

CONFERENCE PROGRAM

Opening Ceremony

August 9th, 2018, Room: Sakura Hall 2F (Room A & B), Tohoku University_
9:30 – 10:00

Plenary Lecture Session (I)

August 9th, 2018, Room: Sakura Hall 2F (Room A & B), Tohoku University
10:00 – 11:50

10:00-10:50 1PL-01

New Materials Initiatives Using Thermodynamically-Controlled Hydrothermal Processes (No.50156)

Richard Eric Riman¹

(¹Rutgers University, Materials Science and Engineering, USA)

11:00-11:50 1PL-02

Supercritical Fluids for Nanotechnology (No.50165)

Tadafumi Adschiri¹

(¹WPI-AIMR, Tohoku University, Japan)

Plenary Lecture Session (II)

August 10th, 2018, Room: Sakura Hall 2F (Room A & B), Tohoku University
9:00 – 10:40

9:00-9:50 2PL-01

Supercritical Solvothermal Synthesis of Advanced Nanostructured Materials (No.50164)

Cyril Aymonier¹,

(¹Institute of Condensed Matter Chemistry of Bordeaux (ICMCB), CNRS, University of Bordeaux, Bordeaux INP, France)

9:50-10:40 2PL-02

Hydrothermal Processing Approaches Applied to a Synthesis Inorganic Compounds (No.50053)

Juan Carlos Rendón-Angeles¹

(¹Research Institute for Advanced Studies of the NPI, Mexico)

Session I

August 9th, 2018, Tohoku Univ. / (Room A)
13:30 – 18:10

13:30-14:00 1A03K

Hydrothermal Treatment of Rare Earth Oxides (No.50010)

Kazumichi Yanagisawa¹

(¹Research Laboratory of Hydrothermal Chemistry, Kochi University, Japan)

14:00-14:30 1A04K

Hydrothermal Syntheses of Advanced Materials (No.50040)

Zhibin Geng¹, Fangbing Shi¹, Yu Sun¹, Long Yuan¹, Mei Han¹, Keke Huang¹, Shouhua Feng¹,

(¹State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Changchun, P.R. China)

14:30-14:50 1A05I

Hydrothermal Vapor Synthesis: Redefining inorganic oxide production (No.50160)

Daniel Kopp¹, Richard Riman¹

(¹Department of Materials Science and Engineering, Rutgers University, USA.)

14:50-15:10 1A06I

Understanding an Optimizing Exploratory Hydrothermal Reactions (No.50137)

Alexander J Norquist¹, Joshua Schrier¹, Sorelle Friedler¹

(¹Haverford College, USA)

15:10-15:25 1A07

Pre-nucleation and Formation of Group 13 Metal Oxides (No.50131)

Ida Gjerlevsen Nielsen¹, Sanna Sommer¹, Bo Brummerstedt Iversen¹

(¹Center of Materials Crystallography, Department of Chemistry and iNANO, Aarhus University, Denmark)

16:00-16:30 1A09K

Synthesis of High Performance Silicate- and Phosphorus-based Phosphors by a Variety of Solution Methods (No.50126)

Masato Kakihana¹, Makoto Kobayashi¹, Hideki Kato¹, Koji Tomita², Yasushi Sato³, Takaki Masaki⁴

(¹Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan,

²School of Science, Tokai University, Japan,

³Faculty of Science, Okayama University of Science, Japan,

⁴School of Advanced Materials Science & Engineering, Sungkyunkwan University, Republic of Korea)

16:30-17:00 1A10K

The Enabling Roles of Hydrothermal Chemistry and Multiple Anions Leading to Noncentrosymmetry (No.50063)

Kenneth R. Poeppelmeier¹

(¹Northwestern University, USA)

17:00-17:20 1A11I

Growth and Applications of Aqueous Dispersed Oxide Nanocrystals (No.50013)

Kazuyoshi Sato¹, Naokatsu Kannari¹, Hiroya Abe²,

(¹Gunma University, Japan,

²Osaka University, Japan)

17:20-17:40 1A12I

Preparation of Zirconia Nanosheets by Using Ionic Liquids (No.50107)

Ken-ichi Katsumata¹, Tetsuya Yamada², Norihiro Suzuki¹, Kazuya Nakata¹, Chiaki Terashima¹,
Nobuhiro Matsushita², Akira Fujishima¹

¹Photocatalysis International Research Center, Tokyo University of Science, Japan,

²Department of Materials Science and Engineering, School of Materials and Chemical Technology,
Tokyo Institute of Technology, Japan)

17:40-18:10 1A13K

Tuning Dimensions of Nano/microstructures for Energy Conversions (No.50094)

Changming Li^{1,2}

¹Institute of Clean Energy and Advanced Materials, Southwest University, China

²Institute of Materials Science and Devices, Suzhou University of Science and Technology, China)

Session II

August 9th, 2018, Tohoku Univ. / (Room B)

13:30 – 18:00

13:30-14:00 1B03K

Specific Behavior of Density and Viscosity of Alcohol Aqueous Solutions at High Temperature and Pressure Conditions (No.50099)

Hiroshi Inomata¹, Takumi Ono¹,

¹Tohoku University, Graduate School of Engineering, Japan)

14:00-14:30 1B04K

Thermodynamic and Transport Data for Design of Processes Using Supercritical Fluids (No.50008)

Zeljko Knez^{1,2}, Darija Cor^{1,2}, Masa Knez Hrnčič^{1,2}

¹Faculty of Chemistry and Chemical Engineering, University of Maribor, Laboratory for separation
processes and product design, Slovenia,

²Faculty of Medicine, University of Maribor, Slovenia)

14:30-14:45 1B05

Estimation of Viscosity and Density of Compound in Petroleum Oil (No.50204)

Jun Mase^{1,2}, Yusuke Shimoyama²

¹Technology & Engineering Center, Idemitsu Kosan Co., Ltd., Japan,

²Department of Chemical Science and Engineering, Tokyo Institute of Technology, Japan)

14:45-15:00 1B06

Liquefied Dimethyl Ether for Lipid Extraction and Fractionation from Wet Microalgae (No.50069)

Wahyu Diono¹, Naomasa Yamamoto¹, Hideki Kanda¹, Motonobu Goto¹

¹Nagoya University, Japan,)

15:00-15:15 1B07

Subcritical Water as a Green Tool for Oil extraction and Synthesis of Novel and Nonmaterial (No.50070)

Wael Abdelmoez¹,

¹Faculty of engineering, Chemical Engineering department, Minia University, Egypt)

16:00-16:30 1B09K

Applications of SF to the Extraction and Chromatographic Separation for Natural Products (No.50067)

Ming-Tsai Liang¹

¹Department of Chemical Engineering, I-Shou University, Taiwan)

16:30-16:45 1B10

Simultaneous Removal of Dyes and Heavy Metals in a One Step Reaction Using Hydrothermal Synthesized PVA/MWCNT Composites and its Biological Applications (No.50084)

Srikantaswamy Shivanna^{1,2}, Abhilash R. Mavinakere², Nayan Byrappa Mysore^{1,2}, Jagdish Krishnegowda^{2,3}, Rangappa S. Kanchugarakoppal³, Byrappa Kullaiah¹

¹Center for Materials Science and Technology, University of Mysore, India,

²Dept. of Studies in Environmental Science, University of Mysore, India,

³Department of Studies in Chemistry, University of Mysore, India)

16:45-17:15 1B11K

Co-Fuel Assisted Supercritical Water Oxidation for Treatment of N-Containing Waste Hydrocarbons. (No.50061)

Bushra Duri¹, Falah Al-Kaabi¹, Faihan Alsoqyani¹, Iain Kings¹

(¹The University of Birmingham, U.K.)

17:15-17:30 1B12

Enhanced Supercritical Water Oxidation (No.50155)

Ed Lester¹, Rachel Gomes¹, Ammar Alatta¹, Pablo Caramazana¹, Bushra Al-Duri²

(¹The University of Nottingham, UK,

²The University of Birmingham, UK)

17:30-18:00 1B13K

Amine is an Attractive Reagent for Hydrothermal Reactions (No.50176)

Toshitaka Funazukuri¹

(¹Chuo University, Japan)

Session III

August 9th, 2018, Tohoku Univ. / (Room C)

13:30 – 18:05

13:30-14:00 1C03K

In situ X-ray Scattering Studies of Nanoparticle Nucleation and Growth (No.50127)

Bo B. Iversen¹,

(¹Aarhus University, Denmark)

14:00-14:20 1C04I

Photon- in-photon-out X-ray Spectroscopy of Nanomaterials and Devices in Solution (No.50074)

Dorota Koziej^{1,2}

(¹Center for Hybrid Nanostructures (CHyN), Institute for Nanostructure and Solid State Physics, University of Hamburg, Germany,

²Institute for Physical Chemistry, University of Hamburg, Germany)

14:20-14:40 1C05I

New Insight into Nanoparticle Nucleation Mechanisms from X-ray Total Scattering (No.50159)

Kirsten M. O. Jensen¹

(¹University of Copenhagen, Denmark)

14:40-14:55 1C06

In situ X-ray Diffraction during Hydrothermal Synthesis of $K_xNa_{1-x}NbO_3$ (No.50041)

Susanne L. Skjaerhoe¹, Sanna Sommer², Wouter Van Beek³, Tor Grande¹, Mari-Ann Einarsrud¹

(¹Department of Materials Science and Engineering, NTNU Norwegian University of Science and Technology, Norway,

²Center for Materials Crystallography, Department of Chemistry and iNANO, Aarhus University, Denmark,

³Swiss-Norwegian Beamlines at the European Synchrotron Radiation Facility, France)

14:55-15:10 1C07

In situ Synchrotron X-ray Total Scattering Studies of Polymorphism Control in Hydrothermal Synthesis of TiO_2 Nanoparticles (No.50119)

Frederik M. Soendergaard-Pedersen¹, Nils Lau Nyborg Broge¹, Jinlong Yu¹, Jonas Beyer¹, Aref Mamakhel¹, Bo Brummerstedt Iversen¹,

(¹Center for Materials Crystallography, Department of Chemistry and iNano, Aarhus University)

15:10-15:25 1C08

In situ Synchrotron Studies during Hydrothermal Synthesis of Ferroelectrics (No.50033)

Ola Gjønnes Grendal¹, Anders Bank Blichfeld¹, Tor Grande¹, Sverre Magnus Selbach¹, Mari-Ann Einarsrud¹,

(¹Department of Material Science and Engineering, Norwegian University of Science and Technology NTNU, Norway)

16:00-16:30 1C09K

Solution Synthesis of Nanoparticle Catalysts (No.50046)

Richard D Tilley¹

(¹University of New South Wales, Australia)

16:30-16:50 1C10I

The Recent Progress in Energy Selected Low Voltage Scanning Electron Microscopy (No.50157)

Shunsuke Asahina¹, Yusuke Sakuda¹, Seiichi Takami²

(¹JEOL Ltd, Japan,

²Nagoya University, Japan)

16:50-17:10 1C11I

Structural Study of the Nanoporous Materials by Electron Microscopy (No.50148)

Lu Han¹, Shunai Che^{1,2}

(¹Tongji University, China,

²Shanghai Jiao Tong University, China)

17:10-17:30 1C12I

In situ Diffraction Studies of Solvothermal Metal-organic Framework Formation (No.50044)

Yue Wu¹, John Wang¹, Anthony K Cheetham¹

(¹Department of Materials Science & Engineering, National University of Singapore, Singapore)

17:30-17:45 1C13

Size-dependent Valence State Distribution in Ultrafine Cubic CeO_2 Nanocrystals Synthesized from Supercritical Water (No.50114)

Xiaodong Hao¹, Akira Yoko¹, Chunlin Chen¹, Kazutoshi Inoue¹, Mitsuhiro Saito², Gimyeong Seong³, Seiichi Takami⁴, Yuichi Ikuhara^{1,2,5}, Tadafumi Adschiri^{1,6}

(¹WPI-Advanced Institute for Materials Research, Tohoku University, Japan,

²Institute of Engineering Innovation, the University of Tokyo, Japan,

³New Industry Creation Hatchery Center, Tohoku University, Japan,

⁴Graduate School of Engineering, Nagoya University, Japan,

⁵Nanostructure Research Laboratory, Japan Fine Ceramics Center, Japan,

⁶Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

17:45-18:05 1C14I

Architecture of Nanostructured Materials by Hydrothermal Reaction (No.50171)

Dan Wang¹

(¹State Key Laboratory of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences, China)

Session IV

August 9th, 2018, Tohoku Univ. / (Room D)

13:30 – 17:55

13:30-14:00 1D03K

Role of Hydrogen in the Mantle and Core (No.50096)

Eiji Ohtani¹,

(¹Department of Earth Materials science, Tohoku University, Japan)

14:00-14:30 1D04K

Macroscopic Nanoparticle Assemblies: An Emerging Material System (No.50166)

Shu-Hong Yu¹

(¹Department of Chemistry, University of Science and Technology of China, China)

14:30-14:45 1D05

Supercritical Synthesis of Epitaxial Palladium-platinum Core-shell Particles from Acetylacetonate Precursors: Understanding the Formation Mechanism through Real-time Observations (No.50140)

Nils L. N. Broge¹, Bo B. Iversen¹

(¹Center for Materials Crystallography, Department of Chemistry, Aarhus University, Denmark)

14:45-15:00 1D06

A Facile Solvothermal Strategy for Designed Silica Nanocomposites (No.50027)

Hien Thi Thu Nguyen¹, Masataka Ohtani^{1,2,3}, Kazuya Kobiro^{1,2,3}

(¹Graduate School of Engineering, Kochi University of Technology, Japan,

²Laboratory for Structural Nanochemistry, Kochi University of Technology, Japan,

³Research Center for Material Science and Engineering, Kochi University of Technology, Japan)

15:00-15:15 1D07

Rapid One-pot Synthesis of Dendritic Nanosheet Assemblies (No.50017)

Masataka Ohtani^{1,2,3}, Kei Mimura¹, Kazuya Kobiro^{1,2,3}

(¹School of Environmental Science and Engineering, Kochi University of Technology, Japan

²Laboratory for Structural Nanochemistry, Kochi University of Technology, Japan

³Research Center for Material Science and Engineering, Kochi University of Technology, Japan)

15:15-15:30 1D08

Biological Activity of Bio-hydrothermal Synthesis of ZnO- Ag Nanostructure (No.50105)

Mina Zare^{1,2}, K Byrappa¹, K Namratha¹:

(¹Centre for Materials Science and Technology, University of Mysore, India)

16:00-16:30 1D09K

Microwave Hydrothermal Synthesis of BiVO₄: A Promising Photocatalyst for Wastewater Treatment (No.50066)

Soo Wahn Lee¹, Chhabilal Regmi¹

(¹Department of Environment and Bio-Chemical Engineering, Sun Moon University, Republic of Korea)

16:30-16:45 1D10

General and Controllable Hydrothermal Synthesis Strategy of TiO₂ Nanostructures (No.50057)

Wenjun Dong¹, Cheng Dong¹, Yueqi Chang¹, Dongxue Zhou¹, Liguozhang¹

(¹School of Materials Science and Engineering, University of Science and Technology Beijing, China)

16:45-17:00 1D11

Low Temperature Hydrothermal Preparation of Nano-TiO₂ Pigments from Natural Ilmenite (No.50038)

Chandana Premakumara Udawatte¹, Tharindu P. B. Rajakaruna¹, R.L. Rohan Chandragith²

(¹Department of Physical sciences and Technology, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka,

²Department of Geology, Faculty of Science. University of Peradeniya, Peradeniya. Sri Lanka)

17:00-17:15 1D12

Hydrothermal Synthesis of Gadolinium Borate for boron and gadolinium neutron capture therapy (No.50129)

Keita Mikami¹, Masakazu Kawashita¹

(¹Graduate School of Biomedical Engineering, Tohoku University, Japan)

17:15-17:35 1D13I

Infrared Emitting Polymeric Composites as Photonic Probes and Devices (No.50075)

Mei-Chee Tan¹, Xinyu Zhao¹, Zhenghuan Zhao¹

(¹Engineering Product Development, Singapore University of Technology and Design, Singapore)

17:35-17:55 1D14I

Numerical Simulation of Supercritical Fluid Flows with Chemical Reaction and Nucleation (No.50120)

Takashi Furusawa¹, Satoru Yamamoto¹

(¹Department of Computer and Mathematical Sciences, Tohoku University, Japan)

Session V

August 10th, 2018, Tohoku Univ. / (Room A)
14:00 – 16:50

14:00-14:30 2A03K

Reaction and Material Synthesis Using Non-equilibrium Plasma at High Pressure Gas/liquid Interface (No.50068)

Motonobu Goto¹, Wahyu Diono¹, Noriharu Takada¹, Hideki Kanda¹
(¹Department of Materials Process Engineering, Nagoya University, Japan)

14:30-14:50 2A04I

Hydrothermal-galvanic Couple Synthesis of Perovskite Oxide Thin Films over Conductive Nitride-coated Substrates (No.50083)

Fu-Hsing Lu¹, Huan-Ping Teng¹, Pei-Hsuan Chan¹, Chia-Chun Lin¹
(¹National Chung Hsing University, Taiwan)

14:50-15:10 2A05I

Fabrication of Metal Nanoparticle Related Material by Using Ultrasonic Hot Spot Reaction in Solid-Liquid Interface (No.50085)

Yamato Hayashi¹
(¹Tohoku University, Japan)

15:10-15:25 2A06

Direct Fabrication of Functionalized Graphenes and Their Hybrids Inks in Solution via Submerged Liquid Plasma [SLP] and Electrochemical Exfoliation [ECE] under Ambient Conditions (No. 50201)

Masahiro Yoshimura^{1,2}, Jaganatha Senthilnathan¹, Kodepelly Sanjeeva Rao¹, Elumalai Satheeshkumar¹
(¹Promotion Centre for Global Materials Research (PCGMR), Department of Materials Science and Engineering, National Cheng Kung University, Taiwan,
²Tokyo Institute of Technology, Japan)

16:00-16:30 2A07K

Can Locally Activated Solution Processings Replace General Hydrothermal/Solvothermal Processing Using Autoclaves? (No. 50202)

Masahiro Yoshimura^{1,2}
(¹Promotion Centre for Global Materials Research (PCGMR), Dept. of Materials Science and Engineering, National Cheng Kung University, Taiwan,
²Tokyo Institute of Technology, Japan)

16:30-16:50 2A08I

Efficient Production of h-BN Nanosheets via Supercritical Fluid Exfoliation (No.50124)

Takaaki Tomai¹, Takumi Fugane¹, Itaru Honma¹
(¹Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

Session VI

August 10th, 2018, Tohoku Univ. / (Room B)
14:00 – 17:00

14:00-14:20 2B03I

Protein-rich Biomass Transformation with Hydrothermal Methods for Developing Efficient Biochemical Production Processes (No.50135)

Masaru Watanabe¹
(¹Tohoku University, Japan)

14:20-14:35 2B04

Cellulose Depolymerization By Hydrothermal Process Using Ionic Liquid/Acid (No.50039)

Meiliefiana Meiliefiana¹, Prida Novarita Trisanti¹, Sumarno Sumarno¹

(¹Departement Teknik Kimia Institut Teknologi Sepuluh Nopember (ITS) Surabaya, Indonesia)

14:35-14:50 2B05

Cassava Starch Degradation by Hydrothermal Process with Ultrasound Pre-treatment (No.50026)

Bramantyo Airlangga¹, Febriyati Puspasari¹, Prida Novarita Trisanti¹, Sumarno Sumarno¹

(¹Chemical Engineering Department, Faculty of Industrial Technology, Institut Teknologi Sepuluh Nopember (ITS), Indonesia)

14:50-15:05 2B06

Fucoidan Depolymerization through Microwave-graphene Oxide Synergism (No.50109)

Elaine Gabutin Mission¹, Armando Tibigin Quitain², Mitsuru Sasaki³, Tetsuya Kida⁴:

(¹Graduate School of Science and Technology, Kumamoto University, Kumamoto, Japan,

²College of Cross-Cultural and Multidisciplinary Studies, Kumamoto University, Kumamoto, Japan,

³Institute of Pulsed Power Science, Kumamoto University, Kumamoto, Japan,

⁴Faculty of Advanced Science and Technology, Kumamoto University, Kumamoto, Japan)

15:05-15:20 2B07

Hydrogen Sulfate Ionic Liquid Additives Efficient Production of 5-ethoxymethylfurfural from Carbohydrates (No.50100)

Haixin Guo¹, Richard L. Smith, Jr.^{1,2}

(¹Graduate School of Environmental Studies, Tohoku University, Japan,

²Graduate School of Engineering, Research Center of Supercritical Fluid Technology, Tohoku University, Japan)

15:20-15:35 2B08

Drug Composites Production by Complex Inclusion Processes using Mixture of Water and Carbon Dioxide (No.50052)

Sumarno Sumarno¹, Prida Novarita Trisanti¹

(¹ Department of Chemical Engineering, Faculty of Industrial Technology, Institut Teknologi Sepuluh Nopember (ITS), Indonesia)

16:00-16:30 2B09K

Tuning of Titania Nanotubes via Solution Chemical Processing for Multifunctionalization (No.50081)

Tohru Sekino¹

(¹ISIR, Osaka University, Japan)

16:30-16:45 2B10

Development of 3D Bone Substitute from Wood through Hydrothermal Treatment (No.50004)

Andrea Ruffini¹, Simone Sprio¹, Alberto Ballardini¹, Lorenzo Preti¹, Anna Tampieri¹

(¹CNR-ISTEC - Institute of science and technology for ceramics, Italy)

16:45-17:00 2B11

Material Design of New Bone Composite and the mechanical properties of the PBS-HAp-AF composite (No.50032)

Kazuo Yagi^{1,2}, Tomoaki Hamada², Satoshi Kakuda², Seiichi Sugimoto³, Tadashi Inaba²

(¹Graduate School of Human Health Sciences, Tokyo Metropolitan University, Japan,

²Graduate School of Engineering, Mie University, Japan,

³Tokyo Metropolitan College of Industrial Technology, Japan)

Session VII

August 10th, 2018, Tohoku Univ. / (Room C)
14:00 – 16:50

14:00-14:30 2C03K

Sustainability and Scale up of Continuous Hydrothermal Synthesis (No.50152)

Ed Lester¹, Pablo Caramazana¹, Jon McKechnie¹, Marie Ticha², Frantisek Freiberg², Miroslav Zilka², Miroslav Prajer²

(¹The University of Nottingham, UK,

²Czech Technical University in Prague, Czech Republic)

14:30-15:00 2C04K

Microbatteries, Biosensors and Optical Devices via Imprint Lithography with Nanoparticle-Based Inks (No.50045)

Wenhao Li¹, Yilang Zhou¹, Irene Howell¹, Feyza Dundar¹, Shengkai Li¹, James J. Watkins¹

(¹Department of Polymer Science and Engineering and Center for Hierarchical Manufacturing, University of Massachusetts, USA)

15:00-15:30 2C05K

Continuous Hydrothermal Synthesis of Nanoceramics; From Materials Discovery to Pilot Plant (No.50009)

Jawwad A Darr¹, Thomas Ashton¹, Charles Footer¹, Ian Johnson¹, Dustin Bauer¹, Meggi Lubke¹

(¹Department of Chemistry, University College London, U.K.)

15:30-15:45 2C06

Industrial Scale MOF Production (No.50154)

Ed Lester¹, Yipei Chen², Tao Wu², Begum Tokay¹

(¹The University of Nottingham, U.K.

²The University of Nottingham, Ningbo China)

16:00-16:30 2C07K

Post-treatment of Surface Modified Cerium Oxide Nanoparticles (No.50208)

Youn-Woo Lee¹, Tadafumi Adschiri²

(¹School of Chemical and Biological Engineering, Institute of Chemical Process, Seoul National University, Republic of Korea,

²WPI-The Advanced Institute for Materials Research (WPI-AIMR), Tohoku University, Japan,)

16:30-16:50 2C08I

Precipitation of Rare Earth Carbonates using Monoethanolamine (No.50150)

Paul Kim¹, Gaurav Das², Andrzej Anderko², Richard E Riman¹

(¹Rutgers - The State University of New Jersey, USA

²OLI Systems, Inc., USA)

16:50-17:05 2C09

Recovery of Copper and Zinc from Municipal Solid Waste Incineration Ashes by a Hydrometallurgical Process (No.50078)

Jinfeng TANG^{1,3}, Minhua Su², Hongguo Zhang^{1,2}, Christian Ekberg³, Britt-Marie Steenari³

(¹Key Laboratory for Water Quality and Conservation of the Pearl River Delta, Ministry of Education, School of Environmental Science and Engineering, Guangzhou University, China

²Guangdong Provincial Key Laboratory of Radionuclides Pollution Control and Resources, School of Environmental Science and Engineering, Guangzhou University, China

³Nuclear Chemistry and Industrial Material Recycling, Department of Chemistry and Chemical Engineering, Chalmers University of Technology, Sweden)

Session VIII

August 10th, 2018, Tohoku Univ. / (Room D)
14:00 – 16:50

14:00-14:30 2D03K

Catalytic Oxidation of Chemicals over Hydrothermally Prepared SBA-16 Support with Pt/CeO₂-ZrO₂-SnO₂ Catalyst (No.50080)

Nobuhito Imanaka¹

(¹Department of Applied Chemistry, Faculty of Engineering, Osaka University, Japan)

14:30-15:00 2D04K

Rare Earth Functionalized Electrode Materials for High Performance Energy Storage Devices (No.50016)

Dongfeng Xue¹, Kunfeng Chen¹, Sridhar Komarneni²

(¹State Key Laboratory of Rare Earth Resource Utilization, Changchun Institute of Applied Chemistry, China,

²Materials Research Laboratory, Materials Research Institute, The Pennsylvania State University, USA)

15:00-15:15 2D05

Preparation of Silicon-substituted Hydroxyapatite Powders by Microwave Assisted Hydrothermal Method (No.50012)

Zully Matamoros-Veloza¹, Juan Carlos Rendón-Angeles², Benjimin Moreno/Perez¹, Kazumichi Yanagisawa³, Ayumu Onda³, Mario Roreguez-Reyes¹, Oswaldo Burciaga-Diaz¹, Jose Alonso Diaz-Guillen¹

(¹Technological Institute of Saltillo, Graduate Division, Mexico,

²Research Institute for Advanced Studies of the NPI, Campus Saltillo, Mexico,

³Research Laboratory of Hydrothermal Chemistry, Faculty of Science, Kochi University, Japan)

15:15-15:30 2D06

Controllable Synthesis of Nano-/micro Sized α -Fe₂O₃ and Fe₃O₄ by Hydrothermal/Solvothermal Process (No.50077)

Minhua Su^{1,2}, Jinfeng Tang^{2,3}, Diyun Chen^{1,2}

(¹Guangdong Provincial Key Laboratory of Radionuclides Pollution Control and Resources, School of Environmental Science and Engineering, Guangzhou University, China,

²School of Environmental Science and Engineering, Guangzhou University, China,

³Linkping University Guangzhou University Research Center on Urban Sustainable Development, Guangzhou University, China)

16:00-16:15 2D07

Electron Microscopy Observation of SrTiO₃ Nanocrystals Synthesized via Hydrothermal Method (No.50168)

Kouichi Nakashima¹, Reina Yamazaki¹, Yoshio Kobayashi¹, Tohru Ishigaki², Kenji Ohoyama³, Yasuhiro Yoneda⁴, Yoshihisa Ishikawa⁵, Tohru Sekino⁶, Shu Yin⁷, Masato Kakihana⁷, Masanobu Higashi⁸, Ryu Abe⁸

(¹Department of Materials Science and Engineering, College of Engineering, Ibaraki University, Japan,

²Frontier Research Center for Applied Atomic Sciences, Ibaraki University, Japan,

³Major in Quantum Beam Science, Graduate School of Science and Engineering, Ibaraki University, Japan,

⁴Reaction Dynamics Research Division, Japan Atomic Energy Agency, Japan,

⁵Institute of Materials Structure Science, High Energy Accelerator Research Organization, Japan,

⁶The Institute of Scientific and Industrial Research, Osaka University, Japan,

⁷Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan,

⁸Department of Energy and Hydrocarbon Chemistry, School of Engineering, Kyoto University, Japan)

16:15-16:30 2D08

Continuous Solvothermal Synthesis of Nitrides Based Materials Using Supercritical Microfluidic Reactors (No.50158)

Baptiste Giroire¹, Samuel Marre¹, Alain Garcia¹, Thierry Cardinal¹, Cyril Aymonier¹
(¹CNRS, Univ. Bordeaux, Bordeaux INP, ICMCB, UMR 5026, France)

16:30-16:45 2D09

Hydroxyapatite Formation from α -tricalcium Phosphate Treated by Water Controlled-release Solvothermal Process (No.50143)

Tomoyo Goto¹, Shu Yin², Yusuke Asakura², Sung Hun Cho¹, Tohru Sekino¹
(¹The Institute of Scientific and Industrial Research, Osaka University, Japan,
²Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

Session IX

August 11th, 2018, Tohoku Univ. / (Room A)

9:00 – 12:05

9:00-9:30

3A01K

Controllable Synthesis of TiO₂: Toward an Efficient Photocatalyst (No.50059)

Wenbin Cao¹, Peng Sun¹, Jing Ma², Wenxiu Liu¹, Jun Zhang¹, Rui Zhang¹

(¹University of Science and Technology Beijing, China,

²Taiyuan University of Technology, China)

9:30-10:00

3A02K

Structural Nature of Nanoscale Oxides Synthesized by Hydrothermal Conditions (No.50203)

Guangshe Li¹

(¹State Key Lab of Inorganic Synthesis and Preparative Chemistry, Jilin University, China)

10:00-10:20

3A03I

Solvothermal Preparation of Mesoporous Fe₃O₄@Ag@TiO₂ Nanocomposite Particles for Magnetically Recyclable Photocatalysis and Bactericide (No.50090)

Wenjea J. Tseng¹, Yi-Chen Chuang¹, Yu-An Chen¹

(¹Department of Materials Science and Engineering, National Chung Hsing University, Taiwan)

11:00-10:15

3A04

Preparation of Anatase-type Ti-Ta Oxynitrides from K₂TiO₃ Colloidal Solution (No.50121)

Yuji Masubuchi¹, Fuminori Oshina², Shinichi Kikkawa¹

(¹Faculty of Engineering, Hokkaido University, Japan,

²Graduate School of Chemical Science and Engineering, Hokkaido University, Japan)

11:15-11:30

3A05

The Synthesis and Application of Layered Double Hydroxides in Water Cleanup (No.50153)

Jacob Smith¹, Ian Clark¹, Ed Lester¹, Rachel Gomes¹

(¹The University of Nottingham, U.K.)

11:30-11:50

3A06

Facile Hydrothermal Fabrication of Heterogeneous ZnO:M_xO_y Nanocomposites and their Application Potential in Solar Driven Photocatalysis (No.50128)

NAMRATHA K¹, Nayan M.B², Jagadesh K², Srikantaswamy S², Byrappa K^{1,3,4}

(¹DOS in Earth Science, University of Mysore, India,

²DOS in Environmental Science, University of Mysore, India,

³Mangalore University, India

⁴DOS in Earth Science, University of Mysore, India)

11:50-12:05

3A07

Material Design and Evaluation of Water-soluble Molecule Recognition Shape Memory Gel (No.50071)

Kazuo Yagi^{1,2}, Ayumi Nakagawa², Atsuya Ikeda², Seiichi Sugimoto³, Tadashi Inaba²

(¹Graduate School of Human Health Sciences, Tokyo Metropolitan University, Tokyo, Japan

²Graduate School of Engineering, Mie University, Tsu, Japan

³Tokyo Metropolitan College of Industrial Technology, Tokyo, Japan)

Session X

August 11th, 2018, Tohoku Univ. / (Room B)
9:00 – 11:55

9:00-9:25 3B01A

Sub-1nm Ultrathin Nanocrystals (No.50103)

Xun Wang¹

(¹Department of Chemistry, Tsinghua University, China)

9:25-9:45 3B02I

Sintering-Resistant Metal Catalysts Supported on Nano-Concave-Convex Surface of TiO₂ Assemblies (No.50019)

Kazuya Kobiro^{1,2,3}, Farkfun Duriyasari¹, Kahoko Hayashi¹, Masataka Ohtani^{1,2,3}

(¹School of Environmental Science and Engineering, Kochi University of Technology, Japan,

²Laboratory for Structural Nanochemistry, Kochi University of Technology, Japan,

³Research Center for Material Science and Engineering, Kochi University of Technology, Japan)

9:45-10:05 3B03I

Use of CeO₂ Nanocatalyst in Hydrothermal Processes: Black Liquor and Carbon Fibers Recovery (No.50029)

Yannick Soudais¹, Yannick Soudais¹, Elsa Weiss¹, H el ene Boucard¹, Chaima Chaabani¹, Radu Barna¹, Masaru Watanabe², Seiichi Takami³, Tadafumi Adschiri^{1,3}

(¹Universit  de Toulouse, Mines Albi, CNRS UMR 5302, Centre RAPSODEE, France,

²Research Center of Supercritical Fluid Technology, Tohoku University, Japan,

³Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

10:05-10:20 3B04

Synthesis of Cr-CeO₂ Nanoparticles Using Non-equilibrium Reaction System (No.50139)

Gimyeong Seong¹, Yuanzheng Zhu², Takio Noguchi¹, Akira Yoko³, Tadafumi Adschiri^{1,3,4}

(¹New Industry Creation Hatchery Center, Tohoku University, Japan,

²Graduate School of Engineering, Tohoku University, Japan,

³WPI-The Advanced Institute for Materials Research (WPI-AIMR), Tohoku University, Japan,

⁴Institute of Multidisciplinary Research for Advance Materials, Tohoku University, Japan)

10:20-10:50 3B05K

Facile One Step Soft Hydrothermal Processing for Properties Tuning in Metal Oxides and their Heterostructured Nanocomposites (No.50130)

Byrappa K^{1,2}

(¹University of Mysore, India,

²Mangalore University, India)

11:00-11:20 3B05I

Oxidation Characteristics of Mn-modified Hexagonal YbFeO₃ Synthesized by a Solvothermal Method (No.50050)

Saburo Hosokawa^{1,2}, Shogo Matsumoto², Hiroyuki Asakura^{1,2}, Kentaro Teramura^{1,2}, Tsunehiro Tanaka^{1,2}

(¹Elements Strategy Initiative for Catalysts & Batteries (ESICB), Kyoto University, Japan

²Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Japan)

11:20-11:40 3B06I

Preparation of Sulfur-doped Carbon-based Solid Acid Catalysts from Seaweeds (No.50062)

Mitsuru Sasaki^{1,2}, Shohei Ninomiya³, Armando T. Quitain², Tetsuya Kida², Marleny Aranda Saldana⁴

(¹Institute of Pulsed Power Science, Kumamoto University, Japan,

²Faculty of Advanced Science and Technology, Kumamoto University, Japan,

³Graduate School of Science and Technology, Kumamoto University, Japan,

⁴Agricultural Department, University of Alberta, Canada)

11:40-11:55 3B07

Catalytic Liquid-phase Oxidation of 1,4-Dioxane over Pt/CeO₂-ZrO₂-SnO₂ Supported on Mesoporous Silica SBA-16 (No.50095)

Naoyoshi Nunotani¹, Pil-Gyu Choi¹, Kenji Matsuo¹, Nobuhito Imanaka¹

(¹Department of Applied Chemistry, Faculty of Engineering, Osaka University, Japan)

Session XI

August 11th, 2018, Tohoku Univ. / (Room D)

9:00 – 12:05

9:00-9:30 3D01K

SFLS-Grown Silicon and Germanium Nanowires for Use in Lithium Ion Batteries and Aerogels (No.50162)

Brian A. Korgel¹,

(¹Department of Chemical Engineering, The University of Texas at Austin, USA)

9:30-9:45 3D02

Synthesis of Peanut Shaped MnCo₂O₄ Winded by MCNT and their Application for Li-O₂ Batteries (No.50007)

Xiulan Hu¹, Faquan Zhu¹, Bingqian Yang¹, Xueru Shi¹, Xiaodong Shen¹

(¹College of Materials Science and Engineering, Nanjing Tech University, China)

9:45-10:00 3D03

Hydrothermal Synthesis of Vanadium-Based Oxides and its Application as Energy Storage Materials (No.50049)

Kongjun Zhu¹, Pengcheng Liu¹, Yuan Xu¹, Gao Yanfeng², Hongjie Luo², Li Lu³

(¹State Key Laboratory of Mechanics and Control of Mechanical Structures Nanjing University of Aeronautics and Astronautics, China,

²School of Materials Science and Engineering, Shanghai University, China,

³Department of Mechanical Engineering, National University of Singapore, Singapore)

10:00-10:20 3D04I

Preparation of Mixed Ceria-Zirconia Oxide by Hydrothermal and Solvothermal Synthesis (No.50072)

Siti Machmudah¹, Sugeng Winardi¹, Wahyu Diono², Hideki Kanda², Motonobu Goto²

(¹Department of Chemical Engineering, Institut Teknologi Sepuluh Nopember, Indonesia,

²Department of Materials Process Engineering, Nagoya University, JAPAN)

10:20-10:35 3D05

Hydrothermal Formation of ZnO Nano-plates in the Presence of Citrate (No.50144)

Shirui Luo¹, Jing Wang², Lan Xiang¹

(¹Department of Chemical Engineering, Tsinghua University, China,

²School of Chemical and Material Engineering, Jiangnan University, China)

11:00-11:20 3D06I

Hydrothermal Synthesis of MoS₂-based Materials and their Use in Supercapacitors (No.50030)

Jyh-Ming Ting¹, Fitri Nur Indah Sari¹, Xuyen Nguyen¹

(¹National Cheng Kung University, Taiwan)

11:20-11:35 3D07

Formation of Manganese-based Cathode Materials with High Capacities (No.50141)

Yin Xie¹, Yongcheng Jin², Lan Xiang¹

(¹Department of Chemical Engineering, Tsinghua University, China,

²Qingdao Institute of bioenergy and bioprocess technology, CAS, China)

11:35-11:50 3D08

Size and Crystal System Controlled Synthesis of Metal Oxide Nanoparticles via Solvothermal Reaction (No.50047)

Yoshitaka Kumabe¹, Masataka Ohtani^{1,2}, Kazuya Kobiro^{1,2}

^{(1)Graduate School of Engineering, Kochi University of Technology, Japan,}

^(2)Laboratory for Structural Nanochemistry, Kochi University of Technology, Japan)

11:50-12:05 3D09

Pore Structure of Spherical ZrO₂ Particles Prepared by the Glycothermal Method (No.50035)

Fuya Sugiyama¹, Shinji Iwamoto¹

^{(1)Graduate School of Science and Technology, Gunma University, Japan}

Session XII

August 11th, 2018, Tohoku Univ. / (Room A)

13:30 – 17:00

13:30-13:50 3A08I

Hydrothermal Synthesis of Antireflective and Electrochromic TiO₂ Nanowire Electrodes for Smart Glass (No.50001)

Kuan-Jiuh Lin¹,

^(1)Department of Chemistry, National Chung Hsing University, Taiwan)

13:50-14:10 3A09I

Hydrothermal Processing of Titanium Oxide Nanocomposite Coatings (No.50132)

Junghyun Cho¹, Tao Tao¹

^{(1)Materials Science and Engineering Program, Binghamton University (State University of New York, USA)}

14:10-14:25 3A10

Preparation of Aqueous W-doped TiO₂ Sol and its Photocatalytic Activity (No.50133)

Peng Sun¹, Wenbin Cao¹

^(1)School of Materials Science and Engineering, University of Science and Technology Beijing, China)

14:25-14:40 3A11

Efficient Removal of Emerging Pollutants in Wastewater by Modified BiVO₄ Photocatalyst (No.50065)

Chhabilal Regmi¹, Soo Wahn Lee¹

^(1)Department of Environment and Bio-Chemical Engineering, Sun Moon University, Republic of Korea)

14:40-14:55 3A12

Synthesis of High Efficient CuZnO/gC₃N₄ Heterostructure for Excelent Photocatalysis (No.50110)

Chandrankantha K S¹, Namratha K², Byrappa K¹

^{(1)Department of Materials science, Mangalore University, India,}

^(2)Centre for Materials science and technology, University of Mysore, India)

15:30-15:50 3A13I

Hydrothermal Crystallization of NaLn(WO₄)₂ and Photoluminescence (No.50005)

Ji-Guang Li¹, Xiaofei Shi^{1,2}, Xuejiao Wang^{1,3}, Byung-Nam Kim¹

^{(1)Research Center for Functional Materials, National Institute for Materials Science, Japan,}

^{(2)School of Materials Science and Engineering, Northeastern University, China,}

^(3)College of New Energy, Bohai University, China)

15:50-16:10 3A14I

Hydrothermal Formation and Application of Whiskers and Hierarchical Structures from Industrial Intermediates (No.50142)

Xiang Lan¹

(¹Department of Chemical Engineering, Tsinghua University, China)

16:10-16:25 3A15

Synthesis of Ag₃PO₄ Photocatalyst using Hydroxyapatite for Organic Pollutant Degradation (No.50018)

Uyi Sulaeman¹, Suhendar Suhendar¹, Hartiwi Diastuti¹, Anung Riapanitra¹, Shu Yin²

(¹Jenderal Soedirman University, Indonesia,

²Tohoku University, Japan)

16:25-16:40 3A16

Fabrication of Oxygen Vacancy-rich ZnO/Pd Nano-composite for Methane Sensing (No.50145)

Ruosong Chen¹, Jing Wang², Lan Xiang¹

(¹Department of Chemical Engineering, Tsinghua University, China,

²Key Laboratory of Synthetic and Biological Colloids, Ministry of Education, School of Chemical and Material Engineering, Jiangnan University, China)

16:40-16:55 3A17

Lightweight, Room-Temperature CO₂ Gas Sensor Based on Rare-Earth Metal-Free Composites - An Impedance Study (No.50076)

Christoph Willa^{1,2}, Alexander Schmid², Danick Briand³, Jiayin Yuan⁴, Dorota Koziej¹

(¹Institute of Nanostructure and Solid State Physics, University of Hamburg, Germany,

²Laboratory for Multifunctional Materials, ETH Zurich, Switzerland,

³LMTS, EPF Lausanne, Switzerland,

⁴Department of Materials and Environmental Chemistry, Stockholm University, Sweden)

Session XIII

August 11th, 2018, Tohoku Univ. / (Room B)

13:30 – 14:50

13:30-13:50 3B08I

Composite Yttrium-Carbonaceous Spheres Templated Multi-Shell Hollow Spheres with Enhanced Photoluminescence (No.50073)

Ranbo Yu¹, Lingbo Zong¹, Zumin Wang¹

(¹Department of Physical Chemistry, School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, China)

13:50-14:05 3B09

Green Solvent Selection for Replacing Halogenated Solvents in Processing of Organic Solar Cells (No.50098)

Alif Duereh¹, Masaki Ota¹, Yoshiyuki Sato¹, Richard Lee Smith Jr^{1,2}, Hiroshi Inomata¹

(¹Graduate School of Engineering, Research Center of Supercritical Fluid Technology, Tohoku University, Japan,

²Graduate School of Environmental Studies, Research Center of Supercritical Fluid Technology, Tohoku University, Japan)

14:05-14:20 3B10

Microwave-assisted Solution Processed Oxide Nanoparticles for Perovskite Solar Cells (No.50034)

Chao-Yu Peter Chen^{1,2,3}, Yu-Hsien Chiang¹, Ching-Kuei Shih¹, Ang-Syuan Sic¹, Ming-Hsien Li¹, Po-Shen Shen¹

(¹Department of Photonics, National Cheng Kung University, Taiwan,

²Center for Micro/Nano Science and Technology (CMNST), National Cheng Kung University, Taiwan,

³Hierarchical Green-Energy Materials Research Center (Hi-GEM), National Cheng Kung University, Taiwan)

14:20-14:35 3B11

Hydrothermal Crystallization of Layered Hydroxides for Multi-morphology $Gd_2O_2S:RE$ Phosphors (No.50006)

Xuejiao WANG^{1,2}, Ji-Guang LI²,

^{(1)College of New Energy, Bohai University, China,}

^(2)Research Center for Functional Materials, National Institute for Materials Science, Japan)

14:35-14:50 3B12

High-Temperature, High-Pressure Hydrothermal Synthesis of Nonlinear Optical Materials: Titanosilicates and Metal Borates (No.50092)

Kwang-Hwa Lii¹

^(1)Department of Chemistry, National Central University, Taiwan)

Session XIV

August 11th, 2018, Tohoku Univ. / (Room D)

13:30 – 16:35

13:30-14:00 3D10K

New Solvothermal Synthesis Routes to Functional Oxides for Energy Applications (No.50054)

Richard I. Walton¹

^(1)Department of Chemistry, University of Warwick, Coventry, U.K.)

14:00-14:15 3D11

Synthesis of $Mo(S,Se)_2$ and $(Mo,W)S_2$ Nanosheets for Water Splitting from Metal Oxide Precursors Using Supercritical Water (No.50125)

Yuta Nakayasu^{1, 2}, Siobhan Bradley², Hiroaki Kobayashi¹, Takaaki Tomai¹, Thomas Nann², Itaru Honma¹

^{(1)IMRAM, Tohoku University, Japan,}

^(2)The MacDiarmid Institute for Advanced Materials and Nanotechnology, School of Chemical and Physical Science, Victoria University of Wellington, New Zealand)

14:15-14:30 3D12I

MoS_2 - Bi_2S_3 - TiO_2 Heterostructures as Bifunctional Catalysts for Enhanced Photocatalytic Hydrogen Production and Water Purification (No.50082)

Abdo Hezam¹, Namratha K¹, Q. A. Drmosh², K Byrappa¹

^{(1)Centre for Materials Science and Technology, University of Mysore, India,}

^(2)Physics Department and Center of Research Excellence in Nanotechnology, King Fahd University of Petroleum and Minerals, Saudi Arabia)

14:30-14:50 3D13I

$g-C_3N_4$ Coordinated CeO_2 Synthesized by Microwave Mediated Hydrothermal Method as Electrocatalyst for Oxygen Reduction Reaction (No.50173)

Purnendu Parhi¹, Siba Soren¹

^(1)Department of Chemistry, Ravenshaw University, India)

14:50-15:05 3D14

Biomimetic Synthesis of Nanostructured WO_3 Particles from Aqueous Solutions Containing Biological Polymers (No.50102)

Hiroaki Uchiyama¹, Syouta Mizuguchi¹, Yuki Nagayasu¹

^(1)Kansai University, Japan)

15:30-15:45 3D16

Hydrothermal Synthesis of Sulfur Embedded Carbon Nanodisc from Natural Bio-char Compound *Musa Balbisiana* for Excellent Oxygen Reduction Reaction and Supercapacitor Studies (No.50104)

Kashinath Lellala¹, Namratha Keerthiraj¹, Byrappa Kullaiah¹

^(1)Center for Materials Science and Technology, University of Mysore, India)

15:45-16:00 3D17

In vitro and In vivo Toxicity Profile of Bio-hydrothermally Synthesized ZnO Nanoparticles Using Cytotoxicity Assays and Bombyx Mori Silkworm Model System (No.50106)

P. Shubha^{1,2}, K. Namratha², B. H. Manjunatha³, M. Likhith Gowda³, K. Byrappa^{1,3}

¹*Department of Materials Science, India,*

²*Centre for Materials Science and Technology, Vijnan Bhavan, University of Mysore, India,*

³*Department of Sericulture Science, Genomics and Proteomics lab, University of Mysore, India)*

Closing Remarks

August 11th, 2018, Room: Sakura Hall 2F (Room A & B), Tohoku University

16:55 – 17:10

Poster Session

August 10th, 2018, Tohoku Univ. / Room P: Sakura Hall (2F)
10:50 – 12:50

(Odd: 10:50 - 11:50, Even: 11:50 - 12:50)

P-001

Occupancy in Methane Hydrates Analyzed with Raman Spectroscopy for Understanding Dissociation Mechanisms in Presence of Hydrothermal Phases (No.50117)

Takuya Sasagawa¹, Shinichiro Yamamoto¹, Yuya Hiraga², Hiroyuki Komatsu³, Masaki Ota², Takao Tsukada², Richard Lee Smith, Jr.¹

^{(1)Graduate School of Environmental Studies, Tohoku University, Japan,}

^{2Research Center of Supercritical Fluid Technology, Graduate School of Engineering, Tohoku University, Japan,}

^{3Department of Chemistry and Chemical Engineering, Niigata University, Japan)}

P-002

Separation of Active Components from Herbal Medicine with Supercritical Fluid Simulated Moving Bed (No.50020)

Xiao-Qing Bao¹, Chih-Hsiung Lin¹, Ru-Chien Liang², Ming-Tsai Liang¹

^{(1)Department of Chemical Engineering, I-Shou University, Taiwan,}

^{2Jope Technology Co., Ltd., Taiwan)}

P-003

Selective Precipitation of Magnesium in Na-Mg-Li/Cl Aqueous System (No.50147)

Xianghuan Liu¹, Linxia Fan¹, Meigui Yi¹, Lan Xiang²

^{(1)College of Chemical Engineering, Sichuan University, China,}

^{2Department of Chemical Engineering, Tsinghua University, China)}

P-004

Separation of Methyl Methacrylate and Methanol by Supercritical Fluid Chromatography (No.50021)

Chih-Hsiung Lin¹, Xiao-Qing Bao¹, Ming-Tsai Liang¹

^(1)Department of Chemical Engineering, I-Shou University, Taiwan)

P-005

Hydrothermal Fixation of CO₂ in Magnesium Hydroxide and Serpentinite (No.50111)

Seitarou Yamamoto¹, Yuki Mizuno¹, Naotsugu Itoh¹, Takafumi Sato¹

^(1)Department of Material and Environmental Chemistry, Utsunomiya University, Japan)

P-006

Supercritical Fluids Extraction of Curcuma longa with Ethanol and Isopropanol as the Cosolvent (No.50022)

So-Siou Shu¹, Ming-Tsai Liang¹

^(1)Department of Chemical Engineering, I-Shou University, Taiwan)

P-007

Modeling of Counter-current Extraction of Hops-extract Ethanol Solutions with a High-pressure CO₂ Green Solvent (No.50097)

Masaki Ota¹, Yuki Hoshino¹, Yoshiyuki Sato¹, Richard Lee Smith, Jr.², Hiroshi Inomata¹

^{(1)Graduate School of Engineering, Research Center of Supercritical Fluid Technology, Tohoku University, Japan,}

^{2Graduate School of Environmental Studies, Tohoku University, Japan)}

P-008

Effects of Reaction Conditions on Yields and Reaction Rates in Hydrothermal Conversion of White Wood (No.50056)

Ryuta Tanaka¹, Junichi Sakabe¹, Toshitaka Funazukuri¹

^(1)Department of Applied Chemistry, Faculty of Science and Engineering, Chuo University, Japan)

P-009

Reaction Kinetics in Hot Compressed Water-alcohol Mixtures Using Reactions of Esters as Model (No.50042)

Makoto Akizuki¹, Kohki Ito¹, Yoshito Oshima¹

(¹Department of Environment Systems, Graduate School of Frontier Sciences, The University of Tokyo, Japan)

P-010

Enhanced Production of Oligopeptides Using the Hydrothermal and Pulsed Arc Discharge Treatments (No.50043)

Yuji Miyagawa¹, Armand T Quitain^{2, 3}, Tetsuya Kida², Douyan Wang⁴, Takao Namihira⁴, Mitsuru Sasaki^{2, 4}, Motonobu Goto⁵, Tetsuo Honma⁶,

(¹Graduate School of Science and Technology, Kumamoto University, Japan,

²Faculty of Advanced Science and Technology, Kumamoto University, Japan,

³Global Education Center, Kumamoto University, Kumamoto, Japan,

⁴Institute of Pulsed Power Science (IPPS), Kumamoto University, Japan,

⁵Nagoya University, Japan,

⁶National Institute of Technology Hachinohe College, Japan,

⁷Horoshima Shudo University, Japan)

P-011

Hydrothermal Depolymerization of Poly(butylene terephthalate) in Aqueous Dimethylamine Solution (No.50058)

Kazuki Hatano¹, Junichi Sakabe¹, Toshitaka Funazukuri¹

(¹Department of Applied Chemistry, Chuo University, Japan)

P-012

Solvothermal Synthesis of Mesoporous Titanium Oxide for High Efficiency Photoelectrochemical Solar Energy Conversion (No.50087)

Yifan Xu¹, Bo Wang¹, Xiao Li Zhang¹

(¹School of Materials Science and Engineering, and State Centre for International Cooperation on Designer Low-Carbon & Environmental Materials, Zhengzhou University, China)

P-013

Synthesis of Nb₂O₅ Nanoparticles with Different Morphology and Crystal Structure (No.50048)

Yoshitaka Kumabe¹, Masataka Ohtani^{1, 2}, Kazuya Kobiro^{1, 2}

(¹Graduate School of Engineering, Kochi University of Technology, Japan,

²Laboratory for Structural Nanochemistry, Kochi University of Technology, Japan)

P-014

Synthesis of Ta/N-Doped Titania from Layered Potassium Titanate by Water Controlled Release Solvothermal Process and its Photocatalytic DeNO_x Activity (No.50091)

Misuzu Nakamura¹, Yusuke Asakura¹, Shu Yin¹

(¹Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

P-015

Effect of Solvent Environment on Solvothermal Synthesis of Hierarchical Titanium Oxide Hybrids (No.50086)

Yuke Yang¹, Lingling Cui¹, Xiao Li Zhang¹

(¹School of Materials Science and Engineering, and State Centre for International Cooperation on Designer Low-Carbon & Environmental Materials, Zhengzhou University, China)

P-016

A Simple Solvothermal Preparation of Silica-Ceria Nanocomposite (No.50028)

Hien Thi Thu Nguyen¹, Masataka Ohtani^{1, 2, 3}, Kazuya Kobiro^{1, 2, 3}

(¹Graduate School of Engineering, Kochi University of Technology, Japan.,

²Laboratory for Structural Nanochemistry, Kochi University of Technology, Japan,

³Research Center for Material Science and Engineering, Kochi University of Technology, Japan)

P-017

Morphology Controlled Solvothermal Synthesis of Nickel-doped Zinc Oxide for Enhanced Visible Light Photoactivity (No.50089)

Bo Wang¹, Yifan Xu¹, Xiao Li Zhang^{1,2}

(¹School of Materials Science and Engineering, and State Centre for International Cooperation on Designer Low-Carbon & Environmental Materials, Zhengzhou University, China,

²Enabling Capability Platforms and School of Science, RMIT University, Australia)

P-018

Effects of Alcohol Solvents on the Crystal Growth of Oxides via Solvothermal Processes (No.50136)

Yuchun Wu¹, Wei-Ting Lin¹, Chao-Kuen Hung¹, Chu-Wei Chang¹, Yu-Ling Guo¹

(¹Department of Resources Engineering, National, Cheng-Kung University, Taiwan)

P-019

Synthesis of Cu Nanoparticle via Thermal Decomposition of Oleylamine-coordinated Cu Oxalate Complex (No.50064)

Takanari Togashi¹, Atsuki Hashimoto¹, Masato Nakayama¹, Kanaizuka Katsuhiko¹, Masato Kurihara¹

(¹Yamagata University, Japan)

P-020

Growth Mechanism of Tubular Ti_xW_yO Nanostructures Grown by an Anodization Process with Anodic Aluminum Oxide (No.50112)

Yung Huang Chang², Sheng Wei Huang¹, Yuan Tsung Chen², Chien Sheng Huang¹

(¹ Department of Electronic Engineering, National Yunlin University of Science and Technology, Taiwan,

²Department of Materials Engineering, National Yunlin University of Science and Technology, Taiwan)

P-021

Synthesis and Characterization of Reduced Graphene Oxide for Cellulose Depolymerization under Microwave- Subcritical Conditions (No.50108)

Elaine Gabutin Mission¹, Armando Tibigin Quitain², Yudai Hirano¹, Mitsuru Sasaki³, Ma. Jose Cocero⁴, Tetsuya Kida⁵

(¹Graduate School of Science and Technology, Kumamoto University, Japan,

²College of Cross-Cultural and Multidisciplinary Studies, Kumamoto University, Japan,

³Institute of Pulsed Power Science, Kumamoto University, Japan,

⁴Department of Chemical Engineering and Environmental Technology, University of Valladolid, Spain,

⁵Faculty of Advanced Science and Technology, Kumamoto University, Japan)

P-022

Synthesis of TiO₂/C Composite Nanoparticles by Discharge Plasma over Aqueous Glycine Solution under Pressured Argon (No.50101)

Hiroki Kondo¹, Diono Whyu¹, Noriharu Takada¹, Hideki Kanda¹, Motonobu Goto¹

(¹Department of Materials Process Engineering, Nagoya University, Japan)

P-023

Preparation of Macroporous Mn₃O₄ Microspheres Using Water Vapor-assisted Thermal Decomposition (No.50011)

Takahiro Kozawa

(¹Joining and Welding Research Institute, Osaka University, Japan)

P-024

Investigation on the Formation Process of Mesoporous Metal Oxide Using High Resolution Scanning Electron Microscopy (No.50123)Jinfeng Lu¹, Seiichi Takami², Shunsuke Asahina³, Tadafumi Adschiri^{1,2}^{(1)New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan,}^{(2)Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan,}^(3)JEOL Ltd. Japan)

P-025

Hydrothermal Synthesis of Hydroxyapatite Plates using Calcium Dicarboxylates (No.50149)Naohiro Horiuchi¹, Hironori Saito², Kazuaki Hashimoto², Kimihiro Yamashita¹^{(1)Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, Japan,}^(2)Department of Life and Environmental Science, Chiba Institute of Technology, Japan)

P-026

Effect of Coexisting Ions on Synthesis of Zinc Oxide Nanoparticles in Supercritical Water (No.50134)Yasuhiko Orita¹, Makoto Akizuki¹, Yoshito Oshima¹^(1)Department of Environment Systems, Graduate School of Frontier Sciences, The University of Tokyo, Japan)

P-027

Morphological Control of Zinc Oxide Micron Particles and their Characterization (No.50118)Yukiho Nishimura¹, Yusuke Asakura¹, Akiko Sumiyoshi², Ai Oyama², Takayuki Kumei², Shu Yin¹^{(1)Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan,}^(2)Research Institute, Fancl Corporation, Japan)

P-028

Transition Metal Doping into Potassium Niobates by Hydrothermal Reaction (No.50023)Isuru Withanage¹, Nobuhiro Kumada¹, Sayaka Yanagida¹, Takahiro Takei¹^(1)University of Yamanashi, Japan)

P-029

Hydrothermal Synthesis of Several Complex Oxides Based on Niobium Oxide (No.50014)Masanori Hirano¹, Takaaki Okamoto¹, Hayato Dozono¹, Mitsuteru Hara¹^(1)Department of Applied Chemistry, Aichi Institute of Technology, Japan)

P-030

Nano-size Control of BaTiO₃ Particles Using Supercritical Mixed Solvents (No.50169)Hiroki Naito¹, Akira Yoko², Gimyeong Seong³, Daisuke Hojo³, Tsutomu Aida³, Takaaki Tomai⁴, Tadafumi Adschiri^{2,3,4}^{(1)Graduate school of engineering, Tohoku University, Sendai, Japan,}^{(2)WPI-Advanced Institute for Materials Research (WPI-AIMR), Tohoku University, Japan,}^{(3)New Industry Creation Hatcher Center, Tohoku University, Japan,}^(4)Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

P-031

Hydrothermal Synthesis of Ni@BaTiO₃ Core-shell Nanoparticles (No.50172)Sho Okabe¹, Akira Yoko², Gimyeong Seong³, Takaaki Tomai⁴, Tadafumi Adschiri^{2,3,4}^{(1)Department of Chemical Engineering, Graduate School of Engineering, Tohoku University, Japan,}^{(2)WPI-Advanced Institute for Materials Research, Tohoku University, Japan,}^{(3)New Industry Creation Hatchery Center, Tohoku University, Japan,}^(4)Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

P-032

Expanded the Light Response Range of Photocatalysts by Hydrothermal Method (No.50025)

Linfen Yang¹, Yuhua Wang¹

(¹Department of Materials Science, School of Physical Science and Technology, Lanzhou University, China)

P-033

Hydrothermal Electrodeposition of Edge-rich MoS₂ for Water Splitting Catalyst (No.50116)

Shusuke Katahira¹, Hiroaki Kobayashi¹, Yuta Nakayasu¹, Itaru Honma¹

(¹Tohoku University, Japan)

P-034

Improve the Photocatalytic Activity via Tuning Heterostructure and Doping by Hydrothermal Method (No.50024)

Tongyao Liu¹, Yuhua Wang¹

(¹Department of Materials Science, School of Physical Science and Technology, Lanzhou University, China)

P-035

Engineering Titanium Oxide Building Block for Effective Light Harvesting in Flexible Mesoscopic Solar Cells (No.50088)

Lingling Cui¹, Yuke Yang¹, Xiao Li Zhang¹

(¹School of Materials Science and Engineering, and State Centre for International Cooperation on Designer Low-Carbon & Environmental Materials, Zhengzhou University, China)

P-036

Doped Graphene/TiO₂ Nanocomposites with Enhanced Photocatalytic Activity (No.50037)

Hao Li¹, Yuhua Wang¹

(¹Department of Materials Science, School of Physical Science and Technology, Lanzhou University, China)

P-037

Facile Hydrothermal Fabrication of Heterogeneous ZnO:M_xO_y Nanocomposites and their Application Potential in Visible Light Driven Photocatalysis (No.50167)

Nayan Byrappa Mysore^{1, 2}, Srikantaswamy Shivanna^{1, 2}, Jagdish Krishnegowda¹, Abhilas R. Mavinakere^{1, 2}, Byrappa Kullaiiah^{1, 3}

(¹Center for Materials Science and Technology, University of Mysore, Manasa gangotri, India,

²Dept. of Studies in Environmental Science, University of Mysore, Manasa gangotri, India,

³Mangalore University, Mangalagangothri, Mangalore, India)

P-038

Enhanced Photoresponse Based on the Core-Shell CNT/ZnO Heterojunction Nanowires (No.50113)

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(¹Department of Electronic Engineering, National Yunlin University of Science and Technology, Taiwan,

²Graduate School of Materials Science, National Yunlin University of Science and Technology, Taiwan,

³Bachelor Program in Interdisciplinary Studies, National Yunlin University of Science and Technology, Taiwan)

P-039

Hydrothermal Technology for the Generation of Metal Oxide and Carbon Nanomaterials: Photocatalytic and Biological Application (No.50079)

Abhilash R. Mavinakere¹, Srikantaswamy Shivanna¹, Nayan Byrappa Mysore¹, Akshatha Gangadhar¹, Jagadish Krishanegowda¹, Shiva Kumar Daddaiah¹, Rangappa Subbe Gowda Kanchugara Koppal², Byrappa Kullaiah³,

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³Mangalore University, Mangalagangothri, India)

P-040

Hydrothermal Synthesis and Catalytic Activity of Two New Cubic Pyrochlore Pentavalent Bismuthates (No.50015)

Md Saiduzzaman¹, Takahiro Takei¹, Sayaka Yanagida¹, Hirokazu Kyokane², Masaki Azuma², Nobuhiro Kumada¹

¹Center for Crystal Science and Technology, University of Yamanashi, Japan,

²Materials and Structural Laboratory, Tokyo Institute of Technology, Japan)

P-041

The Effect of Synthesis Temperature on the Formed Polymorphs of Halogen-doped Vanadium Dioxide (X: Cl, Br, I) for Smart Windows Application (No.50122)

Anung Riapanitra¹, Yusuke Asakura¹, Shu Yin¹

¹Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan)

P-042

Two Zincotitanophosphates from α -TiPO₄ Sheets with Tunable Organic Linkers, Intercalated Molecular Photoluminescence and Catalytic Properties (No.50093)

Suelein Wang¹, Ling-I Hung¹

¹Department of Chemistry, National Tsing Hua University, Taiwan)

P-043

Morphology Controlled Hydrothermal Synthesis and Luminescence Properties of Micro-crystals Gd₆O₅F₈ (No.50031)

Shan shan Du¹, De yin Wang¹, Yu hua Wang¹

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P-044

Separation of Chromium from Nickel/cobalt-bearing Minerals (No.50146)

Linxia Fan¹, Yingcai Zhang², Xianghuan Liu¹, Meigui Yi¹, Lan Xiang²

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²Department of Chemical Engineering, Tsinghua University, China)

P-045

Low-temperature Sintering of Oleic Acid-Modified Copper Nanoparticles (No.50151)

Ayame Sakonaka^{1,2}, Masaki Matsubara², Akira Yoko¹, Takaaki Tomai¹, Tadafumi Adschiri¹,

¹WPI Advanced Institute for Materials Research, Tohoku University, Japan

²Department of Materials and Environmental Engineering, National Institute of Technology, Sendai College, Japan)

P-046

Nucleation Study with First-principles Calculation (No.50138)

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P-047

Effect of acid Cleaning on Separation of CaO from the Surface of Titanium Powder Deoxidized using Calcium (No.50205)

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P-048

Preparation and Characterization of BiFeO₃ Photocatalysts for Environmental Applications (No.50209)

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²*Department of Environmental and Bio-Chemical Engineering, SunMoon University, Korea*)

P-049

Effect of Particle Precursors on Solvothermal Synthesis of Ga-doped Zinc Oxide Nanoparticles (No.50210)

Yuki Kasai¹, Kiyoshi Kanie¹, and Atsushi Muramatsu¹

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P-050

Synthesis of Bi₂Te₃ Alloy Nanoparticles by a Reductive Liquid Phase Method and their Thermoelectric Conversion Properties (No.50211)

Yukitoki Miyasaki¹, Kiyoshi Kanie¹, and Atsushi Muramatsu¹

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Aug.12th Tour

Green Technical Tour

(Optional tour arranged by Kinki Nippon Tourist Co.)

August 12th, 2018, Tohoku Univ./ Sendai city

10:00 – 16:00