

Theoretical and Computational Molecular Science

- D. WANG, J. LU, L. LAI, M. NI, W. N. MEL, G. LI, S. NAGASE, Y. MAEDA, T. AKASAKA, Z. GAO and Y. ZHOU, "Effects of Hole Doping on Selectivity of Naphthalene towards Single-Wall Carbon Nanotubes," *Comput. Mater. Sci.* **40**, 354–358 (2007).
- B. WANG, S. NAGASE, J. ZHAO and G. WANG, "The Stability and Electronic Structure of Single-Walled ZnO Nanotubes by Density Functional Theory," *Nanotechnology* **18**, 345706 (6 pages) (2007).
- J. LU, L. LAI, G. LUO, J. ZHOU, R. QIN, D. WANG, L. WANG, W. N. MEL, G. LI, Z. GAO, S. NAGASE, Y. MAEDA, T. AKASAKA and D. YU, "Why Semiconducting Single-Wall Carbon Nanotubes Are Separated from their Metallic Counterparts?" *Small* **3**, 1566–1576 (2007).
- M. SAITO, S. IMAIZUMI, T. TAJIMA, K. ISHIMURA and S. NAGASE, "Synthesis and Structure of Pentaorganostannate Having Five Carbon Substituents," *J. Am. Chem. Soc.* **129**, 10974–10975 (2007).
- Y. MAEDA, M. HASHIMOTO, T. HASEGAWA, M. KANDA, T. TSUCHIYA, T. WAKAHARA, T. AKASAKA, Y. MIYAUCHI, Y. MARUYAMA, J. LU and S. NAGASE, "Extraction of Metallic Nanotubes of Zeolite-Supported Single-Walled Carbon Nanotubes Synthesized from Alcohol," *NANO* **2**, 221–226 (2007).
- Z. SLANINA, F. UHLIK, S.-L. LEE, L. ADAMOWICZ and S. NAGASE, "Computations of Production Yields for Ba@C₇₄ and Yb@C₇₄," *Mol. Sim.* **33**, 563–568 (2007).
- Z. ZHOU and S. NAGASE, "Coaxial Nanocables of AlN Nanowire Core and Carbon/BN Nanotube Shell," *J. Phys. Chem. C* **111**, 18533–18537 (2007).
- E. RIVARD, R. C. FISCHER, R. WOLF, Y. PENG, W. A. MERRILL, N. D. SCHLEY, Z. XHU, L. PU, J. C. FETTINGER, S. J. TEAT, I. NOWIK, R. H. HERBER, N. TAKAGI, S. NAGASE and P. P. POWER, "Isomeric Forms of Heavier Main Group Hydrides: Experimental and Theoretical Studies of the [Sn(Ar)H]₂ (Ar = Terphenyl) System," *J. Am. Chem. Soc.* **129**, 16197–16208 (2007).
- T. TSUCHIYA, R. KUMASHIRO, K. TANIGAKI, Y. MATSUNAGA, M. O. ISHITUKA, T. WAKAHARA, Y. MAEDA, Y. TAKANO, M. AOYAGI, T. AKASAKA, M. T. H. LIU, T. KATO, K. SUENAGA, J. S. JEONG, S. IJIMA, F. KIMURA, T. KIMURA and S. NAGASE, "Nanorods of Endohedral Metallofullerene Derivative," *J. Am. Chem. Soc.* **130**, 450–451 (2008).
- B. GAO, H. NIKAWA, T. NAKAHODO, T. TSUCHIYA, Y. MAEDA, T. AKASAKA, H. SAWA, Z. SLANINA, N. MIZOROGI and S. NAGASE, "Addition of Adamantylidene to La₂@C₇₈: Isolation and Single-Crystal X-Ray Structural Determination of the Monoadducts," *J. Am. Chem. Soc.* **130**, 983–989 (2008).
- M. YAMADA, C. SOMEYA, T. WAKAHARA, T. TSUCHIYA, Y. MAEDA, T. AKASAKA, K. YOZA, E. HORN, M. T. H. LIU, N. MIZOROGI and S. NAGASE, "Metal Atoms Collinear with the Spiro Carbon of 6,6-Open Adducts, M₂@C₈₀ (Ad) (M = La and Ce, Ad = Adamantylidene)," *J. Am. Chem. Soc.* **130**, 1171–1176 (2008).
- M. YAMADA, T. WAKAHARA, T. TSUCHIYA, Y. MAEDA, M. KAKO, T. AKASAKA, K. YOZA, E. HORN, N. MIZOROGI and S. NAGASE, "Location of the Metal Atoms in Ce₂@C₇₈ and Its Bis-Silylated Derivative," *Chem. Commun.* 558–560 (2008).
- T. NAKAHODO, M. OKADA, H. MORITA, T. YOSHIMURA, M. O. ISHITSUKA, T. TSUCHIYA, Y. MAEDA, H. FUJIHARA, T. AKASAKA, X. GAO and S. NAGASE, "[2+1] Cycloaddition of Nitrene onto C₆₀ Revisited: Interconversion between an Aziridinofullerene and an Azafulleroid," *Angew. Chem., Int. Ed.* **47**, 1298–1300 (2008).
- T. AKASAKA, T. KONO, Y. MATSUNAGA, T. WAKAHARA, T. NAKAHODO, M. O. ISHITSUKA, Y. MAEDA, T. TSUCHIYA, T. KATO, M. T. H. LIU, N. MIZOROGI, Z. SLANINA and S. NAGASE, "Isolation and Characterization of Carbene Derivatives of La@C₈₂ (C₃)," *J. Phys. Chem. A* **112**, 1294–1297 (2008).
- A. D. KULKARNI, S. R. GADRE and S. NAGASE, "Quantum Chemical and Electrostatic Studies of Anionic Water Clusters, (H₂O)_n⁻," *THEOCHEM* **851**, 213–219 (2008).
- T. NAKAHODO, K. TAKAHASHI, M. O. ISHITSUKA, T. TSUCHIYA, Y. MAEDA, H. FUJIHARA, S. NAGASE and T. AKASAKA, "Synthesis of Selenyfullerene with Selenium-Containing Dibenzo[b,g]cyclooctane Moiety," *Tetrahedron Lett.* **49**, 2302–2305 (2008).
- B. WANG, X. WANG, G. CHEN, S. NAGASE and J. ZHAO, "Cage and Tube Structures of Medium-Sized Zinc Oxide Clusters (ZnO)_n (n = 24, 28, 36, and 48)," *J. Chem. Phys.* **128**, 144710 (6 pages) (2008).
- K. ISHIMURA and S. NAGASE, "A New Algorithm of Two-Electron Repulsion Integral Calculations: A Combination of Pople-Hehre and McMurchie-Davidson Methods," *Theor. Chem. Acc.* **120**, 185–189 (2008).
- T. ASADA, S. NAGASE, K. NISHIMOTO and S. KOSEKI, "Molecular Dynamics Simulation Study on Stabilities and Reactivities of NADH Cytochrome B5 Reductase," *J. Phys. Chem. B* **112**, 5718–5727 (2008).
- Z. SLANINA, F. UHLIK, S.-L. LEE, L. ADAMOWICZ and S. NAGASE, "Computational Screening of Metallofullerenes for Nanoscience: Sr@C₇₄," *Mol. Sim.* **34**, 17–21 (2008).
- N. TOKITOH, K. WAKITA, T. MATSUMOTO, T. SASAMORI, R. OKAZAKI, N. TAKAGI, M. KIMURA and S. NAGASE, "The Chemistry of Stable Silabenzenes," *J. Chin. Chem. Soc.* **55**, 487–507 (2008).
- X. LU, H. NIKAWA, T. NAKAHODO, T. TSUCHIYA, M. O. ISHITSUKA, Y. MAEDA, T. AKASAKA, M. TOKI, H. SAWA, Z. SLANINA, N. MIZOROGI and S. NAGASE, "Chemical Understanding of a Non-IPR Metallofullerene: Stabilization of Encaged Metals on Fused-Pentagon Bonds in La₂@C₇₂," *J. Am. Chem. Soc.* **130**, 9129–9136 (2008).
- X. GAO, Z. ZHOU, Y. ZHAO, S. NAGASE, S. B. ZHANG and Z. CHEN, "Comparative Study of Carbon and BN Nanographenes: Ground Electronic States and Energy Gap Engineering," *J. Phys. Chem. C* **112**, 12677–12682 (2008).
- M. YAMADA, T. WAKAHARA, T. TSUCHIYA, Y. MAEDA, T. AKASAKA, N. MIZOROGI and S. NAGASE, "Spectroscopic and Theoretical Study of Endohedral Metallofullerene having Non-IPR Fullerene Cage: Ce₂@C₇₂," *J. Phys. Chem. A* **112**, 7627–7631 (2008).
- T. YASUIKE and K. NOBUSADA, "Quasi-Diabatic Decoupling of Born-Oppenheimer Potential Energy Curves for Adsorbate-Metal Surface Systems," *Chem. Phys. Lett.* **457**, 241–245 (2008).

LIST OF PUBLICATIONS

- K. SHIRATORI and K. NOBUSADA**, "Finite-Temperature Density Functional Calculation with Polarizable Continuum Model in Electrochemical Environment," *Chem. Phys. Lett.* **451**, 158–162 (2008).
- T. YASUIKE and K. NOBUSADA**, "Open-Boundary Cluster Model for Calculation of Adsorbate-Surface Electronic States," *Phys. Rev. B* **76**, 235401 (12 pages) (2007).
- K. NOBUSADA and T. IWASA**, "Oligomeric Gold Clusters with Vertex-Sharing Bi- and Tricosahedral Structures," *J. Phys. Chem. C* **111**, 14279–14282 (2007).
- T. YANAI and G. K-L. CHAN**, "A Canonical Transformation Theory from Extended Normal Ordering," *J. Chem. Phys.* **127**, 104107 (14 pages) (2007).
- D. GHOSH, J. HACHMANN, T. YANAI and G. K-L. CHAN**, "Orbital Optimization in Density Matrix Renormalization Group, with Applications to Polyenes and β -Carotene," *J. Chem. Phys.* **128**, 144117 (14 pages) (2008).
- H. SEKINO, Y. MAEDA, T. YANAI and R. J. HARRISON**, "Basis Set Limit Hartree-Fock and Density Functional Theory Response Property Evaluation by Multiresolution Multiwavelet Basis," *J. Chem. Phys.* **129**, 034111 (6 pages) (2008).
- Y. YONETANI, Y. MARUYAMA, F. HIRATA and H. KONO**, "Comparison of DNA Hydration Patterns Obtained Using Two Distinct Computational Methods, Molecular Dynamics (MD) Simulation and Three-Dimensional Reference Interaction Site Model (3D-RISM) Theory," *J. Chem. Phys.* **128**, 185102 (9 pages) (2008).
- N. YOSHIDA, T. ISHIDA and F. HIRATA**, "Theoretical Study of Temperature and Solvent Dependence of the Free Energy Surface of the Intramolecular Electron Transfer Based on the RISM-SCF Theory; Application to 1,3-Dinitrobenzene Radical Anion in Acetonitrile and Methanol," *J. Phys. Chem. B* **112**, 433–440 (2008).
- S. PHONPHANPHANEE, N. YOSHIDA and F. HIRATA**, "On the Proton Exclusion of Aquaporins: A Statistical Mechanics Study," *J. Am. Chem. Soc. (Communications)* **130**, 1540–1541 (2008).
- R. ISHIZUKA, S. -H. CHONG and F. HIRATA**, "An Integral Equation Theory for Inhomogeneous Molecular Fluids: The Reference Interaction Site Model Approach," *J. Chem. Phys.* **128**, 34504–34513 (2008).
- T. MIYATA and F. HIRATA**, "Combination of Molecular Dynamics Method and 3d-RISM Theory for Conformational Sampling of Large Flexible Molecules in Solution," *J. Comput. Chem.* **29**, 871–882 (2008).
- T. MIYATA**, "Reference Interaction Site Model Study on the Anomeric Equilibrium of D-Glucose in Aqueous Solution," *Cond. Matt. Phys.* **10**, 433–439 (2007).
- N. YOSHIDA**, "Analytical Free Energy Gradient for the Molecular Ornstein-Zernike Self-Consistent-Field Method," *Cond. Matt. Phys.* **10**, 363–372 (2007).
- Y. MARUYAMA, M. MATSUGAMI and Y. IKUTA**, "Probing Cations Recognized by a Crown Ether with the 3D-RISM Theory. II. 18-Crown-6 Ether," *Cond. Matt. Phys.* **10**, 315–322 (2007).
- S. PHONPHANPHANEE, N. YOSHIDA and F. HIRATA**, "A Statistical Mechanics Study on Equilibrium Water Distribution in Aquaporin," *Chem. Phys. Lett.* **449**, 196–201 (2007).
- T. IMAI, R. HIRAOKA, T. SETO, A. KOVALENKO and F. HIRATA**, "Three-Dimensional Distribution Function Theory for the Prediction of Protein-Ligand Binding Sites and Affinities: Application to the Binding of Noble Gases to Hen Egg-White Lysozyme in Aqueous Solution," *J. Phys. Chem. B* **111**, 11585–11591 (2007).
- K. YONEMITSU, N. MAESHIMA and T. HASEGAWA**, "Suppression of Rectification at Metal-Mott-Insulator Interfaces," *Phys. Rev. B* **76**, 235118 (6 pages) (2007).
- Y. TANAKA and K. YONEMITSU**, "Charge Order with Structural Distortion in Organic Conductors: Comparison between θ -(ET)₂RbZn(SCN)₄ and α -(ET)₂I₃," *J. Phys. Soc. Jpn.* **77**, 034708 (9 pages) (2008).
- N. MAESHIMA and K. YONEMITSU**, "Polaronic States with Spin-Charge-Coupled Excitation in a One-Dimensional Dimerized Mott Insulator K-TCNQ," *J. Phys. Soc. Jpn.* **77**, 074713 (6 pages) (2008).
- K. YONEMITSU and K. NASU**, "Theory of Photoinduced Phase Transitions in Itinerant Electron Systems," *Phys. Rep.* **465**, 1–60 (2008).
- K. ONDA, S. OGIHARA, K. YONEMITSU, N. MAESHIMA, T. ISHIKAWA, Y. OKIMOTO, X. -F. SHAO, Y. NAKANO, H. YAMOCHI, G. SAITO and S. KOSHIHARA**, "Photoinduced Change in the Charge Ordering Pattern in the Quarter-Filled Organic Conductor (EDO-TTF)₂PF₆ with Strong Electron-Phonon Interaction," *Phys. Rev. Lett.* **101**, 067403 (4 pages) (2008).
- N. YOSHII and S. OKAZAKI**, "A Molecular Dynamics Study of Structure and Dynamics of Surfactant Molecules in SDS Spherical Micelle," *Cond. Matt. Phys.* **10**, 573–578 (2007).
- S. KAJIMOTO, N. YOSHII, J. HOBLEY, H. FUKUMURA and S. OKAZAKI**, "Electrostatic Potential Gap at the Interface between Triethylamine and Water Phases Studied by Molecular Dynamics Simulation," *Chem. Phys. Lett.* **448**, 70–74 (2007).
- A. YAMADA and S. OKAZAKI**, "Quantum Equation of Motion for Chemical Reaction Systems on an Adiabatic Double-Well Potential Surface in Solution Based on the Framework of Mixed Quantum-Classical Molecular Dynamics," *J. Chem. Phys.* **128**, 044507 (8 pages) (2008).
- T. YAGASAKI and S. SAITO**, "Ultrafast Intermolecular Dynamics of Liquid Water: A Theoretical Study on Two-Dimensional Infrared Spectroscopy," *J. Chem. Phys.* **128**, 154521 (7 pages) (2008).
- T. MIYAMAE, A. MORITA and Y. OUCHI**, "First Acid Dissociation at an Aqueous H₂SO₄ Interface with Sum Frequency Generation Spectroscopy," *Phys. Chem. Chem. Phys.* **10**, 2010–2013 (2008).
- A. MORITA and B. C. GARETT**, "Molecular Theory of Mass Transfer Kinetics and Dynamics at Gas/Water Interface," *Flu. Dyn. Res.* **40**, 459–473 (2008).

N. YOSHIDA, T. ISHIDA and F. HIRATA, "Theoretical Study of Temperature and Solvent Dependence of the Free-Energy Surface of the Intramolecular Electron-Transfer Based on the RISM-SCF Theory: Application to the 1,3-Dinitrobenzene Radical Anion in Acetonitrile and Methanol," *J. Phys. Chem. B* **112**, 433–440 (2008).

T. ISHIDA, "Optimal Charge and Charge Response Determination through Conformational Space: Global Fitting Scheme for Representative Charge and Charge Response Kernel," *J. Phys. Chem. A* **112**, 7035–7046 (2008).

T. ISHIDA and P. J. ROSSKY, "Consequences of Strong Coupling between Solvation and Electronic Structure in the Excited State of a Betaine Dye," *J. Phys. Chem. B* **112**, 11353–11360 (2008).

M. NISHINO, K. BOUKHEDDADEN, Y. KONISHI and S. MIYASHITA, "Simple Two-Dimensional Model for the Elastic Origin of Cooperativity among Spin States of Spin-Crossover Complexes," *Phys. Rev. Lett.* **98**, 247203 (4 pages) (2007).

Photo-Molecular Science

M. K. HOSSAIN, T. SHIMADA, M. KITAJIMA, K. IMURA and H. OKAMOTO, "Raman and Near-Field Spectroscopic Study on Localized Surface Plasmon Excitation from the 2D Nanostructure of Gold Nanoparticles," *J. Microsc.* **229**, 327–330 (2008).

K. IMURA and H. OKAMOTO, "Ultrafast Photoinduced Changes of Eigenfunctions of Localized Plasmon Modes in Gold Nanorods," *Phys. Rev. B* **77**, 041401(R) (2008).

T. SHIMADA, K. IMURA, M. K. HOSSAIN, H. OKAMOTO and M. KITAJIMA, "Near-Field Study on Correlation of Localized Electric Field and Nanostructures in Monolayer Assembly of Gold Nanoparticles," *J. Phys. Chem. C* **112**, 4033–4035 (2008).

M. K. HOSSAIN, T. SHIMADA, M. KITAJIMA, K. IMURA and H. OKAMOTO, "Near-Field Raman Imaging and Electromagnetic Field Confinement in the Self-Assembled Monolayer Array of Gold Nanoparticles," *Langmuir* **24**, 9241–9244 (2008).

H. HASEGAWA and Y. OHSHIMA, "Nonadiabatic Rotational Excitation of Benzene by Nonresonant Intense Femtosecond Laser Fields," *Chem. Phys. Lett.* **454**, 148–152 (2008).

H. HASEGAWA and Y. OHSHIMA, "Quantum State Reconstruction of a Rotational Wave Packet Created by a Nonresonant Intense Femtosecond Laser Field," *Phys. Rev. Lett.* **101**, 053002 (4 pages) (2008).

K. OHMORI, "Development of Ultrahigh-Precision Coherent Control and Its Applications," *Proc. Jpn. Acad., Ser. B* **84**, 167–175 (2008).

B. WINTER, E. F. AZIZ, N. OTTOSSON, M. FAUBEL, N. KOSUGI and I. V. HERTEL, "Electron Dynamics in Charge-Transfer-to-Solvent States of Aqueous Chloride Revealed by Cl⁻ 2p Resonant Auger-Electron Spectroscopy," *J. Am. Chem. Soc.* **130**, 7130–7138 (2008).

M. YAMAZAKI, J. ADACHI, Y. KIMURA, A. YAGISHITA, M. STENER, P. DECLEVA, N. KOSUGI, H. IWAYAMA, K. NAGAYA and M. YAO, "Decay Channel Dependence of the Photoelectron Angular Distributions in Core-Level Ionization of Ne Dimers," *Phys. Rev. Lett.* **101**, 043004 (4 pages) (2008).

A. LINDGREN, N. KOSUGI, M. GISSELBRECHT, A. KIVIMÄKI, F. BURMEISTER, A. NAVES de BRITO and S. L. SORENSEN, "Core Localization and σ^* Delocalization in the O 1s Core-Excited Sulfur Dioxide Molecule," *J. Chem. Phys.* **128**, 114311 (10 pages) (2008).

M. NAGASAKA, H. KONDOH, K. AMEMIYA, T. OHTA and Y. IWASAWA, "Proton Transfer in a Two-Dimensional Hydrogen-Bonding Network: Water and Hydroxyl on a Pt(111) Surface," *Phys. Rev. Lett.* **100**, 106101 (4 pages) (2008).

B. YANG, Y. Y. LI, L. X. WEI, C. Q. HUANG, J. WANG, Z. Y. TIAN, R. YANG, L. S. SHENG, Y. W. ZHANG and F. QI, "An Experimental Study of the Premixed Benzene/Oxygen/Argon Flame with Tunable Synchrotron Photoionization," *Proc. Combust. Inst.* **31**, 555–563 (2007).

B. P. KAFLE, H. KATAYANAGI, MD. S. I. PRODHAN, H. YAGI, C. HUANG and K. MITSUKE, "Absolute Total Photoionization Cross Section of C₆₀ in the Range of 25–120eV: Revisited," *J. Phys. Soc. Jpn.* **77**, 014302 (5 pages) (2008).

H. KATAYANAGI, B. P. KAFLE, J. KOU, T. MORI, K. MITSUKE, Y. TAKABAYASHI, E. KUWAHARA and Y. KUBOZONO, "The 4d → 4f Dipole Resonance of the Pr Atom in an Endohedral Metallofullerene, Pr@C₈₂," *J. Quant. Spectrosc. Radiat. Transfer* **109**, 1590–1598 (2008).

M. HASHIMOTO, T. YOSHIDA, H. YAGI, M. TAKIZAWA, A. FUJIMORI, M. KUBOTA, K. ONO, K. TANAKA, D. H. LU, Z. -X. SHEN, S. ONO and Y. ANDO, "Doping Evolution of the Electronic Structure in the Single-Layer Cuprate Bi₂Sr_{2-x}La_xCuO_{6+δ}: Comparison with Other Single-Layer Cuprates," *Phys. Rev. B* **77**, 094516 (9 pages) (2008).

A. MATSUDA, E. J. TAKAHASHI and A. HISHIKAWA, "Dalitz-Plot Analysis of Coulomb Exploding O₃ in Ultrashort Intense Laser Fields," *J. Chem. Phys.* **127**, 114318 (6 pages) (2007).

A. HISHIKAWA, A. MATSUDA, M. FUSHITANI and E. J. TAKAHASHI, "Visualizing Recurrently Migrating Hydrogen by Few-Cycle Intense Laser Pulses," *J. Phys.: Conf. Series* **88**, 012056 (6 pages) (2007).

A. HISHIKAWA, A. MATSUDA, M. FUSHITANI and E. J. TAKAHASHI, "Visualizing Recurrently Migrating Hydrogen in Acetylene Dication by Intense Ultrashort Laser Pulses," *Phys. Rev. Lett.* **99**, 258302 (4 pages) (2007).

A. HISHIKAWA, A. MATSUDA, E. J. TAKAHASHI and M. FUSHITANI, "Acetylene-Vinylidene Isomerization in Ultrashort Intense Laser Fields Studied by Triple-Ion Coincidence Momentum Imaging," *J. Chem. Phys.* **128**, 084302 (5 pages) (2008).

M. LABAT, C. BRUNI, G. LAMBERT, M. HOSAKA, M. SHIMADA, M. KATOH, A. MOCHIHASHI, T. TAKASHIMA, T. HARA and M. E. COUPRIE, "Local Heating Induced by Coherent Harmonic Generation on Electron Beam Dynamics in Storage Ring," *Europhys. Lett.* **81**, 34004 (2008).

LIST OF PUBLICATIONS

- M. SHIMADA, M. KATOH, S. KIMURA, A. MOCHIIHASHI, M. HOSAKA, Y. TAKASHIMA, T. HARA and T. TAKAHASHI**, "Intense Terahertz Synchrotron Radiation by Laser Bunch Slicing at UVSOR-II Electron Storage Ring," *Jpn. J. Appl. Phys.* **46**, 7939–7944 (2007).
- S. BIELAWSKI, C. EVAIN, T. HARA, M. HOSAKA, M. KATOH, S. KIMURA, A. MOCHIIHASHI, M. SHIMADA, C. SZWAJ, T. TAKAHASHI and Y. TAKASHIMA**, "Tunable Narrowband Terahertz Emission from Mastered Laser–Electron Beam Interaction," *Nat. Phys.* **4**, 390–393 (2008).
- M. LABAT, G. LAMBERT, M. E. COUPRIE, M. SHIMADA, M. KATOH, M. HOSAKA, Y. TAKASHIMA, T. HARA and A. MOCHIIHASHI**, "Coherent Harmonic Generation Experiments on UVSOR-II Storage Ring," *Nucl. Instrum. Methods Phys. Res., Sect. A* **593**, 1–5 (2008).
- K. E. LEE, C. I. LEE, H. J. OH, H. J. IM, T. PARK, S. KIMURA and Y. S. KWON**, "Optical Evidence for a Change in the Heavy Electron Fermi Surface at a Magnetic Quantum Critical Point of $\text{CeNi}_{1-x}\text{Co}_x\text{Ge}_2$," *J. Phys.: Condens. Matter* **20**, 285202 (5 pages) (2008).
- H. J. IM, T. ITO, H. -D. KIM, S. KIMURA, K. E. LEE, J. B. HONG, Y. S. KWON, A. YASUI and H. YAMAGAMI**, "Direct Observation of Dispersive Kondo Resonance Peaks in a Heavy-Fermion System," *Phys. Rev. Lett.* **100**, 176402 (4 pages) (2008).
- S. KIMURA, H. OKAMURA, T. NANBA and H. KIMURA**, "Preface," *Infrared Phys. Tech.* **51**, 361–362 (2008).
- T. YAJI, Y. YAMAMOTO, T. OHTA and S. KIMURA**, "A New Beamline for Infrared Microscopy in the SR Center of Ritsumeikan University," *Infrared Phys. Tech.* **51**, 397–399 (2008).
- Y. Y. SONG, K. E. LEE, J. B. HONG, H. J. IM, S. KIMURA and Y. S. KWON**, "Dramatic Change of Optical Properties at a Quantum Critical Point in the Heavy Fermion System $\text{CeNi}_{1-x}\text{Co}_x\text{Ge}_2$," *Infrared Phys. Tech.* **51**, 485–487 (2008).
- C. I. LEE, K. E. LEE, Y. Y. SONG, H. J. IM, S. KIMURA and Y. S. KWON**, "Hybridization Gap-Open in CeIn_3 ," *Infrared Phys. Tech.* **51**, 488–490 (2008).
- G. FUNABASHI, H. FUJIWARA, A. SEKIYAMA, M. HASUMOTO, T. ITO, S. KIMURA, P. BALTZER and S. SUGA**, "Ultrahigh-Resolution Vacuum Ultraviolet Light Source System for Extremely Low Energy Photoelectron Spectroscopy," *Jpn. J. Appl. Phys.* **47**, 2265–2269 (2008).
- S. KIMURA, T. MIZUNO, K. MATSUBAYASHI, K. IMURA, H. S. SUZUKI and N. K. SATO**, "Infrared Study on the Electronic Structure of SmS in the Black Phase," *Physica B* **403**, 805–807 (2008).
- H. MIYAZAKI, T. ITO, S. OTA, M. KATO, S. YAGI, K. SODA, H. J. IM and S. KIMURA**, "Angle-Resolved Photoemission Study on the Ferromagnetic Ordering of EuO Thin Films," *Physica B* **403**, 917–918 (2008).
- J. SICHELSCHMIDT, S. KIMURA, C. KRELLNER, C. GEIBEL and F. STEGLICH**, "Optical Properties of YbRh_2Si_2 and YbIr_2Si_2 : A Comparison," *Physica B* **403**, 775–777 (2008).
- Y. HIKOSAKA, Y. VELKOV, E. SHIGEMASA, T. KANEYASU, Y. TAMENORI, J. LIU and F. GEL'MUKHANOV**, "X-Ray Absorption Measured in the Resonant Auger Scattering Mode," *Phys. Rev. Lett.* **101**, 073001 (4 pages) (2008).
- T. KANEYASU, Y. HIKOSAKA, E. SHIGEMASA, P. LABLANQUIE, F. PENENT and K. ITO**, "Auger Decays of $1s$ Shake-up and Shake-off States in N_2 Molecules," *J. Phys. B* **41**, 135101 (6 pages) (2008).
- Y. HIKOSAKA, P. LABLANQUIE, E. SHIGEMASA, T. AOTO and K. ITO**, "Sub-Natural Linewidth Spectroscopy on Core-Valence Doubly Ionized States of OCS ," *J. Phys. B* **41**, 025103 (4 pages) (2008).
- T. KANEYASU, Y. HIKOSAKA, E. SHIGEMASA, F. PENENT, P. LABLANQUIE, T. AOTO and K. ITO**, "Autoionization of the Ne^+ Rydberg States Formed via Valence Photoemission," *J. Phys. B* **40**, 4047–4060 (2007).
- Y. HIKOSAKA, P. LABLANQUIE, F. PENENT, T. KANEYASU, E. SHIGEMASA, J. H. D. ELAND, T. AOTO and K. ITO**, "Single, Double, and Triple Auger Decay of the Xe $4p$ Core-Hole States," *Phys. Rev. A* **76**, 032708 (6 pages) (2007).
- T. KANEYASU, Y. HIKOSAKA, E. SHIGEMASA, F. PENENT, P. LABLANQUIE, T. AOTO and K. ITO**, "State-Selective Cross Sections of Multiple Photoionization in Ne ," *Phys. Rev. A* **76**, 012717 (7 pages) (2007).
- J. SAIKAWA, M. FUJII, H. ISHIZUKI and T. TAIRA**, "High-Energy, Narrow-Bandwidth Periodically Poled Mg -Doped LiNbO_3 Optical Parametric Oscillator with a Volume Bragg Grating," *Opt. Lett.* **32**, 2996–2998 (2007).
- Y. PETIT, B. BOULANGER, P. SEGONDS and T. TAIRA**, "Angular Quasi-Phase-Matching," *Phys. Rev. A* **76**, 063817 (7 pages) (2007).
- R. BHUSHAN, H. YOSHIDA, K. TSUBAKIMOTO, H. FUJITA, M. NAKATSUKA, N. MIYANAGA, Y. IZAWA, H. ISHIZUKI and T. TAIRA**, "Generation of High Efficiency $2\mu\text{m}$ Laser Pulse from a Periodically Poled 5 mol% MgO -Doped LiNbO_3 Optical Parametric Oscillator," *Appl. Phys. Express* **1**, 022007 (3 pages) (2008).
- R. BHUSHAN, H. YOSHIDA, K. TSUBAKIMOTO, H. FUJITA, M. NAKATSUKA, N. MIYANAGA, Y. IZAWA, H. ISHIZUKI and T. TAIRA**, "High Efficiency and High Energy Parametric Wavelength Conversion Using a Large Aperture Periodically Poled $\text{MgO}:\text{LiNbO}_3$," *Opt. Commun.* **281**, 3902–3905 (2008).
- J. SAIKAWA, M. MIYAZAKI, M. FUJII, H. ISHIZUKI and T. TAIRA**, "High-Energy, Broadly Tunable, Narrow-Bandwidth Mid-Infrared Optical Parametric System Pumped by Quasi-Phase-Matched Devices," *Opt. Lett.* **33**, 1699–1701 (2008).
- M. FUYUKI, K. WATANABE, D. INO, H. PETEK and Y. MATSUMOTO**, "Electron-Phonon Coupling at an Atomically Defined Interface: Na Quantum Well on $\text{Cu}(111)$," *Phys. Rev. B* **76**, 115427 (5 pages) (2007).
- Y. TAMENORI, K. OKADA, K. TABAYASHI, T. GEJO and K. HONMA**, "Specific Fragmentation of $[(\text{CH}_3)_2\text{CO}]_{\text{Ar}_n}$ Heteroclusters Induced by the Ar L_{23} - and O K -Shell Excitation," *Chem. Phys. Lett.* **462**, 40–44 (2008).

Materials Molecular Science

- M. INAMO, C. OKABE, T. NAKABAYASHI, N. NISHI and M. HOSHINO**, "Femtosecond Time-Resolved Photo-Absorption Studies on the Excitation Dynamics of Chromium(III) Porphyrin Complexes in Solution," *Chem. Phys. Lett.* **445**, 167–172 (2007).
- J. NISHIJO, O. OISHI, K. JUDAI and N. NISHI**, "Facile and Mass-Productible Fabrication of One-Dimensional Ag Nanoparticle Arrays," *Chem. Mater.* **19**, 4627–4629 (2007).
- K. INOUE, K. OHASHI, T. IINO, K. JUDAI, N. NISHI and H. SEKIYA**, "Infrared Spectroscopy of $\text{Cu}^+(\text{H}_2\text{O})_n$ and $\text{Ag}^+(\text{H}_2\text{O})_n$: Coordination and Solvation of Noble-Metal Ions," *J. Chem. Phys.* **126**, 194302 (2007).
- K. JUDAI, S. NUMAO, A. FURUYA, J. NISHIJO and N. NISHI**, "Increased Electric Conductance through Physisorbed Oxygen on Copper Nanocables Sheathed in Carbon," *J. Am. Chem. Soc.* **130**, 1142–1143 (2008).
- B. -H. BOO, S. -J. KIM, M. -H. LEE and N. NISHI**, "Molecular Structures and Energies of Low-Lying Li_xSi_x ($x = 1-4$) Clusters: Comparison with Li_xC_x ($x = 1, 2, 4$) Clusters," *Chem. Phys. Lett.* **453**, 150–154 (2008).
- K. YAMAMOTO, S. IWAI, S. BOYKO, A. KASHIWAZAKI, F. HIRAMATSU, C. OKABE, N. NISHI and K. YAKUSHI**, "Strong Optical Nonlinearity and Its Ultrafast Response Associated with Electron Ferroelectricity in an Organic Conductor," *J. Phys. Soc. Jpn.* **77**, 074709 (6 pages) (2008).
- T. NAKAGAWA, Y. TAKAGI, Y. MATSUMOTO and T. YOKOYAMA**, "Enhancements of Spin and Orbital Magnetic Moments of Submonolayer Co on Cu(001) Studied by X-Ray Magnetic Circular Dichroism Using a Superconducting Magnet and a Liquid He Cryostat," *Jpn. J. Appl. Phys.* **47**, 2132–2136 (2008).
- D. MATSUMURA, T. NAKAGAWA, H. WATANABE, H. ABE, K. AMEMIYA, T. OHTA and T. YOKOYAMA**, "Magnetization Process of Co/Pd(111) Thin Films: Chemisorption-Induced Spin Reorientation Transition," *Surf. Sci.* **602**, 1999–2003 (2008).
- Y. NEGISHI, N. K. CHAKI, Y. SHICHIBU, R. L. WHETTEN and T. TSUKUDA**, "Origin of Magic Stability of Thiolated Gold Clusters: A Case Study on $\text{Au}_{25}(\text{SC}_6\text{H}_{13})_{18}$," *J. Am. Chem. Soc.* **129**, 11322–11323 (2007).
- S. KANAOKA, N. YAGI, Y. FUKUYAMA, S. AOSHIMA, H. TSUNOYAMA, T. TSUKUDA and H. SAKURAI**, "Thermosensitive Gold Nanoclusters Stabilized by Well-Defined Vinyl Ester Star Polymers: Reusable and Durable Catalysts for Aerobic Alcohol Oxidation," *J. Am. Chem. Soc.* **129**, 12060–12061 (2007).
- T. MATSUMOTO, P. NICKUT, T. SAWADA, H. TSUNOYAMA, K. WATANABE, T. TSUKUDA, K. AL-SHAMERY and Y. MATSUMOTO**, "Deposition and Fabrication of Alkanethiolate Gold Nanocluster Film on TiO_2 (110) and the Effects of Plasma Etching," *Surf. Sci.* **601**, 5121–5126 (2007).
- T. MATSUMOTO, P. NICKUT, H. TSUNOYAMA, K. WATANABE, T. TSUKUDA, K. AL-SHAMERY and Y. MATSUMOTO**, "Thermal and Photochemical Reactivity of Oxygen Atoms on Gold Nanocluster Surfaces," *Surf. Sci.* **601**, 5226–5231 (2007).
- Y. MURASE, T. KITAGAWA, M. IMAMURA, A. TANAKA, H. YASUDA, Y. NEGISHI, T. TSUKUDA, S. UEDA, Y. YAMASHITA, H. YOSHIKAWA and K. KOBAYASHI**, "Electronic Structure of Dendrimer-Au Hybrid Nanoparticle: Hard X-Ray Photoemission Study," *Trans. Mater. Res. Soc. Jpn.* **33**, 169–172 (2008).
- N. K. CHAKI, Y. NEGISHI, H. TSUNOYAMA, Y. SHICHIBU and T. TSUKUDA**, "Ubiquitous 8 and 29 kDa Gold:alkanethiolate Cluster Compounds: Mass-Spectrometric Determination of Molecular Formulas and Structural Implications," *J. Am. Chem. Soc.* **130**, 8608–8610 (2008).
- E. S. SHIBU, M. A. HABEEB MUHAMMED, T. TUSKUDA and T. PRADEEP**, "Ligand Exchange of $\text{Au}_{25}\text{SG}_{18}$ Leading to Functionalized Gold Clusters: Spectroscopy, Kinetics and Luminescence," *J. Phys. Chem. C* **112**, 12168–12176 (2008).
- M. URUICHI, Y. YUE, K. YAKUSHI and T. MOCHIDA**, "Two-Phase Coexistence in the Monovalent-to-Divalent Phase Transition in Dineopentylbiferrocene-Fluorotetracyanoquinodimethane, $(\text{npBifc}-(\text{F}_1\text{TCNQ})_3)$, Charge-Transfer Salt," *J. Phys. Soc. Jpn.* **76**, 124707 (6 pages) (2007).
- M. TANAKA, K. YAMAMOTO, M. URUICHI, T. YAMAMOTO, K. YAKUSHI, S. KIMURA and H. MORI**, "Charge-Ordering Phase Transition in β -(DMBEDT-TTF) $_2$ PF $_6$ Neighboring on a Superconducting State," *J. Phys. Soc. Jpn.* **77**, 024714 (8 pages) (2008).
- S. IWAI, K. YAMAMOTO, F. HIRAMATSU, H. NAKAYA, Y. KAWAKAMI and K. YAKUSHI**, "Hydrostatic Pressure Effect on Photoinduced Insulator-to-Metal Transition in Layered Organic Salt α -(BEDT-TTF) $_2$ I $_3$," *Phys. Rev. B* **77**, 125131 (5 pages) (2008).
- T. YAMAMOTO, H. M. YAMAMOTO, R. KATO, M. URUICHI, K. YAKUSHI, H. AKUTSU, A. SATO-AKUTSU, A. KAWAMOTO, S. S. TURNER and P. DAY**, "Inhomogeneous Site-Charges at the Boundary between the Insulating, Superconducting, and Metallic Phases of β -Type ET Molecular Charge-Transfer Salts, (ET = bisethylene-dithiatetrafulvalene)," *Phys. Rev. B* **77**, 205120 (14 pages) (2008).
- H. NAKAYA, F. HIRAMATSU, Y. KAWAKAMI, S. IWAI, K. YAMAMOTO and K. YAKUSHI**, "30 fs Infrared Spectroscopy of Photo-Induced Phase Transition in 1/4 Filling Organic Salt," *J. Lumin.* **128**, 1065–1068 (2008).
- K. YAMAMOTO, S. IWAI, S. BOYKO, A. KASHIWAZAKI, F. HIRAMATSU, C. OKABE, N. NISHI and K. YAKUSHI**, "Strong Optical Nonlinearity and Its Ultrafast Response Associated with Electron Ferroelectricity in an Organic Conductor," *J. Phys. Soc. Jpn.* **77**, 074709 (6 pages) (2008).
- M. URUICHI, C. NAKANO, M. TANAKA, K. YAKUSHI, T. KAIHATSU and J. YAMADA**, "Infrared and Raman Spectroscopic Study of BDA-TTP [1,5-bis(1,3-dithian-2-ylidene)-1,3,4,6-tetrathiapentalene] and Its Charge-Transfer Salts," *Solid State Commun.* **47**, 484–489 (2008).
- K. SATO, R. RAHIMI, N. MORI, S. NISHIDA, K. TOYOTA, D. SHIOMI, Y. MORITA, A. UEDA, S. SUZUKI, K. FURUKAWA, T. NAKAMURA, M. KITAGAWA, K. NAKASUJI, M. NAKAHARA, H. HARA, P. CARL, P. HOFER and T. TAKUI**, "Implementation of Molecular Spin Quantum Computing by Pulsed ENDOR Technique: Direct Observation of Quantum Entanglement and Spinor," *Physica E* **40**, 363–366 (2007).
- T. KAKIUCHI, Y. WAKABAYASHI, H. SAWA, T. TAKAHASHI and T. NAKAMURA**, "Charge Ordering in α -(BEDT-TTF) $_2$ I $_3$ by Synchrotron X-Ray Diffraction," *J. Phys. Soc. Jpn.* **76**, 113702 (4 pages) (2007).

LIST OF PUBLICATIONS

- K. MAEDA, T. HARA, K. FURUKAWA and T. NAKAMURA**, “Multi-Frequency ESR Studies on Low-Dimensional Antiferromagnets, ζ -(BEDT-TTF)₂PF₆(THF) and γ -(BEDT-TTF)₂PF₆,” *Bull. Chem. Soc. Jpn.* **81**, 84–90 (2008).
- H. M. YAMAMOTO, Y. KOSAKA, R. MAEDA, J. YAMAURA, A. NAKAO, T. NAKAMURA and R. KATO**, “Supramolecular Insulating Networks Sheathing Conducting Nanowires Based on Organic Radical Cations,” *ACS Nano* **2**, 143–155 (2008).
- M. ITOI, C. ARAKI, M. HEDO, Y. UWATOKO and T. NAKAMURA**, “Anomalous Wide Superconducting Phase of One-Dimensional Organic Conductor (TMTTF)₂SbF₆,” *J. Phys. Soc. Jpn.* **77**, 023701 (4 pages) (2008) [Editors’ Choice].
- T. HARA, K. FURUKAWA, T. NAKAMURA, Y. YAMAMOTO, A. KOSAKA, W. JIN, T. FUKUSHIMA and T. AIDA**, “Possible One-Dimensional Helical Conductor: Hexa-*peri*-hexabenzocoronene Nanotube,” *J. Phys. Soc. Jpn.* (OPEN SELECT) **77**, 034710 (6 pages) (2008).
- R. CHIBA, K. HIRAKI, T. TAKAHASHI, H. M. YAMAMOTO and T. NAKAMURA**, “Charge Disproportionation and Dynamics in θ -(BEDT-TTF)₂CsZn(SCN)₄,” *Phys. Rev. B* **77**, 115113 (10 pages) (2008).
- A. XIA, J. HU, C. WANG and D. JIANG**, “Synthesis of Magnetic Microspheres with Controllable Structure via Polymerization-Triggered Self-Positioning of Nanocrystals,” *Small* **3**, 1811–1817 (2007).
- D. YANG, G. GUO, J. HU, C. WANG and D. JIANG**, “Hydrothermal Treatment to Prepare Hydroxyl Group Modified Multi-Walled Carbon Nanotubes,” *J. Mater. Chem.* **18**, 350–354 (2008).
- A. HINDERHOFER, U. HEINEMEYER, A. GERLACH, S. KOWARIK, R. M. J. JACOBS, Y. SAKAMOTO, T. SUZUKI and F. SCHREIBER**, “Optical Properties of Pentacene and Perfluoropentacene Thin Films,” *J. Chem. Phys.* **127**, 194705 (6 pages) (2007).
- K. OHKUBO, Y. SAKAMOTO, T. SUZUKI, T. TSUZUKI, D. KUMAKI and S. TOKITO**, “Synthesis, Structure, and Transport Property of Perfluorinated Oligofluorenes,” *Chem. Eur. J.* **14**, 4472–4474 (2008).
- N. KOCH, A. GERLACH, S. DUHM, H. GLOWATZKI, G. HEIMEL, A. VOLLMER, Y. SAKAMOTO, T. SUZUKI, J. ZEGENHAGEN, J. P. RABE and F. SCHREIBER**, “Adsorption-Induced Intramolecular Dipole: Correlating Molecular Conformation and Interface Electronic Structure,” *J. Am. Chem. Soc.* **130**, 7300–7304 (2008).
- I. SALZMANN, S. DUHM, G. HEIMEL, J. P. RABE, N. KOCH, M. OEHZELT, Y. SAKAMOTO and T. SUZUKI**, “Structural Order in Perfluoropentacene Thin Films and Heterostructures with Pentacene,” *Langmuir* **24**, 7294–7298 (2008).
- S. KANAOKA, N. YAGI, Y. FUKUYAMA, S. AOSHIMA, H. TSUNOYAMA, T. TSUKUDA and H. SAKURAI**, “Thermosensitive Gold Nanoclusters Stabilized by Well-Defined Vinyl Ether Star Polymers: Reusable and Durable Catalysts for Aerobic Alcohol Oxidation,” *J. Am. Chem. Soc.* **129**, 12060–12061 (2007).
- R. C. S. WONG, M. -L. OOI, H. SAKURAI and S. -W. NG**, “Tris[2-(deuteriomethylsulfanyl)phenyl]phosphinedeuteriochloroform 0.125-solvate,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **64**, o898 (2008).
- S. HIGASHIBAYASHI and H. SAKURAI**, “Asymmetric Synthesis of a Chiral Buckybowl, Trimethylsumanene,” *J. Am. Chem. Soc.* **130**, 8592–8593 (2008).
- R. YAMADA, H. KUMAZAWA, T. NOUTOSHI, S. TANAKA and H. TADA**, “Electrical Conductance of Oligothiophene Molecular Wires,” *Nano Lett.* **8**, 1237–1240 (2008).
- F. NISHIYAMA, K. OGAWA, S. TANAKA and T. YOKOYAMA**, “Direct Conformational Analysis of a 10 nm Long Oligothiophene Wire,” *J. Phys. Chem. B* **112**, 5272–5275 (2008).
- K. ONO, H. TOTANI, T. HIEI, A. YOSHINO, K. SAITO, K. EGUCHI, M. TOMURA, J. NISHIDA and Y. YAMASHITA**, “Photooxidation and Reproduction of Pentacene Derivatives Substituted by Aromatic Groups,” *Tetrahedron* **63**, 9699–9704 (2007).
- M. TOMURA, K. ONO, M. KAIDEN, K. TSUKAMOTO and K. SAITO**, “2*H*,10*H*-1,4-Dioxepino[5',6':4,5]thieno[3,2-*e*][1,4]dioxepine-5,7(3*H*,9*H*)-dione,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **63**, o4568–o4569 (2007).
- K. ONO, M. TOMURA and K. SAITO**, “9,9-Bis(4-methoxyphenyl)-9*H*-cyclopenta[2,1-*b*:3,4-*b'*]dipyridine,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **63**, o4612–o4612 (2007).
- M. TOMURA**, “(*E*)-2-(2,6-Dichlorophenyl)-2-(phenylimino)acetamide,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **64**, o170–o171 (2008).
- M. TOMURA, H. YAMAGUCHI, K. ONO, M. KAIDEN and K. SAITO**, “6,11-Dihydroxynaphthacene-5,12-dione,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **64**, o172–o173 (2008).
- K. ONO, M. TOMURA and K. SAITO**, “Diethyl 2,3-Dihydrothieno[3,4-*b*]-1,4-dioxine-5,7-dicarboxylate,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **64**, o468–o468 (2008).
- M. TOMURA and Y. YAMASHITA**, “3,8-Bis(4-chlorophenyl)-4,7-dimethyltricyclo[4.2.2.0^{2,5}]deca-3,7-diene,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **64**, o545–o545 (2008).
- M. TOMURA and Y. YAMASHITA**, “Crystal Structure of 4-Cyanopyridinium Hydrogen Chloranilate,” *Anal. Sci.* **24**, x31–x32 (2008).
- M. KUJIME, C. IZUMI, M. TOMURA, M. HADA and H. FUJII**, “Effect of a Tridentate Ligand on the Structure, Electronic Structure, and Reactivity of the Copper(I) Nitrite Complex: Role of the Conserved Three-Histidine Ligand Environment of the Type-2 Copper Site in Copper-Containing Nitrite Reductases,” *J. Am. Chem. Soc.* **130**, 6088–6098 (2008).
- K. ONO, K. TSUKAMOTO, M. TOMURA and K. SAITO**, “1,4-Bis[(2,6-dimethoxyphenyl)ethynyl]benzene,” *Acta Crystallogr., Sect. E: Struct. Rep. Online* **64**, o1069–o1069 (2008).
- M. R. MOHAMADI, N. KAJI, M. TOKESHI and Y. BABA**, “Dynamic Cross-Linking Effect of Mg²⁺ to Enhances Sieving Properties of Low-Viscosity Poly(vinylpyrrolidone) Solutions for Microchip Electrophoresis of Proteins,” *Anal. Chem.* **80**, 312–318 (2008).
- H. OKADA, N. KAJI, M. TOKESHI and Y. BABA**, “Poly(methylmethacrylate) Microchip Electrophoresis of Proteins Using Linear-Poly(acrylamide) Solution as Separation Matrix,” *Anal. Sci.* **24**, 321–325 (2008).

L. MAHMOUDIAN, N. KAJI, M. TOKESHI, M. NILSSON and Y. BABA, "Rolling Circle Amplification and Circle-to-Circle Amplification of a Specific Gene Integrated with Electrophoretic Analysis on a Single Chip," *Anal. Chem.* **80**, 2483–2490 (2008).

L. MAHMOUDIAN, J. MELIN, M. R. MOHAMADI, K. YAMADA, M. OHTA, N. KAJI, M. TOKESHI, M. NILSSON and Y. BABA, "Microchip Electrophoresis for Specific Gene Detection of the Pathogenic Bacteria *V. Cholerae* by Circle-to-Circle Amplification," *Anal. Sci.* **24**, 327–332, (Hot Article) (2008).

D. ONOSHIMA, N. KAJI, M. TOKESHI and Y. BABA, "Nuclease Tolerant FRET Probe Based on DNA-Quantum Dot Conjugation," *Anal. Sci.* **24**, 181–183, (Hot Article) (2008).

Y. KONDO, H. YOSHIKAWA, K. AWAGA, M. MURAYAMA, T. MORI, K. SUNADA, S. BANDOW and S. IJIMA, "Preparation, Photocatalytic Activities, and Dye-Sensitized Solar-Cell Performance of Submicron-Scale TiO₂ Hollow Spheres," *Langmuir* **24**, 547–550 (2008).

T. FUJIMOTO, R. SUZU, H. YOSHIKAWA and K. AWAGA, "Molecular, Crystal, and Thin-Film Structures of Octathio[8]circulene: Release of Anti-Aromatic Molecular Distortion and Lamellar Structure of Self-Assembling Thin Films," *Chem. Eur. J.* **14**, 6053–6056 (2008).

K. AWAGA, Y. UMEZONO, W. FUJITA, H. YOSHIKAWA, H. -B. CUI, H. KOBAYASHI, S. STANILAND and N. ROBERTSON, "Diverse Magnetic and Electrical Properties of Molecular Solids Containing the Thiazyl Radical BDTA," *Inorg. Chim. Acta* **361**, 3761–3770 (2008).

Life and Coordination-Complex Molecular Science

S. F. EL-MASHTOLY, Y. GU, H. YOSHIMURA, S. YOSHIOKA, S. AONO and T. KITAGAWA, "Protein Conformation Changes of HemAT-Bs upon Ligand Binding Probed by Ultraviolet Resonance Raman Spectroscopy," *J. Biol. Chem.* **283**, 6942–6949 (2008).

M. NISHIMURA, H. YOSHIMURA, K. OZAWA, S. YOSHIOKA, M. KUBO, T. KITAGAWA and S. AONO, "Hydrogen Bonding Interaction on the Heme-Bound Ligand in the Heme-Based O₂ Sensor Protein," *J. Porphyrins Phthalocyanines* **12**, 142–148 (2008).

T. INOBE, K. TAKAHASHI, K. MAKI, S. ENOKI, K. KAMAGATA, A. KADOOKA, M. ARAI and K. KUWAJIMA, "Asymmetry of the GroEL-GroES Complex under Physiological Conditions as Revealed by Small-Angle X-Ray Scattering," *Biophys. J.* **94**, 1392–1402 (2008).

K. KUWAJIMA, "Structure, Stability and Dynamics of Authentic and Recombinant α -Lactalbumin," *Milk Science* (in Japanese) **56**, 119–122 (2008).

Y. YAMAGUCHI, T. HIRAO, E. SAKATA, Y. KAMIYA, E. KURIMOTO, Y. YOSHIDA, T. SUZUKI, K. TANAKA and K. KATO, "Fbs1 Protects the Malfolded Glycoproteins from the Attack of Peptide:N-Glycanase," *Biochem. Biophys. Res. Commun.* **362**, 712–716 (2007).

H. SASAKAWA, E. SAKATA, Y. YAMAGUCHI, M. MASUDA, T. MORI, E. KURIMOTO, T. IGUCHI, S. HISANAGA, T. IWATSUBO, M. HASEGAWA and K. KATO, "Ultra-High Field NMR Studies of Antibody Binding and Site-Specific Phosphorylation of α -Synuclein," *Biochem. Biophys. Res. Commun.* **363**, 795–799 (2007).

E. KURIMOTO, M. SUZUKI, E. AMEMIYA, Y. YAMAGUCHI, S. NIRASAWA, N. SHIMBA, N. XU, T. KASHIWAGI, M. KAWAI, E. SUZUKI and K. KATO, "Curculin Exhibits Sweet-Tasting and Taste-Modifying Activities through Its Distinct Molecular Surfaces," *J. Biol. Chem.* **282**, 33252–33256 (2007).

Y. KAMIYA, D. KAMIYA, K. YAMAMOTO, B. NYFELE, H. -P. HAURI and K. KATO, "Molecular Basis of Sugar Recognition by the Human L-Type Lectins ERGIC-53, VIPL and VIP36," *J. Biol. Chem.* **283**, 1857–1861 (2008).

H. YAGI, M. NAKAGAWA, N. TAKAHASHI, S. KONDO, M. MATSUBARA and K. KATO, "Neural Complex-Specific Expression of Xylosyl N-Glycan in *Ciona Intestinalis*," *Glycobiology* **18**, 145–151 (2008).

B. NYFELE, Y. KAMIYA, F. BOEHLEN, K. YAMAMOTO, K. KATO, P. DE MOERLOOSE, H. -P. HAURI and M. NEERMAN-ARBEZ, "Deletion of 3 Residues from the C-Terminus of MCFD2 Affects Binding to ERGIC-53 and Causes Combined Factor V and Factor VIII Deficiency," *Blood* **111**, 1299–1301 (2008).

E. KURIMOTO, Y. NISHI, Y. YAMAGUCHI, T. ZAKO, R. IIZUKA, N. IDE, M. YOYODA and K. KATO, "Dynamics of Group II Chaperonin and Prefoldin Probed by ¹³C NMR Spectroscopy," *Proteins: Struct., Funct., Bioinf.* **70**, 1257–1263 (2008).

H. YASHIRODA, T. MIZUSHIMA, K. OKAMOTO, T. KAMEYAMA, H. HAYASHI, T. KISHIMOTO, S. NIWA, M. KASAHARA, E. KURIMOTO, E. SAKATA, K. TAKAGI, A. SUZUKI, Y. HIRANO, S. MURATA, K. KATO, T. YAMANE and K. TANAKA, "Crystal Structure of a Chaperone Complex that Contributes to the Assembly of Yeast 20S Proteasomes," *Nat. Struct. Mol. Biol.* **15**, 228–236 (2008).

H. YAGI, N. YASUKAWA, S. -Y. YU, C. -T. GUO, N. TAKAHASHI, T. TAKAHASHI, W. BUKAWA, T. SUZUKI, K. -H. KHOO, Y. SUZUKI and K. KATO, "The Expression of Sialylated High-Antennary N-Glycans in Edible Bird's Nest," *Carbohydr. Res.* **343**, 1373–1377 (2008).

H. YAGI, K. YAMADA, E. OHNO, M. UTSUMI, Y. YAMAGUCHI, E. KURIMOTO, N. TAKAHASHI, S. OKA, T. KAWASAKI and K. KATO, "Development and Application of High Performance Liquid Chromatography Map of Glucuronyl N-Glycans," *Open Glycoscience* **1**, 8–18 (2008).

S. MIYAKAWA, Y. NOMURA, T. SAKAMOTO, Y. YAMAGUCHI, K. KATO, S. YAMAZAKI and Y. NAKAMURA, "Structural and Molecular Basis for Hyperspecificity of RNA Aptamer to Human Immunoglobulin G," *RNA* **14**, 1154–1163 (2008).

Y. HIRANO, T. KANEKO, K. OKAMOTO, M. BAI, H. YASHIRODA, K. FURUYAMA, K. KATO, K. TANAKA and S. MURATA, "Dissecting β -Ring Assembly Pathway of the Mammalian 20S Proteasome," *EMBO J.* **27**, 2204–2213 (2008).

M. KUJIME, C. IZUMI, T. TOMURA, M. HADA and H. FUJII, "Effect of a Tridentate Ligand on the Structure, Electronic Structure, and Reactivity of the Copper(I) Nitrite Complex: Role of the Conserved Three-Histidine Ligand Environment of the Type-2 Copper Site in Copper-Containing Nitrite Reductases," *J. Am. Chem. Soc.* **130**, 6088–6098 (2008).

LIST OF PUBLICATIONS

- T. KURAHASHI, A. KIKUCHI, T. TOSHA, Y. SHIRO, T. KITAGAWA and H. FUJII**, “Transient Intermediates from Mn(salen) with Sterically-Hindered Mesityl Groups: Interconversion between Mn(IV)-Phenolate and Mn(III)-Phenoxy Radical as an Origin for Unique Reactivity,” *Inorg. Chem.* **47**, 1674–1686 (2008).
- T. KURAHASHI and H. FUJII**, “Chiral Distortion in Mn^{IV}(salen)(N₃)₂ from Jacobsen’s Catalyst as a Conformation Model for Enantioselective Reactions,” *Inorg. Chem.* **47**, 7556–7567 (2008).
- T. URISU, T. ASANO, Z. ZHANG, H. UNO, R. TERO, H. JUNKYU, I. HIROKO, Y. ARIMA, H. IWATA, K. SHIBASAKI and M. TOMINAGA**, “Incubation Type Si-Based Planar Ion Channel Biosensor,” *Anal. Bioanal. Chem.* **391**, 2703–2709 (2008).
- Z. L. ZHANG, T. ASANO, H. UNO, R. TERO, M. SUZUI, S. NAKAO, T. KAITO, K. SHIBASAKI, M. TOMINAGA, Y. UTSUMI, Y. L. GAO and T. URISU**, “Fabrication of Si-Based Planar Type Patch Clamp Biosensor Using Silicon on Insulator Substrate,” *Thin Solid Films* **516**, 2813–2815 (2008).
- Y. MAO, R. TERO, Y. IMAI, T. HOSHINO and T. URISU**, “The Morphology of GM1_x/SM0.6-_x/Chol0.4 Planar Bilayers Supported on SiO₂ Surfaces,” *Chem. Phys. Lett.* **460**, 289–294 (2008).
- R. TERO, T. UJIHARA and T. URISU**, “Effect of Solid Surface Properties on the Formation Process and Structure of Supported Planar Bilayer Membrane,” *Hyomen* (in Japanese) **46**, 287–299 (2008).
- R. TERO, T. UJIHARA and T. URISU**, “Supported Lipid Bilayers Membranes on SiO₂ and TiO₂: Substrate Effects on Membrane Formation and Shape Transformation,” *Proc. SPIE* **6769**, 67690J (12 pages) (2007).
- R. AOKI, T. ARAKAWA, N. MISAWA, R. TERO, T. URISU, A. TAKEUCHI and T. OGINO**, “Immobilization of Protein Molecules on Step-Controlled Sapphire Surfaces,” *Surf. Sci.* **601**, 4915–4921 (2007).
- A. KANNO, Y. YAMANAKA, H. HIRANO, Y. UMEZAWA and T. OZAWA**, “Cyclic Luciferase for Real-Time Sensing of Caspase-3 Activities in Living Mammals,” *Angew. Chem., Int. Ed.* **46**, 7595–7599 (2007).
- M. TAKEUCHI and T. OZAWA**, “Methods for Imaging and Analyses of Intracellular Organelles Using Fluorescent and Luminescent Proteins,” *Anal. Sci.* **23**, 25–29 (2007).
- T. OZAWA and Y. UMEZAWA**, “Identification of Proteins Targeted into the Endoplasmic Reticulum by cDNA Library Screening,” *Methods Mol. Biol.* **390**, 269–280 (2007).
- T. OZAWA and Y. UMEZAWA**, “A Genetic Method to Identify Mitochondrial Proteins in Living Mammalian Cells,” *Methods Mol. Biol.* **390**, 119–130 (2007).
- Y. M. A. YAMADA and Y. UOZUMI**, “Development of a Convuluted Polymeric Nanopalladium Catalyst: α -Alkylation of Ketones and Ring-Opening Alkylation of Cyclic 1,3-Diketones with Primary Alcohols,” *Tetrahedron* **63**, 8492–8498 (2007).
- Y. UOZUMI**, “Asymmetric Allylic Substitution of Cycloalkenyl Esters in Water with an Amphiphilic Resin-Supported Chiral Palladium Complex,” *Pure Appl. Chem.* **79**, 1481–1489 (2007).
- Y. UOZUMI, H. TAKENAKA and T. SUZUKA**, “Allylic Substitution of *meso*-1,4-Diacetoxycycloalkenes in Water with an Amphiphilic Resin-Supported Chiral Palladium Complex,” *Synlett* 1557–1561 (2008).
- Y. UOZUMI and T. SUZUKA**, “ π -Allylic Sulfonylation in Water with Amphiphilic Resin-Supported Palladium-Phosphine Complexes,” *Synthesis* 1960–1964 (2008).
- Y. OE and Y. UOZUMI**, “Highly Efficient Heterogeneous Aqueous Kharasch Reaction with an Amphiphilic Resin-Supported Ruthenium Catalyst,” *Adv. Synth. Catal.* **350**, 1771–1775 (2008).
- H. TANNAI, T. KOIZUMI, T. WADA and K. TANAKA**, “Electrochemical and Photochemical Behavior of a Ruthenium(II) Complex Bearing Two Redox Sites as a Model for the NAD⁺/NADH Redox Couple,” *Angew. Chem., Int. Ed.* **46**, 7112–7115 (2007).
- Y. MIYAZATO, T. WADA, J. MUCKERMAN, E. FUJITA and K. TANAKA**, “Generation of Ru(II)-Semiquinone-Anilino Radical through Deprotonation of Ru(III)-Semiquinone-Anilido Complex,” *Angew. Chem., Int. Ed.* **46**, 5728–5730 (2007).
- D. POLANSKY, D. CABELLI, J. MUCKERMAN, E. FUJITA, T. KOIZUMI, T. FUKUSHIMA, T. WADA and K. TANAKA**, “Photochemical and Radiolytic Production of an Organic Hydride Donor with a Ru^{II} Complex Containing an NAD⁺ Model Ligand,” *Angew. Chem., Int. Ed.* **46**, 4169–4172 (2007).
- H. OHTSU, S. TAKAISHI, K. IMAMURA, A. ISHII, K. TANAKA, M. HASEGAWA and M. YAMASHITA**, “Remarkable Functions of Long-Chain Alkyl Groups in Halogen-Bridged Nickel(III) Nanowire Complexes,” *Eur. J. Inorg. Chem.* **46**, 4425–4428 (2007).
- M. YAMASHITA, H. FURUTACHI, T. TOSHA, S. FUJINAMI, W. SAITO, Y. MAEDA, K. TAKAHASHI, K. TANAKA, T. KITAGAWA and M. SUZUKI**, “Regioselective Arene Hydroxylation Mediated by a (μ -peroxo)diiron(III) Complex: A Functional Model for Toluene Monooxygenase,” *J. Am. Chem. Soc.* **129**, 2–3 (2007).
- J. MUCKERMAN, D. POLANSKY, T. WADA, K. TANAKA and E. FUJITA**, “Water Oxidation by a Ruthenium Complex with Non-Innocent Quinone Ligands: Possible Formation of an O–O Bond at a Low Oxidation State of the Metal,” *Inorg. Chem.* **47**, 1787–1802 (2008).
- D. POLANSKY, D. CABELLI, J. MUCKERMAN, T. FUKUSHIMA, K. TANAKA and E. FUJITA**, “Mechanism of Hydride Donor Generation Using a Ru(II) Complex Containing an NAD⁺ Model Ligand: Pulse and Steady-State Radiolysis Studies,” *Inorg. Chem.* **47**, 3958–3968 (2008).
- F. AKAGI, T. MATSUO and H. KAWAGUCHI**, “Dinitrogen Cleavage by a Dinibium Tetrahydride Complex: Formation of a Nitride and Its Conversion into Imide Species,” *Angew. Chem., Int. Ed.* **46**, 8778–8781 (2007).
- T. MATSUO and H. KAWAGUCHI**, “Anisole-Diphenoxide Ligands and Their Zirconium Dichloride and Dialkyl Complexes,” *Inorg. Chem.* **46**, 8426–8434 (2007).

Y. SHIBUYA, K. NABARI, M. KONDO, S. YASUE, K. MAEDA, F. UCHIDA and H. KAWAGUCHI, "The Copper(II) Complex with Two Didentate Schiff Base Ligands. The Unique Rearrangement that Proceeds under Alcohol Vapor in the Solid State to Construct Noninclusion Structure," *Chem. Lett.* **37**, 78–79 (2008).

A. KUNISHITA, J. TERAOKA, J. D. SCANLON, T. MATSUMOTO, M. SUZUKI, C. J. CRAMER and S. ITOH, "Aromatic Hydroxylation Reactivity of a Mononuclear Cu(II)-Alkylperoxy Complex," *J. Am. Chem. Soc.* **129**, 7248–7249 (2007).

T. NAGATAKI and S. ITOH, "Catalytic Alkane Hydroxylation Reaction with Nickel(II) Complexes Supported by Di- and Triphenol Ligands," *Chem. Lett.* **36**, 748–749 (2007).

M. INOSAKO, C. SHIMOKAWA, H. SUGIMOTO, N. KIHARA, T. TAKATA and S. ITOH, "Reaction of Copper(II) Complexes and Na₂S₂. An Alternative Method for the Preparation of Dicopper(II)-Disulfido Complexes," *Chem. Lett.* **36**, 1306–1307 (2007).

Y. NAKAIKE, N. TABA, S. ITOH, Y. TOBE, N. NISHIWAKI and M. ARIGA, "Nucleophilic Substitution Accompanying Carbon–Carbon Bond Cleavage Assisted by a Nitro Group," *Bull. Chem. Soc. Jpn.* **80**, 2413–2417 (2007).

H. SUGIMOTO, H. TANO, R. TAJIMA, H. MIYAKE, H. TSUKUBE, H. OHI and S. ITOH, "In-Situ Generation of Oxo-Sulfido Bis(dithiolene) Tungsten(VI) Complexes: Active Site Models for the Aldehyde Ferredoxin Oxidoreductase Family of Tungsten Enzymes," *Inorg. Chem.* **46**, 8460–8462 (2007).

A. KUNISHITA, H. ISHIMARU, S. NAKASHIMA, T. OGURA and S. ITOH, "Reactivity of Mononuclear Alkylperoxy Copper(II) Complex. O–O Bond Cleavage and C–H Bond Activation," *J. Am. Chem. Soc.* **130**, 4244–4245 (2008).

D. MAITI, A. A. N. SARJEANT, S. ITOH and K. D. KARLIN, "Suggestion of an Organometallic Intermediate in an Intramolecular Dechlorination Reaction Involving Copper(I) and a ArCH₂Cl Moiety," *J. Am. Chem. Soc.* **130**, 5644–5645 (2008).

K. SUZUKI, C. SHIMOKAWA, C. MORIOKA and S. ITOH, "Monooxygenase Activity of *Octopus vulgaris* Hemocyanin," *Biochemistry* **47**, 7108–7115 (2008).

T. HIRAYAMA, M. TAKI, Y. KASHIWAGI, M. NAKAMOTO, A. KUNISHITA, S. ITOH and Y. YAMAMOTO, "Colorimetric Response to Mercury-Induced Abstraction of Triethylene Glycol Ligand from Gold Nanoparticle Surface," *Dalton Trans.* 4705–4707 (2008).

H. TANO, R. TAJIMA, H. MIYAKE, S. ITOH and H. SUGIMOTO, "Selenido-Bis(dithiolene) M(IV) Complexes (M = Mo and W) Potentially Related to the Nicotinic Acid Hydroxylase Reaction Center: Redox Aspects in Electrochemistry and Oxygen Atom Transfer from Me₃NO to M(IV) Centers," *Inorg. Chem.* **47**, 7465–7467 (2008).