

SELECTED GRANTS

DIVISION OF SYNTHETIC CHEMISTRY

— Organoelement Chemistry —

Mizuhata, Y.
Creation of Novel Conjugated Molecules with Heavy Phenyl Anions as Building Blocks
Grant-in-Aid for Scientific Research (B)
1 April 2018–31 March 2021

Tokitoh, N.; Mizuhata, Y.; Yukimoto, M.
New Main Group Element Chemistry and Materials Science Based on Heavy Aryl Anions
Grant-in-Aid for Scientific Research (S)
26 June 2019–31 March 2024

Tokitoh, N.
Synthesis of Hexasilabenzene
Grant-in-Aid for Challenging Research (Pioneering)
28 June 2019–31 March 2022

Yukimoto, M.
Creation of Tautomerizable Heavy Group 14–16 Double Bonded Compounds
Grant-in-Aid for Early-Career Scientists
1 April 2018–31 March 2022

— Structural Organic Chemistry —

Murata, Y.
Creation and Development of Nanoscale Laboratory
Grant-in-Aid for Scientific Research (S)
1 June 2017–31 March 2022

Hirose, T.
Synthesis of π -Extended Helical Aromatic Molecules Towards Creation of Novel Molecular Functions with Chirality
Grant-in-Aid for Scientific Research (C)
1 April 2018–31 March 2021

Hirose, T.
Creation of Multi-dimensional Chiral Assemblies Based on π -Expanded Helical Aromatic Ligands
Grant-in-Aid for Scientific Research on Innovative Area “Coordination Asymmetry”
1 April 2019–31 March 2021

Hashikawa, Y.
Creation of Carbon Nanocages toward Single Molecule Chemistry
Grant-in-Aid for Early-Career Scientists
1 April 2020–31 March 2022

Hashikawa, Y.
Construction of Higher Order Structures Integrated by Precisely Arranged Hydroxy Groups in a 3D Manner
Grant-in-Aid for Scientific Research on Innovative Area “Aquatic Functional Materials”
1 April 2020–31 March 2022

— Synthetic Organic Chemistry —

Kawabata, T.
Asymmetric Synthesis of Chiral Supramolecules towards Pioneering Novel Chemical Space
Research Grant from the Uehara Memorial Foundation
1 April 2020–31 March 2021

Ueda, Y.
Catalytic Asymmetric Synthesis of Inherently Chiral Calixarenes and Its Application to Unique Molecular Recognition
Grant-in-Aid for Scientific Research (C)
1 April 2020–31 March 2023

Morisaki, K.
Site-selective C-H Bond Functionalization
Grant-in-Aid for Early-Career Scientists
1 April 2019–31 March 2022

— Advanced Inorganic Synthesis —

Teranishi, T.
Nanoscale Element Replacement Science: Structural Transformation of Nanocrystalline Phases and Development of Novel Functions
Grant-in-Aid for Scientific Research (S)
26 June 2019–31 March 2024

Teranishi, T.
Novel Development of Asymmetry Chemistry in Inorganic Nanocrystals
Grant-in-Aid for Scientific Research on Innovative Area “Coordination Asymmetry”
1 July 2016–31 March 2021

Teranishi, T.
Synthesis of Magnetic Nanoparticles and Proposal of Guideline for High Performance Ferrite Magnets Aiming at Creation of Novel Magnet Materials
Element Strategy Initiative, MEXT
1 April 2012–31 March 2022

Abbreviations and acronyms

JST : Japan Science and Technology Agency
MEXT : Ministry of Education, Culture, Sports, Science and Technology
METI : Ministry of Economy, Trade and Industry
NEDO : New Energy and Industrial Technology Development Organization

Teranishi, T.
Development of Manufacturing Process Technology for Solar Hydrogen, etc. (Innovative Photocatalysts)
Artificial Photosynthesis Project, NEDO
1 April 2012–31 March 2022

DIVISION OF MATERIALS CHEMISTRY

— Polymer Controlled Synthesis —

Yamago, S.
New Organic Chemistry and Material Science of Curved π -Conjugated Molecules
Grant-in-Aid for Scientific Research (S)
1 April 2016–31 May 2020

— Nanospintronics —

Ono, T.
Development and Understanding Spintronic Phenomena in Ferromagnets
Grant-in-Aid for Scientific Research (S)
31 August 2020–31 March 2025

DIVISION OF BIOCHEMISTRY

— Biofunctional Design-Chemistry —

Futaki, S.
Intracellular Fate of Extracellular Fine Particles and the Control System
CREST (Core Research for Evolutionary Science and Technology), JST
1 October 2018–31 March 2024

Futaki, S.
Development of New Methods for Cytosolic Delivery of Bioactive Proteins
Grant-in-Aid for Scientific Research (A)
1 April 2018–31 March 2020

Imanishi, M.
Control of RNA Modification for Antivirus Activities
Grant-in-Aid for Scientific Research (B)
1 April 2019–31 March 2021

— Chemistry of Molecular Biocatalysts —

Yamaguchi, S.
Molecular Mechanisms for the Timing of the Production of Stem Cells in Plants
Grant-in-Aid for Scientific Research on Innovative Area “Principles of Pluripotent Stem Cells Underlying Plant Vitality”
30 June 2017–31 March 2022

— Molecular Biology —

Aoyama, T.
Plant Epidermal Cell Differentiation Regulated by the Transcription Factor GL2
Grant-in-Aid for Scientific Research (B)
1 April 2016–31 March 2020

— Chemical Biology —

Uesugi, M.
Chemical Biological Exploration of New Functions of Endogenous Lipid-related Molecules
AMED-CREST
1 October 2014–31 March 2020

Uesugi, M.
Chemical Signals of Synthetic Nutrient Conjugates
Grant-in-Aid for Scientific Research on Innovative Areas
1 July 2017–31 March 2022

Uesugi, M.
Exploration of Self-assembling Bioactive Small Molecules
Grant-in-Aid for Scientific Research (A)
1 April 2019–31 March 2022

Uesugi, M.
Asian Chemical Biology Initiative
Core-to-Core Program, JSPS
1 April 2019–31 March 2022

Sato, S.
Understanding Cellular Function with Short RNAs and Small Molecules
Grant-in-Aid for Scientific Research (B)
1 April 2020–31 March 2023

Takemoto, Y.
Spatiotemporal Regulation of Protein Degradation by Small Molecule Compound and Light
Grant-in-Aid for Scientific Research (C)
1 April 2019–31 March 2022

DIVISION OF ENVIRONMENTAL CHEMISTRY

— Molecular Materials Chemistry —

Kaji, H.
Construction of Basic Science of Organic Devices by Precise Structural Analysis and Theoretical Chemical Calculation
Grant-in-Aid for Scientific Research (A)
1 April 2017–31 March 2020

Shizu, K.
Singlet Fission Materials by Engineering Inter-exciton Vibronic Coupling
Grant-in-Aid for Scientific Research (C)
1 April 2019–31 March 2021

Suzuki, K.
Structural Analysis of Organic Semiconducting Materials Using DNP-NMR
Grant-in-Aid for Early-Career Scientists
1 April 2019–31 March 2021

— Hydrospheric Environment Analytical Chemistry —

Sohrin, Y.
Ocean Section Study on the Basis of Stoichiometry and Stable Isotope Ratio of Trace Metals
Grant-in-Aid for Scientific Research (A)
1 April 2019–31 March 2023

Takano, S.
Isotopic Analysis for Estimating the Sources of Particulate Trace Metals in the Ocean
Grant-in-Aid for Early-Career Scientists
1 April 2020–31 March 2023

Takano, S.
Revealing Biogeochemical Cycles of Trace Metals Based on Isotopic Analysis of Sinking Particles
Mitsumasa Ito Memorial Research Grant, Research Institute for Oceanography Foundation
1 April 2020–31 March 2021

Zheng, L.
Sectional Distributions of Trace Metals in the South Pacific Ocean and the Indian Ocean
Mitsumasa Ito Memorial Research Grant, Research Institute for Oceanography Foundation
1 April 2020–31 March 2021

— **Chemistry for Functionalized Surfaces** —

Hasegawa, T.
Development of ROA Imaging and Its Application to Visualization of Atropisomers for a Study of Fluoroorganic Chemistry
Grant-in-Aid for Scientific Research (A) “Analytical Chemistry”
1 April 2015–31 March 2020

Shimoaka, T.
Molecular Interaction Analysis for Understanding Perfluoroalkyl Compound-Specific Properties
Grant-in-Aid for Young Scientists (B) “Analytical Chemistry”
1 April 2017–31 March 2020

Shioya, N.
Development of Multiple-Angle Incidence Resolution Reflection Spectrometry and Its Application to Organic Thin-Film Devices
Grant-in-Aid for Early-Career Scientists “Analytical Chemistry”
1 April 2019–31 March 2022

— **Molecular Microbial Science** —

Kurihara, T.
Dissection of the Molecular Basis of Membrane Vesicle Biogenesis and Construction of an Extracellular Platform for Substance Production by Using a Hyper-vesiculating Bacterium
Grant-in-Aid for Challenging Research (Pioneering)
30 July 2020–31 March 2023

Kurihara, T.
Diversity of Acyl Groups of Phospholipids in Bacterial Cell Membranes: Its Generation Mechanism and Physiological Significance
Grant-in-Aid for Scientific Research (B)
1 April 2018–31 March 2021

Kurihara, T.
Elucidation of the Mechanism of Selective Protein Transport to Bacterial Extracellular Membrane Vesicles and Their Application for Construction of an Extracellular Platform for Protein Production
A Large Research Grant from the Institute for Fermentation, Osaka
1 April 2019–31 March 2021

Kawamoto, J.
A Novel Platform for Functional Nanoparticle -the Synthesis Mechanism of Unique Outer-membrane Vesicles of Bacteria and its Application-
Grant-in-Aid for Scientific Research (C)
1 April 2020–31 March 2023

Ogawa, T.
Exploration and Functional Elucidation of a Novel Protein Involved in the Metabolism of ω -3 Polyunsaturated Fatty Acids in Bacteria
Grant-in-Aid for Early-Career Scientists
1 April 2019–31 March 2021

Ogawa, T.
Research on Bacterial Conversion of ω -3 Polyunsaturated Fatty Acids and its Application
A General Research Grant from the Institute for Fermentation, Osaka
1 April 2019–31 March 2021

DIVISION OF MULTIDISCIPLINARY CHEMISTRY
— **Molecular Rheology** —

Watanabe, H.
Unified Understanding of the Polymer Dynamics under Elongational and Shear Flows
Grant-in-Aid for Scientific Research (B)
1 April 2019–31 March 2022

— **Molecular Aggregation Analysis** —

Wakamiya, A.
Development of High Performance and Environmentally Friendly Perovskite Type Solar Cells
ALCA (Advanced Low Carbon Technology Research and Development Program), JST
16 November 2016–31 March 2021

Wakamiya, A.
Research and Development of Film Photovoltaics
Center of Innovation (COI) Program, JST
1 November 2013–31 March 2021

Wakamiya, A.
Research and Development of Film Type Perovskite Photovoltaics with Highly Flexible Design
Development of Multi-purpose Thin Film Perovskite Solar Module Technologies, NEDO
13 July 2020–31 March 2023

ADVANCED RESEARCH CENTER FOR BEAM SCIENCE
— **Particle Beam Science** —

Wakasugi, M.
Development of an Unstable-nuclear Target for the Nuclear-reaction Study with Rarely Produced Nuclei
Grant-in-Aid for Challenging Exploratory Research (Pioneering)
1 April 2020–31 March 2023

Tsukada, K.
Isotope Dependences of Nuclear Charge Distributions and Neutron Radius by Electron Scattering
Grant-in-Aid for Scientific Research (A)
1 April 2020–31 March 2025

Ogawara, R.
Development of Prototype Device for Ion Extraction System with Resonant Oscillation
Grant-in-Aid for Early-Career Scientists
1 April 2020–31 March 2022

— **Electron Microscopy and Crystal Chemistry** —

Kurata, H.
Advanced Characterization Nanotechnology Platform at Kyoto University
Nanotechnology Platform Project, MEXT
2 July 2012–31 March 2022

Kurata, H.
Development of Precise Spatially Resolved EELS and Analysis of Interfacial Electronic States
Grant-in-Aid for Scientific Research (B)
1 April 2017–31 March 2020

Kurata, H.
Electronic Structure Analysis by Aloof Beam EELS
Grant-in-Aid for Challenging Research
1 April 2019–31 March 2022

Haruta, M.
High Spatical and Energy Resolution Electronic State Mapping
Grant-in-Aid for Scientific Research (B)
1 April 2019–31 March 2022

INTERNATIONAL RESEARCH CENTER FOR ELEMENTS SCIENCE

— **Synthetic Organotransformation** —

Nakamura, M.
Application and Verification of Quantum Control in Iron-catalyzed Cross-coupling Reaction
Grant-in-Aid for Scientific Research (B)
1 April 2020–31 March 2023

Nakamura, M.
Development of Selective Woody Molecular Transformations for Forest Chemical Industry
Grant-in-Aid for Challenging Research (Exploratory)
29 June 2018–31 March 2020

Takaya, H.
Artificial Enzymes Base on Metalated Peptides
Grant-in-Aid for Scientific Research (B)
1 April 2017–31 March 2020

— **Advanced Solid State Chemistry** —

Shimakawa, Y.
High-pressure Synthesis of Novel Transition-metal Oxides and Exploring Their Functional Properties
Grant-in-Aid for Scientific Research (A)
1 April 2020–31 March 2024

— **Nanophotonics** —

Kanemitsu, Y.
Fusing Nanomaterials and Strong Electric Field Nonlinear Optics for New Advances in Photonics
Grant-in-Aid for Specially Promoted Research
23 April 2019–31 March 2024

Kanemitsu, Y.
Design of Next-generation Flexible Photonic Devices Based on Metal Halide Perovskites
CREST (Core Research for Evolutionary Science and Technology), JST
1 October 2016–31 March 2022

Hirori, H.
Development of Time-resolved THz-STM Working at Low Temperature and High Magnetic Field
The Mitsubishi Foundation
10 July 2019–31 May 2021

BIOINFORMATICS CENTER

— **Chemical Life Science** —

Ogata, H.
Deciphering the Mechanisms of Virus-host Co-existence in Aquatic Environments
Grant-in-Aid for Scientific Research on Innovative Area “Neovirology, the Raison d’Etre of Viruses”
30 June 2016–31 March 2021

Ogata, H.
The Biosphere of Aggregated Particles: Elucidating the Regulatory Mechanisms of Marine Carbon Cycles
Grant-in-Aid for Scientific Research (S)
3 July 2019–31 March 2023

Ogata, H.
Comprehensive Study and Establishment of Application Foundation of Carboxydrotrophic Bacteria through Spatio-temporal Search
Grant-in-Aid for Scientific Research (S)
1 April 2016–31 March 2021

Ogata, H.
Comprehensive Understanding of the Role of Giant Viruses in Aquatic Ecosystems
Grant-in-Aid for Scientific Research (B)
1 April 2018–31 March 2022

Ogata, H.
Comprehensive Understanding of Ecology and Virus-host Interactions of Giant Viruses in Aquatic Ecosystems
Grant-in-Aid for Scientific Research (B)
1 April 2020–31 March 2023

Ogata, H.
Virus-host Database
Grant-in-Aid for Publication of Scientific Research Results (Database)
1 April 2020–31 March 2025

Endo, H.
Integrative Understanding of Marine Nitrogen Fixation Based on Global Observations from Tropics to Polar Regions
Grant-in-Aid for Scientific Research (B)
1 April 2019–31 March 2022

Endo, H.
Experimental Investigation of the Effects of Phytoplankton Diversity on Ecosystem Functioning in the Ocean
Grant-in-Aid for Early-Career Scientists
1 April 2019–31 March 2022

— **Mathematical Bioinformatics** —

Akutsu, T.
Analysis and Application of Discrete Preimage Problems
Grant-in-Aid for Scientific Research (A)
1 April 2018–31 March 2023

Tamura, T.
Efficient Algorithms for Design of Metabolic Networks for
Valuable Metabolite Production
Grant-in-Aid for Scientific Research (B)
1 April 2020–31 March 2025

Mori, T.
Development of Cell Trajectory Inference and Comparison Algo-
rithm Based on Single-cell Omics Data
Grant-in Aid for Early-Career Scientists
1 April 2019–31 March 2021

— **Bio-knowledge Engineering** —

Mamitsuka, H.
Efficient Estimation of Data Structure from Multiple Tensors
Grant-in-Aid for Scientific Research (B)
1 April 2019–31 March 2022

Nguyen, C. H.
Machine Learning on Large Graphs
Grant-in-Aid for Scientific Research (C)
1 April 2018–31 March 2021