

研究期間全年度 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) Cobalt–Salen Complex-Catalyzed Oxidative Generation of Alkyl Radicals from Aldehydes for the Preparation of Hydroperoxides., Watanabe, E.; Kaiho, A.; Kusama, H.; Iwasawa, N.* *J. Am. Chem. Soc.*, **2013**, *135*, 11744-11747. (10.1021/ja406028c)
- (2) Construction of Cyclohepta[*b*]indoles via Platinum Catalyzed Intermolecular Formal [4+3]-Cycloaddition Reaction of α,β -Unsaturated Carbene Complex Intermediates with Siloxydienes, Kusama, H.; Sogo, H.; Saito, K.; Suga, T.; Iwasawa, N.* *Synlett*, **2013**, 1364-1370. (10.1055/s-0033-1338938)
- (3) Selective Intermolecular [2+2] Cycloaddition Reaction Using Platinum(II) Catalyst with Hollow-shaped Triethynyl Phosphine, Ebisawa, M.; Kusama, H.; Iwasawa, N.* *Chem. Lett.*, **2012**, *41*, 786-788 (2012). (10.1246/cl.2012.786)
- (4) Chromium(0)-Catalyzed Tandem Cyclization of α,β -Unsaturated Thioimides Containing an Enyne Moiety, Karibe, Y.; Kusama, H.; Iwasawa, N.* *Angew. Chem. Int. Ed.*, **2012**, *51*, 6214-6218 (2012). (10.1002/anie.201201505)
- (5) 遷移金属含有イリドを鍵活性種とする付加環化反応, 草間博之, 有機合成化学協会誌, **2012**, *70* (4), 366-381.
- (6) Efficient Control for the Cationic Platinum(II)-Catalyzed Concise Synthesis of Two Types of Fused Carbocycles with Angular Oxygen Functionality, Kusama, H.; Watanabe, E.; Ishida, K.; Iwasawa, N.* *Chem.–Asian J.* **2011**, *6*, 2273-2277. (10.1002/asia.201100460.)
- (7) [3+2] Cycloaddition of Metal-Containing Azomethine Ylides for Highly Efficient Synthesis of Mitosene Skeleton, Takaya, J.; Miyashita, Y.; Kusama, H.; Iwasawa, N.* *Tetrahedron* **2011**, *67*, 4455-4466. (10.1016/j.tet.2011.04.017)
- (8) Rhenium(I)- and Tungsten(0)-Catalyzed Tandem Cyclization of Acetylenic Dienol Silyl Ethers Based on Geminal Carbo-Functionalization of Alkynes, Kusama, H.; Karibe, Y.; Imai, R.; Onizawa, Y.; Yamabe, H.; Iwasawa, N.* *Chem.–Eur. J.* **2011**, *17*, 4839-4848. (10.1002/chem.201003019)
- (9) Photochemically Promoted Transition Metal-Free Cross Coupling of Acylsilanes with Organoboronic Esters, Ito, K.; Tamashima, H.; Iwasawa, N.; Kusama, H.* *J. Am. Chem. Soc.* **2011**, *133*, 3716-3719. (10.1021/ja1102597)

- (10) Platinum(II)-Catalyzed Generation and [3+2] Cycloaddition Reaction of α,β -Unsaturated Carbene Complex Intermediates for the Preparation of Polycyclic Compounds, Saito, K.; Sogo, H.; Suga, T.; Kusama, H.; Iwasawa, N.* *J. Am. Chem. Soc.* **2011**, *133*, 689-691. (10.1021/ja108586d)
- (11) Synthetic Studies on and Mechanistic Insight into $[W(CO)_5(L)]$ -Catalyzed Stereoselective Construction of Functionalized Bicyclo[5.3.0]decane Frameworks, Onizawa, Y.; Hara, M.; Hashimoto, T.; Kusama, H.; Iwasawa, N.* *Chem. Eur. J.* **2010**, *16*, 10785-10796. (10.1002/chem.201001003)
- (12) Rhodium-catalyzed Synthesis of β -Pyrones by Three Consecutive Redox-Aldol Reactions of Allylic Alcohols with α,β -Unsaturated Aldehydes, Mizuno, A.; Kusama, H.; Iwasawa, N.* *Chem. Eur. J.* **2010**, *16*, 8248-8250. (10.1002/chem.201001068)
- (13) Enantioselective Preparation of 8-Oxabicyclo[3.2.1]octane Derivatives via Asymmetric [3+2]-Cycloaddition of Platinum-Containing Carbonyl Ylides with Vinyl Ethers, Ishida, K.; Kusama, H.; Iwasawa, N.* *J. Am. Chem. Soc.* **2010**, *132*, 8842-8843. (10.1021/ja102391t)
- (14) Gold-Catalyzed Tandem Cyclization of Dienol-Silyl Ethers for the Preparation of Bicyclo[4.3.0]nonane Derivatives, Kusama, H.; Karibe, Y.; Onizawa, Y.; Iwasawa, N. *Angew. Chem. Int. Ed.* **2010**, *49*, 4269-4272. (10.1002/anie.201001061)
- (15) Rhenium(I)-Catalyzed Cyclization of Silyl Enol Ethers Containing a Propargyl Carboxylate Moiety: A Versatile Access to Highly Substituted Phenols, Saito, K.; Onizawa, Y.; Kusama, H.; Iwasawa, N.* *Chem. Eur. J.* **2010**, *16*, 4716-4720. (10.1002/chem.200903586)

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) Intermolecular [3+2] Cycloaddition Reaction of Platinum-Containing Carbonyl Ylides and its Application to Total Synthesis of Englerin A, Kusama, H. The 15th Asian Chemical Congress, Singapore, 2013, Aug 23. (招待講演)
- (2) 1,4-Addition of Nucleophiles onto Unsaturated Carbene Complex Intermediates Generated by Group 6 Metal-Catalyzed Tandem Cyclization Reaction, Kusama, H.; Karibe, Y.; Minowa, A.; Ohshima, T.; Iwasawa, N. 20th International Symposium on Olefin Metathesis and Related Chemistry (ISOM XX), Nara, 2013, November 18. (ポスター発表)

- (3) Platinum(II) Catalyzed [4+3]-Cycloaddition Reaction of α β -Unsaturated Carbene Complex Intermediates with 2-Siloxy-1,3-dienes, Sogo, H.; Suga, T.; Kusama, H.; Iwasawa, N. 20th International Symposium on Olefin Metathesis and Related Chemistry (ISOM XX), Nara, 2013, November 18. (ポスター発表)
- (4) Photo-Induced Three-Component Coupling Reaction Utilizing Electrophilic Character of Siloxycarbenes, Ichikawa, K.; Tadami, S.; Sogo, H.; Iwasawa, N.; Kusama, H. The Eighth International Symposium on Integrated Synthesis (ISIS-8), Nara, 2013, November 29. (ポスター発表)
- (5) Tandem Carbon – Carbon Bond Formation Utilizing Photo – Induced Coupling Reaction Between Acylsilanes and Organoboron Compounds, Ashida, R.; Tamashima H.; Sasano K.; Iwasawa N.; Kusama H. The Eighth International Symposium on Integrated Synthesis (ISIS-8), Nara, 2013, November 29. (ポスター発表)
- (6) Photochemically Promoted Cross-Coupling of Acylsilanes with Organoboron Compounds, Ashida, R.; Tamashima, H.; Ito, K.; Sasano, K.; Iwasawa, N.; Kusama, H. The 12th International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-12), Kyoto, 2012. 11. 12-16. (口頭発表) .
- (7) Synthetic Study of Yuremamine Based on [3+2] Cycloaddition of Platinum-Containing Azomethine Ylide, Oyama, T.; Kusama, H.; Iwasawa, N. The 12th International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-12), Kyoto, 2012. 11. 12-16. (ポスター発表) .
- (8) Photochemically Promoted Transition Metal-Free Cross Coupling of Acylsilanes with Organoboron Compounds, Kusama, H. The 7th International Conference on Cutting-Edge Organic Chemistry in Asia (ICCEOCA-7), Singapore, 2012. 12. 11-14. (ポスター発表) .
- (9) Transition Metal-Catalyzed Tandem Cyclization Reactions for Preparation of Polycyclic Indole Derivatives, Kusama, H. Asian International Symposium in 第 93 日本化学会春季年会、滋賀、2013. 3. 22-25. (招待講演) .
- (10) アルキンの求電子的活性化を基盤とする多環性骨格構築手法、草間博之 , 有機合成化学を起点とするものづくり戦略ミニシンポジウム , 東京 , 2011.11.14 (招待講演) .
- (11) Cr(CO)₅(L)-Catalyzed Tandem Cyclization of α,β -Unsaturated Thioimidate Derivatives Containing an Enyne Moiety, Karibe, Y.; Kusama, H.; Iwasawa, N. The Seventh International Symposium on Integrated Synthesis (ISIS-7), Maiko, 2011.10.10. (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) 十河秀行 (修士 2 年)

優秀ポスター発表賞 第 2 回 CSJ 化学フェスタ 2012、2012.10.15

(2) 草間博之

Asian Core Program Lectureship Award 2013 from Taiwan, The 7th International Conference on Cutting-Edge Organic Chemistry in Asia (ICCEOCA-7), Singapore, 2012. 12. 11-14.

(3) 苅部雄輔 (博士 3 年)

ポスター賞 The Seventh International Symposium on Integrated Synthesis (ISIS-7), 2011.10.10

6 . 新聞報道等

なし

7 . 国民との科学・技術対話

なし

8 . 領域内の共同研究の準備・実施状況とその成果

なし