

POSTER SESSION PROGRAM (tentative, 08 Sep. 2010)

Tokyo Symposium Tuesday 28, September, 18:30-20:30

Sendai Symposium Friday 1, October, 17:10-19:30

[T] Presented at Tokyo Symposium only

[S] Presented at Sendai Symposium only

[T&S] Presented at both Tokyo and Sendai Symposiums

Category 1: Basic Optical and Physical Properties of Organic/Polymeric Materials

P-01 **Physical Properties of Microporous Polymer Thin Film Produced by Spaced-Control of
[S] Fine Particles: Regular Alignment to Random Dispersion**

Takeru Hayashi¹, Tsunenobu Onodera¹, Takayuki Ishizaka², Hitoshi Kasai³, Hiroyuki Sugimura⁴,
Hidetoshi Oikawa¹, Tadashi Mitsui⁵, Yutaka Wakayama⁵, Naoki Ikeda⁵, Yoshimasa Sugimoto⁵,
Tadashi Takamasu⁵

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

² *Advanced Industrial Science and Technology (AIST)*, ³ *PRESTO-JST*, ⁴ *Kyoto University*

⁵ *National Institute for Materials Science (NIMS)*

P-02 **Preparation of Diarylethene Nanocrystals for Photochromic Nanomaterials**

[S] Norio Tagawa¹, Akito Masuhara², Tsunenobu Onodera¹, Hitoshi Kasai³, and Hidetoshi Oikawa¹

¹ *Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*

² *Graduate School of Science & Engineering, Yamagata University*, ³ *JST-PRESTO*

Category 2: Science & Technologies of Organic/Polymeric Optical Materials

P-03 **Optical Waveguides and Humidity Sensors Based on Chitosan and Chitosan/Silica Hybrid
[T&S] Materials**

Alexander Mironenko¹, Alexander Sergeev², Svetlana Bratskaya¹, Dmitry Marinin¹, Valentin
Avramenko¹, Sergey Voznesensky², Yuriy Kul'chin²

¹ *Institute of Chemistry, Far Eastern Branch, Russian Academy of Sciences*

² *Institute for Automation and Control Processes, Far Eastern Branch, Russian Academy of
Sciences*

Category 3: Polymer Optical Circuits, Devices, and Packaging Technologies

P-04 **Whitening of Polarized Electroluminescent Devices by Dye-Doping Oriented PFO Films**

[T] Claire Heck, Toshiko Mizokuro, Nobutaka Tanigaki

*Research Institute for Ubiquitous Energy Devices, National Institute of Advanced Industrial
Science and Technology (AIST)*

P-05 **New Method for Multimode Polymer Optical Waveguide Evaluations**

[T] Freddy Susanto Tan, Okihiro Sugihara and Toshikuni Kaino

Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

P-06 **Light-Induced Self-Written Waveguide Formation by NIR Light Irradiation**

[T] Yamashita Tatsuya, Akari Kawasaki, Manabu Kagami, and Osamu Watanabe

Toyota Central R&D Labs., Inc.

P-07 **Phase Equilibrium of Nanoparticulate System**

[S] Jungwoo Yoo^a, Hiroshi Inomata^{a,b}, Tadafumi Adschiri^{a,c}

^a *Department of Chemical Engineering, Tohoku University*

^b *Research Center of Supercritical Fluid Technology, Tohoku University*

^c *WPI Advanced Institute for Materials Research, Tohoku University*

Category 4: Science & Technologies of Nano-particles (including super-critical conditions)

P-08 **Hydrothermal Synthesis of Perovskite Nanophosphor via a Continuous Micro Reaction System**

[S]

Yukiya Hakuta, Hirhosi Takashima, Tetsuya Kodaira, Kyoko Bando, Fujio Mizukami, Kiwamu Sue, and Takeshi Furuya

National Institute of Advanced Industrial Science and Technology, Nanosystem Research Institute

P-09 **Liquid-Crystalline Organic-Inorganic Hybrid Dendrimers: Self-Organization of Gold Nanoparticles Modified with Organic Dendrons**

[S]

Masaki Matsubara¹, Kiyoshi Kanie^{1*}, Xiangbing Zeng², Feng Liu², Goran Ungar², and Atsushi Muramatsu¹

¹ *Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*

² *Department of Engineering Materials, University of Sheffield*

P-10 **Photoelectron Emission Microscopy for Surface Observation of Hyper-Hybrid Materials**

[T]

Hiroshi Ogawa, Kazutoshi Yagi-Watanabe, Masahito Tanaka, Fusae Kaneko, Hiromi Ikeura-Sekiguchi, Masato Yasumoto, and Masaki Koike

Research Institute of Instrumentation Frontier, National Institute of Advanced Industrial Science and Technology (AIST)

P-11 **Synthesis of Organic-Functionalized Hafnium Oxide Nanoparticles in Sub- and Supercritical Water**

[S]

Ameneh Sahraneshin, Seiichi Takami, and Tadafumi Adschiri

Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

P-12 **Lyotropic Liquid-Crystalline Structures of Calamitic Quaternary Ammonium Salts with a Mesogenic Core**

[S]

Yuki Seino, Kiyoshi Kanie, and Atsushi Muramatsu

Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

P-13 **Synthesis of Organic-Inorganic Hybrid Cobalt Nanoparticles via Hydrothermal Reduction Process in Supercritical Condition**

[S]

Gimyeong Seong¹, Seiichi Takami², Daisuke Hojo³, Toshihiko Arita², Kimitaka Minami⁴ and Tadafumi Adschiri^{2,3,4}

¹ *Department of Chemical Engineering, School of Engineering, Tohoku University*

² *Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*

³ *WPI Research Center: Advanced Institute for Materials Research, Tohoku University*

⁴ *New Industry Creation Hatchery Center, Tohoku University*

- P-14 **Synthesis and Surface Modification of Gadolinium Fluoride Nanoparticles by Using
[S] Supercritical Fluid Technology**
Varu Singh, Seiichi Takami, Tadafumi Adschiri
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
- P-15 **Characterization of Surface-Modified Boron Nitride Nano-Particles by Solid-State Nuclear
[T] Magnetic Resonance**
Hiroyuki Souma and Shigenobu Hayashi
*Research Institute of Instrumentation Frontier, National Institute of Advanced Industrial Science
and Technology (AIST)*
- P-16 **Control of Mn Content in (CdMn)S Nanoparticles and their Magnetic Properties
[S] Itaru Tanaka, Masafumi Nakaya and Atsushi Muramatsu**
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
- P-17 **Liquid-Crystalline Nano-Structure of Organic Dendron-Modified CdS Nanoparticles
[S] Jun Yabuki, Kiyoshi Kanie, Masaki Matsubara, Itaru Tanaka, Masafumi Nakaya, and Atsushi
Muramatsu**
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

Category 5: Polymer/inorganic Hybrid Materials for Optical Applications

- P-18 **High Refractive Index Nanohybrid Polymer Composite Fabrication for LED Encapsulation
[T] Bin Cai, Hendry I. Elim, Okihiro Sugihara, Tshikuni Kaino, and Tadafumi Adschiri**
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
- P-19 **Light Induced Holographic Grating in TiO₂ Nanohybrid Polymer Composite Films
[S] Bin Cai, Hendry I. Elim, Okihiro Sugihara, Tshikuni Kaino, and Tadafumi Adschiri**
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
- P-20 **Theoretical and Experimental Rayleigh Scattering Studies of Nanohybrid Polymer
[T] Composite**
Hendry I. Elim, Bin Cai, Okihiro Sugihara, Toshikuni Kaino, and Tadafumi Adschiri
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
- P-21 **Rayleigh Scattering Study and Evaluation of Particle Size in Nanohybrid Material
[S] Hendry I. Elim, Bin Cai, Okihiro Sugihara, Toshikuni Kaino, and Tadafumi Adschiri**
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
- P-22 **Dispersion of Metal-Oxide Nanoparticles Using
[T] Glyceryl-N-(2-methacryloyloxyethyl)urethane and Its Properties of Organic-Inorganic
Hybrid Materials**
Eui-Chul Kang, Takehiro Morishita and Koichi Aoki
Tsukuba Corporate Research Laboratory, NOF Corporation

P-23 **Positron Annihilation Spectroscopy on Nanovoids in Polymer/Inorganic Hybrid-Materials for Optical Applications**
[T&S] Atsushi Kinomura¹, Ryoichi Suzuki¹, Takehiro Morishita² and Tadafumi Adschiri³
¹ *National Institute of Advanced Industrial Science and Technology (AIST)*
² *Tsukuba Corporate Research Laboratory, NOF Corporation*
³ *Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*

P-24 **Preparation of High Refractive Index Materials Using ZrO₂ Nanoparticles Prepared by Supercritical Hydrothermal Synthesis and Glyceryl-N-(2-methacryloyloxyethyl)urethane and Its Properties**
[S] Takehiro Morishita¹, Eui-Chul Kang¹ and Tadafumi Adschiri²
¹ *Tsukuba Corporate Research Laboratory, NOF Corporation*
² *Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*

P-25 **High Refractive Materials with TiO₂ Based Organic/Inorganic Hybrids**
[T] Kaoru Okaniwa
Tsukuba Research Laboratory, Hitachi Chemical Co., Ltd.

Category 6: Polymer/inorganic Hybrid Materials for Electronic and Thermal Applications

P-26 **Thermal Effusivity Distribution of Hybrid Materials by Sinusoidal Heating Laser Thermoreflectance Technique**
[T] S H Firoz¹, T Yagi¹, N Taketoshi¹, Y Matsushita², H Kiritani², H Ishikawa², A Okumoto² and T Baba¹
¹ *National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST)*
² *Mitsubishi Chemical Corporation, R&D Center*

P-27 **Evaluation of Thermal Conductive Resistance at Organic-Inorganic Interface and Development of Thermal Conductive Hybrid Materials for Electronic Devices**
[T&S] Keiji Fukushima¹ and Tadafumi Adschiri²
¹ *R&D Division, Japan Chemical Innovation Institute*
² *WPI-Advanced Institute of Materials Research, Tohoku University*

P-28 **Polymer: Fullerene Solar Cells: Influence of Annealing and Light Intensity**
[T] Hwajeong Kim, Sungho Nam, Jiho Park, and Youngkyoo Kim
Organic Nanoelectronics Laboratory, Department of Chemical Engineering, Kyungpook National University

P-29 **Effect of Solvent and Annealing in Polymer/Polymer Bulk Heterojunction Solar Cells**
[T] Hyena Lee, Sungho Nam, Hwajeong Kim, and Youngkyoo Kim
Organic Nanoelectronics Laboratory, Department of Chemical Engineering, Kyungpook National University

- P-30 [T&S] **Extremely High Thermal Properties of Boron Nitride-Epoxy Composite with High Orientation and High Filling Ratio**
Kenji Miyata¹, Toshitaka Yamagata¹, and Tadafumi Adschiri²
¹*Fine electronic materials research division, Electronic materials research and development institute, Denki Kagaku Kogyo K.K*
²*WPI-Advanced Institute of Materials Research, Tohoku University*
- P-31 [T] **Thermal Conductivity of Soluble Polyimide/MgO Nanohybrid Films Prepared by *In-situ* Hybridization and Direct Mixing Methods**
Kimiya Murakami and Shinji Ando
Department of Chemistry & Materials Science, Tokyo Institute of Technology
- P-32 [T] **Optoelectronic Properties and Device Applications of Conjugated Polymer/Zinc Oxide Nanocomposite Films**
Sungho Nam, Joonhyeon Kim, Hwajeong Kim, and Youngkyoo Kim
Organic Nanoelectronics Laboratory, Department of Chemical Engineering, Kyungpook National University
- P-33 [T] **Preparation and Characterization of Polyimide-Based Hybrid Films Containing Hexagonal Boron Nitride: Towards Development of High Performance Thermal Interface Materials**
Mizuka Tanimoto and Shinji Ando
Department of Chemistry & Materials Science, Tokyo Institute of Technology
- P-34 [T&S] **Influence of Thermal and Electrical Insulating Properties by Orientation of Hexagonal Boron Nitride Particles in Silicone Resin**
Toshitaka Yamagata¹, Kenji Miyata¹, and Tadafumi Adschiri²
¹*Fine electronic materials research division, Electronic materials research and development institute, Denki Kagaku Kogyo K.K*
²*Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*
- Category 7: Others**
- P-35 [S] **Dispersion of Surface-Modified Nanoparticles in Hydrophobic Media by Controlling Surface, Size and Size Distribution of Nanoparticles**
Toshihiko Arita¹, and Tadafumi Adschiri²
¹ *Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*
² *WPI research Center, Advanced Institute for Materials Research, Tohoku University*
- P-36 [T] **Synthesis and Self-Assembly of Cage Silsesquioxane and Ferrocene Containing Organic-Inorganic Hybrid Block Copolymers**
Raita Goseki, Tomoyasu Hirai, Masa-aki Kakimoto and Teruaki Hayakawa
Department of Organic and Polymeric materials, Tokyo Institute of Technology
- P-37 [T] **Cationic Ring-Opening Polymerization of 1,3-Dehydroadamantanes**
Sotaro Inomata, Takashi Ishizone
Department of Organic and Polymeric Materials, Tokyo Institute of Technology

- P-38 **Living Anionic Polymerization of Styrenes Containing Adamantyl Skeletons**
[T] Takashi. Ishizone, Hideo Shoji, Shingo Kobayashi, and Hiroshi Kataoka
Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- P-39 **Organic-Inorganic Hybrid Coating on Aluminum Nitride Fillers**
[T] Shingo Tanaka¹, Fusao Hojo¹, Hiroyuki Kagawa¹, and Yoshitaka Takezawa²
¹ *Materials Research Laboratory, Hitachi, Ltd.*
² *Advanced Materials R&D Center, Hitachi Chemical Co., Ltd.*
- P-40 **Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS) Using a**
[T&S] **Metal-Cluster-Complex Primary Ion Beam**
Y. Fujiwara, N. Saito, H. Nonaka, A. Suzuki, T. Nakanaga, T. Fujimoto, A. Kurokawa, and S. Ichimura
National Institute of Advanced Industrial Science and Technology (AIST)
- P-41 **Analysis of Confocal Volume within a Transparent Sample: Confocal Raman Microscopy**
[T] **Depth Profiling**
Yutaka Maruyama and Wataru Kanematsu
National Institute of Advanced Industrial Science and Technology (AIST), Research Institute of Instrumentation Frontier