Curriculum Vitae

June 28. 2022

Dr. Mingoo Jin

Associate Professor

Hokkaido University
WPI-ICReDD
Email: mingoo@icredd.hokudai.ac.jp
ORCID: 0000-0001-6199-8802
Researchmap ID: B000246805
Date of Birth: 1989. 03. 15

Introduction

Mingoo Jin is an Associate Professor at WPI-ICReDD Hokkaido University. He got a Ph.D. under supervising from Professor Hajime Ito from Hokkaido University. His Ph.D. research subject was “Development of Novel Luminescent Crystalline Materials of Gold(I) Complexes with Stimuli-Responsive Properties”. After his graduation, He joined as postdoctoral researcher in Professor Miguel A. Garcia-Garibay Laboratory, University of California Los Angeles, and investigated luminescent functional materials based on amphidynamic crystals. Recently, His research has been focused on developing a novel platform toward crystalline molecular gears with functional properties. His research interests are Organometallic Chemistry, Coordination Chemistry, Polymer Chemistry, Computational Chemistry and Luminescent Solid-State Materials.

Professional Experiences

1. *09/2016 – 12/2016:*

Visiting Graduate Researcher: Professor Miguel A. Garcia-Garibay Lab.
Department of Chemistry & Biochemistry, University of California Los Angeles, Los Angeles, USA.

2. *04/2017 – 03/2019:*

Research Fellow for Young Scientists of JSPS (DC2).

3. *01/2018 – 07/2018:*

Visiting Graduate Researcher: Professor Miguel A. Garcia-Garibay Lab.

Department of Chemistry & Biochemistry, University of California Los Angeles, Los Angeles, USA.

4. *11/2018 – 03/2019:*

JSPS Postdoctoral Researcher Fellow

Supervisor: Professor Miguel A. Garcia-Garibay

Department of Chemistry & Biochemistry, University of California Los Angeles, Los Angeles, USA.

5. *04/2019 – 01/2022:*

Specially Appointed Assistant Professor (Ito Group)

WPI-ICReDD, Hokkaido University, Sapporo, Japan

6. *02/2022 – recent:*

Associate Professor (Junior PI)

WPI-ICReDD, Hokkaido University, Sapporo, Japan

Education

04/2010 – 03/2014:

Bachelor of Engineering

Division of Applied Chemistry, Hokkaido University, Sapporo, Japan

04/2014 – 03/2016:

Master course of Chemical Sciences and Engineering

Organoelement Chemistry Laboratory

(Professor Hajime Ito)

Graduate School of Chemical Sciences and Engineering, Hokkaido University

04/2016 – 09/2018:

Ph.D program of Chemical Sciences and Engineering

Organoelement Chemistry Laboratory

(Professor Hajime Ito)

Graduate School of Chemical Sciences and Engineering, Hokkaido University

Publications

-Scientific Journals- (* indicating corresponding author)

[1] Distinct Fold-Mode Formation of Crystalline Cu(I) Helical Coordination Polymers with Alternation of the Solid-State Emission Using Shape of the Counter Anions

Jin, M.*; Ando, R.; Ito, H.* *Inorg. Chem.* **2022**, *61*, 3–9.

[2] Encapsulating N-Heterocyclic Carbene Binuclear Transition-Metal Complexes as a New Platform for Molecular Rotation in Crystalline Solid-State.

Jin, M.*; Ando, R.; Jellen, M. J.; Garcia-Garibay, M. A.; Ito, H.* *J. Am. Chem. Soc.* **2021**, *143*, 1144–1153.

[3] Introduction of a Luminophore into Generic Polymers via Mechanoradical Coupling with a Prefluorescent Reagent.

Kubota, K.*; Toyoshima, N.; Miura, D.; Jiang, J.; Maeda, S.; **Jin, M.***; Ito, H.* *Angew. Chem. Int. Ed.* **2021**, *60*, 16003–16008.

[4] Charge-Transfer Crystal with Segregated Packing Structure Constructed with Hexaarylbenzene and Tetracyanoquinodimethane.

Ando, R.; **Jin, M.***; Ito, H.* *CrystEngComm*. **2021**, *23*, 5564–5568.

[5] Single Crystal Growth of π-Conjugated Large Molecules without Solubilizing Alkyl Chains via Naphthalene Flux Method.

Yanase, T.*; Tanoguchi, H.; Sakai, N.; **Jin, M.**; Yamane, I.; Kato, M.; Ito, H.; Nagahama, T.; Shimada, T. *Cryst. Growth. Des.* **2021**, *21*, 4683–4689.

[6] Enhanced Gearing Fidelity Achieved Through Macrocyclization of a Solvated Molecular Spur Gear.

Jellen, M.[#]; Liepuoniute, I.[#]; **Jin, M.**; Jones, C.; Yang, S.; Jiang, X.; Nelson, H.*; Houk, K.*; Garcia-Garibay, M.* *J. Am. Chem. Soc.* **2021**, *143*, 7740–7747.
(#: equally contributed authors)

[7] Anisotropic Thermal Expansion as the Source of Macroscopic and Molecular Scale Motion in Phosphorescent Amphidynamic Crystals.

Jin, M.; Yamamoto, S.; Seki, T.; Ito, H.*; Garcia-Garibay, M.A.* *Angew. Chem. Int. Ed.,* **2019***, 58,* 18003–18010.

[8] Mechanical-Stimulation-Triggered and Solvent-Vapor-Induced Reverse Single-Crystal-to-Single-Crystal Phase Transitions with Alterations of the Luminescence Color.

Jin, M.; Sumitani, T.; Sato, H.; Seki, T.*; Ito, H.* *J. Am. Chem. Soc.* **2018**, *140*, 2875–2879.

[9] Phosphorescence Control Mediated by Molecular Rotation and Aurophilic Interactions in Amphidynamic Crystals of 1,4-Bis[tri-(*p*-fluorophenyl)phosphane-gold(I)-ethynyl]benzene.

Jin, M.; Chung, T. J.; Seki, T.; Ito, H.*; Garcia-Garibay, M. A.* *J. Am. Chem. Soc.* **2017**, *139,* 18115–18121.

[10] Mechano-Responsive Luminescence via Crystal-to-Crystal Phase Transitions between Chiral and Non-Chiral Space Groups.

Jin, M.; Seki, T.*; Ito, H.* *J. Am. Chem. Soc.* **2017**, *139*, 7452–7455.

[11] Luminescent mechanochromism of a chiral complex: Distinct crystal structure and color changes of racemic and homochiral gold(I) isocyanide complexes with a binaphthyl moiety.

Jin, M.; Seki, T.*; Ito, H.* *Chem. Commun.* **2016**, *52*, 8083–8086.

[12] Copper(I)-Catalyzed Enantioselective Nucleophilic Borylation of Ketones: Synthesis of Enantioenriched Chiral Tertiary alpha-Hydroxyboronates.

Kubota, K.; Osaki, S.; **Jin, M.**; Ito, H.* *Angew. Chem. Int. Ed.* **2017**, *56*, 6646–6650.

[13] Introduction of a Biphenyl Moiety for a Solvent Responsive Aryl Gold(I) Isocyanide Complex with Mechanical Reactivation

Seki, T.*; **Jin, M.**; Ito, H.* *Inorg. Chem.* **2016**, *55*, 12309–12320.

[14] Computational Insight into the Enantioselective Nucleophilic Borylation of a Polarized C=O Double Bond Catalyzed by Di-phosphine-Borylcopper(I) Complexes

Kubota, K.; **Jin, M.**; Ito, H.* *Organometallics* **2016**, 35, 1376–1383.

[15] Synthesis of water-soluble polyisocyanates with the oligo(ethylene glycol) side-chain as new thermoresponsive polymers

Sakai, N.; **Jin, M.**; Sato, S.; Satoh, T.; Kakuchi, T.* *Polym. Chem.* **2014**, *5*, 1057–1062.

-Reviews & Perspective-

[16] Solid-state luminescence of Au(I) complexes with external stimuli-responsive properties.

Jin, M.*; Ito, H.* *Journal of Photochemistry and Photobiology C: Photochemistry Reviews* **2022**, *51*, 100478.

-Books-

[16] Novel Luminescent Crystalline Materials of Gold(I) Complexes with Stimuli-Responsive Properties.

Jin, M. *Springer Nature*, **2020**. *(2019 Springer Theses Awards)*
(eBook) DOI: https://doi.org/10.1007/978-981-15-4063-9

Scholarships / Academic and Research Awards

1. *Government Scholarship* for Science and Engineering (Japan and South Korea) 09/2009 – 03/2014
2. *Government Scholarship*: Hokkaido University Ambitious Leader's Program (Japan)
3. *Best Poster Presentation Award*, Hokkaido University-University of California, Berkeley Joint Symposium on Chemical Sciences and Engineering, 2016
4. *Best Oral Presentation Award*, National Taiwan University-Hokkaido University Joint Materials Science Workshop, 2015
5. *Best Poster Presentation Award*, 5th Chemistry Festa of Chemical Society of Japan (CSJ), 2015
6. *Best Oral Presentation Award,* CSJ Annual Meeting 2017 (presented in English)
7. *Best Oral Presentation Award*, Annual Meeting on Photochemistry 2017 (presented in English)
8. *Student Lectureship Award*, Annual Meeting on Japan Society of Coordination Chemistry 2017 (presented in English)
9. *Research Fellowships for Young Scientists,* Japan Society for the Promotion of Science (JSPS research fellow DC2), 2017.4–2018.9.
10. *Postdoctoral Research Fellow,* Japan Society for the Promotion of Science (JSPS), 2018.10–2019.3
11. *2018 Otsu Meeting Award Fellow,* MSD Otsu Conference, 2018. 10
12. *2019 Springer Theses Award,* Springer Nature, 2019. 12
13. *Inoue Research Award for Young Scientists,* Inoue Foundation for Science, 2019. 12

Grants / Funding

1. The Japan Society for the Promotion of Science (JSPS) via KAKENHI grants; 若手研究 (21K14637) 2021.4 – 2023.3

2. The Japan Society for the Promotion of Science (JSPS) via KAKENHI grants; 研究活動スタート支援 (19K23618) 2019.8 – 2021.3

3. The Japan Society for the Promotion of Science (JSPS) via KAKENHI grants; 特別研究員奨励費 (17J01104) 2017.4 – 2019.3

References

1. Professor Miguel A. Garcia-Garibay — University of California Los Angeles
email: mgg@chem.ucla.edu — Tel: +1 (310) 825 3159

2. Professor Hajime Ito — Hokkaido University, Japan
email: hajito@eng.hokudai.ac.jp — Tel: +81-10-706-6561

3. Professor Kazuki Sada — Hokkaido University, Japan
email: sadatcm@sci.hokudai.ac.jp — Tel: +81-11-706-3473