プログラム

講演 / ポスターセッション

3/18 ¦ 19 ¦ 20

Monday, March 18

Opening / Chair : H. ARAKAWA

10:00 Opening Address
Jiro HIRAISHI, AIST
COE Project "Photoreaction Control and Photofunctional Materials (PCPM)"
M. TACHIYA , AIST

Session 1 / Chair : M. TACHIYA

10:20 O-1 : Photoswitchable Molecular Receptors
Michael ALFIMOV, Photochemistry Center of Russian Academy of Sciences, Russia

11:00 O-2 : Single Molecules in Nanoscience
M. ORRIT, University of Leiden, The Netherlands

11:40 Lunch

13:00 Poster Session 1 (Odd numbers)

Session 2 / Chair : I. KOJIMA

14:40 O-3 : Size Tunable Emission from Organic Capped Silicon Quantum Dots and Nanoparticle/Bilayer Composites
Doug ENGLISH, University of Maryland-College Park, USA

15:00 O-4 : Development of Femtosecond Transient Reflecting Grating Spectroscopy and Its Application to Observation of Solid/Liquid Interface
Masanori FUJINAMI, University of Tokyo

15:40 O-5 : Attempts of Controlling Photoreactions by Lasers in AIST
Taisuke NAKANAGA, AIST

16:10 Break

Session 3 / Chair: T. NAKANAGA

16:30 O-6 : Direct Observation of Ultrafast Dynamics of Molecules and Clusters in Intense Laser Fields
Kaoru YAMANOUCHI, University of Tokyo

17:10 O-7 : Adaptive Femtosecond Quantum Control
Gustav GERBER, University of Wuerzburg, Germany

17:50

Tuesday, March 19

Session 4 / Chair : A. YABE

09:00 O-8 : Surface Micro-fabrication of Silica Glass by LIBWE Method
H. NIINO, AIST

09:30 O-9 : Materials Processing Using Interaction of Laser Beam and Another Medium
K. SUGIOKA, RIKEN

10:10 Break

Session 5 / Chair : H. NIINO

10:30 O-10 : Three-dimensional Microfabrication Using Two-photon Activated Chemistry
Joseph W. PERRY, University of Arizona, USA

11:10 O-11 : Laser-assisted Scanning Tunneling Spectroscopy : a New Tool to Probe Local Photocarriers in Organic Semiconductors
Denis FICHOU, CEA-Saclay, France

11:50 Lunch

13:00 Poster Session 2 (Even numbers)

Session 6 / Chair : M. MATSUMOTO

14:40 O-12 : Green Photonics - Photoresponsive Electroluminescent Devices
Kiyoshi YASE, AIST

15:10 O-13 : Organic Solid-State Laser
Musubu ICHIKAWA, Shinshu University

15:50 Break

Session 7 / Chair : K. YASE

16:10 O-14 : Photoreactions in Organic Ultrathin Films
Mutsuyoshi MATSUMOTO, AIST

16:40 O-15 : Light-induced Orientation and Diffusion of Azobenzene Containing Polymers
Joachim STUMPE, Fraunhofer-Institute for Applied Polymer Research, Germany

17:20 O-16 : Molecular Amplification of Photochemical Events
Kunihiro ICHIMURA, Tokyo University of Science

18:00

18:30 Banquet

Wednesday, March 20

Session 8 / Chair: S. MURATA

09:00 O-17 : Ultrafast Electron Injection Dynamics in Dye- and Polymer Sensitized Nanocrystalline Semiconductor Thin Films
Tianquan Tim LIAN, Emory University, USA

09:40 O-18 : Theory of Charge Recombination in Dye-Sensitized Nanocrystalline Semiconductors
M. TACHIYA, AIST

10:20 Break

Session 9 / Chair : H. SUGIHARA

10:40 O-19 : Molecular Control of Photo-induced Electron and Energy Transfer at Nanocrystalline Semiconductor Interfaces
Gerald J. MEYER, Johns Hopkins University, USA

11:20 O-20 : Dye-sensitized Photoelectrochemical and Solid-State Solar Cells: Charge Separation, Transport and Recombination Mechanisms
K. TENNAKONE, Institute of Fundamental Studies, Sri Lanka

12:00 Lunch

Session 10 / Chair : K. SAYAMA

13:10 O-21 : Molecular Design of Efficient Ruthenium(II) Polypyridyl Photosensitizers for Nanocrystalline TiO_2 Based Solar Cells
Ashraful ISLAM, AIST

13:50 O-22 : Photocatalysts for Water Decomposition of RuO_2-combined p-Block Metal Oxides with d^{10} Configuration
Y. INOUE, Nagaoka University of Technology

Session 11 / Chair : K. KASUGA

14:30 O-23 : TiO_2-Photocatalyzed Oxidation of Organic Compounds by H_2O_2 Under Visible Light Irradiation
Teruhisa OHNO, Osaka University

15:00 O-24 : Direct Water Splitting into H_2 and O_2 under Visible Light Irradiation with a New Series of Mixed Oxide Semiconductor Photocatalysts
Hironori ARAKAWA, AIST

15:30 Closing Remarks
Hironori ARAKAWA, AIST

15:40

プログラム

講演 / ポスターセッション

ポスターセッションは3月18日午後（奇数番号）、3月19日午後（偶数番号）、計2回に分けて行います。

P-1 Infrared spectroscopy of aniline-toluene, aniline-toluene-water and investigation of the infrared predissociation reaction in the ternary cluster cation

Naveed K Piracha and T Nakanaga

National Institute of Advanced Industrial Science & Technology

P-2 IR-CRD spectroscopy of large methyliodide clusters -structure and its photochemical relevance-

Fumiyuki Ito and Taisuke Nakanaga

photoreaction control research center, AIST

P-3 Infrared depletion spectroscopy of aniline-acetonitrile and aniline-acetonitrile-water cluster cations

Hidekazu Nagai, Naveed Piracha and Taisuke Nakanaga

National Institute of Advanced Industrial Science and Technology

P-4 The observation of interference effect in the simultaneous one- and two-photon dissociation of allyl iodide

Hideki Ohmura, Taisuke Nakanaga, Fumiyuki Itoh, Hidekazu Nagai, Hironori Arakawa and Masanori Tachiya

National Institute of Advanced Industrial Science and Technology

P-5 Intramolecular naphthalene dimer cations studied by near-IR transient absorption spectroscopy

Hideo OHKITA,*1 Yusuke FUJITA,*1 Toshiki FUSHIMI,*1 Shinzaburo ITO*1 and Masahide YAMAMOTO*2

*1 Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University, *2 Faculty of Science and Engineering, Ritsumeikan University*

P-6 CUFF (Consistent Charge Equilibration with Universal Force Field)

Osamu KITAO*1,*2, Tetsuji OGAWA*2,*3, Noriyuki KURITA*4, Hideo SEKINO*4 and Shigenori TANAKA*5

*1 PCRC-AIST, *2 The University of Tokyo, *3 The Society of Chemical Engineers, Japan, *4 Toyohashi Univerisity of Technology, *5 Toshiba Corporation*

P-7 The Role of Duschinsky Effect on Intramolecular Electron Transfer

K. K. Liang*1, P.Lelong*1, A. M. Mebel*1, S. H. Lin*1, M. Hayashi*2, H. L. Selzle*3, E. W. Schlag*3 and M. Tachiya*4

*1 Institute of Atomic and Molecular Sciences, *2 Center for Condensed Matter Science, *3 Technisch Universit_t, *4 AIST*

P-8 Electric Field Effect on Fluorescence Quenching Due to Electron Transfer in a Donor-Spacer-Acceptor Systems

Maria Hilczer*1*2, M. Tachiya*1

*1 AIST *2Technical University*

P-9 Competitive Electron Transfers in Model Ionic Triad System. MD Simulations

Maria Hilczer*1*2, M. Tachiya*1

*1 AIST *2Technical University*

P-10 Diffusion-assisted long-range reaction between the ends of a polymer: Effective sink approximation

A.V. Barzykin, K. Seki and M. Tachiya

National Institute of Advanced Industrial Science and Technology (AIST)

P-11 Relaxation and recombination of excess electrons in water. Two-state electron model.

S.G.Fedorenko and M.Tachiya

National Institute of Advanced Industrial Science and Technology (AIST)

P-12 Electric Field Effect on Electron Transfer Rate

K. Seki, S. D. Traytak and M. Tachiya

AIST

P-13 Femtosecond transient absorption study on the electron injection process from excited Ru-complexes to nano-crystalline ZnO semiconductor films: Effect of the dye concentration

Akihiro Furube, Ryuzi Katoh, Kohjiro Hara, Shigeo Murata, Hironori Arakawa, Masanori Tachiya

National Institute of Advanced Industrial Science and Technology (AIST)

P-14 Effect of molecular aggregation on electron injection efficiency from Ru-complex to nanocrystalline ZnO films

Hiroaki Horiuchi, Ryuzi Katoh, Kohjiro Hara, Masatoshi Yanagida, Shigeo Murata, Hideki Sugihara, Hironori Arakawa, M. Tachiya

AIST

P-15 Measurement of fluorescence quantum yield of organic solids

Jin Tatsuzaki,Sayaka Fujii and Masahiro Kotani

Faculty of Science, Gakushuin University

P-16 Absorption spectrum of electron injected from excited molecule adsorbed on nanocrystalline TiO_2 and ZnO films

Ryuzi Katoh, Akihiro Furube, Kohjiro Hara, Shigeo Murata, Hironori Arakawa, Masanori Tachiya

Photoreaction Control Research Center National Institute of Advanced Industrial Science and Technology (AIST)

P-17 Applications of magnetic field effect and pulsed RYDMR on the photo-induced electron transfer reaction of flavin derivatives.

Kiminori Maeda[*1], Makoto Horiuchi[*1], Masaaki Murakami[*1], Toshiaki Suzuki[*1], Tatsuo Arai[*1] and Hisao Murai[*2]

*[*1] Department of Chemistry, University of Tsukuba, [*2] Department of Chemistry, Graduate School of Science, Tohoku University*

P-18 Electron transfer in nonpolar solvent. Long-range electron transfer

Shigeo Murata[*1], M. El-Kemary [*1] and M. Tachiya[*2]

*[*1] Photoreaction Control Research Center, AIST [*2] AIST*

P-19 Molecular design and photophysical properties of a calix[4]arene-based metalloporphyrin dimer which exhibits high selectivity for C_{70}

Takashi Arimura, Seiji Ide, Yasuhiro Suga, Takuya Nishioka, Hideki Sugihara, Shigeo Murata and M. Tachiya

National Institute of Advanced Industrial Science and Technology

P-20 OBSERATION OF CYANINE J-AGGREGATES WITH PHOTON SCANNING TUNNELING MICROSCOPE

Takehisa OKUYAMA and Kotaro KAJIKAWA

Department of Information Processing, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology

P-21 Photoinduced Electron Transfer Systems Connected with Intermolecular Quadruple Hydrogen Bonding

Masashi Ikegami, Ikuma Ohshiro, Tatsuo Arai

Department of Chemistry, University of Tsukuba

P22 Photoinduced electron transfer in a polysaccharide solid

Kazuhisa Suzuki, Hidenobu Shiroishi and Masao Kaneko

Faculty of Science, Ibaraki University

P-23 Fluorescence Quenching Reaction of Chlorophyll a in DPPC Vesicles

Makoto Takezaki, Toshihiro Tominaga, Keiichi Yamane* and Michiko Kodama*

*Department of Applied Chemistry, Faculty of Engineering, Okayama University of Science, *Department of Biochemistry, Faculty of Science, Okayama University of Science*

P-24 Excited State Dynamics of Closely Connected C_{60}-Aromatic Amine Dyad in Non-polar and Polar Solvents

Yasuyuki ARAKI[*1], Ryota HATSUDA[*2], Bahlul Zayed Sh. AWEN[*2], Akihiko OUCHI[*2], Osamu ITO [*1,*3]

*[*1] Core Research for Evolutional Science and Technology (CREST), [*2] Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University, [*3] Research Initiative of Green Chemical Process, National Institute of Advanced Industrial Science and Technology*

P-25 SPECTROSCOPIC ANALYSIS OF AN UV IRRADIATED POLYIMIDE FILM

Tomoaki TANAKA, Nobuyuki MATSUBAYASHI, Motoyasu IMAMURA, Hiromichi SHIMADA

National Institute of Advanced Science and Technology

P-26 Theoretical Studies on Photoexcitation Processes under Visible Light Irradiation in 3d Transition Metal-Doped Titanium Dioxide

Tsutomu UMEBAYASHI[*1], Tetsuya YAMAKI[*2], Hisayoshi ITOH[*2] and Keisuke ASAI[*1]

*[*1] Department of Quantum Engineering and Systems Science, Graduate School of Engineering, The University of Tokyo [*2] Department of Materials Development, Takasaki Radiation Chemistry Research Establishment, Japan Atomic Energy Research Institute*

P-27 Ketone acts as a external electron spin multiplicity modulator of excited singlet methyl methoxybenzoate : New discovery in a dioxetane photolysis at low temperature

Takeshi Wakasugi[*1],Ken Fujimori[*1],Masakatsu Matsumoto[*2], Shigeo Murata[*3], Ryuzi Katoh[*3]

*[*1] University of Tsukuba, Department of Chemistry [*2] Kanagawa University, Department of Chemistry [*3] AIST*

P-28 PRESERVATION CHARACTERISTICS OF RIGHT AND LEFT CIRCULARLY POLARIZED PHOTOLUMINESCENCE OBSERVED IN Si BASED LUMINESCENCE MATERIAL

Naokatsu YAMAMOTO

Basic and Advanced Research Division, Communications Research Laboratory

P-29 Possibility of Nonequilibrium Isomerization of Azobenzene Triggered by Vibrational Excitations

Shigenori Tanaka[*1], Satoshi Itoh[*1] and Noriyuki Kurita[*2]

*[*1] Advanced Materials & Devices Laboratory, Toshiba Research & Development Center [*2] Department of Knowledge-Based Information Engineering, Toyohashi University of Technology*

P-30 A Highly Efficient Dye-Sensitized Solar Cells with Ionic Conducting Polymer

Liyuan Han, Ryoichi Komiya, Ryohsuke Yamanaka, Takehito Mitate

Ecological Technology Development Center, SHARP CORPORATION

P-31 Dye-sensitized nanocrystalline TiO_2 solar cells using novel coumarin dyes

Kohjiro Hara[*1], Yasuhiro Tachibana[*1], Ryuzi Katoh[*1], Akihiro Furube[*1], Kazuhiro Sayama[*1], Hironori Arakawa[*1], Yasuyo Ohga[*2], Akira Shinpo[*2] and Sadaharu Suga[*2]

*[*1] National Institute of Advanced Industrial Science and Technology (AIST), Photoreaction Control Research Center (PCRC) [*2] Hayashibara Biochemical Laboratories, Inc.*

P-32 Oxidation of diamond and silicon carbide using TiO_2(IV) photocatalyst

Yoshie Ishikawa[*1], Yoko Nishida and Yasumichi Matsumoto

Department of Applied Chemistry, Faculty of Engineering

P-33 INFLUENCE OF THE ELECTROLYTES ON ELECTRON TRANSPORT PROPERTIES IN MESOPOROUS TiO_2-ELECTROLYTE SYSTEMS

Shingo KAMBE, Shogo NAKADE, Takayuki KITAMURA, Yuji WADA and Shozo YANAGIDA

Material and Life Science, Graduate School of Engineering, Osaka University

P-34 ELECTRON DIFFUSION LENGTH IN DYE-SENSITIZED SOLAR CELLS

Takayuki KITAMURA, Mizuho MATSUDA, Shogo NAKADE, Shingo KAMBE, Yasuteru SAITO, Yuji WADA and Shozo YANAGIDA

Material and Life Science, Graduate School of Engineering, Osaka University

P-35 Quasi-solid-state dye-sensitized solar cells using room temperature molten salts and a low molecular weight gelator

Wataru KUBO, Takayuki KITAMURA, Kenji HANABUSA, Yuji WADA and Shozo YANAGIDA

Material and Life Science, Graduate School of Engineering, Osaka University Graduate School of Science and Technology, Shinshu University

P-36 Fabrication of dye-sensitized solar cells from amorphous TiO_2-sol by spray pyrolysis deposition

Masayuki Okuya, Daisuke Osa, G.R.A. Kumara and Shoji Kaneko

Department of Materials Science and Technology, Shizuoka University

P-37 Poly(ethylenedioxythiophene) as a hole conductor in solid state dye sensitized solar cells

Yasuteru Saito, Takayuki Kitamura, Yuji Wada and Shozo Yanagida

Material and Life Science, Graduate School of Engineering, Osaka University

P-38 Development of virtual device simulator of bipolar photogalvanic cell

Hidenobu Shiroishi[*1], Yuuki Kaburagi[*1], Michiko Seo[*1], Takayuki Hoshi[*1], Tomoyo Nomura[*1], Sumio Tokita[*2] and Masao Kaneko[*1]

*[*1] Faculty of Science, Ibaraki University [*2] Faculty of Engineering, Saitama University*

P-39 Application of Carbon Nano-fibers to Counter Electrode in Dye- Sensitized Solar Cells

Kazuharu Suzuki, Makoto Yamaguchi and Mikio Kumagai

Chemical Research Department, Institute of Research and Innovation

P-40 Quantitative analysis of electron transfer yield in dye sensitised TiO_2 solar cells: influence of light scattering magnitudes and excitation energy

Yasuhiro Tachibana, Kohjiro Hara, Kazuhiro Sayama and Hironori Arakawa

Photoreaction Control Research Center (PCRC), National Institute of Advanced Industrial Science and Technology (AIST)

P-41 Dye-Sensitized Solar Cells using Semiconductor Thin Film Composed of Titania Nanotubes

Susumu Yoshikawa*1, Issei Okada*2, Yusuke Murata*3 and Motonari Adachi*4

*1 Institute of Advanced Energy , Kyoto University *2 Institute of Advanced Energy , Kyoto University *3 Institute of Advanced Energy , Kyoto University *4 Institute of Advanced Energy , Kyoto University*

P-42 DEVELOPMENT OF DYE-SENSITIZED SOLID-STATE PHOTOVOLTAIC CELL: IMPROVED STABILITY BY FORMING A FINE CRYSTALLINE COPPER IODIDE FILM

Akinori Konno*1, G. R. Asoka Kumara *1 and Kirthi Tennakone*2

*1 Faculty of Engineering, Shizuoka University, *2 Institute of Fundamental Studies, Sri Lanka*

P-43 Nanocrystalline Solar Cells Sensitized with Pyridyl-Quinoline Ruthenium(II) Complexes

Masatoshi Yanagida*1, Ashraful Islam*1, Yasuhiro Tachibana*1, Gaku Fujihashi*2, Kohjiro Hara*1, Ryuzi Katoh*1, Hideki Sugihara*1 and Hironori Arakawa*1

*1 National Institute of Advanced Industrial and Science Technology (AIST), Photoreaction Control Research Center(PCRC) *2 Sumitomo Osaka Cement Co. Ltd*

P-44 Photochemical CO_2 reduction mediated by ruthenium and cobalt polypyridine complexes in compressed CO_2

Atsushi Fushimi, Yoshihito Maeno and Takuji Hirose

Department of applied chemistry, Saitama university

P-45 Homogeneous Hydrogenation of Carbon Dioxide to Formate Catalyzed by Rhodium Complexes in Aqueous Solution Under Mild Conditions

Yuichiro Himeda, Nobuko Onozawa, Hideki Sugihara, Hironori Arakawa and Kazuyuki Kasuga

Photoreaction Control Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

P-46 Structure and properties of diastereoisomers of a ruthenium(II) complex having a pyridylpyrazoline derivative as a ligand

Pengfei Wang, Kazuyuki Kasuga, Nobuko Onozawa-Komatsuzaki, Ryuzi Katoh, Yuichiro Himeda, Hideki Sugihara and Hironori Arakawa

Photoreaction Control Research Center, National Institute of Advanced Industrial Science and Technology

P-47 Synthesis and properties of ruthenium bipyridyl-copper and cobalt schiff base dinuclear complexes having dipyrido phenazine moiety

Nobuko Onozawa-Komatsuzaki , Ryuzi Katoh, Yuichiro Himeda, Hideki Sugihara, Hironori Arakawa, Kazuyuki Kasuga

Photoreaction Control Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

P-48 Significant Effect of NaI Addition on Water Splitting into H_2 and O_2 over Pt-loaded Semiconductor Photocatalysts - Suppression of Backward Reaction over Pt Particles on Semiconductor -

Ryu Abe, Zhigang Zou, Kazuhiro Sayama and Hironori Arakawa

Photoreaction Control Research Center (PCRC), National Institute of Advanced Industrial Science and Technology (AIST)

P-49 Photocatalytic water splitting into H_2 and O_2 over various tantalates

Hideki Kato and Akihiko Kudo

Faculty of Science, Science University of Tokyo

P-50 Photocatalytic reduction of CO_2 by $Co(bpy)_3^{2+}$ sensitized by $Ru(bpy)_3^{2+}$ fixed to cation exchange polymer

Yoshihito Maeno*1, Takuji Hirose*1 and Yuichiro Himeda*2

*1 Department of Applied Chemistry, Saitama University, *2 Photoreaction Control Research Center, National Institute of Advanced Industrial Science and Technology*

P-51 Multinuclear complexes of Ruthenium and Osmium connected by Oligomethylene-Linked Bisphenanthrolines

Mitsuru Nakajima*1, Atsushi Fushimi*1, Yoshihito Maeno*1, Tomohisa Miura*1, Akihiro Tsukamoto*1, Takuji Hirose*1, Kazuyuki Kasuga*2, Nobuko Onozawa*2 Satomi Sakai*3, Akio Yoshimura*3 and Takeshi Ohno*3

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P-52 Photocatalytic Water Splitting into H_2 and O_2 under Visible Light Irradiation Mimicking a Z-Scheme Mechanism in Photosynthesis

Kazuhiro SAYAMA[*1], Kazuaki, MUKASA[*2], Ryu ABE[*1], Yoshimoto ABE[*2] and Hironori ARAKAWA[*1]

[1] AIST [2] Science Univ. of Tokyo

P-53 Role of *R* in Bi_2RNbO_7(*R* = Y, Rare earth):
Effect on Band Structure and Photocatalytic Properties

Zhigang Zou, Jinhua Ye*, Ryu Abe, Kazuhiro Sayama and Hironori Arakawa

*Photoreaction Control Research Center (PCRC), National Institute of Advanced Industrial Science and Technology (AIST), *Materials Engineering Laboratory (MEL), National Institute for Materials Science (NIMS)*

P-54 ESR studies on electron transfer reaction from xanthene dye on TiO_2 particle

Yoshinari Konishi, Ryu Abe and Hironori Arakawa

National Institute of Advanced Industrial Science and Technology Photoreaction Control Research Center

P-55 FABRICATION OF MICROPATTERNS ON FUSED SILICA BY LASER-INDUCED BACKSIDE WET ETCHING (LIBWE)

Ximing Ding, Yoshizo Kawaguchi, Hiroyuki Niino and Akira Yabe

Photoreaction Control Research Centre, National Institute of Advanced Industrial Science and Technology (AIST)

P-56 Time evolution of ZnO plume in He atmosphere

Yoshizo KAWAGUCHI, Aiko NARAZAKI, Tadatake SATO, Hiroyuki NIINO and Akira YABE

Photoreaction Control Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

P-57 Preparation and Characterization of $Pb(Zr,Ti)O_3$ Thin Films Using Coating Photolysis Process

Yuki Miyamoto[*1], Tetsuo Tsuchiya[*2], Iwao Yamaguchi[*2], Takaaki Manabe[*2], Hiroyuki Niino[*2], Akira Yabe[*2], Toshiya Kumagai[*2], Toshio Tsuchiya[*1] and Susumu Mizuta[*2]

[1] Department of Material Science and Technology, Faculty of Industrial Science and Technology, Tokyo University of Science [2] National Institute of Advanced Industrial Science and Technology (AIST)

P-58 DYNAMICS OF CHEMICALLY-REACTED Si NANOPARTICLES FORMED BY LASER ABLATION .

T. Mizuta, D. Takeuchi, T. Makimura and K. Murakami

Institute of Applied Physics, University of Tsukuba

P-59 Application of polyperinaphthalenic organic semiconductive thin films prepared by laser ablation to opto and electronic devices

Satoru Nishio[*1], Kazuyuki Tamura[*1], Jun Murata[*1], Junko Kitahara[*1], Teruhiko Kan[*1], Akiyoshi Matsuzaki[*1], Nobuo Ando[*2], Yukinori Hato[*2]

[1] Department of Chemistry for Materials, Faculty of Engineering, Mi'e University [2] Kanebo LTD.

P-60 Formation of silicon-based polymer films using metal nano-particles produced by laser ablation

Ren-guo Song [*1], Munehiro Yamaguchi[*1], Okio Nishimura[*1],
Katsuyoshi Shimokawa[*1], Nobuo Kushibiki[*2], Masaaki Suzuki[*1]

[1] Research Institute of Biological Resources, AIST [2] Dow Corning Asia, Ltd.

P-61 Laser ablation of iron disilicide studied by laser ionization time-of-flight mass spectrometry

Aiko Narazaki, Tadatake Sato, Yoshizo Kawaguchi, Hiroyuki Niino and Akira Yabe

Photoreaction Control Research Center, National Institute of Advanced Industrial Science and Technology

P-62 TRIPLET EXCIMER OF VINYL POLYMERS HAVING AROMATIC SIDE GROUP

Masahide YAMAMOTO[*1], Kenji HISADA[*2], Hideo OHKITA[*2], Shinzaburo ITO[*2], KeitaTANI[*3] and Yasuo TOHDA[*3]

[1] Faculty of Science and Engineering, Ritsumeikan University, [2] Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University, [3] Division of Natural Science, Osaka Kyoiku University

P-63 Generation of benzdiynes in low temperature matrices by laser-induced reaction

Tadatake Sato, Sundaram Arulmozhiraja, Aiko Narazaki, Yoshizo Kawaguchi, Hiroyuki Niino, Akira Yabe

Photoreaction Control Reserch Center, National Institute of Advanced Industrial Science and Technology(AIST)

P-64 Deposition dynamics for droplet-free Si nanoparticle films using laser ablation.

D. Takeuchi[*1], T. Mizuta[*1], T. Makimura[*1], S. Yoshida[*1], M. Fujita[*1], K. Hata[*2], H. Shigekawa[*1] and K. Murakami

*1 Institute of Applied Physics, University of Tsukuba *2 Department of Chemistry and Chemical Biology, Harvard University*

P-65 EPITAXIAL GROWTH OF INZIUM OXIDE FILMS BY A COATING PHOTOLYSIS PROCESS

Tetsuo Tsuchiya, Iwao Yamaguchi, Takaaki Manabe, Toshiya Kumagai, Hiroyuki Niino, Akira Yabe and Susumu Mizuta

National Institute of Advanced Industrial Science and Technology (AIST)

P-66 Improved Photo-Catalytic Activity and Carrier Dynamics of Vacuum-Deposited SiO_2/TiO_2 Multilayer Film

Kiyoshi Miyashita *1,*2, Shin-ichi Kuroda *2, Tsutomu Ubukata *3, Keiji Tokuda *1, So Tajima *4, Seiji Tobita *2, Hitoshi Kubota *2

*1 Department of Chemistry, Gunma Prefecture Industrial Technology Research Laboratory, *2 Department of Chemistry, Gunma University, *3 Ichikoh Industries Ltd., *4 Sattelite Venture Business Laboratory, Gunma University,*

P-67 IN SITU OBSERVATION OF ELECTRON TRANSFER BETWEEN SURFACE IMMOBILIZED CYTOCHROME c AND ITO ELECTRODE BY SLAB OPTICAL WAVEGUIDE SPECTROSCOPY

Naoki MATSUDA*1, Jose H. SANTOS*1, Zhi-mei QI *1, Akiko TAKATSU*2 and Kenji KATO*2

*1Nanoarchitectonics Research Center, AIST, *2 National Metrological Laboratory, AIST*

P-68 3-D Microfabrication of Photosensitive Glass by Femtosecond Laser

Masashi Masuda*2, Koji Sugioka*1, Ya Cheng*1, Naoko Aoki*2, Masako Kawachi*3, Kazuhiko Shihoyama*3, Koichi Toyoda*2 and Katsumi Midorikawa*1

*1 RIKEN (The Institute of Physical and Chemical Research). *2 Department of Applied Electronics, Faculty of Industrial Science and Technology, Science University of Tokyo. *3 HOYA CONTINUUM CORPORATION.*

P-69 Bandgap effect to Thermal Quenching of Photoluminescence At 1.5 μm from Er-Doped Si Nanocrystallites in SiO_2 Matrices

C.Q.Li, K.Kondo, Y.Kawaguchi, T.Makimura and K.Murakami

Institute of Applied Physics, University of Tsukuba, Tsukuba

P-70 Fabrication of Er-doped Si nanocrystallites in SiO_2 matrices without thermal quenching of 1.5 μm photoluminescence

Keiichi Kondo, Changqing Li, Testuya Makimura and Kouichi Murakami

Institute of Applied Physics, University of Tsukuba

P-71 PHOTO-ORIENTATION OF MESOSTRUCTURED SILICA USING AN AZOBENZENE MONOLAYER

Yasuhiro KAWASHIMA*1, Masaru NAKAGAWA*1, Takahiro SEKI*1 and Kunihiro ICHIMURA*2

*1Chemical Resources Laboratory, Tokyo Institute of Technology *2Research Institute for Science and Technology, Science University of Tokyo*

P-72 The sythesis and photoreaction of montmorillonite -dihexadecylviologen-tetraphenylporphine intercalation compounds

Norishige Kakegawa*1 and Makoto Ogawa*2,3

*1 Graduate School of Sicence and Engineering, Waseda University *2 Department of Earth Sciences, Waseda University *3 PRESTO, Japan Scienes and Technology Corporation (JST)*

P-73 Pockels Effect in Hemicyanine Self-Assembled Monolayer

Tomoko Iiyama*1, Ryo Naraoka*1, Haruki Okawa*2, Yuuki Ikezawa*2, Kazuhiko Hashimoto*2 and Kotaro Kajikawa*1

*1 Interdisciplinary Graduate School of Sciencec and Engineering, Tokyo Institute of Technology *2 Department of Applied Chemistry, Faculty of Engineering, Kogakuin University*

P-74 Preparation and Photo-Responsive Properties of Polymeric Membranes

N. Minoura*1, A. Rachkov*1, K. Idei*2, K. Matsuda*2

*1 National Institute of Advanced Industrial Science and Technology *2 Industrial Chemistry Major, Graduate School of Industrial Technology, Nihon University*

P-75 Photocontrol of Poly(di- *n*-hexylsilane) Main Chain Orientation by Irradiation with Linearly Polarized UV Light

Kazuyuki FUKUDA*1, Takahiro SEKI*1, Kunihiro ICHIMURA*2

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P-76 Photochemical studies of self-assembled via axial coordination zinc porphyrin-fulleropyrrolidine dyads and triads .

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P-77 Aggregation Behavior of Homo- and Hetero-coerdianthrone

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P-78 Morphology Controls of Fibrous Materials from Azopyridne Carboxylic Acids

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P-79 Preparation of Pt/TiO_2 Nanocomposite Thin Films by PLD/Sputtering Combined System and their Photoelectrochemical Behaviors

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P-80 Characterization of optical and thermal properties of porous silicon films on silicon substrates using photoacoustic technique

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P-81 SiO_2 SOL-GEL FILMS DOPED WITH NICKEL OXIDE NANOCLUSTERS FOR OPTICAL GAS SENSOR APPLICATIONS

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P-82 Preparation of nanocrystalline complex oxide films by pulsed laser deposition at room temperature

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P-83 FORMATION OF NICKEL OXIDE NANOPARTICLES BY LASER ABLATION.

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P-84 Enantioselective Photoreaction of 4-Isopropyltropolone Methyl Ether in Inclusion Crystals with Optically Active Host Compounds

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P-85 Photomagnetism of Photochromic Biindenylidene in the Solid State

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P-86 Fluorescence emission in microcrystals and thin films of diphenylhexatrienes

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P-87 Three-Component Photo Radical Initiating System -the effect of accelerator-

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P-88 Development of environmental depollution system using functional materials

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P-89 Gas-phase synthesis of fine particles from tetravinylgermanium and carbon disulfide

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P-90 Second harmonic generation (SHG) at semiconductor surfaces as a tool for in-situ characterization during nanometer-scale materials processing

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P-91 Nonlienear Optical Properties of Hemicyanine Self-Assembled Monolayers

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P-92 *cis-trans* PHOTOISOMERIZATION OF *meta*-SUBSTITUTED [1.1]AZOBENZENOPHANES

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P-93 Mn ion concentration dependence of the photoacoustic and photoluminescence spectra for ZnS:Mn nanocrystals

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P-94 Exposure time dependence of the photoacoustic and photoluminescence intensities for porous silicon with different wavelengths of excitation light

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P-95 Effect of applied voltage treatments on photoacoustic and photoelectrochemical current spectra in final preparation processes of porous TiO_2 electrodes

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P-96 Effect of sensitization by quantum-sized CdS on photoacoustic and photoelectrochemical current spectra of porous TiO_2 electrodes

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P-97 Control of the Properties of CO_2 Reduction Photocatalysis of Rhenium Complexes Using Direct Interaction between Ligands

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P-98 Investigation of organic photoreceptor device useing p/n alternating multilayer

Sei Uemura, Manabu Yoshida, Takehito Kodzasa, Hirobumi Ushijima, Kiyoshi Yase and Toshihide Kamata

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P-99 OPTO-ELECTRICAL PROPERTIES OF BORON DOPED CAMPHORIC CARBON THIN FILMS DEPOSITED BY PULSED LASER DEPOSITION

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P-100 OPTO-ELECTRICAL PROPERTIES OF TETRAHEDRAL CARBON THIN FILMS DEPOSITED BY PULSED LASER DEPOSITION

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P-101 SPECTRAL PHOTORESPONSE CHARACTERISTICS OF PHOSPHORUS DOPED n-CARBON/p-SILICON SOLAR CELL

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P-102 OPTO-ELECTRICAL PROPERTIES OF NITROGEN DOPED CAMPHORIC CARBON THIN FILMS DEPOSITED BY PULSED LASER DEPOSITION AND ITS APPLICATION TO n-CARBON/p-SILICON JUNCTION SOLAR CELL

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P-103 PATHWAY FOR THE EXCITATION ENERGY TRANSFER FROM THE CORE ANTENNA COMPLEX TO THE PHOTOSYNTHETIC REACTION CENTER OF PHOTOSYSTEM II

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P-104 Molecular Three-dementional Alignment in Thiophene Derivative Films

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P-105 Photoelectric Properties of Oriented Layers of Conjugated Polymers on Titanium dioxide

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