

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) Direct Carbon-Hydrogen Bond Functionalization of Heterocyclic Compounds
Hirano, K.; Miura, M.* *Synlett* **2011**, 294-307.
- (2) Copper-Mediated Intermolecular Direct Biaryl Coupling
Kitahara, M.; Umeda, N.; Hirano, K.*; Satoh, T.; Miura, M.* *J. Am. Chem. Soc.* **2011**, *133*, 2160-2162.
- (3) Ruthenium-Catalyzed Oxidative Vinylation of Heteroarene Carboxylic Acids with Alkenes via Regioselective C-H Bond Cleavage
Ueyama, T.; Mochida, S.; Fukutani, T.; Hirano, K.; Satoh, T.*; Miura, M.* *Org. Lett.* **2011**, *13*, 706-708.
- (4) 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.
- (5) Rhodium-Catalyzed Oxidative 1:1, 1:2, and 1:4 Coupling Reactions of Phenylazoles with Internal Alkynes through the Regioselective Cleavages of Multiple C-H Bonds
Umeda, N.; Hirano, K.; Satoh, T.*; Shibata, N.; Sato, H.*; Miura, M.* *J. Org. Chem.* **2011**, *76*, 13-24 (Featured Article).
- (6) Synthesis of Stilbene and Distyrylbenzene Derivatives through Rhodium-Catalyzed Ortho-Olefination and Decarboxylation of Benzoic Acids
Mochida, S.; Hirano, K.; Satoh, T.*; Miura, M.* *Org. Lett.* **2010**, *12*, 5776-5779.
- (7) Palladium- and Nickel-Catalyzed Direct Alkylation of Azoles with Unactivated Alkyl Bromides and Chlorides
Yao, T.; Hirano, K.*; Satoh, T.; Miura, M.* *Chem. Eur. J.* **2010**, *16*, 12307-12311.
- (8) Palladium Nanoparticles in Ionic Liquid by Sputter Deposition as Catalysts for Suzuki-Miyaura Coupling in Water
Oda, Y.; Hirano, K.; Yoshii, K.; Kuwabata, S.; Torimoto, T.; Miura, M.* *Chem. Lett.* **2010**, *39*, 1069-1071.
- (9) Oxidative Coupling of Aromatic Substrates with Alkynes and Alkenes under Rhodium Catalysis
Satoh, T.*; Miura, M.* *Chem. Eur. J.* **2010**, *16*, 11212-11222.

- (10) Oxidative Nickel-Air Catalysis in C-H Arylation: Direct Cross-Coupling of Azoles with Arylboronic Acids using Air as Sole Oxidant
Hachiya, H.; Hirano, K.*; Satoh, T.; Miura, M.* *ChemCatChem* **2010**, *2*, 1403-1406.
- (11) Palladium-Catalyzed Direct Oxidative Alkenylation of Azoles
Miyasaka, M.; Hirano, K.; Satoh, T.; Miura, M.* *J. Org. Chem.* **2010**, *75*, 5421-5424.
- (12) Transition-Metal-Catalyzed Regioselective Arylation and Vinylation of Carboxylic Acids
Satoh, T.*; Miura, M.* *Synthesis* **2010**, *20*, 3395-3409.
- (13) Rhodium-catalyzed Oxidative Coupling/Cyclization of Benzamides with Alkynes via C-H Bond Cleavage
Mochida, S.; Umeda, N.; Hirano, K.; Satoh, T.*; Miura, M.* *Chem. Lett.* **2010**, *39*, 744-746.

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) 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, 第 72 回ファインケミカルズ研究会例会, 大阪国際交流センター, 大阪, 2011.3.3 (招待講演).
- (2) Transition metal-catalyzed oxidative coupling of aromatic substrates with alkynes and alkenes via C-H and/or C-C bond cleavage
Satoh, T.; Hirano, K.; Miura, M. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-12.20 (口頭発表).
- (3) Nickel-catalyzed direct C-H alkynylation of azoles
Matsuyama, N.; Hirano, K.; Satoh, T.; Miura, M. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-12.20 (ポスター発表).
- (4) Palladium-catalyzed decarboxylative coupling of biomass-derived cinnamic acids
Satoh, T.; Yamashita, M.; Hirano, K.; Miura, M. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-12.20 (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の新展開
三浦雅博, 第 38 回オルガノメタリックセミナー (触媒学会), 大阪大学 (吹田キャンパス), 2010.11.22 (招待講演).

- (6) 炭素-水素結合切断を経る触媒的芳香族カップリング
三浦雅博, 平成 22 年度後期有機合成化学講習会 (有機合成化学協会), 日本薬学会会長井記念館, 東京, 2010.11.17 (招待講演).
- (7) Nickel-Catalyzed Direct Alkynylation of Azoles
Matsuyama, N.; Hirano, K.; Satoh, T.; Miura, M. International Symposium on Environmentally Benign Synthesis, Osaka University Nakanoshima Center, Osaka, Japan, 2010.10.22-23 (ポスター発表).
- (8) Copper- or Nickel-Catalyzed Direct Functionalization of Azole Compounds
Miura, M. China-Japan Symposium on Catalytic Organic Synthesis, Nankai University, Tianjin, China, 2010.9.24-26 (招待講演).
- (9) New Development of Aromatic Coupling by Transition Metal Catalysis
Miura, M. Japan-Turkey Organometallic Catalysis Mini-Symposium, Izmir Institute of Technology, Turkey, 2010.9.13 (招待講演).
- (10) Copper- or Nickel-Catalyzed Direct Coupling of Heteroarenes
Miura, M. 3rd Aachen-Osaka Joint Symposium: Biological and Chemical Approaches to Selective Processes, RWTH Aachen University, Germany, 2010.9.6-7 (口頭発表).
- (11) 触媒的連続置換反応による多置換縮合芳香族化合物の集積合成
三浦雅博, 文部科学省新学術領域研究「反応集積化の合成化学」, 京都大学 (桂キャンパス), 2010.7.18-19 (口頭発表),
- (12) Synthesis of Fused Aromatic Compounds via Transition-Metal-Catalyzed Oxidative Coupling
Satoh, T.; Miura, M. 12th Belgian Organic Synthesis Symposium (BOSS XII), Namur, Belgium, 2010.7.11-16 (ポスター発表).

3. 特許

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4. 学会・シンポジウム等の開催状況

- (1) 石油学会神戸大会 (第 40 回石油・石油化学討論会), 神戸, 2010.11.25-26 (三浦雅博, 実行委員).
- (2) 第 6 回集積有機合成国際シンポジウム (ISIS-6), 神戸, 2010.10.23-24 (三浦雅博, 組織委員).

5. 受賞等

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6. 新聞報道等

(1) 「クロスカップリング」進化

三浦雅博他, 日本経済新聞, 科学技術面, 2011.2.7

(2) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2011**, 2, 230.)

Palladium Nanoparticles in Ionic Liquid by Sputter Deposition as Catalysts for Suzuki-Miyaura Coupling in Water. Oda, Y.; Hirano, K.; Yoshii, K.; Kuwabata, S.; Torimoto, T.; Miura, M. *Chem. Lett.* **2010**, 39, 1069-1071.

(3) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2010**, 8, 930.)

Selected by the Editor of Synform (*Synform* **2010**, 8, A68.)

A New Entry of Amination Reagents for Heteroaromatic C-H Bonds: Copper-Catalyzed Direct Amination of Azoles with Chloroamines at Room Temperature. Kawano, T.; Hirano, K.; Satoh, T.; Miura, M. *J. Am. Chem. Soc.* **2010**, 132, 6900-6901.

(4) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2010**, 7, 771)

Rhodium-Catalyzed Oxidative Coupling/Cyclization of 2-Phenylindoles with Alkynes via C-H and N-H Bond Cleavages with Air as the Oxidant. Morimoto, K.; Hirano, K.; Satoh, T.; Miura, M. *Org. Lett.* **2010**, 12, 2068-2071.

(5) **Selected by the Editorial Bord of Synfacts** (*Synfacts* **2010**, 4, 466)

Synthesis of α,ω -Diarylbutadienes and -Hexatrienes via Decarboxylative Coupling of Cinnamic Acids with Vinyl Bromides under Palladium Catalysis. Yamashita, M.; Hirano, K.; Satoh, T.; Miura, M. *Org. Lett.* **2010**, 12, 592-595.

7. 領域内の共同研究の準備・実施状況とその成果

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8. その他特記事項

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