

LIST OF PUBLICATIONS

- F. R. ORNELLAS and S. IWATA**, "A theoretical study of the electronic structure and spectroscopic properties of the low-lying electronic states of the molecule SiB," *J. Chem. Phys.* **107**, 6782 (1997).
- H. WATANABE, T. ASADA and S. IWATA**, "Theoretical prediction of intracluster reactions of $B^+(H_2O)_2$ and $B^+(H_2O)_3$: Hybrid procedure of ab initio MO calculations and Monte Carlo samplings," *Bull. Chem. Soc. Jpn.* **70**, 2619 (1997).
- F. ORNELLAS and S. IWATA**, "Ab initio study of the isomers: HNNSi, HSiNN, and HNSiN," *Bull. Chem. Soc. Jpn.* **70**, 2057 (1997).
- R. KISHI, S. IWATA, A. NAKAJIMA and K. KAYA**, "Geometric and electronic structures of silicon-sodium binary clusters. I. Ionization energy of Si_nNa_m ," *J. Chem. Phys.* **107**, 3056 (1997).
- M. GOMEI, R. KISHI, A. NAKAJIMA, S. IWATA and K. KAYA**, "Ab initio MO studies of neutral and anionic SiC_n clusters ($n = 2-5$)," *J. Chem. Phys.* **107**, 10051 (1997).
- S. TEN-NO**, "Superposition of nonorthogonal Slater-determinants towards electron correlation problems," *Theor. Chem. Acc.* **98**, 182 (1997).
- C.-G. ZHAN and S. IWATA**, "Ab initio studies on the structures, vertical electron detachment energies and fragmentation energies of C_nB^- clusters," *J. Phys. Chem. A* **101**, 591 (1997).
- S. KRISHNMURTY, R. K. ROY, R. VERTRIVEL, S. IWATA and S. PAL**, "Local hard - soft acid base principle: a critical study," *J. Phys. Chem.* **101**, 7253 (1997).
- S. HIRATA and S. IWATA**, "Density functional crystal orbital study on the normal vibrations of polyacetylenes and polymethylenimine," *J. Chem. Phys.* **107**, 10075 (1997).
- M. SAEKI, L. ZHU, T. TSUKUDA, S. IWATA and T. NAGATA**, "Photoabsorption and photofragmentation studies of acetoxy iodide anion $CH_3CO_2I^-$," *Chem. Phys. Letters* **280**, 343 (1997).
- R. KISHI, H. KAWAMATA, Y. NEGISHI, S. IWATA, A. NAKAJIMA and K. KAYA**, "Geometric and electronic structures of silicon-sodium binary clusters. II. Photoelectron spectroscopy of $Si_nNa_m^-$ cluster anions," *J. Chem. Phys.* **107**, 10029 (1997).
- C.-G. ZHAN and S. IWATA**, "Ab initio MO and density functional studies on the vibrational spectra of 1,4-benzoquinone, and its anion and dianion," *Chem. Phys.* **230**, 45 (1998).
- N. WATANABE, H. HAYASHI, Y. UDAGAWA, S. TEN-NO and S. IWATA**, "Static structure factor and electron correlation effects studied by inelastic x-ray scattering spectroscopy," *J. Chem. Phys.* **108**, 4545 (1998).
- S. HIRATA and S. IWATA**, "Density functional crystal orbital study on the normal vibrations and phonon dispersion curves of all-trans polyethylene," *J. Chem. Phys.* **108**, 7901 (1998).
- A. FIEDLER and S. IWATA**, "The variety of [Fe, N, O] isomers. A theoretical study," *J. Phys. Chem.* **102**, 3618 (1998).
- H. WATANABE and S. IWATA**, "Theoretical assignment of the photodissociation excitation spectra of the Mg^+ ion complexes with water clusters," *J. Chem. Phys.* **108**, 10078 (1998).
- T. TSURUSAWA and S. IWATA**, "Dipole-bound and interior electrons in water dimer and trimer anions: ab initio studies," *Chem. Phys. Letters* **287**, 553 (1998).
- S. HIRATA and S. IWATA**, "Analytical second derivatives in ab initio Hartree-Fock crystal orbital theory of polymers," *J. Mol. Struct. (THEOCHEM)* **451**, 121 (1998).
- F. R. ORNELLAS and S. IWATA**, "A theoretical study of the electronic structure and spectroscopic properties of the low-lying electronic states of the molecule AlSi," *Chem. Phys.* **232**, 95 (1998).
- M. V. VENER and S. IWATA**, "Model study of H-bonded $ROH \cdots (NH_3)_5$ clusters: a search for possible ground state proton transfer species," *Chem. Phys. Letters* **292**, 87 (1998).
- U. H. E. HANSMANN, M. MASUYA and Y. OKAMOTO**, "Characteristic Temperatures of Folding of a Small Peptide," *Proc. Natl. Acad. Sci. USA* **94**, 10652 (1997).
- U. H. E. HANSMANN**, "Parallel Tempering Algorithm for Conformational Studies of Biological Molecules," *Chem. Phys. Lett.* **281**, 140 (1997).
- M. KINOSHITA, Y. OKAMOTO and F. HIRATA**, "First-Principle Determination of Peptide Conformations in Solvents: Combination of Monte Carlo Simulated Annealing and RISM Theory," *J. Am. Chem. Soc.* **120**, 1855 (1998).
- U. H. E. HANSMANN and Y. OKAMOTO**, "Tertiary Structure Prediction of C-Peptide of Ribonuclease A by Multicanonical Algorithm," *J. Phys. Chem. B* **102**, 653 (1998).
- H. SZICHMAN, M. BAER and H. NAKAMURA**, "Four Mathematical Dimensional Quantum Mechanical Studies of Tetra-Atom Systems: State-to-State $J = 0$ Probabilities for the $H_2 + OH \rightarrow H_2O + H$ Reaction," *J. Chem. Phys.* **107**, 3521 (1997).
- O. I. TOLSTIKHIN, V. N. OSTROVSKY and H. NAKAMURA**, "Siege Pseudo-States as a Universal Tool: Resonances, S-matrix, Green Function," *Phys. Rev. Lett.* **79**, 2026 (1997).
- V. N. OSTROVSKY and H. NAKAMURA**, "Exact Analytical Solution of the N-level Landau-Zener Type Bow-Tie Model," *J. Phys. A* **30**, 6939 (1997).
- S. NANBU, H. NAKAMURA and F. O. GOODMAN**, "Molecular Switching in One-Dimensional Finite Periodic Nonadiabatic Tunneling Potential Systems," *J. Chem. Phys.* **107**, 5445 (1997).
- C. ZHU and H. NAKAMURA**, "Semiclassical Theory of Multi-Channel Curve Crossing Problems: Nonadiabatic Tunneling Case," *J. Chem. Phys.* **107**, 7839 (1997).

- M. HIYAMA, N. KOSUGI and H. NAKAMURA**, "Characteristics and Dynamics of Superexcited States of Diatomic Molecules: General Theoretical Procedure," *J. Chem. Phys.* **107**, 9370 (1997).
- J. HORACEK, W. DOMCKE and H. NAKAMURA**, "Electron Attachment and Vibrational Excitation in Hydrogen Iodide: Calculations Based on the Nonlocal Resonance Model," *Z. Phys. D.* **42**, 181 (1997).
- O. I. TOLSTIKHIN, V. N. OSTROVSKY and H. NAKAMURA**, "Cumulative Reaction Probability without Absorbing Potentials," *Phys. Rev. Lett.* **80**, 41 (1998).
- V. I. OSHEROV, V. G. USHAKOV and H. NAKAMURA**, "Semiclassical Theory of Nonadiabatic Transitions in a Two-State Exponential Model," *Phys. Rev A* **57**, 2672 (1998).
- O. I. TOLSTIKHIN and H. NAKAMURA**, "Hyperspherical Elliptic Coordinates for the Theory of Light Atom Transfer Reactions in Atom-Diatom Collisions," *J. Chem. Phys.* **108**, 8899 (1998).
- K. NOBUSADA, O. I. TOLSTIKHIN and H. NAKAMURA**, "Quantum Mechanical Elucidation of Reaction Mechanisms of Heavy-Light-Heavy Systems: Role of Potential Ridge," *J. Chem. Phys.* **108**, 8922 (1998).
- K. OKUMURA and Y. TANIMURA**, "Interplay of Inhomogeneity and Anharmonicity in 2D Raman Spectroscopy of Liquids," *Chem. Phys. Lett.* **277**, 159 (1997).
- M. CHO, K. OKUMURA and Y. TANIMURA**, "Coherent two-dimensional Raman scattering: Frequency-domain Measurement of the intra- and intermolecular vibrational interactions," *J. Chem. Phys.* **108**, 1326 (1998).
- Y. TANIMURA, H. TAKANO and J. KLAFTER**, "Spectral random walks and line broadening of impurity molecules in an Ising spin glass environment," *J. Chem. Phys.* **108**, 1851 (1998).
- Y. TANIMURA**, "Fifth-order two-dimensional vibrational spectroscopy of a Morse potential system in condensed phases," *Chem. Phys.* **233**, 217 (1998).
- G. GANGOPADHYAY and Y. TANIMURA**, "Absorption line shape of impurity molecule driven by a fractal noise," *Chem. Phys. Lett.* **289**, 97 (1998).
- Y. MARUYAMA and Y. TANIMURA**, "Pump-probe spectra and nuclear dynamics for a dissipative molecular system in a strong laser field: predissociation dynamics," *Chem. Phys. Lett.* **292**, 28 (1998).
- K. OKUMURA**, "A Reformulation of Simple Liquids Theory — Renormalization by One-, Two-, and Three-Particle Densities," *J. Math. Phys.* **39**, 2077 (1998).
- T. TAKAHASHI and T. MUNAKATA**, "Solvent Effects on Polymer Conformation: Density-Functional-Theory Approach," *Phys. Rev. E* **56**, 4344 (1997).
- T. MUNAKATA, A. IGARASHI and T. SHIOTANI**, "Entropy and Entropy Production in Simple Stochastic Models," *Phys. Rev. E* **57**, 1403 (1998).
- T. ISHIDA, F. HIRATA, H. SATO and S. KATO**, "Molecular Theory of Solvent Effect on keto-enol Tautomers of Formamide in Aprotic Solvents: RISM-SCF Approach," *J. Phys. Chem. B* **102**, 2045 (1998).
- H. SATO, F. HIRATA and A. B. MYERS**, "Theoretical Study of the Solvent Effect on Triiodide Ion in Solutions," *J. Phys. Chem. A* **102**, 2065 (1998).
- H. SATO and F. HIRATA**, "Theoretical Study for Autoionization of Liquid Water: Temperature Dependence of the Ionic Product (pK_w)," *J. Phys. Chem. A* **102**, 2603 (1998).
- M. KINOSHITA, Y. OKAMOTO and F. HIRATA**, "Calculation of Hydration Free Energy for a Solute with Many Atomic Sites Using the RISM Theory: Robust and Efficient Algorithm," *J. Comput. Chem.* **18**, 1320 (1997).
- M. KINOSHITA, Y. OKAMOTO and F. HIRATA**, "Solvation Structure and Stability of Peptides in Aqueous Solutions Analyzed by the Reference Interaction Site Model Theory," *J. Chem. Phys.* **107**, 1586 (1997).
- M. KINOSHITA, Y. OKAMOTO and F. HIRATA**, "First-Principle Determination of Peptide Conformations in Solvents: Combination of Monte Carlo Simulated Annealing and RISM Theory," *J. Am. Chem. Soc.* **120**, 1855 (1998).
- S.-H. CHONG and F. HIRATA**, "Interaction-site-model description of collective excitations in classical molecular fluids," *Phys. Rev. E* **57**, 1691 (1998).
- S.-H. CHONG and F. HIRATA**, "Dynamics of solvated ion in polar liquids: an interaction-site-model description," *J. Chem. Phys.* **108**, 7339 (1998).
- S.-H. CHONG and F. HIRATA**, "Interaction-site representation for collective excitations in diatomic dipolar liquid," *J. Mol. Liq.* **77**, 105 (1998).
- S.-H. CHONG and F. HIRATA**, "Effect of molecular symmetry on electrical potential fluctuations of solvent around solute in polar liquid," *Chem. Phys. Lett.* **293**, 119 (1998).
- R. AKIYAMA and F. HIRATA**, "Theoretical Study for Water Structure at Highly Ordered Surface : Effect of Surface Structure," *J. Chem. Phys.* **108**, 4904 (1998).
- T. KAKITANI, R. AKIYAMA, Y. HATANO, Y. IMAMOTO, Y. SHICHIDA, P. VERDEGEM and J. LUGTENBURG**, "Deuterium Substitution Effect on the Excited-State Dynamics of Rhodopsin," *J. Phys. Chem. B* **102**, 1334 (1998).
- A. F. KOVALENKO and F. HIRATA**, "Three-dimensional density profiles of water in contact with a solute of arbitrary shape: a RISM approach," *Chem. Phys. Lett.* **290**, 237 (1998).
- A. F. KOVALENKO and O. PIZIO**, "The Structure and Adsorption of the Four Bonding Sites Model for Associating Fluids in Disordered Porous Media From Replica Ornstein-Zernike Integral Equation Theory," *J. Chem. Phys.* **108**, 8651 (1998).
- K. YONEMITSU**, "Phonon Effects on Superconducting Phase in Two-Chain Electron Systems," *Physica C* **282-287**, 1109 (1997).
- K. YONEMITSU**, "Renormalization-Group Approach to the Metal-Insulator Transitions in $(DCNQI)_2M$ ($DCNQI$

- is N,N' -dicyanoquinonediimine and M=Ag, Cu)," *Phys. Rev. B* **56**, 7262 (1997).
- K. YONEMITSU, J. KISHINE and T. OGAWA**, "Superconductivity and Magnetism in Quasi-One-Dimensional Two-Band Systems," *Rev. High Pressure Sci. Technol.* **7**, 490 (1998).
- J. KISHINE and K. YONEMITSU**, "Spin Gap and Superconductivity in Weakly Coupled Ladders: Interladder One-Particle vs. Two-Particle Crossover," *J. Phys. Soc. Jpn.* **66**, 3725 (1997).
- J. KISHINE and K. YONEMITSU**, "Dimensional Crossovers in the Doped Ladder System: Spin Gap, Superconductivity and Interladder Coherent Band Motion," *J. Phys. Soc. Jpn.* **67**, 1714 (1998).
- J. KISHINE and K. YONEMITSU**, "Antiferromagnetic Phase Transition and Crossover to Fermi Liquid Phase in a Weakly Coupled Half-Filled Chain System," *J. Phys. Soc. Jpn.* **67**, 2590 (1998).
- N. KOBAYASHI, M. OGATA and K. YONEMITSU**, "Coexistence of SDW and Purely-Electronic CDW in Quarter-Filled Organic Conductors," *J. Phys. Soc. Jpn.* **67**, 1098 (1998).
- X. SUN and X.-H. XU, K. HU and K. YONEMITSU**, "Effect of Electron Correlation on Competition between BOW and SDW in Polymer," *Phys. Lett. A* **239**, 191 (1998).
- F. X. BROWN, S. YAMAMOTO and S. SAITO**, "The Microwave Spectrum of the HSiS Radical in the ${}^2A'$ Ground Electronic State," *J. Mol. Struct.* **413-414**, 537 (1997).
- M. IZUHA, S. YAMAMOTO and S. SAITO**, "Microwave Spectrum of HSiO in the ${}^2A'$ Ground Electronic State," *J. Mol. Struct.* **413-414**, 527 (1997).
- T. STEIMLE, K. NAMIKI and S. SAITO**, "The Millimeter Wave Spectrum of Copper Monoxide: CuO," *J. Chem. Phys.* **107**, 6109 (1997).
- K. NAMIKI and S. SAITO**, "Microwave Spectrum of the MnO Radical in the X^6+ State," *J. Chem. Phys.* **107**, 8848 (1997).
- K. KOBAYASHI, H. OZEKI, S. SAITO, M. TONOOKA and S. YAMAMOTO**, "The Microwave Spectrum of the NHD Radical in the Ground Electronic State, ${}^2A'$," *J. Chem. Phys.* **107**, 9289 (1997).
- S.-H. CHO and S. SAITO**, "Microwave Spectrum of a Silicon Monoxide Isotopomer: ${}^{28}\text{Si}{}^{18}\text{O}$," *Astrophys. J.* **496**, L51 (1998).
- M. ARAKI, H. OZEKI and S. SAITO**, "Laboratory Measurement of the Pure Rotational Transitions of HCNH $^+$ and its Isotopic Species," *Astrophys. J.* **496**, L53 (1998).
- S. MATSUURA, M. TANI, H. ABE, K. SAKAI, H. OZEKI and S. SAITO**, "High-Resolution Terahertz Spectroscopy by a Compact Radiation Source Based on Photomixing with Diode Lasers in a Photoconductive Antenna," *J. Mol. Spectrosc.* **187**, 97 (1998).
- T. HIRAO, S. HAYAKASHI, S. YAMAMOTO and S. SAITO**, "Microwave Spectrum of the PD₂ Radical in the 2B_1 Ground Electronic State," *J. Mol. Spectrosc.* **187**, 153 (1998).
- N. INADA, K. SAITO, M. HAYASHI, H. OZEKI and S. SAITO**, "Microwave Spectrum of the CHF₂ Radical in the ${}^2A'$ Ground Electronic State: Fluorine Hyperfine Structure Alternation in Inversion Levels," *Chem. Phys. Lett.* **284**, 142 (1998).
- K. KOBAYASHI and S. SAITO**, "The Microwave Spectrum of the NF Radical in the Second Electronically Excited (b^1+) State: Potentials of three low-lying States (X^3- , a^1 , b^1+)," *J. Chem. Phys.* **108**, 6606 (1998).
- T. STEIMLE, M. TANIMOTO, K. NAMIKI and S. SAITO**, "The Millimeter Wave Spectrum of Silver Monoxide: AgO," *J. Chem. Phys.* **108**, 7616 (1998).
- A. NUMMELIN, P. BERGMAN, Å. HJALMARSON, P. FRIBERG, W. M. IRVINE, T. J. MILLAR, M. OHISHI and S. SAITO**, "A Three-Position Spectral Line Survey of Sgr B2 between 218 and 263 - GHz. I. The Observational Data," *Astrophys. J. Suppl.* **117**, 427 (1998).
- I. K. AHMAD, H. OZEKI, S. SAITO and P. BOTSCHWINA** "A New Phosphorus Bearing Derivative of the Methyl Radical, CH₂CP, Studied by Microwave Spectroscopy and ab initio Calculation," *J. Chem. Phys.* **109**, 4252 (1998).
- H. FUJIWARA, K. KOBAYASHI, H. OZEKI and S. SAITO**, "Submillimeter-Wave Spectrum of the AsH₂ Radical in the 2B_1 Ground Electronic State," *J. Chem. Phys.* **109**, 5351 (1998).
- M. ARAKI, H. OZEKI and S. SAITO**, "Experimental Determination of the Ground-State Inversion Splitting in D₃O $^+$ by Microwave Spectroscopy," *J. Chem. Phys.* **109**, 5707 (1998).
- K. NAMIKI, S. SAITO, J. S. ROBINSON and T. C. STEIMLE**, "The Pure Rotational Spectra of TiO(X^3) and TiN(X^2+)," *J. Mol. Spectrosc.* **191**, 176 (1998).
- M. HORI, H. A. TORII, R. S. HAYANO, T. ISHIKAWA, F. E. MAAS, H. TAMURA, B. KETZER, F. J. HARTMANN, R. POHL, C. MAIERL, M. HASINOFF, T. von EGIDY, M. KUMAKURA, N. MORITA, I. SUGAI, D. HORVATH, E. WIDMANN, J. EADES and T. YAMAZAKI**, "Laser spectroscopic studies of state-dependent collisional quenching of the lifetimes of metastable antiprotonic helium atoms," *Phys. Rev. A* **57**, 1698 (1998).
- B. KETZER, F. J. HARTMANN, T. von EGIDY, C. MAIERL, R. POHL, J. EADES, E. WIDMANN, T. YAMAZAKI, M. KUMAKURA, N. MORITA, M. HORI, T. ISHIKAWA, H. A. TORII, I. SUGAI and D. HORVATH**, "Quenching of metastable states of antiprotonic helium atoms by collisions with H₂ molecules," *J. Chem. Phys.* **109**, 424 (1998).
- Y. MIZUTANI and T. KITAGAWA**, "Direct obervation of cooling of heme upon photo-dissociation of carbon-monoxy myoglobin," *Science* **278**, 443 (1997).
- M. TANAKA, K. ISHIMORI, M. MUKAI, T. KITAGAWA and I. MORISHIMA**, "Catalytic activites and structural properties of horseradish peroxidase distal His42 Glu or Gln Mutant," *Biochemistry* **36**, 9889 (1997).

- M. TSUBAKI, K. MATSUSHITA, O. ADACHI, S. HIROTA, T. KITAGAWA and H. HORI**, "Resonance Raman, infrared and EPR investigation on the binuclear site structure of the heme-copper ubiquinol oxidases from *Acetobacter aceti*: Effect of the heme peripheral formyl group substitution," *Biochemistry* **36**, 13034 (1997).
- Y. UESUGI, Y. MIZUTANI and T. KITAGAWA**, "Developments of widely tunable light sources for picosecond time-resolved resonance Raman spectroscopy," *Rev. Sci. Instrum.* **68**, 4001 (1997).
- A. L. VERMA, S. SATO and T. KITAGAWA**, "Time-resolved resonance Raman evidence for the exciplex formation of free-base porphyrin with an electron acceptor," *Chem. Phys. Lett.* **267**, 507 (1997).
- N. OKISHIO, R. FUKUDA, M. NAGAI, Y. NAGAI, S. NAGATOMO and T. KITAGAWA**, "Tyrosine phosphorylation-induced changes in absorption and UV resonance Raman spectra of Src-peptides," *J. Raman Spectrosc.* **29**, 31 (1998).
- S. NAKASHIMA, T. KITAGAWA and J. S. OLSON**, "Time-resolved resonance Raman study of intermediates generated after photodissociation of wild-type and mutant CO-myoglobins," *Chem. Phys.* **228**, 323 (1998).
- A. WADA, M. HARATA, K. HASEGAWA, K. JITSUKAWA, H. MASUDA, M. MUKAI, T. KITAGAWA and H. EINAGA**, "Structural and spectroscopic characterization of a mononuclear hydroperoxo-copper(II) complex with tripodal pyridylamine ligands," *Angew. Chem. Int. Ed.* **57**, 798 (1998).
- M. KODERA, Y. TACHI, S. HIROTA, K. KATAYAMA, H. SHIMAKOSHI, K. KANO, K. FUJISAWA, Y. MOROOKA, Y. NARUTA and T. KITAGAWA**, "A superoxodicopper(II) complex oxidatively generated by a reaction of di-l-hydroxodicopper(II) complex with hydrogen peroxide," *Chem. Lett.* 389 (1998).
- M. MUKAI, S. NAKASHIMA, J. S. OLSON and T. KITAGAWA**, "Time-resolved UV resonance Raman detection of a transient open form of the ligand pathway in Tyr64(E7) myoglobin," *J. Phys. Chem.* **102**, 3624 (1998).
- T. KITAGAWA and T. OGURA**, "Time-resolved resonance Raman study of dioxygen reduction by cytochrome *c* oxidase," *Pure Appl. Chem.* **70**, 881 (1998).
- Y. UESUGI, Y. MIZUTANI and T. KITAGAWA**, "Photo-induced solvent ligation in nickel(II)-octaethylporphyrin probed by picosecond time-resolved resonance Raman spectroscopy," *J. Phys. Chem. A* **102**, 5809 (1998).
- T. KITAGAWA and T. OGURA**, "Time-resolved resonance Raman investigation of oxygen reduction mechanism of bovine cytochrome *c* oxidase," *J. Biochem. Bioenerg.* **30**, 71 (1998).
- T. KATO, T. AKASAKA, K. KOBAYASHI, S. NAGASE, K. KIKUCHI, Y. ACHIBA, T. SUZUKI and K. YAMAMOTO**, "Chemical reactivity of endohedral metallofullerenes," *J. Phys. and Chem. of Solids* **58**, 1779 (1998).
- H. HANZAWA, Y. NISHIDA and T. KATO**, "Measurement of decay time for the NV center in Ib diamond with a picosecond laser pulse," *Diamond and Related Materials* **6**, 1595 (1997).
- T. KODAMA, M. KATO, K. MOGI, M. AOYAGI and T. KATO**, "ESR measurements of C₆₀⁻ anion crystals", *Mol. Phys. Report* **18/19**, 121 (1997).
- M. MATSUSHITA, A. MUTOH and T. KATO**, "Coherent Raman Spectroscopy: Optical-RF Double Resonance of La around Pr³⁺ in LaF₃," *29th AMPERE - 13th ISMAR* (D. Ziessow, W. Lubitz, and F. Lendzian, *Eds.*) T. U. Berlin 151 (1998).
- Y. INOKUCHI, K. OHASHI and N. NISHI**, "Infrared photodissociation spectroscopy of benzene trimer ions. Switching of the dimer ion core in vibrationally excited states," *Chem. Phys. Lett.* **279**, 73 (1997).
- K. EGASHIRA and N. NISHI**, "Low frequency Raman Spectroscopy of ethanol-water binary solutions: Evidence for self-association of solute and solvent molecules," *J. Phys. Chem. A* **102**, 4054 (1998).
- T. FUKUCHI, K. NISHI, S. SHIRAISSI, N. NISHI and H. SEKIYA**, "Hole-Burning Spectra of Jet-Cooled Tropolone and Tropolone-Kr₁ van der Waals Complex," *Jpn. J. Deuterium Sci.* **7**, 15 (1998)
- H. HAMABE, T. FUKUCHI, S. SHIRAISSI, K. NISHI, Y. NISHIMURA, T. TSUJI, N. NISHI and H. SEKIYA**, "Fluorescence Excitation and Hole-Burning Spectra of Jet-Cooled Tropolon-M (M=N₂,CO) van der Waals Complexes: Structures and Proton Tunneling in the S₁ State," *J. Phys. Chem. A* **102**, 3880 (1998).
- K. KOSUGI, T. NAKABAYASHI and N. NISHI**, "Low-frequency Raman spectra of crystalline and liquid acetic acid and its mixture with water. Is the liquid dominated by hydrogen-bonded cyclic dimers?," *Chem. Phys. Lett.* **291**, 253 (1998).
- K. OHASHI, M. NISHIGUCHI, Y. INOKUCHI, H. SEKIYA and N. NISHI**, "Photodissociation spectrum of cyanobenzene dimer cation. Absence of intermolecular resonance interaction," *Rev. Chem. Intermed.* **24**, 755 (1998).
- K. WATANABE and Y. MATSUMOTO**, "Comparative Study of Photochemistry of Methane on Pt(111) and Pd(111) Surfaces," *Surf. Sci.* **390**, 250 (1997).
- H. KATO, K. WATABABE and Y. MATSUMOTO**, "Effective Carbonate Formation Induced by Thermal Dissociation of N₂O on Si(100)," *Surf. Sci. Lett.* **398**, L297 (1998).
- M. SEI, K. NAGAYAMA, K. KAJIKAWA, H. ISHII, K. SEKI, K. KONDO, Y. MATSUMOTO and Y. OUCHI**, "Phase Determination of Second-order Surface Susceptibility Tensor of Liquid Crystal Monolayer Using Ultra-thin Film Local Oscillator," *Jpn. J. Appl. Phys.* **37**, 1974 (1998).
- T. ANAZAWA, I. KINOSHITA and Y. MATSUMOTO**, "Two-Photon Photoemission Study of CO/Pt(111)," *J. Electron Spectrosc. and Related Phenomena* **88-91**, 585 (1998).
- J. YOSHINOBU, M. KAWAI, S. TANAKA, K. WATANABE, Y. MATSUMOTO and M. KAMADA**, "Electronic Structure in the Valence Region of Chemisorbed and Physisorbed Species on Pd(110)," *J. Electron*

- Spectrosc. and Related Phenomena* **88-91**, 665 (1998).
- I. V. RUBTSOV and K. YOSHIHARA**, "Oscillatory Fluorescence Decay of an Electron Donor-Acceptor Complex," *J. Phys. Chem. A* **101**, 6138 (1997).
- H. SHIROTA, K. YOSHIHARA, N. A. SMITH, S. LIN and S. R. MEECH**, "Deuterium Isotope Effects on Ultrafast Polarizability Anisotropy Relaxation in Methanol," *Chem. Phys. Lett.* **281**, 27 (1997).
- N. A. SMITH, S. LIN, S. R. MEECH, H. SHIROTA and K. YOSHIHARA**, "Ultrafast Dynamics of Liquid Anilines Studied by the Optical Kerr Effect," *J. Phys. Chem. A* **101**, 9578 (1997).
- H. SHIROTA, H. PAL, K. TOMINAGA and K. YOSHIHARA**, "Substituent Effect and Deuterium Isotope Effect of Ultrafast Intermolecular Electron Transfer: Coumarin in Electron-Donating Solvent," *J. Phys. Chem. A* **102**, 3089 (1998).
- T. J. KANG, K. OHTA, K. TOMINAGA and K. YOSHIHARA**, "Femtosecond Relaxation Processes from a Higher Excited Electronic State of a Dye Molecule in Solution," *Chem. Phys. Lett.* **287**, 29 (1998).
- K. TOMINAGA and K. YOSHIHARA**, "Overtone Vibrational Dephasing of Choroform Studied by Higher-Order Nonlinear Spectroscopy," *J. Phys. Chem. A* **102**, 4222 (1998).
- M. HAYASHI, T.-S. YANG, J. YU, A. MEBEL, R. CHANG, S. H. LIN, I. V. RUBTZOV and K. YOSHIHARA**, "Vibronic and Vibrational Coherence and Relaxation Dynamics in the TCNE-HMB Complex," *J. Phys. Chem. A* **102**, 4256 (1998).
- V. FIDLER, P. KAPUSTA, M. NEPRES, J. SCHROEDER, I. V. RUBTSOV and K. YOSHIHARA**, "Ultrafast Electronic Energy Flow in a Bichromophoric Molecule," *Collect. Czech. Chem. Commun.* **63**, 1460 (1998).
- S. ISHIUCHI, H. SHITOMI, K. TAKAZAWA and M. FUJII**, "Nonresonant ionization detected IR spectrum of jet-cooled phenol - Ionization mechanism and its application to overtone spectroscopy," *Chem. Phys. Lett.* **283**, 243 (1998).
- R. YOSHINO, K. HASHIMOTO, T. OMI, S. ISHIUCHI and M. FUJII**, "Structure of 1-Naphthol-Water Clusters Studied by IR Dip Spectroscopy and Ab Initio Molecular Orbital Calculation," *J. Phys. Chem. A* **102**, 6227 (1998).
- T. WATANABE, M. MIYATA, Y. IKETAKI and M. FUJII**, "Soft X-Ray Microscope Imaging Using Photo-excitation Processes and Double Resonance Absorption Processes," *J. Korean Phys. Soc.* **32**, 388 (1998).
- T. SUZUKI, H. KATAYANAGI and M. C. HEAVEN**, "Detection of ArHI by (2+1) REMPI," *J. Phys. Chem. A* **101**, 6697 (1997).
- K. TONOKURA, L. B. DANIELS, T. SUZUKI and K. YAMASHITA**, "C-Cl Bond Rupture in Ultraviolet Photodissociation of Vinyl Chloride," *J. Phys. Chem. A* **101**, 7754 (1997).
- H. KATAYANAGI, N. YONEKURA and T. SUZUKI**, "C-Br bond rupture in 193 nm photodissociation of vinyl bromide," *Chem. Phys.* **231**, 345 (1998).
- T. SHIBATA, H. LI, H. KATAYANAGI and T. SUZUKI**, "Dissociation of metastable CH₃CO radical observed by subpicosecond time-clocked photofragment imaging," *J. Phys. Chem. A* **102**, 2643 (1998).
- Y. MO and T. SUZUKI**, "Quantal and semiclassical analysis of vector correlation in molecular photodissociation," *J. Chem. Phys.* **108**, 6780 (1998).
- T. SUZUKI, T. SHIBATA and H. LI**, "Dissociation of metastable CH₃CO radical studied by time-resolved photo-fragment imaging," *SPIE* **3271**, 2 (1998).
- A. KAWAI, M. MITSUI, Y. KOBORI and K. OBI**, "CIDEP in Radical-Singlet Molecular Oxygen System," *Appl. Magn. Reson.* **12**, 405, (1997).
- S.-I. WADA and K. OBI**, "Photochemical Reaction Dynamics of O(¹D) with Saturated Hydrocarbons, CH₄, C₂H₆, and C₃H₈, under Bulk Conditions and in van der Waals Complexes," *J. Phys. Chem. A* **102**, 3481, (1998).
- Y. KOBORI, K. TAKEDA, K. TSUJI, A. KAWAI and K. OBI**, "Exchange Interaction in Radical-Triplet Pair: Evidence for CIDEP Generation by Level Crossings in Triplet-Doublet Interactions," *J. Phys. Chem. A* **102**, 5160, (1998).
- K. TSUJI, K. AIUCHI, K. SHIBUYA and K. OBI**, "Electronic Spectroscopy and Predissociation Mechanism of Ar-NO in the 3p Rydberg States," *Chem. Phys.* **231**, 279, (1998).
- Y. YONEHARA and K. YAKUSHI**, "High-Pressure Study of One-Dimensional Phthalocyanine Conductor, NiPc-(AsF₆)_{0.5}," *Synthetic Metals* **94**, 149 (1998).
- M. URUICHI, K. YAKUSHI, Y. YAMASHITA and J. QIN**, "Charge-Transfer Salts of M(mnt)₂, (M=Ni, Pd, Pt, Au) with BDNT: Ferromagnetic Interaction in Conductive (BDNT)₂-[Ni(mnt)₂]," *J. Mater. Chem.* **8**, 141 (1998).
- J. DONG, K. YAKUSHI, K. TAKIMIYA and T. OTSUBO**, "Metallic Properties of 1:1 Charge-Transfer Salt, Dimethyltetraselenoanthracene-tetrafluoroborate (DMTSA-BF₄)⁻," *J. Phys. Soc. Jpn.* **67**, 971 (1998).
- T. MANABE, M. YAMASHITA, T. KAWASHIMA, H. OKAMOTO, H. KITAGAWA, T. MITANI, K. TORIUMI, H. MIYAMAE, K. INOUE and K. YAKUSHI**, "Competition between Electron-Correlation in Ni^{III} States and Electron-Phonon Interaction in Pd^{II}-Pd^{IV} Mixed-Valence States in Quasi-One-Dimensional Halogen-Bridged Mixed-Metal Complexes, Ni_{1-x}Pd_x(chxn)₂Br₃," *Proceedings of SPIE*, 3145, 106 (1998).
- J. OUYANG, K. YAKUSHI, Y. MISAKI and K. TANAKA**, "Two-Dimensional Band Structure of Organic Metals (BDT-TTP)₂X (X = SbF₆, AsF₆) Studied by Polarized Reflection Spectroscopy," *J. Phys. Soc. Jpn.* **67**, 3191 (1998).
- I. L. KOGAN and K. YAKUSHI**, "Electrochemical and Spectroelectrochemical Properties of a New Stable Composite Film Electrode. Platinum Phthalocyanine-poly-bisphenol-A-carbonate," *Electrochimica Acta* **43**, 2053 (1998).

- K. KANODA**, "Electron Correlation, Metal-Insulator Transition and Superconductivity in Quasi-2D Organic Systems, $(ET)_2X$," *Physica C* **282-287**, 299 (1997).
- K. KANODA, K. MIYAGAWA and A. KAWAMOTO**, " ^{13}C and ^1H NMR Study of Vortex Dynamics in Layered Organic Superconductor at Selective Nuclear Sites," *Physica C* **282-287**, 2063 (1997).
- Y. NAKAZAWA and K. KANODA**, "Thermodynamic Property of Organic Superconductor $-(BEDT\text{-TTF})_2X$ [X = Cu(NCS)₂, Cu[N(CN)₂]Br]," *Physica C* **282-287**, 1897 (1997).
- H. TANIGUCHI, Y. NAKAZAWA and K. KANODA**, "Melting and Interlayer Coherence of Vortices in the Quasi-Two-Dimensional Organic Superconductor, $-(BEDT\text{-TTF})_2\text{NH}_4\text{Hg}(\text{SCN})_4$," *Physica C* **282-287**, 2013 (1997).
- I. SHIROTANI, T. UCHIUMI, K. OHNO, C. SEKINE, Y. NAKAZAWA, K. KANODA, S. TODO and T. YAGI**, "Superconductivity of Filled Skutterudites LaRu₄As₁₂ and PrRu₄As₁₂," *Phys. Rev. B* **56**, 7866 (1997).
- K. MIYAGAWA, A. KAWAMOTO and K. KANODA**, " ^{13}C -NMR Study of Nesting Instability in $-(BEDT\text{-TTF})_2\text{RbHg}(\text{SCN})_4$," *Phys. Rev. B* **56**, R8487 (1997).
- K. AKIOKA, H. OHTA, S. OKUBO, K. MIYAGAWA, and K. KANODA**, "Submillimeter Wave ESR Measurements of Two-Dimensional Organic Antiferromagnet $-(BEDT\text{-TTF})_2\text{ICl}_2$," *J. Mag. Mag. Mat.* **177-181**, 746 (1998).
- H. TANIGUCHI, Y. NAKAZAWA and K. KANODA**, "Phase Diagram of Vortices in the Quasi-Two-Dimensional Organic Superconductor, $-(BEDT\text{-TTF})_2\text{NH}_4\text{Hg}(\text{SCN})_4$; a System of Pancake Vortices with Out-of-Plane Coupling Dominated by the Electromagnetic Energy," *Phys. Rev. B* **57**, 3623 (1998).
- K. HIRAKI and K. KANODA**, "Wigner-Crystal Type of Charge Ordering in an Organic Conductor with a Quarter-Filled Band; $(\text{DI-DCNQI})_2\text{Ag}$," *Phys. Rev. Lett.* **80**, 4737 (1998).
- A. KAWAMOTO, K. MIYAGAWA and K. KANODA**, " ^{13}C -NMR Study of Metal-Insulator Transition in $(\text{DMe-DCNQI})_2\text{Cu}$ with Partial Deuteriation," *Phys. Rev. B* **58**, 1243 (1998).
- S. HASEGAWA, T. MIYAMAE, K. YAKUSHI, H. INOKUCHI, K. SEKI and N. UENO**, "Origin of the Photoemission Intensity Oscillation of C₆₀," *Phys. Rev. B* **58**, 4927 (1998).
- S. HASEGAWA, T. MIYAMAE, K. YAKUSHI, H. INOKUCHI, K. SEKI and N. UENO**, "Comparison Between Calculated and Measured Photoemission Spectra of C₆₀ Thin Films," *J. Electr. Spectrosc. and Relat. Phen.* **88-91**, 891 (1998).
- K. IMAEDA, J. KRÖBER, C. NAKANO, M. TOMURA, S. TANAKA, Y. YAMASHITA, H. KOBAYASHI, H. INOKUCHI and A. KOBAYASHI**, "Molecular Metals Based on Nonplanar Donor BEDT-ATD: Appearance of Metal-Insulator Transition by Anion or Solvent Replacement," *Mol. Cryst. Liq. Cryst.* **296**, 205 (1997).
- K. IMAEDA, J. KRÖBER, C. NAKANO, H. INOKUCHI and K. ICHIMURA**, "Recovery and Enhancement of Superconductivity in the Sodium-Hydrogen-C₆₀ Ternary System," *J. Phys. Chem. B* **101**, 10136 (1997).
- K. IMAEDA and H. INOKUCHI**, "Na-X-C₆₀ (X=N, H) Superconductors," *Trends in Chem. Phys.* **5**, 239 (1997).
- S. SUZUKI, K. NAKAO, K. IMAEDA, C. NAKANO and H. INOKUCHI**, "First-Principles Study of the Electronic Structure of Na_xH_yC₆₀," *J. Phys. Soc. Jpn.* **67**, 2802 (1998).
- H. KOBAYASHI, A SATO, E. ARAI, H. AKUTSU, A. KOBAYASHI and P. CASSOUX**, "Superconductor-to-Insulator Transition in an Organic Metal Incorporating Magnetic Anions; $-(\text{BETS})_2(\text{Fe}_x\text{Ga}_{1-x})\text{Cl}_4$ BETS = bis(ethylenedithio)tetraselenafulvalene; x = 0.55 and 0.43]," *J. Am. Chem. Soc.* **119**, 12392 (1997).
- H. AKUTSU, E. ARAI, H. KOBAYASHI, H. TANAKA and A. KOBAYASHI**, "Highly Correlated Organic Conductor with Magnetic Anions Exhibiting a -d Coupled Metal-Insulator Transition, $-(\text{BETS})_2\text{FeBr}_x\text{Cl}_{1-x}$ (BETS = bis(ethylenedithio)tetraselenafulvalene)," *J. Am. Chem. Soc.* **119**, 12681 (1997).
- H. KOBAYASHI, H. AKUTSU, E. ARAI, H. TANAKA and A. KOBAYASHI**, "Electric and Magnetic Properties and Phase Diagram of a Series of Organic Superconductors $-(\text{BETS})_2\text{GaX}_z\text{Y}_{1-z}$ [X, Y=F, Cl, Br; 0 < z < 2]," *Phys. Rev. B* **56**, R8526 (1997).
- A. SATO, H. KOBAYASHI and A. KOBAYASHI**, "Enhancement of the Dimensionality of Molecular Conductors by the Selone Substitution of M(dmit)₂ (M=Ni, Pd) Systems: Newly Synthesized dmise Compounds [Me_xH_{4-x}N][Ni(dmise)₂]₂ (X = 1-3) and Cs[Pd(dmise)₂]₂ (dmise=4,5-Dimercapto-1,3-dithiole-2-selone)," *Inorg. Chem.* **36**, 5262 (1997).
- Y. KUSABA, M. TAMURA, Y. HOSOKOSHI, M. KINOSHITA, R. KATO and H. KOBAYASHI**, "Isolation of Crystals of a Planar Nitronyl Nitroxide Radical: 2-Phenylbenzimidazol-1-yl N,N'-dioxide (PBIDO)," *J. Mater. Chem.* **7**, 1377 (1997).
- A. SATO, H. KOBAYASHI and A. KOBAYASHI**, "A New Ni(dmise)₂ Complex N, N,-dimethylpiperdinium-[Ni(dmise)₂]₂ with Stable Metallic State," *Chem. Lett.* 1275 (1997).
- H. TANAKA, A. KOBAYASHI and H. KOBAYASHI**, "Synthesis and Crystal Structures of ET and BETS Salts Containing Bis(dithiosquarato)metalate Anions," *Bull. Chem. Soc. Jpn.* **70**, 3137 (1997).
- N. D. KUSHCH, O. A. DYACHENKO, V. V. GRITSENKO, P. CASSOUX, C. FAULMANN, A. KOBAYASHI and H. KOBAYASHI**, "Two New Cation Radical Bis(ethylenedithio)tetraselenafulvalene (BETS) Salts, $-(\text{BETS})_6\text{Bi}_3\text{Cl}_{12}\text{-PhCl}$ and $(\text{BETS})_2\text{Bi}_2\text{Cl}_8$: Synthesis, Structure and Conducting Properties. First Characterization of the New Trinuclear Anion $[\text{Bi}_3\text{Cl}_{12}]^3-$," *J. Chem. Soc. Dalton Trans.* 683 (1998).
- H. AKUTSU, K. KATO, E. ARAI, H. KOBAYASHI, A. KOBAYASHI, M. TOKUMOTO, L. BROSSARD and P. CASSOUX**, "A coupled Metal-Insulator and Antiferromagnetic Transition of $-(\text{BETS})_2\text{FeCl}_4$ under High-pressure and Magnetic Field (BETS = bis(ethylenedithio)tetraselenafulvalene)," *Solid State Commun.* **105**, 485 (1998).

- L. BROSSARD, R. CERAC, C. COULON, M. TOKUMOTO, T. ZIMAN, D. K. PETROV, V. N. LAUKHIN, M. J. NAUGHTON, A. AUDOUARD, F. GOZE, A. KOBAYASHI, H. KOBAYASHI and P. CASSOUX,** "Interplay between chains of S=5/2 localised spins and two-dimensional sheets of organic donors in the synthetically built magnetic multilayer -(BETS)₂FeCl₄," *Eur. Phys. J.* **B1**, 439 (1998).
- A. SATO, E. OJIMA, H. AKUTSU, H. KOBAYASHI, A. KOBAYASHI and P. CASSOUX,** "Temperature-composition phase diagram of the organic alloys, -(BETS)₂(Fe_xGa_{1-x})Cl₄, with mixed magnetic and non-magnetic anions," *Chem. Lett.* 673 (1998).
- A. KOBAYASHI, A. MIYAMOTO, R. KATO and H. KOBAYASHI,** "Electrical and structural properties and phase diagram of a molecular superconductor, -[(CH₃)₄N][Pd(dmit)₂]₂," *Bull. Chem. Soc. Jpn.* **71**, 997 (1998).
- H. MORI, S. TANAKA, T. MORI, A. KOBAYASHI and H. KOBAYASHI,** "Crystal structure and physical properties of M = Rb and Tl salts of (BEDT-TTF)₂MM'(SCN)₄ [M'=Co, Zn]," *Bull. Chem. Soc. Jpn.* **71**, 797 (1998).
- E. ARAI, H. FUJIWARA, H. KOBAYASHI, A. KOBAYASHI, K. TAKIMIYA, T. OTSUBO and F. OGURA,** "Novel stable metallic salts based on a donor molecule containing *peri*-ditellurium Bridges, TMTTeN," *Inorg. Chem.* **37**, 2850 (1998).
- N. D. KUSHCH, L. I. BRAVOV, S. I. PESOTSKII, R. B. LYUBOVSKII, E. B. YAGUBSKII, M. G. KAPLUNOV, E. V. GOLUBEV, B. Zh. NARYMBETOV, S. S. KHASANOV, L. V. ZORINA, L. ROZENBERG, R. SIBAEVA, A. KOBAYASHI and H. KOBAYASHI,** "A new stable organic metal in the well known family of radical cation -salts: -(BETS)₂TIg(SeCN)₄. Synthesis, Structure and properties," *J. Mater. Chem.* **8**, 897 (1998).
- H. FUJIWARA, Y. MISAKI, T. YAMABE, T. MORI, H. MORI and S. TANAKA,** "Selenium analogues of DTEDT as promising donors for organic metals," *Synth. Met.* **86**, 1813 (1997).
- Y. MISAKI, M. TANIGUCHI, T. MIURA, H. FUJIWARA, T. YAMABE, T. KAWAMOTO and T. MORI,** "Synthesis and Properties of MeDTDM Salts," *Adv. Mater.* **9**, 714 (1997).
- Y. MISAKI, T. MIURA, M. TANIGUCHI, H. FUJIWARA, T. YAMABE, T. MORI, H. MORI and S. TANAKA,** "Novel -Type Organic Metal Based on a Bis-Fused Tetraphiafulvalene Derivative," *Adv. Mater.* **9**, 714 (1997).
- H. FUJIWARA, E. ARAI and Hayao KOBAYASHI,** "Synthesis, structure and properties of a novel trisulfide double-bridged TTF dimer," *J. Mater. Chem.* **8**, 829 (1998).
- H. FUJIWARA, Y. MISAKI, M. TANIGUCHI, T. YAMABE, T. KAWAMOTO, T. MORI, H. MORI and S. TANAKA,** "Preparation, Structures and Physical Properties of -Type Two-dimensional Conductors Based on Unsymmetrical Extended Tetraphiafulvalene: 2-Cyclopentanylidene-1,3-dithiolo[4,5-*d*]-4,5-ethylenedithiotetraphiafulvalene (CPDTET)," *J. Mater. Chem.* **8**, 1711 (1998).
- V. RAYSSAC, P. LESOT, J. P. BAYLE and S. MIYAJIMA,** "Unusual Ordering of a Dioxyethylene Chain in a Dialkoxy Laterally Substituted Nematogen as Evidenced by ¹³C NMR," *J. Chim. Phys.* **95**, 973 (1998).
- S. YOSHIDA, B. JIN, Y. TAKANISHI, K. ISHIKAWA, H. TAKEZOE, A. FUKUDA, T. NAKAI and S. MIYAJIMA,** "Orientational Change of the Trifluoromethyl Group at the Ferroelectric-Antiferroelectric Transition Observed by NMR Spectroscopy," *Mol. Cryst. Liq. Cryst.* **301**, 203 (1997).
- K. YAMASAKI, H. SAITO, M. TADOKORO, K. MATSUMOTO, S. MIYAJIMA and Y. NAKAMURA,** "Preparation, Characterization, and X-Ray Crystal Structures of μ-2,6-Dimethylpyridine-, '-diyl Iridium(III)-Rhodium(III) Complexes and the Structure of [Rh₂Cl₄(μ-CH₂-py-CH₂)(PPh₃)₂] (CH₂-py-CH₂=2,6-Dimethylpyridine-, '-diyl) Reinvestigated," *Bull. Chem. Soc. Jpn.* **70**, 2155 (1997).
- T. NISHIOKA, K. ISOBE, I. KINOSHITA, Y. OZAWA, A. V. DE MIGUEL, T. NAKAI and S. MIYAJIMA,** "Formation and Dynamic Properties of the Triangular Rhodium μ₃-Sulfido Complex [Rh₃Cp^{*}₃(μ₃-²⁻||C₂H₂)(μ₃-S)]²⁺ (Cp^{*}=⁵C₅Me₅), Including an Acetylene Ligand Generated by the Coupling and Deprotonation of Two Bridging Methylene Units in a Dirhodium Complex," *Organometallics* **17**, 1637 (1998).
- O. OISHI, S. YAMASHITA, E. NISHIMOTO, S. LEE, G. SUGIHARA and M. OHNO,** "Cobformations and Orientations of Aromatic Amino Acid Residues of Tachypleisin I in Phospholipid Membranes," *Biochem.* **36**, 4352 (1997).
- H. OGATA, S. MIYAJIMA, K. IMAEDA and H. INOKUCHI,** "NMR Study in Sodium-Hydrogen-C₆₀ Superconductor," *Mat. Res. Soc. Symp. Proc.* **513**, 419 (1998).
- G. MARUTA, S. TAKEDA, T. KAWAKAMI, W. MORI, R. IMACHI, T. ISHIDA, T. NOGAMI and K. YAMAGUCHI,** "Solid Stata ¹H-MAS-NMR and Spin Densities on Protons of the Organic Ferromagnetic TEMPO Derivatives," *Mol. Cryst. Liq. Cryst.* **306**, 307 (1997).
- M. ODA, T. KAWAKAMI, S. TAKEDA, W. MORI, M.M. MATSUSHITA, A. IZUOKA, T. SUGAWARA and K. YAMAGUCHI,** "Theoretical Studies of Magnetic Interactions in 2',5'-Dihydroxyphenyl Nitronyl Nitroxide Crystal," *Mol. Cryst. Liq. Cryst.* **306**, 151 (1997).
- M. ODA, T. KAWAKAMI, S. TAKEDA, W. MORI, Y. HOSOKOSHI, M. TAMURA, M. KINOSHITA and K. YAMAGUCHI,** "Theoretical Studies of Magnetic Interactions in p-Cyanophenyl Nitronyl Nitroxide Crystal," *Mol. Cryst. Liq. Cryst.* **306**, 331 (1997).
- T. KAWAKAMI, A. ODA, S. TAKEDA, W. MORI, T. ISHIDA, T. NOGAMI and K. YAMAGUCHI,** "Magnetic Interaction via -Hydrogen Atoms in TEMPO Derivatives," *Mol. Cryst. Liq. Cryst.* **306**, 141 (1997).
- M. NISHINO, M. TANAKA, S. TAKEDA, K. MASHIMA, W. MORI, K. TANI, A. NAKAMURA and K. YAMAGUCHI,** "Theoretical Studies of One Dimensuonal Tetranuclear Transition Metal Systems and Their

- Clusters," *Mol. Cryst. Liq. Cryst.* **306**, 463 (1997).
- M. NISHINO, M. TANAKA, S. TAKEDA, K. MASHIMA, W. MORI, K. TANI, A. NAKAMURA and K. YAMAGUCHI**, "CASCI and CASSCF Studies of Dinuclear Transition Metal Systems with Quadrupole Metal-Metal Bonds (M = Cr(II), Mo(II))," *Mol. Cryst. Liq. Cryst.* **306**, 321 (1997).
- D. YAMAKI, S. TAKEDA, W. MORI and K. YAMAGUCHI**, "CAS CI and CAS SCF Calculations for Nutral and Ionic States of Several -Conjugated Organic Radical Systems," *Mol. Cryst. Liq. Cryst.* **306**, 475 (1997).
- T. MINAMISONO, T. OHTSUBO, K. SATO, S. TAKEDA, S. FUKUDA, T. IZUMIKAWA, M. TANIGAKI, T. MIYAKE, T. YAMAGUCHI, N. NAKAMURA, H. TANJI, K. MATSUTA, M. FUKUDA and Y. NOJIRI**, "Quadrupole Moment of the Proton Rich -Emitting Nucleus ^{12}N ," *Phys. Lett. B* **420**, 31 (1998).
- C. BENEDICT, U. LANGER, H.H. LIMBACH, H. OGATA and S. TAKEDA**, "Observation of Thermal Tautomerism of Thermochromic Salicylideneaniline Derivatives in the Solid State by ^{15}N -CP/MAS NMR down to Cryogenic Temperature," *Ber. Bunsengesr. Phys. Chem.* **102**, 335 (1998).
- HONG-WEI-HUNG, T. SAKURAI, H. MONJUSHIRO and S. TAKEDA**, "Magnetic Studies of the Trinuclear Center in Laccase and Ascorbate Oxidase Approached by EPR Spectroscopy and Magnetic Susceptibility Measurements," *Biochimica et Biophysica Acta* **1384**, 160 (1998).
- T. MATSUI, S. OZAKI and Y. WATANABE**, "On the Formation and Reactivity of Compound I of the His64 Myoglobin Mutants," *J. Biol. Chem.* **272**, 32731 (1997).
- T. MURAKAMI, I. MORISHIMA, T. MATSUI, S. OZAKI and Y. WATANABE**, "Effects of the Arrangement of a Distal Histidine on Regioselectivity of the Coupled Oxidation of Sperm Whale Myoglobin Mutants." *J. Chem. Soc. Chem. Commun.* 773 (1998).
- S. OGO, S. WADA, Y. WATANABE, M. IWASE, A. WADA, M. HARATA, K. JITSUKAWA, H. MASUDA and H. EINAGA**, "Synthesis, Structure, and Spectroscopic Properties of $[\text{Fe}^{\text{III}}(\text{TNPA})(\text{OH})(\text{PhCOO})]\text{ClO}_4$: A Model Complex for an Active Forms of Soybean Lipoxygenase-1," *Angew. Chem. Int. Ed. Engl.* **37**, 2102 (1998).
- S. OZAKI, Y. INADA and Y. WATANABE**, "Characterization of Polyethylene Glycolated Horseradish Peroxidase in Organic Solvents: Generation and Stabilization of Transient Catalytic Intermediates at Low Temperature," *J. Am. Chem. Soc.* **120**, 8020 (1998).
- Y. GOTO, S. WADA, I. MORISHIMA and Y. WATANABE**, "Reactivity of Peroxoiron(III) Porphyrin Complexes: Models for Deformylation Reactions Catalyzed by Cytochrome P-450," *J. Inorg. Biochem.* **69**, 241 (1998).
- T. MURAKAMI, Y. WATANABE and I. MORISHIMA**, "A Novel Meso-Oxygenation of an Iron Porphyrin Complex Relataed to Meso-Hydroxylation Catalyzed by Heme Oxygenase," *Chem. Lett.* 27 (1998).
- T. MURAKAMI, K. YAMAGUCHI, Y. WATANABE and I. MORISHIMA**, "A New Active Intermediate in Monoxygenations Catalyzed by Iron Porphyrin Complexes," *Bull. Chem. Soc. Jpn.* **71**, 1343 (1998).
- Y. HOSOKOSHI, M. TAMURA and M. KINOSHITA**, "Pressure effect on organic radicals," *Mol. Cryst. Liq. Cryst.* **306**, 423 (1997).
- M. TAKAHASHI, Y. HOSOKOSHI, H. NAKANO, T. GOTO, M. TAKAHASHI and M. KINOSHITA**, "Low-temperature magnetic properties of nitronyl nitroxides," *Mol. Cryst. Liq. Cryst.* **306**, 111 (1997).
- Y. HOSOKOSHI, K. TAKIZAWA, H. NAKANO, T. GOTO, M. TAKAHASHI and K. INOUE**, "Construction of spin-1/2 Heisenberg ferromagnetic-antiferromagnetic alternating chains with various exchange couplings," *J. Mag Mag. Mater.* **177-181**, 634 (1998).
- Y. HOSOKOSHI, M. TAKAHASHI, T. GOTO and K. INOUE**, "Magnetic properties of spin-1/2 Heisenberg honeycomb lattice with ferromagnetic and antiferromagnetic interactions," *J. Mag Mag. Mater.* **177-181**, 717 (1998).
- H. NAKANO, Y. HOSOKOSHI and M. TAKAHASHI**, "Spin-1/2 Heisenberg model with ferromagnetic and antiferromagnetic interactions on a honeycomb lattice," *J. Mag Mag. Mater.* **177-181**, 717 (1998).
- H. IWAMURA, K. INOUE and N. KOGA**, "How to Assemble Free Radicals into a Magnet," *J. of Synthtic Org. Chem. (in Japanese)* **55**, 417 (1998).
- A. S. MARKOSYAN, T. HAYAMIZU, H. IWAMURA and K. INOUE**, "Study of Magnetization and Magnetic Anisotropy of the Organometallic Complex Between the Trinitroxide Radical and Bis(Hexafluoroacetylacetato)-Manganese(II)," *J. Phys., Condens. Matter* **10**, 2323 (1998).
- Y. HOSOKOSHI, M. MITO, M. TAMURA, K. TAKEDA, M. KINOSHITA and K. INOUE**, "Magnetic Properties of Pure Galvinoxyl under Pressure-Suppression of the Structural Change and Observation of the Magnetic Ordering," *Rev. High Pressure Sci. Tech.* **7**, 620 (1998).
- H. IWAMURA, K. INOUE and N. KOGA**, "Tacticity vs. Dimension of the Extended Structures in the Crystals of Heterospin Magnets Made of Transition Metal Complexes with Poly(aminoxyl) Radical," *New J. Chem.* **22**, 201 (1998).
- K. INOUE, F. IWAHORI and H. IWAMURA**, "Magnetic Properties of Polymeric Chain Complex made by 5-Bromo-1,3-Bis(*N*-*tert*-butyl-*N*-oxy-amino)benzene and Cu(II)(hfac)₂," *Chem. Lett.* 737 (1998).
- G. YAMAMOTO, K. INOUE, H. HIGUCHI, M. YONOBAYASHI, Y. NABETA and J. OJIMA**, "Dynamic Stereochemistry of *N*-Phenyl-9-triptecylamine and Its *N*-Alkyl Derivatives," *Bull. Chem. Soc. Jpn.* **71**, 1241 (1998).
- T. SUGIMOTO, K. UEDA, S. ENDO, N. TOYOTA, M. KOHAMA, K. YAMAMOTO, H. MORIMOTO, T. YAMAGUCHI, Y. SUENGA, M. MUNAKATA, N. HOSOITO, N. KANEHISA, N. SHIBAMOTO and Y. KAI**, "Ferromagnetic Behavior of 1:2 TCNQ/TCNQ⁻ Mixed Salts at Room Temperature," *Mol. Cryst. Liq. Cryst.* **305**, 217 (1997).

- K. UEDA, M. IWAMATSU, T. SUGIMOTO and H. FUJITA**, "A Novel Tetrathiafulvalenoquinodimethane Derivative Exhibiting Strong Electronic Absorption in a Near-Infrared Region," *Chem. Lett.* 1197 (1997).
- T. SUGIMOTO, K. UEDA, S. ENDO, N. TOYOTA, T. TADA, K-i. NISHIMURA, M. KOHAMA, K. SHIWAKU, K. YAMAMOTO, T. YAMAGUCHI, Y. SUENGA and M. MUNAKATA**, "1:2 Dimethyl-substituted Tetracyanoquinodimethane/Its Radical Anion Mixed Salts: Ferromagnetic Behavior and High Electrical Conductivity at Room Temperature," *Chem. Phys. Lett.* **288**, 767 (1998).
- E. V. SAVCHENKO, T. HIRAYAMA, A. HAYAMA, T. KOIKE, T. KUNINOBU, I. ARAKAWA, K. MITSUKE and M. SAKURAI**, "Long Life-Time Emission of the Excited Species Ejected from the Surface of Solid Ne," *Surf. Sci.* **390**, 261 (1997).
- T. HIRAYAMA, A. HAYAMA, T. KOIKE, T. KUNINOBU, I. ARAKAWA, K. MITSUKE, M. SAKURAI and E. V. SAVCHENKO**, "Absolute Desorption Yield of Metastable Atoms from the Surface of Solid Rare Gases Induced by Exciton Creation," *Surf. Sci.* **390**, 266 (1997).
- T. KUNINOBU, A. HAYAMA, T. HIRAYAMA and I. ARAKAWA**, "Desorption of Metastable Species Induced by Electronic Excitation at the Surface of Solid Krypton with Physisorbed Hydrogen," *Surf. Sci.* **390**, 272 (1997).
- A. HAYAMA, T. KUNINOBU, T. HIRAYAMA and I. ARAKAWA**, "Desorption of Metastable Particles Induced by Electronic Excitation at the Surface of Rare-Gas Solids with Physisorbed Hydrogen," *J. Vac. Sci. Technol. A* **16**, 979 (1998).
- I. ARAKAWA**, "Exciton Induced Desorption at the Surface of Rare Gas Solids," *Mol. Cryst. Liq. Cryst.* **314**, 47 (1998).
- T. TSUKUDA, T. HIROSE and T. NAGATA**, "Electronic Structures of $(SO_2)_n^-$ as studied by photoelectron Spectroscopy," *Int. J. Mass Spectrom. & Ion Proc.* **171**, 273 (1997).
- M. SAEKI, L. ZHU, T. TSUKUDA, S. IWATA and T. NAGATA**, "Photoabsorption and Photofragmentation Studies of Acetyloxy Iodide Anion $CH_3CO_2I^-$," *Chem. Phys. Lett.* **280**, 348 (1997).
- T. TSUKUDA, T. HIROSE and T. NAGATA**, "Negative-Ion Photoelectron Spectroscopy of $(CS_2)_n^-$: Coexistence of Electronic Isomers," *Chem. Phys. Lett.* **279**, 179 (1997).
- K. TANAKA, K. SAKAGUCHI and T. TANAKA**, "Time-resolved Infrared Diode Laser Spectroscopy of the ν_1 Band of the Iron Carbonyl Radical (FeCO) Produced by the Ultraviolet Photolysis of $Fe(CO)_5$," *J. Chem. Phys.* **106**, 2118 (1997).
- K. TANAKA, M. SHIRASAKA and T. TANAKA**, "Millimeter-wave Spectroscopy of the Iron Carbonyl Radical (FeCO)," *J. Chem. Phys.* **106**, 6820 (1997).
- K. TANAKA, Y. SUMIYOSHI, Y. OHSHIMA, Y. ENDO and K. KAWAGUCHI**, "Pulsed Discharge Nozzle Fourier Transform Microwave Spectroscopy of the Propargyl Radical (H_2CCCH)," *J. Chem. Phys.* **107**, 2728 (1997).
- T. IMAJO, S. INUI, K. TANAKA and T. TANAKA**, "Interferogram Amplitude Modulation Technique for Selective Detection of Transient Species with a Continuous-scan Fourier-transform Spectrometer," *Chem. Phys. Lett.* **274**, 99 (1997).
- T. TANAKA, M. TAMURA and K. TANAKA**, "Infrared Diode Laser Spectroscopy of the SiF Radical. Analysis of Hot Band up to $\nu = 9-8$," *J. Mol. Spectrosc.* **413/414**, 153 (1997).
- M. SHIRASAKA and K. TANAKA**, "Millimeter-wave Spectra of ArDCN Observed with Pulsed-Jet Expansion Technique," *J. Mol. Spectrosc.* **185**, 189 (1997).
- K. TANAKA, Y. TACHIKAWA and T. TANAKA**, "Time-resolved Infrared Diode Laser Spectroscopy of Jet-Cooled FeCO and $Fe(CO)_2$ Produced by the Ultraviolet Photolysis of $Fe(CO)_5$," *Chem. Phys. Letters* **281**, 285 (1997).
- S. CIVIS, Z. ZELINGER and K. TANAKA**, "The Infrared Diode Laser Spectroscopy of the $\nu_2 + \nu_5 - \nu_2$ Hot Band of Acetylene," *J. Mol. Spectrosc.* **187**, 82 (1998).
- Y. TAKATA, M. NAKAMURA and N. KOSUGI**, "Ni L-Edge Absorption Structure of $K_2Ni(CN)_4$ Ionic Solid Investigated with Resonant Photoelectron Spectroscopy," *J. PHYS. IV FRANCE* **7**, C2-489 (1997).
- T. TANAKA, S. YOSHIDA, R. KANAI, T. SHISHIDO, H. HATTORI, Y. TAKATA and N. KOSUGI**, "Structural Change of Calcium Silicate, a New Type of Desulfurization Material, Studied by Si K Edge XAFS," *J. PHYS. IV FRANCE* **7**, C2-913 (1997).
- Y. TAKATA, T. HATSUI and N. KOSUGI**, "Resonant Behavior in Ni 3d, 3p and 3s Photoelectron Spectra at the Ni 2p Excitation of Planar Molecular Complex, Nickel Dimethylglyoxime," *J. Electron Specrosc. and Relat. Phenom.* **93**, 109 (1998).
- Y. TAKATA, M. NAKAMURA and N. KOSUGI**, "Resonant Behavior of Satellite Photoelectrons in the Ni 3p and 3s Region at the Ni 2p Excitation of $K_2Ni(CN)_4$," *Chem. Phys. Lett.* **287**, 35 (1998).
- T. KINOSHITA, Y. TAKATA, T. MATSUKAWA, H. ARITANI, S. MATSUO, T. YAMAMOTO, M. TAKAHASHI, H. YOSHIDA, T. YOSHIDA, Y. UFUKTEPE, K. G. NATH, S. KIMURA and Y. KITAJIMA**, "Performance of the YB_{66} Soft X-ray Monochromator Crystal at the Wiggler Beamline of the UVSOR Facility," *J. Synchrotron Rad.* **5**, 726 (1998).
- S. HOSOKAWA, Y. HARI, T. KOUCHI, I. ONO, H. SATO, M. TANIGUCHI, A. HIRAYA, Y. TAKATA, N. KOSUGI and M. WATANABE**, "Electronic Structures and Local Atomic Configurations in Amorphous GeSe and GeTe," *J. Phys.: Condens. Matter* **10**, 1931 (1998).
- Y. TAKATA, T. HATSUI and N. KOSUGI**, "Ni 2p Resonant Photoelectron Spectra of Some Planar Nickel

- Complexes," *J. Electron Spectrosc. and Relat. Phenom.* **88-91**, 235 (1998).
- T. HATSUI, Y. TAKATA, N. KOSUGI, K. YAMAMOTO, T. YOKOYAMA and T. OHTA**, "Ni 2p Excitation Spectra of Some Planar Ni Complexes," *J. Electron Spectrosc. and Relat. Phenom.* **88-91**, 405 (1998).
- T. HATSUI, Y. TAKATA and N. KOSUGI**, "Strong Metal-to-Ligand Charge Transfer Bands in Ni 2p Photoabsorption of $K_2Ni(CN)_4 \cdot H_2O$," *Chem. Phys. Lett.* **284**, 320 (1998).
- H. OJI, R. MITSUMOTO, E. ITO, H. ISHII, Y. OUCHI, K. SEKI and N. KOSUGI**, "Core Excitonic Effects in the NEXAFS Spectra of Condensed Polycyclic Aromatic Hydrocarbons," *J. PHYS. IV FRANCE* **7**, C2-163 (1997).
- N. KOSUGI**, "Molecular Inner-shell Spectroscopy of Planar Ni Complexes," *J. Electron Spectrosc. and Relat. Phenom.* **92**, 151 (1998).
- J. ADACHI, N. KOSUGI, E. SHIGEMASA and A. YAGISHITA**, "Renner-Teller Splitting in the C1s * Excited States of CS_2 , OCS, and CO_2 ," *J. Chem. Phys.* **107**, 4919 (1997).
- E. SHIGEMASA, J. ADACHI, K. SOEJIMA, N. WATANABE, A. YAGISHITA and N. A. CHEREPKOV**, "Direct Determination of Partial Wave Contributions in the * Shape Resonance in CO Molecules," *Phys. Rev. Lett.* **80**, 1622 (1998).
- S. TAKEUCHI and T. TAHARA**, "Observation of Dimer Excited-State Dynamics in the Double Proton Transfer Reaction of 7-Azaindole by Femtosecond Fluorescence Up-Conversion," *Chem. Phys. Letters* **277**, 340 (1997).
- A. YOSHIGOE, S. HIRANO and T. URISU**, "Surface Hydrogen and Growth Mechanisms of Synchrotron Radiation-Assisted Silicon Gas Source Molecular Beam Epitaxy Using Disilane," *Appl. Organometal. Chem.* **12**, 253 (1998).
- H. MEKARU, T. URISU, Y. TSUSAKA, S. MASUI, E. TOYOTA and H. TAKENAKA**, "Design and Performance of a Multilayered Mirror Monochromator in the Low Energy Region of Vacuum Ultra Violet," *J. Synchrotron Rad.* **5**, 714 (1998).
- K. MASE, M. NAGASONO, S. TANAKA, T. URISU, E. IKENAGA, T. SEKITANI and K. TANAKA**, "Auger Electron Photoion Coincidence Technique Combined with Synchrotron Radiation for the Study of the Ion Desorption Mechanism in the Region of Resonant Transitions of Condensed H_2O ," *J. Chem. Phys.* **108**, 6550 (1998).
- T. SEKITANI, E. IKENAGA, H. MATSUO, S. TANAKA, K. MASE and K. TANAKA**, "Photon Stimulated Ion Desorption of Condensed Acetonitrile Molecules Induced by Core Excitation," *J. Electron Spectros. Relat. Phenom.* **88-91**, 831 (1998).
- I. SHIMOYAMA, T. MOCHIDA, Y. OTSUKI, H. HORIUCHI, S. SAIJYO, K. NAKAGAWA, M. NAGASONO, S. TANAKA and K. MASE**, "Fundamental Processes of Radiation Damage of Benzene Solid Studied by Auger Electron Photoion Coincidence Spectroscopy," *J. Electron Spectros. Relat. Phenom.* **88-91**, 793 (1998).
- S. NAGAOKA, K. MASE, M. NAGASONO, S. TANAKA, T. URISU and J. OHSHITA**, "Site-Specific Fragmentation Following Si:2p Core-Level Photoionization of $F_3SiCH_2CH_2Si(CH_3)_3$ Condensed on Au Surface," *J. Chem. Phys.* **107**, 10751 (1997).
- M. NAGASONO, K. MASE, S. TANAKA and T. URISU**, "Study of Ion Desorption Induced by a Resonant Core-Level Excitation of Condensed NH_3 by Using Auger Electron Photoion Coincidence (AEPICO) Spectroscopy Combined with Synchrotron Radiation," *Surface Sci.* **390**, 102 (1997).
- K. MASE, M. NAGASONO, S. TANAKA, T. URISU, E. IKENAGA, T. SEKITANI and K. TANAKA**, "Study of Ion Desorption Induced by a Resonant Core-Level excitation of Condensed H_2O by Using Auger Electron Photoion Coincidence (AEPICO) Spectroscopy Combined with Synchrotron Radiation," *Surface Sci.* **390**, 97 (1997).
- T. SEKITANI, E. IKENAGA, K. TANAKA, K. MASE, M. NAGASONO, S. TANAKA and T. URISU**, "Auger-Electron-Ion Coincidence Study of Photon-Stimulated Ion Desorption for Condensed Acetonitrile," *Surface Sci.* **390**, 107 (1997).
- E. V. SAVCHENKO, T. HIRAYAMA, A. HAYAMA, T. KOIKE, T. KUNINOBU, I. ARAKAWA, K. MITSUKE and M. SAKURAI**, "Long Life-Time Emission of the Excited Species Ejected from the Surface of Solid Ne," *Surf. Sci.* **390**, 261 (1997).
- T. HIRAYAMA, A. HAYAMA, T. KOIKE, T. KUNINOBU, I. ARAKAWA, K. MITSUKE, M. SAKURAI and E. V. SAVCHENKO**, "Absolute Desorption Yields of Metastable Atoms from the Surface of Solid Rare Gases Induced by Exciton Creation," *Surf. Sci.* **390**, 266 (1997).
- H. YOSHIDA and K. MITSUKE**, "Design of an 18 m Spherical-Grating Monochromator at UVSOR," *J. Synchrotron Rad.* **5**, 774 (1998).
- M. MIZUTANI, H. NIIKURA, A. HIRAYA and K. MITSUKE**, "Laser-Induced Fluorescence Excitation Spectroscopy of N_2^+ Produced by VUV Photoionization of N_2 and N_2O ," *J. Synchrotron Rad.* **5**, 1069 (1998).
- K. MITSUKE, M. MIZUTANI, H. NIIKURA and K. IWASAKI**, "Pump-Probe Spectroscopy of N_2 and N_2O by Using a Laser-Synchrotron Radiation Combination Technique," *Rev. Laser Engin.* **26**, 458 (1998).
- N. UENO, A. KITAMURA, K. K. OKUDAIRA, T. MIYAMAE, Y. HARADA, S. HASEGAWA, H. ISHII, H. INOKUCHI, T. FUJIKAWA, T. MIYAZAKI and K. SEKI**, "Angle-Resolved UPS of Thin Films of Bis(1,2,5-thiadiazolo)-*p*-quinobis (1,3-dithiole) on the MoS_2 Surface," *J. Chem. Phys.* **107**, 2079 (1997).
- N. UENO, Y. AZUMA, T. YOKOTA, M. AOKI, K. K. OKUDAIRA and Y. HARADA**, "Low-Energy Electron Transmission Spectroscopy of Thin Films of Chloroaluminum Phthalocyanine on MoS_2 ," *Jpn. J. Appl. Phys.* **36**, 5731 (1997).

- S. YAMAMOTO, S. MASUDA, H. YASUFUKU, N. UENO, Y. HARADA, T. ICHINOKAWA, M. KATO and Y. SAKAI**, "Study of Solid Surfaces by Metastable Electron Emission Microscopy (MEEM): Energy-Filtered Images and Local Electron Spectra at the Outermost Surface Layer of Silicon Oxide on Si(100)," *J. Appl. Phys.* **82**, 2954 (1997).
- K. K. OKUDAIRA, S. YAMAMOTO, N. UENO, Y. HARADA, M. AOKI, K. FUJII, T. SEKITANI, K. TANAKA, M. IMAMURA, N. MATSUBAYASHI, H. SHIMADA and M. REI VILAR**, "Photon Stimulated D+ Desorption from Selectively Deuterated Polystyrene by Inner Shell Excitation," *J. de Physique IV France* **7(C2)**, 541 (1997).
- Y. YAMAMOTO, R. MITSUMOTO, T. ARAKI, Y. OUCHI, H. ISHII, K. SEKI, N. UENO and Y. TAKANISHI**, "NEXAFS Studies on the Surface Structure of Liquid n-C₅₀H₁₀₂ (Pentacontane)," *J. de Physique IV France* **7(C2)**, 709 (1997).
- N. UENO and K. TANAKA**, "Site-Specific Chemical-Bond Scission in PMMA by Inner Shell Excitation," *Jpn. J. Appl. Phys.* **36**, 7605 (1997).
- Y. AZUMA, T. HASEBE, T. MIYAMAE, K. K. OKUDAIRA, Y. HARADA, K. SEKI, E. MORIKAWA and V. SAILE**, "Angle-Resolved UV Photoelectron Spectra (UPS) of Thin Films of Perylene-3,4,9,10-Tetracarboxylic Dianhydride on MoS₂," *J. Synchrotron Radiation* **5**, 1044 (1998).
- Y. AZUMA, M. TSUTSUI, S. KERA, M. AOKI, T. MIYAMAE, K. K. OKUDAIRA, Y. HARADA and N. UENO**, "Temperature Dependence of Photoelectron Angular Distribution from Thin Films of Chloroaluminum Phthalocyanine on MoS₂," *J. Synchrotron Radiation* **5**, 1047 (1998).
- K. K. OKUDAIRA, E. MORIKAWA, S. HASEGAWA, V. SAILE, K. SEKI, Y. HARADA and N. UENO**, "Radiation Damage of Poly(methylmethacrylate) Thin Films Analyzed by UPS," *J. Electron Spectr. & Related Phenom.* **88-91**, 913 (1998).
- S. KERA, A. ABDUAINI, M. AOKI, K. K. OKUDAIRA, N. UENO, Y. HARADA, Y. SHIROTA and T. TSUZUKI**, "Penning Ionization Electron Spectroscopy of Titanyl Phthalocyanine Ultrathin Films : Electronic State and Molecular Orientation," *J. Electron Spectr. & Related Phenom.* **88-91**, 885 (1998).
- A. ABDUAINI, S. KERA, M. AOKI, K. K. OKUDAIRA, N. UENO and Y. HARADA**, "Characterization of Self-Assembled Monolayer of Thiophenol on Gold by Penning Ionization Electron Spectroscopy," *J. Electron Spectr. & Related Phenom.* **88-91**, 849 (1998).
- H. OZAKI, M. KASUGA, S. KERA, M. AOKI, H. TSUKADA, R. SUZUKI, N. UENO, Y. HARADA and S. MASUDA**, "Penning Ionization Electron Spectroscopy of Atomic Tape: Extrathin Superstructure Constructed by Intramonomolayer Hydrogen Bonds on a Solid Surface," *J. Electron Spectr. & Related Phenom.* **88-91**, 933 (1998).
- Y. AZUMA, T. YOKOTA, S. KERA, M. AOKI, K. K. OKUDAIRA, Y. HARADA and N. UENO**, "High-Resolution Electron Energy Loss Spectroscopy of Chloroaluminum Phthalocyanine Ultrathin Films," *J. Electron Spectr. & Related Phenom.* **88-91**, 881 (1998).
- D. YOSHIMURA, H. ISHII, Y. OUCHI, E. ITO, T. MIYAMAE, S. HASEGAWA, N. UENO and K. SEKI**, "Angle-Resolved UPS Study and Simulation with IAC Approximation for Oriented Monolayer of Tetratetracontane (n-C₄₄H₉₀) on Cu (100)," *J. Electron Spectr. & Related Phenom.* **88-91**, 875 (1998).
- S. HASEGAWA, T. MIYAMAE, K. YAKUSHI, H. INOKUCHI, K. SEKI and N. UENO**, "Comparison between Calculated and Measured Photoemission Spectra of C₆₀ Thin Films," *J. Electron Spectr. & Related Phenom.* **88-91**, 891 (1998).
- T. MIYAMAE, M. AOKI, H. ETORI, Y. MURAMATSU, Y. SAITO, T. YAMAMOTO, Y. SAKURAI, K. SEKI and N. UENO**, "Ultraviolet Photoelectron Spectroscopy of Poly(anthraquinone)s and Poly(1,10-phenanthroline-3,8-diyl); Their Electronic Structure and K-doped States," *J. Electron Spectr. & Related Phenom.* **88-91**, 905 (1998).
- K. FUJII, T. SEKITANI, K. TANAKA, S. YAMAMOTO, K. K. OKUDAIRA, Y. HARADA and N. UENO**, "Photon Stimulated Ion Desorption of Deuterated Polystyrene Thin Films Induced by Core Excitation," *J. Electron Spectr. & Related Phenom.* **88-91**, 837 (1998).
- K. K. OKUDAIRA, S. HASEGAWA, P. T. SPRUNGER, E. MORIKAWA, V. SAILE, K. SEKI, Y. HARADA and N. UENO**, "Photoemission Study of Pristine and Photodegraded Poly(methyl methacrylate)," *J. Appl. Phys.* **83**, 4292 (1998).
- Y. NONOGAKI, T. IGUCHI, S. FUCHI, Y. FUJIWARA and Y. TAKEDA**, "InAs dots grown on InP (001) by droplet hetero-epitaxy using OMVPE," *Mat. Sci. & Eng. B* **51**, 118 (1998).
- Y. NONOGAKI, T. IGUCHI, S. FUCHI, Y. FUJIWARA and Y. TAKEDA**, "Nanometer-scale InAs islands grown on GaP (001) by organometallic vapor phase epitaxy," *Appl. Surf. Sci.* **130-132**, 724 (1998).
- S. FUCHI, Y. NONOGAKI, T. IGUCHI, H. MORIYA, Y. FUJIWARA and Y. TAKEDA**, "Effects of Post Annealing on Self-organized InAs Islands Grown on (001) GaP by Organometallic Vapor Phase Epitaxy," *J. Surf. Analysis* **4**, 259 (1998).
- S. MORITA, S. MUTO and M. SAKURAI**, "Radial profiles of impurity lines from a scanning mirror VUV system in a compact helical system," *Fusion Engineering and Design* **34-35**, 211 (1997).
- K. HOSAKA, F. J. CURRELL, A. DANJO, M. KIMURA, A. MATSUMOTO, N. NAKAMURA, S. OHTANI, H. A. SAKAUE, M. SAKURAI, H. TAWARA, H. WATANABE, I. YAMADA and M. YOSHINO**, "A scaling law for charge transfer cross sections," *Fusion Engineering and Design* **34-35**, 781 (1997).
- H. A. SAKAUE, H. TAWARA, I. YAMADA, K. HOSAKA, F. J. CURRELL, N. NAKAMURA, S. OHTANI, H. WATANABE, A. DANJO, M. KIMURA, A. MATSUMOTO, M. SAKURAI and M. YOSHINO**, "Multi-

electron transfer processes of highly charged ion I^{q+} -atom collisions ($6 < q < 30$)," *Fusion Engineering and Design* **34-35**, 785 (1997).

K. MOTOHASHI, J. ASADA, F.J. CURRELL, T. FUKAMI, T. HIRAYAMA, N. NAKAMURA, E. NOJIKAWA, K. OKAZAKI, S. OHTANI, M. SAKURAI, H. SHIRAISHI, S. TSURUBUCHI and H. WATANABE, "Extraction of trapped ions from the Tokyo electron beam ion trap," *Physica Scripta T* **73**, 368 (1997).

H. WATANABE, J. ASADA, F.J. CURRELL, T. FUKAMI, T. HIRAYAMA, K. MOTOHASHI, N. NAKAMURA, E. NOJIKAWA, S. OHTANI, K. OKAZAKI, M. SAKURAI, H. SHIRAISHI and S. TSURUBUCHI, "Control system of the Tokyo electron beam ion trap," *Physica Scripta T* **73**, 365 (1997).

N. NAKAMURA, J. ASADA, F. J. CURRELL, T. FUKAMI, T. HIRAYAMA, K. MOTOHASHI, T. NAGATA, E. NOJIKAWA, S. OHTANI, K. OKAZAKI, M. SAKURAI, H. SHIRAISHI, S. TSURUBUCHI and H. WATANABE, "Overview of Tokyo electron beam ion source/trap at ILS/UEC," *Physica Scripta T* **73**, 362 (1997).

J. ASADA, F. J. CURRELL, T. FUKAMI, T. HIRAYAMA, K. MOTOHASHI, N. NAKAMURA, E. NOJIKAWA, S. OHTANI, K. OKAZAKI, M. SAKURAI, H. SHIRAISHI, S. TSURUBUCHI and H. WATANABE, "X-ray spectroscopy at the Tokyo electron beam ion trap," *Physica Scripta T* **73**, 90 (1997).

F. J. CURRELL, J. ASADA, T. FUKAMI, T. HIRAYAMA, K. MOTOHASHI, N. NAKAMURA, E. NOJIKAWA, S. OHTANI, K. OKAZAKI, M. SAKURAI, H. SHIRAISHI, S. TSURUBUCHI and H. WATANABE, "Detector systems for use with an electron beam ion trap," *Physica Scripta T* **73**, 371 (1997).

H. A. SAKAUE, H. TAWARA, I. YAMADA, K. HOSAKA, F. KROK, F. J. CURRELL, N. NAKAMURA, S. OHTANI, H. WATANABE, A. DANJO, M. KIMURA, A. MATSUMOTO, M. SAKURAI and M. YOSHINO, "Projectile Charge dependence of multi-electron transfer processes in highly charged ion-atom collisions," *Physica Scripta T* **73**, 182 (1997).

F. KROK, H. TAWARA, H. A. SAKAUE, I. YAMADA, K. HOSAKA, I. Y. TOLSTIKHINA, M. KIMURA, A. MATSUMOTO, N. NAKAMURA, S. OHTANI, M. SAKURAI, H. WATANABE and M. YOSHINO, "Double electron capture in slow, highly charged ion-molecule collisions," *Physica Scripta T* **73**, 264 (1997).

K. HOSAKA, H. TAWARA, I. YAMADA, H.A. SAKAUE, F. KROK, F.J. CURRELL, N. NAKAMURA, S. OHTANI, H. WATANABE, A. DANJO, M. KIMURA, A. MATSUMOTO, M. SAKURAI and M. YOSHINO, "Multiple electron capture processes between highly charged ions and molecules," *Physica Scripta T* **73**, 273 (1997).

H. WATANABE, J. ASADA, F. J. CURRELL, T. FUKAMI, T. HIRAYAMA, K. MOTOHASHI, N. NAKAMURA, E. NOJIKAWA, S. OHTANI, K. OKAZAKI, M. SAKURAI, H. SHIMIZU, N. TADA and S. TSURUBUCHI, "Characteristics of the Tokyo electron-beam ion trap," *J. Phys. Soc. Jpn.* **66**, 3795 (1997).

T. HIRAYAMA, A. HAYAMA, T. KOIKE, T. KUNINOBU, I. ARAKAWA, K. MITSUKE, M. SAKURAI and E. V. SAVCHENKO, "Absolute desorption yield of metastable atoms from the surface of solid rare gases induced by exiton creation," *Surface Sci.* **390**, 266 (1997).

E. V. SAVCHENKO, T. HIRAYAMA, A. HAYAMA, T. KOIKE, T. KUNINOBU, I. ARAKAWA, K. MITSUKE and M. SAKURAI, "Long life-time emission of the excited species ejected from the surface of solid Ne," *Surface Sci.* **390**, 261 (1997).

K. FUKUTANI, T. T. MAGKOEV, Y. MURATA, M. MATSUMOTO, T. KAWAUCHI, T. MAGOME, Y. TEZUKA, S. SHIN, "Electronic Structure of a Pt(111)-Ge Surface Alloy and Adsorbed CO," *J. Electron Spectrosc. Relat. Phenom.* **88-91**, 597 (1998).

M. MATSUMOTO, N. TATSUMI, T. ITOYAMA, M. UMEZAWA, K. FUKUTANI and T. OKANO, "Low Energy Electron Diffraction Measurement of NO/Pt(111)," *J. Vac. Soc. Jpn.* **41**, 400 (1998).

K. MIZUSIMA, M. NAKAURA, S-B. PARK, H. NISHIYAMA, H. MONJUSHIRO, K. HARADA and M. HAGA, "Ruthenium(II) Complexes with Tetradentate 6,6'-Bis(oxazolinyl or benzimidazolyl)-2,2'-bipyridine Ligand: Synthesis, Electrochemical Properties, and Catalytic Reactivities," *Inorg. Chim. Acta* **261**, 175 (1997).

H. MONJUSHIRO, K. HARADA, M. NAKAURA, N. KATO, M. HAGA, M. RYAN and A. B. P. LEVER, "Preparation of Surfactant Ruthenium Complexes Containing (Benzimidazolyl)pyridine Derivatives with Long Alkyl Chains," *Mol. Crys. Liq. Crys.* **294**, 15 (1997).

K. MASHIMA, H. FUKUMOTO, K. TANI, M. HAGA and A. NAKAMURA, "1,8-Diphenyl-octa-1,3,5,7-tetraene Complexes of Ruthenium(II): Crystal Structures of [μ -(*s-cis*-1,2,3,4- :*s-cis*-5,6,7,8- -PhCH=CHCH=CHCH=CPh)(RuClCp*)₂] and [μ -(*s-trans*-1,2,3,4- :*s-trans*-5,6,7,8- -PhCH=CHCH=CHCH=CPh}{Ru(acac)₂}₂]," *Organometallics* **17**, 410 (1998).

M. HAGA, Md. M. ALI, H. SATO, H. MONJUSHIRO, K. NOZAKI, and K. KANO, "Spectroelectrochemical Analysis of the Intervalence Band in Mixed-Valence Di- and Tetranuclear Ru Complexes by the Flow-Through Method," *Inorg. Chem.* **37**, 2320 (1998).

Y. ISHIKAWA, S. ITO, S. NISHINO, S. OHBA and Y. NISHIDA, "Contribution of a Peroxide Adduct of Copper(II)-Peptide Complex to Modify the Secondary Structure of Albumin," *Z. Naturforsch.* **53C**, 348 (1998).

N. SAKURAI and T. SAKURAI, "Isolation and Characterization of Nitric Oxide Reductase from Paracoccus halodenitrificans," *Biochemistry* **36**, 13809 (1997).

N. SAKURAI, H. KUMITA, T. SAKURAI and H. MASUDA, "Spectral Properties of Cytochrome *c*₅₅₃ and a Membrane-bound Cytochrome *b* from *Alcaligenes xylosoxidans* Gifu 1051," *Bull. Chem. Soc. Jpn.* **70**, 135 (1998).

N. SAKURAI and T. SAKURAI, "Genomic Cloning of the Region Encoding Nitric Oxide Reductase in

- Paracoccus halodenitrificans* and a Structure Model Relevant to Cytochrome Oxidase," *Biochem. Biophys. Res. Commun.* **243**, 400 (1998).
- S. HIROTA, H. MATSUMOTO, H. HUANG, T. SAKURAI, T. KITAGAWA and O. YAMAUCHI**, "Observation of Cu-N₃⁻ Stretching and N₃⁻ Asymmetric Stretching Bands for Mono-Azide Adduct of Rhus vernicifera Laccase," *Biochem. Biophys. Res. Commun.* **243**, 435 (1998).
- H. HUANG, T. SAKURAI, H. MONJUSHIRO and S. TAKEDA**, "Magnetic Studies of the Trinuclear Center in Laccase and Ascorbate Oxidase Approached by EPR Spectroscopy and Magnetic Susceptibility Measurements," *Biochim. Biophys. Acta* **160**, 1384 (1998).
- E. KIMURA, T. IKEDA and M. SHIONOYA**, "Macrocyclic Metal Complexes for Selective Recognition of Nucleic Acid Bases and Manipulation of Gene Expression," *Pure & Appl. Chem.* **69**, 2187 (1997).
- E. KIMURA, T. IKEDA, M. MURATA and M. SHIONOYA**, "Macrocyclic Zinc(II) Complexes for Selective Recognition of Nucleic Acid Bases in Single- and Double-Stranded Polynucleotides," *J. Bioinorg. Chem.* **3**, 259 (1998).
- A. HATANO, H. MORISHITA, K. TANAKA and M. SHIONOYA**, "Metal-Assisted Formation of Artificial Nucleic Acids," *Nucleic Acids Res., Symp. Ser.* **39**, 93 (1998).
- K. TANAKA, H. CAO and M. SHIONOYA**, "Double Strands Formation of Artificial DNAs Induced by Metal Complexation," *Nucleic Acids Res., Symp. Ser.* **39**, 171 (1998).
- Y. KURODA, Y. YOSHIKAWA, R. KUMASHIRO and M. NAGAO**, "Analysis of Active Sites on Copper Ion-Exchanged ZSM-5 for CO Adsorption through IR and Adsorption-Heat Measurements," *J. Phys. Chem. B* **101**, 6497 (1997).
- M. FUJITA, T. FUJIHARA, M. KOJIMA, Y. YOSHIKAWA and K. YAMASAKI**, "Preparative Study and Characterization of the *Cis*-Diamminetetracobaltate(III) Ion—A Missing Link in the Ammine-Nitro Cobalt(III) Series," *Proc. Jpn. Acad.* **73B**, 161 (1997).
- M. KOJIMA and Y. YOSHIKAWA**, "Chromatographic Separation and Characterization of the Photoproduct of Tris-(L-cysteinesulfinato-*N,S*)cobaltate(III)," *J. Chromatogr. A* **789**, 273 (1997).
- M. KOJIMA, A. SAKURAI, M. MURATA, K. NAKAJIMA, S. KASHINO and Y. YOSHIKAWA**, "Stereochemistry of (*R*)-2-Methylaziridine Complexes of Cobalt(III) and Dimerization of the Ligand," *J. Coord. Chem.* **42**, 95 (1997).
- Y. KURODA, K. YAGI, Y. YOSHIKAWA, R. KUMASHIRO and M. NAGAO**, "Development of a Site-Selective Copper-Ion-Exchanging Method for HZSM-5 by Vapourization of a Hexafluoroacetylacetone-Copper Complex," *Chem. Comm.* 2241 (1997).
- M. MURATA, M. KOJIMA, M. KITA, S. KASHINO and Y. YOSHIKAWA**, "A Stable Sulfonato-Cobalt(III) Complex: -[Co{OS(O)₂CH₂CH₂NH₂-*N,O*}₂](ClO₄)₂," *Acta Cryst.* **C53**, 1761 (1997).
- S. AZUMA, M. KOJIMA and Y. YOSHIKAWA**, "Stereochemistry of Six-Coordinated Octahedral Silicon(IV) Complexes V. Racemization and Geometrical Isomerization of Tris(hinokitiolato)silicon(IV)," *Inorg. Chim. Acta* **271**, 24 (1997).
- Y. NAKANO, T. KAWAGUCHI and Y. YOSHIKAWA**, "Complete Chromatographic Resolution of Axially Chiral -Diketonate Complexes on Cellulofine C-200," *J. Coord. Chem.* **43**, 219 (1998).
- H.-L. LIU, Y. OHMORI, M. KOJIMA and Y. YOSHIKAWA**, "Stereochemistry of Six-Coordinated Octahedral Silicon(IV) Complexes Containing 2,2'-Bipyridine," *J. Coord. Chem.* **44**, 257 (1998).
- K. TANAKA, Y. KUSHI, K. TSUGE, K. TOYOHARA, T. NISHIOKA and K. ISOBE**, "Catalytic Generation of Oxalate through Activation of Two CO₂ Molecules on [(IrCp*)₂(Ir-⁴-Cp*CH₂CN)(μ₃-S)₂]," *Inorg. Chem.* **37**, 120 (1998).
- M. M. ALI, H. SATO, T. MIZUKAWA, K. TSUGE, M. HAGA and K. TANAKA**, "Selective formation of HCOO⁻ and C₂O₄²⁻ in Electrochemical Reduction of CO₂ Catalyzed by Mono- and Dinuclear Ruthenium Complexes," *J. Chem. Soc., Chem. Commun.* 249 (1998).
- M. KURIHARA, S. DANIELE, K. TSUGE, H. SUGIMOTO and K. TANAKA**, "Synthesis and Characterization of Ruthenium Terpyridine Dioxolene Complexes: Resonance Equilibrium between Ru^{III}-catechol and Ru^{II}-semiquinone Forms," *Bull. Chem. Soc. Jap.* **71**, 867 (1998).
- H. SUGIMOTO, K. TSUGE and K. TANAKA**, "Novel Intramolecular Rearrangement of Hepta-Coordiante Rhodium(V) Complex with Catecholato and Terpyridine Ligands," *Chem. Lett.* 719 (1998).
- H. NAKAJIMA, K. TSUGE, K. TOYOHARA and K. TANAKA**, "Stabilization of [Ru(bpy)₂(CO)(¹-CO₂)] and unprecedented reversible oxide transfer reactions from CO₃²⁻ to [Ru(bpy)₂(CO)₂]²⁺ and from [Ru(bpy)₂(CO)(¹-CO₂)] to CO₂," *J. Organometallic Chem.* **569**, 61-69 (1998).
- K. TSUGE and K. TANAKA**, "First Artificial Energy Conversion from Proton Gradient to Electricity," *Chem. Lett.* 1069 (1998).
- M. FUJITA, O. SASAKI, K. WATANABE, K. OGURA and K. YAMAGUCHI**, "Self-assembled Molecular Ladders," *New. J. Chem.* 189 (1998).
- M. FUJITA, M. AOYAGI, F. IBUKURO, K. OGURA and K. YAMAGUCHI**, "Made-to-Order Assembling of [2] Catenanes from Palladium(II)-Linked Rectangular Molecular Boxes," *J. Am. Chem. Soc.* **120**, 611 (1998).
- M. FUJITA, S.-Y. YU, T. KUSUKAWA, H. FUNAKI, K. OGURA and K. YAMAGUCHI**, "Nanometer-sized Macrotricyclic Complexes Self-assembled from Ten Small Component Molecules," *Angew. Chem., Int. Ed. Engl.* **37**, 2082 (1998).
- M. FUJITA, M. AOYAGI and K. OGURA**, "Coordination Polymers Self-Assembling from Cadmium (II) Ions

- and Flexible Pyridine-Based Bridging Ligands," *Bull. Chem. Soc. Jpn.* **71**, 1799 (1998).
- F. IBUKURO, T. KUSUKAWA and M. FUJITA**, "A Thermally Switchable Molecular Lock. The Guest-Templated Synthesis of a Kinetically Stable Nano-Sized Cage," *J. Am. Chem. Soc.* **120**, 8561 (1998).
- T SUZUKI, H KATAYANAGI, S NANBU and M AOYAGI**, "Nonadiabatic bending dissociation in 16 valence electron system OCS," *J. Chem. Phys.* **109**, 6838 (1998).
- T. KODAMA, M. KATO, K. MOGI, M. AOYAGI and T. KATO**, "ESR measurements of C₆₀- anion crystals," *Mol. Phys. Report* **18/19**, 121 (1997).
- S. SATO, K. IKEDA and K. KIMURA**, "ZEKE Photoelectron Spectroscopy and Ab Initio Force-Field Calculation of 1,2,4,5-Tetrafluorobenzene," *J. Electron Spectrosc.* **88-91**, 137 (1998).
- H. INOUE, S. SATO and K. KIMURA**, "Observation of van der Waals Vibrations in Zero Kinetic Energy (ZEKE) Photoelectron Spectra of Toluene-Ar van der Waals Complex," *J. Electron Spectrosc.* **88-91**, 125 (1998).
- H. SHINOHARA, S. SATO, K. YOSHIHARA and K. KIMURA**, "Zero Kinetic Energy (ZEKE) Photoelectron Study of the Benzene-N₂ and Fluorobenzene-N₂ van der Waals Complexes," *J. Electron Spectrosc.* **88-91**, 131 (1998).
- N. SARUKURA, Z. LIU, H. OHTAKE, Y. SEGAWA, M. A. DUBINSKII, R. Y. ABDULSABIROV, S. L. KORABLEVA, A. K. NAUMOV and V. V. SEMASHKO**, "Ultraviolet short pulses from an all-solid-state Ce:LiCAF master oscillator and power amplifier system," *Opt. Lett.* **22**, 994 (1997).
- R. KOMATSU, T. SUGAWARA, K. SASSA, N. SARUKURA, Z. LIU, S. IZUMIDA, Y. SEGAWA, S. UDA, T. FUKUDA and K. YAMANOUCHI**, "Growth and ultraviolet application of Li₂B₄O₇ crystals: generation of the fourth harmonic and fifth harmonics of Nd:Y₃A₁₅O₁₂ lasers," *Appl. Phys. Lett.* **70**, 3492 (1997).
- N. SARUKURA, Z. LIU, H. OHTAKE, S. IZUMIDA, T. YAMANAKA, Y. SEGAWA, T. ITATANI, T. SUGAYA, T. NAKAGAWA and Y. SUGIYAMA**, "All-Solid-State, THz Radiation Source Using a Saturable Bragg Reflector in a Femtosecond Mode-Locked Laser," *Jpn. J. Appl. Phys.* **36**, 560 (1997).
- Z. LIU, H. OHTAKE, N. SARUKURA, M. A. DUBINSKII, R. Y. ABDULSABIROV, S. L. KORABLEVA, A. K. NAUMOV and V. V. SEMASHKO**, "Subnanosecond tunable ultraviolet pulse generation from a low-Q, short-cavity Ce:LiCAF laser," *Jpn. J. Appl. Phys.* **36**, L1384 (1997).
- S. CHICHIBU, T. AZUHATA, T. SOTA and S. NAKAMURA**, "Luminescences from localized states in InGaN epilayers," *Appl. Phys. Lett.* **70**, 2822 (1997).
- S. CHICHIBU, T. MIZUTANI, T. SHIODA, H. NAKANISHI, T. DEGUCHI, T. AZUHATA, T. SOTA and S. NAKAMURA**, "Urbach-Martienssen tails in a wurtzite GaN epilayer," *Appl. Phys. Lett.* **70**, 3440 (1997).
- N. SARUKURA, Z. LIU, H. OHTAKE, S. IZUMIDA, T. YAMANAKA, Y. SEGAWA, T. ITATANI, T. SUGAYA, T. NAKAGAWA and Y. SUGIYAMA**, "All-solid-state, THz radiation source using a saturable Bragg reflector in a mode-locked laser," *OSA TOPS Vol. 13 Ultrafast Electronics and Optoelectronics* 241 (1997).
- N. SARUKURA, Z. LIU, H. OHTAKE, S. IZUMIDA, T. YAMANAKA, Y. SEGAWA, T. ITATANI, T. SUGAYA, T. NAKAGAWA and Y. SUGIYAMA**, "All-solid-state, short pulse, far-infrared source using a saturable Bragg reflector in a femtosecond mode-locked laser," *OSA TOPS Vol. 10 Advanced Solid-State Lasers* 347 (1997).
- Z. LIU, N. SARUKURA, H. OHTAKE, S. IZUMIDA, Y. SEGAWA, M. A. DUBINSKII, R. Y. ABDULSABIROV, S. L. KORABLEVA, A. K. NAUMOV and V. V. SEMASHKO**, "14-mJ, 1-nsec, 289-nm pulses from an all-solid-state Ce:LiCAF master oscillator and power amplifier system," *OSA TOPS Vol. 10 Advanced Solid-State Lasers* 24 (1997).
- T. TAIRA, W. M. TULLOCH and R. L. BYER**, "Modeling of quasi-three-level lasers and operation of CW Yb:YAG lasers," *Appl. Opt.* **36**, 1867 (1997).
- T. TAIRA, J. SAIKAWA, T. KOBAYASHI and R. L. BYER**, "Diode-pumped tunable Yb:YAG laser at room temperature: Modeling and experiment," *IEEE Journal of Selected Topics in Quantum Electronics* **3**, 100 (1997).
- T. ITO, T. TAIRA and T. KOBAYASHI**, "Q-switching and mode selection of coupled-cavity Er,Yb:Glass lasers," *Jpn. J. Appl. Phys.* **36**, L206 (1997).
- T. TAIRA, J. SAIKAWA, M. OHTAKA, T. KOBAYASHI and R. L. BYER**, "Modeling of end-pumped quasi-three-level lasers by using a M² factor and cw operation of tunable Yb:YAG miniature lasers," *OSA TOPS Vol. 10 Advanced Solid-State Lasers* 189 (1997).
- Y. YAMASHITA, K. ONO, M. TOMURA and K. IMAEDA**, "Synthesis and Characterization on New Electron Donors Containing 1,2,5-Thiadiazole and 1,1'-dihydro-4,4'-bi(pyridylidene) Units," *Chem. Commun.* 1851 (1997).
- K. ONO, A. ADACHI, K. OKITA, M. GOTO and Y. YAMASHITA**, "Terphenyl and Poly(*p*-phenylene) Derivatives Containing Fused 1,2,5-Thiadiazole Units," *Chem. Lett.* 545 (1998).
- K. SUZUKI, M. TOMURA and Y. YAMASHITA**, "New Electron Acceptors Containing Thieno[3,4-b]pyrazine Units," *J. Mater. Chem.* **8**, 1117 (1998).
- H. FUJII, T. YOSHIMURA and H. KAMADA**, "Imidazole and p-Nitrophenolate Complexes of Oxo Iron(IV) Porphyrin -Cation Radical as Models for Compounds I of Peroxidases and Catalases," *Inorg. Chem.* **36**, 6142 (1997).
- C. T. MIGITA, K. M. MATERA, M. IKEDA-SAITO, J. S. OLSON, H. FUJII, T. YOSHIMURA, H. ZHOU and T. YOSHIDA**, "The Oxygen and Carbon Monoxide Reactions of Heme Oxygenase," *J. Biol. Chem.* **273**, 945 (1998).
- K. ISHIKAWA, K. M. MATERA, H. ZHOU, H. FUJII, M. SATO, T. YOSHIMURA, M. IKEDA-SAITO and T. YOSHIDA**, "Identification that Histidine 45 is the Axial Heme Iron Ligand of Heme Oxygenase-2," *J. Biol.*

Chem. **273**, 4317 (1998).

- M. NAKAMURA, T. IKEUE, H. FUJII, T. YOSHIMURA and K. TAJIMA**, "Electron Configuration and Spin Distribution in Low-Spin (meso-Tetraalkylporphyrinate)iron(III) Complexes Carrying One or Two Orientaionally Fixed Imidazole Ligands," *Inorg. Chem.* **37**, 2405 (1998).
- S. IMAI, K. FUJISAWA, T. KOBAYASHI, N. SHIRASAWA, H. FUJII, T. YOSHIMURA, N. KITAJIMA and Y. MORO-OKA**, "⁶³Cu-NMR Study of Copper(I)-Carbonyl Complexes with Various Hydrotris(pyrazolyl)-borates: Correlation between ⁶³Cu Chemical Shifts and CO Stretching Vibrations," *Inorg. Chem.* **37**, 3066 (1998).
- E. C. WILKINSON, Y. DONG, Y. ZANG, H. FUJII, R. FRACZKIEWICZ, G. FRACZKIWCZ, R. S. CZERNUSZEWCZ and L. QUE, JR.**, "Raman Signature of the Fe₂O₂ "Diamond" Core," *J. Am. Chem. Soc.* **120**, 955 (1998).
- H. FUJII, Y. DOU, H. ZHOU, T. YOSHIDA and M. IKEDA-SAITO**, "Cobalt Porphyrin Heme Oxygenase Complex. EPR Evidences for the Distal Heme Pocket Hydrogen Bonding," *J. Am. Chem. Soc.* **120**, 8251 (1998).
- S. BANDOW, A. M. RAO, K. A. WILLIAMS, A. THESS, R. E. SMALLEY and P. C. EKLUND**, "Purification of Single Wall Carbon Nanotubes by Microfiltration," *J. Phys. Chem. B* **101**, 8839 (1997).
- S. BANDOW**, "Radial Thermal Expansion of Purified Multiwall Carbon Nanotubes Measured by X-ray Diffraction," *Jpn. J. Appl. Phys.* **36**, L1403 (1997).
- S. BANDOW, S. ASAKA, Y. SAITO, A. M. RAO, L. GRIGORIAN, E. RICHTER and P. C. EKLUND**, "Effect of the Growth Temperature on the Diameter Distribution and Chirality of Single Wall Carbon Nanotubes," *Phys. Rev. Lett.* **80**, 3779 (1998).
- S. BANDOW, S. ASAKA, X. ZHAO and Y. ANDO**, "Purification and Magnetic Properties of Carbon Nanotubes," *Appl. Phys. A* **67**, 23 (1998).
- D. KUWAHARA, T. NAKAI and S. MIYAJIMA**, "Two-dimensional NMR measurements of heteronuclear dipolar powder spectra using the chemical-shift-anisotropy recovery technique," *Chem. Phys. Lett.* **291**, 244 (1998).
- O. ARIMOTO, S. FUJIWARA, T. TSUJIBAYASHI, M. WATANABE, M. ITOH, S. NAKANISHI, H. ITOH, S. ASAKA and M. KAMADA**, "Combination of Synchrotron Radiation and Laser for Two-Photon Spectroscopy of BaF₂," *J. Electron Spectrosc. Relat. Phenom.* **92**, 219 (1998).
- M. KAMADA, S. HIROSE, S. ASAKA, T. TSUJIBAYASHI, M. WATANABE, O. ARIMOTO, S. FUJIWARA, H. ITOH, S. NAKANISHI and M. ITOH**, "Combined System of SR and Laser for Solid-State Researches," *J. Synchrotron Radiation* **5**, 1035 (1998).
- S. ASAKA, S. NAKANISHI, H. ITOH, M. KAMADA, M. WATANABE, O. ARIMOTO, S. FUJIWARA, T. TSUJIBAYASHI and M. ITOH**, "Time-Gated Photon Counting Method for Two-Photon Spectroscopy Using Synchrotron Radiation and Laser," *Rev. Sci. Instrum.* **69**, 1931 (1998).
- S. BANDOW, S. ASAKA, Y. SAITO, A. M. RAO, L. GRIGORIAN, E. RICHTER and P. C. EKLUND**, "Effect of the Growth Temperature on Diameter Distribution and Chirality of Single-Wall Carbon Nanotubes," *Phys. Rev. Lett.* **80**, 3779 (1998).
- S. BANDOW, S. ASAKA, X. ZHAO and Y. ANDO**, "Purification and Magnetic Properties of Carbon Nanotubes," *Appl. Phys. A* **67**, 23 (1998).
- M. A. TEREKHIN, N. YU. SVECHNIKOV, S. TANAKA, S. HIROSE and M. KAMA**, "High-density effects due to interaction of self-trapped exciton with (Ba,5p) core hole in BaF₂ at low temperature," *Low Temp. Phys.* **23**, 349 (1997).
- I. AKIMOTO, K. KAN'NO, M. SHIRAI, F. OKINO, H. TOUHARA, M. KAMADA and V. G. STANKEVITCH**, "Photoluminescence from fluorinated fullerene C₆₀F_x (x < 48) thin films," *J. Luminescence* **72**, 503 (1997).
- M. ITOH, M. KAMADA and N. OHNO**, "Temperature Dependence of Auger-Free Luminescence in Alkali and Alkaline-Earth Halides," *J. Phys. Soc. Jpn.* **66**, 2502 (1997).
- E. FELDBACH, M. KAMADA, M. KIRM, A. LUSHCHIK, CH. LUSHCHIK and I. MARTINSON**, "Direct excitation of Tl⁺ impurity ions by hot photoelectrons in wide-gap crystals," *Phys. Rev. B* **56**, 13908 (1997).
- M. KAMADA and S. HIROSE**, "Laser-Induced Fluorescence Study of Fast Desorption of Ground-State K Atoms from Potassium Halides Excited by Synchrotron Radiation," *Surface Science* **390**, 194 (1997).
- S. TANAKA, K. MASE, M. NAGASONO and M. KAMADA**, "Desorption of H ions from water chemisorbed on Si(100) by O 1s excitation - an Auger electron-photoion coincidence spectroscopy study," *Surface Science* **390**, 204 (1997).
- S. ASAка, S. NAKANISHI, H. ITOH, M. KAMADA, M. WATANABE, O. ARIMOTO, S. FUJIWARA, T. TSUJIBAYASHI and M. ITOH**, "Time-gated photon counting method for two-photon spectroscopy using synchrotron radiation and laser," *Rev. Sci. Instrum.* **69**, 1931 (1998).
- M. ITOH, T. SHIOKAWA, K. SAWADA and M. KAMADA**, "Ultraviolet Photoemission Studies of Valence Bands in Lead Halides," *J. Phys. Soc. Jpn.* **67**, 2140 (1998).
- S. HIROSE and M. KAMADA**, "Time and Temperature Dependence of Photo-Stimulated Desorption of Alkali Atoms from Alkali Halides," *J. Electron Spectroscopy and Related Phenomena* **92**, 109 (1998).
- S. TANAKA, M. MASE, M. NAGASONO and M. KAMADA**, "Study of ion desorption induced by the core-level excitation on the CaF₂(111) surface," *J. Electron Spectroscopy and Related Phenomena* **92**, 119 (1998).
- O. ARIMOTO, S. FUJIWARA, T. TSUJIBAYASHI, M. WATANABE, M. ITOH, S. NAKANISHI, H. ITOH, S. ASAка and M. KAMADA**, "Combinational Use of Synchrotron Radiation and Laser for Two-Photon Spectroscopy of BaF₂," *J. Electron Spectroscopy and Related Phenomena* **72**, 219 (1998).

- M. SAKURAI, H. OKAMOTO, M. WATANABE, T. NAMBA, S. KIMURA and M. KAMADA**, "Upgraded IR beamline at UVSOR," *J. Synchrotron Radiation* **5**, 578 (1998).
- M. KAMADA, H. HAMA, T. KINOSHITA and N. KOSUGI**, "Present status of the UVSOR facility -1997-", *J. Synchrotron Radiation* **5**, 1166 (1998).
- M. KAMADA, M. HASUMOTO, N. MIZUTANI, T. HORIGOME, S. KIMURA, S. TANAKA, K. FUKUI and K. SAKAI**, "Construction and performance test of SGM-TRAIN at UVSOR," *J. Synchrotron Radiation* **5**, 766 (1998).
- S. NAKANISHI, H. ITOH, T. FUJI, T. KASHIWAGI, N. TSURUMACHI, M. FURUICHI, H. NAKATSUKA and M. KAMADA**, "Application of SR to ultrafast spectroscopy," *J. Synchrotron Radiation* **5**, 1072 (1998).
- M. KAMADA, S. HIROSE, S. ASAока, T. TSUJIBAYASHI, M. WATANABE, O. ARIMOTO, S. FUJIWARA, H. ITOH, S. NAKANISHI and M. ITOH**, "Combined systems of SR and Laser for solid-state researches," *J. Synchrotron Radiation* **5**, 1035 (1998).
- S. KIMURA, M. KAMADA, H. HAMA, K. KIMURA, M. HOSAKA, J. YAMAZAKI, X. MARECHAL, T. TANAKA and H. KITAMURA**, "Performance of a helical undulator of UVSOR," *J. Synchrotron Radiation* **5**, 453 (1998).
- S. TANAKA and M. KAMADA**, "Observation of the Surface States on the CuCl(100) Surface," *J. Electron Spectroscopy and Related Phenomena* **88-91**, 689 (1998).
- M. KAMADA, Y. Q. CAI, N. TAKAHASHI, S. TANAKA and D. A. WOOLF**, "Circular Dichroism in Angular Distribution of Core-Level Photoelectrons from GaAs(111)," *J. Electron Spectroscopy and Related Phenomena* **88-91**, 219 (1998).
- J. YOSHINOBU, M. KAWAI, S. TANAKA, K. WATANABE, Y. MATSUMOTO and M. KAMADA**, "Electronic Structure in the Valence Region of Chemisorbed and Physisorbed Species on Pd(110)," *J. Electron Spectroscopy and Related Phenomena* **88-91**, 665 (1998).
- M. KAMADA, S. FUJIWARA, O. ARIMOTO, Y. FUJII, and S. TANAKA**, "Simultaneous Measurements of Photoelectron and Luminescence of Barium Halides," *J. Electron Spectroscopy and Related Phenomena* **88-91**, 297 (1998).
- J. YOSHINOBU, M. KAWAI, I. IMAMURA, F. MARUMO, R. SUZUKI, H. OZAKI, M. AOKI, S. MASUDA, S. TANAKA, M. KAMADA and M. AIDA**, "Electronic Structure Near the Fermi Level and STM Images of the Pd(110)c(4×2)-Benzene Surface," *J. Electron Spectroscopy and Related Phenomena* **88-91**, 997 (1998).
- K. OZAWA, T. IWASAKI, K. EDAMOTO, S. TANAKA and S. OTANI**, "Na adsorption process on a ZrC(100) surface," *Appl. Surf. Sci.* **121/122**, 142 (1997).
- K. MASE, M. NAGASONO, S. TANAKA, T. URISU, E. IKENAGA, T. SEKITANI and K. TANAKA**, "Study of ion desorption induced by a resonant core-level excitation of H₂O by using Auger electron photo-ioncoincidence (AEPICO) spectroscopy combined with synchrotron radiation," *Surf. Sci.* **390**, 97 (1997).
- M. NAGASONO, K. MASE, S. TANAKA and T. URISU**, "Study of ion desorption induced by resonantcore-level excitations of condensed NH₃ by using Auger electron-photoion coincidence (AEPICO) spectroscopy combined with synchrotron radiation," *Surf. Sci.* **390**, 102 (1997).
- T. SEKITANI, E. IKENAGA, K. TANAKA, K. MASE, M. NAGASONO, S. TANAKA and T. URISU**, "Auger electron-ion coincidence study of photon stimulated ion desorption for condensed acetonitrile," *Surf. Sci.* **390**, 107 (1997).
- S. NAGAOKA, K. MASE, M. NAGASONO, S. TANAKA, T. URISU and J. OHSHIMA**, "Site-specific fragmentation following Si:2p core-level photoionization of F₂SiCH₂Si(CH₃)₃ condensed on Au surface," *J. Chem. Phys.* **107**, 10751 (1997).
- K. MASE, M. NAGASONO, S. TANAKA, T. URISU, E. IKENAGA, T. SEKITANI and K. TANAKA**, "Ion desorption mechanism in the region of resonant transitions of condensed H₂O studied by Auger electron photoion coincidence (AEPICO) spectroscopy," *J. Chem. Phys.* **108**, 6550 (1998).
- T. SEKITANI, E. IKENAGA, H. MATSUO, S. TANAKA, K. MASE and K. TANAKA**, "Photon stimulated ion desorption of condensed acetonitrile molecules induced by core excitation," *J. Electron Spectrosc. Related Phenom.* **88-91**, 831 (1998).
- I. SHIMOYAMA, T. MOCHIDA, Y. OTSUKI, H. HORIUCHI, S. SAIJYO, K. NAKAGAWA, M. NAGASONO, S. TANAKA and K. MASE**, "Fundamental processes of radiation damage of benzene solid studied by Auger electron photoion coincidence spectroscopy," *J. Electron Spectrosc. Related Phenom.* **88-91**, 793 (1998).
- T. NODA, T. NAKANAE, K. OZAWA, K. EDAMOTO, S. TANAKA and S. OTANI**, "Photoemission study of the oxidation of ZrC(111)," *Solid State. Commun.* **107**, 145 (1998).
- S. KIMURA, Y. UFUKTEPE, K. G. NATH, T. KINOSHITA, H. KUMIGASHIRA, T. TAKAHASHI, T. MATSUMURA, T. SUZUKI and H. OGASAWARA**, "4d-4f and 3d-4f resonant photoemission of TmX (X = S, Se, Te)," *J. Magn. Magn. Mater.* **177-181**, 349 (1998).
- K. G. NATH, Y. UFUKTEPE, S. KIMURA, T. KINOSHITA, H. KUMIGASHIRA, T. TAKAHASHI, T. MATSUMURA, T. SUZUKI, H. OGASAWARA and A. KOTANI**, "4d core level resonant photoemission spectroscopy of Tm Monochalcogenides around Tm 3d threshold," *J. Electron Spectrosc. Relat. Phenom.* **88-91**, 369 (1998).
- T. KINOSHITA, Y. UFUKTEPE, K. G. NATH, S. KIMURA, H. KUMIGASHIRA, T. TAKAHASHI, T.**

- MATSUMURA, T. SUZUKI, H. OGASAWARA and A. KOTANI,** "Resonant photoemission studies of thulium monochalcogenides around the Tm 3d threshold," *J. Electron Spectrosc. Relat. Phenom.* **88-91**, 377 (1998).
- T. KINOSHITA, K. G. NATH, M. WATANABE, S. YAGI, S. KIMURA and A. FANELSA,** "Photoelectron Spectromicroscopy Experiments at the UVSOR facility," *J. Electron Spectrosc. Relat. Phenom.* **92**, 165 (1998).
- Y. UFUKTEPE, S. KIMURA, T. KINOSHITA, K. G. NATH, H. KUMIGASHIRA, T. TAKAHASHI, T. MATSUMURA, T. SUZUKI, H. OGASAWARA and A. KOTANI,** "Resonant photoemission studies of thulium monochalcogenides around the Tm 4d threshold," *J. Phys. Soc. Jpn.* **67**, 2018 (1998).
- T. KINOSHITA, Y. TAKATA, T. MATSUKAWA, H. ARITANI, S. MATSUO, T. YAMAMOTO, T. TAKAHASHI, H. YOSHIDA, T. YOSHIDA, K. G. NATH, Y. UFUKTEPE, S. KIMURA and Y. KITAJIMA,** "Performance of YB_{66} soft x-ray monochromator crystal at the wiggler beamline of the UVSOR facility," *J. Synchrotron Radiation* **5**, 726 (1998).
- K. FUKUI, H. NALAGAWA, I. SHIMOYAMA, K. NAKAGAWA, H. OKAMURA, T. NANBA, M. HASUMOTO and T. KINOSHITA,** "Reconstruction of BL7B for UV, VIS and IR spectroscopy with a 3m normal incidence monochromator," *J. Synchrotron Radiation* **5**, 836 (1998).
- T. GEJO, K. OKADA and T. IBUKI,** "Photoabsorption Spectrum of Ozone in the K-edge Region," *Chem. Phys. Letters* **277**, 497 (1997).