

平成22年度 研究業績

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1. 発表論文等 (査読付き論文, 著書, 総説等の発表状況)

- (1) Copper-Catalyzed γ -Selective and Stereospecific Allylic Alkylation of Ketene Silyl Acetals.
Li, D.; Ohmiya, H.*; Sawamura, M.* *J. Am. Chem. Soc.* **2011**, *133*, in press.
- (2) Copper-Catalyzed Carboxylation of Alkylboranes with Carbon Dioxide: Formal Reductive Carboxylation of Terminal Alkenes.
Ohmiya, H.*; Tanabe, M.; Sawamura, M.* *Org. Lett.* **2011**, *13*, 1086–1088.
- (3) Copper(I)-Catalyzed Regioselective Monoborylation of 1,3-Enynes with an Internal Triple Bond: Selective Synthesis of 1,3-Dienylboronates and 3-Alkynylboronates.
Sasaki, Y.; Horita, Y.; Zhong, C.; Sawamura, M.; Ito, H.* *Angew. Chem Int. Ed.* **2011**, *50*, 2778–2782.
- (4) Copper-Catalyzed Conjugate Additions of Alkylboranes to Imidazolyl α,β -Unsaturated Ketones: Formal Reductive Conjugate Addition of Terminal Alkenes.
Ohmiya, H.*; Yoshida, M.; Sawamura, M.* *Org. Lett.* **2011**, *13*, 482–485.
- (5) Sulfonamidoquinoline-Palladium(II) Dimer Complex As a Catalyst Precursor for Palladium-Catalyzed γ -Selective and Stereospecific Allyl-Aryl Coupling Reaction between Allylic Acetates and Arylboronic Acids.
Makida, Y.; Ohmiya, H.*; Sawamura, M.* *Chem. Asian J.* **2011**, *6*, 410–414.
- (6) Construction of Methylenecycloheptane Frameworks through 7-Exo-dig Cyclization of Acetylenic Silyl Enol Ethers Catalyzed by Triethynylphosphine–Gold Complex.
Ito, H.; Ohmiya, H.; Sawamura, M.* *Org. Lett.* **2010**, *12*, 4380–4383.
- (7) Directed Ortho Borylation of Phenol Derivatives Catalyzed by a Silica-Supported Iridium Complex.
Yamazaki, K.; Kawamorita, S.; Ohmiya, H.; Sawamura, M.* *Org. Lett.* **2010**, *12*, 3978–3981.
- (8) Direct Enantio-convergent Transformation of Racemic Substrates without Racemization or Symmetrization.
Ito, H.*; Kunii, S.; Sawamura, M. *Nature Chem.* **2010**, *2*, 972–976.
- (9) Enantioselective Synthesis of trans-Aryl- and Heteroaryl-Substituted Cyclopropylboronates by Copper(I)-Catalyzed Reactions of Allylic Phosphates with a Diboron Derivative.
Zhong, C.; Kuni, S.; Kosaka, Y.; Sawamura, M.; Ito, H.* *J. Am. Chem. Soc.* **2010**, *132*, 1140–1142.

- (10) Protecting-Group-Free Route to Hydroxylated Pyrrolidine and Piperidine Derivatives through Cu(I)-Catalyzed Intramolecular Hydroamination of Alkenes.
Ohmiya, H.; Yoshida, M.; Sawamura, M.* *Synlett*, **2010**, 2136-2140.
- (11) Synthesis of *a*-Arylated Allylsilanes through Palladium-Catalyzed γ -Selective Allyl-Aryl Coupling.
Li, D.; Tanaka, T.; Ohmiya, H.*; Sawamura, M.* *Org. Lett.* **2010**, *12*, 3344-3347.
- (12) Copper-Catalyzed γ -Selective and Stereospecific Allyl-Aryl Coupling between (*Z*)-Acyclic and Cyclic Allylic Phosphates and Arylboronates.
Ohmiya, H.*; Yokokawa, N.; Sawamura, M.* *Org. Lett.* **2010**, *12*, 2438-2440.
- (13) Ester-Directed Regioselective Borylation of Heteroarenes Catalyzed by a Silica-Supported Iridium Complex.
Kawamorita, S.; Ohmiya, H.; Sawamura, M.* *J. Org. Chem.* **2010**, *75*, 3855-3858.
- (14) Stereospecific Synthesis of Cyclobutylboronates through Copper(I)-Catalyzed Reaction of Homoallylic Sulfonates and a Diboron Derivative.
Ito, H.*; Toyoda, T.; Sawamura, M. *J. Am. Chem. Soc.* **2010**, *132*, 5990-5992.
- (15) Selective Synthesis of Allenes and Alkynes through Ligand-Controlled, Palladium-Catalyzed Decarboxylative Hydrogenolysis of Propargylic Formates.
Ohmiya, H.; Yang, M.; Yamauchi, Y.; Ohtsuka, Y.; Sawamura, M.* *Org. Lett.* **2010**, *12*, 1796-1799.
- (16) Copper-Catalyzed γ -Selective Allyl-Alkyl Coupling between Allylic Phosphates and Alkylboranes.
Ohmiya, H.*; Yokobori, U.; Makida, Y.; Sawamura, M.* *J. Am. Chem. Soc.* **2010**, *132*, 2895-2897.
- (17) Copper(I)-Catalyzed Asymmetric Monoborylation of 1,3-Dienes: Synthesis of Enantio-Enriched Cyclic Homoally- and Allylboronates.
Sasaki, Y.; Zhong, C.; Sawamura, M.; Ito, H.* *J. Am. Chem. Soc.* **2010**, *132*, 1226-1227.
- (18) Palladium-Catalyzed γ -Selective and Stereospecific Allyl-Aryl Coupling between Acyclic Allylic Esters and Arylboronic Acids.
Ohmiya, H.; Makida, Y.; Li, D.; Tanabe, M.; Sawamura, M.* *J. Am. Chem. Soc.* **2010**, *132*, 879-889.
- (19) Desymmetrization of meso-2-Alkene-1,4-diol Derivatives through Copper(I)-Catalyzed Asymmetric Boryl Substitution and Stereoselective Allylation of Aldehydes
Ito, H.*; Okura, T.; Matsuura, K.; Sawamura, M. *Angew. Chem. Int. Ed.* **2010**, *49*, 560-563.

2. 学会発表等（国内外の招待講演および国際会議での発表状況）

- (1) Triethynylphosphine-Gold(I)-Catalyzed Cyclization of Alkynyl Silyl Enol Ether: Seven-Membered Ring Formation.
Ito, H.; Ohmiya, H.; Sawamura, M. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20（ポスター発表）.
- (2) Iridium-Catalyzed Direct Ortho Borylation of Functionalized Arenes.
Kawamorita, S.; Yamazaki, K.; H.; Ohmiya, H.; Sawamura, M. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20（ポスター発表）.
- (3) 「活性中心の孤立化と組織化に基づく遷移金属錯体触媒の設計」澤村正也,
先端科学技術部会講演会（2010.12.02）, 東京, 2010.12.2（口頭発表）.
- (4) 「コンパクトなホスフィン配位子の固相担持による遷移金属錯体触媒の設計」
澤村正也, 第7回触媒相模セミナー, 神奈川, 2010.11.18-19（口頭発表）.
- (5) Palladium-Catalyzed γ -Selective and Stereospecific Allyl-Aryl Coupling between Allylic Esters and Arylboronic Acids.
Li, D.; Ohmiya, H.; Sawamura, M. The 11th International Symposium of Chinese Organic Chemists, Taipei, Taiwan, ROC, 2010.10.22-25（口頭発表）.
- (6) Copper-Alcohol Cooperative Catalysis in Enantioselective Direct Addition of Terminal Alkynes to Aldehydes.
Ishii, T.; Moriya, T.; Ohmiya, H.; Sawamura, M. China-Japan Joint Symposium on Catalytic Organic Synthesis, Tian-Jin, China, 2010. 9. 25（口頭発表）.
- (7) Mechanistic Studies on Palladium-Catalyzed Allyl-Aryl Coupling between Allylic Acetates and Arylboronic Acids.
Makida, Y.; Ohmiya, H.; Sawamura, M. 24th International Conference on Organometallic Chemistry, Taipei, Taiwan, 2010.7.18-23（ポスター発表）.
- (8) Phosphine-Functionalized Surfaces for Use in Catalytic Organic Synthesis. Sawamura, M.
Inaugural(1st) International Conference on Molecular & Functional Catalysis(ICMFC-1), Singapore, 2010.7.12-14（口頭発表）.
- (9) Synthesis of Chiral Allylsilanes by Palladium-Catalyzed Allyl-Aryl Coupling.
Li, D.; Ohmiya, H.; Sawamura, M. 22nd International Symposium on Chirality 2010, Sapporo, 2010.7.12-15（ポスター発表）.

(10) Phosphinated Designer Surfaces for Use in Catalytic Organic Synthesis.

Sawamura, M. 2010 GCOE and 111 Program, Peking University & Hokkaido University
Joint Seminar on Organometallic Chemistry and Organic Syntheses, Beijing, China,
2010.5.29 (口頭発表).

3. 特許

該当なし

4. 学会・シンポジウム等の開催状況

該当なし

5. 受賞等

該当なし

6. 新聞報道等

該当なし

7. 領域内の共同研究の準備・実施状況とその成果

(1) 共同研究先：分子科学研究所，魚住研究室（A01 班，公募班員）

派遣人員（派遣）：川守田創一郎（博士 1 年）

派遣期間（派遣）：2011.1.19-2011.1.26

共同研究内容：SR-MAS-NMR によるシリカ担持 SMAP 触媒の反応挙動解析

共同研究成果：学会発表

8. その他特記事項

該当なし