

ICMMA 2021



The International Conference on 15th Multi-functional Materials and Applications

November 25-26, 2021

Nakhon Si Thammarat Rajabhat University, Thailand



Organized by

Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, Thailand
Anhui International Joint Research Center for Nano Carbo Based Materials and
Environmental Health, Anhui University of Science and Technology, Anhui, China

Supported by

Nanomaterials Chemistry Research Unit, Department of Chemistry, Nakhon Si Thammarat
Rajabhat University, Thailand
Department of Display and Semiconductor Engineering, Center for Next-Generation Display
Evaluation

Co-organizers



Hanseu Univ.



Bengbu Univ.



Anhui Univ.
Sci. Technol.



Journal of
Multifunctional Materials
& Photoscience



Anhui Univ.



Yancheng
Institute.
Technol.



Anhui Jianzhu
Univ.



Suzhou Univ. Sci.
Technol.



KhonKean Univ.



Sun Moon Univ.



仁荷大學校

KIET 한국세라믹기술원
KOREA INSTITUTE OF CERAMIC ENGINEERING & TECHNOLOGY

**The 15th International Conference on Multi-functional Materials and
Applications (ICMMA 2021)
November 25-26, 2021
Nakhon Si Thammarat Rajabhat University, Thailand**

[Conference Chairman]

President, Prof. Surasak Kaew-On (Nakhon Si Thammarat Rajabhat University, Thailand)

[Conference Vice Chairman]

Prof. Saksit Chanthai (Khon Kaen University, Thailand)

Prof. Jin Liu (Anhui Jianzhu University, China)

Prof. Won-Chun Oh (Hanseong University, Korea)

Prof. Prawit Nuengmatcha (Nakhon Si Thammarat Rajabhat University, Thailand)

[Advisory Chairman]

Prof. Mingxu Zhang (Anhui University of Science & Technology, China)

Prof. Zhigang Chen (Suzhou University of Science and Technology, China)

Prof. Saksit Chanthai (Khon Kaen University, Thailand)

Prof. Chuyang Xu (Anhui University of Science & Technology, China)

Prof. Won-Chun Oh (Hanseong University, Korea)

Prof. Jin Liu (Anhui Jianzhu University, China)

Prof. Ding Ming (Bengbu University, China)

Prof. Shin Mukai (Hokkaido University, Japan)

Dr. Chong-Hun Jung (Korea Atomic Energy Research Institute, Korea)

Prof. Cheol Gyu Kim (Hanbat National University, Korea)

Prof. Heon-Chang Kim (Hoseo University, Korea)

Prof. Masahiro Toyoda (Oita University, Japan)

Prof. Chan-Kyung Kim, (Inha University, Korea)

Prof. Daosung Sun (Anhui Jianzhu University, China)

Prof. Ho-Seob Kim (Professor, Sunmoon University, Korea)

Dr. Kwang Yeon Cho, (Korea institute of Ceramic Eng. and Tech., Korea)

Prof. Zhaoqi Sun (Anhui University, China)

Prof. Chen-Hao Wang (National Taiwan University of Science and Technology, Taiwan)

[Conference Local Chairman]

Dr. Hui-Jun Won (Korea Atomic Energy Research Institute, Korea)

Prof. Won-Kweon Jang (Hanseong University, Korea)

Prof. Hak-Soo Kim (Sun Moon University, Korea)

Prof. Estelle Léonard (ESCOM/UTC, France)

Dr. Suresh Sagadervan (Malaya University, Malaysia)

Prof. Feng-Jun Zhang (Anhui Jianzhu University, China)

Prof. Prawit Nuengmatcha (Nakhon Si Thammarat Rajabhat University, Thailand)
Prof. Chew Tin Lee (Universiti Teknologi Malaysia, Malaysia)
Prof. Yin Liu, (Anhui University of Science and Technology, China)
Prof. Cheol-Kyu Jun, (Hoseo University, Korea)
Prof. Minh-Vien Le (Ho Chi Minh City University of Technology , Vietnam)
Prof. Dr. Is Fatimah (Universitas Islam Indonesia, Indonesia)
Prof. Chang-Sung Lim (Hanseu University, Korea)
Prof. Qinfang Zhang (Yancheng Institute of Technology, China)
Prof. Seung-Kyu Park (Hoseo University, Korea)
Prof. Ram Agarwal (AJC Editor Chief, India)
Prof. Shao-Jie Feng (Anhui Jianzhu University, China)
Prof. Dongtian Wang (Suzhou University of Science and Technology, China)
Prof. Yanmao Dong (Suzhou University of Science and Technology, China)
Dr. Hangkyo Jin (Korea Research Institute of Chemical Technology, Korea)
Prof. Rachadaporn Benchawattananon (Khon Kaen University, Thailand)

[Committee Board Members]

Dr. Jyothi Rajesh Kumar (Korea Institute of Geoscience and Mineral Resources, Korea)
Prof. Hongzhi Liu (Shandong University, China)
Prof. Jing Wang (Anhui University of Science and Technology, China)
Prof. Vivek Polshittewar (Tata Institute of Fundamental Research, India)
Prof. K. L. Ameta (Mody University of Science and Technology, India)
Prof. Lei Zhu (Yancheng Institute of Technology, China)
Prof. Goutam Mukhopadhyay (B.C.D.A College of Pharmacy & Technology, India)
Prof. Zainal Arifin Ahmad (University Sains, Malaysia)
Prof. Chengbao Liu (Suzhou University of Science and Technology, China)
Prof. Ze-Da Meng, (Suzhou University of Science and Technology, China)
Prof. Sirinuch Loita (Khon Kaen University, Thailand)
Prof. Gaofeng Wang (Inner Mongolia University of Science and Technology, China)
Prof. Feng Liu (Nanchang University, China)
Prof. Cai Molang (North China Electric Power University, China)
Prof. Jiahong Fan (Beijing Huabei Dianli University, China)
Prof. Tae-Ho Kim (Sun Moon University, Korea)
Prof. Yong Wook Park (Sun Moon University, Korea)
Prof. Seo hyung Cho (Sun Moon University, Korea)
Prof. Youn Soo Shim (Sun Moon University, Korea)
Prof. Jin Woo Kim (Sun Moon University, Korea)
Prof. Jong-Sung Yu, (Daegu Gyeungbuk Institute of Science & Technology, Korea)
Prof. Jae-Won Lee (Dankook University, Korea)
Prof. Suriati Paiman (Universiti Putra Malaysia, Malaysia)
Prof. Solhe F. Alshahateet (Mutah University, Jordan)
Prof. SOGA Tetsuo (Nagoya Institute of Technology, Japan)
Prof. Shinichiroh Iwamura (Hokkaido University, Japan)
Prof. Kongsak Pattarith (Buriram Rajabhat University, Thailand)
Prof. Rungnapa Pimsen (Nakhon Si Thammarat Rajabhat University, Thailand)
Prof. Paweena Porrawatkul (Nakhon Si Thammarat Rajabhat University, Thailand)
Dr. Arnannit Kuyyogsuy (Nakhon Si Thammarat Rajabhat University, Thailand)

[Conference Academic Chairman]

Prof. Saksit Chanthai (Khon Kaen University, Thailand)

Prof. Won-Chun Oh (Hanseong University, Korea)

Prof. Jin Liu (Anhui Jianzhu University, China)

Theme field of the conference:

- Materials: preparation, basic principle and characterization;
- Catalytic materials and mechanism;
- Environmental friendly materials and applications;
- Advanced composites and applications;
- Advanced building functional materials;
- Nanomaterials, sensors and applications;
- Materials related to biology, medical and human health;
- Photo-induced materials and applications;
- Others

Conference Registration

Deadline	October 31 (Thursday), 2021
All of presenters (Speakers) should be paid Registration fee.	

Registration fee

Regular : 50USD

Student : 30USD

* ACCOUNT NO. :* 8160612389

* ACCOUNT NAME : * NAKHON SI THAMMARAT RAJABHAT UNIVERSITY

* BANK :* KRUNG THAI BANK PUBLIC COMPANY LIMITED, BANGKOK, THAILAND

* BRANCH :* TALAD HUA IT

* SWIFT CODE : *KRTHTHBK

Venue: Nakhon Si Thammarat Rajabhat University, Thailand

Meeting Name	Meeting ID	PW	Breakout Room
ICMMA2021_Thailand	898 677 2174	ICMMA2021	Zoom A
ICMMA2021_Thailand	898 677 2174	ICMMA2021	Zoom B
ICMMA2021_Thailand	898 677 2174	ICMMA2021	Zoom C

Presentation Guide

Plenary Lecture : 20 minutes speech, 5 minutes Q&A

Invited and Oral Lecture : 17 minutes speech, 3 minutes Q&A

Poster Presentation : 3 minutes speech, 2 minutes Q&A (Only 1)

Full Paper Submission

1. Nanomaterials (SCIE) , ISSN: 1420-3049

APC : 2,200 CHF.

Submission : https://www.mdpi.com/journal/nanomaterials/special_issues/multifunctional_nano

Guest Editor (R. Editorial Board Member) : Prof. Won-Chun Oh (wc_oh@hanseo.ac.kr)

2. Journal Multifunctional Materials and Photoscience, ISSN: 2229-743x

APC : Free Registration fee for submitter



Editor-in-Chief (Submission) : Prof. Won-Chun Oh (wc_oh@hanseo.ac.kr)

3. Korean Journal of Materials Research (SCOPUS), ISSN : 1225-0562

APC : 300USD

Guest Editor (Submission) : Prof. Won-Chun Oh (wc_oh@hanseo.ac.kr)

Agenda of ICMMA2021-Opening Ceremony
(Host by Prof. **Surasak Kaew-On**)

09:00~09:10	Opening address by Prof. Surasak Kaew-On (President, Nakhon Si Thammarat Rajabhat University, Thailand) –Conference Chairman -	
09:10~09:20	Congratulation address by Prof. Wichai Wanpetch (President of Nakhon Si Thammarat Rajabhat University Council)	
09:20~09:40	09:20~09:30	ICMMA News by Prof. Dr. Won-Chun Oh (Hanseong University, Korea) – Conference Vice Chairman -
	09:30~09:40	ICMMA 2022_Address by Dr. Kwang Youn Cho (Vice Chief, Korea Institute of Ceramic Engineering and Technology, Korea) Introduction of ICMMA2022
09:40~09:50	<p style="text-align: center;">"Award of Appreciation Plaque" Plaque to Prof. Dr. Ho-Seob Kim (Sun Moon University, Korea)</p> <p style="text-align: center;">"Award of Appreciation Plaque to Retired Scientists" Dr. Hui-Jun Won (Korea Atomic Energy Research Institute, Korea)</p> <p style="text-align: center;">"Best Paper Award – (Supported by Journal "Nanomaterials" : MDPI)" Prof. Dr. Jin Liu (Anhui Jianzhu University, China)</p> <div style="text-align: center;">  </div> <p style="text-align: center;">"JMMP Award" Prof. Dr. Yin Liu (Anhui University of Science and Technology, China) Dr. Suresh Sagadevan (University of Malaya, Malaysia)</p> <div style="text-align: center;">  </div>	
09:50	The conference chairman announces ICMMA 2021 begins	
09:55	Group Photo	
09:55~10:00	Break	

Conference Program

November 25 (Thursday), 2021

Session I (Zoom A: No 898 677 2174, PW: ICMMA2021) (10:00-11:05) (Session Chairman : Prof. Dr. Won-Chun Oh (Hanseu University))	
10:00-10:25 Video	Plenary Lecture Prof. Estelle Leonard , Université de technologie de Compiègne, ESCOM, TIMR (Integrated Transformations of Renewable Matter), Centre de recherche Royallieu - CS 60 319 - 60 203 Compiègne Cedex, France Antimicrobial azobenzene-a review
10:25-10:45	Invited Lecture 1 Chuanbao Tu, Ze Zhang, Zhenyu Yang* , College of Chemistry, Key Laboratory of Jiangxi Province for Environment and Energy Catalysis, Nanchang University, 999 Xuefu Rd. Nanchang, Jiangxi, 330031, China Constructing a Directional Ion Acceleration Layer at WO₃/ZnO Heterointerface to Enhance Li-ion Transfer and Storage
10:45-11:05	Invited Lecture 2 Ju Yong Cho¹, Hyoung Jin Kim¹, and Won Kweon Jang^{1*} , ¹ Department of Aeronautic Electricity, Hanseo University, 46, Hanseo 1-ro, Seosan-si 31962, South Korea Improvement of spectral resolution and signal to noise ratio in the spatially modulated Fourier transform spectrometer
Session II-1 (Zoom A : No 898 677 2174, PW: ICMMA2021) (11:05-12:05) (Session Chairman : Prof. Hongzhi Liu (Shandong University), Prof. Gani Purwiandono (University of Islam))	
11:05-11:25	Invited Lecture 3 Prof. Suwat Nanan , Materials Chemistry Research Center, Department of Chemistry and Center of Excellence for Innovation in Chemistry (PERCH-CIC), Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand Sunlight responsive photocatalyst based on CdS/BiOBr heterojunction for detoxification of ciprofloxacin and norfloxacin antibiotics in wastewater
11:25-11:45	Oral Lecture 1 Salmahaminati¹, and Daniel Roca-Sanjuán² , ¹ Chemistry Department, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Yogyakarta, Indonesia 5558422, ² Instituto de Ciencia Molecular, Universitat de València, P.O. Box 22085, 46071 Valencia, Spain The Nature on Electronic Spectra of Histidine “N_ε2” and “N_δ1” Using A CASSCF/CASPT2 Method
11:45-12:05	Oral Lecture 2 Ahmad Fadhil Rithwan¹, Muhammad Alif Abdul Khani¹, Noor Haida Mohd Kaus¹, Rohana Adnan¹, Sirikanjana Thongmee², Siti Fairus Mohd Yusoff³, Takaomi Kobayashi⁴ , ¹ School of Chemical Sciences, Universiti Sains Malaysia, Gelugor 11800, Pulau Pinang, Malaysia, ² Department of Physic, Faculty of Science, Kasetsart University, Bangkok 10900, Thailand, ³ Department of Chemical Sciences, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Bangi 43600, Selangor, Malaysia, ⁴ Department of Materials Science and Technology, Nagaoka University of Technology, Nagaoka, Japan Influence of Operational Parameter on the Solar Light Driven Photocatalytic Degradation of Ofloxacin Antibiotic using Bismuth Ferrite (BiFeO₃) Nanoparticles
Session II-2 (Zoom B : No 898 677 2174, PW: ICMMA2021) (11:05-12:05) (Session Chairman : Prof. K. L. Ameta (Mody University of Science and Technology), Prof. Jia Hong Pan (North China Electronic Power University))	
11:05-11:25	Invited Lecture 4 Prof. Suresh Sagadevan* , Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia Cobalt Oxide nanostructured for electrochemical and photocatalytic applications

11:25-11:45	<p>Oral Lecture 3</p> <p>Karna Wijaya^{a*}, Edhita Rahmawati Fitri^a, Prisnu Fadilah Prabani^a, Yufinta Candrasasi^a, Remi Ayu Pratika^a, Wahyu Dita Saputri^b, Sri Mulijani^c, Aep Patah^d, and Arief Cahyo Wibowo^e, ^aChemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia, ^bIndonesian Institute of Sciences, Sasana Widya Sarwono (SWS), Jakarta 1 2 7 1 0 , Indonesia, ^cChemistry Department, Faculty of Mathematics and Natural Sciences, Institut Pertanian Bogor, Bogor, West Java, Indonesia, ^dChemistry Department, Faculty of Mathematics and Natural Sciences, Institut Teknologi Bandung, Bandung, West Java, Indonesia; ^e Chemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Airlangga, Surabaya, East Java, Indonesia</p> <p>The Effect of Sulfation on Physicochemical Properties of ZrO₂ AND TiO₂ Nanoparticles</p>
11:45-12:05	<p>Oral Lecture 4</p> <p>Khoirunisa¹, Hasna Azizah Zahra¹, Rahmania Audita¹, Wiyogo Prio Wicaksono^{1,2*}, ¹Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Sleman, Special Region of Yogyakarta, 55584, Indonesia, ²Research Center for Materials and Electrochemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Sleman, Special Region of Yogyakarta, 55584, Indonesia</p> <p>Green Synthesis of Silver Nanoparticles using Mangosteen (<i>Garcinia Mangostana L.</i>) Peels Waste and Its Colorimetric Performance for Pb²⁺ Detection</p>
<p>Session II-3 (Zoom C : No 898 677 2174, PW: ICMMA2021) 11:05-12:05) (Session Chairman : Prof. Rungnapa Pimsen (Nakhon Si Thammarat Rajabhat University), Prof.Feng Liu (Nanchang University, China))</p>	
11:05-11:25	<p>Invited Lecture 5</p> <p>Prof. Chongdee Thammakhet-Buranachai^{*1,2}, ¹Division of Physical Science, Faculty of Science, Prince of Songkla University, Hat Yai, Thailand; ²Center of Excellence for Trace Analysis and Biosensor, Faculty of Science, Prince of Songkla University, Hat Yai, Thailand</p> <p>Miniaturized Sample Preparation for Trace Organic Compounds Analysis</p>
11:25-11:45	<p>Oral Lecture 5</p> <p>Chengbao LIU^{1,2,3*}, Junchao QIAN^{1,2,3}, Zhigang CHEN^{1,2,3}; ¹Jiangsu Key Laboratory for Environment Functional Materials, Suzhou University of Science and Technology, Suzhou 215009, China; ²School of Materials Science and Engineering, Suzhou University of Science and Technology, Suzhou 215009, China; ³Jiangsu Collaborative Innovation Center of Technology and Material for Water Treatment, Suzhou University of Science and Technology, Suzhou 215009, China</p> <p>Electrochemical Determination of Sulfadiazine at Fe-doped CeO₂ Solid Solution Nanoparticles Modified Carbon Paste Electrode</p>
11:45-12:05	<p>Oral Lecture 6</p> <p>Mr. Peerapon Jarungklin, Master of Engineering (Engineering Technology), Sirindhorn International Institute of Technology, Thammasat University (Rangsit Campus), 99 Moo 18, Khlong Nueng, Khlong Luang, Pathum Thani 12120, Thailand</p> <p>Development of gel electrolyte from agar for using in Ag/AgCl electrode</p>
<p>12:05-13:05 Lunch Time</p>	
<p>Session III (Zoom A : No 898 677 2174, PW: ICMMA2021) (13:05-14:05) (Session Chairman : Prof. Suwat Nanan (Khon Kean University), Prof. Prawit Nuengmatcha (Nakhon Si Thammarat Rajabhat University))</p>	
13:05-13:25 Live	<p>Invited Lecture 6</p> <p>Prof. Gani Purwiandono, Department of Chemistry, Universitas Islam Indonesia, Indonesia</p> <p>Molten Salt-based Nitridation Synthesis of Metal Nitride Semi-conductors</p>
13:25-13:45	<p>Invited Lecture 7</p> <p>Is Fatimah¹, Ganjar Fadillah¹, Gani Purwiandono¹, Sheikh Ahmad Izaddin Sheikh Mohd Ghazali², Suresh Sagadevan³, Won-Chun Oh⁴, ¹Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Indonesia, ²Faculty of Applied Sciences, Universiti Teknologi MARA Cawangan Negeri Sembilan, Malaysia, ³Nanotechnology & Catalysis Research Centre, University of Malaya, Malaysia, ⁴Department of Advanced Materials Science and Engineering, Hanseo University, Korea</p> <p>Nanoparticles-functionalized Clay Based Materials for Environmental Remediation and Medical Applications</p>

13:45-14:05	<p>Invited Lecture 8 Prof. Jia Hong Pan, School of Environmental Science and Engineering, North China Electronic Power University, Beijing 102206, China Self-Assembly and Phase Transition of Hydrous TiO₂ Colloidal Spheres for Photo/Electrochemical Applications</p>
Break (14:05-14:15) : Refresh	
<p>Session IV-1 (Zoom A : No 898 677 2174, PW: ICMMA2021) (14:15-15:15) (Session Chairman : Prof. Karna Wijaya (Universitas Gadjah Mada), Dr. Yanisa Thepchuay (Nakhon Si Thammarat Rajabhat University))</p>	
14:15-14:35	<p>Oral Lecture 7 Kamrun Nahar Fatema¹, Chang Sung Lim¹, Won-Chun Oh^{1,2*}; ¹Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706; ²Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan 232001, PR China High surface area mesoporous BiZnSbV-G-SiO₂ based electrochemical biosensor for quantitative and rapid detection of microalbuminuria</p>
14:35-14:55	<p>Oral Lecture 8 Md Nazmodduha Rafat and Won-Chun Oh*, ¹Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706 Advance studies for semiconducting material for sonocatalytic hydrogen evolution under visible light irradiation with scavenger effect</p>
14:55-15:15 Video	<p>Oral Lecture 9 Dr. Nunticha Limchoowong, Department of Chemistry, Faculty of Science, Srinakha-rinwirot University 114 Sukhumvit 23 Rd., Wattana, Bangkok, 10110 Thailand The synthesis of Fe₃O₄/Chi/Cyc for tetracycline adsorption</p>
<p>Session IV-2 (Zoom B : No 898 677 2174, PW: ICMMA2021) (14:15-15:15) (Session Chairman : Prof. Chan-Kyung Kim (Inha University), Prof. Daming Gao (Hefei University))</p>	
14:15-14:35	<p>Oral Lecture 10 Dr. Yonrapach Areerob, Department of Industrial Engineering, School of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, 10520, Thailand. Photocatalytic CO₂ reduction with new band gap energy evaluation from spectroscopic relationship of graphene-Mg₂CuSnCoO₆ composite bridged with organics</p>
14:35-14:55	<p>Oral Lecture 11 Dr. Pemika Hirankittiwong, Department of General Science, Faculty of Science and Engineering, Kasetsart University, Chalermphrakiat Sakon Nakhon Province Campus, Sakon Nakhon 47000, Thailand The optical of liquid crystal molecules assisted biomolecular detection</p>
14:55-15:15	<p>Oral Lecture 12 Ye Ge, Guotao Dong, Tianhao Hu, Jing Wang*, College of Materials Science and Engineering, Anhui University of Science And Technology, Huainan, Anhui 232001 CNTs Doped Graphene/polyaniline Composite Material With In Situ Polymerization</p>
<p>Session IV-3 (Zoom C : No 898 677 2174, PW: ICMMA2021) (14:15-15:15) (Session Chairman : Prof. Estelle Leonard (Université de technologie de Compiègne), Prof. Feng-Jun Zhang (Anhui Jianzhu University))</p>	
14:15-14:35	<p>Oral Lecture 13 Zambaga Otgonbayar¹, Chang Sung Lim¹, Won-Chun Oh^{1,2*}; ¹Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706, ²Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan 232001, PR China Selective Photocatalytic and electrochemical CO₂ reduction to Methanol on Graphene-based Ternary nanocomposite</p>

14:35-14:55	Oral Lecture 14 Prof. Kefayat Ullah , Department of Applied Physical & Material Sciences, University of Swat, Pakistan Importance of Graphene based composites as anode material for Li Ion batteries
14:55-15:15 Video	Oral Lecture 15 Nguyen-Thao-Trinh, Do1,2 and Minh-Vien Le^{1,2} ; ¹ Faculty of Chemical Engineering, Ho Chi Minh city University of Technology, Ho Chi Minh City, 700000, Vietnam; ² Vietnam National University Ho Chi Minh City, Ho Chi Minh City, 700000, Vietnam The effect of preparative pH on BiOCl morphology and photocatalytic activity on degradation of tetracycline hydrochloride wastewater
15:15-15:25	Zoom A : No 898 677 2174, PW: ICMMA2021 Closing Remark (Prof. Saksit Chanthai (Khon Kaen University), Prof. Prawit Nuengmatcha (Nakhon Si Thammarat Rajabhat University))
15:25-16:25	Zoom A : No 898 677 2174, PW: ICMMA2021) Committee Board Member Meeting (Prof. Won-Chun Oh)

November 26 (Friday), 2021

Session V (Zoom A: No 898 677 2174, PW: ICMMA2021) (09:00-11:00) (Session Chairman : Prof. Dr. Won-Chun Oh (Hanseon University), Prof. Saksit Chantai (KhonKean University))	
09:00-09:20	Invited Lecture 9 Prof. Hongzhi Liu , School of Chemistry and Chemical Engineering, Shandong University, Jinan, China Silsesquioxanes-Based Functional Porous Polymers
09:20-09:40	Invited Lecture 10 Caiyu Ni, Jiadong Zhao, Xiaoxiao Zhao, Zhihui Wang, and Daming Gao* , Department of Chemical Engineering, School of Energy Materials and Chemical Engineering, Hefei University, Hefei 230601, Anhui, China Constructed Ultra-Sensitive SERS Probe towards Detection of Herbicide Paraquat and Diquat
09:40-10:00	Invited Lecture 11 En Yang, Xiaoxiao Xia,* Yue Cai, Fei Chang , Department of Biology Engineering, School of Biology, Food and Environment Engineering, Hefei University, Hefei 230601, Anhui, China Fluorescence-Tagged Recognition Sites SiO₂@MIPs with Nanoshell Layer Structure to the Ultra-Trace Detection of Heavy Metal Ions
10:00-10:20	Invited Lecture 12 Prof. K. L. Ameta* , Department of Chemistry, School of Liberal Arts and Sciences, Mody University of Science and Technology, Lakshmangarh-332311, Rajasthan, India Sustainability in the synthesis of N-Heterocycles
10:20-10:40	Invited Lecture 13 Daniel Manaye Kabtamu¹, Chen-Hao Wang^{*1,2} , ¹ Department of Materials Science and Engineering, National Taiwan University of Science and Technology, Taipei 106335, Taiwan; ² Hierarchical Green-Energy Materials (Hi-GEM) Research Center, National Cheng Kung University, Tainan 70101, Taiwan High-Performance Nanocomposite of Metal Oxide and Reduced Graphene Oxide for Vanadium Redox Flow Batter
10:40-11:00	Invited Lecture 14 Synthetic organic adsorbents for the removal of organic pollutants and heavy metal ions from water , Solhe F. Alshahateeta*, Salah A. Al-Trawneha, Anwar G. Jiriesa, Suresh Sagadevanb, ^a Department of Chemistry, Mutah University, P.O. Box 7, Mutah, Alkarak, Jordan, ^b Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur, 50603, Malaysia.
Break (11:00-11:10) : Refresh	

Session VI-1 (Zoom A : No 898 677 2174, PW: ICMMA2021) (11:10-12:30) (Session Chairman : Prof. Suresh Sagadevan (Malaya University), Prof. Zhenyu Yang (Nanchang University))	
11:10-11:30	Oral Lecture 16 Prof. Rachadaporn Benchawattananon , Integrated Science Forensic Science Faculty of Science Khon Kaen University Khon Kaen 40002.Thailand Study Plant Riboflavin luminescent (Euphorbia tirucalli Linn.) fingerprint powder for Forensic Science
11:30-11:50	Oral Lecture 17 Mr. David Nugroho , Department Forensic, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand; Green Synthesis Carbon Dots (CDs) Coconut Water by Hydrothermal Method's for Finger Print Detection on nonporous surface
11:50-12:10	Oral Lecture 18 Ms. Akkaracha Hanwattanakul , Department of Materials and Textile Technology, Faculty of Science and Technology, Thammasat University, 12120, Thailand Active different molecular weight of chitosan-konjac glucomannan edible film coating : physicochemical and aflatoxin binding properties in peanuts
12:10-12:30	Oral Lecture 25 Chao Feng , School of materials and chemical engineering, Bengbu University, 233030, China High supercapacitive performance on a 2D Ni-MOF material
Session VI-2 (Zoom B : No 898 677 2174, PW: ICMMA2021) (11:10-12:30) (Session Chairman : Prof. Is Fatimah (University of Islam), Dr. Yonrapach Areerob (King Mongkut's Institute of Technology Ladkrabang))	
11:10-11:30	Oral Lecture 19 Ms. Khanittha Ponsanti , Department of Physics, Faculty of Science and Technology, Thammasat University, 12120, Thailand, ² Chulabhorn International College of Medicine, Thammasat University, 12120, Thailand, Eco-Synthesis of Platinum Nanoparticles (PtNPs) Using Thai Herb Leaves Extract as Capping and Reducing Agent : Effect of Reaction Times
11:30-11:50	Oral Lecture 20 Xiulin Shen^{1,2,3}, Meiyong Liao², Zhaohui Huang³, Zhenfei Lv^{1,*} ; ¹ School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, China; ² Research Center for Functional Materials, National Institute for Materials Science, Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan; ³ School of Materials Science and Technology, China University of Geosciences (Beijing), Beijing 100083, China Measurement of stress in single-crystal diamond by Raman microscopy
11:50-12:10	Oral Lecture 21 Xin Rong¹, Ming Gao¹, Jianjun Li^{1,2*}, Xujie Peng¹, Yin Liu^{1,2}, Changguo Xue¹ ; ¹ Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, China, 232001; ² Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, Huainan 232001, China Influence of Magnetic Field on the Properties of Aqueous Solution and CaCO₃ precipitate
12:10-12:30	Oral Lecture 26 YIN Na,WANG Ke, LI Zongqun , Anhui Provincial Engineering Technology Research Center of Silicon-Based Materials, Bengbu University , China 233000 Microwave promoted synthesis of MOFs enhanced ceramic membrane for heavy metal removal

Session VI-3 (Zoom C : No 898 677 2174, PW: ICMMA2021) (11:10-12:30) (Session Chairman : Prof. Won Kweon Jang (Hanseo University), Prof. Minh-Vien Le (Ho Chi Minh city University of Technology))	
11:10-11:30	Oral Lecture 22 Farah Liyana Bohari¹, Muhammad Alinsan Kamil Mukamil Hamzah¹, Sheikh Ahmad Izaddin Sheikh Mohd Ghazali^{1*}, Nur Nadia Dzulkifli¹ and Is Fatimah² ; ¹ School of Chemistry and Environment, Faculty of Applied Sciences Universiti Teknologi MARA Cawangan Negeri Sembilan Kampus Kuala Pilah, 72000, Negeri Sembilan, Malaysia; ² Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia Synthesis and Characterization of 4-Chlorophenoxyacetic Acid Herbicide Intercalated with Calcium-Aluminium Layered Double Hydroxide Through Co-Precipitation Method
11:30-11:50	Oral Lecture 23 Guo-Qing Wang^a, Chun-Mei Kai^a, Cui Kong^a, Feng-Jun Zhang^{a,b*} ; ^a Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei Anhui, 230601, P. R. China; ^b Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei Anhui, 230022, P. R. China In Situ Growth of CdS Spherical Nanoparticles / Ti₃C₂ MXene Nanosheet Heterojunction with Enhanced Photocatalytic Hydrogen Evolution
11:50-12:10	Oral Lecture 24 Xun Fang¹, Shibiao Wu^{1*}, Xia Chen², Yaru Li², Jianli Chen², Yaqin Wang², Haiyan Xu² ; ¹ Anhui Province Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei, Anhui, 230601, China; ² Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei, Anhui, 230601, China Oxidative Degradation of Norfloxacin Antibiotics by Peroxymonosulfate Activated with Co₃O₄/UiO-66-NH₂ Composites
12:10-12:30	Oral Lecture 27 Xiaochen Huang^{1,2,*}, Zongqun Li^{1,2}, Jinlong Ge^{1,2}, Ming Ding^{1,2} ; ¹ School of Material and Chemical Engineering, Bengbu University, Bengbu, Anhui 233030, People's Republic of China; ² Engineering Technology Research Center of Silicon-based Materials, Anhui, 233030, People's Republic of China Influences of breakdown voltages on arc erosion of a Ti₃AlC₂ cathode in air atmosphere
12:30-13:30 Lunch Time	
Poster Session-1 (ZoomA: No 898 677 2174, PW: ICMMA2021) (13:30-16:30) (Session Chairman: Dr.Benjawan Ninwong and Dr.Kritaphat Songsriin (Nakhon Si Thammarat Rajabhat University))	
13:30-16:30	PO1-PO35
Poster Session-2 (ZoomB: No 898 677 2174, PW: ICMMA2021) (13:30-16:30) (Session Chairman: Prof. Paweena Porrawatkul and Dr.Savitree Rit Chuay (Nakhon Si Thammarat Rajabhat University))	
13:30-16:30	PO36-PO70
Poster Session-3 (ZoomC: No 898 677 2174, PW: ICMMA2021) (13:30-16:30) (Session Chairman: Dr.Arnannit Kuyyogsuy and Dr. Fahmida Wazed Tina (Nakhon Si Thammarat Rajabhat University))	
13:30-16:30	PO71-PO112
16:30-17:00	Closing Remark & Ceremony – Zoom A : No 898 677 2174, PW: ICMMA2021) (Dr. Woo-Sik Kim (Korea Institute of Ceramic Engineering Technology))

Timetable

November 25 (Thursday), 2021				
09:00-10:00	Zoom A : Opening ceremony			
10:00-10:25	Plenary Lecture	Prof. Estelle Leonard , Université de technologie de Compiègne, ESCOM, TIMR (Integrated Transformations of Renewable Matter), Centre de recherche Royallieu – CS 60 319 – 60 203 Compiègne Cedex, France		
10:25-10:45	Invited Lecture 1	Chuanbao Tu, Ze Zhang, Zhenyu Yang* , College of Chemistry, Key Laboratory of Jiangxi Province for Environment and Energy Catalysis, Nanchang University, 999 Xuefu Rd. Nanchang, Jiangxi, 330031, China		
10:45-11:05	Invited Lecture 2	Ju Yong Cho, Hyoung Jin Kim, and Won Kweon Jang* , Department of Aeronautic Electricity, Hanseo University, 46, Hanseo 1-ro, Seosan-si 31962, South Korea		
The information of Invited and Oral lectures				
		Zoom A	Zoom B	Zoom C
11:05-11:25	Invited Lecture	Invited Lecture 3 Prof. Suwat Nanan , Materials Chemistry Research Center, Department of Chemistry and Center of Excellence for Innovation in Chemistry (PERCH- CIC), Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand	Invited Lecture 4 Prof. Suresh Sagadevan , Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia	Invited Lecture 5 Prof. Chongdee Thammakhet- Buranachai , Division of Physical Science, Faculty of Science, Prince of Songkla University, Hat Yai, Thailand
11:25-11:45	Oral Lecture	Oral Lecture 1 Salmahaminati¹, and Daniel Roca- Sanjuán^{2, 1} , Chemistry Department, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Yogyakarta, Indonesia 5558422, ² Instituto de Ciencia Molecular, Universitat de València, P.O. Box 22085, 46071 Valencia, Spain	Oral Lecture 3 Karna Wijaya^{a*}, Edhita Rahmawati Fitri^a, Prisnu Fadilah Prabani^a, Yufinta Candrasasi^a, Remi Ayu Pratika^a, Wahyu Dita Saputri^b, Sri Muljani^c, Aep Patah^d, and Arief Cahyo Wibowo^e, ^a Chemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Indonesia, ^b Indonesian Institute of Sciences, Indonesia, ^c Chemistry Department, Faculty of Mathematics and Natural Sciences, Institut Pertanian Bogor, Indonesia, ^d Chemistry department, Faculty of Mathematics and Natural Sciences, Institut Teknologi Bandung, Indonesia; ^e Chemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Airlangga, Indonesia	Oral Lecture 5 Chengbao LIU^{1,2,3*}, Junchao QIAN^{1,2,3}, Zhigang CHEN^{1,2,3}; ¹ Jiangsu Key Laboratory for Environment Functional Materials, Suzhou University of Science and Technology, Suzhou 215009, China; ² School of Materials Science and Engineering, Suzhou University of Science and technology, Suzhou 215009, China; ³ Jiangsu Collaborative Innovation Center of Technology and Material for Water Treatment, Suzhou University of Science and Technology, Suzhou 215009, China

11:45-12:05	Oral Lecture	Oral Lecture 2 Ahmad Fadhil Rithwan¹, Muhammad Alif Abdul Khani¹, Noor Haida Mohd Kaus¹, Rohana Adnan¹, Sirikanjana Thongmee², Siti Fairus Mohd Yusoff³, Takaomi Kobayashi⁴ ; ¹ School of Chemical Sciences, Universiti Sains Malaysia, Gelugor 11800, Pulau Pinang, Malaysia, ² Department of Physic, Faculty of Science, Kasetsart University, Bangkok 10900, Thailand, ³ Department of Chemical Sciences, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Bangi 43600, Selangor, Malaysia, ⁴ Department of Materials Science and Technology, Nagaoka University of Technology, Nagaoka, Japan	Oral Lecture 4 Khoirunisa¹, Hasna Azizah Zahra¹, Rahmania Audita¹, Wiyogo Prio Wicaksono^{1,2*} , ¹ Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Sleman, Special Region of Yogyakarta, 55584, Indonesia, ² Research Center for Materials and Electrochemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Sleman, Special Region of Yogyakarta, 55584, Indonesia	Oral Lecture 6 Mr. Peerapon Jarungklin , Master of Engineering (Engineering Technology), Sirindhorn International Institute of Technology, Thammasat University (Rangsit Campus), 99 Moo 18, Khlong Nueng, Khlong Luang, Pathum Thani 12120, Thailand
12:05-13:05 Lunch Time				
13:05-14:05	Zoom A : No 898 677 2174, PW: ICMMA2021 Invited Lecture session			
13:05-13:25	Invited Lecture 6	Prof. Gani Purwiandono , Department of Chemistry, Universitas Islam Indonesia, Indonesia		
13:25-13:45	Invited Lecture 7	Is Fatimah¹, Ganjar Fadillah¹, Gani Purwiandono¹, Sheikh Ahmad Izaddin Sheikh Mohd Ghazali², Suresh Sagadevan³, Won-Chun Oh⁴ , ¹ Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia, *email: isfatimah@uii.ac.id , ² Faculty of Applied Sciences, Universiti Teknologi MARA Cawangan Negeri Sembilan, Kampus Kuala Pilah, Kuala Pilah 72000, Negeri Sembilan, Malaysia, ³ Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia, ⁴ Department of Advanced Materials Science and Engineering, Hanseo University, Seosan-si, Chungnam 356-706, Republic of Korea		
13:45-14:05	Invited Lecture 8	Prof. Jia Hong Pan , School of Environmental Science and Engineering, North China Electronic Power University, Beijing 102206, China		
Break (14:05-14:15) : Refresh				

		Zoom A	Zoom B	Zoom C
14:15-14:35	Oral Lecture	Oral Lecture 7 Kamrun Nahar Fatema¹, Chang Sung Lim¹, Won-Chun Oh^{1,2*} ; ¹ Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706; ² Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan 232001, PR China	Oral Lecture 10 Dr. Yonrapach Areerob ; Department of Industrial Engineering, School of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok, 10520, Thailand	Oral Lecture 13 Zambaga Otgonbayar¹, Chang Sung Lim¹, Won-Chun Oh^{1,2*} ; ¹ Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706, ² Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan 232001, PR China
14:35-14:55	Oral Lecture	Oral Lecture 8 Md Nazmodduha Rafat and Won-Chun Oh* , ¹ Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea	Oral Lecture 11 Prof. Pemika Hirankittiwong , Department of General Science, Faculty of Science and Engineering, Kasetsart University, Chalermphrakiat Sakon Nakhon Province Campus, Sakon Nakhon 47000, Thailand	Oral Lecture 14 Prof. Kefayat Ullah , Department of Applied Physical & Material Sciences, University of Swat, Pakistan
14:55-15:15	Oral Lecture	Oral Lecture 9 Dr. Nunticha Limchoowong , Department of Chemistry, Faculty of Science, Srinakharinwirot University 114 Sukhumvit 23 Rd., Wattana, Bangkok, 10110 Thailand	Oral Lecture 12 Ye Ge, Guotao Dong, Tianhao Hu, Jing Wang* , College of Materials Science and Engineering, Anhui University of Science And Technology, Huainan, Anhui 232001	Oral Lecture 15 Nguyen-Thao-Trinh, Do^{1,2} and Minh-Vien Le^{1,2} ; ¹ Faculty of Chemical Engineering, Ho Chi Minh city University of Technology, Ho Chi Minh City, 700000, Vietnam; ² Vietnam National University Ho Chi Minh City, Ho Chi Minh City, 700000, Vietnam
15:15-15:25	Zoom A : No 898 677 2174, PW: ICMMA2021 Closing Remark (Prof. Saksit Chanthai (Khon Kaen University), Prof. Prawit Nuengmacha (Nakhon Si Thammarat Rajabhat University))			
15:25-16:25	Zoom B : No 898 677 2174, PW: ICMMA2021 Committee Board Member Meeting (Prof. Won-Chun Oh)			

November 26 (Friday), 2021				
09:00-11:00	Zoom A : No 898 677 2174, PW: ICMMA2021 Invited Lecture session			
09:00-09:20	Invited Lecture 9	Prof. Hongzhi Liu , School of Chemistry and Chemical Engineering, Shandong University, Jinan, China		
09:20-09:40	Invited Lecture 10	Caiyu Ni, Jiadong Zhao, Xiaoxiao Zhao, Zhihui Wang, and Daming Gao* , Department of Chemical Engineering, School of Energy Materials and Chemical Engineering, Hefei University, Hefei 230601, Anhui, China		
09:40-10:00	Invited Lecture 11	En Yang, Xiaoxiao Xia,* Yue Cai, Fei Chang , Department of Biology Engineering, School of Biology, Food and Environment Engineering, Hefei University, Hefei 230601, Anhui, China		
10:00-10:20	Invited Lecture 12	Prof. K.L. Ameta , Department of Chemistry, School of Liberal Arts and Sciences, Mody University of Science and Technology, Lakshmanagarh-332311, Rajasthan, India		
10:20-10:40	Invited Lecture 13	Daniel Manaye Kabtamu¹, Chen-Hao Wang^{*1,2} , ¹ Department of Materials Science and Engineering, National Taiwan University of Science and Technology, Taipei 106335, Taiwan; ² Hierarchical Green-Energy Materials (Hi-GEM) Research Center, National Cheng Kung University, Tainan 70101, Taiwan		
10:40-11:00	Invited Lecture 14	Solhe F. Alshahateet^{a,*}, Salah A. Al-Trawneh^a, Anwar G. Jiries^a, Suresh Sagadevan^b , ^a Department of Chemistry, Mutah University, P.O. Box 7, Mutah, Alkarak, Jordan, ^b Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur, 50603, Malaysia.		
Break (11:00-11:10) : Refresh				
		Zoom A	Zoom B	Zoom C
11:10-11:30	Oral Lecture	Oral Lecture 16 Prof. Rachadaporn Benchawattananon , Integrated Science Forensic Science Faculty of Science Khon Kaen University Khon Kaen 40002.Thailand	Oral Lecture 19 Ms. Khanittha Ponsanti , Department of Physics, Faculty of Science and Technology, Thammasat University, 12120, Thailand	Oral Lecture 22 Farah Liyana Bohari¹, Muhammad Alinsan Kamil Mukamil Hamzah¹, Sheikh Ahmad Izaddin Sheikh Mohd Ghazali^{1*}, Nur Nadia Dzulkifli¹ and Is Fatimah² ; ¹ School of Chemistry and Environment, Faculty of Applied Sciences Universiti Teknologi MARA Cawangan Negeri Sembilan Kampus Kuala Pilah, 72000, Negeri Sembilan, Malaysia; ² Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, J1. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia

11:30-11:50	Oral Lecture	<p>Oral Lecture 17 Mr. David Nugroho, Department Forensic, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand</p>	<p>Oral Lecture 20 Xiulin Shen^{1,2,3}, Meiyong Liao², Zhaohui Huang³, Zhenfei Lv^{1,*}; ¹School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, China; ²Research Center for Functional Materials, National Institute for Materials Science, Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan; ³School of Materials Science and Technology, China University of Geosciences (Beijing), Beijing 100083, China</p>	<p>Oral Lecture 23 Guo-Qing Wang^a, Chun-Mei Kai^a, Cui Kong^a, Feng-Jun Zhang^{a,b,*}; ^a Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei Anhui, 230601, P. R. China; ^bAnhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei Anhui, 230022, P. R. China</p>
11:50-12:10	Oral Lecture	<p>Oral Lecture 18 Ms. Akkaracha Hanwattanakul, Department of Materials and Textile Technology, Faculty of Science and Technology, Thammasat University, 12120, Thailand</p>	<p>Oral Lecture 21 Xin Rong¹, Ming Gao¹, Jianjun Li^{1,2*}, Xujie Peng¹, Yin Liu^{1,2}, Changguo Xue¹; ¹Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, China, 232001; ²Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, Huainan 232001, China</p>	<p>Oral Lecture 24 Xun Fang¹, Shibiao Wu^{1,*}, Xia Chen², Yaru Li², Jianli Chen², Yaqin Wang², Haiyan Xu²; ¹Anhui Province Key Laboratory of Advanced Building Materials; ²Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei, Anhui, 230601, China</p>
12:10-12:30	Oral Lecture	<p>Oral Lecture 25 Chao Feng School of materials and chemical engineering, Bengbu University, 233030, China</p>	<p>Oral Lecture 26 YIN Na, WANG Ke, LI Zongqun Anhui Provincial Engineering Technology Research Center of Silicon- Based Materials, Bengbu University , China 233000</p>	<p>Oral Lecture 27 Xiaochen Huang^{1,2,*}, Zongqun Li^{1,2} , Jinlong Ge^{1,2}, Ming Ding^{1,2}; ¹School of Material and Chemical Engineering, ² Engineering Technology Research Center of Silicon- based Materials Bengbu, Anhui 233030, China</p>

12:30-13:30 Lunch Time				
13:30-16:30	Poster session			
		Zoom A	Zoom B	Zoom C
13:30-16:30	Poster session	PO1 – PO35	PO36 – PO70	PO71 – PO112
16:30-17:00	Closing Remark & Ceremony – Zoom A : No 898 677 2174, PW: ICMMA2021 (Dr. Woo-Sik Kim (Korea Institute of Ceramic Engineering Technology))			

Presentation Guide

Plenary Lectures

- PL1 **Antimicrobial azobenzene-a review**, Leonard, Estelle^{*a}, Fayeulle, Antoine^a, Franche, Antoine^a, Sagadevan, Suresh^b, Billamboz, Muriel^c, ^aUniversité de technologie de Compiègne, ESCOM, TIMR (Integrated Transformations of Renewable Matter), Centre de recherche Royallieu – CS 60 319 – 60 203 Compiègne Cedex, France ; ^bNanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur , Malaysia, ^cLaboratoire de chimie durable et santé, Junia, HEI, 13 rue de Toul, 59046 Lille Cedex, France 1

Invited Lectures

- IL1 **Constructing a Directional Ion Acceleration Layer at WO₃/ZnO Heterointerface to Enhance Li-ion Transfer and Storage**, Chuanbao Tu, Ze Zhang, Zhenyu Yang^{*}, College of Chemistry, Key Laboratory of Jiangxi Province for Environment and Energy Catalysis, Nanchang University, 999 Xuefu Rd. Nanchang, Jiangxi, 330031, China 2
- IL2 **Improvement of spectral resolution and signal to noise ratio in the spatially modulated Fourier transform spectrometer**, Ju Yong Cho¹, Hyong Jin Kim¹, and Won Kweon Jang^{1*}, ¹Department of Aeronautic Electricity, Hanseo University, 46, Hanseo 1-ro, Seosan-si 31962, South Korea 3
- IL3 **Sunlight responsive photocatalyst based on CdS/BiOBr heterojunction for detoxification of ciprofloxacin and norfloxacin antibiotics in wastewater**, Teeradech Senasu, Suwat Nanan^{*}, Materials Chemistry Research Center, Department of Chemistry and Center of Excellence for Innovation in Chemistry (PERCH-CIC), Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand 5
- IL4 **Cobalt Oxide nanostructured for electrochemical and photocatalytic applications**, Suresh Sagadevan^{*}, Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia 6
- IL5 **Miniaturized Sample Preparation for Trace Organic Compounds Analysis**, Chongdee Thammakhet-Buranachai^{*1,2}, Nichapat Chudin^{1,2}, Warakorn Sukree^{1,2}, Proespichaya Kanatharana^{1,2}, Panote Thavarungkul^{1,2}, Morakot Kewapet^{1,2}, Dhassida Sooksawat^{1,2}, Panwadee Wattanasin^{1,2}, Kittirat Phooplub^{1,2}; ¹Division of Physical Science, Faculty of Science, Prince of Songkla University, Hat Yai, Thailand; ²Center of Excellence for Trace Analysis and Biosensor, Faculty of Science, Prince of Songkla University, Hat Yai, Thailand; ^{*}email: chongdee.t@psu.ac.th 7

- IL6 **Molten Salt-based Nitridation Synthesis of Metal Nitride Semi-conductors**, 8
Gani Purwiandono, Department of Chemistry, Universitas Islam Indonesia, Indonesia
- IL7 **Nanoparticles-functionalized Clay Based Materials for Environmental Remediation and Medical Applications**, 9
Is Fatimah¹, Ganjar Fadillah¹, Gani Purwiandono¹, Sheikh Ahmad Izaddin Sheikh Mohd Ghazali², Suresh Sagadevan³, Won-Chun Oh⁴, ¹Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia, *email: isfatimah@uii.ac.id, ²Faculty of Applied Sciences, Universiti Teknologi MARA Cawangan Negeri Sembilan, Kampus Kuala Pilah, Kuala Pilah 72000, Negeri Sembilan, Malaysia, ³Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia, ⁴Department of Advanced Materials Science and Engineering, Hanseo University, Seosan-si, Chungnam 356-706, Republic of Korea
- IL8 **Self-Assembly and Phase Transition of Hydrrous TiO₂ Colloidal Spheres for Photo/Electrochemical Applications**, 10
Jia Hong Pan, School of Environmental Science and Engineering, North China Electronic Power University, Beijing 102206, China, pan@ncepu.edu.cn
- IL9 **Silsesquioxanes-Based Functional Porous Polymers**, 11
Hongzhi Liu, School of Chemistry and Chemical Engineering, Shandong University, Jinan, China
- IL10 **Constructed Ultra-Sensitive SERS Probe towards Detection of Herbicide Paraquat and Diquat**, 12
Caiyu Ni, Jiadong Zhao, Xiaoxiao Zhao, Zhihui Wang, and Daming Gao*, Department of Chemical Engineering, School of Energy Materials and Chemical Engineering, Hefei University, Hefei 230601, Anhui, China
- IL11 **Fluorescence-Tagged Recognition Sites SiO₂@MIPs with Nanoshell Layer Structure to the Ultra-Trace Detection of Heavy Metal Ions**, 14
En Yang, Xiaoxiao Xia,* Yue Cai, Fei Chang; Department of Biology Engineering, School of Biology, Food and Environment Engineering, Hefei University, Hefei 230601, Anhui, China
- IL12 **Sustainability in the synthesis of N-Heterocycles**, 16
K. L. Ameta*; Department of Chemistry, School of Liberal Arts and Sciences, Mody University of Science and Technology, Lakshmangarh-332311, Rajasthan, India
- IL13 **High-Performance Nanocomposite of Metal Oxide and Reduced Graphene Oxide for Vanadium Redox Flow Battery**, 17
Daniel Manaye Kabtamu¹, Chen-Hao Wang^{*1,2}, ¹Department of Materials Science and Engineering, National Taiwan University of Science and Technology, Taipei 106335, Taiwan; ²Hierarchical Green-Energy Materials (Hi-GEM) Research Center, National Cheng Kung University, Tainan 70101, Taiwan
- IL14 **Synthetic organic adsorbents for the removal of organic pollutants and heavy metal ions from water**, 18
Solhe F. Alshahateeta*, Salah A. Al-Trawneha, Anwar G. Jiriesa, Suresh Sagadevanb, ^aDepartment of Chemistry, Mutah University, P.O. Box 7, Mutah, Alkarak, Jordan, ^bNanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur,50603, Malaysia.

Oral Lectures

- OL1 **The Nature on Electronic Spectra of Histidine “N_{ε2}” and “N_{δ1}” Using A CASSCF/CASPT2 Method**, Salmahaminati¹, and Daniel Roca-Sanjuán², ¹Chemistry Department, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Yogyakarta, Indonesia 5558422, ²Instituto de Ciencia Molecular, Universitat de València, P.O. Box 22085, 46071 Valencia, Spain 19
- OL2 **Influence of Operational Parameter on the Solar Light Driven Photocatalytic Degradation of Ofloxacin Antibiotic using Bismuth Ferrite (BiFeO₃) Nanoparticles**, Ahmad Fadhil Rithwan¹, Muhammad Alif Abdul Khani¹, Noor Haida Mohd Kaus¹, Rohana Adnan¹, Sirikanjana Thongmee², Siti Fairus Mohd Yusoff³, Takaomi Kobayashi⁴; ¹School of Chemical Sciences, Universiti Sains Malaysia, Gelugor 11800, Pulau Pinang, Malaysia, ²Department of Physic, Faculty of Science, Kasetsart University, Bangkok 10900, Thailand, ³Department of Chemical Sciences, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Bangi 43600, Selangor, Malaysia, ⁴Department of Materials Science and Technology, Nagaoka University of Technology, Nagaoka, Japan 20
- OL3 **The Effect of Sulfation on Physicochemical Properties of ZrO₂ AND TiO₂ Nanoparticles**, Karna Wijaya^{a*}, Edhita Rahmawati Fitri^a, Prisnu Fadilah Prabani^a, Yufinta Candrasasi^a, Remi Ayu Pratika^a, Wahyu Dita Saputri^b, Sri Mulijani^c, Aep Patah^d, and Arief Cahyo Wibowo^e, ^aChemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia, ^bIndonesian Institute of Sciences, Sasana Widya Sarwono (SWS), Jakarta 12710, Indonesia, ^cChemistry Department, Faculty of Mathematics and Natural Sciences, Institut Pertanian Bogor, Bogor, West Java, Indonesia, ^dChemistry Department, Faculty of Mathematics and Natural Sciences, Institut Teknologi Bandung, Bandung, West Java, Indonesia, ^e Chemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Airlangga, Surabaya, East Java, Indonesia 21
- OL4 **Green Synthesis of Silver Nanoparticles using Mangosteen (*Garcinia Mangostana L.*) Peels Waste and Its Colorimetric Performance for Pb²⁺ Detection**, Khoirunisa¹, Hasna Azizah Zahra¹, Rahmania Audita¹, Wiyogo Prio Wicaksono^{1,2*}, ¹Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Sleman, Special Region of Yogyakarta, 55584, Indonesia, ²Research Center for Materials and Electrochemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Sleman, Special Region of Yogyakarta, 55584, Indonesia 22
- OL5 **Electrochemical Determination of Sulfadiazine at Fe-doped CeO₂ Solid Solution Nanoparticles Modified Carbon Paste Electrode**, Chengbao LIU^{1,2,3*}, Junchao QIAN^{1,2,3}, Zhigang CHEN^{1,2,3}; ¹Jiangsu Key Laboratory for Environment Functional Materials, Suzhou University of Science and Technology, Suzhou 215009, China; ²School of Materials Science and Engineering, Suzhou University of Science and Technology, Suzhou 215009, China; ³Jiangsu Collaborative Innovation Center of Technology and Material for Water Treatment, Suzhou University of Science and Technology, Suzhou 215009, China 23

- OL6 **Development of gel electrolyte from agar for using in Ag/AgCl electrode,** 24
Peerapon Jarungklin^{1*}, Paiboon Sreearunothai¹ and Korakot Sombatmankhong²;
¹Master of Engineering (Engineering Technology), Sirindhorn International
Institute of Technology, Thammasat University (Rangsit Campus), 99 Moo
18, Khlong Nueng, Khlong Luang, Pathum Thani 12120, Thailand, ²National
Science and Technology Development Agency (NSTDA), National Energy
Technology Center (ENTEC), 114 Thailand Science Park, Phaholyothin
Road, Klong Nueng, Klong Luang, Pathum thani, 12120, Thailand
- OL7 **High surface area mesoporous BiZnSbV-G-SiO₂ based electrochemical** 32
biosensor for quantitative and rapid detection of microalbuminuria,
Kamrun Nahar Fatema¹, Chang Sung Lim¹, Won-Chun Oh^{1,2*}; ¹Department
of Advanced Materials Science & Engineering, Hanseo University, Seosan-
si, Chungnam, Korea, 356-706; ²Anhui International Joint Research Center
for Nano Carbon-based Materials and Environmental Health, College of
Materials Science and Engineering, Anhui University of Science &
Technology, Huainan 232001, PR China
- OL8 **Advance studies for semiconducting material for sonocatalytic hydrogen** 33
evolution under visible light irradiation with scavenger effect, Md
Nazmodduha Rafat and Won-Chun Oh^{*}, ¹Department of Advanced Materials
Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea,
356-706
- OL9 **The synthesis of Fe₃O₄/Chi/Cyc for tetracycline adsorption,** 34
Channon Silaparaya¹, Hattakarn Keawmanee¹, Sucheewin Chotchatchawankul¹,
Piyada Jitangprasert¹, Itthipol Sungwienwong¹, Phitchan Sricharoen² and
Nunticha Limchoowong^{1*}; ¹Department of Chemistry, Faculty of Science,
Srinakha-rinwirot University 114 Sukhumvit 23 Rd., Wattana, Bangkok,
10110 Thailand; ²Nuclear Technology Research and Development Center,
Thailand Institute of Nuclear Technology (Public Organization), Nakhon
Nayok 26120, Thailand.
- OL10 **Photocatalytic CO₂ reduction with new band gap energy evaluation from** 35
spectroscopic relationship of graphene-Mg₂CuSnCoO₆ composite bridged
with organics, Won-Chun Oh^{1*}, Yonrapach Areerob²; ¹Department of Advanced
Materials Science & Engineering, Hanseo University, Chungnam 356-706, South
Korea; ²Department of Industrial Engineering, School of Engineering, King
Mongkut's Institute of Technology Ladkrabang, Bangkok, 10520, Thailand.
- OL11 **The optical of liquid crystal molecules assisted biomolecular detection,** 36
Pemika Hirankittiwong^{1*}, Sirikanjana Thongmee², Praphat Kawicha³,
Ladawan Rattanapolsan³, Jariya Nitayaros³; ¹Department of General Science,
Faculty of Science and Engineering, Kasetsart University, Chalermphrakiat
Sakon Nakhon Province Campus, Sakon Nakhon 47000, Thailand;
²Department of Physics, Faculty of Science, Kasetsart University, Bangkok
10900, Thailand; ³Plant Pest and Biocontrol Research Unit, Department of
Agriculture and Resources, Faculty of Natural Resources and Agro-Industry,
Kasetsart University, Chalermphrakiat Sakon Nakhon Province Campus,
Sakon Nakhon 47000, Thailand

- OL12 **CNTs Doped Graphene/polyaniline Composite Material With In Situ Polymerization**, Ye Ge, Guotao Dong, Tianhao Hu, Jing Wang*, College of Materials Science and Engineering, Anhui University of Science And Technology, Huainan, Anhui 232001, *Corresponding author (Phone and WeChat: + 0086 (13855418833); jingwang@aust.edu.cn) 37
- OL13 **Selective Photocatalytic and electrochemical CO₂ reduction to Methanol on Graphene-based Ternary nanocomposite**, Zambaga Otgonbayar¹, Chang Sung Lim¹, Won-Chun Oh^{1, 2,*}, ¹Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706, ²Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan 232001, PR China, E-mail: wc_oh@hanseo.ac.kr 40
- OL14 **Importance of Graphene based composites as anode material for Li Ion batteries**, Kefayat Ullah, Department of Applied Physical & Material Sciences, University of Swat, Pakistan 42
- OL15 **The effect of preparative pH on BiOCl morphology and photocatalytic activity on degradation of tetracycline hydrochloride wastewater**, Nguyen-Thao-Trinh, Do^{1,2} and Minh-Vien Le^{1,2}; ¹Faculty of Chemical Engineering, Ho Chi Minh city University of Technology, Ho Chi Minh City, 700000, Vietnam; ²Vietnam National University Ho Chi Minh City, Ho Chi Minh City, 700000, Vietnam 43
- OL16 **Study Plant Riboflavin luminescent (Euphorbia tirucalli Linn.) fingerprint powder for Forensic Science**, Suranarong rattanakosoom^{1*}, Rachadaporn Benchawattananon^{2*}; ^{1*}Scientist Level 4 Crime Scene investigation sub division Police Forensic Science Center 4, Khon Kaen ,Thailand 40000; ^{2*}Integrated Science Forensic Science Faculty of Science Khon Kaen University Khon Kaen 40002.Thailand 44
- OL17 **Green Synthesis Carbon Dots (CDs) Coconut Water by Hydrothermal Method's for Finger Print Detection on nonporous surface**, David Nugroho¹, Rachadaporn Benchawattananon¹, Saksit Chanthai², Chayanee Keawporm²; ¹Department Forensic, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand; ²Department Chemistry, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand 45
- OL18 **Active different molecular weight of chitosan-konjac glucomannan edible film coating : physicochemical and aflatoxin binding properties in peanuts**, Akkaracha Hanwattanakul¹, Anyanee Mokkran¹, Thanjira Intanasak¹, Benya Cherdhirunkorn¹, Surachet Toommee³, Chiravoot Pechyen^{1,2,*}; ¹Department of Materials and Textile Technology, Faculty of Science and Technology, Thammasat University, 12120, Thailand; ²Thammasat University Center of Excellence in Modern Technology and Advanced Manufacturing for Medical innovation, Thammasat University, 12120, Thailand, ³Department of Industrial Arts, Faculty of Industrial Technology, Kamphaeng Phet Rajabhat University, 62000, Thailand 46

- OL19 **Eco-Synthesis of Platinum Nanoparticles (PtNPs) Using Thai Herb Leaves Extract as Capping and Reducing Agent : Effect of Reaction Times**, Khanittha Ponsanti¹, Benchamaporn Tangnorawich^{1,4}, Nipaporn Ngernyuang^{2,4}, Chiravoot Pechyen^{3,4*}, ¹Department of Physics, Faculty of Science and Technology, Thammasat University, 12120, Thailand, ²Chulabhorn International College of Medicine, Thammasat University, 12120, Thailand, ³Department of Materials and Textile Technology, Faculty of Science and Technology, Thammasat University, 12120, Thailand, ⁴Thammasat University Center of Excellence in Modern Technology and Advanced Manufacturing for Medical innovation, Thammasat University, 12120, Thailand 47
- OL20 **Measurement of stress in single-crystal diamond by Raman microscopy**, Xiulin Shen^{1,2,3}, Meiyong Liao², Zhaohui Huang³, Zhenfei Lv^{1,*}; ¹School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, China; ²Research Center for Functional Materials, National Institute for Materials Science, Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan; ³School of Materials Science and Technology, China University of Geosciences (Beijing), Beijing 100083, China 48
- OL21 **Influence of Magnetic Field on the Properties of Aqueous Solution and CaCO₃ precipitate**, Xin Rong¹, Ming Gao¹, Jianjun Li^{1,2*}, Xujie Peng¹, Yin Liu^{1,2}, Changguo Xue¹; ¹Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, China, 232001; ²Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, Huainan 232001, China 52
- OL22 **Synthesis and Characterization of 4-Chlorophenoxyacetic Acid Herbicide Intercalated with Calcium-Aluminium Layered Doble Hydroxide Through Co-Precipitation Method**, Farah Liyana Bohari¹, Muhammad Alinsan Kamil Mukamil Hamzah¹, Sheikh Ahmad Izaddin Sheikh Mohd Ghazali^{1*}, Nur Nadia Dzulkifli¹ and Is Fatimah²; ¹School of Chemistry and Environment, Faculty of Applied Sciences Universiti Teknologi MARA Cawangan Negeri Sembilan Kampus Kuala Pilah, 72000, Negeri Sembilan, Malaysia; ²Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia, sheikhahmadizaddin@uitm.edu.my 58
- OL23 **In Situ Growth of CdS Spherical Nanoparticles / Ti₃C₂ Mxene Nanosheet Heterojunction with Enhanced Photocatalytic Hydrogen Evolution**, Guo-Qing Wang^a, Chun-Mei Kai^a, Cui Kong^a, Feng-Jun Zhang^{a,b*}; ^aKey Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei Anhui, 230601, P. R. China; ^bAnhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei Anhui, 230022, P. R. China; *Corresponding author: E-mail: fjzhang@ahjzu.edu.cn 59
- OL24 **Oxidative Degradation of Norfloxacin Antibiotics by Peroxymonosulfate Activated with Co₃O₄/Uio-66-NH₂ Composites**, Xun Fang¹, Shibiao Wu^{1,*}, Xia Chen², Yaru Li², Jianli Chen², Yaqin Wang², Haiyan Xu²; ¹Anhui Province Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei, Anhui, 230601, China; ²Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei, Anhui, 230601, China 60

- OL25 **High supercapacitive performance on a 2D Ni-MOF material**, Chao Feng; 61
School of materials and chemical engineering, Bengbu University, 233030,
China
- OL26 **Microwave promoted synthesis of MOFs enhanced ceramic membrane for 62
heavy metal removal**, YIN Na,WANG Ke, LI Zongqun; Anhui Provincial
Engineering Technology Research Center of Silicon-Based Materials, Bengbu
University , China 233000
- OL27 **Influences of breakdown voltages on arc erosion of a Ti_3AlC_2 cathode in 63
air atmosphere**, Xiaochen Huang^{1,2,*}, Zongqun Li^{1,2} , Jinlong Ge^{1,2}, Ming
Ding^{1,2}; ¹School of Material and Chemical Engineering, Bengbu University,
Bengbu, Anhui 233030, People's Republic of China; ² Engineering Technology
Research Center of Silicon-based Materials, Anhui, 233030, People's Republic
of China

Posters

- PO1 **Adsorptive decontamination of malachite green contaminated water by GQDs-doped FeOH₃/chitosan composite beads**, Wararat Saisom¹, Nattaporn Keanjun¹, Phitchan Sricharoen² and Nunticha Limchoowong^{1*}, ¹Department of Chemistry, Faculty of Science, Srinakharinwirot University 114 Sukhumvit 23 Rd., Wattana, Bangkok, 10110 Thailand, ²Nuclear Technology Research and Development Center, Thailand Institute of Nuclear Technology (Public Organization), Nakhon Nayok 26120, Thailand 64
- PO2 **Selective catalyst of ZnO-supported rice husk ash for glucose conversion**, Gridsana Wannasri¹, Piyathida Prawsri¹, Chayut Sommit¹, Nichapha Senamart¹, Jatuporn Wittayakun², Pimrapus Tawachkultanadilok², Yingyot Poo-arporn³, Surangrat Tonlubla³ and Sirinuch Loiha^{1*}, ¹Department of Chemistry, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, ²School of Chemistry, Institute of Science, Suranaree University of Technology, Nakhon Ratchasima, ³Synchrotron Light Research Institute, Nakhon Ratchasima, 30000, Thailand 65
- PO3 **Based on the study on preparation and properties of Co(II) and La³⁺-doped TiO₂ electrochromic film**, Xu Zifang*, Dai Yan, Ye Dongdong, Jiang Yujie, School of Material Science and Engineering, Anhui university of Science and Technology, AnHui Huainan 232001, China 66
- PO4 **Morphology control of glassy carbon coating layer to ethylene glycol / phenolic resin**, Sang Hyun Joo^a, Young Jun Joo^a, Kwang Yeon Cho^{a*}, ^aFibrous Ceramics & Aerospace Materials Center, Korea Institute of Ceramic Engineering and Technology, 101, Soho-ro, Jinju-si, Gyeongsangnam-do, 660-031 Korea 67
- PO5 **The crystallization behavior and microstructural analysis of polymer-derived SiC fibers fabricated via the control of impurity contents**, Young Jun Joo, Sang Hyun Joo, Hyuk Jun Lee, Young Jin Shim, Kwang Youn Cho*, ^aFibrous Ceramics & Aerospace Materials Center, Korea Institute of Ceramic Engineering and Technology, 101, Soho-ro, Jinju-si, Gyeongsangnam-do, 660-031 Korea 69
- PO6 **Z-scheme TiO₂/SnS₂ Heterojunctions with Enhanced Visible-light Photocatalytic Performance for Refractory Contaminants and Mechanistic Insight**, Juan Gao^{1*}, Lingcheng Zheng¹, Yanfen Wang², Yin Liu², ¹School of Mechanics and Photoelectric Physics, Anhui University of Science and Technology, Huainan 232001, P. R. China, ²School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, PR China 71
- PO7 **Microwave sol-gel derived Ho³⁺/Yb³⁺ co-doped NaCaGd(MoO₄)₃ yellow phosphors and their upconversion photoluminescence properties for optoelectronic devices**, Chang Sung Lim^{1*}, Won-Chun Oh¹, Aleksandr S. Aleksandrovsky^{2,3}, Victor V. Atuchin^{4,5}, Maxim S. Molokeev^{6,7,8}, Aleksandr S. Oreshonkov^{7,9}, ¹Department of Aerospace Advanced Materials Engineering, Hanseo University, Seosan 31962, Korea, ²Laboratory of

- Coherent Optics, Kirensky Institute of Physics Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia, ³Institute of Nanotechnology, Spectroscopy and Quantum Chemistry, Siberian Federal University, Krasnoyarsk 660041, Russia, ⁴Laboratory of Optical Materials and Structures, Institute of Semiconductor Physics, SB RAS, Novosibirsk, 630090, Russia, ⁵Research and Development Department, Kemerovo State University, Kemerovo 650000, Russia, ⁶Laboratory of Crystal Physics, Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia, ⁷Siberian Federal University, Krasnoyarsk 660041, Russia, ⁸Department of Physics, Far Eastern State Transport University, Khabarovsk 680021, Russia, ⁹Laboratory of Molecular Spectroscopy, Kirensky Institute of Physics Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia
- PO8 **Scheelite type microcrystalline AgGd(MoO₄)₂:Yb³⁺/Ho³⁺ upconversion yellow phosphors by MES based synthesis and their spectroscopic properties for biomedical applications**, Chang Sung Lim^{1*}, Won-Chun Oh¹, Aleksandr S. Aleksandrovsky^{2,3}, Victor V. Atuchin^{4,5}, Maxim S. Molochev^{6,7,8}, Aleksandr S. Oreshonkov^{7,9}, ¹Department of Aerospace Advanced Materials Engineering, Hanseo University, Seosan 31962, Korea, ²Laboratory of Coherent Optics, Kirensky Institute of Physics Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia, ³Institute of Nanotechnology, Spectroscopy and Quantum Chemistry, Siberian Federal University, Krasnoyarsk 660041, Russia, ⁴Laboratory of Optical Materials and Structures, Institute of Semiconductor Physics, SB RAS, Novosibirsk, 630090, Russia, ⁵Research and Development Department, Kemerovo State University, Kemerovo 650000, Russia, ⁶Laboratory of Crystal Physics, Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia, ⁷Siberian Federal University, Krasnoyarsk 660041, Russia, ⁸Department of Physics, Far Eastern State Transport University, Khabarovsk 680021, Russia, ⁹Laboratory of Molecular Spectroscopy, Kirensky Institute of Physics Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia 75
- PO9 **Evaluation for the fluorescence property of an energy transferred polymeric solid dye mixture in a spatially modulated Fourier transform spectrometer**, Ju Yong Cho¹, Hyoung Jin Kim¹, and Won Kweon Jang^{1,*}, ¹Department of Aeronautic Electricity, Hanseo University, 46, Hanseo 1-ro, Seosan-si 31962, South Korea 77
- PO10 **Vinetting in a spatially modulated Fourier transform spectrometer**, Ju Yong Cho¹, Hyoung Jin Kim¹, and Won Kweon Jang^{1,*}, ¹Department of Aeronautic Electricity, Hanseo University, 46, Hanseo 1-ro, Seosan-si 31962, South Korea 79
- PO11 **A simple method for fabricating an external light extraction composite layer with random nanostructures to improve the optical properties of OLEDs**, Geun Su Choi¹, and Young Wook Park^{1*}, ¹Nano and Organic-Electronics Laboratory, Department of Display and Semiconductor Engineering, Sun Moon University, Asan, Chungcheongnam-do 31460, Republic of Korea 81

- PO12 **Comparison of Carbon Dots Derived from Sugarcane Bagasse and Waste Tea Residue for the Detection of Tetracycline**, Dhanapat Kerdkok, Paphavee Rujichansiri, Panyapat kitivoranunnakul, Sucheewin Chotchatchawankul, Nunticha Limchoowong, Piyada Jittangprasert and Itthipol Sungwienwong*, Department of Chemistry, Faculty of Science, Srinakharinwirot University, 114 Sukhumvit 23 Rd., Wattana, Bangkok, 10110 Thailand 82
- PO13 **The flexible PDMS with random porous structure for external light extraction of OLEDs**, Eun Jeong Bae¹, Dong-Hyun Baek^{2*}, and Young Wook Park^{*}, ¹Nano and Organic-Electronics Laboratory, Department of Display and Semiconductor Engineering, Sun Moon University, Asan, Chungcheongnam-do 31460, South Korea, ²Center for Next Generation Semiconductor Technology, Department of Display and Semiconductor Engineering, Sun Moon University, Asan, Chungcheongnam-do 31460, South Korea 83
- PO14 **Highly efficient blue phosphorescent OLEDs with undoped ultra-thin emission layer structure**, Shin Woo Kang^{1,2}, Byeong-Kwon Ju^{1*}, and Young Wook Park^{2*}, ¹Display and Nanosystem Laboratory, Department of Electrical Engineering, Korea University, 145, Anam-ro, Seongbuk-gu, Seoul 02841, Republic of Korea, ²Nano and Organic-Electronics Laboratory, Department of Display and Semiconductor Engineering, Sun Moon University, Asan, Chungcheongnam-do 31460, Republic of Korea 84
- PO15 **High quality 3-dimensional structure based on polymeric material for enhancing the external quantum efficiency**, Dong-Hyun Baek¹, Eun Jeong Bae², Ho Seob Kim¹, and Young Wook Park², ¹Center for Next-Generation Semiconductor Technology, Sun Moon University, Asan Chungcheongnam-do, South Korea, 31460, ²Nano and Organic-Electronics Laboratory, Department of Display and Semiconductor Engineering, Sun Moon University, Asan, Chungcheongnam-do, South Korea, 31460 85
- PO16 **Preparation of porous geopolymers depending on foaming agents**, Kyung won Kim, Hyung Mi Lim*, ^aFibrous Ceramics & Aerospace Materials Center, Korea Institute of Ceramic Engineering and Technology, 101, Soho-ro, Jinju-si, Gyeongsangnam-do, 660-031 Korea 86
- PO17 **Changes in the shape of silica sol particles depending on the difference in aging time**, Seong Yoon Kim, Seong Hoon Lee, Hyung Mi Lim*, ^aFibrous Ceramics & Aerospace Materials Center, Korea Institute of Ceramic Engineering and Technology, 101, Soho-ro, Jinju-si, Gyeongsangnam-do, 660-031 Korea 88
- PO18 **Removal of Cr (VI) ions from aqueous solution by zinc impregnated cellulose composites in a fixed-bed column**, Supattra Tangtubtim¹, Natthawut Potprarinnya² and Kongsak Pattarith^{1*}, ¹Department of Chemistry, Faculty of Science, Buriram Rajabhat University, 31000, Thailand, ²Department of Electrical Engineering Technology, Faculty of Industrial Technology, Buriram Rajabhat University, Buriram 31000, Thailand. 90
- PO19 **Naked-eye detection of KCN based on intramolecular charge transfer of azo compound in aqueous solution**, Suphawarat Thupsuri and Sukanya Tongkhan*, Department of Chemistry, Faculty of Science, Buriram Rajabhat University, 31000, Thailand 91

- PO20 **Preparation of *Cymbopogon nardus* (L.) Randle oil nanocapsule by encapsulation process for embedding into cotton fibers**, Rungnapa Pimsen^{1*}, Paweena Porrawatku¹, Naengnoi Sangsane¹, and Montakarn Thongsom², ¹Nanomaterials Chemistry Research Unit, Department of Chemistry, Nakhon Si Thammarat Rajabhat University, 80280, Thailand. ²Department of Biology Nakhon Si Thammarat Rajabhat University, 80280, Thailand 92
- PO21 **Microwave assisted synthesis of Ag/ZnO nanoparticles using *Averrhoa carambola* fruit extracts as reducing agent for antibacterial finishing over cotton fabrics**, Paweena Porrawatku^{1*} and Prawit Nuengmatcha², ¹Creative Innovation in Science and Technology, ²Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand. 103
- PO22 **Effect of Gamma Chitosan/ZnO composites on Antifungal Properties**, Arnannit Kuyyogsuy^{1*}, Prawit Nuengmatcha¹ and Wilaiwan Chaisorn², ¹Nanomaterials Chemistry Research Unit, Department of Chemistry, ²Department of Biology, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand. 104
- PO23 ***In vitro* antimicrobial activity of extracts obtained from *Syzygium gratum* against the fish pathogenical bacteria *Streptococcus agalactiae***, Sunanta Khongsai^{1*}, Uton Charoendat² and Luksamee Vittaya¹; ¹Department of Physical Science, Faculty of Science and Fisheries Technology, Rajamangala University of Technology Srivijaya, Trang Campus; ²Department of Fisheries Technology, Faculty of Science and Fisheries Technology, Rajamangala University of Technology Srivijaya, Trang Campus 105
- PO24 **Natural pigments from Malabar spinach berries using as colorimetric detection of potassium cyanide in aqueous solution**, Thayapan Hobanthad and Sukanya Tongkhan*, Department of Chemistry, Faculty of Science, Buriram Rajabhat University, 31000, Thailand 111
- PO25 **Antioxidant activity and total phenolic content of different parts of *Nelumbo nucifera Gaertn.***, Naengnoi Saengsane, Apitsara Intaratat, Yanisa Thepchuay*, Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, Nakhon Si Thammarat 80280, Thailand 112
- PO26 **Heating preconcentration system for determination of metal ions using distance-based paper device, colorimetric and electrochemical assay**, Benjawan Ninwong^{1,2} and Wijitar Dungchai^{1,3*}, ¹Organic Synthesis, Electrochemistry & Natural Product Research Unit, Department of Chemistry, Faculty of Science, King Mongkut's University of Technology Thonburi, Bangkok, 10140, Thailand. ²Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, Nakhon Si Thammarat, 80280, Thailand. ³Applied Science & Engineering for Social Solution Unit, Faculty of Science, King Mongkut's University of Technology Thonburi, Bangkok, 10140, Thailand 113

- PO27 **Development of sun screen using ZnO nanoparticles capped *Caulerpa Caulerpa racemose* extract**, Sunanta Khongsai¹, Luksamee Vittaya¹, Montakarn Thongsom² and Paweena Porrawatkul^{2*}, ¹Faculty of Fisheries Science and Technology, Trang Campus, Rajamangala University of Technology Srivijaya, 92150, Thailand. ²Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand 114
- PO28 **Preparation of BaFe₁₂O₁₉ magnetic nanoparticles using CMC as chelating agent for photocatalytic degradation of methylene blue**, Parintip Rattanaburi¹, Prawit Nuengmatcha^{1,2*}, ¹Creative Innovation in Science and Technology, ²Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand 122
- PO29 **Biological synthesis of hybridized silver nanoparticle-graphene quantum dots for anti-Vibrio bacterial activity**, Worrakul Teewawech¹, Saitharn Nuanseang¹, Wanwisa Chairit¹, Montakarn Thongsom² and Rungnapa Pimsen^{1*}, ¹Nanomaterials Chemistry Research Unit, Department of Chemistry, Nakhon Si Thammarat Rajabhat University, 80280, Thailand. ²Department of Biology Nakhon Si Thammarat Rajabhat University, 80280, Thailand 123
- PO30 **Efficient degradation of dye pollutant from wastewater via photocatalysis using a magnetic ZnO/graphene/Fe₂O₃ catalyst**, Sarawut Puttasuk, Teerachot Bunsong, Paweena Porrawatkul, Amnuay Noypha, and Prawit Nuengmatcha*, Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand 124
- PO31 **Total phenolics contents and Antioxidant activity of *Syzygium gratum* extracts**, Sunanta Khongsai* and Luksamee Vittaya, Department of General Education, Faculty of Science and Fisheries Technology, Rajamangala University of Technology Srivijaya, Trang Campus. Thailand 125
- PO32 **Gas Chromatography-Mass Spectrometry (GC-MS) of volatile oil in Siam Cardamom**, Mayo Lamsub^{1*}, Sirirat Phaisansuthichol², ¹Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand, ²Program in Chemistry, Faculty of Science, Maejo University, Chiang Mai 50290, Thailand 132
- PO33 **Formulation and evaluation of herbal cream from *Elateriospermum tapos Blume* oil**, Naengnoi Sangsane^{1*}, Paweena Porrawatkul¹, Rungnapa Pimsen¹, Prawit Nuengmutcha¹, Nongyao Teppaya¹, Amannit Kuyyogsuy¹, Yanisa Thepchuy¹, Nichapa Rattanakomon¹ and Montakarn Thongsom²; ¹Nanomaterials Chemistry Research Unit, Department of Chemistry; ²Department of Biology, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand. 133
- PO34 **Lead (II) removal from wastewater using a magnetic magnesium oxide/graphene/iron oxide adsorbent**, Teerachot Bunsong, Namtip Saetang¹, Sarawut Puttasuk¹, Amnuay Noypha² and Prawit Nuengmatcha^{1*}, ¹Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, ²Department of Physics, Nakhon Si Thammarat Rajabhat University, Nakhon Si Thammarat, Thailand 139

- PO35 **Removal of methylene blue and Cr (VI) using activated carbon derived from waste rubber seed shell**, Suphawarat Thupsuri, Kongsak Pattarith and Supattra Tangtubtim*, Department of Chemistry, Faculty of Science, Buriram Rajabhat University, Buriram 31000, Thailand 140
- PO36 **Lead (II) removal from synthetic wastewater using activated carbon derived from mangosteen peel**. Piyawan Nuengmatcha^{1*}, Piyakan Khongsaiya¹, Jiraporn Chaithip¹, Nichapa Rattanakomon², Anusorn Banluepuech³, Amnuay Noypha⁴, ¹Department of Environmental Science, ²Department of Chemistry, ³Science Center, Faculty of Science and Technology, ⁴Department of Chemistry, Faculty of Education, Nakhon Si Thammarat Rajabhat University, 80280, Thailand 141
- PO37 **Instability of FFLO states in multiply connected superconductor-ferromagnet hybrid geometry**, Noppasin Chamnan, Department of Physics, Faculty of Science, Burapha University, Chonburi, 20131, Thailand 147
- PO38 **Facile Synthesis of g-C₃N₄ modified Bi₂MoO₆ Nanocomposite with Improved Photoelectronic Behaviors**, Lei Zhu[†], Jia-Yao Tang¹, Jia-Yi Fan¹, Chen-Sun¹, Ya-Xuan Tang¹, Shi-Yu Lu¹, Heng-Yang Zhu¹, Won-Chun Oh^{2†}; ¹Key Laboratory for Advanced Technology in Environmental Protection of Jiangsu Province, Yancheng Institute of Technology, Yancheng, 224051, P.R. China; ²Department of Advanced Materials Science & Engineering, Hanseo University, Seosan 31962, Republic of Korea 148
- PO39 **Rapid screening of formaldehyde in food using spectrophotometric assay**, Yanisa Thepchuay, Wannisa Chairit, Naengnoi Saengsane, Paweena Porrawatkul, Rungnapa Pimsen*, Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, Nakhon Si Thammarat 80280, Thailand 149
- PO40 **Highly stable and active PtP₂-based electrocatalyst for oxygen reduction in high temperature polymer electrolyte membrane fuel cell**, Jeong-Hoon Yu, Jong-Sung Yu*; Department of Energy Science and Engineering, Daegu Gyongbuk Institute of Science & Technology (DGIST), Daegu 42988, Republic of Korea 150
- PO41 **Fabrication of Ag/ZnO coated on cotton fabric with improved UV protection and antibacterial activity using *Caulerpa xxxi* acemose extract as reducing agent**, Paweena Porrawatkul¹, Montakarn Thongsom², Prawit Nuengmatcha^{1*}, ¹Nanomaterials Chemistry Research Unit, Department of Chemistry, ²Department of Biology, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, 80280, Thailand 151
- PO42 **Potentiometric Titration Analysis of Cerium(IV) in Foam Decontaminant**, Chong-Hun Jung*, W. K. Choi, S. B. Kim, B. K. Seo, Decommissioning Technology Research Division, Korea Atomic Energy Research Institute, 11, Daedeok-daero 989 beon-gil, Yuseong-gu, Daejeon, 34057, Korea 158
- PO43 **Novel synthesis of nano needle-like Cu₂O-GO-TiO₂ and CuO-GO-TiO₂ for the high photocatalytic performance of anionic and cationic pollutants**, Jingjing Zhao¹, Won-Chun Oh^{2*}, ¹School of Pharmacy, North China University of Science and Technology, Tangshan 063210, Hebei, Peoples R China, ²Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam 31962, Korea 159

- PO44 **Improvement of UV Protection of Indigo Textiles with Zinc Oxide Nanoparticles**, Waraporn Chuekuna, Chulaporn Peartuapu and Thitiya Sripakdee*, Department of Chemistry, Faculty of Science and Technology, Sakon Nakhon Rajabhat University, 47000, Thailand. 160
- PO45 **Design and preparation of basic magnesium sulfate cement-based high-strength coral concrete**, Wang Aiguo*, Chu Yingjie, Sun Daosheng, Liu Kaiwei, Ma rui, Guan Yanmei; Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei Anhui, P. R. China, 230022 161
- PO46 **Antibacterial Activity of Nypa frutican Vinegar-Graphene Quantum Dots Against Gram-Positive and Gram-Negative Bacteria**, Nongyao Teppaya¹ and Prawit Nuengmatha^{2*}, ¹Creative Innovation in Science and Technology, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, Nakhon Si Thammarat 80280, Thailand, ²Nanomaterials Chemistry Research Unit, Department of Chemistry, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, Nakhon Si Thammarat 80280, Thailand 162
- PO47 **Research on butt submerged arc welding technology of 09MnNiDR plate**, Binqun Cao, Ye Ge, Tianhao Hu, Guotao Dong, Jing Wang *; College of Materials Science and Engineering, Anhui University of Science And Technology, Huainan, Anhui 232001 163
- PO48 **MoO₃/g-C₃N₄ heterostructure for degradation of organic pollutants under visible light irradiation: high efficiency, general degradation and Z-scheme degradation mechanism**, Yuanzhi Li, Changzhao Chen*, Xinxin Chen, Jiuyan Zang, School of Mechanics and Optoelectronics Physics, Anhui University of Science and Technology, Huainan 232001, China 169
- PO49 **ZnO Bilayer Thin Film Transistors Using H₂O and O₃ as Oxidants by Atomic Layer Deposition**, Xue Chen¹, and Chang Liu^{2*}, ¹School of Mechanics and Optoelectronics Physics, Anhui University of Science and Technology, Huainan 232001, China, ²Key Laboratory of Artificial Micro- and Nano-structures of Ministry of Education, and School of Physics and Technology, Wuhan University, Wuhan 430072, China 171
- PO50 **Preparation and flame retardancy of bromine Modified Hyperbranched waterborne Polyurethane**, Fen Li¹, Xiang Wang¹, Haifeng CAO¹, Jinbo ZHU¹, ¹School of Materials, Anhui University of Science and Technology 172
- PO51 **Synthesis and characterization of porous Mxene Ti₃C₂Tx with high microwave absorption properties**, Chongmei Wu, Zhenying Liu, Yan Wang, Guiyang Xian, Yin Liu*, School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, Anhui, China 177
- PO52 **Effect of Different Modifiers on Dispersion of Nano-TiN in Organic System**, Guojun Cheng^{a,b,c}, Feixiang Sha^a, Ziyue Xuan^a, Meng Liu^a, Longxuan Zhou^a, Shen Tian^a, ^a School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China, ^bInstitute of Environment-friendly Materials and Occupational Health of Anhui University of Science and Technology (Wuhu), Wuhu 241003, China, ^cAnhui Province Key Laboratory of Environment-friendly Polymer Materials, Anhui University, Hefei 230601, China 180

- PO53 **Preparation and properties of hydroxyethyl cellulose crosslinked membrane**, Hao Cui^a, Yanfeng Qian^a, Meiling Gao^a, Zhibo Chen^a, Mingyue Zhang^a, Xianglong Wan^{a,b}, Yin Liu^{a,b}, ^aSchool of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, China ; ^bAnhui International Joint Research Center for Nanocarbon-based Materials and Environmental health, Huainan 232001, China 187
- PO54 **Improvement of Sedimentation Clay Sewage by Micron Magnetic seed Addition**, Hu Mengyuan, Gao Ming, Hu Tianyu, Li Jianjun*, Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, China 191
- PO55 **Role of P and La co-doped SrTiO₃ visible light photocatalytic activity for water splitting: a first-principles study**, Jingyu Wang^a, Ximing Zhang^a, Yang Fan^a, Yueqin Wang^b, Yin Liu^a *, ^aSchool of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, Anhui, China, ^bSchool of Mechanics and Optoelectronic Physics, Anhui University of Science and Technology, Huainan 232001, Anhui, China 194
- PO56 **Novel lithium-based sorbents from diatomite for high temperature CO₂ capture**, Jinxiang Wang¹, Xiaobo Peng², ¹School of Materials Science and Engineering, Anhui University of Science & Technology, Huainan, 232001, Anhui, China, ²China Triumph International Engineering Co-Ltd, Bengbu, 233018, Anhui, China 197
- PO57 **Preparation of Nano Montmorillonite Modified Polypropylene Films**, Junshan Gao, Jianxun Gong, Xin Chen, School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, 232001, PR China 201
- PO58 **Preparation of electromagnetic wave absorbing material by co-processing lignin and coal**, Li Zongru, Shi Qiong, Wen Minyue, Zhao Yan*, Liu yin, School of Material Engineering and Science, Anhui University of Science and Technology, Huainan, Anhui 232000, China 204
- PO59 **Structure and Microwave Dielectric Properties of the Li_{2/3(1-x)}Ti_{1/3(1-x)}Mg_xO (x=1/7 to 5/8) Systems**, Li Chang, Zhonyi Yang, Qing Cheng, School of Mechanics and Optoelectronic Physics, Anhui University of Science & Technology, Huainan, 232001, China 207
- PO60 **Magnetic zeolite synthesized from Gangue by ball-milling method**, Linlin Song, Tianyu Hu, Xujie Peng, Xin Rong, Jianjun Li *, Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, China 208
- PO61 **Controlled Semimetallic 1T'-Phase as Cocatalysts and Boron-Doped Nitrogen-Deficient g-C₃N₄ Composite for Photocatalytic Hydrogen Evolution**, Mei Liu, Juan Gao*, Lingcheng Zheng, Jiale Deng, School of Mechanics and Photoelectric Physics, Anhui University of Science and Technology, Huainan 232001, P. R. China 211

- PO62 **Multilayer Ti₃CTx impregnated polyurethane foam, with improved conductivity and flame retardancy**, Longxuan Zhou^a, Guojun Cheng^{a,b,c,*}, Ziyue Xuan^a, Meng Liu^a, Feixiang Sha^a, Shen Tian^a, ^a School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China, ^b Institute of Environment-friendly Materials and Occupational Health of Anhui University of Science and Technology (Wuhu), Wuhu 241003, China, ^c Anhui Province Key Laboratory of Environment-friendly Polymer Materials, Anhui University, Hefei 230601, China 212
- PO63 **Preparation of crosslinked membrane based on PVA and its application**, Meiling Gao^a, Zhibo Chen^a, Hao Cui^a, Yanfeng Qian^a, Mingyue Zhang^a, Ruobin Li^a, Xiaorui Wang^a, Xianglong Wan^{a,b}, Yin Liu^{a,b}, ^aSchool of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, China ; ^bAnhui International Joint Research Center for Nanocarbon-based Materials and Environmental health, Huainan 232001, China 219
- PO64 **Photocatalytic properties of TiO₂/SnS/MoS₂ heterojunction**, Jiale Deng, Juan Gao*, Lingcheng Zheng, Mei Liu, School of Mechanics and Photoelectric Physics, Anhui University of Science and Technology, Huainan 232001, P. R. China 223
- PO65 **Research on settlement mechanism of fine grain with compound agent**, Mengting Li, Longqian Ni, Xianglong Wan^{1*}, Bohan Zhou², Chuyang Xu¹, Yanfen Wang¹, ¹School of Materials Science and Engineering, Anhui University of Science and Technology, Anhui Huainan 232001, China; ²Huainan Institute of Standardization, Anhui Huainan 232001, China 225
- PO66 **Preparation and electrochemical performance of NiCo₂O₄@Co₃O₄ nanomaterials by ball milling**, NI Liang-liang, SHENG Shao-ding, TIAN Kong-hu; Material science and Engineering School, Anhui University of Science and Technology, Huainan 232001 231
- PO67 **Properties of Radiation Cross-linked Polytetrafluoroethylene**, Feixiang Sha^{a,d}, Guojun Cheng^{a,b,c,*}, Zhongfeng Tang^{d,e,*}, Ziyue Xuan^a, Meng Liu^a; ^aSchool of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China; ^bAnhui Province Key Laboratory of Environment-friendly Polymer Materials, Anhui University, Hefei 230601, China; ^cInstitute of Environment-Friendly Materials and Occupational Health, Anhui University of Science and Technology (Wuhu), Wuhu, China; ^dShanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai 201800, China; ^eKey Laboratory of Interfacial Physics and Technology, Chinese Academy of Sciences, Shanghai, 201800, China 234
- PO68 **Synthesis of Co/C@PANI with high microwave absorption properties**, Guiyang Xian, Zhaolin Zhu, Chongmei Wu, Yan Wang, Yin Liu*; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, Anhui, China 240

- PO69 **L-aspartic acid flame retardant polyvinyl alcohol composites membrane with high transparency**, Meng Liu^a, Guojun Cheng^{a,b,c}, Ziyue Xuan^a, Longxuan Zhou^a, Shen Tian^a, Feixiang Sha^a; ^a School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China; ^b Anhui Province Key Laboratory of Environment-friendly Polymer Materials, Anhui University, Hefei 230601, China; ^c Institute of Environment-Friendly Materials and Occupational Health, Anhui University of Science and Technology (Wuhu), Wuhu, China 243
- PO70 **Comparison and Analysis of Synthesis of Bisphenol-A Polyarylates by Melt Polycondensation and Interfacial Polycondensation**, Zhoufeng Wang*, Junwei Hu, Taoguo Ding, Bolin Wang, Yingying Liu, Danlei Huang; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, PR China 250
- PO71 **Preparation and properties of aromatic polyesters derived from bisphenol-A / bishydroxyphenylbutane**, Zhoufeng Wang*, Taoguo Ding, Junwei Hu, Bolin Wang, Yingying Liu, Bo Wang; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, PR China 256
- PO72 **Application of microcantilever sensing system in CNTs micro heat detection**, TENG Yanhua, WANG Qiming, ZHOU Ninghong, FENG He, LI Gaohan, WANG Qingping; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China 262
- PO73 **Three-dimensional ZIF-derived hollow Co and N co-doped carbon bifunctional catalyst for Zn-air battery**, Wenhan Zhou, Yang Li*, Kejian Shi, Yanyan Zhang; School of Mechanics and Optoelectronic Physics, Anhui University of Science and Technology, Huainan 232001, P. R. China 266
- PO74 **Ni_(1-x)Zn_xFe₂O₄ with excellent electromagnetic wave absorption performance**, Ximing Zhang, Jingyu Wang, Yang Fan, Yin Liu*; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, Anhui, China 268
- PO75 **Synthesis of high performance Ti₃C₂ electrode material doped with phosphorus and nitrogen diatoms based on guanidine salt**, Ziyue Xuan^a, Guojun Cheng^{a,b,c,*}, Meng Liu^a, Feixiang Sha^a, Longxuan Zhou^a, Shen Tian^a; ^a School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China ; ^b Anhui Province Key Laboratory of Environment-friendly Polymer Materials, Anhui University, Hefei 230601, China; ^c Institute of Environment-Friendly Materials and Occupational Health, Anhui University of Science and Technology (Wuhu), Wuhu, China 272
- PO76 **Adsorption mechanism of SA/PVA/GO aerogel spheres for MB**, Xiuling Lin, Jieqi Zhang Huawei Feng; Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China 279

- PO77 **Fabrication and property investigation of epoxy nanocomposites reinforced by a nanohybrid of flower-like nickel phyllosilicate@zinc sulfide**, Xue-song Feng, Ji-nian Yang*, Liu Jiang; School of Materials Science and Engineering, Anhui University of Science and Technology, Anhui Huainan 232001, P.R. China 286
- PO78 **Cu²⁺ Adsorption of Magnetic Chitosan: Kinetic and Thermodynamic Studies**, Xujie Peng¹, Liting Zhang^{1*}, Ruichang Cao¹, Meng Li¹, Xin Rong¹, Jianjun Li^{1,2}, Yin Liu^{1,2}; ¹Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, China, 232001; ²Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, Huainan 232001, China 287
- PO79 **Facile synthesis of the SrTiO₃/PANI composites with advanced microwave absorption performance**, Yan Wang, Chongmei Wu, Guiyang Xian, Zhaolin Zhu, Yin Liu*; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, Anhui, China 299
- PO80 **Development of multi-functional films modified with stearic acid/TiO₂ nanoparticles**, Yanfen Wang, Yin Liu, Juan Gao, Mengting Li; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, PR China 303
- PO81 **Coal-based carbon /FeCo composites with excellent microwave absorption performance were prepared from anthracite**, Yang Fan, Jingyu Wang, Ximing Zhang, Yin Liu*; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, Anhui, China 307
- PO82 **A novel ZIF-derived Fe,Co@N-C bifunctional oxygen electrocatalysts for rechargeable liquid/solid Zn-air batteries**, Yanyan Zhang, Yang Li*, Kejian Shi, Wenhan Zhou; School of Mechanics and Optoelectronic Physics, Anhui University of Science and Technology, Huainan 232001, P. R. China 310
- PO83 **Colymerization of Styrene and Norbornene Using Pyrazolyimine Nickel (II) /Methylaluminumoxane (MAO) Catalytic System**, WANG Yuan-yuan, GAO Jun-shan; School of Material science and engineering, Anhui University of Science and Technology, Anhui, Huainan, 232001 312
- PO84 **Study on surface modification of hollow glass microspheres**, Zhaolin Zhu, Guiyang Xian, Chongmei Wu, Yan Wang, Yin Liu,*; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, Anhui, China 318
- PO85 **Preparation and properties of high temperature resistant materials from sanitary porcelain waste**, Zhenfei Lv, Yuena Jiang, Xihu Li, Zhenying Liu, Xiulin Shen*; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui, 232001, PR China 321
- PO86 **Effect of Cobalt Oxide on the properties of Mullite Synthesized by Sol-gel Method**, Zhenying Liu^{1,*}, Shouwu Huang¹, Chongmei Wu¹, Wenjie Wang¹, Nan Xie¹, Zhongde Yang², Xin Lin²; ¹School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China; ²Anhui CONCH- SCG Refractory Co., Ltd., Wuhu, China 326

- PO87 **Preparation and Application of g-C₃N₄/PVDF composite film**, Zhou Luzhi, 329
Tan Jiewen, Yuan Xinshun, Li Jialu, Cheng Changhong, Yu qingbo*; School of materials science and engineering, Anhui University of technology, Huainan, Anhui
- PO88 **A study of effect of alcohol spray on latent fingerprint quality on non-porous forensic evidences on Covid-19 pandemic period**, Panattha 335
Buranasiri and Rachadaporn Benchawattananon; ¹Office of Police Forensic Science, Bangkok, 10330, Thailand; ²Integrated Science Forensic Science Faculty of Science Khon Kaen University, Khon kaen , 40002, Thailand
- PO89 **Recovering of Perfluorocarbon from the Spent Decontamination Emulsion using Distillation Method**, Naon Chang^{1,2}, Huijun Won¹, and 339
Seonbyeong Kim^{1*}; ¹Decommissioning Technology Research Division, Korea Atomic Energy Research Institute, Daejeon 34057, Korea; ²Department of Nuclear Engineering, Hanyang University, Seoul 04763, Korea
- PO90 **Evaluation of GlobalFiler™ IQC PCR Amplification Kits using half volume reaction in low template DNA of Forensic samples**, Waritsara 340
Chompubai^{1*} and Rachadaporn Benchawattananon^{2*}; ^{1*} Scientist, Forensic biology and DNA examinations sub division Police Forensic Science Center4,Khon Kaen ,Thailand 40000; ^{2*} Integrated Science Forensic Science Faculty of Science Khon Kaen University, Khon Kaen , 40002, Thailand
- PO91 **Determination of sibutramine compound in slimming supplements using distance-based paper devices**, Chanya Punthamal and Wijitar 343
Dungchai^{1*}; ¹Organic Synthesis, Electrochemistry & Natural Product Research Unit, Department of Chemistry, Faculty of Science, King Mongkut's University of Technology Thonburi, Prachautid Road, Thungkru, Bangkok, 10140, Thailand
- PO92 **DFT Investigations on Depolymerization Mechanism of Lignin Oligomer Catalyzed by Pd/NbOPO₄**, Jiajia He,¹ Dianyong Tang,^{2*} 354
Changwei Hu,¹ Chan Kyung Kim,^{3*} Zhishan Su^{1*}; ¹Key Laboratory of Green Chemistry and Technology, Ministry of Education, College of Chemistry, Sichuan University, Chengdu, Sichuan 610064, P. R. China; ²College of Pharmacy & International Academy of Targeted Therapeutics and Innovation, Chongqing University of Arts and Sciences, Chongqing 402160, China; ³Department of Chemistry and Chemical Engineering, Inha University, 100 Inha-ro, Michuhol-gu, Incheon 22212, Korea
- PO93 **Theoretical Research of 2, 3, 5, 6-Tetra(1H-tetrazol-5-yl) pyrazine and 1,1-Diamino-2,2-Dinitroethylene Blending System**, Jun Li,^{1*} Wendong Liu,¹ Xinhui 355
Zhang,¹ Yueyang Wang,¹ Zongchang Li,¹ Xinan Chen,¹ Yiqing Zhang,¹ and Chan Kyung Kim^{2*}; ¹Department of Chemical Engineering, North University of China, 3#, Xueyuan Road, Taiyuan 030051, China; ²Department of Chemistry and Chemical Engineering, Inha University, Incheon, 22212, Korea
- PO94 **Single-atom copper anchored on t-BaTiO₃ for piezo-Fenton degradation of tetracycline**, Zeda Meng*, Quanzi Pan, Xin Ni; Provincial Key 357
Laboratory of Environmental Science and Engineering, College of Chemistry and Bioengineering, Suzhou University of Science and Technology, Suzhou 215009, China

- PO95 **A general in situ deposition strategy for synthesis of porous material with asymmetric wettability**, Jingming Wang, Luyang Hu, Yin Liu, School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, 232001, China 358
- PO96 **Molecular dynamics simulation of mechanical properties of Fe_{0.5}Ti_{0.5}-CNT nanocomposites**, Xinxin Wang, Chao Zhang*, Jiangwei Xu, Yin LiuChuyang Xu; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China 362
- PO97 **Bct-C5: A new body-centered tetragonal carbon allotrope**, Jiangwei Xu, Chao Zhang*, Yu Cao, Yin Liu, Chuyang Xu; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China 367
- PO98 **Irradiation damage mechanism of NiFe alloys based on two-temperature molecular dynamics**, Jiangwei Xu, Chao Zhang*, Huajin Hu, Yin Liu, Chuyang Xu; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China 373
- PO99 **Preparation and adsorption to PM2.5 of PAM/GO aerogel**, Jieqi Zhang, Xiuling Lin*, Chao Zhang; School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China 378
- PO100 **Effect of POE-g-MAH with reactive groups on micromorphology evolution and mechanical properties of PP/PLA blends**, Bingyu Fan¹, Jin Liu^{*1,2}, Zhen Li^{1,2}, Ping Wang¹, Xianbiao Wang¹, Fengjun Zhang¹; ¹ School of Materials Science and Chemical Engineering, Anhui Jianzhu University, Hefei 230601, P. R. China ; ²Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei 230601, P. R. China 383
- PO101 **Noble I-type 0D/0D ZnS@Cu₃P heterojunction for photocatalytic hydrogen evolution**, Weiqin Cai^{a,b}, Fengjun Zhang^{a,b*}, Yingrui Wang^{b,c}, Dongcai Li^b; ^a Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei 230601, Anhui China; ^bAnhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei 230601, Anhui China; ^c Construction economy and real estate management research center, Anhui Jianzhu University, Hefei 230601, Anhui China 385
- PO102 **The structural guiding and catalysis effects of doping of cobalt ions on ZnCr₂O₄ oxides for methane combustion**, Jia He, Xiao-Qiang Shao, Shao-Jie Feng*; ¹Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei Anhui, P. R. China, 230601; ²Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei Anhui, P. R. China, 230022 386
- PO103 **Synthesis and characterization of noble metal-free semiconductor photocatalyst Mn_{0.5}Cd_{0.5}S/NiCo₂Se₄ for hydrogen production**, Chao Liu¹, Feng-Jun Zhang^{1,2*}; ¹Key Laboratory of Functional Molecule Design and Interface Process, Anhui Jianzhu University, Hefei Anhui, P. R. China, 230601; ²Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei Anhui, P. R. China, 230022 388

- PO104 **Mechanism of thermal activation on granular coal gangue and its impact on the performance of cement mortars**, Sun Daosheng*, Liu Peng, Wang Aiguo, Mo Liwu, Liu Kaiwei, Guan Yanmei; Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei Anhui, P. R. China, 230022 389
- PO105 **The Effect of Epoxy Chain Extender on the Interface State and Performance of PLA/PA1211 Blends**, Xinliang Chen¹, Jin Liu^{*1,2}, Ping Wang^{1,2}, Zhen Li¹, Di Wang¹, Xianbiao Wang¹; ¹School of Materials Science and Chemical Engineering, Anhui Jianzhu University, Hefei 230601, P. R. China; ²Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei 230601, P. R. China 390
- PO106 **Preparation and properties of surface-modified nano-ZnO light-initiated UV-curable waterborne polyurethane acrylate composite film**, Yun Shen¹, Jin Liu^{*1,2}, Zhen Li^{1,2}, Ping Wang¹, Xianbiao Wang¹, Fengjun Zhang^{1,2}; ¹School of Materials Science and Chemical Engineering, Anhui Jianzhu University, Hefei 230601, P. R. China; ²Anhui Key Laboratory of Advanced Building Materials, Anhui Jianzhu University, Hefei 230601, P. R. China 392
- PO107 **Preparation and electrical properties of Co₃O₄ materials**, Tianhao Hu, Guotao Dong , Ye Ge , BinQuan Cao , Jing Wang *; College of Materials Science and Engineering, Anhui University of Science And Technology, Huainan, Anhui 232001 394
- PO108 **Novel Preparation of Functional β -SiC Fiber based In₂O₃ Nanocomposite and Controlling of Influence Factors for the Chemical Gas Sensing**, Zambaga Otgonbayar¹, Young Jun Joo³, Kwang Youn Cho³, Sang Yul Park⁴, Kwang Youl Park⁴, Won-Chun Oh^{1,2*}; ¹ Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706; ²College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan 232001, PR China; ³Korea Institutes of Ceramic Engineering and Technology, Soho-ro, Jinju-Si, Gyeongsangnam-do, South Korea; ⁴Daeho I&T, Changwon-si, Gyeong-sangnam-do, 51338, Korea 402
- PO109 **Enhancement of Cell Growth by Mychonastes homosphaera Extract in HDF Fibroblasts**, Jun Hee Kim¹, Ji Woo Hong¹, Da Hye Gam¹, Jae Hyun Park¹, and Jin Woo Kim^{1,2*}; ¹Department of Food Science, Sun Moon University, Natural Science 118, 70 Sunmoon-ro 221, Tangjeong-myeon, Asan-si, Chungnam 336-708, Korea; ²FlexPro Biotechnology, Natural Science 128, 70 Sunmoon-ro 221, Tangjeong-myeon, Asan-si, Chungcheongnam-do, Korea 403
- PO110 **In-situ Synthesis and Electrochemical Properties of High Capacity Silicon-based Composites for Lithium-Ion Batteries**, Bo Ding^{*a,b,c}, ^aMaterials and Chemical Engineering Department, Bengbu College, Anhui, 233030, China; ^bAnhui Provincial Engineering Laboratory of Silicon-based Materials, Anhui, 233030, China; ^cEngineering Technology Research Center of Silicon-based Materials, Anhui, 233030, China 405

- PO111 **The Synthesis of Copper Thick Film on Alumina Substrates using a Novel Electroplating Method for Power Electronic Devices**, Jun Fang^{*a,b}; ^aSchool of Material and Chemical Engineering, Bengbu University, Anhui, 233030, China; ^bAnhui Provincial Engineering Laboratory of Silicon-based Materials, Anhui, 233030, China 407
- PO112 **Preparation and Gas Sensing Performance of g-C₃N₄/CuO Composite**, Xianfeng Zhang*, Jiale Fang, Lanfang Shao; Anhui Provincial Engineering Laboratory of Silicon-based Materials, School of Material and Chemical Engineering, Bengbu University, Bengbu, 233030, PR China 408



Editor-in-Chief : Prof. Dr. Won-Chun Oh (Hanseο University, Korea)
Web Site : www.ijpcs.org



1. 실험기자재,
 2. 시약, bulk 자재
 3. Pilot 자재 기획 설비
- 빠른 대응과 연구 know how

■ 연락처



주소: 경기도 용인시 기흥구 구성로 357
(용인테크노 밸리 B동 702호)

mail : lhwalj@naver.com

010-9485-8128



A&A reagent Ltd.,PART
45 Chotivitayakul Road, Tambol Hadyai,
Amphur Hadyai, Songkhla, Thailand 90110

หจก. เอ แอนด์ เอ รีเอเจนท์
45 ถนนโชติวิทระยะกุด 4
ต.หาดใหญ่ อ.หาดใหญ่
จ.สงขลา 90110

Tel : 074-262240 – 1; Phone : 081-5404471; Email : talktoaa@hotmail.com; LINE : @aareagent

eppendorf



PROMOTION

April-June 2021



MERCK



MERCK SIGMA-ALDRICH® eppendorf



S.M. CHEMICAL

บริษัท เอส.เอ็ม.

เคมีคอล ซัพพลาย จำกัด

✉ info@smchem.co.th

📧 @smchem

📘 smchem 📺 You Tube

Sales & Marketing Core Teams

Solutions for High-Tech Research



LIFE SCIENCE

Biochemicals
Cell culture / Stem Cell
Biopharma
Drug discovery
Genomics
Epigenetics
Microbiomics
Molecular Diagnostic
NGS Service



ANALYTICAL CHEMISTRY

Organic / Inorganic Chemicals
Solvents
Chromatography products
Reference Standards
Analytical Reagents
Resins
Materials Science



SCIENTIFIC INSTRUMENTS

GPC System
Ion Chromatography System
Water Purification System
Smart Evaporator System
Basic Lab Equipment



INDUSTRIAL MARKET

Petrochemicals
Chemicals
Bio Energies
Pharmaceutical
Biopharma
Food & Beverage
Agri Biotech
Service Labs



Solutions for High Tech Research

Plant Biotechnology

Gene Sequencing

Polymer Science

Food Safety

Biopharmaceutical

Material Science

GMO

Alternative Energy

Forensics

xxx

บริษัท เอส.เอ็ม.เคมีคอล ซัพพลาย จำกัด

3/1-2 อาคารเอสเอ็มซี ถ.ลาดพร้าว 101 แขวงคลองจั่น เขตบางกะปิ กรุงเทพฯ 10240

โทร : 02-1366033

แฟกซ์: 02-1366030

อีเมล : info@smchem.co.th

Products

LIFE SCIENCE & DIAGNOSTICS
ANALYTICAL CHEMISTRY
BULK FINE CHEMICALS
CHROMATOGRAPHY
SCIENTIFIC INSTRUMENT
BY BRAND

Our Company

COMPANY PROFILE
VISION & MISSION
CAREER OPPORTUNITY
CONTACT US
CATALOG REQUEST

✉ info@smchem.co.th 📧 @smchem 📘 smchem 📺 You Tube



ห้างหุ้นส่วนจำกัด บอส ออพติคอล
Boss' Optical Limited Partnership

33/11 หมู่ 7 ต.ท่าช้าง อ.บางกล่ำ จ.สงขลา 90110
Tel. (074) 554361 , Fax (074)554362



P.P.Science and supply

Chemical , Media ,Glassware and Science Aecessory

