

8-5-3 ソウル国立大学校・南京大学ジョイントシンポジウム

“Challenges in Advanced Chemistry of Asia”

Frontier Chemistry Center (FCC) International Symposium
The 8th Hokkaido University – Nanjing University Joint Symposium
The 15th Hokkaido University – Seoul National University Joint Symposium
2012 HU – NU – SNU – NIMS/MANA Joint Symposium

Date: December 6 (Thursday) – 8 (Saturday), 2012

Venue: Conference Hall, Hokkaido University, Japan

Thursday, December 6, 2012

Opening Ceremony

9:30~10:00

Koichiro Ishimori (Hokkaido Univ.)

Xing-Hua Xia (Nanjing Univ.)

Seonghoon Lee (Seoul National Univ.)

Oral Session 1

Chairperson: **Tamaki Nakano**

10:00~10:20

O-01

Jun-Jie Zhu (Nanjing Univ.)

Graphene Quantum Dots: Synthesis and Sensing

10:20~10:40

O-02

Doo Soo Chung (Seoul National Univ.)

Headspace-No Drop Microextraction for Capillary Electrophoresis

10:40~11:00

O-03

Kazuki Sada (Hokkaido Univ.)

De novo design of thermo-sensitive polymer systems via supramolecular interaction

Coffee Break

Keynote Lecture 1

Chairperson: **Kei Murakoshi**

11:20~12:00

K-01

Seonghoon Lee (Seoul National Univ.)

How neural synaptic junctions to develop

Lunch (12:00~13:00)

Oral Session 2

Chairperson: **Kazuki Sada**

13:00~13:20

O-04

Junfeng Bai (Nanjing Univ.)

Metal-organic frameworks from highly symmetric and multidentate ligands: new methodology, structures, properties, perspectives

13:20~13:40

O-05

Tamaki Nakano (Hokkaido Univ.)

Excited-state chirality of polymers

- 13:40~14:00 **O-06** **Zhen Liu** (Nanjing Univ.)
Photolithographic Boronate Affinity Molecular Imprinting: a General and Facile Approach for Glycoprotein Imprinting
- 14:00~14:20 **O-07** **Yasuchika Hasegawa** (Hokkaido Univ.)
Strong Luminescent organo-phosphors composed of Lanthanide ions and phosphine oxides

Poster Session (14:20~15:20)

- Keynote Lecture 2 Chairperson: **Sadamu Takeda**
15:20~16:00 **K-02** **Noboru Kitamura** (Hokkaido Univ.)
Spectroscopic and Photophysical Characteristics of Triarylborane Derivatives

Friday, December 7, 2012

- Oral Session 3 Chairperson: **Koichiro Ishimori**
- 9:00~ 9:20 **O-08** **Kazuyasu Sakaguchi** (Hokkaido Univ.)
Biomineralization and Nanoparticle Arrangement via Peptide Self-assembly and Oligomerization
- 9:20~ 9:40 **O-09** **Jing-Juan Xu** (Nanjing Univ.)
Bioanalysis based on electrochemiluminescence resonance energy transfer
- 9:40~10:00 **O-10** **Kuniharu Ijiro** (Hokkaido Univ.)
Self-assembly of Nanoparticles for optical and biological applications
- 10:00~10:20 **O-11** **Xing-Hua Xia** (Nanjing Univ.)
Interfacial behavior of biomolecules and Biosensors

Coffee Break

- Oral Session 4 Chairperson: **Kuniharu Ijiro**
- 10:40~11:00 **O-12** **Jianping Lei** (Nanjing Univ.)
Porphyrin-Based Nanocomposites for Biosensing
- 11:00~11:20 **O-13** **Jong In Hong** (Seoul National Univ.)
Chemosensors for Redox-responsible Biomolecules

- Keynote Lecture 3
11:20~12:00 **K-03** **Hong-Yuan Chen** (Nanjing Univ.)
Study on the Photoelectrochemical Biosensing

Lunch (12:00~13:00) Group Photo

- Oral Session 5
Chairperson: **Tetsuya Taketsugu**
- 13:00~13:20 **O-14** **Jianwei Zhao** (Nanjing Univ.)
Chemical simulation: from molecules from systems
- 13:20~13:40 **O-15** **Jun-ya Hasegawa** (Hokkaido Univ.)
Theoretical Study on the Color Tuning Mechanism of Photo-functional Proteins: Excited States and Molecular interactions
- 13:40~14:00 **O-16** **Koichiro Ishimori** (Hokkaido Univ.)
Key Interactions for Electron Transfer in Cytochrome c – Cytochrome c Oxidase Complex
- 14:00~14:20 **O-17** **Derrick Ethelbhart Yu** (De La Salle Univ.)
Molecular and Solid-State Properties of Phthalocyanine Conductors

Coffee Break

- Oral Session 6
Chairperson: **Yasuchika Hasegawa**
- 14:40~15:00 **O-18** **Kei Murakoshi** (Hokkaido Univ.)
Molecule Manipulation in Ultra Small Spaces based on Brownian Ratchet Mechanism
- 15:00~15:20 **O-19** **Yan Lee** (Seoul National Univ.)
Seawater desalination by forward osmosis based on LCST materials
- 15:20~15:40 **O-20** **Jian-Xin Li** (Nanjing Univ.)
Microfluidics Assisted Synthesis and Bioevaluation of Sinomenine Derivatives as Antiinflammatory Agents
- 15:40~16:00 **O-21** **Masako Kato** (Hokkaido Univ.)
Luminescence Properties and Photochromic Response of Cyclometalated Dinuclear Platinum Complexes

Coffee Break

- Keynote Lecture 4
Chairperson: **Masako Kato**
- 16:20~17:00 **K-04** **Kohei Uosaki** (NIMS/MANA)
Deposition/Incorporation of Metal and Metal Complexes on and Within Organic Layers Constructed on Gold and Silicon

Closing Remarks

Banquet (18:00~20:00)

Poster Session

Thursday, December 6, 2012 (14:20~15:20)

P-01

Yuhei Kiyota, Yoshiro Chuman, Yukiko Shirahata, Youhei Teduka, Hiroaki Yagi and Kazuyasu Sakaguchi (Hokkaido Univ.)

"Analysis of specific loop regions and C-terminal domain in PPM1D phosphatase on its enzymatic activity"

P-02

Zijun Bie, Peng Dou, Jin Ye, and Zhen Liu (Nanjing Univ.)

"Coupling of monolithic capillary-based boronate affinity chromatography and mass spectrometry for the extraction and identification of cis-diol biomolecules"

P-03

Tatsuya Sakaguchi, Jose Isagani B. Janairo, Yoshiro Chuman, Kenji Hara, Atsushi Fukuoka, and Kazuyasu Sakaguchi (Hokkaido Univ.)

"Silver Nanoparticle formation by Oligomeric Biomineralization Peptide via p53 Tetramerization Domain"

P-04

Dong-Nam Lee, Kyungja Han, and Jong-In Hong (Seoul National Univ., Catholic University Medical College)

"New Trend of Fluorogenic Detection System for Redox Active Biological Specie"

P-05

Chun-Yuan Tian, Jing-Juan Xu and Hong-Yuan Chen (Nanjing Univ.)

"A Novel Aptasensor for the Detection of Adenosine in Cancer Cells by Electrochemiluminescence of Nitrogen Doped TiO₂ Nanotubes"

P-06

Hiroki Sakai, Ken Watanabe, Yoshiro Chuman, Thomas Wyttentbach, Michael T. Bowers, Kohei Uosaki, and Kazuyasu Sakaguchi (Hokkaido Univ.)

"Control of Fibril Formation Using Multiple Modified Peptides and Its Application for Functional Nanowires"

P-07

Naotoshi Sugimura, Kenichi Niikura, Hirofumi Sawa, and Kuniharu Ijiro (Hokkaido Univ.)

"Encapsulation of functional oligonucleotides in virus-like particles and their release in cells"

P-08

Takayoshi Higashi, Toshiaki Imagawa, Aya Tanaka, Kazuyasu Sakaguchi (Hokkaido Univ.)

"Development of the system to analyze endogenous p53 transcriptional activity in living cells"

P-09

Kentaro Doi, Takeshi Uchida, and Koichiro Ishimori (Hokkaido Univ.)

"Dehydration in the Folding of Cytochrome c Revealed by High Pressure Spectroscopy"

P-10

Naoki Iyo, Kenichi Niikura, Yasutaka Matsuo, and Kuniharu Ijiri (Hokkaido Univ.)

"Gold Nanoparticle Vesicles Enabling Rapid Drug Release upon Light Irradiation"

P-11

Jose Isagani B. Janairo, Tatsuya Sakaguchi, Yoshiro Chuman, Kenji Hara, Atsushi Fukuoka and Kazuyasu Sakaguchi (Hokkaido Univ.)

"Regulation of Palladium Biomineralization Through Controlled Oligomerization via the p53 Tetramerization Domain"

P-12

Masaki Ito, Daisuke Inoue, Takayuki Torisawa, Yoko Toyoshima, Kazuki Sada, and Akira Kakugo (Hokkaido Univ., The Univ. of Tokyo)

"Formation of ring-shaped microtubule assemblies driven by dynein"

P-13

Miho Sasaki, Yukari Sekine, Koichiro Ishimori, and Takeshi Uchida (Hokkaido Univ.)

"Heme Demetallation Enzyme from *Vibrio cholera*"

P-14

Chen Zong, Jie Wu, Jie Xu, Huangxian Ju, and Feng Yan (Nanjing Univ.)

"Disposable Chemiluminescence Protein Array for Ultrasensitive Multiplex Immunoassay of Cancer Biomarkers using Multilayer Hemin/G-Quadruplex Wrapped Gold Nanoparticle Tag"

P-15

Kasumi Nakamura, Kenta Kokado, and Kazuki Sada (Hokkaido Univ.)

"Transcription of molecules to Au surface using "organic crystal stamp" "

P-16

Yun Zhao, Lei Cao, Jun Ouyang, Min Wang, Kang Wang, and Xing-Hua Xia (Nanjing Univ.)

"A Reversible Plasmonic Probe Sensitive for pH in Micro/nano-spaces Based on i-motif-modulated Morpholino-AuNPs Assembly"

P-17

Shiwei Zhou, Feng Lu, and Junjie Zhu (Nanjing Univ.)

"Ultrafast Synthesis of Fluorescent Silver Nanoclusters and Enhanced Fluorescent with [HOEtMIm][BF₄]"

P-18

Shinya Sudo, Kenta Kokado, and Kazuki Sada (Hokkaido Univ.)

"Preparation of Gallium Nanoparticles Utilizing Property of Liquid-Metal and Novel Preparation Method of Noble Metal Nanoparticles via Redox-Transmetalation Process"

P-19

In Hye Sung and Doo Soo Chung (Seoul National Univ.)

"Liquid Extraction Surface Analysis Coupled with Capillary Electrophoresis to Determine Pesticides on Fruit Surfaces"

P-20

Yu Takabatake, Koji Fushimi, Takayuki Nakanishi, and Yasuchika Hasegawa (Hokkaido Univ.)

"Active and Passive State of Iron in Sulfuric Acid Measured by a Micro-capillary-cell"

P-21

Masanori Wakizaka, Takeshi Matsumoto, Hirokazu Yano, Atsushi Kobayashi, Ho-Chol Chang, and Masako Kato (Hokkaido Univ.)

"Coordination site-Dependent Cation Binding and Multi-responsible Redox Properties of Janus-Head Metalloligand, $[\text{Mo}^{\text{V}}(1,2\text{-mercaptophenolato})_3]^{-}$ "

P-22

Wei-Wei Zhao, Zheng-Yuan Ma, Jing-Juan Xu, and Hong-Yuan Chen (Nanjing Univ.)

"*In situ* Enzymatic Ascorbic Acid Production as Electron Donor for CdS Quantum Dots Equipped TiO₂ Nanotubes: A General and Efficient Approach for New Photoelectrochemical Immunoassay"

P-23

Yeonju Seo and Seonghoon Lee (Seoul National Univ.)

"The Fast Fabrication of Highly Ordered TiO₂ Nanotube Array by Hard Anodization"

P-24

Yuanyuan Kang, Shota Saito, Akitaka Ito, Eri Sakuda, and Noboru Kitamura (Hokkaido Univ.)

"Efficient Electron Transfer Quenching of a Novel Tricarbonyl Rhenium(I) Complexes Having an Arylborane Charge Transfer Unit by Electron Donors"

P-25

Hiroki Ohara, Takeshi Matsumoto, Atsushi Kobayashi, Ho-Chol Chang, and Masako Kato (Hokkaido Univ.)

"Development of Photofunctional Chromium(III) Complexes"

P-26

Gaku Arai, Akira Nakayama, Shohei Yamazaki, and Tetsuya Taketsugu (Hokkaido Univ.)

"Solvent effects on the ultrafast nonradiative deactivation mechanisms of thymine"

P-27

Geng Li and Tamaki Nakano (Hokkaido Univ.)

"Synthesis and Structure of π -Stacked Polydibenzofulvene Derivative Having Flexible Side Chains"

P-28

Yuanyuan He, Jinjiang Zhang, and Jianwei Zhao (Nanjing Univ.)

"Distance Effect on Electron Transfer Property in Molecular Wires"

P-29

Min Gao, Andrey Lyalin, and Tetsuya Taketsugu (Hokkaido Univ.)

"Catalytic activity of gold clusters on the "inert" h-BN surface"

P-30

Jiong Wang and Xing-Hua Xia (Nanjing Univ.)

"3D Nitrogen-doped Graphene for Oxygen Reduction Reaction"

P-31

Xiao Jie and Kohei Uosaki (NIMS)

"Electrochemical quartz crystal microbalance study on electrochemical reactions in DMSO solution containing oxygen and Li ion in relation to Li-air battery"

P-32

Takanori Suzuki, Hitomi Tamaoki, Ryo Katoono, and Kenshu Fujiwara (Hokkaido Univ.)

"Preparation and Properties of Dynamic Redox System containing a perfluorobiphenyl skeleton"

P-33

Akira Kawashima, Takayuki Nakanishi, Koji Fushimi, and Yasuchika Hasegawa (Hokkaido Univ.)

"EuS Nano-assemblies Attached with Naphthalenedithiols"

P-34

Yue Wang and Tamaki Nakano (Hokkaido Univ.)

"Helix Formation of a Main-chain Conjugated Polymer Driven by Circularly Polarized Light"

P-35

Kohei Miyata, Takayuki Nakanishi, Atsushi Kobayashi, Masako Kato, Koji Fushimi, and Yasuchika Hasegawa (Hokkaido Univ.)

"Luminescence properties of lanthanide coordination polymers with 3-D network structures"

P-36

Zhiyong Lu, Liting Du, Kaiyuan Zheng, Junyi Wang, Xin Zheng, Yi Pan, Xiaozeng You, and Junfeng Bai (Nanjing Univ.)

"Fine Tuning Pore Size by Coordination Sites Shifting and Surface Property of Metal-Organic Frameworks to Enhance the Affinity for CO₂ Significantly"

P-37

Clastin I. Sathish, Hai-Lukas Feng, and Kazunari Yamaura (NIMS, Hokkaido Univ.)

"Superconductivity in Bismuth Oxysulfide Bi₄O₄S₃"

P-38

Takanori Tada, Yukiteru Katsumoto, Karel Goossens, Hiroshi Uji-i, Johan Hofkens, Tatsuya Shoji, Noboru Kitamura, and Yasuyuki Tsuboi (Hokkaido Univ.)

"A single molecule study on acceleration mechanisms of phase separation rate of poly(*N*-isopropylacrylamide) in water"

P-39

Kenshu Fujiwara, Takuto Sato, Yusuke Sano, Toshio Norikura, Ryo Katoono, Takanori Suzuki, and Hajime Matsue (Hokkaido Univ., Aomori Univ.)

"Total Synthesis of Thelephantin O, Vialinin A/Terrestrin A, and Terrestrins B-D"

P-40

Dan Zhao, Min-Xue Zhu, Yue Wang, Qi Shen, Lei Zhang, and Jian-Xin Li (Nanjing Univ.)

"Copper(II)-catalyzed C–H (sp³) oxidation and C–N cleavage: synthesis of methylene-bridged compounds using TMEDA as a carbon source in water"

P-41

Kento Watanabe and Tamaki Nakano (Hokkaido Univ.)

"Hyperbranched Chiral Polyfluorene Derivatives as Novel Circularly Polarized Light Emitting Material"

P-42

Ya Zhang, Hidenori Noguchi, and Kohei Uosaki (NIMS, Hokkaido Univ.)

"Effect of Trehalose on the Stability of Bilayer in Air"

P-43

Daichi Nakayama and Yan Lee (Seoul National Univ.)

"Forward osmotic control by LCST-based thermo-sensitive materials"

P-44

Hiroyoshi Sugino and Tamaki Nakano (Hokkaido Univ.)

"Synthesis of a Novel π -Stacked Polymer Containing Thiophene Units"

P-45

Hai L. Feng, Yanfeng Guo, Akira Sato, Jun Li, C.I. Sathish, and Kazunari Yamaura (NIMS, Hokkaido Univ.)

"Synthesis, structure and magnetic properties of double perovskites: Ca₂MOsO₆ (M=Ca, Zn, Co, Fe)"

P-46

Toshinori Motegi, Hideki Nabika, Yingqiang Fu, Lili Chen, Yinlu Sun, Jianwei Zhao, and Kei Murakoshi

"Effective Brownian Ratchet Separation in Self-spreading Lipid Bilayer"

P-47

Shino Sato, Kei Murakoshi, and Katsuyoshi Ikeda

"Oxygen reduction reaction on Co-porphyrin modified electrodes"

P-48

Li Yu, Satoshi Yasuda and Kei Murakoshi

"Configuration-oriented Synthesis of Nitrogen-doped Carbon Materials"