

Theoretical and Computational Molecular Science

M. EHARA, “Theoretical Study of Nanocluster Catalysts: Alloy Effect and Metal-Support Interaction,” *Catalysts and Catalysis* **60**, 158–164 (2018). (in Japanese)

H. OKUMURA, M. HIGASHI, Y. YOSHIDA, H. SATO and R. AKIYAMA, “Theoretical Approaches for Dynamical Ordering of Biomolecular Systems,” *Biochim. Biophys. Acta, Gen. Subj.* **1862**, 212–228 (2018).

S. ITO, T. NAGAMI and M. NAKANO, “Molecular Design for Efficient Singlet Fission,” *J. Photochem. Photobiol., C* **34**, 85–120 (2018).

M. NAKANO, “Electronic Structure of Open-Shell Singlet Molecules: Diradical Character Viewpoint,” in *Physical Organic Chemistry of Quinodimethanes*, Y. Tobe and T. Kubo, Eds., Topics in Current Chemistry Collections, Springer International Publishing, Chapter 1, pp. 1–67 (2018). ISBN: 978-3-319-93301-6

Photo-Molecular Science

H. KATSUKI, N. TAKEI, C. SOMMER and K. OHMORI, “Ultrafast Coherent Control of Condensed Matter with Attosecond Precision,” *Acc. Chem. Res.* **51**, 1174–1184 (2018).

K. OHMORI, G. PUPILLO, J. THYWISSEN and M. WEIDEMÜLLER, “EDITORIAL: Special Issue on Addressing Many-Body Problems with Cold Atoms and Molecules,” *J. Phys. B: At., Mol. Opt. Phys.* **51**, 020201 (4 pages) (2018).

N. TAKEI, C. SOMMER, C. GENES, G. PUPILLO, H. GOTO, K. KOYASU, H. CHIBA, M. WEIDEMÜLLER and K. OHMORI, “Ultrafast Quantum Simulator,” 2Physics (invited article), <http://www.2physics.com/2017/03/ultrafast-quantum-simulator.html>, March 2017.

M. NAGASAKA and N. KOSUGI, “Local Structures of Aqueous Solutions Studied by Soft X-Ray Absorption Spectroscopy,” *J. Spectrosc. Soc. Jpn.* **67**(1), 2–12 (2018). (in Japanese)

M. NAGASAKA, “Operando Observation of Liquid and Liquid–Liquid Interface by Soft X-Ray Absorption Spectroscopy,” *Mol. Sci.* **12**(1), A0096 (12 pages) (2018). (in Japanese)

S. KERA, T. HOSOKAI and S. DUHM, “Characteristics of Organic–Metal Interaction: A Perspective from Bonding Distance to Orbital Delocalization,” *J. Phys. Soc. Jpn.* **87**, 061008 (7 pages) (2018).

F. MATSUI, “Auger Electron Spectroscopy,” “Photoelectron Diffraction,” “Photoelectron Holography,” in *Compendium of Surface and Interface Analysis*, Springer, pp. 39–44, pp. 445–450, pp. 451–455 (2018). ISBN 978-981-10-6155-4

Materials Molecular Science

Y. TAKAGI, T. URUGA, M. TADA, Y. IWASAWA and T. YOKOYAMA, “Ambient Pressure Hard X-Ray Photoelectron Spectroscopy for Functional Material Systems as Fuel Cells under Working Conditions,” *Acc. Chem. Res.* **51**, 719–727 (2018).

T. YOKOYAMA, “Search, Synthesis and Development of Novel Functional Materials: Introduction to Nanotechnology Platform, Molecule and Material Synthesis,” *Metal Technol.* **88**, 3–4 (2018). (in Japanese)

T. YOKOYAMA, “Thin Film Magnetism Analysis Using Synchrotron Radiation Soft X-Ray Magnetic Circular Dichroism,” *Metal Technol.* **88**, 103–111 (2018). (in Japanese)

T. YOKOYAMA, “Theory of XAFS,” in *Fundamentals and Applications of XAFS*, Japanese XAFS Society (T. Ohta, K. Asakura, H. Abe, Y. Inada and T. Yokoyama), Eds., Kodan-sha; Tokyo, Chapter 2, Sections 1, 4 and 5, pp. 9–22, 56–69 (2017). (in Japanese)

M. HIRAMOTO, “Energetic and Nanostructural Design of Small-Molecular-Type Organic Solar Cells,” in *Advances in Chemical Physics*, S. A. Rice and A. R. Dinner, Eds., John Wiley & Sons, Inc., **Vol. 162**, pp. 137–204 (2017).

M. HIRAMOTO, “Dawn of Organic Single Crystal Electronics—Hall Effect in Doped Organic Single Crystals,” *Eng. Technol. Open Acc.* **1**(2), ETOAJ.MS.ID.555558, March (2018). [Invited Mini Review]

M. HIRAMOTO, “Single Crystal Organic Photovoltaic Cells,” *Adv. Civil. Eng. Tech.* **1**(2), ACET.000507 (2018). [Invited Mini Review]

R. KANNO, G. KOBAYASHI, K. SUZUKI, M. HIRAYAMA, D. MORI and K. TAMURA, “Synthesis and Structures of Novel Solid-State Electrolyte,” *Nanoinformatics* 279–298 (2018).

G. KOBAYASHI, “Development of Hydride Conductive Oxyhydrides,” *PETROTECH* **41**(2), 132–137 (2018). (in Japanese)

G. KOBAYASHI, “Development of H⁻ Conductor and the Application Possibility to Novel Energy Devices,” *OYO BUTURI* **86**(12), 1084–1087 (2017). (in Japanese)

G. KOBAYASHI, “Hydride Ion Conductive Oxyhydrides,” *Ceramics* **52**(12), 829–832 (2017). (in Japanese)

Life and Coordination-Complex Molecular Science

- S. AONO, "Signal Sensing by Transition Metal-containing Sensor Proteins," *Seikagaku* **90**, 290–296 (2018). (in Japanese)
- S. AONO, "Overview of Gas-sensing Systems," in *Gas Sensing in Cells*, S. Aono, Ed., RSC Publishing; Cambridge, Chapter 1, pp. 1–14 (2018).
- S. AONO, "Haem-Based Sensors of Carbon Monoxide," in *Gas Sensing in Cells*, S. Aono, Ed., RSC Publishing; Cambridge, Chapter 4, pp. 84–135 (2018).
- H. YAGI and K. KATO, "Functional Roles of Glycoconjugates in the Maintenance of Stemness and Differentiation Process of Neural Stem Cells," *Glycoconjugate J.* **34**, 757–763 (2017).
- T. IKEYA, D. BAN, D. LEE, Y. ITO, K. KATO and C. GRIESINGER, "Solution NMR Views of Dynamical Ordering of Biomacromolecules," *Biochim. Biophys. Acta, Gen. Subj.* **1862**, 287–306 (2018).
- K. MATSUZAKI, K. KATO and K. YANAGISAWA, "Ganglioside-Mediated Assembly of Amyloid β -Protein: Roles in Alzheimer's Disease," *Prog. Mol. Biol. Transl. Sci.* **156**, 413–434 (2018).
- K. KATO, S. YANAKA and H. YAGI, "Technical Basis for Nuclear Magnetic Resonance Approach for Glycoproteins," in *Experimental Approaches of NMR Spectroscopy*, The Nuclear Magnetic Resonance Society of Japan, Ed., Springer Nature; Singapore, pp. 415–438 (2018).
- K. KATO and T. SATOH, "Structural Insights on the Dynamics of Proteasome Formation," *Biophys. Rev.* **10**, 597–604 (2018).
- T. YAMAGUCHI and K. KATO, "Molecular Dynamics of Gangliosides," in *Gangliosides*, S. Sonnino and A. Prinetti, Eds., *Methods in Molecular Biology*, Humana Press; New York, **1804**, pp. 411–417 (2018).
- K. KATO, H. YAGI and T. YAMAGUCHI, "NMR Characterization of the Dynamic Conformations of Oligosaccharides," in *Modern Magnetic Resonance, 2nd Edition*, G. A. WEBB, Ed., Springer International Publishing, pp. 737–754 (2018).
- R. IINO, T. IIDA, A. NAKAMURA, E. SAITA, H. YOU and Y. SAKO, "Single-Molecule Imaging and Manipulation of Biomolecular Machines and Systems," *Biochim. Biophys. Acta, Gen. Subj.* **1862**, 241–252 (2018).
- R. IINO, S. SAKAKIHARA, Y. MATSUMOTO and K. NISHINO, "Large-Scale Femtoliter Droplet Array for Single Cell Efflux Assay of Bacteria," *Methods in Molecular Biology*, **1700**, 331–341 (2018).
- Y. FURUTANI, "Ion–protein Interactions of a Potassium Ion Channel Studied by Attenuated Total Reflection Fourier Transform Infrared Spectroscopy," *Biophys. Rev.* **10**, 235–239 (2018).
- A. FUKATSU, M. KONDO and S. MASAOKA, "Electrochemical Measurements of Molecular Compounds in Homogeneous Solution under Photoirradiation," *Coord. Chem. Rev.* **374**, 416–429 (2018).
- U. UETAKE and H. SAKURAI, "Bioisosteres for Accelerating the Pharmaceutical Sciences," *Kagaku* **73**, 68–69 (2018). (in Japanese)
- T. UCHIHASHI, "High-Speed Atomic Force Microscopy," in *Compendium of Surface and Interface Analysis*, The Surface Science Society of Japan, Ed., Springer, pp. 263–267 (2018).

Research Center of Integrative Molecular Systems

- H. M. YAMAMOTO, M. SUDA and Y. KAWASUGI, "Organic Phase-Transition Transistor with Strongly Correlated Electrons," *Jpn. J. Appl. Phys.* **57**, 03EA02 (7 pages) (2018).
- M. SUDA and H. M. YAMAMOTO, "Field-, Strain- and Light-Induced Superconductivity in Organic Strongly Correlated Electron Systems," *Phys. Chem. Chem. Phys.* **20**, 1321–1331 (2018).
- M. SUDA, "A New Photo-Control Method for Organic–Inorganic Interface Dipoles and Its Application to Photo-Controllable Molecular Devices," *Bull. Chem. Soc. Jpn.* **91**, 19–28 (2018).
- H. M. YAMAMOTO and M. SUDA, "Superconductivity Controlled by Light—Photo-Active Electric Double Layer Transistor," *Butsuri* **73(3)**, 143–147 (2018). (in Japanese)

Center for Mesoscopic Sciences

- H. OKAMOTO**, “Nanoscale Structures of Materials and Chirality of Optical Near-Field,” *Rev. Laser Eng.* **46**, 189–191 (2018). (in Japanese)
- C. CANALIAS, S. MIROV, T. TAIRA and B. BOULANGER**, “Feature Issue Introduction: Shaping and Patterning Crystals for Optics,” *Opt. Mater. Express* **7**, pp. 3466–3470 (2017). [*Opening Article*]
- T. TAIRA**, “Innovative Laser Ignition Systems,” *J. Combust. Soc. Jpn.* **59**, pp. 157–163 (2017). (in Japanese)
- N. JIKUTANI, K. IZUMIYA, M. NUMATA, Y. OHKURA, S. HARADA, N. ARAI, K. IKEDA, Y. SASAKI, K. HAGITA, T. IKEOH, M. TSUNEKANE, T. TAIRA and T. SUZUDO**, “High-Power VCSEL Modules for Laser Ignition System,” *J. Combust. Soc. Jpn.* **59**, pp. 164–171 (2017). (in Japanese)
- T. TAIRA**, “Over View,” *OPTRONICS* **36**, pp. 58–61 (2017). (in Japanese)
- T. TAIRA**, “Eye Safe Giant Pulse Microchip Laser,” *OPTRONICS* **36**, pp. 67–70 (2017). (in Japanese)
- T. TAIRA**, “100MW Peak Power Palm-Top Size Microchip Lasers,” *OPTRONICS* **37**, pp. 156–161 (2018). (in Japanese)
- T. TAIRA**, “High Power Lasers Toward Ubiquitous Applications—High-Power Giant-Pulse DFC Tiny Integrated Lasers—,” *J. Jpn. Laser Processing Soc.* **25**, pp. 1–5 (2018). (in Japanese)
- B. BOULANGER, S. JIANG, S. MIROV, J. NILSSON, A. PETERSEN, F. ROTERMUND, S. TACCHEO and T. TAIRA**, “Feature Issue Introduction: Advanced Solid-State Lasers 2017,” *Opt. Express* **26**, pp. 11018–11024 (2018). [*Opening Article*]
- B. BOULANGER, S. JIANG, S. MIROV, J. NILSSON, A. PETERSEN, F. ROTERMUND, S. TACCHEO and T. TAIRA**, “Feature Issue Introduction: Advanced Solid-State Lasers 2017,” *Opt. Mater. Express* **8**, pp. 1246–1252 (2018). [*Opening Article*]