

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) Palladium-catalyzed Aza-Wittig-Type Condensation of Isoxazol-5(4*H*)-ones with Aldehydes
Okamoto, K.*; Shimbayashi, T.; Tamura, E.; Ohe, K.* *Chem. Eur. J.* **2014**, *20*, 1490-1494.
(10.1002/chem.201304211)
- (2) Copper-catalyzed C-H Cyanation of terminal Alkynes with Cyanogen Iodide
Okamoto, K.*; Watanabe, M.; Sakata, N.; Murai, M.; Ohe, K.* *Org. Lett.* **2013**, *22*, 5810-5813.
(10.1021/ol402863g)
- (3) Acid-Catalyzed Direct Conjugate Alkenylation of α,β -Unsaturated Ketones
Okamoto, K.*; Tamura, E.; Ohe, K.* *Angew. Chem. Int. Ed.* **2013**, *52*, 10639-10643.
(10.1002/anie.201305188)
- (4) Rhodium-Catalyzed Reaction of 2*H*-Azirines with Carbonyl-ene-yne Compounds Giving 1-Furyl-2-aza-1,3-dienes
Okamoto, K.*; Watanabe, M.; Mashida, A.; Miki, K.; Ohe, K.* *Synlett* **2013**, *24*, 1541-1544.
(10.1055/s-0033-1339190)
- (5) Electron-rich Carbon Nanorings as Macrocyclic Hosts for Fullerenes
Miki, K.*; Matsushita, T.; Inoue, Y.; Senda, Y.; Kowada, T.; Ohe, K.* *Chem. Commun.* **2013**, *49*, 9092-9094.
(10.1039/c3cc42561d)
- (6) Metathesis Polymerization-Based Synthesis of Functionalized Polymers Aiming at Medicinal Application
Miki, K.*; Inoue, T.; Ohe, K.* *J. Synth. Org. Chem. Jpn.* **2013**, *71*, 601-615.
- (7) Amphiphilic Brush-Like Copolymers Involving Hydrophobic Amino Acid- and Oligopeptide-Side Chains for Optical Tumor Imaging *In Vivo*
Miki, K.*; Nakano, K.; Matsuoka, H.; Yeom, C. J.; Harada, H.; Hiraoka, M. Ohe, K.* *Bull. Chem. Soc. Jpn.* **2012**, *85*, 1277-1286.
(10.1246/bcsj.20120220)
- (8) Alkyne-coordinating Tridentate Ligands: Structural Properties and Reactivity of Their Rhodium Complexes

- Okamoto, K.*; Omoto, Y.; Sano, H.; Ohe, K.* *Dalton Trans.* **2012**, *41*, 10926-10929.
(10.1039/c2dt31322g)
- (9) Gold-catalysed Cycloisomerisation Reactions of 2-(2-Propynyl)pyridine *N*-Oxides
Leading to Indolizinones
Murai, M.; Kitabata, S.; Okamoto, K.; Ohe, K.* *Chem. Commun.* **2012**, *48*, 7622-7624.
(10.1039/c2cc32628k)
- (10) Pd- and Cu-Catalyzed One-Pot Multicomponent Synthesis of Hetero Dimers of
Heterocycles
Murata, T.; Murai, M.; Ikeda, Y.; Miki, K.; Ohe, K.* *Org. Lett.* **2012**, *14*, 2296-2299.
(10.1021/ol300718x)
- (11) An Unexpected Disproportional Reaction of 2*H*-Azirines giving
(1*E*,3*Z*)-2-Aza-1,3-dienes and Aromatic Nitriles in the Presence of Nickel Catalysts
Okamoto, K.; Mashida, A.; Watanabe, M.; Ohe, K.* *Chem. Commun.* **2012**, *48*,
3554-3556.
(10.1039/c2cc30745f)
- (12) Practical Synthesis of Aromatic Nitriles via Gallium-catalysed Electrophilic Cyanation of
Aromatic C–H Bonds
Okamoto, K.; Watanabe, M.; Murai, M.; Hatano, R.; Ohe, K.* *Chem. Commun.* **2012**, *48*,
3127-3129.
(10.1039/c2cc18008a)
- (13) Influence of Side Chain Length on Fluorescence Intensity of ROMP-Based Polymeric
Nanoparticles and Their Tumor Specificity in In Vivo Tumor Imaging
Miki, K.; Oride, K.; Kimura, A.; Kuramochi, Y.; Matsuoka, H.; Harada, H.; Hiraoka, M.;
Ohe, K.* *Small* **2011**, *5*, 3536-3547.
(10.1002/smll.201101637)
- (14) Palladium-catalyzed Decarboxylative Intramolecular Aziridination from 4*H*-Isoxazol-
5-ones Leading to 1-Azabicyclo[3.1.0]hex-2-enes
Okamoto, K.; Oda, T.; Kohigashi, S.; Ohe, K.* *Angew. Chem. Int. Ed.* **2011**, *50*,
11470-11473.
(10.1002/anie.201105153)
- (15) High-Contrast Fluorescence Imaging of Tumors In Vivo Using Nanoparticles of
Amphiphilic Brush-Like Copolymers Produced by ROMP
Miki, K.; Kimura, A.; Oride, K.; Kuramochi, Y.; Matsuoka, H.; Harada, H.; Hiraoka, M.;
Ohe, K.* *Angew. Chem. Int. Ed.* **2011**, *50*, 6567-6570.
(10.1002/anie.201101005)

- (16) Near-infrared BODIPY Dyes Modulated with Spirofluorene Moieties
Kowada, T.; Yamaguchi, S.; Fujinaga, H.; Ohe, K.* *Tetrahedron* **2011**, *67*, 3105-3110.
(10.1016/j.tet.2011.02.073)
- (17) Rhodium-Catalyzed Carbene-Transfer Reactions via Thienylcarbene Complexes
Generated from Thiocarbamoyl-ene-yne Compounds
Tsuneishi, A.; Okamoto, K.; Ikeda, Y.; Murai, M.; Miki, K.; Ohe, K.* *Synlett* **2011**,
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- (18) Gallium (III)-catalysed Bromocyanation of Alkynes: Regio- and Stereoselective
Synthesis of β -Bromo- α,β -unsaturated Nitriles
Murai, M.; Hatano, R.; Kitabata, S.; Ohe, K.* *Chem. Commun.* **2011**, *47*, 2375-2377.
(10.1039/c0cc04385k)
- (19) Synthesis of Strained Pyridine-Containing Cyclyne via Reductive Aromatization
Miki, K.; Fujita, M.; Inoue, Y.; Senda, Y.; Kowada, T.; Ohe, K.* *J. Org. Chem.* **2010**, *75*,
3537-3540.
(10.1021/jo1006202)
- (20) Synthesis, Structures, and Optical Properties of Heteroarene-Fused Dispiro Compounds
Kowada, T.; Kuwabara, T.; Ohe, K.* *J. Org. Chem.* **2010**, *75*, 906-913.
(10.1021/jo902482n)
- (21) Synthesis and Characterization of Highly Fluorescent and Thermally Stable π -Conjugates
Involving Spiro[fluorene-9,4'-[4H]indeno[1,2-b]furan]
Kowada T.; Ohe, K.* *Bull. Korean Chem. Soc.* **2010**, *31*, 577-581.
(10.5012/bkcs.2013.31.03.577)
- (22) Atom-efficient Synthesis of α -Alkylidene-*N*-furylimines via Catalytic Vinylcarbene-
transfer Reactions to Carbonyl-ene-nitrile Compounds
Murai, M.; Yoshida, S.; Miki, K.; Ohe, K.* *Chem. Commun.* **2010**, *46*, 3366-3368.
(10.1039/b924752a)
- (23) Highly Fluorescent BODIPY Dyes Modulated with Spirofluorene Moieties
Kowada, T.; Yamaguchi, S.; Ohe, K.* *Org. Lett.* **2010**, *12*, 296-299.
(10.1021/ol902631d)
- (24) Ring-Opening Metathesis Polymerization-based Synthesis of Polymeric Nanoparticles for
Enhanced Tumor Imaging in Vivo: Synergistic Effect of Folate-Receptor Targeting and
PEGylation
Miki, K.; Oride, K.; Inoue, S.; Kuramochi, Y.; Nayak, R. R.; Matsuoka, H.; Harada, H.;
Hiraoka, M.; Ohe, K.* *Biomaterials* **2010**, *31*, 934-942.

(10.1016/j.biomaterials.2009.10.005)

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 Vinylnitrene Transfer Reactions Using *N*-Heterocycles: A Revisit
Ohe, K. The 12th Kinki-Youngnam Joint Symposium on Organometallic Chemistry, Pusan National University, Busan, Korea, 2014.1.23-25（招待講演）.
- (2) Copper-catalyzed Cyanation Using Cyanogen Halides
Okamoto, K.; Sakata, N.; Watanabe, M.; Murai, M.; Ohe, K. The Eighth International Symposium on Integrated Synthesis (ISIS-8), Nara, Japan, 2013.11.29-12.1（ポスター発表）.
- (3) Sc(OTf)₃-catalyzed [3+2]Cycloaddition of Allylsilanes with β -Silylenones
Tamura, E.; Okamoto, K.; Ohe, K. The Eighth International Symposium on Integrated Synthesis (ISIS-8), Nara, Japan, 2013.11.29-12.1（ポスター発表）.
- (4) Me₃SiOTf-catalyzed Direct Conjugate Alkenylation of β -Silylenones
Okamoto, K.; Tamura, E.; Ohe, K. The 8th International Conference on Cutting-Edge Organic Chemistry in Asia, Osaka, Japan, 2013.11.25-28（ポスター発表）.
- (5) 有機金属活性種の新規発生法に基づく有機合成
大江浩一, 第64回有機合成化学協会関東支部シンポジウム, 長岡技術科学大学, 新潟, 2012.12.1-2（招待講演）.
- (6) Transition Metal-catalyzed Vinylnitrene Transfer Reactions Using *N*-Heterocycles: A Revisit
Ohe, K. The 6th Kansai-CMDS Meeting on OMCOS, 2012, Sokcho, Korea, 2012.9.21-23（招待講演）.
- (7) Generation and Synthetic Application of Vinylnitrene Complexes
Ohe, K. French-Japanese “Kinki-Divio Symposium”, University of Bourgogne, Dijon, France, 2012.7.24（招待講演）.
- (8) Palladium-catalyzed Decarboxylative Transformation of 4*H*-Isooxazol-5-ones Leading to 1-Azabicyclo[3.1.0]hex-2-enes
Ohe, K.; Okamoto, K.; Oda, T.; Kohigashi, S. The 6th Spanish-Portuguese-Japanese Organic Chemistry Symposium, University of Lisbon, Lisbon, Portugal, 2012.7.19-20（ポスター発表）.
- (9) Palladium-catalyzed Decarboxylative Transformation of Cyclic Oxime Esters
Okamoto, K.; Oda, T.; Kohigashi, S.; Ohe, K. The Seventh International Symposium on Integrated Synthesis (ISIS-7), Kobe, Japan, 2011.10.9-10（ポスター発表）.

- (10) Synthesis and Evaluation of Amino Acid-grafted Brush-like Copolymers for Optical Tumor Imaging
Miki, K.; Nakano, K.; Matsuoka, H.; Harada, H.; Hiraoka, M.; Ohe, K. The Seventh International Symposium on Integrated Synthesis (ISIS-7), Kobe, Japan, 2011.10.9-10 (ポスター発表) .
- (11) New Approach to Bis-heterocycles via Coupling and Double Cyclization Cascade
Ohe, K.; Murata, T.; Okamoto K.; Miki, K. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20 (口頭発表) .
- (12) Gold-catalyzed Reactions of Pyridine *N*-Oxides having Alkyne Moieties leading to *N*-Heterocycles
Kitabata, S.; Murai, M.; Okamoto, K.; Ohe, K. 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) High-Contrast Fluorescence Tumor Imaging in Vivo Utilizing Self-Assemblies of ROMP-Based Copolymers
Ohe, K.; Miki, K. The 5th International Conference on Cutting-Edge Organic Chemistry in Asia, Hsinchu, Taiwan, 2010.11.7-11 (口頭発表) .
- (14) Atom-efficient Synthesis of α -Alkylidene-*N*-furylimines via Catalytic Vinylcarbene-transfer Reactions to Carbonyl-ene-nitrile Compounds
Ohe, K. Japan-Korea Symposium on Organometallic Chemistry, Nara, Japan, 2010.10.1-3 (口頭発表) .
- (15) A New Route to Bis-heterocycles via Coupling and Cyclization Cascade
Ohe, K. China-Japan Symposium on Catalytic Organic Synthesis, Tianjin, China, 2010.9.24-26 (口頭発表).

3. 特許

- (1) 近赤外色素結合ヒアルロン酸誘導体およびそれを有する光イメージング用造影剤
国立大学法人京都大学・キャノン株式会社, 三木康嗣, 井上達広, 小林靖人, 中野克哉, 大江浩一, 山内文生, 矢野哲哉, 南 昌人
特開 2005-075984, 2013.2.22.

4. 学会・シンポジウム等の開催状況

該当無し

5. 受賞等

(1) 三木 康嗣 (准教授)

有機合成化学奨励賞 有機合成化学協会, 2014.2.20

(2) 井上 達広 (修士1年)

優秀ポスター発表賞 第3回 CSJ 化学フェスタ 2013, 2013.11.11

(3) 橋元 弘樹 (修士2年)

優秀ポスター賞 第2回 CSJ 化学フェスタ 2012, 2012.11.6

6. 新聞報道等

該当無し

7. 国民との科学・技術対話

該当無し

8. 領域内の共同研究の準備・実施状況とその成果

該当無し