

Curriculum Vitae

Last updated: June 7, 2024

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Personal Data

Gender: Male

Date of Birth: 11th Oct. 1986

Place of Birth: Gunma, Japan

Nationality: Japanese

Language: Japanese and English

Education / Career

2009.3 BS

Graduate School of Pharmaceutical Sciences, Prof. Shibasaki Group

The University of Tokyo, Japan

2011.3 MS

Graduate School of Pharmaceutical Sciences, Prof. Kanai Group

The University of Tokyo, Japan

2014.3 Ph.D. (Pharmaceutical Chemistry)

Graduate School of Pharmaceutical Sciences, Prof. Kanai Group

The University of Tokyo, Japan

2014.4-5 Postdoctoral Scholar

Graduate School of Pharmaceutical Sciences, Prof. Kanai Group

The University of Tokyo, Japan

2014.6-2015.3 Postdoctoral Scholar

Stanford University, Department of Chemistry, Prof. Matthew W. Kanan Group

2015.4-2018.9 Assistant Professor

Faculty of Pharmaceutical Sciences,
Graduate School of Pharmaceutical Sciences, Prof. Matsunaga Group
Hokkaido University

2018.10-2021.8 Lecturer

Faculty of Pharmaceutical Sciences,
Graduate School of Pharmaceutical Sciences, Prof. Matsunaga Group
Hokkaido University

2021.9-2024.5 Associate Professor

Faculty of Pharmaceutical Sciences,
Graduate School of Pharmaceutical Sciences, Prof. Matsunaga Group
Hokkaido University

2024.6-present Program-Specific Associate Professor

The Hakubi Center for Advanced Research
Department of Chemistry, Graduate School of Science
Kyoto University

Fellowships

2011.4-2014.3 Research Fellow of the Japan Society for the Promotion of Sciences (DC1)

2014.6-2015.3 JSPS Postdoctoral Fellowships for Research Abroad

Memberships

Pharmaceutical Society of Japan

The Chemical Society of Japan

The Society of Synthetic Organic Chemistry, Japan

Kinka Chemical Society, Japan

Award

2013 Otsu Conference Fellow

2016 Thomson Reuters 4th Research Front Awards in Japan

2017 The 97th CSJ Annual Meeting, Presentation Award (Academic)

2019 The 32nd Special Lecture Award for Young Generation in the 99th CSJ Annual Meeting

2022 The 71th CSJ Award for Young Chemists

2023 Chemist Award BCA 2023

2024 Thieme Chemistry Journals Award

Original Papers

- (1) Long-Tao Huang, Yuta Kitakawa, Kodai Yamada, Futa Kamiyama, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Enantioselective Synthesis of 1,2-Benzothiazine 1-Imines via Ru^{II}/Chiral Carboxylic Acid-Catalyzed C–H Alkylation/Cyclization. *Angew. Chem., Int. Ed.* **2023**, *62*, e202305480.
- (2) Satoko Hosoi, Yuki Hirata, Takumaru Kurihara, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Synthesis of Benzo[c]jzepine-1,3(2*H*)-diones via C–H Alkylation/Cyclization with α,β -Unsaturated Acyl Fluorides. *Asian J. Org. Chem.* **2023**, *12*, e202300218.
- (3) Kotoko Makino, Yuhei Kumagai, **Tatsuhiko Yoshino**, Masahiro Kojima, Shigeki Matsunaga*, Catalytic Enantioselective Amination of Enol Silyl Ethers Using a Chiral Paddle-Wheel Diruthenium Complex. *Org. Lett.* **2023**, *25*, 3234–3238.
- (4) Yusuke Seino, Yuto Yamaguchi, Akihiko Suzuki, Masaaki Yamashita, Yuji Kamei, Futa Kamiyama, **Tatsuhiko Yoshino**, Masahiro Kojima*, Shigeki Matsunaga*, Synthesis of Polysubstituted Enamides by Hydrogen Atom Transfer Alkene Isomerization Using Dual Cobalt/Photoredox Catalysis. *Chem. Eur. J.* **2023**, *29*, e202300804.
- (5) Kazuki Ikeda, Riku Kojima, Kentaro Kawai, Takayasu Murakami, Takashi Kikuchi, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Formation of Isolable Dearomatized [4 + 2] Cycloadducts from Benzenes, Naphthalenes, and *N*-Heterocycles Using 1,2-Dihydro-1,2,4,5-tetrazine-3,6-diones as Arenophiles under Visible Light Irradiation. *J. Am. Chem. Soc.* **2023**, *145*, 9326–9333.
- (6) Eiki Tomita, Masahiro Kojima, Yuki Nagashima, Ken Tanaka, Haruki Sugiyama, Yasutomo Segawa, Atsushi Furukawa, Katsumi Maenaka, Satoshi Maeda, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, An Electron-Deficient Cp^F Iridium(III) Catalyst: Synthesis, Characterization, and Application to Ether-Directed C–H Amidation. *Angew. Chem., Int. Ed.* **2023**, *62*, e202301259.
- (7) Yoshimi Kato, **Tatsuhiko Yoshino**, Shigeki Matsunaga*, Iron/Photosensitizer-Catalyzed Directed C–H Activation Triggered by the Formation of an Iron Metallocycle. *ACS Catal.* **2023**, *13*, 4552–4559.
- (8) Shunta Sato, Wataru Sasaki, Tomoyuki Sekino, **Tatsuhiko Yoshino**, Masahiro Kojima*, Shigeki Matsunaga*, Noble-Metal-Free C–H Allylation of Tetrahydroisoquinolines Using a Cobalt-Organophotoredox Dual Catalyst System. *Chem. Pharm. Bull.* **2023**, *71*, 79–82.
- (9) Akihiko Suzuki, Yuji Kamei, Masaaki Yamashita, Yusuke Seino, Yuto Yamaguchi, **Tatsuhiko Yoshino**, Masahiro Kojima*, Shigeki Matsunaga*, Photocatalytic Deuterium Atom Transfer Deuteration of Electron-Deficient Alkenes with High Functional Group Tolerance. *Angew. Chem., Int. Ed.* **2022**, *61*, e202214433.
- (10) Takumi Wakikawa, Daichi Sekine, Yuta Murata, Youka Bunno, Masahiro Kojima, Yuki Nagashima, Ken Tanaka*, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Native Amide-Directed C(sp³)-H Amidation Enabled by Electron-Deficient Rh(III) Catalyst and Electron-Deficient 2-Pyridone Ligand. *Angew. Chem., Int. Ed.* **2022**, *61*, e202213659.
- (11) Yoshimi Kato, **Tatsuhiko Yoshino**, Min Gao, Jun-ya Hasegawa, Masahiro Kojima*, Shigeki Matsunaga*, Iron/Photosensitizer Hybrid System Enables the Synthesis of Polyaryl-Substituted Azafuoranthenes. *J. Am. Chem. Soc.* **2022**, *144*, 18450–18458.
- (12) Yuki Hirata, Daichi Sekine, Yoshimi Kato, Luqing Lin, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cobalt(III)/Chiral Carboxylic Acid-Catalyzed Enantioselective Synthesis of Benzothiadiazine-1-oxides via C–H Activation. *Angew. Chem., Int. Ed.* **2022**, *61*, e202205341.
- (13) Takumaru Kurihara, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Achiral Cp*Rh(III)/Chiral Lewis Base Cooperative Catalysis for Enantioselective Cyclization via C–H Activation. *J. Am. Chem. Soc.* **2022**, *144*, 7058–7065.

- (14) Yuto Yamaguchi, Yusuke Seino, Akihiko Suzuki, Yuji Kamei, **Tatsuhiko Yoshino**, Masahiro Kojima*, Shigeki Matsunaga*, Intramolecular Hydrogen Atom Transfer Hydroarylation of Alkenes toward δ -Lactams Using Cobalt-Photoredox Dual Catalysis. *Org. Lett.* **2022**, *24*, 2441–2445.
- (15) Tomoyuki Sekino, Shunta Sato, **Tatsuhiko Yoshino**, Masahiro Kojima*, Shigeki Matsunaga*, Regioselective Deaminative Allylation of Aliphatic Amines via Dual Cobalt and Organophotoredox Catalysis. *Org. Lett.* **2022**, *24*, 2120–2124.
- (16) Kantaro Kawai, Kazuki Ikeda, Akane Sato, Akira Kabasawa, Masahiro Kojima, Kenta Kokado, Akira Kakugo, Kazuki Sada, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, 1,2-Disubstituted 1,2-Dihydro-1,2,4,5-tetrazine-3,6-dione as a Dynamic Covalent Bonding Unit at Room Temperature. *J. Am. Chem. Soc.* **2022**, *144*, 1370–1379.
- (17) Ryo Tanaka, Yuki Hirata, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cp*Rh(III)/Boron Hybrid Catalysis for Directed C–H Addition to β -Substituted α,β -Unsaturated Carboxylic Acids. *Chem. Commun.* **2022**, *58*, 76–79.
- (18) Long-Tao Huang, Yuki Hirata, Yoshimi Kato, Luqing Lin, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Ruthenium(II)/Chiral Carboxylic Acid Catalyzed Enantioselective C–H Functionalization of Sulfoximines. *Synthesis* **2022**, *54*, 4703–4710.
- (19) Jumpei Hirose, Takumi Wakikawa, Shun Satake, Masahiro Kojima, Manabu Hatano, Kazuaki Ishihara, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cp*Rh^{III}/Chiral Disulfonate/CuOAc Catalyst System for the Enantioselective Intramolecular Oxyamination of Alkenes. *ACS Catal.* **2021**, *11*, 15187–15193.
- (20) Qi Mou, Ruyuan Zhao, Ruihan Niu, Seiya Fukagawa, Taiki Shigeno, **Tatsuhiko Yoshino**, Shigeki Matsunaga*, Bo Sun*, Cp*Ir(III)/Chiral Carboxylic Acid-Catalyzed Enantioselective C–H Alkylation of Ferrocene Carboxamides with Diazomalones. *Org. Chem. Front.* **2021**, *8*, 6923–6930.
- (21) Keitaro Matsuoka, Honoka Obata, Kotaro Nagatsu, Masahiro Kojima, **Tatsuhiko Yoshino***, Mikako Ogawa*, Shigeki Matsunaga*, Transition-metal-free Nucleophilic ²¹¹At-astatination of Spirocyclic Aryliodonium Ylides. *Org. Biomol. Chem.* **2021**, *19*, 5525–5528.
- (22) Yoshimi Kato, Luqing Lin, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Development of Pseudo-C₂-symmetric Chiral Binaphthyl Monocarboxylic Acids for Enantioselective C(sp³)-H Functionalization Reactions under Rh(III) Catalysis. *ACS Catal.* **2021**, *11*, 4271–4277.
- (23) Yuji Kamei, Yusuke Seino, Yuto Yamaguchi, **Tatsuhiko Yoshino**, Satoshi Maeda, Masahiro Kojima*, Shigeki Matsunaga*, Silane- and Peroxide-Free Hydrogen Atom Transfer Hydrogenation Using Ascorbic Acid and Cobalt-Photoredox Dual Catalysis. *Nat. Commun.* **2021**, *12*, 966.
- (24) Youka Bunno, Yuta Tsukimawashi, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Metal-Containing Schiff Base/Sulfoxide Ligands for Pd(II)-Catalyzed Asymmetric Allylic C–H Aminations. *ACS Catal.* **2021**, *11*, 2663–2668.
- (25) Keitaro Matsuoka, Narumi Komami, Masahiro Kojima, Tsuyoshi Mita, Kimichi Suzuki, Satoshi Maeda, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Chemoselective Cleavage of Si–C(sp³) Bonds in Unactivated Tetraalkylsilanes Using Iodine Tris(trifluoroacetate). *J. Am. Chem. Soc.* **2021**, *143*, 103–108.
- (26) Ayako Nakano, Yukino Okabe, Keitaro Matsuoka, Narumi Komami, Keito Watanabe, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Generation of Monoaryl- λ^3 -iodanes from Arylboron Compounds through *ipso*-Substitution. *Heterocycles* **2021**, *103*, 670–677.
- (27) Long-Tao Huang, Seiya Fukagawa, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Rhodium(III)/Chiral Carboxylic Acid Catalyzed Enantioselective C(sp³)-H Alkylation of 8-Ethylquinolines with α,β -Unsaturated Carbonyl Compounds. *Org. Lett.* **2020**,

22, 8256–8260.

- (28) Taku Miyazawa, Takuro Suzuki, Yuhei Kumagai, Koji Takizawa, Takashi Kikuchi, Shunsuke Kato, Akira Onoda, Takashi Hayashi, Yuji Kamei, Futa Kamiyama, Masahiro Anada, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Chiral Paddle-Wheel Diruthenium Complexes for Asymmetric Catalysis. *Nat. Catal.* **2020**, *3*, 851–858.
- (29) Tomoyuki Sekino, Shunta, Sato, Kazuki Kuwabara, Koji Takizawa, **Tatsuhiko Yoshino**, Masahiro Kojima, * Shigeki Matsunaga*, Allyl 4-Chlorophenyl Sulfone as a Versatile 1,1-Synthon for Sequential α -Alkylation/Cobalt-Catalyzed Allylic Substitution. *Synthesis* **2020**, *52*, 1934–1946.
- (30) Eiki Tomita, Kodai Yamada, Yu Shibata, Ken Tanaka, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Iridium(III) Catalysts with an Amide-Pendant Cyclopentadienyl Ligand: Double Aromatic Homologation Reactions of Benzamides by Fourfold C–H Activation. *Angew. Chem., Int. Ed.* **2020**, *59*, 10474–10478.
- (31) Takumaru Kurihara, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cp*Co^{III}/Chiral Carboxylic Acid-Catalyzed Enantioselective 1,4-Addition Reactions of Indoles to Maleimides. *Asian J. Org. Chem.* **2020**, *9*, 368–371.
- (32) Seiya Fukagawa, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Catalytic Enantioselective Methylene C(sp³)–H Amidation of 8-Alkylquinolines Using Cp*Rh^{III}/Chiral Carboxylic Acid System. *Angew. Chem., Int. Ed.* **2019**, *58*, 18154–18158.
- (33) Ryo Tanaka, Iku Tanimoto, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Imidate as the Intact Directing Group for the Cobalt-Catalyzed C–H Alkylation. *J. Org. Chem.* **2019**, *84*, 13203–13210.
- (34) Daichi Sekine, Kazuki Ikeda, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Chiral 2-Aryl Ferrocene Carboxylic Acids for the Catalytic Asymmetric C(sp³)–H Activation of Thioamides. *Organometallics* **2019**, *48*, 1046–1049.
- (35) Ryo Tanaka, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cobalt-catalyzed Synthesis of Homoallylic Amines from Imines and Terminal Alkenes. *Chem. Lett.* **2019**, *48*, 1046–1049.
- (36) Yuhei Kumagai, Nanami Murakami, Futa Kamiyama, Ryo Tanaka, **Tatsuhiko Yoshino***, Masahiro Kojima*, Shigeki Matsunaga*, C–H γ,γ,γ -Trifluoroalkylation of Quinolines via Visible-Light-Induced Sequential Radical Additions. *Org. Lett.* **2019**, *21*, 3600–3605.
- (37) Keitaro Matsuoka, Narumi Komami, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Synthesis of Heteroaryl Iodanes(III) via *ipso*-Substitution Reactions Using Iodine Triacetate Assisted by HFIP. *Asian J. Org. Chem.* **2019**, *8*, 1107–1110.
- (38) Koji Takizawa, Tomoyuki Sekino, Shunta Sato, **Tatsuhiko Yoshino**, Masahiro Kojima*, Shigeki Matsunaga*, Cobalt-catalyzed Allylic Alkylation Enabled by Organophotoredox Catalysis. *Angew. Chem., Int. Ed.* **2019**, *58*, 9199–9203.
- (39) Narumi Komami, Keitaro Matsuoka, Ayako Nakano, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Synthesis of Functionalized Monoaryl- λ^3 -iodanes through Chemo- and Site-selective *ipso*-Substitution Reactions. *Chem. Eur. J.* **2019**, *25*, 1217–1220.
- (40) Seiya Fukagawa, Yoshimi Kato, Ryo Tanaka, Masahiro Kojima, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Enantioselective C(sp³)–H Amidation of Thioamides Catalyzed by a Cobalt^{III}/Chiral Carboxylic Acid Hybrid System. *Angew. Chem., Int. Ed.* **2019**, *58*, 1153–1157.
- (41) Iku Tanimoto, Kentaro Kawai, Akane Sato, **Tatsuhiko Yoshino***, and Shigeki Matsunaga*, One-Step Synthesis of 4*H*-3,1-Benzoxazin-4-ones from Weinreb Amides and 1,4,2-Dioxazol-5-ones via Cobalt-Catalyzed C–H Bond Activation. *HeteroCycles* **2019**, *99*, 118–125.
- (42) Luqing Lin*, Seiya Fukagawa, Daichi Sekine, Eiki Tomita, **Tatsuhiko Yoshino***, and Shigeki Matsunaga*, Chiral Carboxylic Acid-Enabled Achiral Rhodium(III)-Catalyzed Enantioselective C–H Functionalization. *Angew. Chem., Int. Ed.* **2018**, *57*, 12048–

12052.

- (43) Shun Satake, Takumaru Kurihara, Keisuke Nishikawa, Takuya Mochizuki, Manabu Hatano, Kazuaki Ishihara, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Pentamethylcyclopentadienyl Rhodium(III)–Chiral Disulfonate Hybrid Catalysis for Enantioselective C–H Bond Functionalization. *Nat. Catal.* **2018**, *1*, 585–591.
- (44) Takuro Suzuki, Seiya Fukagawa, **Tatsuhiko Yoshino**, Masahiro Anada, Shigeki Matsunaga*, 5-((3-Bromoallyl)Sulfonyl)-*1H*-Tetrazoles for Bromodiene Synthesis. *HeteroCycles* **2018**, *97*, 1304–1312.
- (45) Kentaro Kawai, Youka Bunno, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Weinreb Amide Directed Versatile C–H Bond Functionalization under (η^5 -Pentamethylcyclopentadienyl)cobalt(III) Catalysis. *Chem. Eur. J.* **2018**, *24*, 10231–10237.
- (46) Takumaru Kurihara, Shun Satake, Manabu Hatano, Kazuaki Ishihara, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Synthesis of 1,1'-Spirobiindane-7,7'-Disulfonic Acid and Disulfonimide: Application for Catalytic Asymmetric Amination. *Chem. Asian J.* **2018**, *13*, 2378–2381.
- (47) Narumi Komami, Keitaro Matsuoka, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Palladium-Catalyzed Germylation of Aryl Bromides and Aryl Triflates Using Hexamethyldigermene. *Synthesis* **2018**, *50*, 2067–2075.
- (48) Nanami Murakami, Misaki Yoshida, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Synthesis of Fluorine-Containing 6-Arylpyridine Derivatives via Cp*Co(III)-Catalyzed C–H Bond Activation. *Chem. Pharm. Bull.* **2018**, *66*, 51–54.
- (49) Ken Sakata*, Masami Eda, Yuri Kitaoka, **Tatsuhiko Yoshino**, Shigeki Matsunaga, Cp*Co^{III}-Catalyzed C–H Alkenylation/Annulation Reactions of Indoles with Alkynes: A DFT Study. *J. Org. Chem.* **2017**, *82*, 7379–7387.
- (50) Seiya Fukagawa, Yingjie Xu, Masahiro Anada, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, “Catalytic Enantioselective Desymmetrization of *meso*-Aziridines with Fluoromalonates. *HeteroCycles* **2017**, *94*, 1337–1350.
- (51) Hideya Ikemoto, Ryo Tanaka, Ken Sakata, Motomu Kanai, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Stereoselective Synthesis of Tetrasubstituted Alkenes via a Cp*Co^{III}-Catalyzed C–H Alkenylation/Directing Group Migration Sequence. *Angew. Chem., Int. Ed.* **2017**, *56*, 7156–7160.
- (52) Misaki Yoshida, Kentaro Kawai, Ryo Tanaka, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cp*Co^{III}-Catalyzed Directed C–H Trifluoromethylthiolation of 2-Phenylpyridines and 6-Arylpyridines. *Chem. Commun.* **2017**, *53*, 5974–5977.
- (53) Ryo Tanaka, Hideya Ikemoto, Motomu Kanai, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Site- and Regioselective Monoalkenylation of Pyrroles with Alkynes via Cp*Co^{III} Catalysis. *Org. Lett.* **2016**, *18*, 5732–5735.
- (54) Youka Bunno, Nanami Murakami, Yudai Suzuki, Motomu Kanai, **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cp*Co^{III}-Catalyzed Dehydrative C–H Allylation of 6-Arylpyridines and Aromatic Amides Using Allyl Alcohols in Fluorinated Alcohols. *Org. Lett.* **2016**, *18*, 2216–2219.
- (55) Aanindeeta Banerjee, Graham R. Dick, **Tatsuhiko Yoshino**, Matthew W. Kanan*, Carbon Dioxide Utilization via Carbonate-Promoted C–H Carboxylation. *Nature* **2016**, *531*, 215–219.
- (56) Bo Sun, **Tatsuhiko Yoshino**, Motomu Kanai*, Shigeki Matsunaga*, Cp*Co^{III} Catalyzed Site-Selective C–H Activation of Unsymmetrical O-Acyl Oximes: Synthesis of Multisubstituted Isoquinolines from Terminal and Internal Alkynes. *Angew. Chem., Int. Ed.* **2015**, *54*, 12968–12972.
- (57) Yudai Suzuki, Bo Sun, Ken Sakata, **Tatsuhiko Yoshino**, Shigeki Matsunaga*, Motomu Kanai*, Dehydrative Direct C–H Allylation with Allylic Alcohols under [Cp*Co^{III}] Catalysis. *Angew. Chem., Int. Ed.* **2015**, *54*, 9944–9947.
- (58) Yudai Suzuki, Bo Sun, **Tatsuhiko Yoshino**, Shigeki Matsunaga*, Motomu Kanai*, Cp*Co(III)-Catalyzed Oxidative C–H Alkenylation of Benzamides with Ethyl Acrylate. *Tetrahedron* **2015**, *71*, 4552–4556.

- (59) Bo Sun, **Tatsuhiko Yoshino**, Shigeki Matsunaga*, Motomu Kanai*, A Cp*CoI₂-Dimer as a Precursor for Cationic Co(III)-Catalysis: Application to C–H Phosphoramidation of Indoles. *Chem. Commun.* **2015**, *51*, 4659–4661.
- (60) Bo Sun, **Tatsuhiko Yoshino**, Shigeki Matsunaga*, Motomu Kanai*, “Air-Stable Carbonyl(pentamethylcyclopentadienyl)cobalt Diodide Complex as a Precursor for Cationic (Pentamethylcyclopentadienyl)cobalt(III) Catalysis: Application for Directed C-2 Selective C–H Amidation of Indoles. *Adv. Synth. Catal.* **2014**, *356*, 1491–1495.
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- (62) Keiichi Kaneko, **Tatsuhiko Yoshino**, Shigeki Matsunaga*, Motomu Kanai*, Sultam Synthesis via Cu-Catalyzed Intermolecular Carboamination of Alkenes with *N*-Fluorobenzenesulfonimide. *Org. Lett.* **2013**, *15*, 2502–2505.
- (63) **Tatsuhiko Yoshino**, Hideya Ikemoto, Shigeki Matsunaga*, Motomu Kanai*, Cp*Co^{III}-Catalyzed C2-Selective Addition of Indoles to Imines. *Chem. Eur. J.* **2013**, *19*, 9142–9146.
- (64) **Tatsuhiko Yoshino**, Hideya Ikemoto, Shigeki Matsunaga*, Motomu Kanai*, A Cationic High-Valent Cp*Co^{III} Complex for the Catalytic Generation of Nucleophilic Organometallic Species: Directed C–H Bond Activation. *Angew. Chem., Int. Ed.* **2013**, *52*, 2207–2211.
- (65) Shota Kato, **Tatsuhiko Yoshino**, Masakatsu Shibasaki, Motomu Kanai*, Shigeki Matsunaga*, Catalytic Asymmetric Synthesis of Spirooxindoles by a Mannich-Type Reaction of Isothiocyanato Oxindoles. *Angew. Chem., Int. Ed.* **2012**, *51*, 7007–7010.
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- (69) **Tatsuhiko Yoshino**, Hiroyuki Morimoto, Gang Lu, Shigeki Matsunaga*, Masakatsu Shibasaki*, Construction of Contiguous Tetrasubstituted Chiral Carbon Stereocenters via Direct Catalytic Asymmetric Aldol Reaction of α -Isothiocyanato Esters with Ketones. *J. Am. Chem. Soc.* **2009**, *131*, 17082–17083.
- (70) Hiroyuki Morimoto, **Tatsuhiko Yoshino**, Takafumi Yukawa, Gang Lu, Shigeki Matsunaga*, Masakatsu Shibasaki*, Lewis Base Assisted Brønsted Base Catalysis: Bidentate Phosphine Oxides as Activators and Modulators of Brønsted Basic Lanthanum–Aryloxides. *Angew. Chem., Int. Ed.* **2008**, *47*, 9125–9129.

Books and Reviews

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- (2) **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Chiral Carboxylic Acid Assisted Enantioselective C–H Activation with Achiral Cp^xM^{III} (M = Co, Rh, Ir) Catalysts. *ACS Catal.* **2021**, *11*, 6455–6466.
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- (4) **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cp*Co^{III}-catalyzed C–H Functionalization and Asymmetric Reactions Using External Chiral Sources. *Synlett* **2019**, *30*, 1384–1400.

- (5) **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Unique Reactivity of High-valent Cobalt Catalysis in C–H Functionalization and Development of Catalytic Asymmetric C–H Functionalization Reactions. *J. Synth. Org. Chem. Jpn.* **2019**, *77*, 330–340.
- (6) **Tatsuhiko Yoshino***, Shigeki Matsunaga*, Cobalt-catalyzed C(sp³)–H Bond Functionalization Reactions. *Asian J. Org. Chem.* **2018**, *7*, 1193–1205.
- (7) **Tatsuhiko Yoshino**, Shigeki Matsunaga, High-Valent Cobalt-Catalyzed C–H Bond Functionalization. *Advances in Organometallic Chemistry*, Vol. 16, 197–247 (2017).
- (8) **Tatsuhiko Yoshino***, Shigeki Matsunaga*, (Pentamethylcyclopentadienyl)cobalt(III)-Catalyzed C–H Bond Functionalization: From Discovery to Unique Reactivity and Selectivity. *Adv. Synth. Catal.* **2017**, *359*, 1245–1262.
- (9) **Tatsuhiko Yoshino**, Synthesis of Saturated *N*-Heterocycles with SnAP Reagents. *J. Synth. Org. Chem. Jpn.* **2015**, *73*, 651–652.
- (10) Shigeki Matsunaga*, **Tatsuhiko Yoshino**, Construction of Contiguous Tetrasubstituted Chiral Carbon Stereocenters via Direct Catalytic Asymmetric Aldol and Mannich-Type Reactions. *Chem. Rec.* **2011**, *11*, 260–268.

Invited Lectures and Talks in International Symposium and etc.

- (1) **Tatsuhiko Yoshino** High-Valent-Cobalt-Catalyzed Enantioselective C–H Activation Enabled by Chiral Carboxylic Acids. *Thieme WebCheminars, Base-Metal Catalysis presented by Science of Synthesis*. September 22nd, **2023**, Online.
- (2) **Tatsuhiko Yoshino** Cp*Rh(III)/chiral Lewis base hybrid catalysis for enantioselective C–H functionalization. *8th Asian Conference on Coordination Chemistry*. August 8th, **2022**, Taipei, Taiwan.
- (3) **Tatsuhiko Yoshino**, Enantioselective C–H Functionalization Reactions Using High-valent Group 9 Metal Catalysts. *The 1st International Symposium on Hybrid Catalysis for Enabling Molecular Synthesis on Demand*. May 31st, **2020**, Tokyo, Japan.
- (4) **Tatsuhiko Yoshino**, Metal/Organo Hybrid Catalysis for Group 9 Metal-Catalyzed Enantioselective C–H Functionalization. *257th ACS National Meeting & Exposition*. April 2nd, **2019**, Orland, United States.
- (5) **Tatsuhiko Yoshino**, New Strategy for Asymmetric C–H Bond Functionalization Using Cp*M(III) Catalysts. *Second Japanese-Spanish Symposium in Organic Synthesis*. May 28th, **2018**, Kyoto, Japan.
- (6) **Tatsuhiko Yoshino**, New Strategy for Asymmetric C–H Bond Functionalization Using Cp*Rh(III) Catalyst. The 4th Japan-Taiwan Joint Symposium for Pharmaceutical Sciences. August 31st, **2018**, Sapporo, Japan.