

## 履歴

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### 学歴

2005年3月	群馬県立沼田高等学校	卒業
2005年4月	東京大学理科二類	入学
2007年4月	東京大学薬学部薬学科	進学
2009年3月	東京大学薬学部薬学科	卒業 (柴崎正勝教授)
2009年4月	東京大学大学院薬学系研究科	分子薬学専攻 修士課程 進学
2011年3月	東京大学大学院薬学系研究科	分子薬学専攻 修士課程 修了 (金井求教授)
2011年4月	東京大学大学院薬学系研究科	分子薬学専攻 博士後期課程 進学
2014年3月	東京大学大学院薬学系研究科	分子薬学専攻 博士後期課程 修了 博士 (薬学) 取得 (金井求教授)

### 職歴

2011年4月～2014年3月	日本学術振興会特別研究員 (DC1)
2014年4月～2014年5月	東京大学大学院薬学研究院 特別研究員
2014年6月～2015年3月	米国スタンフォード大学化学科 Matthew W. Kanan 研究室 博士研究員 (日本学術振興会海外特別研究員)
2015年3月～2018年9月	北海道大学大学院薬学研究院 助教
2018年10月～2021年8月	北海道大学大学院薬学研究院 講師
2021年9月～現在	北海道大学大学院薬学研究院 准教授

### 所属学会

日本薬学会、日本化学会、有機合成化学協会

## 受賞歴

2013年 大津会議フェロー

2016年 トムソン・ロイター 第4回リサーチフロントアワード

2017年 日本化学会第97春季年会 優秀講演賞（学術）

2019年 日本化学会第99春季年会 若い世代の特別講演賞

2020年 北海道大学教育研究総長表彰

2021年 日本化学会第71回進歩賞

## 教育歴

2015年度：有機化学実習 II、有機化学実習 III、有機化学問題演習

2016年度：有機化学実習 II、有機化学実習 III、有機化学問題演習

2017年度：有機化学 VI、有機化学実習 II、有機化学実習 III、有機化学問題演習

2018年度：無機化学、有機化学実習 II、有機化学実習 III、有機化学問題演習

2019年度：無機化学、有機化学実習 I、有機化学実習 II、有機化学問題演習

2020年度：無機化学、有機化学実習 I、有機化学実習 II、一般教育演習

2021年度：無機化学、有機化学実習 I、有機化学実習 II、一般教育演習

2022年度：有機化学実習 III、有機化学実習 IV

## Original Papers

- (1) 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**, DOI: 10.1002/anie.202205341.
- (2) 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.
- (3) Yuto Yamaguchi, Yusuke Seino, Akihiko Suzuki, Yuji Kamei, **Tatsuhiko Yoshino**, Masahiro Kojima\*, Shigeki Matsunaga\*, Intramolecular Hydrogen Atom Transfer Hydroarylation of Alkenes toward  $\delta$ -Lactams Using Cobalt-Photoredox Dual Catalysis. *Org. Lett.* **2022**, *24*, 2441–2445.
- (4) 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.
- (5) 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.
- (6) Ryo Tanaka, Yuki Hirata, Masahiro Kojima, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Cp\*Rh(III)/Boron Hybrid Catalysis for Directed C–H Addition to  $\beta$ -Substituted  $\alpha,\beta$ -Unsaturated Carboxylic Acids. *Chem. Commun.* **2022**, *58*, 76–79.
- (7) Jumpei Hirose, Takumi Wakikawa, Shun Satake, Masahiro Kojima, Manabu Hatano, Kazuaki Ishihara, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Cp\*Rh<sup>III</sup>/Chiral Disulfonate/CuOAc Catalyst System for the Enantioselective Intramolecular Oxyamination of Alkenes. *ACS Catal.* **2021**, *11*, 15187–15193.
- (8) 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.
- (9) 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* **2021**, <https://doi.org/10.1055/a-1588-0072>.
- (10) Keitaro Matsuoka, Honoka Obata, Kotaro Nagatsu, Masahiro Kojima, **Tatsuhiko Yoshino\***, Mikako Ogawa\*, Shigeki Matsunaga\*, Transition-metal-free Nucleophilic <sup>211</sup>At-astatination of Spirocyclic Aryliodonium Ylides. *Org. Biomol. Chem.* **2021**, *19*, 5525–5528.
- (11) Yoshimi Kato, Luqing Lin, Masahiro Kojima, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Development of Pseudo-C<sub>2</sub>-symmetric Chiral Binaphthyl Monocarboxylic Acids for Enantioselective C(sp<sup>3</sup>)-H Functionalization Reactions under Rh(III) Catalysis. *ACS Catal.* **2021**, *11*, 4271–4277.
- (12) 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.
- (13) 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.
- (14) Keitaro Matsuoka, Narumi Komami, Masahiro Kojima, Tsuyoshi Mita, Kimichi Suzuki, Satoshi Maeda, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Chemoselective Cleavage of Si–C(sp<sup>3</sup>) Bonds in Unactivated Tetraalkylsilanes Using Iodine

Tris(trifluoroacetate). *J. Am. Chem. Soc.* **2021**, *143*, 103–108.

- (15) Ayako Nakano, Yukino Okabe, Keitaro Matsuoka, Narumi Komami, Keito Watanabe, Masahiro Kojima, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Generation of Monoaryl- $\lambda^3$ -iodanes from Arylboron Compounds through *ipso*-Substitution. *Heterocycles* **2021**, *103* 670–677.
- (16) Long-Tao Huang, Seiya Fukagawa, Masahiro, Tatsuhiko Yoshino\*, Shigeki Matsunaga\*, Rhodium(III)/Chiral Carboxylic Acid Catalyzed Enantioselective C(sp<sup>3</sup>)-H Alkylation of 8-Ethylquinolines with  $\alpha,\beta$ -Unsaturated Carbonyl Compounds. *Org. Lett.* **2020**, *22*, 8256–8260.
- (17) 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.
- (18) 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  $\alpha$ -Alkylation/Cobalt-Catalyzed Allylic Substitution. *Synthesis* **2020**, *52*, 1934–1946.
- (19) 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.
- (20) Takumaru Kurihara, Masahiro Kojima, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Cp\*Co<sup>III</sup>/Chiral Carboxylic Acid-Catalyzed Enantioselective 1,4-Addition Reactions of Indoles to Maleimides. *Asian J. Org. Chem.* **2020**, *9*, 368–371.
- (21) Seiya Fukagawa, Masahiro Kojima, Tatsuhiko Yoshino\*, Shigeki Matsunaga\*, Catalytic Enantioselective Methylene C(sp<sup>3</sup>)-H Amidation of 8-Alkylquinolines Using Cp\*Rh<sup>III</sup>/Chiral Carboxylic Acid System. *Angew. Chem., Int. Ed.* **2019**, *58*, 18154–18158.
- (22) 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.
- (23) Daichi Sekine, Kazuki Ikeda, Masahiro Kojima, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Chiral 2-Aryl Ferrocene Carboxylic Acids for the Catalytic Asymmetric C(sp<sup>3</sup>)-H Activation of Thioamides. *Organometallics* **2019**, *48*, 1046–1049.
- (24) 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.
- (25) Yuhei Kumagai, Nanami Murakami, Futa Kamiyama, Ryo Tanaka, **Tatsuhiko Yoshino\***, Masahiro Kojima\*, Shigeki Matsunaga\*, C–H  $\gamma,\gamma,\gamma$ -Trifluoroalkylation of Quinolines via Visible-Light-Induced Sequential Radical Additions. *Org. Lett.* **2019**, *21*, 3600–3605.
- (26) 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.
- (27) 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.
- (28) Narumi Komami, Keitaro Matsuoka, Ayako Nakano, Masahiro Kojima, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Synthesis of Functionalized Monoaryl- $\lambda^3$ -iodanes through Chemo- and Site-selective *ipso*-Substitution Reactions. *Chem. Eur. J.* **2019**, *25*, 1217–1220.
- (29) Seiya Fukagawa, Yoshimi Kato, Ryo Tanaka, Masahiro Kojima, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Enantioselective C(sp<sup>3</sup>)-H Amidation of Thioamides Catalyzed by a Cobalt<sup>III</sup>/Chiral Carboxylic Acid Hybrid System. *Angew. Chem., Int. Ed.* **2019**,

58, 1153–1157.

- (30) 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.
- (31) 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.
- (32) 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.
- (33) Takuro Suzuki, Seiya Fukagawa, **Tatsuhiko Yoshino**, Masahiro Anada, Shigeki Matsunaga\*, 5-((3-Bromoallyl)Sulfonyl)-*IH*-Tetrazoles for Bromodiene Synthesis. *HeteroCycles* **2018**, *97*, 1304–1312.
- (34) Kentaro Kawai, Youka Bunno, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Weinreb Amide Directed Versatile C–H Bond Functionalization under ( $\eta^5$ -Pentamethylcyclopentadienyl)cobalt(III) Catalysis. *Chem. Eur. J.* **2018**, *24*, 10231–10237.
- (35) 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.
- (36) Narumi Komami, Keitaro Matsuoka, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Palladium-Catalyzed Germylation of Aryl Bromides and Aryl Triflates Using Hexamethyldigermane. *Synthesis* **2018**, *50*, 2067–2075.
- (37) 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.
- (38) Ken Sakata\*, Masami Eda, Yuri Kitaoka, **Tatsuhiko Yoshino**, Shigeki Matsunaga, Cp\*Co<sup>III</sup>-Catalyzed C–H Alkenylation/Annulation Reactions of Indoles with Alkynes: A DFT Study. *J. Org. Chem.* **2017**, *82*, 7379–7387.
- (39) Seiya Fukagawa, Yingjie Xu, Masahiro Anada, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, “Catalytic Enantioselective Desymmetrization of *meso*-Aziridines with Fluoromalonates. *HeteroCycles* **2017**, *94*, 1337–1350.
- (40) Hideya Ikemoto, Ryo Tanaka, Ken Sakata, Motomu Kanai, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Stereoselective Synthesis of Tetrasubstituted Alkenes via a Cp\*Co<sup>III</sup>-Catalyzed C–H Alkenylation/Directing Group Migration Sequence. *Angew. Chem., Int. Ed.* **2017**, *56*, 7156–7160.
- (41) Misaki Yoshida, Kentaro Kawai, Ryo Tanaka, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Cp\*Co<sup>III</sup>-Catalyzed Directed C–H Trifluoromethylthiolation of 2-Phenylpyridines and 6-Arylpyridines. *Chem. Commun.* **2017**, *53*, 5974–5977.
- (42) Ryo Tanaka, Hideya Ikemoto, Motomu Kanai, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Site- and Regioselective Monoalkenylation of Pyrroles with Alkynes via Cp\*Co<sup>III</sup> Catalysis. *Org. Lett.* **2016**, *18*, 5732–5735.
- (43) Youka Bunno, Nanami Murakami, Yudai Suzuki, Motomu Kanai, **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Cp\*Co<sup>III</sup>-Catalyzed Dehydrative C–H Allylation of 6-Arylpyridines and Aromatic Amides Using Allyl Alcohols in Fluorinated Alcohols. *Org. Lett.* **2016**, *18*, 2216–2219.
- (44) Aanindeeta Banerjee, Graham R. Dick, **Tatsuhiko Yoshino**, Matthew W. Kanan\*, Carbon Dioxide Utilization via Carbonate-Promoted C–H Carboxylation. *Nature* **2016**, *531*, 215–219.
- (45) Bo Sun, **Tatsuhiko Yoshino**, Motomu Kanai\*, Shigeki Matsunaga\*, Cp\*Co<sup>III</sup> 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.

- (46) Yudai Suzuki, Bo Sun, Ken Sakata, **Tatsuhiko Yoshino**, Shigeki Matsunaga\*, Motomu Kanai\*, Dehydrative Direct C–H Allylation with Allylic Alcohols under [Cp\*Co<sup>III</sup>] Catalysis. *Angew. Chem., Int. Ed.* **2015**, *54*, 9944–9947.
- (47) 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.
- (48) Bo Sun, **Tatsuhiko Yoshino**, Shigeki Matsunaga\*, Motomu Kanai\*, A Cp\*CoI<sub>2</sub>-Dimer as a Precursor for Cationic Co(III)-Catalysis: Application to C–H Phosphoramidation of Indoles. *Chem. Commun.* **2015**, *51*, 4659–4661.
- (49) 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.
- (50) Hideya Ikemoto, **Tatsuhiko Yoshino**, Ken Sakata, Shigeki Matsunaga\*, Motomu Kanai\*, Pyrroloindolone Synthesis via a Cp\*Co<sup>III</sup>-Catalyzed Redox-Neutral Directed C–H Alkenylation/Annulation Sequence. *J. Am. Chem. Soc.* **2014**, *136*, 5424–5431.
- (51) 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.
- (52) **Tatsuhiko Yoshino**, Hideya Ikemoto, Shigeki Matsunaga\*, Motomu Kanai\*, Cp\*Co<sup>III</sup>-Catalyzed C2-Selective Addition of Indoles to Imines. *Chem. Eur. J.* **2013**, *19*, 9142–9146.
- (53) **Tatsuhiko Yoshino**, Hideya Ikemoto, Shigeki Matsunaga\*, Motomu Kanai\*, A Cationic High-Valent Cp\*Co<sup>III</sup> Complex for the Catalytic Generation of Nucleophilic Organometallic Species: Directed C–H Bond Activation. *Angew. Chem., Int. Ed.* **2013**, *52*, 2207–2211.
- (54) 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.
- (55) Hiroto Komai, **Tatsuhiko Yoshino**, Shigeki Matsunaga\*, Motomu Kanai\*, Lewis Acid Catalyzed Benzylic C–H Bond Functionalization of Azaarenes; Addition to Imines and Enones. *Synthesis* **2012**, 2185–2194.
- (56) Gang Lu, **Tatsuhiko Yoshino**, Hiroyuki Morimoto, Shigeki Matsunaga\*, Masakatsu Shibasaki\*, Stereodivergent Direct Catalytic Asymmetric Mannich-Type Reactions of  $\alpha$ -Isothiocyanato Ester with Ketimines. *Angew. Chem., Int. Ed.* **2011**, *50*, 4382–4385.
- (57) Hiroto Komai, **Tatsuhiko Yoshino**, Shigeki Matsunaga\*, Motomu Kanai\*, Lewis Acid Catalyzed Benzylic C–H Bond Functionalization of Azaarenes: Addition to Enones. *Org. Lett.* **2011**, *13*, 1706–1709.
- (58) **Tatsuhiko Yoshino**, Hiroyuki Morimoto, Gang Lu, Shigeki Matsunaga\*, Masakatsu Shibasaki\*, Construction of Contiguous Tetrasubstituted Chiral Carbon Stereocenters via Direct Catalytic Asymmetric Aldol Reaction of  $\alpha$ -Isothiocyanato Esters with Ketones. *J. Am. Chem. Soc.* **2009**, *131*, 17082–17083.
- (59) 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

- (1) **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Chiral Carboxylic Acid Assisted Enantioselective C–H Activation with Achiral Cp<sup>x</sup>M<sup>III</sup> (M = Co, Rh, Ir) Catalysts. *ACS Catal.* **2021**, *11*, 6455–6466.

- (2) **Tatsuhiko Yoshino\***, Shun Satake, Shigeki Matsunaga\*, Diverse Approaches for Enantioselective C–H Functionalization Reactions Using Group 9 Cp\*M<sup>III</sup> Catalysts. *Chem. Eur. J.* **2020**, *26*, 7346–7357.
- (3) **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Cp\*Co<sup>III</sup>-catalyzed C–H Functionalization and Asymmetric Reactions Using External Chiral Sources. *Synlett* **2019**, *30*, 1384–1400.
- (4) **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.
- (5) **Tatsuhiko Yoshino\***, Shigeki Matsunaga\*, Cobalt-catalyzed C(sp<sup>3</sup>)–H Bond Functionalization Reactions. *Asian J. Org. Chem.* **2018**, *7*, 1193–1205.
- (6) **Tatsuhiko Yoshino**, Shigeki Matsunaga, High-Valent Cobalt-Catalyzed C–H Bond Functionalization. *Advances in Organometallic Chemistry*, Vol. 16, 197–247 (2017).
- (7) **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.
- (8) **Tatsuhiko Yoshino**, Synthesis of Saturated N-Heterocycles with SnAP Reagents. *J. Synth. Org. Chem. Jpn.* **2015**, *73*, 651–652.
- (9) 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**, 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.
- (2) **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.
- (3) **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.
- (4) **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.

#### その他招待講演など

- (1) 吉野達彦 「外輪型キラル二核ルテニウム錯体による触媒的不斉反応」 日本薬学会第141年会、2021年3月27日、オンライン開催
- (2) 吉野達彦 「Catalytic Asymmetric C-H Functionalization by High-valent Group 9 Metals」 日本化学会第99回春季年会・若い世代の特別講演、2019年3月16日、甲南大学岡本キャンパス
- (3) 吉野達彦 「高原子価ロジウム・コバルト触媒による不斉 C-H 活性化反応」 若手研究者のための有機化学札幌セミナー、2018年11月8日、北海道大学札幌キャンパス

#### その他

- (1) 有機合成化学協会 編「有機合成実験法ハンドブック 第2版」丸善出版、(2015)、16章の一部を執筆
- (2) 吉野達彦 「スタンフォード大学 Kanan 研留学記」 Organometallic News **2017** (3), 68–69 (2017).
- (3) 吉野達彦 「ロジウム・コバルト触媒による不斉 C-H 官能基化反応 – キラル Cp 配位子に頼らない不斉反応への挑戦」 化学と工業 **72** (7) 615–616 (2019).
- (4) 有機合成化学協会 編「有機合成のための新触媒反応 101」東京化学同人、2021年（炭素-水素結合の酸化、炭素-水素結合のアミノ化を執筆）
- (5) 吉野達彦、松永茂樹「高原子価コバルト触媒による C-H 活性化」化学と教育 **69** (8), 344–347 (2021).
- (6) 吉野達彦 「高原子価第9族遷移金属触媒による不斉 C-H 官能基化反応」月間ファインケミカル **50** (10), 42–47 (2021).
- (7) 吉野達彦 「ロジウム触媒によるフェノールの脱水的アミノ化 –  $\eta^6$ -アレーン錯体形成によるフェノールの触媒的活性化」化学 **77** (4), 63–64 (2022).