

平成23年度 研究業績

三浦雅博 (大阪大学大学院工学研究科、A03班 計画班員)

1. 発表論文等 (査読付き論文, 著書, 総説等の発表状況)

- (1) Ru/Ag-catalyzed Oxidative Alkenylation of Benzamides and Phenylazoles through Regioselective C-H Bond Cleavage
Hashimoto, Y.; Ortloff, T.; Hirano, K.; Satoh, T.*; Bolm, C.; Miura, M.* *Chem. Lett.* **2012**, *41*, 151-153.
- (2) Synthesis of *N*-Azolyliindoles by Copper-Catalyzed C-H/N-H Coupling-Annulation Sequence of *o*-Alkynylanilines
Oda, Y.; Hirano, K.*; Satoh, T.; Miura, M.* *Org. Lett.* **2012**, *14*, 664-667.
- (3) Nickel- and Cobalt-Catalyzed Direct Alkylation of Azoles with *N*-Tosylhydrazones Bearing Unactivated Alkyl Groups
Yao, T.; Hirano, K.*; Satoh, T.; Miura, M.* *Angew. Chem. Int. Ed.* **2012**, *51*, 775-779.
- (4) An Annulative Electrophilic Amination Approach to 3-Aminobenzoheteroles
Matsuda, N.; Hirano, K.*; Satoh, T.; Miura, M.* *J. Org. Chem.* **2012**, *77*, 617-625.
- (5) Synthesis of Isochromene and Related Derivatives by Rhodium-Catalyzed Oxidative Coupling of Benzyl and Allyl Alcohols with Alkynes
Morimoto, K.; Hirano, K.; Satoh, T.*; Miura, M.* *J. Org. Chem.* **2011**, *76*, 9548-9551.
- (6) Ruthenium-catalyzed Oxidative Alkenylation of Arenes via Regioselective C-H Bond Cleavage Directed by a Nitrogen-containing Group
Hashimoto, Y.; Ueyama, T.; Fukutani, T.; Hirano, K.; Satoh, T.*; Miura, M.* *Chem. Lett.* **2011**, *40*, 1165-1166.
- (7) A remarkable effect of ionic liquids in transition-metal-free aerobic oxidation of benzylic alcohols
Oda, Y.; Hirano, K.*; Satoh, T.; Kuwabata, S.; Miura, M.* *Tetrahedron Lett.* **2011**, *52*, 5392-5394.
- (8) Palladium-catalyzed Direct Monoarylation of Thiophene-, Benzothiophene-, and Indoleacetic Acids through Regioselective C-H Bond Cleavage
Takeda, D.; Yamashita, M.; Hirano, K.; Satoh, T.*; Miura, M.* *Chem. Lett.* **2011**, *40*, 1015-1017.
- (9) Copper-Catalyzed Oxidative Direct Cyclization of *N*-Methylanilines with Electron-Deficient Alkenes Using Molecular Oxygen
Nishino, M.; Hirano, K.; Satoh, T.*; Miura, M.* *J. Org. Chem.* **2011**, *76*, 6447-6451.
- (10) Copper-Mediated Annulative Direct Coupling of *o*-Alkynylphenols with Oxadiazoles: A

Dehydrogenative Cascade Construction of Biheteroaryls

Hachiya, H.; Hirano, K.*; Satoh, T.; Miura, M.* *Org. Lett.* **2011**, *13*, 3076-3079.

- (11) Rhodium-catalyzed Oxidative Coupling of Benzylamines with Alkynes through Dehydrogenation and Dehydrogenative Cyclization

Morimoto, K.; Hirano, K.; Satoh, T.*; Miura, M.* *Chem. Lett.* **2011**, *40*, 600-602.

- (12) Copper-Catalyzed Direct Amination of Electron-Deficient Arenes with Hydroxylamines, Matsuda, N.; Hirano, K.*; Satoh, T.; Miura, M.* *Org. Lett.* **2011**, *13*, 2860-2863.

- (13) Rhodium-Catalyzed Regioselective Olefination Directed by a Carboxylic Group

Mochida, S.; Hirano, K.; Satoh, T.*; Miura, M.* *J. Org. Chem.* **2011**, *76*, 3024-3033.

- (14) Copper-Catalyzed Annulative Amination of ortho-Alkynylphenols with Hydroxylamines: Synthesis of 3-Aminobenzofurans by Umpolung Amination Strategy

Hirano, K.*; Satoh, T.; Miura, M.* *Org. Lett.* **2011**, *13*, 2395-2397.

- (15) Synthesis of Highly Substituted Acenes through Rhodium-Catalyzed Oxidative Coupling of Arylboron Reagents with Alkynes

Fukutani, T.; Hirano, K.; Satoh, T.*; Miura, M.* *J. Org. Chem.* **2011**, *76*, 2867-2874.

- (16) Synthesis of 1,4-Diarylbuta-1,3-dienes through Palladium-Catalyzed Decarboxylative Coupling of Unsaturated Carboxylic Acids

Yamashita, M.; Hirano, K.; Satoh, T.*; Miura, M.* *Adv. Synth. Catal.* **2011**, *353*, 631-636.

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) Synthesis of fused aromatic- and heteroaromatic compounds via transition-metal-catalyzed oxidative coupling

Satoh, T.; Hirano, K.; Miura, M. The 16th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 16), Shanghai, China, 2011.7.24-7.28（ポスター発表）.

- (2) Nickel-catalyzed direct alkylation of azoles

Matsuyama, N.; Hirano, K.; Satoh, T.; Miura, M. The 16th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 16), Shanghai, China, 2011.7.24-7.28（ポスター発表）.

- (3) Preparation of palladium nanoparticles in ionic liquids by sputter deposition and its application to Suzuki-Miyaura coupling in water

Oda, Y.; Hirano, K.; Yoshii, K.; Kuwabata, S.; Torimoto, T.; Miura, M. The 16th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 16), Shanghai, China, 2011.7.24-7.28（ポスター発表）.

- (4) Rhodium-catalyzed oxidative coupling of benzylamines with alkynes via

dehydrogenative cyclization

Morimoto, Y.; Hirano, K.; Satoh, T.; Miura, M. The 16th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 16), Shanghai, China, 2011.7.24-7.28 (ポスター発表).

(5) 遷移金属触媒を用いる直接的芳香族カップリング

三浦雅博, 有機合成化学協会東海支部, 若手研究者のためのセミナー, 2011.7.29 (招待講演).

(6) Copper-Mediated Cross-Coupling via C-H Cleavage

Miura, M. Aachen-Osaka Joint Symposium: Biological and Chemical Approaches to Selective Processes, RWTH Aachen University, Germany, 2011.9.1-2 (口頭発表).

(7) Transition-metal-catalyzed oxidative coupling of aromatic substrates with unsaturated compounds

Satoh, T.; Miura, M. International Symposium on Organometallic Chemistry 2011 (ISOMC 2011), Osaka, Japan, 2011.11.11-11.12 (口頭発表).

3. 特許

なし

4. 学会・シンポジウム等の開催状況

- (1) 第7回集積有機合成国際シンポジウム (ISIS-7), 神戸, 2010.10.9-10 (三浦雅博, 組織委員)

5. 受賞等

- (1) 三浦雅博, トムソン・ロイター 第3回リサーチフロントアワード, 2012.2.21
<http://ip-science.thomsonreuters.jp/press/release/2012/2012/>

6. 新聞報道等

- (1) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2011**, *10*, 1064.)

Copper-Catalyzed Oxidative Direct Cyclization of *N*-Methylanilines with Electron-Deficient Alkenes Using Molecular Oxygen. Nishino, M.; Hirano, K.; Satoh, T.; Miura, M. *J. Org. Chem.* **2011**, *76*, 6447-6451.

- (2) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2011**, *7*, 721.)

Copper-Catalyzed Annulative Amination of ortho-Alkynylphenols with Hydroxylamines: Synthesis of 3-Aminobenzofurans by Umpolung Amination Strategy. Hirano, K.; Satoh, T.; Miura, M. *Org. Lett.* **2011**, *13*, 2395-2397.

(3) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2011**, 7, 721.)

Copper-Mediated Intermolecular Direct Biaryl Coupling. Kitahara, M.; Umeda, N.; Hirano, K.; Satoh, T.; Miura, M. *J. Am. Chem. Soc.* **2011**, 133, 2160-2162.

(4) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2011**, 7, 359.)

Copper-Catalyzed Direct Sulfoximation of Azoles and Polyfluoroarenes under Ambient Conditions. Miyasaka, M.; Hirano, K.; Satoh, T.; Kowalczyk, R.; Bolm, C.; Miura, M. *Org. Lett.* **2011**, 13, 359-361.

7. 国民との科学・技術対話

(1) 大阪大学工学部一日体験化学教室「高校生および引率の教諭、参加 190 名、2011 年 8 月 9 日（火）8 時 30 分～16 時 00 分、アンケート有」（分担参加）

8. 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：慶応義塾大学，垣内史敏（A01 班，公募班員）

共同研究内容：ルテニウム触媒を用いたアルケニル化反応

共同研究成果：論文投稿中