Original Papers
A02 Group (2013)

Sadahito Aoshima (Principal Investigator)
Shokyoku Kanaoka (Co-Investigator; Renkei-Kenkyusha)
Arihiro Kanazawa (Co-Investigator; Renkei-Kenkyusha)
Professor, Department of Macromolecular Science, Graduate School of Science, Osaka University

1. Arihiro Kanazawa, Shokyoku Kanaoka, and *Sadahito Aoshima, "Concurrent Cationic Vinyl-Addition and Ring-Opening Copolymerization Using $B(C_6F_5)_3$ as a Catalyst: Copolymerization of Vinyl Ethers and Isobutylene Oxide via Crossover Propagation Reactions", *J. Am. Chem. Soc.*, **135**, 9330-9333 (2013).
2. Yasushi Ishido, Arihiro Kanazawa, Shokyoku Kanaoka, and *Sadahito Aoshima, "Selectively Degradable Alternating Copolymers of Isobutyl Vinyl Ether and Plant-Derived Aldehydes with Acyclic Side Chains: Effects of Side Group Structures on Copolymerization Behaviors", *J. Polym. Sci., Part A: Polym. Chem.*, **51**, 4684-4693 (2013).
3. Yu Shinke, Arihiro Kanazawa, Shokyoku Kanaoka, and *Sadahito Aoshima, "Precise Synthesis of pH-Responsive Copolymers with Naphthoic Acid Side Groups via Living Cationic Polymerization", *J. Polym. Sci., Part A: Polym. Chem.*, **51**, 5239-5247 (2013).
4. Yu Shinke, Hidehiro Yamamoto, Arihiro Kanazawa, Shokyoku Kanaoka, and *Sadahito Aoshima, "Precision Synthesis of Graft Copolymers via Living Cationic Polymerization of *p*-Acetoxystyrene Followed by Friedel-Crafts-Type Termination Reaction", *J. Polym. Sci., Part A: Polym. Chem.*, **51**, 4675-4683 (2013).
5. Yu Shinke, Arihiro Kanazawa, Shokyoku Kanaoka, and *Sadahito Aoshima, "Living Cationic Polymerization of Vinylnaphthalene Derivatives", *J. Polym. Sci., Part A: Polym. Chem.*, **51**, 4828-4834 (2013).
6. *Sadahito Aoshima, †Yukari Oda, Suzuka Matsumoto, Yu Shinke, Arihiro Kanazawa, and Shokyoku Kanaoka, "Efficient Design for Stimuli-Responsive Polymers with Quantitative Acid-Degradability: Specifically Designed Alternating Controlled Cationic Copolymerization and Facile Complete Degradation", *ACS Macro Lett.,* **3**, 80-85 (2014). †co-investigator for project management group
7. Yasushi Ishido, Arihiro Kanazawa, Shokyoku Kanaoka, and *Sadahito Aoshima, "Chemically Recyclable Alternating Copolymers with Low Polydispersity from Conjugated/Aromatic Aldehydes with Vinyl Ethers: Selective Degradation to Another Monomer at Ambient Temperature", *Polym. Chem.,* **5**, 43-47 (2014).
8. Arihiro Kanazawa, Ryo Hashizume, Shokyoku Kanaoka, and *Sadahito Aoshima, "Design of Benign Initiator for Living Cationic Polymerization of Vinyl Ethers: Facile in Situ Generation of Vinyl Ether-Hydrogen Halide Adducts and Subsequent

Controlled Polymerization without a Lewis Acid Catalyst", *Macromolecules,* **47**, 1578-1585 (2014).

9. †*Yukari Oda, Ayanobu Horinouchi, Daisuke Kawaguchi, Hisao Matsuno, Shokyoku Kanaoka, Sadahito Aoshima, and †*Keiji Tanaka, "An Effect of Side-Chain Carbonyl Groups on the Interface of Vinyl Polymers with Water", *Langmuir,* **30**, 1215- 1219 (2014). †co-investigator for project management group
10. Setsiri Haesuwannakij, Weeranuch Karuehanon, Vijay Laksami Mishra, Hiroaki Kitahara, *Hidehiro Sakurai, Shokyoku Kanaoka, Sadahito Aoshima, "Size-Controlled Preparation of Gold Nanoclusters Stabilized by High Viscosity Hydrophilic Polymers Using a Microflow Reactor", *Monatshefte fur Chemie - Chemical Monthly,* **145**, 23-28 (2014).
11. Yasushi Ishido, Arihiro Kanazawa, Shokyoku Kanaoka, and *Sadahito Aoshima, "Controlled Cationic Alternating Copolymerization of Various Enol Ethers and Benzaldehyde Derivatives: Effects of Enol Ether Structures", *J. Polym. Sci., Part A: Polym. Chem.*, **52**, in press (2014). (doi: 10.1002/pola.27122)

Chikara Ohtsuki (Principal Investigator)
Ill Yong Kim (Co-Investigator; Renkei-Kenkyusha)
Professor, Department of Crystalline Materials Science, Graduate School of Engineering, Nagoya University

1. *S. Prakash Parthiban, Ill Yong Kim, Koichi Kikuta and Chikara Ohtsuki, "Formation of Serrated Nanorods of Hydroxyapatite through Organic Modification under Hydrothermal Processing", *J. Nanoparticle Res.*, **15**, 1657-1666 (2013). (doi: 10.1007/s11051-013-1657-7).
2. Wensi Wang, †Yuya Oaki, Chikara Ohtsuki, Takayoshi Nakano and †*Hiroaki Imai, "Formation of *c*-Axis-Oriented Columnar Structures through Controlled Epitaxialgrowth of Hydroxyapatite", *J. Asian Ceram. Soc.*, **1**, 143-148 (2013). (doi: 10.1016/j.jascer.2013.03.009) †A03 group
3. *Taishi Yokoi, Makasakazu Kawashita and Chikara Ohtsuki, "Biomimetic Mineralization of Calcium Phosphates in Polymeric Hydrogels Containing Carboxyl Groups", *J. Asian Ceram. Soc.*, **1**, 155-162 (2013). (doi: 10.1016/j.jascer.2013.04.003)
4. †Toshiki Miyazaki, Akimasa Kuramoto, Atsuhide Hirakawa, Yuki Shirosaki and Chikara Ohtsuki, "Biomineralization on Chemicaly Synthesized Collagen Containing Immobilized Poly-γ-Glutamic Acid", *Dental Mater. J.*, **32**, 544-549 (2013). (doi: 10.4012/dmj.2012-324) †A02 group
5. †*Toshiki Miyazaki, Juntarou Mukai, Eiichi Ishida and Chikara Ohtsuki, "Apatite Mineralization Behavior on Polyglutamic Acid Hydrogels in Aqueous Condition:

Effects of Molecular Weight", *Bio-Med. Mater. Eng.*, **23**, 339-347 (2013). †A02 group

6. Hiroyuki Shibata, *Taishi Yokoi, Tomoyo Goto, Ill Yong Kim, Masakazu Kawashita, Koichi Kikuta and Chikara Ohtsuki, "Behavior of Hydroxyapatite Crystals in a Simulated Body Fluid: Effects of Crystal Face", *J. Ceram. Soc. Japan*, **121**, 807-812 (2013). (doi: 10.2109/jcersj2.121. 807)
7. *Taishi Yokoi, Masakazu Kawashita and Chikara Ohtsuki, "Effects of Polymer Concentration on the Morphology of Calcium Phosphate Crystals Formed in Polyacrylamide Hydrogels", *J. Cryst. Growth*, **383**, 166-171 (2013). (doi: 10.1016/j.jcrysgro.2013.08.029)

Hirotsugu Kikuchi (Principal Investigator)
Hiroshi Higuchi (Co-Investigator; Renkei-Kenkyusha)
Professor, Institute for Materials Chemistry and Engineering, Kyushu University

1. Seishi Shibayama, Hiroki Higuchi, Yasushi Okumura and *Hirotsugu Kikuchi, "Dendron-Stabilized Liquid Crystalline Blue Phases with an Enlarged Controllable Range of the Photonic Band for Tunable Photonic Devices", *Adv. Funct. Mater.*, **23**, 2387-2396 (2013). (doi: 10.1002/adfm.201202497)
2. Gihwan Lim, Yasushi Okumura, Hiroki Higuchi, *HirotsuguKikuchi, "Temperature Dependence of Dielectric and Electro-Optical Properties and Disordered Structure in Polymer Stabilized Blue Phases at Low Temperature", *Digest of Technical Papers - Society for Information Display International Symposium*, **44**, 1273-1275 (2013): *SID 2013*, Vancouver, May 21-24, 2013. (doi: 10.1002/j.2168-0159.2013.tb06466.x)
3. †Hiroyuki Yoshida, Shuhei Yabu, Hiroki Tone, Hirotsugu Kikuchi and †Masanori Ozaki, "Electro-Optics of Cubic and Tetragonal Blue Phase Liquid Crystals Investigated by Two-Beam Interference Microscopy", *Appl. Phys. Express*, **6** 062603 (2013).(doi: 10.7567/APEX.6.062603) †A03 group
4. Seiji Fukushima, Tomohiro Hachino, Hiroki Higuchi, Yasutaka Igarashi, Koki Yoshinaga, Hirotsugu Kikuchi, "Metal-Complex-Doped Polymer/Liquid-Crystal Composite Film Operating at Wide Wavelength Range", *Pacific Rim Conference on Lasers and Electro-Optics*, *CLEO - Technical Digest*, art. no. 6600200 (2013): *10th Conference on Lasers and Electro-Optics Pacific Rim*, *CLEO-PR 2013*, Kyoto, Japan, June 30 - July 4, 2013. (doi: 10.1109/CLEOPR.2013.6600200)
5. Munehiro Kimura, Norihiro Nagumo, Thet Naing Oo, Hirotsugu Kikuchi, Tadashi Akahane, "Bendable Display Device Using Polymer-Stabilized Blue Phase Liquid Crystal", *Proceedings of the 20th International Workshop on Active-Matrix*

Flatpanel Displays and Devices: TFT Technologies and FPD Materials, AM-FPD 2013, art. no. 6617770, 33-36 (2013): *20th International Workshop on Active-Matrix Flatpanel Displays and Devices: TFT Technologies and FPD Materials, AM-FPD 2013*, Kyoto, Japan, July 2-5, 2013.

6. Satoshi Niiyama and Hirotsugu Kikuchi, "Optical Microscopic Observation of Morphology in Liquid Crystal/Polymer Composites and Their Electro-Optical Properties", *Mol. Cryst. Liq. Cryst.*, **577**, 1-14 (2013). (doi: 10.1080/15421406.2013.778116)
7. *Kosuke Kaneko, Kodai Oto, Toshiaki Kawai, Hyunseok Choi, Hirotsugu Kikuchi and Naotake Nakamura, "Electrorheological Effect and Electro-Optical Properties of Side-on Liquid Crystalline Polysiloxane in a Nematic Solvent", *ChemPhysChem*, **14**, 2704-2710 (2013). (doi: 10.1002/cphc.201300093)
8. *Munehiro Kimura, Norihiro Nagumo, Thet Naing Oo, Naoto Endo, Hirotsugu Kikuchi and Tadashi Akahane, "Single-Substrate Polymer-Stabilized Blue Phase Liquid Crystal Display", *Opt. Mater. Express*, **3**, 2086-2095 (2013). (doi: 10.1364/OME.3.002086)
9. Fangjie Zhu, †*Tatsuya Nishimura, †Takeshi Sakamoto, Hidekazu Tomono, †*Hiroki Nada, Yasushi Okumura, Hirotsugu Kikuchi and †*Takashi Kato, "Tuning the Stability of $Caco_3$ Crystals with Magnesium Ions for the Formation of Aragonite Thin Films on Organic Polymer Templates", *Chem. Asian J.*, **8**, 3002-3009 (2013). (doi: 10.1002/asia.201300745) †A01 group
10. Satoshi Niiyama and Hirotsugu Kikuchi, "Observation of Transient Phase Separation Progess of Liquid Crystal/Polymer Composites Obtained by Photo-Polymerization Induced-Phase Separation and their Electro-Optical Properties", *Engineering Sciences Reports, Kyushu University*, **34**, 1-7, (2013).
11. Thanh Nguyen, Shuhei Umeno, Hiroki Higuchi, Hirotsugu Kikuchi and *Hiroshi Moritake, "Improvement of Decay Time in Nematic-Liquid-Crystal-Loaded Coplanar-Waveguide-Type Microwave Phase Shifter by Polymer Stabilizing Method", *Jpn. J. Appl. Phys.* **53**, 01AE08 (2014). (doi: 10.7567/JJAP.53.01AE08)
12. Hiroki Tone, †*Hiroyuki Yoshida, Shuhei Yabu, †Masanori Ozaki and Hirotsugu Kikuchi, "Effect of Anisotropic Lattice Deformation on the Kerr Coefficient of Polymer-Stabilized Blue-Phase Liquid Crystals", *Phys. Rev. E*, **89**, 012506 (2014). (doi:10.1103/PhysRevE.89. 012506) †A03 group
13. Kota Kakisaka, Hiroki Higuchi, Yasushi Okumura and *Hirotsugu Kikuchi, "Novel 6,6'-Difluoro-substituted Binaphthyl Derivatives as Chiral Dopants for Fluorinated Nematic Liquid Crystals", *Chem. Lett.*, **43**, in press (2014). (doi: 10.1246/cl.131169)

Atsushi Arakaki (Principal Investigator)
Associate Professor, Division of Biotechnology and Life Science, Institute of Engineering, Tokyo University of Agriculture and Technology

1. Atsushi Arakaki, Ayana Yamagishi, and *Tadashi Matsunaga, "Protein-Mediated Morphological Regulation of Magnetite Crystal in Magnetotactic Bacteria", *ICF Proc.*, *In press*.

Kazuki Sada (Principal Investigator)
Professor, Department of Chemistry, Graduate School of Science, Hokkaido University

1. Kouta Sugikawa, Shunjiro Nagata, Yuki Furukawa, Kenta Kokado and Kazuki Sada, "Stable and Functional Gold Nanorod Composites with a Metal-Organic Framework Crystalline Shell", *Chem. Mater.*, **25**, 2565-2570 (2013).

Jiro Kumaki (Principal Investigator)
Professor, Graduate School of Science and Engineering, Yamagata University

1. Go Sato, Shotaro Nishitsuji and *Jiro Kumaki, "Two-Dimensional Phase Separation of a Poly(methyl methacrylate) / Poly(L-lactide) Mixed Langmuir Monolayer via Spinodal Decomposition Mechanism", *J. Phys. Chem. B*, **117**, 9067-9072 (2013).

Tohru Sekino (Principal Investigator)
Professor, The Institute of Scientific and Industrial Research (ISIR), Osaka University

1. D. J. Park, *T. Sekino, S. Tsukuda, S.-I. Tanaka, "Synthesis of Sm-Doped Tio_2 Nanotube and Analysis of its Methylene Blue Removal Properties under Dark and UV Irradiated Conditions", *Res. Chem. Intermed.*, **39**, 1581-1591 (2013).
2. *T. Fujino, Y. Taguchi, S. Komasa, T. Sekino, and M. Tanaka, "Cell Differentiation on Nanoscale Features of a Titanium Surface: Effects of Deposition Time in Naoh Solution", *Journal of Hard Tissue Biology*, **23[1]**, 63-69 (2014).
3. *H. Xing, S. Komasa, Y. Taguchi, T. Sekino, and J. Okazaki, "Osteogenic Activity Of Titanium Surfaces with Nanonetwork Structures", *Int. J. Nanomed.*, **9**, (2014), *in press*.

Ko Okumura (Principal Investigator)

Professor, Department of Physics, Ochanomizu University

1. Yukari Hamamoto and Ko Okumura, "Realistic Numerical Analysis of a Bioinspired Layered Composite with a Crack: Robust Scaling Laws and Crack Arrest", *Adv. Eng. Mater.* 2013, **15**, 522-528 (2013) [selected for the front cover and highlighted on the web page].
2. Ko Okumura, "Simple Model for the Toughness of a Helical Structure Inspired by the Exoskeleton of Lobsters", *J. Phys. Soc. Jpn*., **82**, 1248024:1-6 (2013) [OPEN SELECT].
3. Mayuko Murano and Ko Okumura, "Simple Network Model for Reinforcement of Materials with Voids", *J. Phys. Soc. Jpn*., **83**, 035001:1-2 (2014).

Yuko Takeoka (Principal Investigator)

Associate Professor, Faculty of Science and Engineering, Sophia University

1. Nami Sugiyama, Yanagi Yanagi, Masahiro Yoshizawa-Fujita, Mamoru Aizawa, Yuko Takeoka, and Masahiro Rikukawa, "DNA-Templated Fabrication of Biphasic Calcium Phosphate Ceramics with a Bimodal Pore Structure for Tissue Engineering", *Chem. Lett*., **42**, 5, 465-467 (2013).

Ryuji Kawano (Principal Investigator)

Associate Professor, Division of Biotechnology and Life Science, Institute of Engineering, Tokyo University of Agriculture and Technology

1. ‡Yutaro Tsuji, ‡Ryuji Kawano, Toshihisa Osaki, Koki Kamiya, Norihisa Miki and Shoji Takeuchi, "Droplet-Based Lipid Bilayer System Integrated with Microfluidic Channels for Solution Exchange", *Lab on a Chip*, **13**, 1439-1650 (2013). (‡co-first author)
2. Ryuji Kawano, Yutaro Tsuji, Koji Sato, Toshihisa Osaki, Koki Kamiya, Minako Hirano, Toru Ide, Norihisa Miki and Shoji Takeuchi, "Automated Parallel Recordings of Topologically Identified Single Ion Channels", *Scientific Reports*, **3**, article no.1995 (2013).
3. ‡Yutaro Tsuji, ‡Ryuji Kawano, Toshihisa Osaki, Koki Kamiya, Norihisa Miki and Shoji Takeuchi, "Droplet Split-and-Contact Method for High-Throughput Transmembrane Electrical Recording" *Anal. Chem.,* **85**, 10913-10919 (2013) (‡co-first author)
4. L.N.S. Zaleha, R. Kawano, H. Yasuga, K. Kamiya, T. Osaki, N. Miki and S. Takeuchi, "Micro-Scale Droplet Contact Method by Mechanical Motion: Reproducible and Robust Lipid Bilayer Formation", *Proceedings of MicroTAS 2013*,

1433-1435 (2013).

5. Hiroki Yasuga, Ryuji Kawano, Masahiro Takinoue, Yutaro Tsuji, Toshihisa Osaki, Koki Kamiya, Norihisa Miki, *Shoji Takeuchi, "Logic Gate Using Artificial Cell-Membrane: NAND Operation by Transmembrane DNA via a Biological Nanopore", *Proc. of MEMS*, 1005-1006 (2013).

Kotaro Satoh (Principal Investigator)

Associate Professor, Graduate School of Engineering, Department of Applied Chemistry, Nagoya University

1. Hiroshi Aoshima, Kotaro Satoh, *Masami Kamigaito, "A Simple Combination of Higher-Oxidation-State FeX3 and Phosphine or Amine Ligand for Living Radical Polymerization of Styrene, Methacrylate, and Acrylate", *Polym. Chem.*, **4**, 3554-3562 (2013).
2. Masaru Matsuda, Kotaro Satoh, *Masami Kamigaito, "Periodically Functionalized and Grafted Copolymers via 1:2-Sequence-Regulated Radical Copolymerization of Naturally Occurring Functional Limonene and Maleimide Derivatives, *Macromolecules*, **46**, 5473-5482 (2013).
3. Jing Ming Ren, Kotaro Satoh, Tor Kit Goh, Anton Blencowe, Kanji Nagai, Kenji Ishitake, Andrew Joseph Christofferson, George Yiapanis, Irene Yarovsky, *Masami Kamigaito, *Greg Guanghua Qiao, "Stereospecific Cyclic Poly(methyl Methacrylate) and Its Topology-Guided Hierarchically-Controlled Supramolecular Assemblies", *Angew. Chem. Int. Ed.*, **53**, 459-464 (2014).
4. *Kotaro Satoh, Dong-Hyung Lee, Kanji Nagai, *Masami Kamigaito, "Precision Synthesis of Bio-Based Acrylic Thermoplastic Elastomer by RAFT Polymerization of Itaconic Acid Derivatives", *Macromol. Rapid Commun.*, **35**, 161-167 (2014).
5. Yasutaka Tsujimoto, *Kotaro Satoh, Hidekazu Sugimori, †*Hiroshi Jinnai, *Masami Kamigaito, "Synthesis of Titanium-Containing Block, Random, End- and Junction-Functionalized Polymers via Ruthenium-Catalyzed Living Radical Polymerization and Direct Observation of Titanium Domains by Electron Microscopy", *Macromolecules*, **47**, 944-953 (2014). †co-investigator for project management group
6. Yoshiki Nonoyama, *Kotaro Satoh, *Masami Kamigaito, "Renewable β-Methylstyrenes for Bio-Based Heat-Resistant Styrenic Copolymers: Radical Copolymerization Enhanced by Fluoroalcohol and Controlled/Living Copolymerization by RAFT", *Polym. Chem.*, in press, doi: 10.1039/c3py01066j (2014).
7. *Kotaro Satoh, Atsuhiro Nakahara, Kazunori Mukunoki, Hiroko Sugiyama, Hiromu

Saito, *Masami Kamigaito, "Sustainable Cycloolefin Polymer from Pine Tree Oil for Optoelectronics Material: Living Cationic Polymerization of β-Pinene and Catalytic Hydrogenation for High-Molecular-Weight Hydrogenated Poly(β-pinene)", *Polym. Chem.*, doi: 10.1039/c3py01320k (2014).

8. Masato Mizutani, *Kotaro Satoh, *Masami Kamigaito, "Construction of Vinyl Polymer and Polyester or Polyamide Units in a Single Polymer Chain via Metal-Catalyzed Simultaneous Chain- and Step-Growth Radical Polymerization of Various Monomers", *Aust. J. Chem.*, **67**, doi: 10.1070/CH13476z (2014).

Takuya Nakashima (Principal Investigator)
Associate Professor, Graduate School of Materials Science, Nara Institute of Science and Technology

1. Toshifumi Inouchi, Takuya Nakashima and Tsuyoshi Kawai, "The Origin of the Emission Properties of π-Conjugated Molecules that Have an Acid-Responsive Benzimidazole Unit", *Asian J. Org. Chem.*, **2**, 230-238 (2013).
2. Hiroyasu Masunaga, Hiroki Ogawa, Takuya Nakashima, Tsuyoshi Kawai, Takaaki Hikima, Masaki Takata and Sono Sasaki, "Trilayer-Cubic Core-Shell Structure of Pbs/Eus Nanocrystals Revealed by the Combination of the Synchrotron Small-Angle X-Ray Scattering Method and Energy-Dispersive X-Ray Spectroscopy", *Dalton Trans.*, **42**, 16216-16221 (2013).

Yoshinori Takashima (Principal Investigator)
Assistant Professor, Department of Macromolecular Science, Graduate School of Science, Osaka University

1. Takhiro Kakuta, Yoshinori Takashima, Akira Harada, "Highly Elastic Supramolecular Hydrogels Using Host-Guest Inclusion Complexes with Cyclodextrins", *Macromolecules*, **46**, 4575-4579 (2013). (DOI: 10.1021/ma400695p).
2. Yoshinori Takashima, Akira Harada, "Novel Ring-Opening Polymerization -Supramolecular Catalysts Using Cyclodextrins-", *J. Synth. Org. Chem Jpn.*, **71**, 503-514 (2013).
3. Yoshinori Takashima, Kunihiro Uramatsu, Daisuke Jomori, Aiko Harima, Miyuki Otsubo, Hiroyasu Yamaguchi, Akira Harada, "Ring-Opening Metathesis Polymerization by a Ru Phosphine Derivative of Cyclodextrin in Water", *ACS Macro Lett.*, **2**, 384-387(2013). (DOI: 10.1021/mz4001942).

Toshiki Miyazaki (Principal Investigator)
Associate Professor, Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology

1. *Toshiki Miyazaki, Shota Anan, Eiichi Ishida and Masakazu Kawashita, "Carboxymethyldextran/Magnetite Hybrid Microspheres Designed for Hyperthermia", *J. Mater. Sci.: Mater. Med.*, **24**, 1125-1129 (2013).
2. *Masakazu Kawashita, Naoko Matsui, Toshiki Miyazaki and Hiroyasu Kanetaka, "Effect of Autoclave and Hot Water Treatments on Surface Structure and *in vitro* Apatite-Forming Ability of Naoh- and Heat-Treated Bioactive Titanium Metal", *Mater. Trans.*, **54**, 811-816 (2013).
3. *Kensuke Yamauchi, Tetsu Takahashi, Kenko Tanaka, Shinnosuke Nogami, Takeshi Kaneuji, Hiroyasu Kanetaka, Toshiki Miyazaki, Bernd Lethaus and Peter Kessler, "Self-Activated Mesh Device Using Shape Memory Alloy for Periosteal Expansion Osteogenesis", *J. Biomed. Mater. Res. B Appl. Biomater.*, **101**, 736-742 (2013).
4. *Toshiki Miyazaki, Juntarou Mukai, Eiichi Ishida and †Chikara Ohtsuki, "Apatite Mineralization Behavior on Polyglutamic Acid Hydrogels in Aqueous Condition : Effects of Molecular Weight", *Bio-Med. Mater. Eng.*, **23**, 339-347 (2013). †A02 group
5. *Zhixia Li, Toshiki Miyazaki and Masakazu Kawashita, "Preparation and in Vitro Apatite-Forming Ability of Porous and Non-Porous Titania Microspheres", *J. Ceram. Soc. Japan*, **121**, 782-787 (2013).
6. Nazlina Haiza Mohd Yasin, Masaharu Fukuzaki, *Toshinari Maeda, Toshiki Miyazaki, Che Mohd Hakiman Che Maail, Hidayah Ariffin, Thomas .K. Wood, "Biohydrogen Production from Oil Palm Frond Juice and Sewage Sludge by a Metabolically Engineered Escherichia Coli Strain", *Int. J. Hydrogen Energy*, **38**, 10277-10283 (2013).
7. Toshiki Miyazaki, Akimasa Kuramoto, Atsuhide Hirakawa, Yuki Shirosaki, †Chikara Ohtsuki, "Biomineralization on Chemically Synthesized Collagen Containing Immobilized Poly-γ-Glutamic Acid", *Dent. Mater. J.*, **32**, 544-549 (2013). †A02 group
8. *Masakazu Kawashita, Naoko Matsui, Toshiki Miyazaki and Hiroyasu Kanetaka, "Effect of Ammonia or Nitric Acid Treatment on Surface Structure, in vitro Apatite Formation, and Visible-Light Photocatalytic Activity of Bioactive Titanium Metal", *Colloids Surf. B Biointerfaces*, **111**, 503-508 (2013).

9. *Masakazu Kawashita, Kozue Nakamura, Toshiki Miyazaki and Hiroyasu Kanetaka, "Structure of Yttrium and Phosphorus-Containing Microspheres Prepared by Spray Dry Method", *Int. J. Mater. Chem*., **3**, 16-20 (2013).
10. Jinkun Liu, Yoshimitsu Kuwahara, Yuki Shirosaki and *Toshiki Miyazaki, "The Investigation of Bioactivity and Mechanical Properties of Glass Ionomer Cements Prepared from Al_2O_3-Sio_2 Glass and Poly(γ-Glutamic Acid)", *J. Nanomater*., Article ID 168409, 6 pages (2013) (DOI: 10.1155/2013/168409).
11. Toshiki Miyazaki, Takajin Suda, Yuki Shirosaki and Masakazu Kawashita, "Fabrication of Yttrium Phosphate Microcapsules by an Emulsion Route for *in situ* Cancer Radiotherapy", *J*. *Med*. *Biol*. *Eng*., **34**, 14-17 (2014).
12. *Masakazu Kawashita, Jumpei Hayashi, Zhixia Li, Toshiki Miyazaki, Masami Hashimoto, Hiroki Hihara, Hiroyasu Kanetaka, "Adsorption Characteristics of Bovine Serum Albumin onto Alumina with a Specific Crystalline Structure", *J*. *Mater*. *Sci*.*: Mater*. *Med*., **25**, 453-459 (2014).
13. *Tomitsugu Taguchi, Toshiki Miyazaki, Satoshi Iikubo, Kenji Yamaguchi, "Deposition of Hydroxyapatite On Sic Nanotubes in Simulated Body Fluid", *Mater*. *Sci*. *Eng*. *C*, **34**, 29-34 (2014).
14. *Masakazu Kawashita, Jumpei Hayashi, Tada-aki Kudo, Hiroyasu Kanetaka, Zhixia Li, Toshiki Miyazaki and Masami Hashimoto, "MC3T3-E1 and RAW264.7 Cell Response to Hydroxyapatite and Alpha-Type Alumina Adsorbed with Bovine Serum Albumin", *J*. *Biomed*. *Mater*. *Res*. *A*, published online (DOI: 10.1002/jbm.a.34861).

Kunio Ishikawa (Principal Investigator)
Professor, Department of Biomaterials, Faculty of Dental Science, Kyushu University

1. Le Thi Bang, Kanji Tsuru, Melvin Munar, Kunio Ishikawa, Radzali Othman, "Mechanical Behavior and Cell Response of PCL Coated A-TCP Foam for Cancellous-Type Bone Replacement", *Ceram. Int.*, in press.
2. Girlie M. Munar, Melvin L. Munar, Kanji Tsuru, Kunio Ishikawa, "Influence of PLGA Concentrations on Structural and Mechanical Properties of Carbonate Apatite Foam", *Dent. Mater. J.*, **39**(5) 5631-5637 (2013).
3. Shunsuke Nomura, Kanji Tsuru, Shigeki Matsuya, Ichiro Takahashi, Kunio Ishikawa, "Fabrication of Carbonate Apatite Block from Set Gypsum Based on Dissolution-Precipitation Reaction in Phosphate-Carbonate Mixed Solution", *Dent. Mater. J.*, in press.
4. Girlie M. Munar, Melvin L. Munar, Kanji Tsuru, Kunio Ishikawa, "Effects of PLGA Reinforcement Methods on the Mechanical Property of Carbonate Apatite Foam",

Bio-Med. Mater. Eng., in press.

**"Fusion Materials: Creative Development of Materials and Exploration of Their Function through Molecular Control"
(2010-2014, Area No.2206) funded by Grant-in-Aid for Scientific Research on Innovative Areas from the MEXT
Project Leader Takashi KATO**

Reviews and Account Articles
A02 Group (2013)

Sadahito Aoshima (Principal Investigator)
Shokyoku Kanaoka (Co-Investigator; Renkei-Kenkyusha)
Arihiro Kanazawa (Co-Investigator; Renkei-Kenkyusha)
Professor, Department of Macromolecular Science, Graduate School of Science, Osaka University

1. Shokyoku Kanaoka, Hiroaki Shimomito, Dai Fukami, and Sadahito Aoshima, "Well-Defined Fluorine-Containing Star Polymers of Vinyl Ethers: Precision Synthesis by Base-Assisting Living Cationic Polymerization and Thermoresponsive Solubility Transitions", *ACS Symposium Series,* **1106***,* 65-79 (2013).

Other articles in Japanese: 1

Chikara Ohtsuki (Principal Investigator)
Ill Yong Kim (Co-Investigator; Renkei-Kenkyusha)
Professor, Department of Crystalline Materials Science, Graduate School of Engineering, Nagoya University

1. †Toshiki Miyazaki, †Kunio Ishikawa, Yuki Shirosaki and Chikara Ohtsuki, "Organic-Inorganic Composites Designed for Biomedical Applications", *Biol. Pharm. Bull.*, **36**, 1670-1675 (2013). †A02 group

Other Articles in Japanese: 1

Hirotsugu Kikuchi (Principal Investigator)
Hiroshi Higuchi (Co-Investigator; Renkei-Kenkyusha)
Professor, Institute for Materials Chemistry and Engineering, Kyushu University

Articles in Japanese: 1

Kazuki Sada (Principal Investigator)
Professor, Department of Chemistry, Graduate School of Science, Hokkaido University

1. Kazuya Iseda, Kenta Kokado and Kazuki Sada, "Design and Function of Smart Polymer Gels based on Ion Recognition", *Reac. Func. Polym.*, **73**, 951-957 (2013).

Jiro Kumaki (Principal Investigator)
Professor, Graduate School of Science and Engineering, Yamagata University
Articles in Japanese: 1

Ryuji Kawano (Principal Investigator)
Associate Professor, Division of Biotechnology and Life Science, Institute of Engineering, Tokyo University of Agriculture and Technology
Articles in Japanese: 2

Kotaro Satoh (Principal Investigator)
Associate Professor, Graduate School of Engineering, Department of Applied Chemistry, Nagoya University
Articles in Japanese: 3

Yoshinori Takashima (Principal Investigator)
Assistant Professor, Department of Macromolecular Science, Graduate School of Science, Osaka University
Articles in Japanese: 1

Toshiki Miyazaki (Principal Investigator)
Associate Professor, Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology

1. *Toshiki Miyazaki, "Design of Bone-Integrating Organic-Inorganic Composite Suitable for Bone Repair", *Front. Biosci. (Elite Ed.)*, **5**, 333-405 (2013).（査読有）
2. *Toshiki Miyazaki, †Kunio Ishikawa, Yuki Shirosaki and †Chikara Ohtsuki, "Organic-Inorganic Composites Designed for Biomedical Applications", *Biol. Pharm. Bull.*, **36**, 1670-1675 (2013). †A02 group

Kunio Ishikawa (Principal Investigator)
Professor, Department of Biomaterials, Faculty of Dental Science, Kyushu University

1. †Toshiki Miyazaki, Kunio Ishikawa, Yuki Shirosaki and †Chikara Ohtsuki, "Organic-Inorganic Composites Designed for Biomedical Applications", *Biol.*

Pharm. Bull., **36**, 1670-1675 (2013). †A02 group

"Fusion Materials: Creative Development of Materials and Exploration of Their Function through Molecular Control"
(2010-2014, Area No.2206) funded by Grant-in-Aid for Scientific Research on Innovative Areas from the MEXT
Project Leader Takashi KATO

Books

A02 Group (2013)

Sadahito Aoshima (Principal Investigator)
Shokyoku Kanaoka (Co-Investigator; Renkei-Kenkyusha)
Arihiro Kanazawa (Co-Investigator; Renkei-Kenkyusha)
Professor, Department of Macromolecular Science, Graduate School of Science, Osaka University
Articles in Japanese: 1

Chikara Ohtsuki (Principal Investigator)
Ill Yong Kim (Co-Investigator; Renkei-Kenkyusha)
Professor, Department of Crystalline Materials Science, Graduate School of Engineering, Nagoya University
Articles in Japanese: 2

Hirotsugu Kikuchi (Principal Investigator)
Hiroshi Higuchi (Co-Investigator; Renkei-Kenkyusha)
Professor, Institute for Materials Chemistry and Engineering, Kyushu University
Articles in Japanese: 1

Atsushi Arakaki (Principal Investigator)
Associate Professor, Division of Biotechnology and Life Science, Institute of Engineering, Tokyo University of Agriculture and Technology

1. Atsushi Arakaki, Michiko Nemoto, and *Tadashi Matsunaga, "*Molecular Bioengineering of Magnetosomes for Biotechnological Applications*", Coordination Chemistry in Protein-Cages: Principles, Design, and Applications, First Edition., Eds. Takafumi Ueno and Yoshihito Watanabe, John Wiley & Sons, Inc., pp. 241-272 (2013).

Jiro Kumaki (Principal Investigator)
Professor, Graduate School of Science and Engineering, Yamagata University
Articles in Japanese: 1

Yuko Takeoka (Principal Investigator)
Associate Professor, Faculty of Science and Engineering, Sophia University
Articles in Japanese: 1

Kotaro Satoh (Principal Investigator)
Associate Professor, Graduate School of Engineering, Department of Applied Chemistry, Nagoya University
Articles in Japanese: 4

Yoshinori Takashima (Principal Investigator)
Assistant Professor, Department of Macromolecular Science, Graduate School of Science, Osaka University
Articles in Japanese: 1

Toshiki Miyazaki (Principal Investigator)
Associate Professor, Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology
1. Toshiki Miyazaki and *Masakazu Kawashita, "Electrochemical Deposition of Hydroxyapatite and Its Biomedical Applications", *Hydroxyapatite Coatings for Biomedical Applications*, ed. by Sam Zhang, pp. 31-53, CRC Press, 2013.

Other articles in Japanese: 1

Kunio Ishikawa (Principal Investigator)
Professor, Department of Biomaterials, Faculty of Dental Science, Kyushu University
1. Kunio Ishikawa, "Calcium Phosphate Cement", *Advances in Calcium Phosphate Biomaterials*, Springer, *in press*.

Other articles in Japanese: 1