

平成24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) *In Vitro* Study of Photocurable Embolization Agent for Cerebral Aneurysms
Ishikawa, A.; Nakayama, Y.*; Kambe, N. *J. Biotechnol. Biomateri.* **2012**, *2*, 1000128.
- (2) Copper-Catalyzed Coupling Reaction of Unactivated Secondary Alkyl Iodides with Alkyl Grignard Reagents in the Presence of 1,3-Butadiene as an Effective Additive
Shen, R.; Iwasaki, T.; Terao, J.; Kambe, N.* *Chem. Commun.* **2012**, *48*, 9313-9315.
- (3) A Computational Study of Lithium Cuprate Mixed Aggregates
Khiem, C. N. D.; Thach, L. N.*; Iwasaki, T.; Kambe, N.*; Boguslavskiy, A. A.; Pratt, L. M.* *J. Phys. Chem. A.* **2012**, *116*, 9027-2032.
- (4) Palladium-Catalyzed Vinylselenation of Allenes
Fujiwara, S.-i.; Okuyama, M.; Tsuda, S.; Iwasaki, T.; Kuniyasu, H.; Kambe, N.* *Tetrahedron* **2012**, *68*, 10523-10529.
- (5) The Nickel-Catalyzed Coupling of Thiomethyl-Substituted 1,3-Benzothiazoles with Secondary Alkyl Grignard Reagents
Ghaderi, A.; Iwasaki, T.; Fukuoka, A.; Terao, J.; Kambe, N.* *Chem. Eur. J.* **2013**, *19*, 2951-2955.
- (6) Ni-Butadiene Catalytic System for the Cross-Coupling of Bromoalkanoic Acids with Alkyl Grignard Reagents: A Practical and Versatile Method for Preparing Fatty Acids
Iwasaki, T.; Higashikawa, K.; Reddy, V. P.; Ho, W. W. S.; Fujimoto, Y.; Fukase, K.; Terao, J.; Kuniyasu, H.; Kambe, N.* *Chem. Eur. J.* **2013**, *19*, 2956-2960.
- (7) Synthesis of Imidazo and Benzimidazo[2,1-*a*]-Isoquinolines by Rhodium-Catalyzed Intramolecular Double C-H Bond Activation
Reddy, V. P.; Iwasaki, T.; Kambe, N.* *Org. Biomol. Chem.* **2013**, *11*, 2249-2253.
- (8) Rhodium-Catalyzed Intermolecular Oxidative Cross-Coupling of (Hetero)Arenes with Chalcogenophenes
Reddy, V. P.; Qiu, R.; Iwasaki, T.; Kambe, N.* *Org. Lett.* **2013**, *15*, 1290-1293.
- (9) σ -Bond Metathesis between M-X and RC(O)X' (M = Pd and Pt; X, X' = Cl, Br, and I): Facile Determination of the Relative ΔG s of the Oxidative Additions of RC(O)X to M(0) Complex. Evidence by Density Functional Theory Calculation, and Synthetic Application
Kuniyasu, H.*; Sanagawa, A.; Nakane, D.; Iwasaki, T.; Kambe, N.*; Bobuatong, K.; Lu, Y.; Ehara, M.* *Organometallics* **2013**, *32*, 2026-2032.

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) Transition Metal Catalyzed Alkylation Reactions

Kambe, N. Cambodian Malaysian Chemical Conference (CMCC), Kuala Lumpur, Malaysian, 2012.10.15. (招待講演).

(2) Transition Metal Catalyzed Alkylation Reactions

Kambe, N. Cambodian Malaysian Chemical Conference (CMCC), Siem Reap, Cambodia, 2012.10.20. (招待講演).

(3) Cu-Catalyzed Cross-Coupling Reaction at Secondary Carbon Centers Using Haloalkanes

Iwasaki, T.; Shimizu, R.; Shen, R.; Terao, J.; Kuniyasu, H.; Kambe, N. The 10th International Conference on Heteroatom Chemistry (ICHAC-10), Kyoto, Japan, 2012.5. 20-25. (ポスター発表).

(4) Facile Ligand Exchange Reaction as a Convenient Tool for Measurement of $\Delta\Delta G$ of the Oxidative Addition of Benzoyl Halides to Palladium(0) Complex

Sanagawa, A.; Kuniyasu, H.; Iwasaki, T.; Bobuatong, K.; Ehara, M.; Kambe, N. The 10th International Conference on Heteroatom Chemistry (ICHAC-10), Kyoto, Japan, 2012.5. 20-25. (ポスター発表).

(5) Palladium-Catalyzed Decarbonylative Rearrangement and Cycloaddition of *N*-Allenylcarbamochoalcogenates

Shiro, D.; Nagai, H.; Fujiwara, S.-i.; Tsuda, S.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The 10th International Conference on Heteroatom Chemistry (ICHAC-10), Kyoto, Japan, 2012.5. 20-25. (ポスター発表).

(6) Cross-Coupling of Bromocarboxylic Acids with Alkyl Grignard Reagents by

Ni/1,3-Butadiene Catalyst: a Practical and Versatile Synthetic Route for Fatty Acids

Iwasaki, T.; Higashikawa, K.; Vutukuri, P. R.; Ho, W. W. S.; Fujimoto, Y.; Fukase, K.; Terao, J.; Kuniyasu, H.; Kambe, N. The Twelfth International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-12), Kyoto, Japan, 2012.11.12-16. (ポスター発表).

(7) Halogen Exchange Reactions between M-X and RC(O)X' (M = Pt and Pd) (X, X' = Cl, Br and I): Determination of Relative ΔG s of the Oxidative Addition of RC(O)X to M(0) Complexes, Evidence of σ -bond Metathesis by DFT Calculation, and Synthetic Application

Sanagawa, A.; Nakane, D.; Kuniyasu, H.; Iwasaki, T.; Bobuatong, K.; Lu, Y.; Ehara, M.; Kambe, N. The Twelfth International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-12), Kyoto, Japan, 2012.11.12-16. (ポスター発表).

- (8) Palladium-Catalyzed Decarbonylative Rearrangement and Cycloaddition of Carbamoselenoates
Shiro, D.; Nagai, H.; Fujiwara, S.-i.; Tsuda, S.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The Twelfth International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-12), Kyoto, Japan, 2012.11.12-16. (ポスター発表).
- (9) Cobalt-Catalyzed Cross-Coupling Reaction of Alkyl Halides with Tertiary Alkyl Grignard Reagents in the Presence of Conjugated Diene as an Additive
Takagawa, H.; Singh, S. P.; Iwasaki, T.; Terao, J.; Kuniyasu, H.; Kambe, N. The Twelfth International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-12), Kyoto, Japan, 2012.11.12-16. (ポスター発表).
- (10) Highly Effective Copper-Catalyzed Cross-Coupling Reaction of Alkyl Halides with Alkyl Grignard Reagents
Imanishi, R.; Shimizu, R.; Iwasaki, T.; Terao, J.; Kuniyasu, H.; Kambe, N. The Twelfth International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-12), Kyoto, Japan, 2012.11.12-16. (ポスター発表).
- (11) Asymmetric Arylation of Aldehydes Catalyzed by NHC-Rhodium Complexes bearing a Cyclodextrin
Asahi, K.; Tsuda, S.; Iwasaki, T.; Fujiwara, S.-i.; Kuniyasu, H.; Kambe, N. Biological and Chemical Methods for Selective Catalysis (SeleCa), Aachen, Germany, 2012.12.3-4. (口頭発表).
- (12) Catalytic Alkylation of 1,3-Conjugated Dienes using Alkyl Fluorides and Grignard Reagents
Iwasaki, T.; Shimizu, R.; Imanishi, R.; Kambe, N. Biological and Chemical Methods for Selective Catalysis (SeleCa), Aachen, Germany, 2012.12.3-4. (口頭発表).
- (13) Palladium-Catalyzed Decarbonylative Rearrangement and Cycloaddition of Carbamoselenoates
Shiro, D.; Nagai, H.; Fujiwara, S.-i.; Tsuda, S.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. Biological and Chemical Methods for Selective Catalysis (SeleCa), Aachen, Germany, 2012.12.3-4. (口頭発表).
- (14) Novel Utility of the Halogen-Exchange Reactions Between M-X and RC(O)X' (M = Pt and Pd)(X, X' = Cl, Br, and I)
Sanagawa, A.; Kuniyasu, H.; Nakane, D.; Iwasaki, T.; Bobuatong, K.; Lu, Y.; Ehara, M.; Kambe, N. Biotechnology and Chemistry for Green Growth, Osaka, Japan, 2013.3.11-13. (口頭発表).

3. 特許

4. 学会・シンポジウム等の開催状況

5. 受賞等

(1) 朝日薫 (修士2年)

ポスター賞 第59回有機金属化学討論会、2012.10.16

6. 新聞報道等

7. 国民との科学・技術対話

(1) 日本学術振興会サイエンス・ダイアログプログラム、武庫川女子大学附属高等学校・中学校、高校1年～3年生 116名 (全員女性)、2012.9.15

(2) グリニャール試薬の調製体験、白陵高等学校化学部、9名 (高校1年生、男6、女3)、2012.5.19

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：大阪大学，深瀬研究室（A02班，計画班員）

派遣人員（受入）：梅垣大地（修士2年）

派遣期間（受入）：2010.7.29

共同研究内容：クロスカップリング反応を利用した長鎖脂肪酸類の簡便合成

共同研究成果：*Chem. Eur. J.* **2013**, *19*, 2956-2960

日本化学会第93春季年会

「1,3-ブタジエン存在下、ニッケル触媒を用いるブロモカルボン酸類およびベンゾチアゾール類のアルキル化反応」

岩崎孝紀・Ghaderi, Arash・福岡明日香・東川清一・Reddy, Vutukuri Prakash・Ho, Willbe W. S.・藤本ゆかり・深瀬浩一・寺尾潤・国安均・神戸宣明

平成25年3月22日～25日、滋賀（立命館大学びわこ・くさつキャンパス）

口頭B講演（3月22日），1F4-30

「*Entamoeba histolytica*由来NKT細胞刺激作用を有するイノシトールリン脂質の合成」

相羽俊彦・佐藤昌紀・梅垣大地・岩崎孝紀・神戸宣明・藤本ゆかり・深瀬浩一

平成25年3月22日～25日、滋賀（立命館大学びわこ・くさつキャンパス）

口頭A講演（3月23日），2D2-32