

原著論文

1. Nanoplasmonic Photoluminescence Spectroscopy at Single-Particle Level: Sensing for Ethanol Oxidation, Z. Zheng and T. Majima, *Angew. Chem. Int. Ed.* 2016, 55 (8), 2879-2883.
2. Sequence-Dependent Photocurrent Generation through Long-Distance Excess-Electron Transfer in DNA, S.-H. Lin, M. Fujitsuka, and T. Majima, *Angew. Chem. Int. Ed.* 2016, 55 (30), 8715-8717.
3. Pt-Au Triangular Nanoprisms with Strong Dipole Plasmon Resonance for Hydrogen Generation Studied by Single-particle Spectroscopy, Z. Lou, M. Fujitsuka, and T. Majima, *ACS Nano* 2016, 10 (6), 6299-6305.
4. Atomic Layer Deposition-Confined Nonstoichiometric TiO₂ Nanocrystal with Tunneling Effect for Solar Driven Hydrogen Evolution, P. Zhang, T. Tachikawa, M. Fujitsuka, and T. Majima, *J. Phys. Chem. Lett.* 2016, 7 (7), 1173-1179.
5. Multistep Electron Transfer Systems Including [2.2]- or [3.3]Paracyclophane, M. Fujitsuka, T. Miyazaki, T. Shinmyozu, and T. Majima, *J. Phys. Chem. A* 2016, 120 (8), 1184-1189.
6. Excess-Electron Transfer in DNA via Fluctuation-Assisted Hopping, Mechanism, S.-H. Lin, M. Fujitsuka, and T. Majima, *J. Phys. Chem. B* 2016, 120 (4), 660-666.
7. Unprecedented Intramolecular Electron Transfer from Excited Perylenediimide Radical Anion, C. Lu, M. Fujitsuka, S. Ano, A. Sugimoto, and T. Majima, *J. Phys. Chem. C* 2016, 120 (23), 12734-12741.
8. 3D-array of Au-TiO₂ Yolk-shell as Plasmonic Photocatalyst Boosting Multi-Scattering with Enhanced Hydrogen Evolution, X. Shi, Z. Lou, P. Zhang, M. Fujitsuka, and T. Majima, *ACS Appl. Mater. Interfaces* 2016, 8 (46), 31738-31745.
9. Covalently-attached-ferrocene dyads: synthesis, redox-switched emission, and observation of the charge-separated state, M. Abe, H. Yamada, T. Okawara, M. Fujitsuka, T. Majima, and Y. Hisaeda, *Inorg. Chem.*, 2016, 55 (1), 7-9.

10. Structures of 4-Substituted Thioanisole Radical Cations Studied by Time-resolved Resonance Raman Spectroscopy during Pulse Radiolysis and Theoretical Calculations, S. Tojo, M. Fujitsuka, and T. Majima, *RSC Adv.* 2016, 6, 109334-109339
11. In Situ Topotactic n-Type F-Doping into TiO₂ Mesocrystal Superstructures for Efficient Visible-Light Driven Hydrogen Generation, P. Zhang, T. Tachikawa, M. Fujitsuka, and T. Majima, *ChemSusChem* 2016, 9 (6), 617-623.
12. TiO₂ mesocrystal with nitrogen and fluorine codoping during topochemical transformation: efficient visible light induced photocatalyst with the effect of codopants, P. Zhang, M. Fujitsuka, and T. Majima, *Appl. Catal. B Environ.* 2016, 185, 181-188.
12. Facile preparation of nitrogen and fluorine codoped TiO₂ mesocrystal with visible light photocatalytic activity, O. Elbanna, P. Zhang, M. Fujitsuka, and T. Majima, *Appl. Catal. B Environ.* 2016, 192, 80-87.
13. Singlet-Singlet and Singlet-Triplet Annihilations in Structure-Regulated Porphyrin Polymers, M. Fujitsuka, K. Satyanarayana, T.-Y. Luh, and T. Majima, *J. Photochem. Photobiol. A Chem.* 2016, 331, 56-59.
14. Mesolytic processes with benzylic carbon-oxygen bond cleavage in radical anions of aryl benzyl ethers studied by electron pulse radiolysis in DMF, M. Yamaji, S. Tojo, M. Fujitsuka, A. Sugimoto, and T. Majima, *Bull. Chem. Soc. Jpn.* 2016, 89, 798-803.
15. Black phosphorous sensitized Au/La₂Ti₂O₇ nanostructures for plasmon enhanced photocatalytic hydrogen production with visible and near-infrared light, M. Zhu, X. Cai, M. Fujitsuka, J. Zhang, and T. Majima, *Angew. Chem. Int. Ed.* 2017, 56, 2064.
16. In-situ Observation of Single Au Triangular Nanoprism Etching to Various Shapes for Plasmonic Photocatalytic Hydrogen Generation, Z. Lou, S. Kim, P. Zhang, X. Shi, M. Fujitsuka, and T. Majima, *ACS Nano* 2017, 11 (1), 968-974.
17. Two-Dimensional Au-Nanoprism/rGO/Pt-Nanoframe as Plasmonic Photocatalysts with Multi-Plasmon-Modes Boosting Hot Electron Transfer and Hydrogen Generation, Z. Lou, M. Fujitsuka, and T. Majima, *J. Phys. Chem. Lett.* on the web.

18. Photo-accelerated Hole Transfer in Oligothiophene Assemblies, C. Lu, M. Fujitsuka, and T. Majima, *J. Phys. Chem. C* 2017, 121(1), 649-655.
19. Dual Character of Excited Radical Anions in Aromatic Diimide Bis(Radical Anion)s: Donor or Acceptor?, C. Lu, M. Fujitsuka, Akira Sugimoto, and T. Majima, *J. Phys. Chem. C* on the web.
20. Hot electron driven hydrogen evolution using anisotropic gold nanostructures assembled monolayer MoS₂, P. Zhang, M. Fujitsuka, and T. Majima, *Nanoscale* 2017, 9, 1520-1526.
21. Graphitic-C₃N₄ hybridized N-doped La₂Ti₂O₇ two-dimensional layered composites for efficient visible-light-driven photocatalyst, X. Cai, J. Zhang, M. Fujitsuka, and T. Majima, *Appl. Catal. B Environ.* 2017, 202, 191-198.
22. One-Step Synthesis of Nonstoichiometric TiO₂ with Desired (101) Facets for Enhancing Photocatalytic H₂ Evolution, W.-K. Wang, M. Gao, X. Zhang, M. Fujitsuka, T. Majima, and H.-Q. Yu, *Appl. Catal. B Environ.* 2017, on the web.
23. Porous Bimetallic PdNi Catalyst with High Electrocatalytic Activity for Ethanol Electrooxidation, Y. Feng, D. Bin, B. Yan, Y. Du, T. Majima, and W. Zhou, *J. Colloid Interface Sci.* 2017, 493, 190-197.

解説・総説・その他

1. Photoinduced Electron Transfer of Porphyrin Isomers: Impact of Molecular Structures on Electron Transfer Dynamics, M. Fujitsuka and T. Majima, *Chem. Asian J.* (Review, invited) 2015, 10, 2320-2326.
2. Development of tailored TiO₂ mesocrystals for solar driven photocatalysis, Peng Zhang, Mamoru Fujitsuka, and Tetsuro Majima, *J. Energy Chem.* (Review, invited) 2016, 25, 917-926.
3. Charge Transfer Dynamics in DNA Revealed by Time-Resolved Spectroscopy, M. Fujitsuka and T. Majima, *Chem. Sci.* (Perspective, invited) 2016, DOI: 10.1039/C6SC03428D.
4. 光線力学療法で発生する一重項酸素の視覚化のための蛍光プローブ Si-DMA の開発、金水縁、藤塚守、真嶋哲朗、*ドージンニュース* 2016, 159, 1-7.

5. 光と生命の事典、真嶋哲朗、飯野盛利、七田芳則、藤堂剛編集、朝倉書店 2016.

国際会議発表（招待講演のみ）

1. Dual Electron Transfer Pathways From the Excited C₆₀ Radical Anion: Enhanced Reactivities Due To Photoexcitation of Reaction Intermediates (Invited), M. Fujitsuka and T. Majima, 12th Korea-Japan Symposium on Frontier Photoscience –2016, April 4-8, Osaka, Japan (2016).

2. Single-Molecule and Single-Particle Imaging of TiO₂ Photocatalytic Reactions (Invited), T. Majima, International Symposium on Nanostructured Photocatalysts and Catalysts, April 9-10, Osaka, Japan (2016).

3. Single-Molecule, Single-Particle Chemistry of Nanocatalysis for Light Energy Conversion (Plenary), T. Majima, Satellite symposium of 16th ICC “International Symposium on Activation and Selective Conversion of Energy-Related Molecules”, July 10-12, Xiamen, China (2016).

4. Photoinduced charge transfer in nanomaterials (Invited), T. Majima, Electron Donor Acceptor Interactions, Gordon Research Conference on Electron Donor and Acceptor Interaction, August 7-12, Newport, Rhode Island, USA (2016).

5. Single-Molecule, Single-Particle Chemistry of Nanocatalysis for Light Energy Conversion (Plenary), T. Majima, The 70th anniversary of KCS and the 40th anniversary of KRICT, October 12, Busan, Korea (2016).

6. TiO₂ Mesocrystals for Efficient Photocatalyst (Invited), T. Majima, Materials Challenges in Alternative and Renewable Energy- MCARE-2017, February 20-24, Jeju, Korea (2017).

国内会議発表（招待講演のみ）

1. 光線力学療法（PDT）における細胞内一重項酸素の蛍光検出（招待講演）、真嶋哲朗、第19回日本光生物学協会年会、7月28-29日、東京（2016）

2. Studied on Photochemical Processes of Complex Molecular Systems by Fast Laser spectroscopy（受賞講演）、藤塚守、第19回2016年光化学討論会、9月17日、東京（2016）

受賞等、特記事項

1. 真嶋哲朗、日本光生物学協会賞、日本光生物学協会、7月28日、(2016)

Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist process: IV. Validation of simulation model

Takahiro Kozawa,

Japanese Journal of Applied Physics, Vol. 55, 056503, 2016

Analysis of stochastic effects in chemically amplified poly(4-hydroxystyrene-co-t-butyl methacrylate) resist

Takahiro Kozawa, Julius Joseph Santillan, Toshiro Itani

Japanese Journal of Applied Physics, Vol. 55, 076501, 2016

Analysis of line-and-space resist patterns with sub-20 nm half-pitch fabricated using high NA exposure tool of extreme ultraviolet lithography

Takahiro Kozawa, Julius Joseph Santillan, Toshiro Itani

Japanese Journal of Applied Physics, Vol. 55, 096501, 2016

Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist process: V. Optimum beam size

Takahiro Kozawa

Japanese Journal of Applied Physics, Vol. 55, 106502, 2016

Theoretical study of relationships among resolution, line width roughness, and sensitivity of chemically amplified extreme ultraviolet resists with photodecomposable quenchers

Takahiro Kozawa, Julius Joseph Santillan, Toshiro Itani

Japanese Journal of Applied Physics, Vol. 55, 116501, 2016

Relationship between sensitizer concentration and resist performance of chemically amplified extreme ultraviolet resists in sub-10 nm half-pitch resolution region

Takahiro Kozawa, Julius Joseph Santillan, Toshiro Itani

Japanese Journal of Applied Physics, Vol. 56, 016501, 2016

Theoretical study on effects of photodecomposable quenchers in line-and-space pattern fabrication

with 7 nm quarter-pitch using chemically amplified electron beam resist process

Takahiro Kozawa

Japanese Journal of Applied Physics, Vol. 56, RP160597, 2017

Requirement for Suppression of Line Width Roughness in Fabrication of Line-and-Space Patterns with 7 nm Quarter-Pitch Using Electron Beam Lithography with Chemically Amplified Resist Process,

Takahiro Kozawa

Journal of photopolymer science and technology, Vol. 29, 6, 809-816, 2016

Chemically Amplified Molecular Resists based on Noria Derivatives Containing Adamantyl Ester Groups for Electron Beam Lithography

H. Yamamoto, S. Tagawa, H. Kudo, K. Okamoto, and T. Kozawa

J. Vac. Sci. Technol. B 34 (2016) 041606/1-041606/5.

Controlled Array of Gold Nanoparticles by Combination of Nano Imprint and Self-assembly

H. Yamamoto, A. Ohnuma, B. Ohtani, and T. Kozawa,

J. Photopolym. Sci. Technol. 29 (2016) 765

Synthesis of Metal Nanoparticles and Patterning in Polymeric Films Induced by Electron Nanobeam

H. Yamamoto, T. Kozawa, S. Tagawa, M. Naito, J.-L. Marignier, M. Mostafavi, and J. Belloni

J. Phys. Chem. C (2017) in press

Structural Control of Hybrid Colloidal Particle Surface by Plasma-etching Treatment

A. Ohnuma, H. Yamamoto, T. Kozawa, and B. Ohtani

Chem. Lett. 45 (2016) 45, 979-981

Oblique pattern etching with a ClF₃-Ar neutral cluster beam

T. Seki, H. Yamamoto, T. Kozawa, T. Shojo, K. Koike, T. Aoki, and J. Matsuo,

J. J. Appl. Phys. (2017) in press.

Synthesis and Resist Properties of Calixarene Polymers with Pendant Haloalkyl Groups

H. Kudo, H. Ogawa, **H. Yamamoto**, and T. Kozawa

J. Photopolym. Sci. Technol. 29 (2016) 495-500.

Dynamics of radical cations of PHS in the presence and absence of triphenylsulfonium triflate as determined by pulse radiolysis of its highly concentrated solution

K. Okamoto, T. Ishida, H. Yamamoto, T. Kozawa, R. Fujiyoshi, and K. Umegaki

Chem. Phys. Lett. (2016), 657, 44-48.

Sensitivity enhancement of chemically amplified EUV resist by adding acid generation promoters

S. Fujii, K. Okamoto, H. Yamamoto, T. Kozawa², and T. Itani

J. J. Appl. Phys. (2017) in press.

Formation of Au nanoparticle arrays on hydrogel 2-D patterns based on poly(vinylpyrrolidone)

S. Tsukuda, K. Okamoto, H. Yamamoto, T. Kozawa, and T. Omata

J. J. Appl. Phys. (2017) in press.

Optical trapping of nanoparticles on a silicon subwavelength grating and their detection by an ellipsometric technique.

N. Taki, Y. Mizutani, T. Iwata, T. Kojima, H. Yamamoto, T. Kozawa] *International Journal of Optomechatronics* 10 (2016) 24-31.

Ab initio spur size calculation in liquid water at room temperature

Yusa Muroya, Asokendu Mozumder

Chemical Physics Letters, 657, 102-106, 2016

"Local density augmentation of supercritical water probed by 4,40-bpyH radical: A pulse radiolysis study"

Zhe Liu, Zhong Fang, Yusa Muroya, Haiying Fu, Yu Yan, Yosuke Katsumura, Mingzhang Lin

Chemical Physics Letters, 657, 78-82, 2016

Redox-Dependent Dynamics in Heme-Bound Bacterial Iron Response Regulator (Irr) Protein

Kazuo Kobayashi, Megumi Nakagaki, Haruto Ishikawa, Kazuhiro Iwai, Mark R. O'Brian, and Koichiro Ishimori

Biochemistry, 55, 29, 4047-4054, 2016

Rational Tuning of Superoxide Sensitivity in SoxR, the [2Fe-2S] Transcription Factor: Implications of Species-Specific Lysine Residues

Mayu Fujikawa, Kazuo Kobayashi, Yuko Tsutsui, Takahiro Tanaka, Takahiro Kozawa

Biochemistry, 56, 2, 403-410, 2017

OVERVIEW OF THE PHYSIOLOGICAL REACTIONS OF THE
MONODEHYDROASCORBATE RADICAL.

Kazuo Kobayashi

Ascorbic Acid: Properties, Synthesis and Applications Editors: Emma Parsons, Nova Science
Publishers 1-28

平成 28 年度 (2016 年度) 業績リスト 吉田研

【原著論文】

1. Femtosecond Pulse Radiolysis, T. Kondoh, J. Yang, K. Kan, M. Gohdo, H. Shibata, Y. Yoshida, Electron. Comm. Jpn. 99, No. 7, 25-31 (2016).
2. Generation of Terahertz Waves Using Ultrashort Electron Beams from a Photocathode Radio-Frequency Gun Linac, K. Kan, J. Yang, A. Ogata, T. Kondoh, M. Gohdo, H. Shibata, Y. Yoshida, Electron. Comm. Jpn. 99, No. 1, 22-31 (2016).
3. Radiolytic yields of solvated electrons in ionic liquid and its solvation dynamics at low temperature, R. M. Musat, T. Kondoh, M. Gohdo, Y. Yoshida, K. Takahashi, Radiat. Phys. Chem. 124, 14-18 (2016).
4. Examination of the formation process of pre-solvated and solvated electron in n-alcohol using femtosecond pulse radiolysis, T. Toigawa, M. Gohdo, K. Norizawa, T. Kondoh, K. Kan, J. Yang, Y. Yoshida, Radiat. Phys. Chem. 123, 73-78 (2016).

【解説・総説】

該当なし

【著書】

M. Wakasa, T. Yago, A. Hamasaki, M. Gohdo, "Reactions in the magnetic field" in Encyclopedia of physical organic chemistry, April 2017, ISBN: 978-1-118-47045-9, Wiley.

【国際会議発表】

1. Study of Primary Process of Radiation Chemistry by Femtosecond Pulse Radiolysis, Y. Yoshida, Asia Pacific Symposium on Radiation Chemistry (APSRC-2016) & Trombay Symposium on Radiation & Photochemistry (TSRP-2016), Jan. 5-9 Mumbai, India (2016). Invited talk.
2. Ultrafast Electron Attachment with Biphenyl in n-Dodecane Studied by Femtosecond Pulse Radiolysis (IT-46), T. Kondoh, S. Nishii, M. Gohdo, K. Kan, J. Yang, S. Tagawa, Y. Yoshida, Asia Pacific Symposium on Radiation Chemistry (APSRC-2016) & Trombay Symposium on Radiation & Photochemistry (TSRP-2016), Jan. 5-9 Mumbai, India (2016). Invited talk.
3. Time-domain Measurement of Electric Field Emitted from Electron Beam Using Photoconductive Antenna, K. Kan, J. Yang, T. Kondoh, M. Gohdo, I. Nozawa, Y. Yoshida, EMN Meeting on Terahertz 2016, May 14-18, San Sebastian, Spain (2016). Invited talk.
4. A Relativistic-energy Femtosecond-pulse Electron Microscopy, Jinfeng Yang, Yoichi Yoshida, Katsumi Tnimura, 11th Asia-Pacific Microscopy Conference, Phuket, Thailand, May 23-27, (2017) , Invited talk.
5. Single-shot electron diffraction using relativistic-energy electron pulse, Ryo Asakawa, Jinfeng Yang, 11th Asia-Pacific Microscopy Conference, Phuket, Thailand, May 23-27, (2017)
6. Beam Parameter Measurement after Relocation of S-Band Linear Accelerator, I. Nozawa, M. Gohdo, K. Kan, T. Kondoh, J. Yang, Y. Yoshida, 7th International Particle Accelerator Conference (IPAC2016), Busan, Korea, May8-13, (2016)
7. Frequency and Time Domain Measurement of Coherent Transition Radiation, K. Kan, M. Gohdo, T. Kondoh, I. Nozawa, J. Yang, Y. Yoshida, 7th International Particle Accelerator Conference (IPAC2016), Busan, Korea, May8-13, (2016)
8. Ultrafast Electron Microscopy using 100 Femtosecond Relativistic-Energy Electron Beam, Jinfeng Yang, 7th International Particle Accelerator Conference, Busan, Korea, May8-13, (2016)
9. Bunch Length Measurement Based on Interferometric Technique by Observing Coherent Transition

- Radiation, Itta Nozawa, M. Gohdo, K. Kan, T. Kondoh, J. Yang, Y. Yoshida, International Beam Instrumentation Conference (IBIC2016), , Barcelona, Spain, Sep.11-15,(2016)
10. Measurement of Femtosecond Electron Beam Based on Frequency and Time Domain Schemes, K. Kan, M. Gohdo, T. Kondoh, I. Nozawa, J. Yang, Y. Yoshida, International Beam Instrumentation Conference (IBIC2016), Barcelona, Spain, Sep.11-15,(2016)
 11. Characterization of THz Pulse Emitted from Femtosecond Electron Bunch Using Photoconductive Antenna and Interferometer, K. Kan, J. Yang, M. Gohdo, T. Kondoh, I. Nozawa, Y. Yoshida, IRMMW-THz 2016, Copenhagen, Denmark, Sep. 25-30 (2016)
 12. Measurement of Coherent Transition Radiation Using Interferometer and Photoconductive Antenna, K. Kan, J. Yang, M. Gohdo, T. Kondoh, I. Nozawa, Y. Yoshida, NAPAC2016, Chicago, Oct. 9-14 (2016)
 13. Pulse radiolysis study of polystyrene dimer phenyl cation radical in THF, Masao Gohdo, Takafumi Kondoh, Koichi Kan, Jinfeng Yang, Seiichi Tagawa, Yoichi Yoshida, International Conference on Ionizing Processes(ICIP2016), Oct.10-14, Brookhaven National Laboratory, Upton, New York(2016)
 14. Geminated ion recombination and charge transfer reaction in alkanes studied by femtosecond pulse radiolysis, Takafumi Kondoh, Takuya Nishida, Masao Gohdo, Koichi Kan, Jinfeng Yang, Seiichi Tagawa, Yoichi Yoshida, International Conference on Ionizing Processes(ICIP2016), Oct.10-14, Brookhaven National Laboratory, Upton, New York(2016)
 15. Femtosecond pulse radiolysis of polar liquids, Tomohiro Toigawa, Masao Gohdo, Takafumi Kondoh, Yoichi Yoshida, International Conference on Ionizing Processes(ICIP2016), Oct.10-14, Brookhaven National Laboratory, Upton, New York(2016)
 16. Radiolytic Yield of Solvated Electron in Ionic Liquid and its Solvation Dynamics at Low Temperature, Raluca Musat, Takafumi Kondoh, Masao Gohdo, Yoichi Yoshida, Kenji Takahashi, International Conference on Ionizing Processes(ICIP2016), Oct.10-14, Brookhaven National Laboratory, Upton, New York(2016)
 17. Femtosecond Pulse Radiolysis Study on Decomposition Processes of Alkanes, Y. Yoshida, S. Nishii, T. Kondoh, M. Gohdo, K. Kan, J. Yang, RadTech Asia2016, Oct. 24-27,Tokyo,(2016)
 18. Pulse Radiolysis Study of Reaction Kinetics on Radiation Induced Reaction of Polystyrene, M. Gohdo, T. Kondoh, K. Kan, J. Yang, S. Tgawa, Y. Yoshida, RadTech Asia2016, Oct. 24-27,Tokyo,(2016)
 19. Radiation Induced Chemical Reactions in a Model Compound of Polymer-Resist, T. Kondoh, M. Gohdo, K. Kan, J. Yang, Y. Yoshida, RadTech Asia2016, Oct. 24-27,Tokyo,(2016)
 20. Photocathode RF gun based ultrafast electron diffraction and imaging, Jinfeng Yang, The 8th Asian Forum for Accelerator and Detectors(AFAD2017), Lanzhou, Gansu, China, Jan.16-18, (2017), Invited talk.
 21. Ultrafast Electron Microscopy using a relativistic-energy femtosecond electron beam, Jinfeng Yang, Optics & Photonics International Congress 2016, Pacifico Yokohama, Japan, May 17-20, (2016) , Invited talk.
 22. Ultrafast dynamics of electron solvation in radiation chemistry, Yoichi Yoshida, 18th International Meeting on Radiation Processing (IMRP2016), Vancouver, Canada, Nov.7-11, (2016).
 23. Fabrication and Application of Photoconductive Antenna for Electron Beam Measurement, K. Kan, J. Yang, T. Kondoh, M. Gohdo, I. Nozawa, Y. Yoshida,The 20th SANKEN International Symposium, Osaka, Dec.12-13, (2016)
 24. Ultra-Fast Electron Attachment and Picosecond Absorption Spectra of Biphenyl-Dodecane Solution, Takafumi Kondoh, Takuya Nishida, Masao Gohdo, Kimihiro Norizawa, Koichi Kan, Jinfeng Yang, Seiichi Tagawa, Yoichi Yoshida,The 20th SANKEN International Symposium, Osaka, Dec.12-13, (2016)
 25. Generation of Ultra-short Electron Beam and its Future Application, I. Nozawa, K. Kan, J. Yang, T. Kondoh, M. Gohdo, Y. Yoshida,The 20th SANKEN International Symposium, Osaka, Dec.12-13, (2016)

【国内会議発表（招待講演のみ）】

1. 果物を腐敗させない鮮度保持技術を目指して、農作物の長期鮮度保持を実現する減菌輸送・流通システムの研究開発コンソーシアム、川上茂樹、食品の革新的保存・流通技術研究開発プラットフォーム公開シンポジウム、関西大学梅田キャンパス8階 KANDAI Me RISE ホール, 2016年11月11日

【特許】

1. 機能性フィルム、機能性容器、及び鮮度保持法、発明者:川上茂樹、西部清志、佐々木正人 出願人:川上茂樹、有限会社ゴーイング、株式会社ニッショー化学、日産スチール工業株式会社, 特開 2016-019560, 申請日: 2016年2月04日
2. 動物用免疫賦活剤の製造方法、動物用免疫賦活剤及び動物用飼料、発明者:川上茂樹、矢ノ師正義 出願人:有限会社マヤインダストリー, 特開 2016-019560, 申請日: 2016年9月12日
3. 殺菌効果を有する微細気泡混合液、発明者:川上茂樹、山元新一、山元賢一 出願人:日新技研株式会社, 特開 2016-233849, 申請日: 2016年12月1日

【受賞等、特記事項】

1. 西井聡志, 原子力学会フェロー賞, 日本原子力学会春の年会, 東北大学, 仙台, 3月28日(2016)
2. 野澤一太, Poster Award for Young Scientist, The 20th SANKEN International Symposium, Osaka, Dec.12-13, (2016)