

平成22年度 研究業績

依光英樹 (京都大学大学院理学研究科、A03班 公募班員)

1. 発表論文等 (査読付き論文, 著書, 総説等の発表状況)

- (1) Allyl-, Allenyl-, and Propargyl-Transfer Reactions through Cleavage of C–C Bonds Catalyzed by an N-Heterocyclic Carbene/Copper Complex: Synthesis of Multisubstituted Pyrroles
Sai, M.; Yorimitsu, H.;* Oshima, K.* *Angew. Chem. Int. Ed.* in press.
- (2) Palladium(II)-Triggered Rearrangement of Heptaphyrins to N-Confused Porphyrins
Yoneda, T.; Saito, S.; Yorimitsu, H.; Osuka, A.* *Angew. Chem. Int. Ed.* in press.
- (3) Cobalt-Catalyzed Addition of Styrylboronic Acids to 2-Vinylpyridine Derivatives
Kobayashi, T.; Yorimitsu, H.;* Oshima, K.* *Chem. Asian J.* **2011**, *6*, 669–673.
- (4) Intermolecular Reductive Radical Addition to 2-(2,2,2-Trifluoroethylidene)-1,3-dithiane 1-Oxide: Experimental and Theoretical Studies
Nakayama, R.; Matsubara, H.; Fujino, D.; Kobatake, T.; Yoshida, S.; Yorimitsu, H.;* Oshima, K.* *Org. Lett.* **2010**, *12*, 5748–5751.
- (5) Palladium-Catalyzed Addition of Silyl-Substituted Chloroalkynes to Terminal Alkynes
Wada, T.; Iwasaki, M.; Kondoh, A.; Yorimitsu, H.;* Oshima, K.* *Chem. Eur. J.* **2010**, *16*, 10671–10674.
- (6) Synthesis of 3-Trifluoromethylbenzo[*b*]furans from Phenols via Direct *Ortho* Functionalization by Extended Pummerer Reaction
Kobatake, T.; Fujino, D.; Yoshida, S.; Yorimitsu, H.;* Oshima, K.* *J. Am. Chem. Soc.* **2010**, *132*, 11838–11840.
- (7) Palladium-Catalyzed Intramolecular Carboacetoxylation of 4-Pentenyl-Substituted Malonate Esters with Iodobenzene Diacetate
Fujino, D.; Yorimitsu, H.;* Oshima, K.* *Chem. Asian J.* **2010**, *5*, 1758–1760.
- (8) Silver-Catalyzed Coupling Reactions of Alkyl Halides with Indenyllithiums
Someya, H.; Yorimitsu, H.;* Oshima, K.* *Tetrahedron* **2010**, *66*, 5993–5999.
- (9) Cobalt-Catalyzed Benzylzincation of Alkynes
Murakami, K.; Yorimitsu, H.;* Oshima, K.* *Chem. Eur. J.* **2010**, *16*, 7688–7691.
- (10) Rhodium-Catalyzed Arylzincation of Terminal Allenes Providing Allylzinc Reagents and Its Application to Versatile Three-component Coupling Reaction
Yoshida, Y.; Murakami, K.; Yorimitsu, H.;* Oshima, K.* *J. Am. Chem. Soc.* **2010**, *132*, 8878–8879.

- (11) Palladium-Catalyzed Allylation of Aryl Halides with Homoallyl Alcohols Bearing a Trisubstituted Double Bond: Application to Chirality Transfer from Hydroxylated Carbon to Benzylic One
Wakabayashi, R.; Fujino, D.; Hayashi, S.; Yorimitsu, H.;* Oshima, K.* *J. Org. Chem.* **2010**, *75*, 4337–4343.
- (12) Silver-Catalyzed Benzoylation and Allylation of Tertiary Alkyl Bromides with Organozinc Reagents
Mitamura, Y.; Asada, Y.; Murakami, K.; Someya, H.; Yorimitsu, H.;* Oshima, K.* *Chem. Asian J.* **2010**, *5*, 1487–1493.
- (13) Arylation of Styrenes with Aryliron Complexes [CpFe(CO)₂Ar]
Yasuda, S.; Yorimitsu, H.;* Oshima, K.* *Organometallics* **2010**, *29*, 2634–2636.
- (14) Nickel-Catalyzed Arylative Ring-Opening of 3-Methylenecycloalkane-1,1-dicarboxylates
Sumida, Y.; Yorimitsu, H.;* Oshima, K.* *Org. Lett.* **2010**, *12*, 2254–2257.
- (15) Aryl Grignard Reagents
Yorimitsu, H. In *Science of Synthesis*; Ishihara, K., Ed.; Knowledge Updates 2010/3; Georg Thieme Verlag: Stuttgart, 2011; Volume 7, Chapter 7.6.5.6, pp 1-9.
Alkyl Grignard Reagents
Yorimitsu, H. In *Science of Synthesis*; Ishihara, K., Ed.; Knowledge Updates 2010/3; Georg Thieme Verlag: Stuttgart, 2011; Volume 7, Chapter 7.6.10.9, pp 11-19.

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) Unsaturated Alcohols as Surrogates of Organometallic Reagents in Palladium-Catalyzed C-C Bond Formation
Yorimitsu, H. The Fifth Mitsui Chemicals International Symposium on Catalysis Science (MICS 2011), Kisarazu, Japan, 2011.3.9-10（三井化学触媒科学奨励賞受賞講演）.
- (2) Unsaturated Alcohols as Surrogates of Organometallic Reagents in Palladium-Catalyzed C-C Bond Formation
Yorimitsu, H. 2011 KAIST-Kyoto University Chemistry Symposium, Kyoto, Japan, 2011.2.17-18（招待講演）.
- (3) Catalytic Allylation of Alkyl Halides with Allylic Metals Creating Quaternary Carbons
Yorimitsu, H.; Oshima, K. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20（招待講演）.

- (4) Pd-Catalyzed Selective Reactions Utilizing Tertiary Unsaturated Alcohols
Yorimitsu, H. 1st International Collaborative and Cooperative Chemistry Symposium, Singapore, 2010.11.15-16 (招待講演).
- (5) Carbometalation of C–C Multiple Bonds under Cobalt, Chromium, or Rhodium Catalysis
Yorimitsu, H. 9th International Symposium on Carbanion Chemistry (ISCC-9), Florence, Italy, 2010.7.20-24 (基調講演).
- (6) Synthesis of Organophosphorus and Organosulfur Compounds via Radical Processes
Yorimitsu, H. EUCHEM Conference on Organic Free Radicals, Bologna, Italy, 2010.6.28-7.2 (招待講演).
- (7) Palladium-Catalyzed Allylation of Aryl Halides with Homoallyl Alcohols Bearing a Trisubstituted Double Bond: Application to Chirality Transfer from Hydroxylated Carbon to Benzylic One
Wakabayashi, R.; Fujino, D.; Hayashi, S.; Yorimitsu, H.; Oshima, K. The 6th International Symposium on Integrated Synthesis (ISIS-6), Maiko Villa Kobe, Kobe, Japan, 2010.10.23-24 (ポスター発表).
- (8) Rhodium-Catalyzed Arylzincation of Terminal Allenes Providing Allylzinc Reagents and Its Application to Versatile Three-Component Coupling Reaction
Yoshida, Y.; Murakami, K.; Yorimitsu, H.; Oshima, K. The 6th International Symposium on Integrated Synthesis (ISIS-6), Maiko Villa Kobe, Kobe, Japan, 2010.10.23-24 (ポスター発表).
- (9) Palladium-Catalyzed Addition of Silyl-Substituted Chloroalkynes to Terminal Alkynes
Wada, T.; Iwasaki, M.; Kondoh, A.; Yorimitsu, H.; Oshima, K. The 6th International Symposium on Integrated Synthesis (ISIS-6), Maiko Villa Kobe, Kobe, Japan, 2010.10.23-24 (ポスター発表).
- (10) Silver-Catalyzed Benzylolation and Allylation of Tertiary Alkyl Bromides with Organozinc Reagents
Mitamura, Y.; Asada, Y.; Murakami, K.; Someya, H.; Yorimitsu, H.; Oshima, K. 9th International Symposium on Carbanion Chemistry (ISCC-9), Florence, Italy, 2010.7.20-24 (ポスター発表).
- (11) Palladium-Catalyzed Intramolecular Carboacetoxylation of 4-Pentenyl-Substituted Malonate Esters
Fujino, D.; Yorimitsu, H.; Oshima, K. 9th International Symposium on Carbanion Chemistry (ISCC-9), Florence, Italy, 2010.7.20-24 (ポスター発表).

- (12) Synthesis of Arenes Bearing a Multisubstituted Allyl Group from Aryl Halides and Homoallyl Alcohols via Palladium-Catalyzed Retro-Allylation
Iwasaki, M.; Yorimitsu, H.; Oshima, K. 9th International Symposium on Carbanion Chemistry (ISCC-9), Florence, Italy, 2010.7.20-24 (ポスター発表).
- (13) BF₃-Mediated Reaction of (1-Alkynyl)dicarbonylcyclopentadienylirons with Imines: Exploring New Possibility of Organoiron Complexes in Organic Synthesis
Nakaya, R.; Yasuda, S.; Yorimitsu, H.; Oshima, K. 9th International Symposium on Carbanion Chemistry (ISCC-9), Florence, Italy, 2010.7.20-24 (ポスター発表).

3. 特許

該当無し

4. 学会・シンポジウム等の開催状況

該当無し

5. 受賞等

- (1) 依光英樹 (A03 班, 公募班員)
三井化学触媒科学奨励賞, 三井化学, 2011.3.9

6. 新聞報道等

- (1) Most-published principal authors in Chemistry—An Asian Journal since the first issue in 2006.
Hideki Yorimitsu, *Chem. Asian J.* **2011**, 6, 4–7, 2010.12.22
- (2) **Highlighted as a Hot Paper in Angew. Chem. Int. Ed.**
Allyl-, Allenyl-, and Propargyl-Transfer Reactions through Cleavage of C–C Bonds Catalyzed by an N-Heterocyclic Carbene/Copper Complex: Synthesis of Multisubstituted Pyrroles. Sai, M.; Yorimitsu, H.; Oshima, K. *Angew. Chem. Int. Ed.* **2011**, 50, in press.
- (3) **Selected by the Editorial Board of Synfacts** (*Synfacts* **2010**, 1225.)
Synthesis of 3-Trifluoromethylbenzo[*b*]furans from Phenols via Direct *Ortho* Functionalization by Extended Pummerer Reaction. Kobatake, T.; Fujino, D.; Yoshida, S.; Yorimitsu, H.; Oshima, K. *J. Am. Chem. Soc.* **2010**, 132, 11838–11840.

- (4) **Selected as Highlight in Org. Proc. Res. Dev.** (*Org. Proc. Res. Dev.* **2011**, *15*, 2–9.)
Synthesis of 3-Trifluoromethylbenzo[*b*]furans from Phenols via Direct *Ortho* Functionalization by Extended Pummerer Reaction. Kobatake, T.; Fujino, D.; Yoshida, S.; Yorimitsu, H.; Oshima, K. *J. Am. Chem. Soc.* **2010**, *132*, 11838–11840.
- (5) **Selected by the Editorial Board of Synfacts** (*Synfacts* **2010**, 1037.)
Cobalt-Catalyzed Benzylzincation of Alkynes. Murakami, K.; Yorimitsu, H.; Oshima, K. *Chem. Eur. J.* **2010**, *16*, 7688–7691.
- (6) **Highlighted as Synfact of the Month by the Editorial Board of Synfacts** (*Synfacts* **2010**, 1171.)
Rhodium-Catalyzed Arylzincation of Terminal Allenes Providing Allylzinc Reagents and Its Application to Versatile Three-component Coupling Reaction. Yoshida, Y.; Murakami, K.; Yorimitsu, H.; Oshima, K. *J. Am. Chem. Soc.* **2010**, *132*, 8878–8879.
- (7) **Highlighted as a Featured Article by the Associate Editor of J. Org. Chem.**
Palladium-Catalyzed Allylation of Aryl Halides with Homoallyl Alcohols Bearing a Trisubstituted Double Bond: Application to Chirality Transfer from Hydroxylated Carbon to Benzylic One. Wakabayashi, R.; Fujino, D.; Hayashi, S.; Yorimitsu, H.; Oshima, K. *J. Org. Chem.* **2010**, *75*, 4337–4343.
- (8) **Selected as Highlight in Org. Proc. Res. Dev.** (*Org. Proc. Res. Dev.* **2010**, *14*, 1276–1286.)
Palladium-Catalyzed Allylation of Aryl Halides with Homoallyl Alcohols Bearing a Trisubstituted Double Bond: Application to Chirality Transfer from Hydroxylated Carbon to Benzylic One. Wakabayashi, R.; Fujino, D.; Hayashi, S.; Yorimitsu, H.; Oshima, K. *J. Org. Chem.* **2010**, *75*, 4337–4343.
- (9) **Selected by the Editorial Board of Synfacts** (*Synfacts* **2010**, 927.)
Nickel-Catalyzed Arylative Ring-Opening of 3-Methylenecycloalkane-1,1-dicarboxylates. Sumida, Y.; Yorimitsu, H.; Oshima, K. *Org. Lett.* **2010**, *12*, 2254–2257.

7. 領域内の共同研究の準備・実施状況とその成果

該当無し

8. その他特記事項

該当無し