

Original Paper

1. Photocatalytic 1,2-Phosphorus-Migrative [3+2] Cycloaddition of Tri(*t*-butyl)phosphine with Terminal Alkynes
Masuda, Y.*; Ikeshita, D.; **Higashida, K.***; Yoshida, M.; Ishida, N.; Murakami, M.; Sawamura, M.*
J. Am. Chem. Soc. **2023**, *145*, 19060-19066. (DOI: 10.1021/jacs.3c06760)
2. Gold-Zinc Cooperative Catalysis for Seven-*exo-dig* Hydrocarboxylation of Internal Alkynes
Sato, M.; Rawat, V. K.; **Higashida, K.***; Sawamura, M.*
Chem. Eur. J. **2023**, *29*, e202301917. (DOI: 10.1002/chem.202301917)
3. Dimetal-Binding Scaffold 2-(Pyridin-2-yl)imidazo[1,5-*b*]pyridazine-7-ylidene: Synthesis of Trinuclear Heterobimetallic Complexes Involving Gold–Metal Interactions
Kitabayashi, A.; Ono, Y.; Taketsugu, T.; Sawamura, M.*; **Higashida, K.***
Chem. Eur. J. **2023**, *29*, e202301673. (DOI: 10.1002/chem.202301673)
4. Visible-Light-Induced Aminochlorination of Alkenes
Mejri, E.; **Higashida, K.***; Kondo, Y.; Nawachi, A.; Morimoto, H.; Ohshima, T.; Sawamura, M.*; Shimizu, Y.*
Org. Lett. **2023**, *25*, 4581-4585. (DOI: 10.1021/acs.orglett.3c01645)
5. Nickel-Catalyzed Asymmetric Allylic Alkylation of β -Dicarbonyl Compounds via C–C Bond Activation of 2-Allylated Cyclic 1,3-Diketones
Higashida, K.*; Smäil, V.; Nagae, H.*; Carpentier, J.-F.*; Mashima, K.*
ACS Catal. **2023**, *13*, 2156-2161. (DOI: 10.1021/acscatal.2c05664)
6. Nickel-Catalyzed Defluorophosphonylation of Aryl Fluorides
You, Z.; Masuda, Y.; Iwai, T.; **Higashida, K.***; Sawamura, M.*
J. Org. Chem. **2022**, *87*, 14731-14737. (DOI: 10.1021/acs.joc.2c02048)
7. Construction of Heterobimetallic Catalytic Scaffold with a Carbene-Bipyridine Ligand: Gold–Zinc Two-Metal Catalysis for Intermolecular Addition of O-Nucleophiles to Nonactivated Alkynes
Rawat, V. K.; **Higashida, K.***; Sawamura, M.*
ACS Catal. **2022**, *12*, 8325-8330. (DOI: 10.1021/acscatal.2c01701)

8. Silver-Catalyzed Asymmetric Aldol Reaction of Isocyanoacetic Acid Derivatives Enabled by Cooperative Participation of Classical and Nonclassical Hydrogen Bonds
Sakai, S.; Fujioka, A.; Imai, K.; Uchiyama, K.; Shimizu, Y.; **Higashida, K.***; Sawamura, M.*
Adv. Synth. Catal. **2022**, *364*, 2333-2339. (DOI: 10.1002/adsc.202200327)
9. Insights into the Mechanism of Enantioselective Copper-Catalyzed Ring-Opening Allylic Alkylation of Cyclopropanols
Kitabayashi, A.; Mizushima, S.; **Higashida, K.**; Yasuda, Y.; Shimizu, Y.; Sawamura, M.*
Adv. Synth. Catal. **2022**, *364*, 1855-1862. (DOI: 10.1002/adsc.202200157)
10. Synthesis of C,N,N-Cyclometalated Gold(III) Complexes with Anionic Amide Ligands
Niizeki, R.; **Higashida, K.**; Mejri, E.; Sawamura, M.*; Shimizu, Y.*
Synlett **2022**, *33*, 288-292. (DOI: 10.1055/a-1673-9236)
11. Nickel-Catalyzed Homocoupling of Aryl Ethers with Magnesium Anthracene Reductant
Rawat, V. K.; **Higashida, K.***; Sawamura, M.*
Synthesis **2021**, *53*, 3397-3403. (DOI: 10.1055/a-1509-5954)
12. Use of Imidazo[1,5-a]pyridin-3-ylidene as a Platform for Metal-Imidazole Cooperative Catalysis: Silver-Catalyzed Cyclization of Alkyne-Tethered Carboxylic Acids
Rawat, V. K.; **Higashida, K.***; Sawamura, M.*
Adv. Synth. Catal. **2021**, *363*, 1631-1637. (DOI: 10.1002/adsc.202001515)
13. Phosphinylation of Non-activated Aryl Fluorides through Nucleophilic Aromatic Substitution at the Boundary of Concerted and Stepwise Mechanisms
You, Z.; **Higashida, K.**; Iwai, T.*; Sawamura, M.*
Angew. Chem., Int. Ed. **2021**, *60*, 5778-5782. (DOI: 10.1002/anie.202013544)
14. Iridium-Catalyzed Enantioselective Transfer Hydrogenation of Ketones Controlled by Alcohol Hydrogen-Bonding and sp^3 -C-H Noncovalent Interactions
Murayama, H.; Heike, Y.; **Higashida, K.**; Shimizu, Y.; Yodsin, N.; Wongnongwa, Y.; Jungstittiwong, S.; Mori, S.*; Sawamura, M.*
Adv. Synth. Catal. **2020**, *362*, 4655-4661. (DOI: 10.1002/adsc.202000615) (Cover Picture)

15. Asymmetric Allylic Alkylation of β -Ketoesters via C–N Bond Cleavage of N-allyl-N-methylaniline Derivatives Catalyzed by a Nickel-Diphosphine System
Nagae, H.; Xia, J.; Kirillov, E.; **Higashida, K.**; Shoji, K.; Boiteau, V.; Zhang, W.*; Carpentier, J.-F.*; Mashima, K.*
ACS Catal. **2020**, *10*, 5828-5839. (DOI: 10.1021/acscatal.0c01356)
16. Monohydride-dichloro Rhodium(III) Complexes with Chiral Diphosphine Ligands as Catalysts for Asymmetric Hydrogenation of Olefinic Substrates
Higashida, K.; Brüning, F.; Tsujimoto, N.; Higashihara, K.; Nagae, H.; Togni, A.*; Mashima, K.*
Chem. Eur. J. **2020**, *26*, 8749-8759. (DOI: 10.1002/chem.202000542) (**Cover Picture**)
17. Site-selective *trans*-Hydrostannation of 1,3- and 1,n-Diynes. Application to the Total Synthesis of Typhonosides E and F and a Fluorinated Cerebroside Analogue
Mo, X.; Letort, A.; Roşca, D.-A.; **Higashida, K.**; Fürstner, A.*
Chem. Eur. J. **2018**, *24*, 9667-9674. (DOI: 10.1002/chem.201801344)
18. Selective Metalations of 1,4-Dithiins and Condensed Analogues Using TMP-Magnesium and –Zinc Base
Castelló-Micó, A.; Nafe, J.; **Higashida, K.**; Karaghiosoff, K.; Gingras, M.; Knochel, P.*
Org. Lett. **2017**, *19*, 360-363. (DOI: 10.1021/acs.orglett.6b03539)
19. Iridium-catalyzed Asymmetric Hydrogenation of Tosylamido-Substituted Pyrazines for Constructing Chiral Tetrahydropyrazines with an Amidine Skelton
Higashida, K.; Nagae, H.; Mashima, K.*
Adv. Synth. Catal. **2016**, *358*, 3949-3954. (DOI: 10.1002/adsc.201600852)
20. Synthesis and Characterization of Heterobimetallic Tantalum–Rhodium and Tantalum–Iridium Complexes Connected by a Tantalacyclopentadiene Fragment
Yamamoto, K.; **Higashida, K.**; Nagae, H.; Tsurugi, H.*; Mashima, K.*
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21. *E*-Selective Semi-hydrogenation of Alkynes with Dinuclear Iridium Complexes under Atmospheric Pressure of Hydrogen
Higashida, K.; Mashima, K.*
Chem. Lett. **2016**, *45*, 866-868. (DOI: 10.1246/cl.160410)

22. Asymmetric Hydrogenation of 3-Amido-2-arylpyridinium Salts by Triply-chloride-bridged Dinuclear Iridium Complexes Bearing Enantiopure Diphosphine Ligands: Synthesis of Neurokinin-1 Receptor Antagonist Derivatives
Iimuro, A.; **Higashida, K.**; Kita, Y.; Mashima, K.*
Adv. Synth. Catal. **2016**, *358*, 1929-1933. (DOI: 10.1002/adsc.201600203)
23. Chloride-bridged Dinuclear Rhodium(III) Complexes Bearing Chiral Diphosphine Ligands as New Rhodium(III) Catalyst Precursors for Asymmetric Hydrogenation of Simple Olefins
Kita, Y.; Hida, S.; Higashihara, K.; Jena, H. S.; **Higashida, K.**; Mashima, K.*
Angew. Chem., Int. Ed. **2016**, *55*, 8299-8303. (DOI: 10.1002/anie.201601748) (**Inside Cover**)
24. Asymmetric Hydrogenation of Quinazolinium Salts Catalyzed by Halide-bridged Dinuclear Iridium Complexes Bearing Chiral Diphosphine Ligands
Kita, Y.; **Higashida, K.**; Yamaji, K.; Iimuro, A.; Mashima, K.*
Chem. Commun. **2015**, *51*, 4380-4382. (DOI: 10.1039/C5CC00258C)
25. Enhancing Effects of Salt Formation on Catalytic Activity and Enantioselectivity for Asymmetric Hydrogenation of Isoquinolinium Salts by Dinuclear Halide-Bridged Iridium Complexes Bearing Chiral Diphosphine Ligands
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Chem. Eur. J. **2015**, *21*, 1915-1927. (DOI: 10.1002/chem.201405408) (**Cover Picture**)

Review

26. Asymmetric Hydrogenation of Six-membered Monocyclic *N*-Heteroaromatic Compounds
Iimuro, A.; **Higashida, K.**; Nagae, H.; Mashima, K.*
HETEROCYCLES, **2017**, *95*, 63-80. (DOI: 10.3987/REV-16-SR(S)1)
27. Triply-halide-bridged Dinuclear Iridium(III) Complexes with Chiral Diphosphine Ligands as New Easy-handling Iridium Catalysts for Asymmetric Hydrogenation of Imines and *N*-Heteroaromatics
Mashima, K.*; **Higashida, K.**; Iimuro, A.; Nagae, H.; Kita, Y.
The Chemical Record, **2016**, *16*, 2585-2594. (DOI: 10.1002/tcr.201600079)