

PUBLICATIONS

DIVISION OF SYNTHETIC CHEMISTRY

— Organoclement Chemistry —

Agou, T.; Ikeda, S.; Sasamori, T.; Tokitoh, N., Synthesis and Structure of Lewis-Base-Free Phosphinoalumane Derivatives, *Eur. J. Inorg. Chem.*, 623-627 (2016).

Sasamori, T.; Franco, J. M. V.; Guo, J.-D.; Sugamata, K.; Nagase, S.; Streubel, R.; Tokitoh, N., Selenium-Substituted Phosphaalkenes Obtained through 1,2-Elimination of Chlorosilanes from Selenenylchlorophosphines, *Eur. J. Inorg. Chem.*, 678-684 (2016).

Klein, M.; Schnakenburg, G.; Ferao, A. E.; Tokitoh, N.; Streubel, R., Reactions of Li/Cl Phosphinidenoid Complexes with 1,3,4,5-Tetramethylimidazol-2-ylidene: A New Route to *N*-Heterocyclic Carbene Adducts of Terminal Phosphinidene Complexes and an Unprecedented Transformation of an Oxaphosphirane Complex, *Eur. J. Inorg. Chem.*, 685-690 (2016).

Guo, J.-D.; Sasamori, T.; Yamamoto, Y.; Matsubara, H.; Nagase, S.; Yorimitsu, H., Computational Picture of Silyl Transfer from Silylsilatrane to Arylpalladium Chloride, *Bull. Chem. Soc. Jpn.*, **89**, 192-194 (2016).

Tokitoh, N.; Agou, T.; Wasano, T.; Sasamori, T., Synthesis and Properties of Stable Alumoles, *Phosphorus, Sulfur and Silicon and the Related Elements*, **191**, 584-587 (2016).

Agou, T.; Nagata, K.; Sasamori, T.; Tokitoh, N., Reactivities of a Barrelene-type Dialumane as an Equivalent of an Al=Al Doubly-bonded Species, *Phosphorus, Sulfur and Silicon and the Related Elements*, **191**, 588-590 (2016).

Suzuki, Y.; Sasamori, T.; Guo, J.-D.; Nagase, S.; Tokitoh, N., Isolation and Ambident Reactivity of a Chlorogermolenoid, *Chem. Eur. J.*, **22**, 13784-13788 (2016).

Yamaguchi, K.; Murai, T.; Guo, J.-D.; Sasamori, T.; Tokitoh, N., Acid-Responsive Absorption and Emission of 5-*N*-Arylaminothiazoles: Emission of White Light from a Single Fluorescent Dye and a Lewis Acid, *ChemistryOpen*, **5**, 434-438 (2016).

Nagata, K.; Murosaki, T.; Agou, T.; Sasamori, T.; Matsuo, T.; Tokitoh, N., Activation of Dihydrogen by Masked Doubly Bonded Aluminum Species, *Angew. Chem. Int. Ed.*, **55**, 12877-12880 (2016).

Agou, T.; Yanagisawa, T.; Sasamori, T.; Tokitoh, N., Synthesis and Structure of an Iron-Bromoalumanyl Complex with a Tri-Coordinated Aluminum Center, *Bull. Chem. Soc. Jpn.*, **89**, 1184-1186 (2016).

Mizuhata, Y.; Yanagisawa, T.; Sasamori, T.; Tokitoh, N., [K(18-crown-6)][FeCp*(CO)₂] data, *IUCrData*, **1**, x160881 (2016).

Sugahara, T.; Guo, J.-D.; Sasamori, T.; Karatsu, Y.; Furukawa, Y.; Ferao, A. E.; Nagase, S.; Tokitoh, N., Reaction of a Stable Digermyne with Acetylenes: Synthesis of a 1,2-Digermabenzene and a 1,4-Digermabarrelene, *Bull. Chem. Soc. Jpn.*, **89**, 1375-1384 (2016).

— Structural Organic Chemistry —

Makuta, S.; Liu, M. N.; Endo, M.; Nishimura, H.; Wakamiya, A.; Tachibana, Y., Photo-Excitation Intensity Dependent Electron and Hole Injections from Lead Iodide Perovskite to Nanocrystalline TiO₂ and Spiro-OMeTAD, *Chem. Commun.*, **52**, 673-676 (2016).

Yamada, T.; Yamada, Y.; Nishimura, H.; Nakaike, Y.; Wakamiya, A.; Murata, Y.; Kanemitsu, Y., Fast Free-Carrier Diffusion in CH₃NH₃PbBr₃ Single Crystals Revealed by Time-Resolved One- and Two-Photon Excitation Photoluminescence Spectroscopy, *Adv. Electron. Mater.*, **2**, [1500290-1]-[1500290-5] (2016).

Lee, J.; Jung, H.; Shin, H.; Kim, J.; Yokoyama, D.; Nishimura, H.; Wakamiya, A.; Park, J., Excimer Emission Based on the Control of Molecular Structure and Intermolecular Interactions, *J. Mater. Chem. C*, **4**, 2784-2792 (2016).

Kamimoto, N.; Nakamura, N.; Tsutsumi, A.; Mandai, H.; Mitsudo, K.; Wakamiya, A.; Murata, Y.; Hasegawa, J. Y.; Suga, S., Facile Synthesis of 1,4-Bis(diaryl)-1,3-butadiynes Bearing Two Amino Moieties by Electrochemical Reaction-Site Switching, and Their Solvatochromic Fluorescence, *Asian J. Org. Chem.*, **5**, 373-379 (2016).

Tahara, H.; Endo, M.; Wakamiya, A.; Kanemitsu, Y., Experimental Evidence of Localized Shallow States in Orthorhombic Phase of CH₃NH₃PbI₃ Perovskite Thin Films Revealed by Photocurrent Beat Spectroscopy, *J. Phys. Chem. C*, **120**, 5347-5352 (2016).

Zhang, R.; Murata, M.; Aharen, T.; Wakamiya, A.; Shimoaka, T.; Hasegawa, T.; Murata, Y., Synthesis of a Distinct Water Dimer inside Fullerene C₇₀, *Nat. Chem.*, **8**, 435-441 (2016).

Nishimura, H.; Fukushima, T.; Wakamiya, A.; Murata, Y.; Kaji, H., The Influence of Quasiplanar Structures of Partially Oxygen-Bridged Triphenylamine Dimers on the Properties of Their Bulk Films, *Bull. Chem. Soc. Jpn.*, **89**, 726-732 (2016).

Hashikawa, Y.; Murata, M.; Wakamiya, A.; Murata, Y., Synthesis and Properties of Endohedral Aza[60]fullerenes: H₂O@C₅₉N and H₂@C₅₉N as Their Dimers and Monomers, *J. Am. Chem. Soc.*, **138**, 4096-4104 (2016).

Satou, M.; Nakamura, T.; Aramaki, Y.; Okazaki, S.; Murata, M.; Wakamiya, A.; Murata, Y., Near-infrared Emissive Donor-Acceptor-type Molecules Containing Thiazole-fused Benzothiadiazole as an Electron-acceptor Moiety, *Chem. Lett.*, **45**, 892-894 (2016).

Murata, M.; Kaji, S.; Nishimura, H.; Wakamiya, A.; Murata, Y., Efficient Synthesis of One- and Two-Dimensional Multimetallic Gold-Bis(dithiolene) Complexes, *Eur. J. Inorg. Chem.*, **2016**, 3228-3232 (2016).

Hashikawa, Y.; Murata, M.; Wakamiya, A.; Murata, Y., Water Entrapped inside Fullerene Cages: A Potential Probe for Evaluation of Bond Polarization, *Angew. Chem., Int. Ed.*, **55**, 13109-13113 (2016).

- Wang, F. J.; Endo, M.; Mouri, S.; Miyauchi, Y.; Ohno, Y.; Wakamiya, A.; Murata, Y.; Matsuda, K., Highly Stable Perovskite Solar Cells with an All-Carbon Hole Transport Layer, *Nanoscale*, **8**, 11882-11888 (2016).
- Yamada, Y.; Yamada, T.; Shimazaki, A.; Wakamiya, A.; Kanemitsu, Y., Interfacial Charge-Carrier Trapping in CH₃NH₃PbI₃-Based Heterolayered Structures Revealed by Time-Resolved Photoluminescence Spectroscopy, *J. Phys. Chem. Lett.*, **7**, 1972-1977 (2016).
- Le, P. Q.; Yamada, Y.; Nagai, M.; Maruyama, N.; Wakamiya, A.; Kanemitsu, Y., Free Carriers versus Excitons in CH₃NH₃PbI₃ Perovskite Thin Films at Low Temperatures: Charge Transfer from the Orthorhombic Phase to the Tetragonal Phase, *J. Phys. Chem. Lett.*, **7**, 2316-2321 (2016).
- Yamashita, D.; Handa, T.; Ihara, T.; Tahara, H.; Shimazaki, A.; Wakamiya, A.; Kanemitsu, Y., Charge Injection at the Heterointerface in Perovskite CH₃NH₃PbI₃ Solar Cells Studied by Simultaneous Microscopic Photoluminescence and Photocurrent Imaging Spectroscopy, *J. Phys. Chem. Lett.*, **7**, 3186-3191 (2016).
- Ishida, N.; Wakamiya, A.; Saeki, A., Quantifying Hole Transfer Yield from Perovskite to Polymer Layer: Statistical Correlation of Solar Cell Outputs with Kinetic and Energetic Properties, *ACS Photonics*, **3**, 1678-1688 (2016).
- Wakamiya, A.; Nishimura, H.; Murata, Y., Partially Oxygen-Bridged Triphenylamines with a Quasiplanar Structure as a Key Scaffold for Hole-Transporting Materials, *J. Synth. Org. Chem. Jpn.*, **74**, 1128-1135 (2016).
- Bottari, G.; Trukhina, O.; Kahnt, A.; Frunzi, M.; Murata, Y.; Rodriguez-Forteza, A.; Poblet, J. M.; Guldi, D. M.; Torres, T., Regio-, Stereo-, and Atropselective Synthesis of C₆₀ Fullerene Bisadducts by Supramolecular-Directed Functionalization, *Angew. Chem., Int. Ed.*, **55**, 11020-11025 (2016).
- Synthetic Organic Chemistry —
- Ueda, Y., Final-stage Site-selective Acylation for The Total Synthesis of Natural Glycosides, *YAKUGAKU ZASSHI*, **136**, 1631-1639 (2016) (in Japanese).
- Alezra, V.; Kawabata, T., Recent Progress in Memory of Chirality (MOC) : An Advanced Chiral Pool, *Synthesis*, 2997-3016 (2016).
- Tomohara, K.; Kasamatsu, K.; Yoshimura, T.; Furuta, T.; Kawabata, T., Asymmetric Synthesis of Multisubstituted Dihydrobenzofurans by Intramolecular Conjugate Addition of Short-Lived C-O Axially Chiral Enolates, *Chem. Pharm. Bull.*, **64**, 899-906 (2016).
- Yamada, T.; Suzuki, K.; Hirose, T.; Furuta, T.; Ueda, Y.; Kawabata, T.; Omura, S.; Sunazuka, T., Organocatalytic Site-Selective Acylation of Avermectin B_{2a}, a Unique Endectocidal Drug, *Chem. Pharm. Bull.*, **64**, 856-864 (2016).
- Mishiro, K.; Takeuchi, H.; Furuta, T.; Kawabata, T., A Concise Access to C₂-Symmetric Chiral 4-Pyrrolidinopyridine Catalysts with Dual Functional Side Chains, *Chem. Pharm. Bull.*, **64**, 1073-1077 (2016).
- Imayoshi, A.; Yamanaka, M.; Sato, M.; Yoshida, K.; Furuta, T.; Ueda, Y.; Kawabata, T., Insights into the Molecular Recognition Process in Organocatalytic Chemoselective Monoacylation of 1,5-Pentanediol, *Adv. Synth. Catal.*, **358**, 1337-1344 (2016).
- Baba, T.; Yamamoto, J.; Hayashi, K.; Sato, M.; Yamanaka, M.; Kawabata, T.; Furuta, T., Catalytic Discrimination Among Formyl Groups in Regio- and Stereoselective Intramolecular Cross-Aldol Reactions, *Chem. Sci.*, **7**, 3791-3797 (2016).
- Hyakutake, R.; Gondo, N.; Ueda, Y.; Yoshimura, T.; Furuta, T.; Kawabata, T., Catalyst-Controlled Regiodivergent Vinylogous Aza-Morita-Baylis-Hillman Reactions, *Tetrahedron Lett.*, **57**, 1321-1324 (2016).
- Yanagi, M.; Ninomiya, R.; Ueda, Y.; Furuta, T.; Yamada, T.; Sunazuka, T.; Kawabata, T., Organocatalytic Site-Selective Acylation of 10-Deacetylbaccatin III, *Chem. Pharm. Bull.*, **64**, 907-912 (2016).
- Furuta, T.; Kawabata, T., Chiral Imidazole and Pyridines as Asymmetric Organocatalysis, *RSC Green Chemistry, Sustainable Catalysis, M. North, Ed., The Royal Society of Chemistry*, 351-380 (2016).
- Ueda, Y.; Kawabata, T., Organocatalytic Site-Selective Acylation of Carbohydrates and Polyol Compounds, *Top. Curr. Chem.*, **372**, 203-231 (2016).
- Yoshida, K.; Suzuki, H.; Inoue, H.; Fujino, Y.; Itatsu, Y.; Takao, K., Organocatalytic Regioselective Chlorosilylation of Oxiran Derivatives: Mild and Effective Insertion of the Bulky Silyl Chloride by Using 4-Methoxy Pyridine *N*-oxide, *Adv. Synth. Catal.*, **358**, 1886-1891 (2016).
- Yoshida, K.; Itatsu, Y.; Fujino, Y.; Inoue, H.; Takao, K., Enantioselective Organocatalytic Construction of Spiroindane Derivatives by Intramolecular Friedel-Crafts-type 1,4-Addition, *Angew. Chem. Int. Ed.*, **55**, 6734-5738 (2016).
- Miyazaki, S.; Sasazawa, Y.; Mogi, T.; Suzuki, T.; Yoshida, K.; Dohmae, N.; Takao, K.; Simizu, S., Identification of Seco-clavilactonoe B as a Small-molecule Actin Polymerization Inhibitor, *FEBS Letters*, **590**, 1163-1173 (2016).
- Yoshida, K.; Fujino, Y.; Itatsu, Y.; Inoue, H.; Kanoko, Y.; Takao, K., Amine Free Silylation of Alcohols under 4-Methylpyridine *N*-Oxide-Catalyzed Conditions, *Tetrahedron Lett.*, **57**, 627-631 (2016).
- Kawabata, T., *Site-Selective Catalysis*, Gewerbestrasse 11 CH-6330 Cham (ZG) Switzerland: Springer International Publishing (2016).
- Sikervar, V.; Ueda, Y.; Kawabata, T., L-Tryptophan *N,N'*-[[[(2*S*,5*S*)-1-(4-pyridinyl)-2,5-pyrrolidinediyl]dicarbonyl]bis-3,3'-dioctyl Ester, *e-EROS Encyclopedia of Reagents for Organic Synthesis; John Wiley & Sons, Ltd.*, DOI: 10.1002/047084289X.rn01815.pub2 (2016).
- Yoshimura, T.; Kawabata, T., Lithium tert-Butyl (trimethylsilyl) amide, *e-EROS Encyclopedia of Reagents for Organic Synthesis; John Wiley & Sons, Ltd.*, DOI: 10.1002/047084289X.rn01797 (2016).
- Ueda, Y.; Kawabata, T., D-2-Naphthylalanine *N,N'*-[[[(2*S*,5*S*)-1-(4-pyridinyl)-2,5-pyrrolidinediyl]dicarbonyl]bis-3,3'-dioctyl Ester, *e-EROS Encyclopedia of Reagents for Organic Synthesis; John Wiley & Sons, Ltd.*, DOI: 10.1002/047084289X.rn01986 (2016).

Koeduka, T.; Kajiyama, M.; Furuta, T.; Suzuki, H.; Tsuge, T.; Matsui, K., Benzenoid Biosynthesis in The Flowers of *Eriobotrya Japonica*: Molecular Cloning and Functional Characterization of *p*-Methoxybenzoic Acid Carboxyl Methyltransferase, *Planta*, **244**, 725-736 (2016).

Koeduka, T.; Kajiyama, M.; Furuta, T.; Suzuki, H.; Tsuge, T.; Matsui, K., Characterization of An O-Methyltransferase Specific to Guaiacol-type Benzenoids from The Flowers of Loquat (*Eriobotrya Japonica*), *J. Biosci. Bioeng.*, **122**, 679-684 (2016).

— Advanced Inorganic Synthesis —

Chen, L.; Nakamoto, M.; Haruta, M.; Nemoto, T.; Sato, R.; Kurata, H.; Teranishi, T., Tin Ion Directed Morphology Evolution of Copper Sulfide Nanoparticles and Tuning of Their Plasmonic Properties via Phase Conversion, *Langmuir*, **32**, 7582-7587 (2016).

Sakamoto, M.; Inoue, K.; Okano, M.; Saruyama, M.; Kim, S.; So, Y.-G.; Kimoto, K.; Kanemitsu, Y.; Teranishi, T., Light-Stimulated Carrier Dynamics of CuInS₂/CdS Heterotetrapod Nanocrystals, *Nanoscale*, **8**, 9517-9520 (2016).

Wu, H.-L.; Sato, R.; Yamaguchi, A.; Kimura, M.; Haruta, M.; Kurata, H.; Teranishi, T., Formation of Pseudomorphic Nanocages from Cu₂O Nanocrystals through Anion Exchange Reactions, *Science*, **351**, 1306-1310 (2016).

Azuma, Y.; Onuma, Y.; Sakamoto, M.; Teranishi, T.; Majima, Y., Rhombic Coulomb Diamonds in Single-Electron Transistor based on Au Nanoparticle Chemically Anchored at Both Ends, *Nanoscale*, **8**, 4720-4726 (2016).

Masuo, S.; Kanetaka, K.; Sato, R.; Teranishi, T., Direct Observation of Multiphoton Emission Enhancement from a Single Quantum Dot Using AFM Manipulation of a Cubic Gold Nanoparticle, *ACS Photonics*, **3**, 109-116 (2016).

DIVISION OF MATERIALS CHEMISTRY

— Chemistry of Polymer Materials —

Huang, Y.; Sasano, T.; Tsujii, Y.; Ohno, K., Well-Defined Polymer-Brush-Coated Rod-Shaped Particles: Synthesis and Formation of Liquid Crystals, *Macromolecules*, **49**, 8430-8439 (2016).

Sakakibara, K.; Yano, H.; Tsujii, Y., Surface Engineering of Cellulose Nanofiber by Adsorption of Diblock Copolymer Dispersant for Green Nanocomposite Materials, *ACS APPL. MATER. INT.*, **8**, 24893-24900 (2016).

Goto, A.; Tsujii, Y., Surface-Initiated Living Radical Polymerizations Using Iodine, Organotellurium, and Organic catalysts, *Adv. Polym. Sci.*, **270**, 107-122 (2016).

Ferrier, R. C.; Huang, Y.; Ohno, K.; Composto, R. J., Dispersion of PMMA-grafted, Mesoscopic Iron-oxide Rods in Polymer Films, *Soft Matter*, **12**, 2550-2556 (2016).

Tom, J.; Ohno, K.; Perrier, S., Surface-Initiated SET Living Radical Polymerisation for the Synthesis of Silica-Polymer Core-Shell Nanoparticles, *Polym. Chem.*, **7**, 6075-6083 (2016).

Morinaga, T.; Honma, S.; Ishizuka, T.; Kamijo, T.; Sato, T.; Tsujii, Y., Synthesis of Monodisperse Silica Particles Grafted with Concentrated Ionic Liquid-Type Polymer Brushes by Surface-Initiated Atom Transfer Radical Polymerization for Use as a Solid State Polymer Electrolyte, *Polymers*, **8**, 141-146 (2016).

Horikawa, Y.; Imai, T.; Abe, K.; Sakakibara, K.; Tsujii, Y.; Mihashi, A.; Kobayashi, Y.; Sugiyama, J., Assessment of Endoglucanase Activity by Analyzing the Degree of Cellulose Polymerization and High-throughput Analysis by Near-infrared Spectroscopy, *Cellulose*, **23**, 1565-1572 (2016).

Li, L.; Nakaji-Hirabayashi, T.; Kitano, H.; Ohno, K.; Kishioka, T.; Usui, Y., Gradation of Proteins and Cells Attached to the Surface of Bio-inert Zwitterionic Polymer Brush, *Colloids Surf. B*, **144**, 180-187 (2016).

Kawata, Y.; Yamamoto, T.; Kihara, H.; Yamamura, Y.; Saito, K.; Ohno, K., Three Gel States of Colloidal Composites Consisting of Polymer-Brush-Afforded Silica Particles and a Nematic Liquid Crystal with Distinct Viscoelastic and Optical Properties, *ACS APPL. MATER. INT.*, **8**, 29649-29657 (2016).

Ogawa, Y.; Sakakibara, K.; Nakatsubo, F.; Kamitakahara, H.; Takano, T., Factors Affecting Photocurrent Generation Performances of Langmuir-Blodgett Films of Tetraphenylporphyrin-bound Acyl Celluloses, *Cellulose*, **23**, 3875-3883 (2016).

[Others]

Tsujii, Y.; Nakanishi, Y.; Ishige, R.; Ohno, K.; Morinaga, T.; Sato, T., Development of Novel Nano-systems for Electrochemical Devices by Hierarchizing Concentrated Polymer Brushes, *Intelligent Nanosystems for Energy, Information and Biological Technologies*, 195-215 (2016).

Tsujii, Y.; Sakakibara, K., Tribology Controlled by Polymer Brushes, *J. Adhes. Soc. Jpn.*, **52**, 224-229 (2016) (in Japanese).

Sakakibara, K., Development and Application of Polymer Monolith Materials with Controlled Morphology, *Sen'i Gakkaishi*, **72**, 428-430 (2016) (in Japanese).

— Polymer Controlled Synthesis —

Alvarez, M. P.; Delgado, M. C. R.; Taravillo, M.; Baonza, V. G.; Navarrete, J. T. L.; Evans, P.; Jasti, R.; Yamago, S.; Kertesz, M.; Casado, J., The Raman Fingerprint of Cyclic Conjugation: the Case of the Stabilization of Cations and Dications in Cycloparaphenylenes, *Che. Sci.*, **7**, 3494-3499 (2016).

Kayahara, E.; Patel, V. K.; Mercier, A.; Kundig, E. P.; Yamago, S., Regioselective Synthesis and Characterization of Multinuclear Convex-Bound Ruthenium-[*n*] Cycloparaphenylene (*n*=5 and 6) Complexes, *Angew. Chem. Int. Ed.*, **55**, 302-306 (2016).

Kayahara, E.; Kouyama, T.; Kato, T.; Yamago, S., Synthesis and Characterization of [*n*]CPP (*n*=5, 6, 8, 10, and 12) Radical Cation and Dications: Size-Dependent Absorption, Spin, and Charge Delocalization, *J. Am. Chem. Soc.*, **138**, 338-344 (2016).

Nakamura, Y.; Ogihara, T.; Yamago, S., Mechanism of Cu(I)/Cu(0)-Mediated Reductive Coupling Reactions of Bromine-Terminated Polyacrylates, Polymethacrylates, and Polystyrene, *ACS Macro Lett.*, **5**, 248-252 (2016).

- Nakamura, Y.; Lee, R.; Coote, M. L.; Yamago, S., Termination Mechanism of the Radical Polymerization of Acrylates, *Macromol. Rapid Commun.*, **37**, 506-513 (2016).
- Kuroda, Y.; Sakamoto, Y.; Suzuki, T.; Kayahara, E.; Yamago, S., Tetracyclo(2,7-carbazole)s: Diatropicity and Paratropicity of Inner Regions of Nanohoops, *J. Org. Chem.*, **81**, 3356-3363 (2016).
- Alvarez, M. P.; Qiu, L. L.; Taravillo, M.; Baonza, V. G.; Delgado, M. C. R.; Yamago, S.; Jasti, R.; Navarrete, J. T. L.; Casado, J.; Kertesz, M., From Linear to Cyclic Oligoparaphenylenes: Electronic and Molecular Changes Traced in the Vibrational Raman Spectra and Reformulation of the Bond Length Alternation Pattern, *Phys. Chem. Chem. Phys.*, **18**, 11683-11692 (2016).
- Kayahara, E.; Fukayama, K.; Nishinaga, T.; Yamago, S., Size Dependence of [n]Cycloparaphenylenes ($n=5-12$) in Electrochemical Oxidation, *Chem. Asian J.*, **11**, 1793-1797 (2016).
- Kayahara, E.; Zhai, X.; Yamago, S., Synthesis and Physical Properties of [4]Cyclo-3,7-Dibenzo[b,d]Thiophene and Its S,S-Dioxide, *Can. J. Chem.*, 10.1139/cjc-2016-0474 (2016).
- Fan, W.; Nakamura, Y.; Yamago, S., Synthesis of Multivalent Organotellurium Chain Transfer Agents by Post-modification and Their Applications in Living Radical Polymerization, *Chem. Eur. J.*, **22**, 17006-17010 (2016).
- Nakamura, Y.; Ogihara, T.; Hatano, S.; Abe, M.; Yamago, S., Control of the Termination Mechanism in Radical Polymerization by Viscosity: Selective Disproportionation in Viscous Media, *Chem. Eur. J.*, 10.1002/chem.201604659 (2016).
- [Others]
- Yamago, S., Radical Polymerization (3) Reversible Chain Transfer, *Recent Controlled Polymerization : Excellent Control and Advanced Practical Use (Current View 20)*, 75-81 (2016) (in Japanese).
- Inorganic Photonics Materials —
- Matsuzaki, Y.; Shimo-Oka, T.; Tanaka, H.; Tokura, Y.; Semba, K.; Mizuochi, N., Hybrid Quantum Magnetic Field Sensor with an Electron Spin and a Nuclear Spin in Diamond, *Phys. Rev. A*, **94**, [052330-1]-[052330-6] (2016).
- Fujiwara, M.; Yoshida, K.; Noda, T.; Takashima, H.; Schell, A. W.; Mizuochi, N.; Takeuchi, S., Manipulation of Single Nanodiamonds to Ultrathin Fiber-taper Nanofibers and Control of NV-spin States Toward Fiber-integrated λ -systems, *Nanotechnology*, **27**, 455202 (2016).
- Fukui, N.; Morishita, H.; Kobayashi, S.; Miwa, S.; Mizuochi, N.; Suzuki, Y., Ferromagnetic Resonance Induced Electromotive Forces in $\text{Ni}_{81}\text{Fe}_{19}$ p-type Diamond, *Solid state commun.*, **243**, 44-48 (2016).
- Matsuzaki, Y.; Morishita, H.; Tashima, T.; Kakuyanagi, K.; Semba, K.; Munro, W. J.; Yamaguchi, H.; Mizuochi, N.; Saito, S., Optically Detected Magnetic Resonance of High-density Ensemble of NV Centers in Diamond, *J. Phys.: Condens. Matter*, **28**, 275302 (2016).
- Doi, Y.; Fukui, T.; Kato, H.; Makino, T.; Yamasaki, S.; Tashima, T.; Morishita, H.; Miwa, S.; Jelezko, F.; Suzuki, Y.; Mizuochi, N., Pure Negatively Charged State of NV Center in n-type Diamond, *Phys. Rev. B*, **93**, [081203-1]-[081203-6] (2016).
- Goto, M.; Nawaoka, K.; Miwa, S.; Hatanaka, S.; Mizuochi, N.; Suzuki, Y., Electric Field Modulation of Tunneling Anisotropic Magnetoresistance in Tunnel Junctions with Antiferromagnetic Electrodes, *Jpn. J. Appl. Phys.*, **55**, [080304-1]-[080304-4] (2016).
- Kuro, T.; Okada, G.; Kawaguchi, N.; Fujimoto, Y.; Masai, H.; Yanagida, T., Scintillation Properties of Rare-earth Doped $\text{NaPO}_3\text{-Al}(\text{PO}_3)_3$ Glasses, *Opt. Mater.*, **62**, 561-568 (2016).
- Tatsumi, H.; Okada, G.; Yanagida, T.; Masai, H., Radiophotoluminescence and Thermally-stimulated Luminescence of Ag-doped $\text{Li}_3\text{PO}_4\text{-Al}(\text{PO}_3)_3$ Glass, *J. Lumin.*, **179**, 545-549 (2016).
- Okada, G.; Masai, H.; Torimoto, A.; Kasap, S.; Yanagida, T., X-ray Induced Effects in Sm^{3+} -doped $\text{ZnO-P}_2\text{O}_5$ Glass for Radiation Measurements, *J. Ceram. Process. Res.*, **17**, 148-151 (2016).
- Masai, H.; Ueda, Y.; Yanagida, T.; Okada, G.; Tokuda, Y., Photo- and Radioluminescence of Sn^{2+} Centers in Alkaline Earth-Substituted Zinc Phosphate Glass, *Sens. Mater.*, **28**, 871-879 (2016).
- Masai, H.; Matsumoto, S.; Ueda, Y.; Koreeda, A., Correlation between Valence State of Tin and Elastic Modulus of Sn-doped $\text{Li}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ Glasses, *J. Appl. Phys.*, **119**, 185104 (2016).
- Masai, H.; Koreeda, A.; Fujii, Y.; Ohkubo, T.; Kohara, S., Photoluminescence of Sn^{2+} -centre as Probe of Transient State of Supercooled Liquid, *Opt. Mater. Express*, **6**, 1827-1836 (2016).
- Torimoto, A.; Masai, H.; Tokuda, Y.; Yanagida, T.; Okada, G.; Mibu, K., Correlation between the Emission Properties of Sn^{2+} Center and the Chemical Composition of $\text{ZnO-P}_2\text{O}_5$ Glasses, *J. Ceram. Soc. Jpn.*, **124**, 554-558 (2016).
- Tatsumi, H.; Okada, G.; Yanagida, T.; Masai, H., Scintillation and Dosimeter Properties of Ce-doped $\text{Li}_3\text{PO}_4\text{-Al}(\text{PO}_3)_3$ Glasses, *J. Ceram. Soc. Jpn.*, **124**, 550-553 (2016).
- Yanagida, T.; Fujimoto, Y.; Masai, H., Radiation Induced Luminescence Properties of Pure and Sn-doped $60\text{ZnO-40P}_2\text{O}_5$ Glass, *Phys. Chem. Glasses*, **57**, 158-162 (2016).
- Tatsumi, H.; Okada, G.; Yanagida, T.; Masai, H., Radiophotoluminescence of Ag-doped $\text{Li}_3\text{PO}_4\text{-Al}(\text{PO}_3)_3$ Glass, *Chem. Lett.*, **45**, 280-282 (2016).
- Yanagida, T.; Ueda, J.; Masai, H.; Fujimoto, Y.; Tanabe, S., Optical and Scintillation Properties of Ce-doped $34\text{Li}_2\text{O-5MgO-10Al}_2\text{O}_3\text{-51SiO}_2$ Glass, *J. Non-Cryst. Solids*, **431**, 140-144 (2016).
- Masai, H.; Yanagida, T., Photoluminescence of ns^2 -type Center-containing Zinc Borate Glasses, *J. Non-Cryst. Solids*, **431**, 83-87 (2016).
- Tokuda, Y.; Norikawa, Y.; Masai, H.; Ueda, Y.; Nihei, N.; Fujimura, S.; Ono, Y., Nuclear Magnetic Resonance Study of Cs Adsorption onto Clay Minerals, *Radiological Issues for Fukushima's Revitalized Future*, 3-11 (2016).
- [Others]
- Kobayashi, S.; Morishita, H.; Matsuzaki, Y.; Miwa, S.; Suzuki, Y.; Mizuochi, N., Enhancement of the Spin Coherence Time in NV Center Under Electric Field, *NEW DIAMOND*, **32**, 11-15 (2016) (in Japanese).

— Nanospintronics —

Ogi, H.; Masuda, S.; Nagakubo, A.; Nakamura, N.; Hirao, M.; Kondou, K.; Ono, T., Impact of Interface Stiffness in Surface-wave Resonances on Nanostrip-attached Substrates, *Phys. Rev. B*, **93**, [037204-1]-[037204-5] (2016).

Yoshimura, Y.; Kim, K. J.; Taniguchi, T.; Tono, T.; Ueda, K.; Hiramatsu, R.; Moriyama, T.; Yamada, K.; Nakatani, Y.; Ono, T., Soliton-like Magnetic Domain Wall Motion Induced by the Interfacial Dzyaloshinskii-Moriya Interaction, *Nat. Phys.*, **12**, 157-161 (2016).

Takeshita, S.; Matsuo, S.; Tanaka, T.; Nakaharai, S.; Tsukagoshi, K.; Moriyama, T.; Ono, T.; Arakawa, T.; Kobayashi, K., Anomalous Behavior of 1/f Noise in Graphene Near the Charge Neutrality Point, *Appl. Phys. Lett.*, **108**, [103106-1]-[103106-4] (2016).

Tanabe, K.; Matsumoto, R.; Ohe, J. I.; Murakami, S.; Moriyama, T.; Chiba, D.; Kobayashi, K.; Ono, T., Observation of Magnon Hall-like Effect for Sample-edge Scattering in Unsaturated YIG, *Phys. Status Solidi B*, **253**, 783-787 (2016).

Kakizakai, H.; Ando, F.; Koyama, T.; Yamada, K.; Kawaguchi, M.; Kim, S.; Kim, K. J.; Moriyama, T.; Chiba, D.; Ono, T., Switching Local Magnetization by Electric-field-induced Domain Wall Motion, *Appl. Phys. Exp.*, **9**, [063004-1]-[063004-3] (2016).

Okuno, T.; Kim, K. J.; Tono, T.; Kim, S.; Moriyama, T.; Yoshikawa, H.; Tsukamoto, A.; Ono, T., Temperature Dependence of Magnetoresistance in GdFeCo/Pt Heterostructure, *Appl. Phys. Exp.*, **9**, [073001-1]-[073001-4] (2016).

Oda, K.; Moriyama, T.; Kawaguchi, M.; Kamiya, M.; Tanaka, K.; Kim, K. J.; Ono, T., Exchange Bias Controlled by Electric Current: Interplay of Joule Heating and the Induced Field, *Jpn. J. Appl. Phys.*, **55**, [070304-1]-[070304-4] (2016).

Okuno, T.; Taniguchi, T.; Kim, S.; Baek, S. H. C.; Park, B. G.; Moriyama, T.; Kim, K. J.; Ono, T., Temperature Dependence of Spin Hall Magnetoresistance in W/CoFeB Bilayer, *Jpn. J. Appl. Phys.*, **55**, [080308-1]-[080308-4] (2016).

Stigloher, J.; Decker, M.; Korner, H. S.; Tanabe, K.; Moriyama, T.; Taniguchi, T.; Hata, H.; Madami, M.; Gubbiotti, G.; Kobayashi, K.; Ono, T.; Back, C. H., Snell's Law for Spin Waves, *Phys. Rev. Lett.*, **117**, [037204-1]-[037204-5] (2016).

DIVISION OF BIOCHEMISTRY

— Biofunctional Design-Chemistry —

Nakase, I.; Noguchi, K.; Fujii, I.; Futaki, S., Vectorization of Biomacromolecules into Cells Using Extracellular Vesicles with Enhanced Internalization Induced by Macropinocytosis, *Sci. Rep.*, **6**, [34937] (2016).

Tsuji, S.; Futaki, S.; Imanishi, M., Sequence-Specific Recognition of Methylated DNA by an Engineered Transcription Activator-Like Effector Protein, *Chem. Commun.*, **52**, 14238-14241 (2016).

Backlund, C.; Takeuchi, T.; Futaki, S.; Tew, G., Relating Structure and Internalization for ROMP-Based Protein Mimics, *Biochim. Biophys. Acta.*, **1858**, 1443-1450 (2016).

Kawaguchi, Y.; Takeuchi, T.; Kuwata, K.; Chiba, J.; Hatanaka, Y.; Nakase, I.; Futaki, S., Syndecan-4 Is a Receptor for Clathrin-Mediated Endocytosis of Arginine-Rich Cell-Penetrating Peptides, *Bioconjug. Chem.*, **27**, 1119-1130 (2016).

Murayama, T.; Pujals, S.; Hirose, H.; Nakase, I.; Futaki, S., Effect of Amino Acid Substitution in the Hydrophobic Face of Amphiphilic Peptides on Membrane Curvature and Perturbation: N-Terminal Helix Derived From Adenovirus Internal Protein VI As a Model, *Biopolymers*, **106**, 430-439 (2016).

Takeuchi, T.; Futaki, S., Current Understanding of Direct Translocation of Arginine-Rich Cell-Penetrating Peptides and Its Internalization Mechanisms, *Chem. Pharm. Bull.*, **64**, 1431-1437 (2016).

Miyajima, R.; Tsuda, Y.; Inokuma, T.; Shigenaga, A.; Imanishi, M.; Futaki, S.; Otaka, A., Preparation of Peptide Thioesters from Naturally Occurring Sequences Using Reaction Sequence Consisting of Regioselective S-Cyanylation and Hydrazinolysis, *Biopolymers*, **106**, 531-546 (2016).

Motoyama, K.; Nishiyama, R.; Maeda, Y.; Higashi, T.; Kawaguchi, Y.; Futaki, S.; Ishitsuka, Y.; Kondo, Y.; Irie, T.; Era, T.; Arima H., Cholesterol-Lowering Effect of Octaarginine-Appended β -Cyclodextrin in Npc1-Trap-CHO Cells, *Biol. Pharm. Bull.*, **39**, 1823-1829 (2016).

— Chemistry of Molecular Biocatalysts —

Kamiyama, A.; Nakajima, M.; Han, L.; Wada, K.; Mizutani, M.; Tabuchi, Y.; Kojima-Yuasa, A.; Matsui-Yuasa, I.; Suzuki, H.; Fukuyama, K.; Watanabe, B.; Hiratake, J., Phosphonate-Based Irreversible Inhibitors of Human γ -Glutamyl Transpeptidase (GGT). GGsTop is a Non-Toxic and Highly Selective Inhibitor with Critical Electrostatic Interaction with an Active-Site Residue Lys562 for Enhanced Inhibitory Activity, *Bioorg. Med. Chem.*, **24**, 5340-5352 (2016).

Tamura, K.; Hayashi, N.; George, J.; Toshikuni, N.; Arisawa, T.; Hiratake, J.; Tsuchishima, M.; Tsutsumi, M., GGsTop, a Novel and Specific γ -Glutamyl Transpeptidase Inhibitor, Protects Hepatic Ischemia-Reperfusion Injury in Rats, *Am. J. Physiol. Gastrointest. Liver Physiol.*, **311**, G305-G312 (2016).

— Molecular Biology —

Wu, Z.; Zhu, D.; Lin, X.; Miao, J.; Gu, L.; Deng, X.; Yang, Q.; Zhu, D.; Cao, X.; Tsuge, T.; Dean, C.; Aoyama, T.; Gu, H.; Qu, L.-J., RNA Binding Proteins RZ-1B and RZ-1C Play Critical Roles in Regulating Pre-mRNA Splicing and Gene Expression during Development in *Arabidopsis*, *Plant Cell*, **28**, 55-73 (2016).

Tatsumi, K.; Yano, M.; Kaminade, K.; Sugiyama, A.; Sato, M.; Toyooka, K.; Aoyama, T.; Sato, F.; Yazaki, K., Characterization of Shikonin Derivative Secretion in *Lithospermum erythrorhizon* Hairy Roots as a Model of Lipid-Soluble Metabolite Secretion from Plants, *Front. Plant Sci.*, **7**, [01066-1]-[01066-11] (2016).

Nagata, C.; Miwa, C.; Tanaka, N.; Kato, M.; Suito, M.; Tsuchihira, A.; Sato, Y.; Segami, S.; Maeshima, M., A Novel-Type Phosphatidylinositol Phosphate-Interactive, Ca-Binding Protein PCaP1 in *Arabidopsis thaliana*: Stable Association with Plasma Membrane and Partial Involvement in Stomata Closure, *J. Plant Res.*, **129**, 539-550 (2016).

Koeduka, T.; Kajiyama, M.; Suzuki, H.; Furuta, T.; Tsuge, T.; Matsui, K., Benzenoid Biosynthesis in the Flowers of *Eriobotrya japonica*: Molecular Cloning and Functional Characterization of p-Methoxybenzoic Acid Carboxyl Methyltransferase, *Planta*, **244**, 725-736 (2016).

— Chemical Biology —

Usuda, K.; Biswas, T.; Yamaguchi, T.; Akagi, Y.; Yasui, K.; Uesugi, M.; Shimizu, I.; Hosokawa, S.; Nagasawa, K., Synthesis of Diastereomers of 1,3-cis-25-Dihydroxy-19-norvitamin D-3, *Chem. Pharm. Bull.*, **64**, 1990-1995 (2016).

Matsumoto, Y.; Ito, A.; Uesugi, M.; Kittaka, A., Efficient N-Acetyldopamine Synthesis, *Chem. Pharm. Bull.*, **64**, 935-940 (2016).

Katsuda, Y.; Sato, S.; Asano, L.; Morimura, Y.; Furuta, T.; Sugiyama, H.; Hagihara, M.; Uesugi, M., A small Molecule that Represses Translation of G-Quadruplex-Containing mRNA, *J. Am. Chem. Soc.*, **138**, 9037-9040 (2016).

Biswas, T.; Akagi, Y.; Usuda, K.; Yasui, K.; Shimizu, I.; Okamoto, M.; Uesugi, M.; Hosokawa, S.; Nagasawa, K., Synthesis of 24,24-Difluoro-1,3-Cis-25-Dihydroxy-19-Norvitamin D3 Derivatives and Evaluation of their Vitamin D Receptor-Binding Affinity, *Biol. Pharm. Bull.*, **39**, 1387-1391 (2016).

Sakano, D.; Choi, S.; Kataoka, M.; Shiraki, N.; Uesugi, M.; Kume, K.; Kume, S., Dopamine D2 Receptor-Mediated Regulation Pancreatic Beta Cell Mass, *Stem Cell Rep.*, **7**, 95-109 (2016).

Takemoto, Y.; Ito, A.; Niwa, H.; Okamura, M.; Fujiwara, T.; Hirano, T.; Handa, N.; Umehara, T.; Sonoda, T.; Ogawa, K.; Tariq, M.; Nishino, N.; Dan, S.; Kagechika, H.; Yamori, T.; Yokoyama, S.; Yoshida, M., Identification of Cyproheptadine as an Inhibitor of SET Domain Containing Lysine Methyltransferase 7/9 (Set7/9) That Regulates Estrogen-Dependent Transcription, *J. Med. Chem.*, **59**, 3650-60 (2016).

Ursu, A.; Illich, D. J.; Takemoto, Y.; Porfetye, A. T.; Zhang, M.; Brockmeyer, A.; Janning, P.; Watanabe, N.; Osada, H.; Vetter, I. R.; Ziegler, S.; Scholer, H. R.; Waldmann, H., Epiblastin A Induces Reprogramming of Epiblast Stem Cells Into Embryonic Stem Cells by Inhibition of Casein Kinase 1, *Cell Chem. Biol.*, **23**, 494-507 (2016).

[Others]

Takaya, J.; Uesugi, M., Chemical Biological Analysis of TRPA1 Activation Mechanism, *J. SYN. ORG. CHEM. JPN.*, **74**, 505-511 (2016) (in Japanese).

DIVISION OF ENVIRONMENTAL CHEMISTRY

— Molecular Materials Chemistry —

Uratani, H.; Kubo, S.; Shizu, K.; Suzuki, F.; Fukushima, T.; Kaji, H., Detailed Analysis of Charge Transport in Amorphous Organic Thin Layer by Multiscale Simulation without Any Adjustable Parameters, *Sci. Rep.*, **6**, 39128 (2016).

Shimizu, T.; Kanamori, K.; Maeno, A.; Kaji, H.; Doherty, C. M.; Falcaro, P.; Nakanishi, K., Transparent, Highly Insulating Polyethyl- and Polyvinylsilsesquioxane Aerogels: Mechanical Improvements by Vulcanization for Ambient Pressure Drying, *Chem. Mater.*, **28**, 6860-6868 (2016).

Shizu, K.; Kaji, H., Organic Electroluminescent Materials Realizing Efficient Conversion from Electricity to Light, *J. Photopolym. Sci. Technol.*, **29**, 305-310 (2016).

Nishimura, H.; Fukushima, T.; Wakamiya, A.; Murata, Y.; Kaji, H., The Influence of Quasiplanar Structures of Partially Oxygen-Bridged Triphenylamine Dimers on the Properties of Their Bulk Films, *Bull. Chem. Soc. Jpn.*, **89**, 726-732 (2016).

Hayase, G.; Nonomura, K.; Kanamori, K.; Maeno, A.; Kaji, H.; Nakanishi, K., Boehmite Nanofiber-Polymethylsilsesquioxane Core-Shell Porous Monoliths for a Thermal Insulator under Low Vacuum Conditions, *Chem. Mater.*, **28**, 3237-3240 (2016).

Wada, Y.; Shizu, K.; Kubo, S.; Fukushima, T.; Miwa, T.; Tanaka, H.; Adachi, C.; Kaji, H., Highly Efficient Solution-Processed Host-Free Organic Light-Emitting Diodes Showing an External Quantum Efficiency of Nearly 18% with a Thermally Activated Delayed Fluorescence Emitter, *Appl. Phys. Express*, **9**, [032102-1]-[032102-3] (2016).

Hayase, G.; Kanamori, K.; Maeno, A.; Kaji, H.; Nakanishi, K., Dynamic Spring-Back Behavior in Evaporative Drying of Polymethylsilsesquioxane Monolithic Gels for Low-Density Transparent Thermal Superinsulators, *J. Non-Cryst. Solids*, **434**, 115-119 (2016).

Shizu, K.; Noda, H.; Tanaka, H.; Taneda, M.; Uejima, M.; Sato, T.; Tanaka, K.; Kaji, H.; Adachi, C., Highly Efficient Blue Electroluminescence Using Delayed-Fluorescence Emitters with Large Overlap Density between Luminescent and Ground States, *J. Phys. Chem. C*, **119**, 26283-26289 (2015).

Shimizu, T.; Kanamori, K.; Maeno, A.; Kaji, H.; Nakanishi, K., Transparent Ethylene-Bridged Polymethylsiloxane Aerogels and Xerogels with Improved Bending Flexibility, *LANGMUIR*, **32**, 13427-13434 (2016).

— Hydrospheric Environment Analytical Chemistry —

Nakashima, Y.; Shimizu, A.; Maruo, M.; Sohrin, Y., Trace Elements Influenced by Environmental Changes in Lake Biwa: (I) Seasonal Variations under Suboxic Hypolimnion Conditions during 2007 and 2009, *Limnol.*, **17**, 151-162 (2016).

Sohrin, Y.; Nakashima, Y.; Maruo, M., Trace Elements Influenced by Environmental Changes in Lake Biwa: (II) Chemical Variations in the Hypolimnion over the Last Half-Century, *Limnol.*, **17**, 163-173 (2016).

— Solution and Interface Chemistry —

Shimoaka, T.; Hasegawa, T., Molecular Structural Analysis of Hydrated Ethylene Glycol Accounting for the Antifreeze Effect by Using Infrared Attenuated Total Reflection Spectroscopy, *J. Mol. Liquids*, **223**, 621-627 (2016).

Shimoaka, T.; Tanaka, Y.; Shioya, N.; Morita, K.; Sonoyama, M.; Amii, H.; Takagi, T.; Kanamori, T.; Hasegawa, T., Surface Properties of a Single Perfluoroalkyl Group on Water Surfaces Studied by Surface Potential Measurements, *J. Colloid Interf. Sci.*, **483**, 353-359 (2016).

Hada, M.; Shioya, N.; Shimoaka, T.; Eda, K.; Hada, M.; Hasegawa, T., Comprehensive Understanding of Structure-Controlling Factors of a Zinc Tetraphenylporphyrin Thin Film Using pMAIRS and GXD Techniques, *Chem. Eur. J.*, **22**, 16539-16546 (2016).

Zhang, R.; Murata, M.; Aharen, T.; Wakamiya, A.; Shimoaka, T.; Hasegawa, T.; Murata, Y., Synthesis of a Distinct Water Dimer Inside Fullerene C₇₀, *Nature Chem.*, **8**, 435-441 (2016).

Wakai, C.; Shimoaka, T.; Hasegawa, T., Characterization of Adsorbed Molecular Water on the Surface of a Stretched Polytetrafluoroethylene Tape Analyzed by ¹H NMR, *J. Phys. Chem. B*, **120**, 2538-2543 (2016).

Iwasa, J.; Kumazawa, K.; Aoyama, K.; Suzuki, H.; Norimoto, S.; Shimoaka, T.; Hasegawa, T., In Situ Observation of a Self-Assembled Monolayer Formation of Octadecyltrimethoxysilane on a Silicon Oxide Surface Using a High-Speed Atomic Force Microscope, *J. Phys. Chem. C*, **120**, 2807-2813 (2016).

Noda, T.; Kondo, S.; Kado, S.; Hasegawa, T.; Yamada, N., Formation of Polyglycine II Structure from Fatty Acid Derivatives Containing Mono-, Di- and Tri-Glycinate, *KOBUNSHI RONBUNSHU*, **73**, 69-75 (2016) (in Japanese).

[Others]

Shimoaka, T.; Hasegawa, T., Chemical Structural Analysis of Antifreeze Solution by Using Infrared Spectroscopy with an Aid of Chemometrics, *Transactions of The Research Institute of Oceanography*, **29(2)**, 79-84 (2016) (in Japanese).

Matsuno, T.; Tabuchi, Y.; Hosomi, R.; Hasegawa, T.; Kometani, N.; Tsuji, K., Sample Preparation for TXRF Analysis of Metal Particles in Used Machine Oils and Preliminary Research for Application of Principal Component Analysis, *Adv. X-ray Anal.*, **59**, 112-119 (2016).

— Molecular Microbial Science —

Ito, T.; Gong, C.; Kawamoto, J.; Kurihara, T., Development of a Versatile Method for Targeted Gene Deletion and Insertion by Using the *pyrF* Gene in the Psychrotrophic Bacterium, *Shewanella livingstonensis* Ac10, *J. Biosci. Bioeng.*, **122**, 645-651 (2016).

Ohke, Y.; Maruyama, S.; Tarui, J.; Wang, Y.; Kawamoto, J.; Kurihara, T., A Phosphoprotein Homolog Plays a Critical Role in the Dissimilatory Iron-Respiration Linked to Iron (III) Reduction by a Cold-adapted Bacterium, *Shewanella livingstonensis* Ac10, *Trace Nutr. Res.*, **33**, 35-42 (2016).

Sugiura, M.; Park, J.; Kawamoto, J.; Esaki, N.; Kurihara, T., Regulatory Mechanism of Membrane Protein Production in an EPA-Producing Bacterium, *Shewanella livingstonensis* Ac10, *Trace Nutr. Res.*, **33**, 63-72 (2016).

[Others]

Kurihara, T., Pentose Phosphate Pathway; Heterolactic Fermentation Via Phosphoketolase Pathway; Stickland Reaction, *Applied Microbiology*, 3rd Ed., 94-97 (2016) (in Japanese).

DIVISION OF MULTIDISCIPLINARY CHEMISTRY — Polymer Materials Science —

Nishida, K.; Saiga, M.; Fujishima, Y.; Ogawa, H.; Kanaya, T., Quasi-Equilibrium Gelation Temperature of Aqueous Methylcellulose, *J. Fiber Sci. Technol.*, **72**, 251-257 (2016).

Henmi, K.; Sato, H.; Matsuba, G.; Tsuji, H.; Nishida, K.; Kanaya, T.; Toyohara, K.; Oda, A.; Endou, K., Isothermal Crystallization Process of Poly(L lactic acid)/Poly(D lactic acid) Blends after Rapid Cooling from the Melt, *ACS Omega*, **1**, 476-482 (2016).

Kanaya, T.; Ogino, Y.; Mizuike, A.; Miyazaki, T.; Inoue, R.; Nishida, K., A study on Polymerization-Induced Phase Separation (PIPS) of Epoxy Solution in Oligoethylene Glycol Aiming at Controlling the Characteristic Length, *J. Fiber Sci. Technol.*, **72**, 126-131 (2016).

Hirai, Y.; Terashima, T.; Takenaka, M.; Sawamoto, M., Precision Self-Assembly of Amphiphilic Random Copolymers into Uniform and Self-Sorting Nanocompartments in Water, *Macromolecules*, **49**, 5084-5091 (2016).

Wang, Y.-C.; Kim, M.-I.; Akasaka, S.; Saijo, K.; Hasegawa, H.; Hikima, T.; Takenaka, M., Fddd Structure in Polystyrene-block-polyisoprene Diblock Copolymer/Polystyrene Homopolymer Blends, *Macromolecules*, **49**, 2257-2261 (2016).

Matsumoto, K.; Terashima, T.; Sugita, T.; Takenaka, M.; Sawamoto, M., Amphiphilic Random Copolymers with Hydrophobic/Hydrogen-Bonding Urea Pendant: Self-Folding Polymers in Aqueous and Organic Media, *Macromolecules*, **49**, 7917-7927 (2016).

Ishige, R.; Ohta, N.; Ogawa, H.; Tokita, M.; Takahara, A., Fully Liquid-Crystalline ABA Triblock Copolymer of Fluorinated Side-Chain Liquid-Crystalline A Block and Main-Chain Liquid-Crystalline, B Block: Higher Order Structure in Bulk and Thin Film States, *Macromolecules*, **49**, 6061-6074 (2016).

Ogawa, H.; Takenaka, M.; Miyazaki, T.; Fujiwara, A.; Lee, B.; Shimokita, K.; Nishibori, E.; Takata, M., Direct Observation on Spin-Coating Process of PS-*b*-P2VP Thin Films, *Macromolecules*, **49**, 3471-3477 (2016).

[Others]

Nishida, K., Observation of Structures in μm-scale by Small-angle Light Scattering, in Ishii, T. Ed., *Information for Consultants in Colloid and Surface Science*, 493-498 (2016) (in Japanese).

— Molecular Rheology —

Ankiewicz, S.; Orbey, H.; Watanabe, H.; Lentzakis, H.; Dealy, J., On the Use of Continuous Relaxation Spectra to Characterize Model Polymers, *J. Rheol.*, **60**, 1115-1120 (2016).

Doi, Y.; Takano, A.; Matsushita, Y., Synthesis and Characterization of Dumbbell-Shaped Polystyrene, *Polymer*, **106**, 8-13 (2016).

Matsumiya, Y.; Watanabe, H.; Urakawa, O.; Inoue, T., Experimental Test for Viscoelastic Relaxation of Polyisoprene Undergoing Monofunctional Head-to-Head Association and Dissociation, *Macromolecules*, **49(18)**, 7088-7095 (2016).

Matsumiya, Y.; Watanabe, H., Nonlinear Stress Relaxation of Miscible Polyisoprene/Poly(p-tert-butylstyrene) Blends in Pseudomonodisperse State, *Macromolecules*, **49(12)**, 4544-4556 (2016).

Kwon, Y.; Matsumiya, Y.; Watanabe, H., Viscoelastic and Orientational Relaxation of Linear and Ring Rouse Chains Undergoing Reversible End-Association and Dissociation, *Macromolecules*, **49(9)**, 3593-3607 (2016).

Doi, Y.; Iwasa, Y.; Watanabe, K.; Nakamura, M.; Takano, A.; Takahashi, Y.; Matsushita, Y., Synthesis and Characterization of Comb-Shaped Ring Polystyrenes, *Macromolecules*, **49(8)**, 3109-3115 (2016).

Rakkapao, N.; Watanabe, H.; Matsumiya, Y.; Masubuchi, Y., Dielectric Relaxation and Ionic Conductivity of a Chitosan/Poly(ethylene oxide) Blend Doped with Potassium and Calcium Cations, *J. Soc. Rheol. Japan*, **44(2)**, 89-97 (2016).

Masubuchi, Y.; Watanabe, H., Stress-Optical Relationship in Bead-Spring Simulations for Entangled Polymers under Start-up Shear Flows, *J. Soc. Rheol. Japan*, **44(1)**, 65-68 (2016).

ADVANCED RESEARCH CENTER FOR BEAM SCIENCE

— Particle Beam Science —

Fuwa, Y.; Iwashita, Y.; Tongu, H.; Inoue, S.; Hashida, M.; Sakabe, S.; Okamura, M.; Yamazaki, A., RF Synchronized Short Pulse Laser Ion Source, *Rev. Sci. Instrum.*, **87**, [02A911-1]-[02A911-4] (2016).

Iwashita, Y.; Tongu, H.; Fuwa, Y.; Ichikawa, M., Compact Permanent Magnet H⁺ ECR Ion Source with Pulse Gas Valve, *Rev. Sci. Instrum.*, **87(2)**, [02A718-1]-[02A718-3] (2016).

Imajo, S.; Mishima, K.; Kitaguchi, M.; Iwashita, Y.; Yamada, N. L.; Hino, M.; Oda, T.; Ino, T.; Shimizu, H. M.; Yamashita, S.; Katayama, R., Pulsed Ultra-cold Neutron Production Using a Doppler Shifter at J-PARC, *Prog. Theor. Exp. Phys.*, **2016(1)**, 013C02-1-22 (2016).

Otani, M.; Mibe, T.; Yoshida, M.; Hasegawa, K.; Kondo, Y.; Hayashizaki, N.; Iwashita, Y.; Iwata, Y.; Kitamura, R.; Saito, N., Interdigital H-mode Drift-tube Linac Design with Alternative Phase Focusing for Muon Linac, *Phys. Rev. Accel. Beams*, **19**, [040101-1]-[040101-8] (2016).

Adeva, B.; Afanasyev, L.; Allkofer, Y.; Amsler, C.; Anania, A.; Aogaki, S.; Benelli, A.; Brekhovskikh, V.; Caragheorghopol, Gh.; Cechak, T.; Chiba, M.; Chliapnikov, P.; Ciocarlan, C.; Constantinescu, S.; Detraz, C.; Doskarova, P.; Drijard, D.; Dudarev, A.; Duma, M.; Dumitriu, D.; Flueraşu, D.; Gorin, A.; Gorchakov, O.; Gritsay, K.; Guaraldo, C.; Gugiu, M.; Hansroul, M.; Hons, Z.; Horikawa, S.; Iwashita, Y.; Karpukhin, V.; Kluson, J.; Kobayashi, M.; Kruglov, V.; Kruglova, L.; Kulikov, A.; Kulish, E.; Kuptsov, A.; Lamberto, A.; Lanaro, A.; Lednický, R.; Mariñas, C.; Martincik, J.; Nemenov, L.; Nikitin, M.; Okada, K.; Olchevskii, V.; Pentia, M.; Penzo, A.; Plo, M.; Prusa, P.; Rappazzo, G. F.; Romero Vidal, A.; Ryazantsev, A.; Rykalin, V.; Saborido, J.; Schacher, J.; Sidorov, A.; Smolik, J.; Takeuchi, F.; Tauscher, L.; Trojek, T.; Trusov, S.; Ullaland, O.; Urban, T.; Vrba, T.; Yazkov, V.; Yoshimura, Y.; Zhabitsky, M.; Zrelov, P., Upgraded DIRAC Spectrometer at CERN PS for the Investigation of $\pi\pi$ and πK Atoms, *Nucl. Instrum. Meth.*, **A839**, 52-85 (2016).

[Others]

Otani, M.; Mibe, T.; Yoshida, M.; Hasegawa, K.; Kondo, Y.; Hayashizaki, N.; Iwashita, Y.; Iwata, Y.; Kitamura, R.; Saito, N., APF IH-DTL Design for the Muon LINAC in the J-PARC Muon g-2/EDM Experiment, *Proceedings of the 7th International Particle Accelerator Conference, IPAC'16*, 1539-1542 (2016).

Otani, M.; Mibe, T.; Naito, F.; Saito, N.; Yoshida, M.; Hasegawa, K.; Ito, T.; Kondo, Y.; Hayashizaki, N.; Iwashita, Y.; Iwata, Y.; Kitamura, R., Development of Muon LINAC for the Muon g-2/EDM Experiment at J-PARC, *Proceedings of the 7th International Particle Accelerator Conference, IPAC'16*, 1543-1546 (2016).

Kubo, T.; Saeki, T.; Cenni, E.; Hajima, R.; Sawamura, M.; Hokonohara, H.; Iwashita, Y.; Tongu, H., Multipactor Simulations in 650 MHz Superconducting Spoke Cavity for an Electron Accelerator, *Proceedings of the 7th International Particle Accelerator Conference, IPAC'16*, 2161-2163 (2016).

Saeki, T.; Hayano, H.; Kubo, T.; Iwashita, Y.; Oikawa, H., Construction of Measurement System for Superconducting Characteristics on Thin-film Samples at KEK, *Proceedings of the 7th International Particle Accelerator Conference, IPAC'16*, 2167-2169 (2016).

Tongu, H.; Hokonohara, H.; Iwashita, Y.; Hajima, R.; Sawamura, M.; Hayano, H.; Kubo, T.; Saeki, T.; Yamamoto, Y., Study on Nondestructive Inspections for Superconducting Cavity, *Proceedings of the 7th International Particle Accelerator Conference, IPAC'16*, 2174-2176 (2016).

Sawamura, M.; Hajima, R.; Hokonohara, H.; Iwashita, Y.; Tongu, H.; Kubo, T.; Saeki, T., Fabrication of Superconducting Spoke Cavity for Laser Compton Scattered Photon Sources, *Proceedings of the 7th International Particle Accelerator Conference, IPAC'16*, 2177-2179 (2016).

Kondo, Y.; Hasegawa, K.; Ito, T.; Artikova, S.; Otani, M.; Mibe, T.; Naito, F.; Yoshida, M.; Kitamura, R.; Iwashita, Y.; Iwata, Y.; Hayashizaki, N.; Saito, N., The Muon Linac for the Precise Measurement of Muon g-2/EDM at J-PARC, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan, MOOM04* (2016) (in Japanese).

Fuwa, Y.; Iwashita, Y.; Inoue, S.; Hashida, M.; Sakabe, S.; Tongu, H., Development of RF Synchronized Short Pulse Laser Ion Source, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan, WEOM04* (2016) (in Japanese).

Imajo, S.; Iwashita, Y.; Mishima, K.; Kitaguchi, M.; Shimizu, H. M.; Ino, T.; Yamashita, S., Present Status of Ultracold Neutron Rebounder, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan, MOP009* (2016) (in Japanese).

Oikawa, H.; Higashiguchi, T.; Iwashita, Y.; Hino, M.; Kubo, T.; Kato, S.; Saeki, T.; Hayano, H., Design Study of Niobium Mushroom-shaped Cavity for Evaluating RF Critical Magnetic Field of Thin-Film Superconductor, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan, MOP021* (2016) (in Japanese).

Iwashita, Y.; Tongu, H.; Fuwa, Y.; Saeki, T.; Kubo, T., Characteristics Measurements on Sc Thin Foil, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan, TUP014* (2016) (in Japanese).

Otani, M.; Hasegawa, K.; Hayashizaki, N.; Iwashita, Y.; Iwata, Y.; Kitamura, R.; Kondo, Y.; Mibe, T.; Saito, N.; Yoshida, M., Interdigital H-mode Drift-tube Linac Design with Alternative Phase Focusing for Muon Linac, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan*, TUP017 (2016) (in Japanese).

Sawamura, M.; Hajima, R.; Saeki, T.; Kubo, T.; Iwashita, Y.; Tongu, H.; Hokonohara, H., Press Forming Test of Superconducting Spoke Cavity, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan*, TUP024 (2016) (in Japanese).

Fuwa, Y.; Iwashita, Y.; Tongu, H., Simulation of Klystron Beam Focusing by Permanent Magnet, *Proceedings of the 13th Annual Meeting of Particle Accelerator Society of Japan*, TUP030 (2016) (in Japanese).

Imajo, S.; Iwashita, Y.; Mishima, K.; Kitaguchi, M.; Shimizu, H. M.; Ino, T.; Yamashita, S., Development of Ultracold Neutron Accelerator for Time Focusing of Pulsed Neutrons, *Proceedings of 28th Linear Accelerator Conference*, MOPRC001 (2016).

— Laser Matter Interaction Science —

Fuwa, Y.; Iwashita, Y.; Tongu, H.; Inoue, S.; Hashida, M.; Sakabe, S.; Okamura, M.; Yamazaki, A., RF Synchronized Short Pulse Laser Ion Source, *Rev. Sci. Instrum.*, **87**, [02A911-1]-[02A911-4] (2016).

Hashida, M.; Nishii, T.; Miyasaka, Y.; Sakagami, H.; Shimizu, M.; Inoue, S.; Sakabe, S., Orientation of Periodic Grating Structures Controlled by Double-pulse Irradiation, *Appl. Phys. A*, **122**, [1]-[5] (2016).

Furukawa, Y.; Sakata, R.; Konishi, K.; Ono, K.; Matsuoka, S.; Watanabe, K.; Inoue, S.; Hashida, M.; Sakabe, S., Demonstration of Periodic Nanostructure Formation with Less Ablation by Double-pulse Laser Irradiation on Titanium, *Appl. Phys. Lett.*, **108**, [264101-1]-[264101-4] (2016).

Inoue, S.; Maeda, K.; Tokita, S.; Mori, K.; Teramoto, K.; Hashida, M.; Sakabe, S., Single Plasma Mirror Providing 10(4) Contrast Enhancement and 70% Reflectivity for Intense Femtosecond Lasers, *Appl. Opt.*, **55**, [5647]-[5651] (2016).

Inoue, S.; Maeda, K.; Tokita, S.; Mori, K.; Teramoto, K.; Hashida, M.; Sakabe, S., Single Plasma Mirror Providing 10(4) Contrast Enhancement and 70% Reflectivity for Intense Femtosecond Lasers: Publisher's Note (vol 55, pg 5647, 2016), *Appl. Opt.*, **55**, [6435]-[6435] (2016).

Arikawa, Y.; Kojima, S.; Morace, A.; Sakata, S.; Gawa, T.; Taguchi, Y.; Abe, Y.; Zhang, Z.; Vaisseau, X.; Lee, S. H.; Matsuo, K.; Tosaki, S.; Hata, M.; Kawabata, K.; Kawakami, Y.; Ishida, M.; Tsuji, K.; Matsuo, S.; Morio, N.; Kawasaki, T.; Tokita, S.; Nakata, Y.; Jitsuno, T.; Miyana, N.; Kawanaka, J.; Nagatomo, H.; Yogo, A.; Nakai, M.; Nishimura, H.; Shiraga, H.; Fujioka, S.; Azechi, H.; Sunahara, A.; Johzaki, T.; Ozaki, T.; Sakagami, H.; Sagisaka, A.; Ogura, K.; Pirozhkov, A. S.; Nishikino, M.; Kondo, K.; Inoue, S.; Teramoto, K.; Hashida, M.; Sakabe, S., Ultrahigh-contrast Kilojoule-class Petawatt LFEX Laser Using a Plasma Mirror, *Appl. Opt.*, **55**, [6850]-[6857] (2016).

Hashida, M.; Miyasaka, Y.; Nishii, T.; Shimizu, M.; Inoue, S.; Sakabe, S., Threshold Fluence for Femtosecond Laser Nanoablation for Metals, *Electron. Comm. Jpn.*, **99**, [88]-[95] (2016).

— Electron Microscopy and Crystal Chemistry —

Tsai, C. H.; Chen, S. Y.; Song, J. M.; Haruta, M.; Kurata, H., Effect of Ag Templates on the Formation of Au-Ag Hollow/Core-Shell Nanostructures, *Nanoscale Res. Lett.*, **10**, [438-1]-[438-9] (2015).

Zhu, Y.; Shimizu, T.; Kitajima, T.; Morisato, K.; Moitra, N.; Brun, N.; Kiyomura, T.; Kanamori, K.; Takeda, K.; Kurata, H.; Tafu, M.; Nakanishi, K., Synthesis of Robust Hierarchically Porous Zirconium Phosphate Monolith for Efficient Ion Adsorption, *New J. Chem.*, **39**, 2444-2450 (2015).

Zhu, Y.; Morisato, K.; Hasegawa, G.; Moitra, N.; Kiyomura, T.; Kurata, H.; Kanamori, K.; Nakanishi, K., High-performance Liquid Chromatography Separation of Unsaturated Organic Compounds by a Monolithic Silica Column Embedded with Silver Nanoparticles, *J. Sep. Sci.*, **38**, 2841-2847 (2015).

Zhu, Y.; Yoneda, K.; Kanamori, K.; Takeda, K.; Kiyomura, T.; Kurata, H.; Nakanishi, K., Hierarchically Porous Titanium Phosphate Monoliths and Their Crystallization Behavior in Ethylene Glycol, *New J. Chem.*, **40**, 4153-4159 (2016).

Shirai, K.; Sugimoto, T.; Watanabe, K.; Haruta, M.; Kurata, H.; Matsumoto, Y., Effect of Water Adsorption on Carrier Trapping Dynamics at the Surface of Anatase TiO₂ Nanoparticles, *Nano Lett.*, **16**, 1323-1327 (2016).

Wu, H. L.; Sato, R.; Yamaguchi, A.; Kimura, M.; Haruta, M.; Kurata, H.; Teranishi, T., Formation of Pseudomorphic Nanocages from Cu₂O Nanocrystals through Anion Exchange Reactions, *Science*, **351**, 1306-1310 (2016).

Kan, D.; Aso, R.; Sato, R.; Haruta, M.; Kurata, H.; Shimakawa, Y., Tuning Magnetic Anisotropy by Interfacially Engineering the Oxygen Coordination Environment in a Transition Metal Oxide, *Nature Mater.*, **15**, 432-437 (2016).

Hasegawa, G.; Kanamori, K.; Kiyomura, T.; Kurata, H.; Abe, T.; Nakanishi, K., Hierarchically Porous Carbon Monoliths Comprising Ordered Mesoporous Nanorod Assemblies for High-Voltage Aqueous Supercapacitors, *Chem. Mater.*, **28**, 3944-3950 (2016).

Haruta, M.; Hosaka, Y.; Ichikawa, N.; Saito, T.; Shimakawa, Y.; Kurata, H., Determination of Elemental Ratio in an Atomic Column by Electron Energy Loss Spectroscopy, *ACS Nano*, **10**, 6680-6684 (2016).

Shoji, S.; Ogawa, T.; Hashishin, T.; Ogasawara, S.; Watanabe, H.; Usami, H.; Tamiaki, H., Nanotubes of Biomimetic Supramolecules Constructed by Synthetic Metal Chlorophyll Derivatives, *Nano Lett.*, **16**, 3650-3654 (2016).

Chen, L. H.; Sakamoto, M.; Haruta, M.; Nemoto, T.; Sato, R.; Kurata, H.; Teranishi, T., Tin Ion Directed Morphology Evolution of Copper Sulfide Nanoparticles and Tuning of Their Plasmonic Properties via Phase Conversion, *Langmuir*, **32**, 7582-7587 (2016).

— Structural Molecular Biology —

Fujii, T.; Sato, A.; Okamoto, Y.; Yamauchi, T.; Kato, S.; Yoshida, M.; Oikawa, T.; Hata, Y., The Crystal Structure of Maleylacetate Reductase from *Rhizobium* sp. strain MTP-10005 Provides Insights into the Reaction Mechanism of Enzymes in its Original Family, *Proteins*, **84**, 1029-1042 (2016).

INTERNATIONAL RESEARCH CENTER FOR ELEMENTS SCIENCE

— Synthetic Organotransformation —

Yoshida, R.; Isozaki, K.; Yokoi, T.; Yasuda, N.; Sadakane, K.; Iwamoto, T.; Takaya, H.; Nakamura, M., ONO-Pincer Ruthenium Complex-Bound Norvaline for Efficient Catalytic Oxidation of Methoxybenzenes with Hydrogen Peroxide, *Org. Biomol. Chem.*, **14**, 7468-7479 (2016).

Naito, W.; Yasuda, N.; Morimoto, T.; Shigeta, Y.; Takaya, H.; Hisaki, I.; Maeda, H., Doubly *N*-Methylated Porphyrinoids, *Org. Lett.*, **18**, 3006-3009 (2016).

Bando, Y.; Haketa, Y.; Sakurai, T.; Matsuda, W.; Seki, S.; Takaya, H.; Maeda, H., Ion-Pairing Assemblies Based on Pentacyano-Substituted Cyclopentadienide as a π -Electronic Anion, *Chem. Eur. J.*, **22**, 7843-7850 (2016).

Yamaguchi, A.; Isozaki, K.; Nakamura, M.; Takaya, H.; Watanabe, T., Discovery of 12-Mer Peptides That Bind to Wood Lignin, *Sci. Rep.*, **6**, [21833-1]-[21833-11] (2016).

Isozaki, K.; Yokoi, T.; Yoshida, R.; Ogata, K.; Hashizume, D.; Yasuda, N.; Sadakane, K.; Takaya, H.; Nakamura, M., Synthesis and Applications of ONO-Pincer Ruthenium-Complex-Bound Norvalines, *Chem. Asian. J.*, **11**, 1076-1091 (2016).

[Others]

Takaya, H.; Nakajima, S.; Nakamura, M., Synchrotron X-ray Absorption Spectroscopy and Solution-Phase Structure of Organoiron Catalysts, *Chemistry & Chemical Industry*, **69**, 391-393 (2016) (in Japanese).

— Advanced Solid State Chemistry —

Seki, H.; Hosaka, Y.; Saito, T.; Mizumaki, M.; Shimakawa, Y., Ferromagnetism Induced by Substitution of the Iron(IV) Ion by an Unusual High-valence Nickel(IV) Ion in Antiferromagnetic SrFeO₃, *Angew. Chem. Int. Ed.*, **55**, 1360-1363 (2016).

Kawakami, T.; Sekiya, Y.; Miura, A.; Kobayashi, K.; Tokumichi, K.; Yamada, I.; Mizumaki, M.; Kawamura, N.; Shimakawa, Y.; Ohishi, Y.; Hirao, N.; Ishimatsu, N.; Hayashi, N.; Takano, M., Two-step Suppression of Charge Disproportionation in CaCu₃Fe₄O₁₂ under High Pressure, *J. Phys. Soc. Jpn.*, **85**, [034716-1]-[034716-6] (2016).

Kan, D.; Orikasa, Y.; Nitta, K.; Tanida, H.; Kurosaki, R.; Nishimura, T.; Sasaki, T.; Guo, H.; Ozaki, Y.; Uchimoto, Y.; Shimakawa, Y., Overpotential-induced Introduction of Oxygen Vacancy in La_{0.67}Sr_{0.33}MnO₃ Surface and Its Impact on Oxygen Reduction Reaction Catalytic Activity in Alkaline Solution, *J. Phys. Chem. C*, **120**, 6006-6010 (2016).

Heo, Y.; Kan, D.; Shimakawa, Y.; Seidel, J., Resistive Switching Properties of Epitaxial BaTiO_{3- δ} Thin Films Tuned by After-growth Oxygen Cooling Pressure, *Phys. Chem. Chem. Phys.*, **18**, 197-204 (2016).

Kan, D.; Aso, R.; Sato, R.; Haruta, M.; Kurata, H.; Shimakawa, Y., Tuning Magnetic Anisotropy by Interfacially Engineering the Oxygen Coordination Environment in a Transition Metal Oxide, *Nature Materials*, **15**, 432-437 (2016).

Haruta, M.; Hosaka, Y.; Ichikawa, N.; Saito, T.; Shimakawa, Y.; Kurata, H., Determination of Elemental Ratio in an Atomic Column by Electron Energy Loss Spectroscopy, *ACS Nano*, **10**, 6680-6684 (2016).

Xiong, P.; Seki, H.; Guo, H.; Hosaka, Y.; Saito, T.; Mizumaki, M.; Shimakawa, Y., Geometrical Spin Frustration of Unusually High Valence Fe⁵⁺ in the Double Perovskite La₂LiFeO₆, *Inorg. Chem.*, **55**, 6218-6222 (2016).

Hosaka, Y.; Ichikawa, N.; Saito, T.; Mizumaki, M.; Shimakawa, Y., A Layered Double Perovskite Ca₂FeMnO₆ with Unusually High Valence Fe⁴⁺ Obtained by Low-Temperature Topotactic Oxidation, *J. Jpn. Soc. Powder Powder Metallurgy*, **63**, 605-608 (2016).

Seki, H.; Saito, T.; Shimakawa, Y., High Pressure Synthesis of SrFe_{1-x}Ni_xO₃, *J. Jpn. Soc. Powder Powder Metallurgy*, **63**, 609-612 (2016).

Kan, D.; Wakabayashi, Y.; Tajiri, H.; Shimakawa, Y., Interfacially Engineered Oxygen Octahedral Rotations and Their Impact on Strain Relief in Coherently Grown SrRuO₃ Films, *Phys. Rev. B*, **94**, [024112-1]-[024112-6] (2016).

Hosaka, Y.; Ichikawa, N.; Saito, T.; Attfield, J. P.; Shimakawa, Y., Charge and Spin Order in the Perovskite CaFe_{0.5}Mn_{0.5}O₃: Charge Disproportionation Behavior of Randomly Arranged Fe⁴⁺, *Phys. Rev. B*, **94**, [104429-1]-[104429-5] (2016).

Gustin, L.; Hosaka, Y.; Tassel, C.; Aharen, T.; Shimakawa, Y.; Kageyama, H.; Wiley, J. B., From Tetrahedral to Octahedral Iron Coordination: Layer Compression in Topochemically Prepared FeLa₂Ti₃O₁₀, *Inorg. Chem.*, **55**, 11529-11537 (2016).

Manabe, K.; Ichikawa, N.; Saito, T.; Kan, D.; Shimakawa, Y., Crystal Structures and B-site Cation Valences of A-site Layered Perovskites, GdBa(Fe_{0.5}Mn_{0.5})₂O_x (x=5,6), *J. Jpn. Soc. Powder Powder Metallurgy*, **63**, 33-37 (2016) (in Japanese).

Kan, D.; Shimakawa, Y., Direct Observation and Engineering of Oxygen Coordination Environments in Oxide Heterostructures, *J. Jpn. Soc. Powder Powder Metallurgy*, **63**, 829-834 (2016) (in Japanese).

[Others]

Shimakawa, Y., A Novel Half-metallic Transition-metal Oxide with a High Transition Temperature: Control of the Spin Structure by Cation Ordering in Oxides, *Oyo Buturi*, **85**, 212-217 (2016) (in Japanese).

— Organometallic Chemistry —

Nakajima, Y.; Tsuchimoto, T.; Chang, Y.-H.; Takeuchi, K.; Ozawa, F., Reactions of [Cu(X)(BPEP-Ph)] (X = PF₆, SbF₆) with Silyl Compounds. Cooperative Bond Activation Involving Non-coordinating Anions, *Dalton Trans.*, **45**, 2079-2084 (2016).

Chang, Y.-H.; Tanigawa, I.; Taguchi, H.; Takeuchi, K.; Ozawa, F., Iridium(I) Complexes Bearing a Noninnocent PNP-Pincer-Type Phosphaalkene Ligand: Catalytic Application in the Base-Free *N*-Alkylation of Amines with Alcohols, *Eur. J. Inorg. Chem.*, **2016**, 754-760 (2016).

- Iizuka, E.; Wakioka, M.; Ozawa, F., Mixed-Ligand Approach to Palladium-Catalyzed Direct Arylation Polymerization: Effective Prevention of Structural Defects Using Diamines, *Macromolecules*, **49**, 3310-3317 (2016).
- Taguchi, H.; Sasaki, D.; Takeuchi, K.; Tsujimoto, S.; Matsuo, T.; Tanaka, H.; Yoshizawa, K.; Ozawa, F., Unsymmetrical PNP-Pincer Type Phosphaalkene Ligands Protected by a Fused-Ring Bulky Eind Group: Synthesis and Applications to Rh(I) and Ir(I) Complexes, *Organometallics*, **35**, 1526-1533 (2016).
- Pouliot, J.-R.; Wakioka, M.; Ozawa, F.; Li, Y.-N.; Leclerc, M., Structural Analysis of Poly(3-hexylthiophene) Prepared via Direct Heteroarylation Polymerization, *Macromol. Chem. Phys.*, **217**, 1493-1500 (2016).
- Ozawa, F.; Nakajima, Y., PNP-Pincer-Type Phosphaalkene Complexes of Late Transition Metals, *Chem. Rec.*, **16**, 2314-2323 (2016).
- Takeuchi, K.; Taguchi, H.; Tanigawa, I.; Tsujimoto, S.; Matsuo, T.; Tanaka, H.; Yoshizawa, K.; Ozawa, F., A Square-Planar Complex of Platinum(0), *Angew. Chem. Int. Ed.*, **55**, 15347-15350 (2016).
- **Nanophotonics** —
- Le, P. Q.; Nakaike, Y.; Wakamiya, A.; Kanemitsu, Y., Free Excitons and Exciton-Phonon Coupling in $\text{CH}_3\text{NH}_3\text{PbI}_3$ Single Crystals Revealed by Photocurrent and Photoluminescence Measurements at Low Temperatures, *J. Phys. Chem. Lett.*, **7**, 4905-4910 (2016).
- Tex, D. M.; Akahane, K.; Kanemitsu, Y., Intrinsic Trade-off between Up-Conversion and Trapping Rates in InAs Quantum Dots for Intermediate-Band Solar Cells, *Phys. Rev. Applied*, **6**, [044003-1]-[044003-10] (2016).
- Ibuki, H.; Ihara, T.; Kanemitsu, Y., Spectral Diffusion of Emissions of Excitons and Trions in Single CdSe/ZnS Nanocrystals: Charge Fluctuations in and around Nanocrystals, *J. Phys. Chem. C*, **120**, 23772-23779 (2016).
- Yamashita, D.; Handa, T.; Ihara, T.; Tahara, H.; Shimazaki, A.; Wakamiya, A.; Kanemitsu, Y., Charge Injection at the Heterointerface in Perovskite $\text{CH}_3\text{NH}_3\text{PbI}_3$ Solar Cells Studied by Simultaneous Microscopic Photoluminescence and Photocurrent Imaging Spectroscopy, *J. Phys. Chem. Lett.*, **7**, 3186-3191 (2016).
- Ihara, T., Biexciton Cascade Emission Reveals Absolute Absorption Cross Section of Single Semiconductor Nanocrystals, *Phys. Rev. B*, **93**, [235442-1]-[235442-7] (2016).
- Le, P. Q.; Yamada, Y.; Nagai, M.; Maruyama, N.; Wakamiya, A.; Kanemitsu, Y., Free Carriers versus Excitons in $\text{CH}_3\text{NH}_3\text{PbI}_3$ Perovskite Thin Films at Low Temperatures: Charge Transfer from the Orthorhombic Phase to the Tetragonal Phase, *J. Phys. Chem. Lett.*, **7**, 2316-2321 (2016).
- Yamada, Y.; Yamada, T.; Shimazaki, A.; Wakamiya, A.; Kanemitsu, Y., Interfacial Charge-Carrier Trapping in $\text{CH}_3\text{NH}_3\text{PbI}_3$ -Based Heterolayered Structures Revealed by Time-Resolved Photoluminescence Spectroscopy, *J. Phys. Chem. Lett.*, **7**, 1972-1977 (2016).
- Sakamoto, M.; Inoue, K.; Okano, M.; Saruyama, M.; Kim, S.; So, Y.-G.; Kimoto, K.; Kanemitsu, Y.; Teranishi, T., Light-Stimulated Carrier Dynamics of $\text{CuInS}_2/\text{CdS}$ Heterotetrapod Nanocrystals, *Nanoscale*, **8**, 9517-9520 (2016).
- Handa, T.; Tex, D. M.; Shimazaki, A.; Aharen, T.; Wakamiya, A.; Kanemitsu, Y., Optical Characterization of Voltage-Accelerated Degradation in $\text{CH}_3\text{NH}_3\text{PbI}_3$ Perovskite Solar Cells, *Opt. Express*, **24**, A917-A924 (2016).
- Zhu, L.; Mochizuki, T.; Yoshita, M.; Chen, S.; Kim, C.; Akiyama, H.; Kanemitsu, Y., Conversion Efficiency Limits and Bandgap Designs for Multi-Junction Solar Cells with Internal Radiative Efficiencies below Unity, *Opt. Express*, **24**, A740-A751 (2016).
- Zhu, L.; Yoshita, M.; Nakamura, T.; Imaizumi, M.; Kim, C.; Mochizuki, T.; Chen, S.; Kanemitsu, Y.; Akiyama, H., Characterization and Modeling of Radiation Damages via Internal Radiative Efficiency in Multi-Junction Solar Cells, *Proc. SPIE*, **9743**, [97430U-1]-[97430U-7] (2016).
- Yoshita, M.; Zhu, L.; Kim, C.; Mochizuki, T.; Nakamura, T.; Imaizumi, M.; Chen, S.; Kubota, H.; Kanemitsu, Y.; Akiyama, H., Calibration Standards and Measurement Accuracy of Absolute Electroluminescence and Internal Properties in Multi-Junction and Arrayed Solar Cells, *Proc. SPIE*, **9743**, [97430D-1]-[97430D-6] (2016).
- Ibuki, H.; Ihara, T.; Kanemitsu, Y., Photoluminescence Blinking and Spectral Diffusion of Single CdSe/ZnS Nanocrystals: Charge Fluctuation Effects, *Proc. SPIE*, **9758**, [97580R-1]-[97580R-8] (2016).
- Handa, T.; Okano, M.; Tex, D. M.; Shimazaki, A.; Aharen, T.; Wakamiya, A.; Kanemitsu, Y., Carrier Injection and Recombination Processes in Perovskite $\text{CH}_3\text{NH}_3\text{PbI}_3$ Solar Cells Studied by Electroluminescence Spectroscopy, *Proc. SPIE*, **9745**, [97451I-1]-[97451I-7] (2016).
- Tahara, H.; Endo, M.; Wakamiya, A.; Kanemitsu, Y., Experimental Evidence of Localized Shallow States in Orthorhombic Phase of $\text{CH}_3\text{NH}_3\text{PbI}_3$ Perovskite Thin Films Revealed by Photocurrent Beat Spectroscopy, *J. Phys. Chem. C*, **120**, 5347-5352 (2016).
- Tahara, H.; Kanemitsu, Y., Observation of Localized States in Bulk GaAs Using Ultrafast Photocurrent Beat Spectroscopy, *Appl. Phys. Express*, **9**, [032403-1]-[032403-4] (2016).
- Mochizuki, T.; Kim, C.; Yoshita, M.; Mitchell, J.; Lin, Z.; Chen, S.; Takato, H.; Kanemitsu, Y.; Akiyama, H., Solar-Cell Radiance Standard for Absolute Electroluminescence Measurements and Open-Circuit Voltage Mapping of Silicon Solar Modules, *J. Appl. Phys.*, **119**, [034501-1]-[034501-8] (2016).
- Yamada, T.; Yamada, Y.; Nishimura, H.; Nakaike, Y.; Wakamiya, A.; Murata, Y.; Kanemitsu, Y., Fast Free-Carrier Diffusion in $\text{CH}_3\text{NH}_3\text{PbBr}_3$ Single Crystals Revealed by Time-Resolved One- and Two-Photon Excitation Photoluminescence Spectroscopy, *Adv. Electron. Mater.*, **2**, [1500290-1]-[1500290-5] (2016).
- Zhu, L.; Yoshita, M.; Chen, S.; Nakamura, T.; Mochizuki, T.; Kim, C.; Imaizumi, M.; Kanemitsu, Y.; Akiyama, H., Characterizations of Radiation Damages in Multi-Junction Solar Cells Focused on Subcell Internal Luminescence Quantum Yields via Absolute Electroluminescence Measurements, *IEEE J. Photovolt.*, **6**, 777-782 (2015).

Nishihara, T.; Yamada, Y.; Okano, M.; Kanemitsu, Y., Dynamics of the Lowest-Energy Excitons in Single-Walled Carbon Nanotubes under Resonant and Nonresonant Optical Excitation, *J. Phys. Chem. C*, **119**, 28654-28659 (2015).

BIOINFORMATICS CENTER

— Chemical Life Science —

Yoshizawa, A. C., Which Database to Use? —Confusions and Puzzles in Database Search and Sequence Analysis—, *Proteome Lett.*, **1**, 63-80 (2016) (in Japanese).

Roux, S.; Brum, J. R.; Dutilh, B. E.; Sunagawa, S.; Duhaime, M. B.; Loy, A.; Poulos, B. T.; Solonenko, N.; Lara, E.; Poulain, J.; Pesant, S.; Kandels-Lewis, S.; Dimier, C.; Picheral, M.; Searson, S.; Cruaud, C.; Alberti, A.; Duarte, C. M.; Gasol, J. M.; Vaque, D.; Tara Oceans Coordinators; Bork, P.; Acinas, S. G.; Wincker, P.; Sullivan M. B., Ecogenomics and Potential Biogeochemical Impacts of Globally Abundant Ocean Viruses, *Nature*, **537**, 689-693 (2016).

Ben Halima, N.; Khemakhem, B.; Fendri, I.; Ogata, H.; Baril, P.; Pichon, C.; Abdelkafi, S., Identification of a New Oat Beta-Amylase by Functional Proteomics, *Biochim. Biophys. Acta*, **1864**, 52-61 (2016).

Moriya, Y.; Yamada, T.; Okuda, S.; Nakagawa, Z.; Kotera, M.; Tokimatsu, T.; Kanehisa, M.; Goto, S., Identification of Enzyme Genes Using Chemical Structure Alignments of Substrate-Product Pairs, *J. Chem. Inf. Model*, **56**, 510-516 (2016).

Mihara, T.; Nishimura, Y.; Shimizu, Y.; Nishiyama, H.; Yoshikawa, G.; Uehara, H.; Hingamp, P.; Goto, S.; Ogata, H., Linking Virus Genomes with Host Taxonomy, *Viruses*, **8**, 66 (2016).

Mihara, T.; Nasr-Eldin, M. A.; Chatchawankanphanich, O.; Bhunchoth, A.; Phironrit, N.; Kawasaki, T.; Nakano, M.; Fujie, M.; Ogata, H.; Yamada, T., A Ralstonia Solanacearum Phage ϕ RP15 is Closely Related to Viunalikeviruses and Encodes 19 TRNA-Related Sequences, *Virology Reports*, **6**, 61-73 (2016).

Guidi, L.; Chaffron, S.; Bittner, L.; Eveillard, D.; Larhlimi, A.; Roux, S.; Darzi, Y.; Audic, S.; Berline, L.; Brum, J. R.; Coelho, L. P.; Espinoza, J. C. I.; Malviya, S.; Sunagawa, S.; Dimier, C.; Kandels-Lewis, S.; Picheral, M.; Poulain, J.; Searson, S.; Stemmann, L.; Not, F.; Hingamp, P.; Speich, S.; Follows, M.; Karp-Boss, L.; Boss, E.; Ogata, H.; Pesant, S.; Weissenbach, J.; Wincker, P.; Acinas, S. G.; Bork, P.; de Vargas, C.; Iudicone, D.; Sullivan, M. B.; Raes, J.; Karsenti, E.; Bowler, C.; Gorsky, G., Plankton Networks Driving Carbon Export in the Oligotrophic Ocean, *Nature*, **532**, 465-470 (2016).

Lescot, M.; Hingamp, P.; Kojima, K. K.; Villar, E.; Romac, S.; Veluchamy, A.; Boccara, M.; Jaillon, O.; Iudicone, D.; Bowler, C.; Wincker, P.; Claverie, J. M.; Ogata, H., Reverse Transcriptase Genes are Highly Abundant and Transcriptionally Active in Marine Plankton Assemblages, *ISME J.*, **10**, 1134-1146 (2016).

Blanc-Mathieu, R.; Ogata, H., DNA Repair Genes in the Megavirales Pangenome, *Curr. Opin. Microbiol.*, **31**, 94-100 (2016).

Bhunchoth, A.; Blanc-Mathieu, R.; Mihara, T.; Nishimura, Y.; Askora, A.; Phironrit, N.; Leksomboon, C.; Chatchawankanphanich, O.; Kawasaki, T.; Nakano, M.; Fujie, M.; Ogata, H.; Yamada, T., Two Asian Jumbo Phages, ϕ RSL2 and ϕ RSF1, Infect Ralstonia Solanacearum and Show Common Features of ϕ KZ-Related Phages, *Virology*, **494**, 56-66 (2016).

Forster, D.; Dunthorn, M.; Mahe, F.; Dolan, J. R.; Audic, S.; Bass, D.; Bittner, L.; Boutte, C.; Christen, R.; Claverie, J. M.; Decelle, J.; Edvardsen, B.; Egge, E.; Eikrem, W.; Gobet, A.; Kooistra, W. H. C. F.; Logares, R.; Massana, R.; Montresor, M.; Not, F.; Ogata, H.; Pawlowski, J.; Pernice, M. C.; Romac, S.; Shalchian-Tabrizi, K.; Simon, N.; Richards, T. A.; Santini, S.; Sarno, D.; Siano, R.; Vault, D.; Wincker, P.; Zingone, A.; de Vargas, C.; Stoeck, T., Benthic Protists: The Under-Charted Majority, *FEMS Microbiol. Ecol.*, **92**, (2016).

Takami, H.; Taniguchi, T.; Arai, W.; Takemoto, K.; Moriya, Y.; Goto, S., An Automated System for Evaluation of the Potential Functionome: MAPLE version 2.1.0, *DNA Res.*, **23**, 467-475 (2016).

Kotera, M.; Goto, S., Metabolic Pathway Reconstruction Strategies for Central Metabolism and Natural Product Biosynthesis, *Biophysics and Physicobiology*, **13**, 195-205 (2016).

— Mathematical Bioinformatics —

Hasegawa, T.; Niida, A.; Mori, T.; Shimamura, T.; Yamaguchi, R.; Miyano, S.; Akutsu, T.; Imoto, S., A Likelihood-free Filtering Method via Approximate Bayesian Computation in Evaluating Biological Simulation Models, *Comput. Stat. Data An.*, **94**, 63-74 (2016).

Jindalertudomdee, J.; Hayashida, M.; Zhao, Y.; Akutsu, T., Enumeration Method for Tree-like Chemical Compounds with Benzene Rings and Naphthalene Rings by Breadth-first Search Order, *BMC Bioinformatics*, **17**, [113-1]-[113-16] (2016).

Nacher, J. C.; Akutsu, T., Minimum Dominating Set-based Methods for Analyzing Biological Networks, *Methods*, **102**, 57-63 (2016).

Hayashida, M.; Akutsu, T., Complex Network-based Approaches to Biomarker Discovery, *Biomarkers in Medicine*, **10**, 621-632 (2016).

Li, C.; Chang, C. H.; Porebski, B. T.; Hayashida, M.; Akutsu, T.; Song, J.; Buckle, A. M., Critical Evaluation of in silico Methods for Prediction of Coiled-coil Domains in Proteins, *Brief. Bioinform.*, **17**, 270-282 (2016).

Ishitsuka, M.; Akutsu, T.; Nacher, J. C., Critical Controllability in Proteome-wide Protein Interaction Network Integrating Transcriptome, *Sci. Rep.*, **6**, [23541-1]-[23541-13] (2016).

Koyano, H.; Hayashida, M.; Akutsu, T., Maximum Margin Classifier Working in a Set of Strings, *P. R. Soc. A*, **472**, [20150551-1]-[20150551-17] (2016).

Takemoto, K.; Akutsu, T., Analysis of the Effect of Degree Correlation on the Size of Minimum Dominating Sets in Complex Networks, *PLoS ONE*, **11**, [e0157868-1]-[e0157868-11] (2016).

Jindalertudomdee, J.; Hayashida, M.; Akutsu, T., Enumeration Method for Structural Isomers Containing User-defined Structures Based on Breadth-first Search Approach, *J. Comput. Biol.*, **23**, 625-640 (2016).

Hou, W.; Tamura, T.; Ching, W. K.; Akutsu, T., Finding and Analyzing the Minimum Set of Driver Nodes in Control of Boolean Networks, *Adv. Complex Syst.*, **19**, [1650006-1]-[1650006-32] (2016).

- He, F.; Hanai, A.; Nagamochi, H.; Akutsu, T., Enumerating Naphthalene Isomers of Tree-like Chemical Graphs, *Proc. 9th International Joint Conference on Biomedical Engineering Systems and Technologies*, 258-265 (2016).
- Tamura, T.; Lin, C. Y.; Yang, J. M.; Akutsu, T., Finding Influential Genes Using Gene Expression Data and Boolean Models of Metabolic Networks, *Proc. IEEE 16th International Conference on Bioinformatics and Bioengineering*, 57-63 (2016).
- Jindalertudomdee, J.; Hayashida, M.; Song, J.; Akutsu, T., Host-pathogen Protein Interaction Prediction Based on Local Topology Structures of a Protein Interaction Network, *Proc. IEEE 16th International Conference on Bioinformatics and Bioengineering*, 7-12 (2016).
- Cheng, X.; Mori, T.; Qiu, Y.; Ching, W. K.; Akutsu, T., Exact Identification of the Structure of a Probabilistic Boolean Network from Samples, *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **13**, 1545-5963 (2016).
- Bao, Y.; Hayashida, M.; Akutsu, T., LBSizeCleave: Improved Support Vector Machine (SVM)-based Prediction of Dicer Cleavage Sites Using Loop/Bulge Length, *BMC Bioinformatics*, **17**, [487-1]-[487-11] (2016).
- [Others]
- Akutsu, T., Analyses of Genomic and Chemical Information Using Mathematical Methods and Artificial Intelligence, *Transactions of the Research Institute of Ocean Chemistry*, **29**, 85-91 (2016) (in Japanese).
- **Bio-knowledge Engineering** —
- Yotsukura, S.; Karasuyama, M.; Takigawa, I.; Mamitsuka, H., A Bioinformatics Approach for Understanding Genotype-phenotype Correlation in Breast Cancer, *Big Data Analytics in Genomics*, 397-428 (2016).
- Gao, J.; Yamada, M.; Kaski, S.; Mamitsuka, H.; Zhu, S., A Robust Convex Formulations for Ensemble Clustering, *Proceedings of the 25th International Joint Conference on Artificial Intelligence (IJCAI 2016)*, 1476-1482 (2016).
- Wicker, N.; Nguyen, C. H.; Mamitsuka, H., Some Properties of a Dissimilarity Measure for Labeled Graphs, *Publications Mathématiques de Besançon: Algèbre et Théorie des Nombres*, 81-90 (2016).
- Peng, S.; You, R.; Wang, H.; Zhai, C.; Mamitsuka, H.; Zhu, S., DeepMeSH: Deep Semantic Representation for Improving Large-scale MeSH Indexing, *Bioinformatics (Proceedings of the 24th International Conference on Intelligent Systems for Molecular Biology (ISMB 2016))*, **32(12)**, i70-i79 (2016).
- Yuan, Q.-J.; Gao, J.; Wu, D.; Zhang, S.; Mamitsuka, H.; Zhu, S., DrugE-Rank: Improving Drug-Target Interaction Prediction of New Candidate Drugs or Targets by Ensemble Learning to Rank, *Bioinformatics (Proceedings of the 24th International Conference on Intelligent Systems for Molecular Biology (ISMB 2016))*, **32(12)**, i18-i27 (2016).
- Natsume-Kitatani, Y.; Mamitsuka, H., Classification of Promoters based on the Combination of Core Promoter Elements Exhibits Different Histone Modification Patterns, *PLoS One*, **11(3)**, e0151917 (2016).
- Mohamed, A.; Nguyen, C. H.; Mamitsuka, H., NMRPro: An Integrated Web Component for Interactive Processing and Visualization of NMR Spectra, *Bioinformatics*, **32(13)**, 2067-2068 (2016).
- Shinkai-Ouchi, F.; Koyama, S.; Ono, Y.; Hata, S.; Ojima, K.; Shindo, M.; duVerle, D.; Kitamura, F.; Doi, N.; Takigawa, I.; Mamitsuka, H.; Sorimachi, H., Predictions of Cleavability of Calpain Proteolysis by Quantitative Structure-Activity Relationship Analysis Using Newly Determined Cleavage Sites and Catalytic Efficiencies of an Oligopeptide Array, *Molecular and Cellular Proteomics*, **15**, 1262-1280 (2016).
- Johnston, I.; Hancock, T.; Mamitsuka, H.; Carvalho, L., Gene-proximity Models for Genome-Wide Association Studies, *Annals of Applied Statistics*, **10(3)**, 1217-1244 (2016).
- Nguyen, C. H.; Mamitsuka, H., New Resistance Distances with Global Information on Large Graphs, *JMLR Workshop and Conference Proceedings (Proceedings of the Nineteenth International Conference on Artificial Intelligence and Statistics (AISTATS 2016))*, **51**, 639-647 (2016).
- Nakamura, A.; Takigawa, I.; Tosaka, H.; Kudo, M.; Mamitsuka, H., Mining Approximate Patterns with Frequent Locally Optimal Occurrences, *Discrete Applied Mathematics*, **200**, 123-152 (2016).
- Mohamed, A.; Nguyen, C. H.; Mamitsuka, H., Current Status and Prospects of Computational Resources for Natural Product Dereplication: A Review, *Briefings in Bioinformatics*, **17(2)**, 309-321 (2016).
- Iwata, T.; Yamada, M., Multi-view Anomaly Detection via Robust Probabilistic Latent Variable Models, *Advances in Neural Information Processing Systems 30 (NIPS2016)* (2016).
- Kozareva, Z.; Yamada, M., Which Tumblr Post Should I Read Next?, *Proceedings of the Annual Meeting of the Association for Computational Linguistics (ACL 2016)*, 332-336 (2016).
- Chang, Y.; Tang, J.; Yin, D.; Yamada, M.; Liu, Y., Timeline Summarization with Publications Life Cycle Models, *Proceedings of International Joint Conference on Artificial Intelligence (IJCAI 2016)*, 3698-3704 (2016).
- Gao, J.; Yamada, M.; Kaski, S.; Mamitsuka, H.; Zhu, S., A Robust Convex Formulation for Ensemble Clustering, *Proceedings of International Joint Conference on Artificial Intelligence (IJCAI 2016)*, 1476-1482 (2016).
- Wang, Y.; Yin, D.; Luo, J.; Wang, P.; Yamada, M.; Chang, Y.; Mei, Q., Beyond Ranking: Optimizing Whole-Page Presentation, *Proceedings of the 9th ACM International Conference on Web Search and Data Mining (WSDM 2016)*, 103-112 (2016).
- [Others]
- Xu, Y.; Luo, C.; Mamitsuka, H.; Zhu, S., MetaMHCpan, A Meta Approach for Pan-specific MHC Peptide Binding Prediction, *Methods in Molecular Biology*, **1404**, 753-760 (2016).

HAKUBI PROJECT

— Algorithmic Graph Theory with Applications to Bioinformatics —

Jansson, J.; Shen, C.; Sung, W.-K., Improved Algorithms for Constructing Consensus Trees, *Journal of the ACM*, **63**, Article 28 (2016).

Jansson, J.; Sung, W.-K.; Vu, H.; Yiu, S.-M., Faster Algorithms for Computing the R* Consensus Tree, *Algorithmica*, **76**, 1224-1244 (2016).

Asahiro, Y.; Jansson, J.; Miyano, E.; Ono, H., Degree-Constrained Graph Orientation: Maximum Satisfaction and Minimum Violation, *Theory of Computing Systems*, **58**, 60-93 (2016).

Mori, T.; Takasu, A.; Jansson, J.; Hwang, J.; Tamura, T.; Akutsu, T., Similar Subtree Search Using Extended Tree Inclusion (extended abstract), *Proc. of the 2016 IEEE 32nd International Conference on Data Engineering (ICDE 2016)*, 1558-1559 (2016).

Jansson, J.; Sung, W.-K., Minimal Phylogenetic Supertrees and Local Consensus Trees, *Proc. of the 41st International Symposium on Mathematical Foundations of Computer Science (MFCS 2016), LIPIcs, Article 53*, 53:1-53:14 (2016).

Jansson, J.; Sung, W.-K., Algorithms for Combining Rooted Triplets into a Galled Phylogenetic Network, in Kao, Ming-Yang (ed.), *Encyclopedia of Algorithms (Second Edition)*, U.S.A., Springer-Verlag New York, 48-52 (2016).

Jansson, J., Directed Perfect Phylogeny (Binary Characters), *Ibid.*, 553-556 (2016).

Jansson, J.; Sung, W.-K., Maximum Agreement Supertree, *Ibid.*, 1224-1227 (2016).

Jansson, J., Perfect Phylogeny (Bounded Number of States), *Ibid.*, 1550-1553 (2016).

Jansson, J., Phylogenetic Tree Construction from a Distance Matrix, *Ibid.*, 1564-1567 (2016).