

Curriculum Vitae

Name: Hideaki Takano (高野 秀明)

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A. Education

Ph.D	Apr. 2017-	Department of Chemistry and Biochemistry, School of Advanced Science and Engineering, Waseda University (Shibata Lab.)
M.S.	Apr.2015- Mar. 2017	Department of Chemistry and Biochemistry, School of Advanced Science and Engineering, Waseda University (Shibata Lab.)
B.S.	Apr. 2011- Mar. 2015	Department of Chemistry and Biochemistry, School of Advanced Science and Engineering, Waseda University (Shibata Lab.)

B. Career

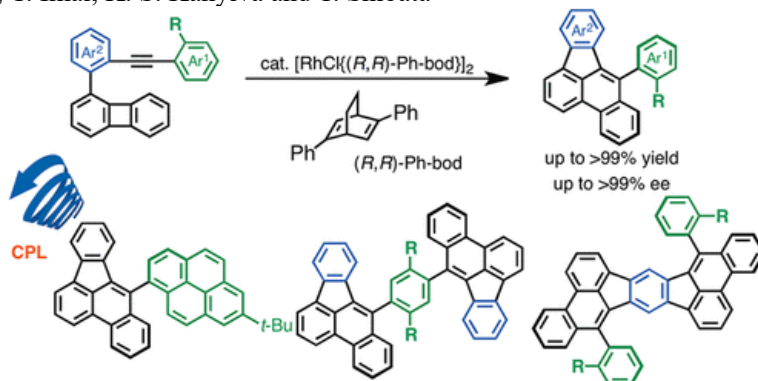
Postdoctoral Researcher	Apr. 2020 -	WPI-ICReDD, Hokkaido University (JST-ERATO Maeda Artificial intelligence for Chemical Reaction Design and Discovery Project)
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C. Fellowship

DC2	Apr. 2018 - Mar. 2020	Research Fellowship for Young Scientists (JSPS) https://www.jsps.go.jp/english/e-pd/index.html
Visiting student	Apr. 2018 - Mar. 2019	Visiting Students Department of Chemistry, University of Cambridge (Phipps Lab.) Supported by Overseas Challenge Program For Young Researchers (JSPS) https://www.jsps.go.jp/english/e-abc/index.html

D. Publication

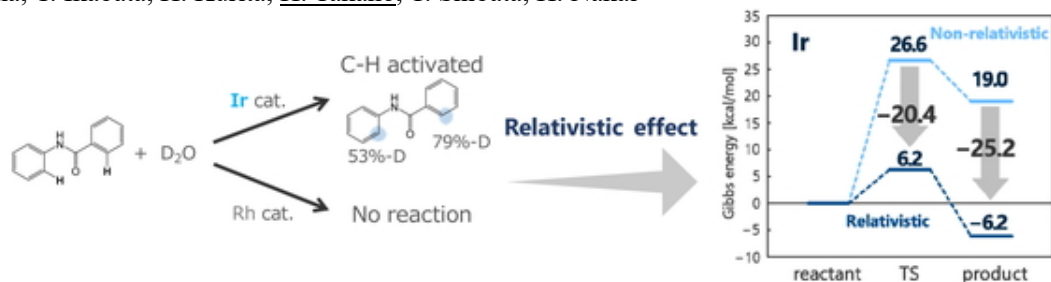
- 1). Catalytic Enantioselective Synthesis of Axially Chiral Polycyclic Aromatic Hydrocarbons (PAHs) via Regioselective C-C Bond Activation of Biphenylenes
J. Am. Chem. Soc. **2020**, *142*, 4714-4722.
H. Takano, N. Shiozawa, Y. Imai, K. S. Kanyiva and T. Shibata



2). Relativistic Effect on Homogeneous Catalytic Reaction by Cationic Iridium Catalysts

J. Comput. Chem. Japan **2019**, *18*, 136–138.

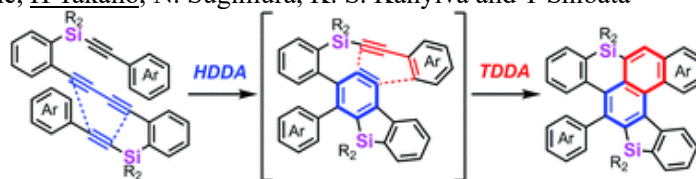
C. Takashima, Y. Ikabata, H. Kurita, H. Takano, T. Shibata, H. Nakai



3). Consecutive HDDA and TDDA reactions of silicon-tethered tetraynes for the synthesis of dibenzosilole-fused polycyclic compounds and their unique reactivity

Chem. Sci., **2019**, *10*, 6715–6720.

A. Mitake, R. Nagai, A. Sekine, H. Takano, N. Sugimura, K. S. Kanyiva and T. Shibata

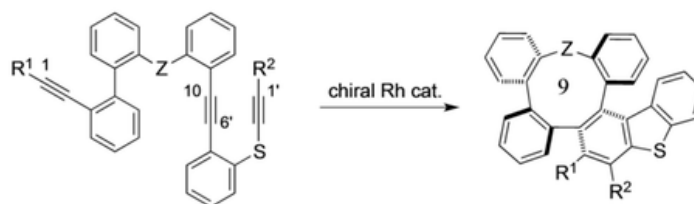


4). Enantioselective Synthesis of Nine- to Eleven-Membered Cyclic Polyphenylenes Containing Heteroatoms by Catalytic Intramolecular [2+2+2] Cycloaddition

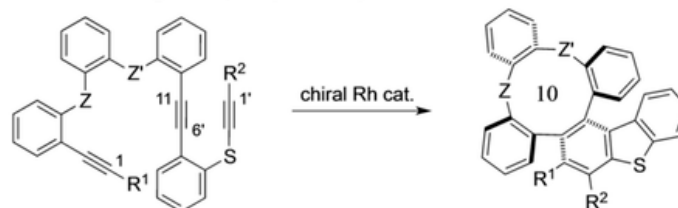
Asian. J. Org. Chem. **2019**, *8*, 970–977.

T. Shibata, T. Fusamae, H. Takano, N. Sugimura, K. S. Kanyiva

a) Chiral nine-membered ring from 1,10-diyne moiety



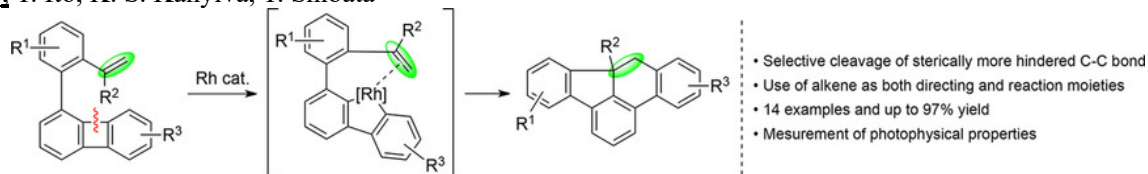
b) Chiral ten-membered ring from 1,11-diyne moiety



5). Regioselective Activation of a Sterically More Hindered C-C Bond of Biphenylenes Using an Alkene as Both a Directing Group and a Reaction Moiety

Chem. Eur. J. **2018**, *24*, 15173–15177.

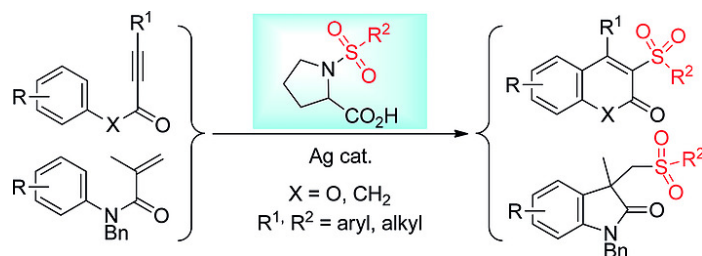
H. Takano, T. Ito, K. S. Kanyiva, T. Shibata



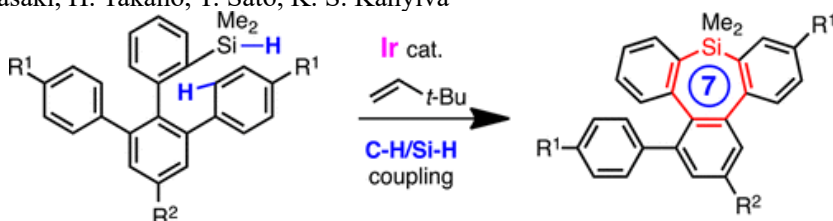
6). α -Amino Acid Sulfonamides as Versatile Sulfonylation Reagents: Silver-Catalyzed Synthesis of Coumarins and Oxindoles by Radical Cyclization

Eur. J. Org. Chem. **2018**, 5905–5909.

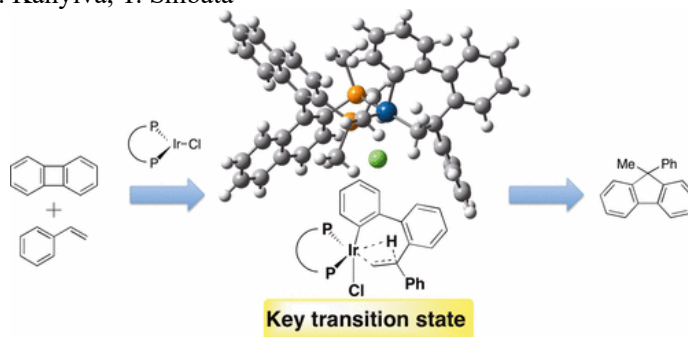
K. S. Kanyiva, D. Hamada, S. Makino, H. Takano, T. Shibata



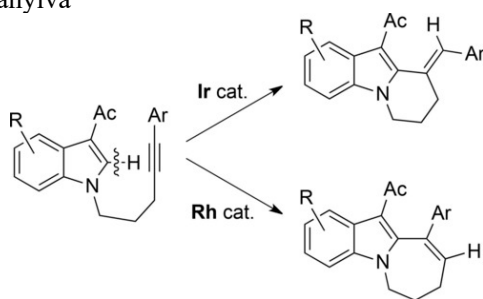
- 7). A Ir-Catalyzed Synthesis of Substituted Tribenzosilepins by Dehydrogenative C–H/Si–H Coupling
J. Org. Chem. **2018**, *83*, 3426–3432.
 T. Shibata, N. Uno, T. Sasaki, H. Takano, T. Sato, K. S. Kanyiva



- 8). DFT Studies on the Mechanism of the Iridium-Catalyzed Formal [4 + 1] Cycloaddition of Biphenylene with Alkenes
ACS Omega **2017**, *2*, 5228–5234.
 H. Takano, N. Sugimura, K. S. Kanyiva, T. Shibata



- 9). Intramolecular C-H Alkenylation of N -Alkynylindoles: *Exo* and *Endo* Selective Cyclization by the Choice of Metal Catalysts
Adv. Synth. Catal. **2017**, *359*, 1849–1853.
 T. Shibata, T. Baba, H. Takano, K. S. Kanyiva



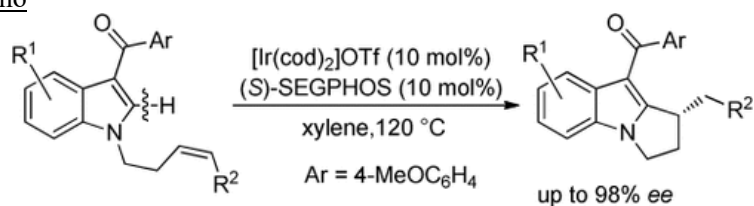
- 10). Iridium-Catalyzed Formal [4+1] Cycloaddition of Biphenylenes with Alkenes Initiated by C–C Bond Cleavage for the Synthesis of 9,9-Disubstituted Fluorenes
Org. Lett. **2016**, *18*, 1860–1863.
 H. Takano, K. S. Kanyiva, T. Shibata



- 11). Iridium-Catalyzed Intramolecular Enantioselective C-H Alkylation at the C-2 Position of *N*-Alkenylindoles

Adv. Synth. Catal. **2015**, 357, 1131-1135.

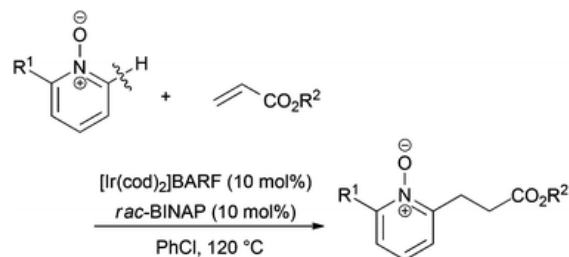
T. Shibata, N. Ryu, H. Takano



- 12). Cationic iridium-catalyzed C-H alkylation of 2-substituted pyridine *N*-oxides with acrylates

Org. Chem. Front. **2015**, 2, 383-387.

T. Shibata, H. Takano,

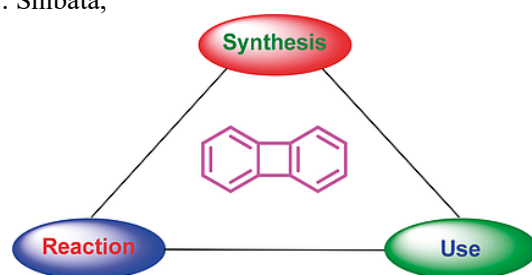


E. Review

- 1). Recent Advances of Biphenylene: Synthesis, Reactions and Uses

Eur. J. Org. Chem. **2019**, 2871–2883.

H. Takano, T. Ito, K. S. Kanyiva, T. Shibata,



F. Conference

- Development of Catalytic Transformation via Regioselective Cleavage of Sterically Hindered C-C Bond Promoted by Unsaturated Bonds as Both Directing Group and Reaction Site (Oral)
66th Symposium on Organometallic Chemistry, O1-01, Tokyo Metropolitan University (Japan), September 2019
H. Takano, T. Ito, N. Shiozawa, K. S. Kanyiva, T. Shibata
- Rhodium-catalyzed regioselective activation of sterically hindered C-C bond of Biphenylene” (Poster)
ESOC2019 - 21st European Symposium on Organic Chemistry, PO-149, Vienna (Austria), July 2019
H. Takano, T. Ito, N. Shiozawa, K. S. Kanyiva, T. Shibata
- ロジウム触媒を用いた立体的に混み合った C-C 結合開裂を伴う分子内環化反応の開発 (Poster)
52nd Summer School of Organometallic Chemistry, 1P-7, Okayama (Japan), June 2019
Hideaki Takano
- Computational Study of Iridium Complexes as Transition States in Formal [4+1] Cycloaddition of Biphenylene with Alkenes: Rational Explanation of [4+1] Prior to [4+2] Cycloaddition (Poster)
The 24th International SPACC Symposium -Metal Complexes for Green and Sustainable Development-, P-13, University of Auckland (New Zealand), November 2017
H. Takano, N. Sugimura, K. S. Kanyiva, T. Shibata
- Computational Mechanistic Study for the Iridium-Catalyzed Formal [4+1] Cycloaddition of Biphenylene with Alkenes (Oral)
The 97th CSJ Annual Meeting, Keio University, Tokyo, 3E2-28, March 2017
H. Takano, N. Sugimura, K. S. Kanyiva, T. Shibata
- Iridium-Catalyzed Formal [4+1] Cycloaddition for the Synthesis of 9,9-Disubstituted Fluorenes and DFT Studies of the Reaction Mechanism (Poster)
66th Symposium on Organometallic Chemistry, P2-37, Waseda (Japan), September 2016

- H. Takano, N. Sugimura, K. S. Kanyiva, T. Shibata
- 7). Synthesis of 9,9'-Disubstituted Fluorene Derivatives by Iridium Catalyst Initiated by C-C Bond Cleavage of Biphenylenes (Invited lecture)
ISPAC 2016, ORS12, Kuching (Malaysia), August 2016
H. Takano
- 8). Iridium-catalyzed reaction of biphenylenes with alkenes initiated by C-C bond cleavage (Poster)
International Conference on Organometallic Chemistry 2016, 186, Melbourne (Australia), July 2016
H. Takano, N. Sugimura, K. S. Kanyiva, T. Shibata
- 9). イリジウム触媒を用いた C-C 結合開裂を経る[4+1]付加環化反応の開発 (Poster)
49th Summer School of Organometallic Chemistry, Gunma (Japan), July 2016
Hideaki Takano
- 10). Iridium-Catalyzed Formal [4+1] Cycloaddition Initiated by C-C Bond Cleavage of Biphenylenes (Poster)
109th Symposium on Organic Synthesis, P-22, Tokyo Institute of Technology (Japan), June 2016
H. Takano, N. Sugimura, K. S. Kanyiva, T. Shibata
- 11). Synthesis of 9,9-Disubstituted Fluorene Derivatives by Iridium Catalyst via C-C Bond Activation of Biphenylenes (Oral)
The 96th CSJ Annual Meeting, 2H7-18, Doshisha University (Japan), March 2016
H. Takano, N. Sugimura, K. S. Kanyiva, T. Shibata
- 12). C-H alkylation for 2-substituted pyridine N-oxide by a cationic iridium(I) catalyst" (Poster)
Pacifichem2015, ORGN2539, Hawaii (America), December 2015
H. Takano, T. Shibata
- 13). Chiral Cationic Iridium-Catalyzed Enantioselective Intramolecular C-H Alkylation at the C-2 Position of Indoles (Poster)
62nd Symposium on Organometallic Chemistry, P2-47, Kansai University (Japan), September 2015
H. Takano, N. Ryu, T. Shibata
- 14). Enantioselective intramolecular C-H alkylation at the C-2 position of indole by a chiral cationic iridium(I) catalyst (Poster)
OMCOS18, P-429, Barcelona (Spain), June 2015
H. Takano, N. Ryu, T. Shibata
- 15). Cationic Iridium-Catalyzed Enantioselective Intramolecular C-H alkylation at the C-2 Position of Indoles (Poster)
Symposium on Molecular Chirality 2015, PP-20D, Waseda University (Japan), June 2015
H. Takano, N. Ryu, T. Shibata
- 16). Ir(I)-Catalyzed C2-Selective C-H Alkylation of Pyridine N-Oxides (Oral)
The 95th CSJ Annual Meeting, 2E5-11, Nihon University (Japan), March 2015
H. Takano, T. Shibata

G. Award

- 2017 Yoshiro Sekine Award (Top grade award for M.S. in my major)
- 2016 27th International Conference on Organometallic Chemistry(ICOMC) Student Award and Travel Bursary (<http://icomc2016.com/student-award-travel-bursary/>)
- 2015 Top grade award for undergraduate school in my department

H. Membership

- The Chemical Society of Japan
- The Society of Synthetic Organic Chemistry, Japan