ham, Jaeyoung Lee
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Korea
- ENVR.P-988 The effect of the boron incorporated palladium catalyst for HCOO⁻ oxidation in direct alkaline formate fuel cell
Sujik Hong, Jaeyoung Lee^{1,*}
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- ENVR.P-989 The electrode optimization for performance and mechanical stability in a direct formate fuel cell using cation ionomer
Sujik Hong, Jaeyoung Lee^{1,*}
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- ENVR.P-990 Thermodynamic investigation on the aggregation of nanoplastics in aquatic environment: Effect of water chemistry
Yuliia Herchenova, EunJu Kim^{1,*}, SangHeon Na
Center for Water Resource Cycle Research, Korea Institute of Science and Technology, Korea
- ENVR.P-991 Assessment of microplastic removal in drinking water treatment process
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- ENVR.P-992 Improvement photo-induced electrochemical water splitting performance through heterojunction formation of WO₃/BiVO₄/TiO₂
Eunoak Park, Jiyoung Kim, Kiyoun Lee
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- ENVR.P-993 Evaluation of perfluorinated compounds analysis cross verification accuracy using LC-MS/MS
Eunhye Choi, Min Jung Jeon¹, Seon-ha Chae
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- ENVR.P-994 A Study on the Characteristics of Microbial Fuel Cells under Operating Conditions Using Waste Water
Sang Gyu Kim, Dong Jin Yoo^{1,*}
Energy Storage/Conversion Engineering, Jeonbuk National University, Korea
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- ENVR.P-995 HyperBranched Anion Exchange Membranes with Improved Mechanical Properties for Fuel Cells
Sang Hee Kim, Dong Jin Yoo^{1,*}
Energy Storage/Conversion Engineering, Jeonbuk National University, Korea
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- ENVR.P-996 Improvement of thermal mechanical properties of SPEEK / SO₃H-UGNF for proton electrolyte fuel cell membrane
Ae Rhan Kim, Hyunjin Kim¹, Dong Jin Yoo
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¹*Energy Storage /Conversion Engineering, Jeonbuk National University, Korea*
- ENVR.P-997 Superb electrochemical properties of aliphatic/aromatic block copolymer containing cardo group for PEMFC application
Dong Jin Yoo
Life Science, Jeonbuk National University, Korea
- ENVR.P-998 Extended ion conducting site of composite membrane via incorporating functionalized TiO₂ for anion exchange membrane fuel cell
Dong Jin Yoo
Life Science, Jeonbuk National University, Korea
- ENVR.P-999 A literature study on the unit operations in advanced water treatment affected by chemical and physical properties of emerging micropollutants.
Min Jung Jeon, Eunhye Choi, Seon-ha Chae

