

Theoretical and Computational Molecular Science

K. NOBUSADA, “Near-Field Excitation Dynamics in Molecules: Nonuniform Light-Matter Interaction Theory Beyond a Dipole Approximation,” in *Progress in Nanophotonics 2*, M. Ohtsu, Ed., Springer-Verlag; Berlin Heidelberg, Chapter 1 (2013).

T. TANAKA, A. YAMADA and M. EHARA, “Elements Strategy Project: Prospect of Catalysts and Batteries,” *Bunseki*, **No. 5**, pp. 46–50 (2013). (in Japanese)

H. OKUMURA, “All-Atom Multibaric-Multithermal Molecular Dynamics Simulations of Proteins,” in *Bioscience and Materials Research: Molecular Dynamics and Related Techniques*, K. Kholmurodov, Ed., Nova Science; New York, pp. 56–68 (2012).

T. ISHIDA, “The Dynamical Properties on Ionic Liquids: Insights from Molecular Dynamics Study,” in *Ionic Liquids—New Aspects for the Future*, J. Kadokawa, Ed., InTech; Rijeka, Croatia, pp. 3–29 (2013).

Photo-Molecular Science

G. HARTLAND, H. OKAMOTO, M. ORRIT and P. ZIJLSTRA, “Optical Studies of Single Metal Nanoparticles (editorial preface to the themed issue),” *Phys. Chem. Chem. Phys.* **15**, 4090–4092 (2013).

H. OKAMOTO, “Nanooptical Studies on Physical and Chemical Characteristics of Noble Metal Nanostructures,” *Bull. Chem. Soc. Jpn.* **86**, 397–413 (2013).

H. OKAMOTO and K. IMURA, “Visualizing the Optical Field Structures in Metal Nanostructures,” *J. Phys. Chem. Lett.* **4**, 2230–2241 (2013).

Y. OHSHIMA, “Coherent Manipulation and Quantum-State Measurements of Molecular Rotation,” *Laser Researches* **40**(10), 752–758 (2012). (in Japanese)

Y. OHSHIMA, “Vibration and Rotation of Molecules,” “Light and Molecules,” in *Graduate-course lectures in physical chemistry (2nd Ed.)*, *I. Quantum chemistry and molecular spectroscopy*, K. Someda, Ed., Tokyo Kagaku Dojin (2013). (in Japanese)

T. TAIRA and J. SANGHERA, “Feature Issue Introduction: Advances in Optical Materials,” *Opt. Mater. Express* **2**, pp. 1171–1175 (2012).

T. TAIRA, “Promise of the Giant Pulse Microchip Lasers,” *JJSLM*, **33**, pp. 152–157 (2012). (in Japanese)

T. TAIRA and H. ISHIZUKI, “Field Poled Devices for Micro Solid-State Photonics,” *OPTRONICS*, **31**, pp. 110–114 (2012). (in Japanese)

T. TAIRA, “Laser Ignition,” *Rev. Laser Eng.*, **41**, p. 3 (2013). (in Japanese)

T. TAIRA, “Laser Ignition for Engines,” *OPTRONICS*, **32**, pp. 178–181 (2013). (in Japanese)

Y. SATO, J. AKIYAMA and T. TAIRA, “Fundamental Investigations in Orientation Control Process for Anisotropic Laser Ceramics,” *Phys. Status Solidi C* **10**, pp. 896–902 (2013). (Invited)

J. SAIKAWA, N. ISHIGAKI, S. UNO, T. HIROKI, K. TOJO, Y. IDO and T. TAIRA, “Development and Application of All Solid State DUV Pulse Laser,” *SHIMAZU REVIEW*, **69**, pp. 293–302 (2013). (in Japanese)

R. BHANDARI and T. TAIRA, “Megawatt Peak Power UV Microlaser,” *Proceedings of SPIE*, **8604**, 860405 (6 pages) (2013).

Materials Molecular Science

T. YOKOYAMA and K. EGUCHI, “Quantum Effect and Anharmonicity in an Invar Alloy Studied by EXAFS Spectroscopy,” *Photon Factory Activity Report Part A: Highlights and Facility Report 2011* pp. 32–33 (2012).

T. NAKAGAWA and T. YOKOYAMA, “Laser iInduced Threshold Photoemission and Its Application to Photoelectron Microscope,” *J. Electron Spectrosc. Relat. Phenom.* **185**, 356–364 (2012).

M. TADA, “Hard X-Ray Time-Resolved/Space-Resolved X-Ray Absorption Fine Structure Analysis for Heterogeneous Metal Catalysts,” *J. Phys. Soc. Jpn.* **82**, 021013 (8 pages) (2013).

M. HIRAMOTO and M. KUBO, “Organic Thin-Film Solar Cells,” in *Handbook of Solar Cell Technology*, NTS Publishing, **12**, 38–43 (2012). (in Japanese)

M. HIRAMOTO and T. KAJI, “Small Molecular Type Organic Solar Cells—Doping Technology—,” *Mirai Zairyo*, **12**, 38–43 (2012). (in Japanese)

M. HIRAMOTO and T. KAJI, “Organic Thin-Film Solar Cells,” in *Handbook of Solar Cell Technology*, Ohm Co. Ltd., **10.1–10.9** (2013). (in Japanese)

T. KAJI, “Method of Increase of Short-Circuit Photocurrent—Introduction of 3rd Co-Evaporant Molecule,” in *Handbook of Solar Cell Technology*, Ohm Co. Ltd., **10.10** (2013). (in Japanese)

M. HIRAMOTO, “Bandgap Science for Organic Solar Cells,” *Oyo Butsuri*, **82**, 480–486 (2013). (in Japanese)

M. HIRAMOTO and Y. SHINMURA, “pn-Homojunction Formation in Single Phthalocyanine Films,” *P plus E*, **35**, 413–417 (2013). (in Japanese)

M. HIRAMOTO, “Recent Developement of Solid-State Organic Solar Cells,” in *2013 Solar Cell Technology*, Electronic Journal, Chap. 2.1.5 (2013). (in Japanese)

M. HIRAMOTO, “Bandgap Science for Organic Solar Cells,” *Gekkan Display*, **19**, 55–61 (2013).

Y. XU, S. JIN, H. XU, A. NAGAI and D. JIANG, “Conjugated Microporous Polymers: Design, Synthesis and Application,” *Chem. Soc. Rev.* **42**, 8012–8031 (2013). (Cover Page)

T. ASAKURA, *Biotechnology of Silk*, T. Asakura and T. Miller, Eds., Springer, pp. 1–301 (2013).

T. ASAKURA, “Road to Development of New Materials from ‘Silk’ by Elucidation of Mysteries in ‘Spinning Mechanism’ and ‘Unique Structure’ of Silk,” *Healthist*, Yakult Honsya, Tokyo, **36**, pp.12–15 (2012). (in Japanese)

T. ASAKURA, “Silk Vascular Graft—Application of Fiber Technology—,” *Small and Medium-Sized Chamber of Commerce and Industry Journal*, Small and Medium-sized Chamber of Commerce and Industry; Tokyo, **112**, pp. 69–74 (2012).

T. ASAKURA, “Front Runner—Pioneer of Research—Development of Silk Vascular Graft,” *SQUET*, Mitsubishi UFJ Research and Consulting Co., Ltd.; Tokyo, **12**, pp. 27–29 (2012).

T. ASAKURA, “Research Lab. in Japan The 7th Development of Silk Vascular Graft on the Basis of Silk and Silkworm Research,” *Wisdom, Nikkei BP Consulting Magazine*, Nikkei Business Publications, Inc.; Tokyo (2012).

Life and Coordination-Complex Molecular Science

S. AONO, “The Dos Family of Globin-Related Sensors Using PAS Domains to Accommodate Haem Acting as the Active Site for Sensing External Signals,” *Adv. Microbial Physiol.* **63**, 273–327 (2013).

K. KATO and Y. YAMAGUCHI, “Glycoproteins and Antibodies: Solution NMR Studies,” *Encyclopedia of Magnetic Resonance*, **vol.3**, 1779–1790 (2012).

H. YAGI and K. KATO, “Roles of Carbohydrate Moieties in Complex Formation between IgG-Fc and Fc γ Receptor,” *Jikkenigaku*, **31**, 1602–1606 (2013). (in Japanese)

Y. UOZUMI, “C–C Bond-Forming Reactions via the Heck Reaction,” in *Comprehensive Chirality*, E. M. Carreira and H. Yamamoto, Eds., Elsevier Ltd., **Vol. 4**, pp. 2–17 (2012).

Y. UOZUMI, “C–C Bond-Forming Reactions via Cross-Coupling,” in *Comprehensive Chirality*, E. M. Carreira and H. Yamamoto, Eds., Elsevier Ltd., **Vol. 4**, pp. 18–32 (2012).

M. OKAMURA and S. MASAOKA, “A Metal-Complex Catalyst Bearing Proton Coupled Electron Transfer Sites for Multi-Electron Transfer Reactions,” *Petrotech*, **36**, 613–617 (2013). (in Japanese)

M. KONDO and S. MASAOKA, “Development of Metal Complex-based Oxygen Evolving Catalyst toward Artificial Photosynthesis,” in *Artificial Photosynthesis, New Technology for Practical Applications*, Johokiko, Co., Ltd.; Tokyo, 84–94 (2013). (in Japanese)

M. YOSHIDA and S. MASAOKA, “Cerium(IV) in an Acidic Solution: A ‘Non-Innocent’ Oxidant,” in *Cerium: Molecular Structure, Technological Applications and Health Effects*, A. Izyumov and G. Plaksin, Eds., Nova Science Publishers, Inc.; New York, pp. 177–185. (2013).

S. MASAOKA, “Water Oxidation Complex Catalysts for Artificial Photosynthesis,” *Kagaku Kogyo*, **63**, 646–652 (2012). (in Japanese)

M. YOSHIDA and S. MASAOKA, “Artificial Photosynthesis by Metal Complexes: New Developments in Oxygen Evolving Reactions Catalyzed by Metal Complex Catalysts,” *Gekkann Kagaku*, **67(6)**, 12–16 (2012). (in Japanese)

H. SASAI, “Direct C–C Bond Formation (Henry, Aza-Henry),” in *Comprehensive Chirality*, E. M. Carreira and H. Yamamoto, Eds., Elsevier B. V.; Amsterdam, **4**, pp. 214–242 (2012).

H. SASAI and S. TAKIZAWA, “C–C Bond Formation: (aza) Morita-Baylis-Hillman Reaction,” in *Comprehensive Chirality*, E. M. Carreira and H. Yamamoto, Eds., Elsevier B. V.; Amsterdam, **6**, pp. 234–263 (2012).

Research Center of Integrative Molecular Systems

Y. SHIKANO, “Special Issue on Quantum Walks,” *Quant. Inf. Proc.* **11**, 1013–1014 (2012).

Y. SHIKANO, E. SEGAWA, A. PEREZ and J. WANG, “A Special Issue on Theoretical and Mathematical Aspects of Discrete Time Quantum Walks,” *J. Comput. Theor. Nanosci.* **10**, 1555–1556 (2013).

Y. SHIKANO, “From Discrete Time Quantum Walk to Continuous Time Quantum Walk in Limit Distribution,” *J. Comput. Theor. Nanosci.* **10**, 1558–1570 (2013).

S. HIGASHIBAYASHI, “Synthesis of ‘Bowl-Shaped Molecule’ Consisting of Carbon and Nitrogen,” *Ceramics*, **47**, 806 (2012). (in Japanese)

H. SAKURAI, “Construction of Carbon π -Space by Organic Synthesis,” in *Emergence of Highly Elaborated π -Space and Its Function*, T. Akasaka, A. Osuka, S. Fukuzumi and H. Kandori, Eds., CMC Press, pp. 40–43 (2013). (in Japanese)

H. SAKURAI and S. HIGASHIBAYASHI, “Synthetic Chemistry Leading π -Electron Science,” in *CSJ Current Review 12*, T. Akasaka, N. Iwasawa, S. Yamaguchi and H. Isobe, Eds., Kagaku Dojin pp. 46–53 (2013). (in Japanese)