

Curriculum Vitae

Yoichi Hoshimoto (Ph.D.)

*Center for Future Innovation (CFi), Graduate School of Engineering
Osaka University, Japan*



Biography

Yoichi Hoshimoto received his M.Sc. and Ph.D. from Osaka University under the supervision of Professor S. Ogoshi in 2013. He then joined the Frontier Research Base for Global Young Researchers, Osaka University as a tenure-track assistant professor (2013-2018). Then, he was promoted to Associate professor in the Department of Applied Chemistry, Graduate School of Engineering, Osaka University (2018). He has been recognized as an “Outstanding Young Researcher (PI)” since 2023 and as a “TechnoArena Professor” since 2025 at the Center for Future Innovation (CFi), Graduate School of Engineering, Osaka University. His recent research interests include homogeneous catalysis with transition-metal, and main-group-element complexes and the development of original N-heterocyclic carbenes.

Born: 28th March, 1986 in Nagano, Japan.

Contact Address: C4-612, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan

E-mail: hoshimoto@chem.eng.osaka-u.ac.jp; **Phone:** +81-6-6879-7394

ORCID: <http://orcid.org/0000-0003-0882-6109>

Research Gate: https://www.researchgate.net/profile/Yoichi_Hoshimoto

Google Scholar Profile: <https://scholar.google.co.jp/citations?user=HsLrShsAAAAJ&hl=ja>

Education

- 2013 **Ph.D.** Department of Applied Chemistry, Faculty of Engineering, Osaka University, Japan (Supervisor: Prof. Dr. Sensuke Ogoshi)
- 2013 **Exchange Ph.D. Student**, Department of Chemistry, Queen’s University, Canada (Supervisor: Prof. Dr. Cathleen M. Crudden)
- 2010 **M.S.** Department of Applied Chemistry, Faculty of Engineering, Osaka University, Japan
- 2008 **B.S.** Department of Applied Chemistry, Faculty of Engineering, Osaka University, Japan

Professional Experiences

- 2025-present **TechnoArena Professor**, Center for Future Innovation (CFi), Graduate School of Engineering, Osaka University
- 2023 **Visiting Professor** at Ruhr University Bochum, Germany
- 2023-present **Outstanding Young Researcher**, Center for Future Innovation (CFi), Graduate School of Engineering, Osaka University
- 2018-present **Associate Professor**, Department of Applied Chemistry, Faculty of Engineering, Osaka University

2013-2018	Assistant Professor (Tenure track), Frontier Research Base for Global Young Researchers, Osaka University
2010-2013	Research Fellow , Japan Society for Promotion of Science (DC1)
2011-present	Otsu Academy Award Fellow Membership for selected young Japanese chemists, founded in 2010 by Profs. Drs. H. Yamamoto, M. Shibasaki, and K. Maruoka under the sponsorship of MSD Life Science Foundation
2019-2020	The 2019 Early Career Advisory Board of <i>ACS Catalysis</i> (<i>ACS Catal.</i> 2019 , 9, 3588.)
2022~	Scientific Advisory Board of <i>ChemRxiv</i>
2024~	Early Career Board member of <i>Precision Chemistry</i>

Awards

2025	The Osaka University Prize
2025	The Young Scientists' Award by the Minister of Education, Culture, Sports, Science and Technology (MEXT)
2024	Yazaki Academic Incentive Award
2024	Thieme Chemistry Journals Award
2024	Merck-Banyu Lectureship Award The prestigious award given annually to exceptional BCA winners who exhibit a well-balanced mix of originality, creativity, and overall potential of their research programs.
2023	Chemist Award BCA One of the top awards for young Japanese chemists, given by MSD Life Science Foundation
2023	Poster Award on Sustainable Future: Dream Reactions with Hydrogen (Münster, Germany, 2023)
2023	Award for Encouragement of Research in the 32nd Annual Meeting of MRS-Japan
2021	The 61th Research Grant Award of Ube Industries Foundation
2018	The Chemical Society of Japan Award for Young Chemists A prestige award for CSJ members younger than 36 years old who demonstrate significant research results in fundamentals and applications of chemistry.
2016	The Chemical Society of Japan Presentation Award
2014	The Honorable Mention in 2014 IUPAC-SOLVAY International Award
2014	Tosoh Award in Synthetic Organic Chemistry, Japan
2012	The Chemical Society of Japan Student Presentation Award
2011	Poster Prize on 16th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 16) (Shanghai, China, August 2011)
2009	Poster Award on 56th Symposium on Organometallic Chemistry (Kyoto, Japan, September, 2009)
2008	Royal Society of Chemistry Best Poster Award on International Conference on Advanced Organic Synthesis Directed toward the Ultimate Efficiency and Practicability (Shiga, Japan, May 2008)

Publications

- 53 Y. Hisata, D. Morishita, Y. Hoshimoto,* "An Isolated Lithium *ortho*-Carboranyl Cuprate Complex for the

- Synthesis of Multiple-Carborane-Substituted Arenes from (Hetero)Aryl Bromides and Chlorides," *J. Am. Chem. Soc.* **2025**, *147*, 37677-37687. *OPEN ACCESS*; *Featured by Asia Research News; EurekaAlert; PhysOrg; AlphaGalileo; Azo Materials*;
- 52 Y. Mondori, Y. Yamauchi, T. Kawakita, S. Ogoshi, Y. Uetake,* Y. Takeichi, H. Sakurai, Y. Hoshimoto,* "Monodentate σ -Accepting Boron-Based Ligands Bearing Square-Planar Ni(0) Centers," *J. Am. Chem. Soc.* **2025**, *147*, 8326-8335. *OPEN ACCESS*; *Featured by EurekaAlert; Asia Research News; PhysOrg; AlphaGalileo*;
- 51 T. Hashimoto, Y. Harabuchi, S. Ogoshi, S. Maeda,* Y. Hoshimoto,* "Elucidating multicomponent mechanisms in the catalytic hydrogenation of 2-methylquinoline under crude-H₂ conditions: a key H₂-cleavage process by a boron-olefin Lewis pair," *Bull. Chem. Soc. Jpn.* **2025**, *98*, uoae145. *OPEN ACCESS*
- 50 T. Hashimoto, M. Tanigawa, K. Kambe, S. Ogoshi, Y. Hoshimoto,* "Boosting Turnover in the Triarylborane-Catalyzed Hydrogenation of *N*-Substituted Indoles via Olefin-to-Nitrogen Lewis Base Switching in H₂-Cleavage Steps," *Precis. Chem.* **2025**, *3*, 128-134. *OPEN ACCESS*; *Invited contribution as the Early Career Board member; one of the most read articles*.
- 49 S. Nagai, S. Ogoshi, Y. Hoshimoto,* "Transformation of CO₂ and Isocyanates Mediated by N-Borane-Substituted Cyclic Phosphine Imides (BCPIs) via λ^5 -Oxazaphosphetanes," *Org. Biomol. Chem.* **2025**, *23*, 202-206.
- 48 T. Morishita, Y. Hisata, T. Hashimoto, S. Ogoshi, Y. Hoshimoto,* "Triarylborane Catalysis: From Hydrogenation of Unsaturated Molecules to H₂ Purification," *J. Synth. Org. Chem., Jpn.* **2024**, *82*, 1097-1106. *OPEN ACCESS*; *Accounts*.
- 47 M. Sakuraba, Y. Hoshimoto,* "Recent Trends in Triarylborane Chemistry: Diversification of Structures and Reactivity via meta-Substitution of the Aryl Groups," *Synthesis* **2024**, DOI: 10.1055/s-0043-1775394. *OPEN ACCESS*; *Short Review*; *Special issue "Dual Catalysis"*
- 46 Y. Hisata, T. Washio, S. Takizawa, S. Ogoshi, Y. Hoshimoto,* "In-silico-assisted derivatization of triarylboranes for the catalytic reductive functionalization of aniline-derived amino acids and peptides with H₂," *Nature Commun.* **2024**, *15*, 3708. *OPEN ACCESS*; *PRESS Release (Japanese)*. *Featured by EurekaAlert; Asia Research News; PhysOrg; MIRAGE*
- 45 J.N. Leung, Y. Mondori, S. Ogoshi, Y. Hoshimoto,* H. V. Huynh,* "Electronic Profiling of N-Phosphine Oxide-Substituted Imidazolin-2-ylidenes (PoxIms) and Imidazolidin-2-ylidenes (SPoxIms)," *Inorg. Chem.* **2024**, *63*, 4344.
- 44 S. Manna, F. Papp, Y. Hisata, J. Löffler, M. Rybka, V.H. Gessner,* Y. Hoshimoto,* L. J. Gooßen,* "Palladium-Catalyzed γ -Arylation of Acylketene Synthons with Aryl Chlorides Enabled by Ylide-Functionalized Phosphines (YPhos)," *Adv. Synth. Catal.* **2024**, *366*, 1107. *OPEN ACCESS*; *Very Important Publication (VIP)*
- 43 M. Sakuraba, S. Ogoshi, Y. Hoshimoto,* "Strategic Use of Crude H₂ for the Catalytic Reduction of Carbonyl Compounds," *Tetrahedron Chem.* **2024**, *9*, 100059. *OPEN ACCESS*; *Special issue "Organocatalysis"*
- 42 M. Sakuraba, T. Morishita, T. Hashimoto, S. Ogoshi,* Y. Hoshimoto,* "Remote Back Strain: A Strategy for Modulating the Reactivity of Triarylboranes," *Synlett*, **2023**, *34*, 2187. *Special issue "Modern Boron Chemistry: 60 years of the Matteson Reaction"*

- 41 Y. Yamauchi, Y. Mondori, Y. Uetake,* Y. Takeichi, T. Kawakita, H. Sakurai, S. Ogoshi,* Y. Hoshimoto,* "Reversible Modulation of the Electronic and Spatial Environment around Ni(0) Centers Bearing Multifunctional Carbene Ligands with Triarylaluminum," *J. Am. Chem. Soc.* **2023**, *145*, 16938.
OPEN ACCESS
- 40 S. Nagai, T. Hinogami, S. Ogoshi,* Y. Hoshimoto,* "N-Borane-Substituted Cyclic Phosphine Imides (BCPIS)," *Bull. Chem. Soc. Jpn.* **2023**, *96*, 1346.
OPEN ACCESS; Selected Paper; Inside Cover
- 39 Y. Hoshimoto,* Y. Yamauchi, T. Tomoya, S. Ogoshi,* "Complexation-Induced N–P Axial Chirality in Sm(II) N-Phosphine-Oxide-Substituted Imidazolylidene and Imidazolinyldene Complexes," *Can. J. Chem.* **2022**, *101*, 429.
Special issue in "Honor of Cathleen Crudden"
ChemRxiv 2022, preprint
- 38 T. Hashimoto, T. Asada, S. Ogoshi,* Y. Hoshimoto,* "Main group catalysis for H₂ purification based on liquid organic hydrogen carriers," *Science Advances* **2022**, *8*, eade0189.
OPEN ACCESS; PRESS Release (Japanese).
Featured by EurekaAlert; AlphaGalileo, Asia Research News; PhysOrg; Scienmag; Nanowerk; AZo Materials; 時事通信ニュース; YAHOO!; Cosmos Magazine; MIT Tech Review; 日経 xTech; Chem-Station; 現代化学2023年1月号; クリーンエネルギー2023年4月号(Vol.32, 54-61; 日本工業出版)
- 37 Y. Yamauchi, Y. Hoshimoto,* T. Kawakita, T. Kinoshita, Y. Uetake, H. Sakurai, S. Ogoshi,* "Room-Temperature Reversible Chemisorption of Carbon Monoxide on Nickel(0) Complexes," *J. Am. Chem. Soc.* **2022**, *144*, 8818.
OPEN ACCESS; Press Release (Japanese), 現代化学2022年7月号, Chem-Station.
- 36 Y. Hoshimoto,* M. Sakuraba, T. Kinoshita, M. Ohbo, M. Ratanasak, J. Hasegawa,* S. Ogoshi,* "A boron-transfer mechanism mediating the thermally induced revival of frustrated carbene–borane pairs from their shelf-stable adducts," *Commun. Chem.* **2021**, *4*, 137.
OPEN ACCESS
- 35 Y. Yamauchi, S. Nagai, T. Terada, Y. Hoshimoto,* S. Ogoshi,* "Sm(II)-Mediated Single-Electron Reduction of Pentafluorophenylcopper(I)," *Chem. Lett.* **2021**, *50*, 1394.
OPEN ACCESS
- 34 Y. Hoshimoto,* S. Nagai, T. Hinogami, S. Hazra, S. Ogoshi,* "N-Phosphine Imide-Substituted Imidazolylidenes (PimIms)," *Asian J. Org. Chem.* **2021**, *10*, 1085.
Invited contributions to the special issue "Early Career Special Collection"
- 33 Y. Hoshimoto,* S. Ogoshi,* "Development of Metal Complexes Equipped with Structurally Flexible Carbenes," *Bull. Chem. Soc. Jpn.* **2021**, *94*, 327.
OPEN ACCESS; Inside Cover; Award Account for The 67th Chemical Society of Japan Award for Young Chemists.
- 32 K. Ashida, Y. Hoshimoto, S. Ogoshi,* "Ni(0)-Catalyzed Synthesis of Polycyclic α,β -Unsaturated γ -Lactams via Intramolecular Carbonylative Cycloaddition of Yne-imines with CO," *Synlett* **2020**, *32*, 1537.
- 31 T. Asada, Y. Hoshimoto,* S. Ogoshi,* "Rotation-Triggered Transmetalation on Heterobimetallic Cu/Al N-

Phosphine-Oxide-Substituted Imidazolylidene Complex," *J. Am. Chem. Soc.* **2020**, *142*, 9772.

- 30 T. Asada, Y. Hoshimoto,* T. Kawakita, T. Kinoshita, S. Ogoshi,* "Axial Chirality around N–P Bonds Induced by Complexation between $E(C_6F_5)_3$ ($E = B, Al$) and an N-Phosphine-Oxide-Substituted Imidazolinylidene: A Key Intermediate in the Catalytic Phosphinoylation of CO_2 ," *J. Org. Chem.* **2020**, *85*, 14333.

Invited contributions to special issue "The New Golden Age of Organophosphorus Chemistry"

OPEN ACCESS; One of the Most Read Article (monthly)

- 29 Y. Hoshimoto,* "Transformation of Aldehydes via Nickelacycles" in *Nickel Catalysis in Organic Synthesis: Methods and Reactions*, Ed by S. Ogoshi, Wiley-VCH: Germany, **2020**.

- 28 K. Ashida, Y. Hoshimoto, N. Tohnai, D. E. Scott, M. Ohashi, H. Imaizumi, Y. Tsuchiya, S. Ogoshi,* "Enantioselective Synthesis of Polycyclic γ -Lactams with Multiple Chiral Carbon Centers via Ni(0)-Catalyzed Asymmetric Carbonylative Cycloadditions without Stirring," *J. Am. Chem. Soc.* **2020**, *142*, 1594.

- 27 Y. Hoshimoto, C. Nishimura, Y. Sasaoka, R. Kumar, S. Ogoshi, "Catalytic Synthesis of Isoquinolines via Intramolecular Migration of N-Aryl Sulfonyl Groups on 1,5-Yne-Imines," *Bull. Chem. Soc. Jpn.* **2020**, *93*, 182.

OPEN ACCESS

- 26 Y. Hoshimoto,* S. Ogoshi,* "Triarylborane-Catalyzed Reductive N-Alkylation of Amines: A Perspective," *ACS Catal.* **2019**, *9*, 5439.

- 25 T. Kinoshita, M. Sakuraba, Y. Hoshimoto,* S. Ogoshi,* "Complexation between MTOF ($M = Li$ and Na) and N-Phosphine oxide-substituted Imidazolyliidenes via Coordination of the N-Phosphoryl Groups," *Chem. Lett.* **2019**, *48*, 230.

OPEN ACCESS

- 24 Y. Hoshimoto,* T. Kinoshita, S. Hazra, M. Ohashi, S. Ogoshi,* "Main-Group-Catalyzed Reductive Alkylation of Multiply Substituted Amines with Aldehydes Using H_2 ," *J. Am. Chem. Soc.* **2018**, *140*, 7292.

EurekAlert. AlphaGalileo. PhysOrg. ScienceDaily.

CHEMICAL INDUSTRY, **2018**, *69*, 551-552.

academist Journal (2018.7.9).

- 23 S. Hazra, Y. Hoshimoto,* S. Ogoshi,* "N-Phosphine Oxide-Substituted Imidazolyliidenes (PoxIms): Multifunctional Multipurpose Carbenes," *Chem. Eur. J.* **2017**, *23*, 15238.

Invited 'Concept' article. OPEN ACCESS. Most Accessed article on 2017 (from Oct. to Dec.).

- 22 Y. Hoshimoto,* T. Asada, S. Hazra, M. Ohashi, S. Ogoshi,* "Phosphorylation of Isocyanates and Aldehydes by Multifunctional N-Phosphine Oxide-Substituted Imidazolyliidenes," *Chem. Lett.* **2017**, *46*, 1211.

OPEN ACCESS

- 21 Y. Hayashi, Y. Hoshimoto, R. Kumar, M. Ohashi, S. Ogoshi,* "Nickel(0)-Catalyzed Coupling Reactions of Carbonyls and Alkenes with Reducing Reagents Giving Six- and Seven-Membered Benzocycloalkanols," *Chem. Lett.* **2017**, *46*, 1096.

OPEN ACCESS

- 20 Y. Hoshimoto, K. Ashida, Y. Sasaoka, R. Kumar, K. Kamikawa, X. Verdaguer, A. Riera, M. Ohashi, S. Ogoshi,* "Efficient Synthesis of Polycyclic γ -Lactams by Catalytic Carbonylation of Ene-Imines via

- Nickelacycle Intermediate,” *Angew. Chem. Int. Ed.* **2017**, *56*, 8206.
- 19 K. Ravindra, Y. Hoshimoto, E. Tamai, M. Ohashi, S. Ogoshi,* “Two-step synthesis of chiral fused tricyclic scaffolds from phenols via desymmetrization on nickel,” *Nature Commun.* **2017**, *8*, 32.
OPEN ACCESS
 - 18 W. Tao, S. Akita, R. Nakano, S. Ito, Y. Hoshimoto, S. Ogoshi and K. Nozaki,* “Copolymerisation of ethylene with polar monomers by using palladium catalysts bearing an N-heterocyclic carbene-phosphine oxide bidentate ligand,” *Chem. Commun.* **2017**, *53*, 2630.
 - 17 Y. Hoshimoto, Y. Hayashi, M. Ohashi, and S. Ogoshi,* “Kinetic and Theoretical Studies on Ni(0)/N-Heterocyclic Carbene-Catalyzed Intramolecular Alkene Hydroacylation,” *Chem. Asian J.* **2017**, *12*, 278.
 - 16 Y. Hoshimoto,* T. Asada, S. Hazra, T. Kinoshita, P. Sombut, R. Kumar, M. Ohashi, S. Ogoshi,* “Strategic Utilization of Multifunctional Carbene for Direct Synthesis of Carboxylic-Phosphinic Mixed Anhydride from CO₂,” *Angew. Chem. Int. Ed.* **2016**, *55*, 16075.
OPEN ACCESS
 - 15 R. Kumar, E. Tamai, A. Ohnishi, A. Nishimura, Y. Hoshimoto, M. Ohashi, and S. Ogoshi,* “Nickel-Catalyzed Enantioselective Synthesis of Cyclobutenes via [2+2] Cycloaddition of α,β -Unsaturated Carbonyls with 1,3-Enynes,” *Synthesis* **2016**, *48*, 2789.
 - 14 Y. Hayashi, Y. Hoshimoto, R. Kumar, M. Ohashi, S. Ogoshi,* “Nickel(0)-catalyzed intramolecular reductive coupling of alkenes and aldehydes or ketones with hydrosilanes,” *Chem. Commun.* **2016**, 6237.
OPEN ACCESS
 - 13 R. Kumar, H. Tokura, A. Nishimura, T. Mori, Y. Hoshimoto, M. Ohashi, and S. Ogoshi,* “Nickel(0)/N-Heterocyclic Carbene-Catalyzed Asymmetric [2+2+2] Cycloaddition of Two Enones and an Alkyne: Access to Cyclohexenes with Four Contiguous Stereogenic Centers,” *Org. Lett.* **2015**, *17*, 6018.
 - 12 R. Kumar, Y. Hoshimoto, H. Yabuki, M. Ohashi, S. Ogoshi,* “Nickel(0)-Catalyzed Enantio- and Diastereoselective Synthesis of Benzoxasiloles: Ligand-Controlled Switching from Inter- to Intramolecular Aryl-Transfer Process,” *J. Am. Chem. Soc.* **2015**, *137*, 11838.
 - 11 Y. Hoshimoto,* T. Kinoshita, M. Ohashi, S. Ogoshi,* “A Strategy to Control the Reactivation of Frustrated Lewis Pairs from Shelf-Stable Carbene-Borane Complexes,” *Angew. Chem. Int. Ed.* **2015**, *54*, 11666.
OPEN ACCESS. Front Cover. Altals of Science: “Control the frustration between molecular pairs with external stimuli-responsive motions.” Chemistry Today (Tokyo Kagaku Doujin Co.).
 - 10 Y. Kita, H. Sakaguchi, Y. Hoshimoto, D. Nakauchi, Y. Nakahara, J.-F. Carpentier, S. Ogoshi, K. Mashima,* “Pentacoordinated Carboxylate π -Allyl Nickel Complexes as Key Intermediates for Ni-catalyzed Direct Amination of Allylic Alcohols,” *Chem. Eur. J.* **2015**, *21*, 14571.
 - 9 Y. Hoshimoto, M. Ohashi, S. Ogoshi,* “Catalytic Transformation of Aldehydes with Nickel Complexes through η^2 Coordination and Oxidative Cyclization,” *Acc. Chem. Res.* **2015**, *48*, 1746.
Special Issue “Earth Abundant Metals in Homogeneous Catalysis”
 - 8 M. Ohashi, Y. Hoshimoto, S. Ogoshi,* “Aza-Nickelacycle Key Intermediate in Nickel(0)-Catalyzed Transformation Reactions,” *Dalton Trans.* **2015**, *44*, 12060.

- 7 Y. Hoshimoto, H. Yabuki, R. Kumar, H. Suzuki, M. Ohashi, S. Ogoshi,* “Highly Efficient Activation of Organosilanes with η^2 -Aldehyde Nickel Complexes: Key for Catalytic Syntheses of Aryl-, Vinyl-, and Alkynyl-benzoxasiloles,” *J. Am. Chem. Soc.* **2014**, *136*, 16752.
- 6 Y. Hoshimoto, T. Ohata, Y. Sasaoka, M. Ohashi, S. Ogoshi,* “Nickel(0)-Catalyzed [2+2+1] Carbonylative Cycloaddition of Imines and Alkynes or Norbornene Leading to γ -Lactams,” *J. Am. Chem. Soc.* **2014**, *136*, 15877.
C&E NEWS 2014, *92*, 35.
- 5 Y. Hoshimoto, Y. Hayashi, H. Suzuki, M. Ohashi, S. Ogoshi,* “One-Pot, Single-Step and Gram-Scale Synthesis of Mononuclear [η^6 -arene]Ni(N-heterocyclic Carbene)] Complexes; Useful Precursors of the Ni⁰-NHC Unit,” *Organometallics* **2014**, *33*, 1276.
Selected as one of the top 20 downloaded articles.
- 4 Y. Hoshimoto, T. Ohata, M. Ohashi, S. Ogoshi,* “Nickel-Catalyzed Synthesis of N-Aryl-1,2-Dihydropyridines by [2+2+2] Cycloaddition of Imines with Alkynes via T-Shaped 14-Electron Aza-Nickelacycle Key Intermediates,” *Chem. Eur. J.* **2014**, *20*, 4105.
- 3 Y. Hoshimoto, Y. Hayashi, H. Suzuki, M. Ohashi, S. Ogoshi,* “Synthesis of Five- and Six-Membered Benzocyclic Ketones through Intramolecular Alkene Hydroacylation Catalyzed by Nickel(0)/N-Heterocyclic Carbenes,” *Angew. Chem. Int. Ed.* **2012**, *51*, 10812.
- 2 Y. Hoshimoto, M. Ohashi, S. Ogoshi,* “Nickel-Catalyzed Selective Conversion of Two Different Aldehydes to Cross-Coupled Esters,” *J. Am. Chem. Soc.* **2011**, *133*, 4668.
Most Read Articles (1st place) on May, 2011. Highlighted in Angew. Chem. Int. Ed. **2011**, *50*, 11047-11049, *and Kagaku*, **2011**, *9*, 12-16.
- 1 S. Ogoshi, Y. Hoshimoto, M. Ohashi, “Nickel-catalyzed Tishchenko reaction *via* hetero-nickelacycles by oxidative cyclization of aldehydes with nickel(0) complex,” *Chem. Commun.* **2010**, *46*, 3354.

Original Patents (Applications)

- P5 Y. Hoshimoto, “Boron compound, and preparation of hydrogenated compound and polymer thereby”, Application No. JP2023-095773; Application Date: 2023-06-09
- P4 Y. Hoshimoto, “Boron compound, and preparation of hydrogenated compound and polymer thereby”, Application No. JP2022-195051; Application Date: 2022-12-06
- P3 Y. Hoshimoto, S. Ogoshi, T. Kawamoto, T. Tanaka, “Boron compound, and preparation of hydrogenated compound and polymer thereby”, JP7079696 (Publication Date: 2022-06-02; Application No. JP2018-160332; Application Date: 2018-08-29)
- P2 Y. Hoshimoto, S. Ogoshi, T. Tomoaki, T. Kawamoto, “Method for hydrogenation of unsaturated compounds using crude hydrogen and frustrated Lewis pair”, JP2017206474A (Publication Date: 2017-11-24; Application No. JP2016-100976; Application Date: 2016-05-20).
- P1 Y. Hoshimoto, S. Ogoshi, T. Kawamoto, JP6569973 (Publication Date: 2019-8-16; Application No. JP2014-206649; Application Date: 2014-10-7).

Selected Invited Oral Lectures

- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Merck-Banyu Lecture at Stanford University, USA.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Merck-Banyu Lecture at UC Berkeley, USA.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Special Lecture at University of Utah, USA.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Special Lecture at University of Toronto, Canada.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Special Lecture at Harvard University, USA.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Merck-Banyu Lecture at Massachusetts Institute of Technology, USA.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Special Lecture at Princeton University, USA.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Merck-Banyu Lecture at ETH Zurich, Switzerland.
- ✚ 2024 Y. Hoshimoto, “Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry”, Special Lecture at Max-Planck-Institut für Kohlenforschung, Germany.
- ✚ 2024 Y. Hoshimoto, “Exploring Novel Strategies for Harnessing Molecular Frustration”, Special Lecture at Technische Universität München, Germany.
- ✚ 2024 Y. Hoshimoto, “*Molecule*-based Approaches for Sustainable H₂ Production”, The Catalysis Institute at University of Cape Town, South Africa.
- ✚ 2024 Y. Hoshimoto, “A New Strategy for Molecule-Based Gas Purification”, Department of Chemistry and Polymer at Stellenbosch University, South Africa.
- ✚ 2024 Y. Hoshimoto, “*Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry*”, The 7th ICR₂DD International Symposium ~The Rising Star Program~, Hokkaido University.
- ✚ 2023 Y. Hoshimoto, “*Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry*”, Organic Chemistry Colloquium, RWTH Aachen University, Germany
- ✚ 2023 Y. Hoshimoto, “*Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry*”, Technische Universität Berlin, Germany
- ✚ 2023 Y. Hoshimoto, “*Exploring Ways to Harness N-Heterocyclic Carbenes and Triarylboranes in Organometallic and Synthetic Chemistry*”, Anorganisch-Chemische Colloquium, Universität Würzburg, Germany

- ✚ 2023 Y. Hoshimoto, “*Molecular-Based Approaches for Sustainable H₂ Production Promoting Waste-to-H₂ Strategy*”, RESOLV Colloquium, Ruhr University Bochum, Germany
- ✚ 2023 Y. Hoshimoto, “*Exploring Novel Strategies for Harnessing ‘Molecular Frustration’ in Main-Group-Catalyzed Organic Synthesis*“, ACS Science Talk, Webinar.
- ✚ 2023 Y. Hoshimoto, “*A New Strategy for Gas Purification using Ni/PoxIm Complexes or Frustrated Lewis Pairs*”, Asian International Symposium, The 103rd CSJ Annual Meeting, Japan.
- ✚ 2022 Y. Hoshimoto, “*Main-group Catalysis for H₂ Purification Based on Liquid Organic Hydrogen Carriers*”, 11th Singapore International Chemistry Conference (SICC-11), Singapore.
- ✚ 2021 Y. Hoshimoto, “*PoxIm: Multifunctional Multipurpose Carbenes*”, MPC Webinar, CDRI Luckow, India (online webinar).
- ✚ 2018 Y. Hoshimoto, “*Multifunctional Multipurpose Carbenes*”, *Workshop of Hybrid Catalysis for Enabling Molecular Synthesis on Demand*, Shiga, Japan.
- ✚ 2017 Y. Hoshimoto, “*Multifunctional Multipurpose Carbenes*”, *ITbM/IGER Chemistry Workshop 2017*, Nagoya, Japan.
- ✚ 2017 Y. Hoshimoto, “*A Frustration Revival System: Concept Development*”, International Symposium on Pure & Applied Chemistry (ISPAC) 2017, Ho Chi Minh City, Vietnam.
- ✚ 2017 Y. Hoshimoto, “*A Frustration Revival System*”, 398th Institute for Catalysis (ICAT) Colloquium, Sapporo, Japan.
- ✚ 2016 Y. Hoshimoto, “*Frustration Revival System: Concept and Utilization*”, The 9th Symposium on Organocatalyst, Nagoya, Japan.
- ✚ 2016 Y. Hoshimoto, “*Synthesis and Utilization of Stimuli-Responsive Complexes*”, The 1st Workshop for Young Organic Chemists, Kyoto, Japan.
- ✚ 2014 Y. Hoshimoto, “*Practical Synthesis of (η⁶-Arene)Ni(NHC) Complexes and Their Application for Organonickel Chemistry*”, ICOMC 2014 Post-Symposium in Osaka, Osaka, Japan.