

研究期間全年度 研究業績

神戸宣明 (大阪大学大学院工学研究科、A01 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) Palladium-Catalyzed Hydrophenoxy carbonylation of Internal Alkynes by Phenol and CO: the Use of Zn for the Formation of Active Catalyst  
Kuniyasu, H.\*; Yoshizawa, T.; Kambe, N.\* *Tetrahedron Lett.* **2010**, *51*, 6818-6821.  
(10.1016/j.tetlet.2010.10.017)
- (2) Pd-Catalyzed Regioselective Iminothiolation of Alkynes: A Remarkable Effect of the CF<sub>3</sub> Group of Iminosulfides  
Minami, Y.; Kuniyasu, H.\*; Sanagawa, A.; Kambe, N.\* *Org. Lett.* **2010**, *12*, 3744-3747.  
(10.1021/ol101289k)
- (3) Regioselectivity of Selenium-Mediated Carbonylation of Organolithium Compounds with Carbon Monoxide  
Fujiwara, S.-i.; Nishiyama, A.; Okada, K.; Maeda, H.; Shin-ike, T.; Sonoda, N.; Kambe, N.\* *Phosphorus, Sulfur and Silicon and the Related Elements* **2010**, *185*, 1117-1123.  
(10.1080-10426501003773456)
- (4) Transition-Metal-Catalyzed Cleavage of Carbon-Selenium Bond and Addition to Alkynes and Allenes  
Fujiwara, S.-i.; Toyofuku, M.; Kuniyasu, H.; Kambe, N.\* *Pure Appl. Chem.* **2010**, *82*, 565-575. (10.1351-PAC-CON-09-11-13)
- (5) Cross-coupling of Grignard reagents with Alkyl Halides or Tosylates by the Use of Nickel or Palladium Containing Perovskite  
Singh, S. P.; Iwasaki, T.; Terao, J.; Kambe, N.\* *Tetrahedron Lett.* **2011**, *52*, 774-776.  
(10.1016/j.tetlet.2010.12.011)
- (6) Synthesis of a Head-to-Tail-Type Cyclodextrin-Based Insulated Molecular Wire.  
Terao, J.\*; Ikai, K.; Kambe, N.; Seki, S.\*; Saeki, A.; Ohkoshi, K.; Fujihara, T.; Tsuji, Y. *Chem. Commun.* **2011**, *47*, 6816-6818. (10.1039/C1CC12231B)
- (7) Kinetic Studies of the Ni-Catalyzed Cross-Coupling of Alkyl Halides and a Tosylate with Butyl Grignard Reagent in the Presence of 1,3-Butadiene  
Iwasaki, T.; Tsumura, A.; Omori, T.; Kuniyasu, H.; Terao, J.; Kambe, N.\* *Chem. Lett.* **2011**, *40*, 1024-1026. (10.1246/cl.2011.1024)
- (8) Silver-Catalyzed Regioselective Carbomagnesiation of Alkynes with Alkyl Halides and Grignard Reagents  
Kambe, N.\*; Moriwaki, T.; Fujii, Y.; Iwasaki, T.; Terao, J. *Org. Lett.* **2011**, *13*, 4656-4659.

- (10.1021/ol2018664)
- (9) Pd-Catalyzed Cross-Coupling Reactions of Alkyl Halides  
Kambe, N.\*; Iwasaki, T.; Terao, J. *Chem. Soc. Rev.* **2011**, *40*, 4937-4947.  
(10.1039/C1CS15129K)
- (10) Free Radical Addition of  $\alpha$ -Telluroesters to Alkenes  
Kambe, N.\*; Han, L.-B.; Fujiwara, S.-i.; Sonoda, N. *Heteroatom Chem.* **2011**, *22*, 518-522. (10.1002/hc.20716)
- (11) Nickel-Catalyzed Alkyl Coupling Reactions: Evaluation of Computational Methods  
Pratt, L. M.\*; Voit, S.; Okeke, F. N.; Kambe, N.\* *J. Phys. Chem. A* **2011**, *115*, 2281-2290.  
(10.1021/jp1077196)
- (12) The First Example of Palladium-Catalyzed Intermolecular Allylaryloxylation of an Internal Alkyne by Allyl Aryl Ethers  
Kuniyasu, H.\*; Takekawa, K.; Sanagawa, A.; Wakasa, T.; Iwasaki, T.; Kambe, N.\* *Tetrahedron Lett.* **2011**, *52*, 5501-5503. (10.1016/j.tetlet.2011.08.065)
- (13) Transition Metal Catalyzed Alkylation at  $sp^3$ -,  $sp^2$ -, and  $sp$ -Carbons.  
Kambe, N.\*; Terao, J.; Iwasaki, T. *Yuki Gosei Kagaku Kyokaiishi*, **2011**, *69*, 1271-1281.  
(10.5059/yukigoseikyokaiishi.69.1271)
- (14) *In Vitro* Study of Photocurable Embolization Agent for Cerebral Aneurysms  
Ishikawa, A.; Nakayama, Y.\*; Kambe, N. *J. Biotechnol. Biomateri.* **2012**, *2*, 1000128.
- (15) 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.  
(10.1039/C2CC34847K)
- (16) 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. (10.1021/jp3034424)
- (17) Palladium-Catalyzed Vinylselenation of Allenes  
Fujiwara, S.-i.; Okuyama, M.; Tsuda, S.; Iwasaki, T.; Kuniyasu, H.; Kambe, N.\* *Tetrahedron* **2012**, *68*, 10523-10529. (10.1016/j.tet.2012.10.003)
- (18) 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. (10.1002/chem.201203413)
- (19) 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. (10.1002/chem.201204222)
- (20) 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. (10.1039/c3ob27396b)
- (21) 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. (10.1021/ol400230y)
- (22)  $\sigma$ -Bond Metathesis between M-X and RC(O)X' (M = Pd and Pt; X, X' = Cl, Br, and I): Facile Determination of the Relative  $\Delta G$ 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. (10.1021/om400157a)
- (23) Facile Halogen Exchange Method between Au(Cl)(L) and MeC(O)X (L = PPh<sub>3</sub> and IPr; X = Br and I) via  $\sigma$ -Bond Metathesis Supported by DFT Calculation  
Sanagawa, A.; Kuniyasu, H.\*; Iwasaki, T.; Kambe, N.\*; Bobuatong, K.; Ehara, M.\* *Chem. Lett.* **2013**, *42*, 831-832. (10.1246/cl.130335)
- (24) Co-Catalyzed Cross-Coupling of Alkyl Halides with Tertiary Alkyl Grignard Reagents Using a 1,3-Butadiene Additive  
Iwasaki, T.; Takagawa, H.; Singh, S. P.; Kuniyasu, H.; Kambe, N.\* *J. Am. Chem. Soc.* **2013**, *135*, 9604-9607. (10.1021/ja404285b)

査読無し of 著作

- (1) Synthesis of Highly Insulated Molecular Wires by Polymerization of Organic-Soluble Symmetrical Linked Inclusion Complex Monomers  
Terao, J.; Tsuda, S.; Tsurui, K.; Kambe, N. *Macromolecular Symposia* **2010**, *297* (Polymers and Organic Chemistry), 54-60.
- (2) Preparation and Characteristic Control of Conducting Polymer/Metal Oxide Nano-Hybrid Films for Solar Energy Conversion  
Tachibana, Y.; Makuta, S.; Otsuka, Y.; Terao, J.; Tsuda, S.; Kambe, N.; Kuwabata, S. *Ceramic Engineering and Science Proceedings* **2010**, Volume Date 2009, 30(7, Nanostructured Materials and Nanotechnology III), 35-49.

- (3) レアメタル便覧  
神戸宣明、丸善、H23年1月
- (4) Coupling Reactions Between  $sp^3$  Carbon Centers  
Iwasaki, T.; Kambe, N.; In *Comprehensive Organic Synthesis, 2nd edition*; Molander G. A., Knochel, P., Eds.; Elsevier: Oxford, 2014; Vol 3, 3.07, pp 337-391.

## 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. The 6<sup>th</sup> Asian European Symposium on Metal Mediated Efficient Reactions, Singapore, 2010.6.7-9. (招待講演)
- (2) Transition Metal Catalyzed Alkylation Reactions  
Kambe, N. 2nd Joint Symposium between Strasbourg and Osaka, 2010, Strasbourg, France, 2010.6.30-7.3. (招待講演)
- (3) Rhodium-Catalyzed Cross-Coupling of Vinyl Ethers and Esters with Organometallic Reagents  
Iwasaki, T.; Miyata, Y.; Fujii, Y.; Kuniyasu, H.; Kambe, N. The 3<sup>rd</sup> EuCheMS Chemistry Congress, Nürnberg, Germany, 2010.8.29-9.2 (ポスター発表) .
- (4) Synthetic Reactions via Transition Metal Ate Complexes Intermediates  
Kambe, N. Aachen Symposium, Aachen, Germany, 2010.9.5-8. (招待講演)
- (5) Transition Metal Catalyzed Alkylation Reactions  
Kambe, N. Lectureship of National Science Council, National Taiwan University, Taipei, Taiwan, 2010.9.23-29. (招待講演)
- (6) Transition Metal Catalyzed Cross-Coupling Reaction of Alkyl Halides with Grignard Reagents  
Iwasaki, T.; Singh, S. P.; Shimizu, R.; Ho, W. W. S.; Kuniyasu, H.; Kambe, N. The Sixth International Symposium on Integrated Synthesis, Kobe, Japan, 2010.10.23-24. (ポスター発表)
- (7) Transition Metal Catalyzed Alkylation Reactions by the Use of Grignard Reagents  
Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (招待講演)
- (8) Alkyl Fluorides as Promising Alkylating Reagents  
Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (招待講演)

(9) Palladium-Catalyzed Vinylselenation of Allenes

Okuyama, M.; Tsuda, S.; Fujiwara, S.-i.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (ポスター発表)

(10) Evaluation of relative  $\Delta G$  of the oxidative addition of benzoyl halides to platinum(0) utilizing ligand exchange reaction

Nakane, D.; Kumamoto, K.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (ポスター発表)

(11) 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.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (ポスター発表)

(12)  $(sp^3)C-(sp^3)C$  Cross-Coupling Reaction Catalyzed by Transition Metals having Unsaturated Carbon Ligands

Shimizu, R.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (ポスター発表)

(13) Transition-Metal-Catalyzed Decarbonylative Isomerization of *N*-Allenylcarbamochoalcogenate to 3-Chalcogeno-1-azadienes

Shiro, D.; Nagai, H.; Tsuda, S.; Fujiwara, S.-i.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (ポスター発表)

(14) Rhodium-Catalyzed Cross-Coupling of Vinyl Ethers with Grignard Reagents

Miyata, Y.; Fujii, Y.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20. (ポスター発表)

(15) Addition of Heteroatom Compounds Across Carbon-Carbon Unsaturation Bonds Catalyzed by Transition Metals

Kambe, N. Aachen-Osaka Joint Symposium, Aachen, Germany, 2011.9.1-2. (招待講演)

(16) Transition Metal Catalyzed Alkylation Reactions Involving Radical Intermediates

Kambe, N. 5th Pacific Symposium on Radical Chemistry, Wakayama, Japan, 2011.9.25-28. (招待講演)

- (17) Palladium-Catalyzed Decarbonylative Rearrangement of *N*-Allenylcarbamochalcogenates  
Shiro, D.; Nagai, H.; Fujiwara, S.-i.; Tsuda, S.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The International Symposium on Organometallic Chemistry 2011 (ISOMC 2011), Osaka, Japan, 2011.11.11-12. (ポスター発表)
- (18) Synthesis of Imidazolium Salts Bearing a Cyclodextrin and Their Applications as NHC Ligands in Transition Metal Catalysis  
Asahi, K.; Tsuda, S.; Iwasaki, T.; Fujiwara, S.-i.; Kuniyasu, H.; Kambe, N. The International Symposium on Organometallic Chemistry 2011 (ISOMC 2011), Osaka, Japan, 2011.11.11-12. (ポスター発表)
- (19) Cobalt-Catalyzed Cross-Coupling Reaction of Alkyl Halides with Tertiary Alkyl Grignard Reagents  
Takagawa, H.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The International Symposium on Organometallic Chemistry 2011 (ISOMC 2011), Osaka, Japan, 2011.11.11-12. (ポスター発表)
- (20) 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 International Symposium on Organometallic Chemistry 2011 (ISOMC 2011), Osaka, Japan, 2011.11.11-12. (ポスター発表)
- (21) Transition Metal Catalyzed Alkylation Toward  $sp^3$ -,  $sp^2$ -, and  $sp$ -Carbons  
Kambe, N. International Symposium on Catalysis & Fine Chemicals 2011 (C&FC2011), Nara, Japan, 2011.12.4-8. (招待講演)
- (22) Copper-Catalyzed Coupling Reaction of Secondary Alkyl Iodides with Grignard Reagents  
Shen, R.; Iwasaki, T.; Kambe, N. International Symposium on Catalysis & Fine Chemicals 2011 (C&FC2011), Nara, Japan, 2011.12.4-8. (ポスター発表)
- (23) Cu-catalyzed Regioselective Reductive Alkylation of Conjugated Dienes Using Alkyl Fluorides  
Shimizu, R.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. International Symposium on Catalysis & Fine Chemicals 2011 (C&FC2011), Nara, Japan, 2011.12.4-8. (ポスター発表)
- (24) Transition Metal Catalyzed Alkylation Reactions  
Kambe, N. Hunan University, Changshai, P.R. China, 2012.10.8-12. (招待講演)

- (25) Transition Metal Catalyzed Alkylation Reactions  
Kambe, N. Cambodian Malaysian Chemical Conference (CMCC), Kuala Lumpur, Malaysian, 2012.10.15. (招待講演)
- (26) Transition Metal Catalyzed Alkylation Reactions  
Kambe, N. Cambodian Malaysian Chemical Conference (CMCC), Siem Reap, Cambodia, 2012.10.20. (招待講演)
- (27) 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)
- (28) 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)
- (29) 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)
- (30) 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)
- (31) Halogen Exchange Reactions between M-X and RC(O)X' (M = Pt and Pd) (X, X' = Cl, Br and I): Determination of Relative  $\Delta G$ s of the Oxidative Addition of RC(O)X to M(0) Complexes, Evidence of  $\sigma$ -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)
- (32) 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)

(33) 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)

(34) 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)

(35) 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)

(36) 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)

(37) 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)

(38) 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)

(39) Co-Catalyzed Cross-Coupling of Alkyl Halides with Alkyl Grignard Reagents

Iwasaki, T.; Takagawa, H.; Terao, J.; Kuniyasu, H.; Kambe, N. 5th Gratama Workshop, Tokyo, Japan, 2013.5.29-6.1. (ポスター発表)



- (40) Nickel-Catalyzed Four-Component Coupling Reaction of 1,3-Butadiene, Alkyl Fluorides and Aryl Grignard Reagents through Dimerization of 1,3-Butadiene  
Fukuoka, A.; Iwasaki, T.; Terao, J.; Kuniyasu, H.; Kambe, N. 5th Gratama Workshop, Tokyo, Japan, 2013.5.29-6.1. (ポスター発表)
- (41) Co-Catalyzed Cross-Coupling of Alkyl Halides with Tertiary Alkyl Grignard Reagents Using a 1,3-Butadiene Additive  
Iwasaki, T.; Takagawa, H.; Singh, S. P.; Kuniyasu, H.; Kambe, N. 20th International Symposium on Olefin Metathesis and Related Chemistry (ISOM-20), Nara, Japan, 2013.7.14-19. (ポスター発表)
- (42) Highly Effective Copper-Catalyzed  $sp^3(C)$ - $sp^3(C)$  Bond Forming Reaction  
Imanishi, R.; Shimizu, R.; Iwasaki, T.; Terao, J.; Kuniyasu, H.; Kambe, N. 20th International Symposium on Olefin Metathesis and Related Chemistry (ISOM-20), Nara, Japan, 2013.7.14-19. (ポスター発表)
- (43) Nickel-Catalyzed Four-Component Coupling Reaction of 1,3-Butadiene, Alkyl Fluorides and Aryl Grignard Reagents Through Dimerization of 1,3-Butadiene  
Fukuoka, A.; Iwasaki, T.; Terao, J.; Kuniyasu, H.; Kambe, N. 20th International Symposium on Olefin Metathesis and Related Chemistry (ISOM-20), Nara, Japan, 2013.7.14-19. (ポスター発表)
- (44) Co-Catalyzed Cross-Coupling of Alkyl Halides with Alkyl Grignard Reagents  
Iwasaki, T.; Takagawa, H.; Terao, J.; Kuniyasu, H.; Kambe, N. The Sixteenth International Symposium on Relations between Homogeneous and Heterogeneous Catalysis (ISHHC-16), Hokkaido, Japan, 2013.8.4-9. (ポスター発表)
- (45) Facile Halogen Exchange Reaction between  $Au(Cl)(L)$  and  $MeC(O)X$  ( $L = PPh_3$  and  $IPr$ ;  $X = Br$  and  $I$ ) via  $\sigma$ -Bond Metathesis Supported by DFT Calculation  
Sanagawa, A.; Kuniyasu, H.; Karan, B.; Yunpeng, L.; Ehara, M.; Kambe, N. The Sixteenth International Symposium on Relations between Homogeneous and Heterogeneous Catalysis (ISHHC-16), Hokkaido, Japan, 2013.8.4-9. (ポスター発表)
- (46) Cross-Coupling of Tertiary Alkyl Grignard Reagents with Alkyl Halides Catalyzed by Cobalt Using 1,3-Butadiene as an Additive  
Iwasaki, T.; Takagawa, H.; Singh, S. P.; Kuniyasu, H.; Kambe, N. 10th International Symposium on Carbanion Chemistry (ISCC-10), Kyoto, Japan, 2013.9.23-26. (口頭発表)
- (47) Nickel-Catalyzed Multicomponent Coupling Reaction through C-F Bond Cleavage  
Fukuoka, A.; Iwasaki, T.; Terao, J.; Kuniyasu, H.; Kambe, N. 10th International Symposium on Carbanion Chemistry (ISCC-10), Kyoto, Japan, 2013.9.23-26. (ポスター発表)

- (48) Generation of Carbonyllithiums and their Trapping by Electrophiles Using Microreactor  
Muguruma, T.; Yanagawa, T.; Kitaura, T.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. 10th International Symposium on Carbanion Chemistry (ISCC-10), Kyoto, Japan, 2013.9.23-26. (ポスター発表)
- (49) Enantioselective 1.4-Addition of Arylboronic Acids to Enones Catalyzed by Rh-NHC Complexes Bearing a Cyclodextrin  
Takahashi, R.; Tsuda, S.; Iwasaki, T.; Asahi, K.; Fujiwara, S.-i.; Kuniyasu, H.; Kambe, N. Novel Designed Surface and Catalysis for Greener Future: C&FC Pre-Symposium in Himeji, Hyogo, Japan, 2013.11.28-29. (ポスター発表)
- (50) Mechanistic Insight into the Rh-Catalyzed Cross-Coupling of Vinyl Ethers with Grignard Reagents  
Iwasaki, T.; Miyata, Y.; Komatsu, Y.; Kuniyasu, H.; Kambe, N. The Eighth International Symposium on Integrated Synthesis (ISIS-8), Nara, Japan, 2013.11.29-12.1. (ポスター発表)
- (51) Palladium-Catalyzed Addition of Carbamochalcogenates to Isocyanides  
Shiro, D.; Fujiwara, S.-i.; Tsuda, S.; Iwasaki, T.; Kuniyasu, H.; Kambe, N. The Eighth International Symposium on Integrated Synthesis (ISIS-8), Nara, Japan, 2013.11.29-12.1. (ポスター発表)

### 3. 特許

なし

### 4. 学会・シンポジウム等の開催状況

なし

### 5. 受賞等

(1) 岩崎孝紀 (助教)

有機合成化学協会研究企画賞 旭化成ファーマ研究企画賞、2012.2.17

(2) 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

なし

## 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反応の体験学習、白陵高等学校化学部、9名（高校1年生、男6、女3）、2012.5.19
- (3) 国際化学オリンピックに関する実験指導、白陵高等学校化学部、2名（高校2年生、男2）、2014.3.13

## 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，吉田研究室（A01班，計画班員）  
派遣人員（派遣）：神戸宣明（公募班員）、北裏剛士（修士2年）  
派遣期間（派遣）：2011.8.11-12  
共同研究内容：マイクロリアクターの利用技術の開発  
共同研究成果：論文作成中
- (2) 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