

## List of Publications

October 7, 2021

### Selected Original Papers

- 1) Construction of Tricyclic Nitrogen Heterocycles by Gold(I)-Catalyzed Cascade Cyclization of Allenynes and Its Application to Polycyclic  $\pi$ -Electron Systems, Komatsu, H.; Ikeuchi, T.; Tsuno, H.; Arichi, N.; Yasui, K.; Oishi, S.; Inuki, S.; Fukazawa, A.\*; Ohno, H.\* *Angew. Chem. Int. Ed.*, in press.
- 2) Access to Indole-Fused Benzannulated Medium-Sized Rings through Gold(I)-Catalyzed Cascade Cyclization of Azido-Alkynes, Greiner, L. C.; Inuki, S.; Arichi, N.; Oishi, S.; Suzuki, R.; Iwai, T.; Sawamura, M.; Hashmi, A. S. K.; Ohno, H.\* *Chem. Eur. J.* **2021**, *27*, 12992–12997.
- 3) The Effects of 5-OP-RU Stereochemistry on Its Stability and MAIT-MR1 Axis, Matsuoka, T.; Motozono, C.; Hattori, A.; Takeya, H.; Yamasaki, S.; Oishi, S.; Ohno H.\*; Inuki, S.\* *ChemBioChem* **2021**, *22*, 672–678.
- 4) Identification of a Novel Indoleamine 2,3-Dioxygenase Inhibitor Bearing an Eight-Membered Ring Fused Indole Scaffold and Its Structure Activity Relationship, Yamaguchi, A.; Inuki, S.\*; Ohta, K.; Oishi, S.; Asai, A.; Ohno, H.\* *Heterocycles* **2021**, *103*, 331–335 (Special issue).
- 5) Total Synthesis of Zephycarinatines via Photocatalytic Reductive Radical *ipso*-Cyclization, Takeuchi, H.; Inuki, S.\*; Nakagawa, K.; Kawabe, T.; Ichimura, A.; Oishi, S.; Ohno, H.\* *Angew. Chem.* **2020**, *132*, 21396–21401; *Angew. Chem., Int. Ed.* **2020**, *59*, 21210–21215.
- 6) Total Synthesis of (+)-Polyoxamic Acid via Visible-Light-Mediated Photocatalytic  $\beta$ -Scission and 1,5-Hydrogen Atom Transfer of Glucose Derivative, Matsuoka, T.; Inuki, S.\*; Miyagawa, T.; Oishi, S.; Ohno, H.\* *J. Org. Chem.* **2020**, *85*, 8271–8278.
- 7) Total Synthesis of Dictyodendrins A–F by the Gold-Catalyzed Cascade Cyclization of Conjugated Diyne with Pyrrole, Matsuoka, J.; Inuki, S.; Matsuda, Y.; Miyamoto, Y.; Otani, M.; Oka, M.; Oishi, S.; Ohno, H.\* *Chem. Eur. J.* **2020**, *26*, 11150–11157.
- 8) Gold(I)-Catalyzed Cascade Cyclization of Anilines with Diynes: Controllable Formation of Eight-Membered Ring-Fused Indoles and Propellane-Type Indolines, Yamaguchi, A.; Inuki, S.\*; Tokimizu, Y.; Oishi, S.; Ohno, H.\* *J. Org. Chem.* **2020**, *85*, 2543–2559.
- 9) Construction of the Pyrrolo[2,3-*d*]carbazole Core of Spiroindoline Alkaloids by Gold-Catalyzed Cascade Cyclization of Ynamide, Matsuoka, J.; Kumagai, H.; Inuki, S.; Oishi, S.; Ohno, H.\* *J. Org. Chem.* **2019**, *84*, 9358–9363.
- 10) Construction of Quaternary Carbon Stereocenter of  $\alpha$ -Tertiary Amine through Remote C-H Functionalization of Tris Derivatives: Enantioselective Total Synthesis of Myriocin, Miyagawa, T.; Inuki, S.\*; Oishi, S.; Ohno, H.\* *Org. Lett.* **2019**, *21*, 5485–5490.
- 11) Gold(I)-Catalyzed Cascade Cyclization Reactions of Allenynes for the Synthesis of Fused Cyclopropanes and Acenaphthenes. Ikeuchi, T.; Inuki, S.; Oishi, S.; Ohno, H.\* *Angew. Chem.* **2019**, *131*, 7874–7878; *Angew. Chem., Int. Ed.* **2019**, *58*, 7792–7796.
- 12) Direct Synthesis of Aryl-Annulated [c]Carbazoles by Gold(I)-Catalysed Cascade Reaction of Azide-Diynes and Arenes. Kawada, Y.; Ohmura, S.; Kobayashi, M.; Nojo, W.; Kondo, M.; Matsuda, Y.; Matsuoka, J.; Inuki, S.; Oishi, S.; Wang, C.; Saito, T.; Uchiyama, M.\*; Suzuki, T.\*; Ohno, H.\* *Chem. Sci.* **2018**, *9*, 8416–8425.
- 13) Gold(I)-Catalyzed Oxidative Cascade Cyclization of 1,4-Diyn-3-ones for the Construction of Tropone-Fused Furan Scaffolds. Hamada, N.; Yamaguchi, A.; Inuki, S.; Oishi, S.; Ohno, H.\* *Org. Lett.* **2018**, *20*, 4401–4405.

- 14) Introduction of a Polar Functional Group to the Lipid Tail of 4-*epi*-Jaspine B Affects Sphingosine Kinase Isoform Selectivity. Inuki, S.\*; Miyagawa, T.; Oishi, S.; Ohno, H.\* *Chem. Pharm. Bull.* **2018**, *66*, 866–872.
- 15) Synthesis of Jaspine B Regioisomers through Palladium-Catalyzed Stereoselective Tetrahydrofuran Formation: Insight into the Ligand Recognition of Sphingosine Kinases. Miyagawa, T.; Inuki, S.; Honda, M.; Nakamura, S.; Nakanishi, I.; Fujii, N.; Oishi, S.; Ohno, H.\* *Tetrahedron* **2018**, *74*, 1802–1809.
- 16) Gold-Catalyzed Cascade Reaction of Skipped Dienes for the Construction of a Cyclohepta[*b*]pyrrole Scaffold, Hamada, N.; Yoshida, Y.; Oishi, S.; Ohno, H.\* *Org. Lett.* **2017**, *19*, 3875–3878.
- 17) Total Synthesis of Dictyodendrins by the Gold-Catalyzed Cascade Cyclization of Conjugated Dienes with Pyrroles. Matsuoka, J.; Matsuda, Y.; Kawada, Y.; Oishi, S.; Ohno, H.\* *Angew. Chem.* **2017**, *129*, 7552–7556; *Angew. Chem., Int. Ed.* **2017**, *56*, 7444–7448.
- 18) Identification of Selective Inhibitors of Sphingosine Kinases 1 and 2 through a Structure–Activity Relationship Study of 4-*epi*-Jaspine B. Ohno, H.\*; Honda, M.; Hamada, N.; Miyagaki, J.; Iwata, A.; Otsuki, K.; Maruyama, T.; Nakamura, S.; Nakanishi, I.; Inuki, S.; Fujii, N.; Oishi, S. *Bioorg. Med. Chem.* **2017**, *25*, 3046–3052.
- 19) Total Synthesis of (+)-Conolidine by the Gold(I)-Catalyzed Cascade Cyclization of a Conjugated Enyne. Naoe, S.; Yoshida, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2016**, *81*, 5690–5698.
- 20) Novel 3,4,7-Substituted Benzofuran Derivatives Having Binding Affinity to  $\kappa$ -Opioid Receptor. Nishiyama, D.; Sakai, Y.; Sekiguchi, H.; Chiba, H.; Misu, R.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Chem. Pharm. Bull.* **2016**, *64*, 996–1003.
- 21) Formal Total Synthesis of ( $\pm$ )-Strictamine Based on a Gold-Catalyzed Cyclization. Nishiyama, D.; Ohara, A.; Chiba, H.; Kumagai, H.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2016**, *18*, 1670–1673.
- 22) Structure–Activity Relationship Study of 4-(Thiazol-5-yl)benzoic Acid Derivatives as Potent Protein Kinase CK2 Inhibitors. Ohno, H.\*; Minamiguchi, D.; Nakamura, S.; Shu, K.; Okazaki, S.; Honda, M.; Misu, R.; Moriwaki, H.; Nakanishi, S.; Oishi, S.; Kinoshita, T.; Nakanishi, I.; Fujii, N.\* *Bioorg. Med. Chem.* **2016**, *24*, 1136–1141.
- 23) Synthesis of Fused Carbazoles by Gold-Catalyzed Tricyclization of Conjugated Dienes via Rearrangement of an *N*-Propargyl Group. Taguchi, M.; Tokimizu, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2015**, *17*, 6250–6253.
- 24) Convenient Synthesis of Spiroindole Derivatives via Palladium-Catalyzed Cyclization of Propargyl Chlorides. Iwata, A.; Inuki, S.; Oishi, S.; Fujii, N.; Ohno, H. *Tetrahedron* **2015**, *71*, 6580–6585.
- 25) Gold-Catalyzed Cascade Cyclization of 2-Alkynyl-*N*-Propargylanilines via the Rearrangement of a Propargyl Group. Tokimizu, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Angew. Chem.* **2015**, *127*, 7973–7977; *Angew. Chem., Int. Ed.* **2015**, *54*, 7862–7866.
- 26) Direct Construction of Fused Indoles by Gold-Catalyzed Cascade Cyclization of Conjugated Dienes. Naoe, S.; Saito, T.; Uchiyama, M.\*; Oishi, S.; Fujii, N.; Ohno, H.\* *Org. Lett.* **2015**, *17*, 1774–1777.
- 27) Dual Gold Catalysis: A Novel Synthesis of Bicyclic and Tricyclic Pyrroles from *N*-Propargyl Ynamides. Tokimizu, Y.; Wietek, M.; Rudolph, M.; Oishi, S.; Fujii, N.; Hashmi, A. S. K.\*; Ohno, H.\* *Org. Lett.* **2015**, *17*, 604–607.

- 28) Formal [4 + 2] Reaction between 1,3-Diynes and Pyrroles: Gold(I)-Catalyzed Indole Synthesis via Double Hydroarylation. Matsuda, Y.; Naoe, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Chem. Eur. J.* **2015**, *21*, 1463–1467.
- 29) Dual Gold Catalysis: Synthesis of Polycyclic Compounds via C-H Insertion of Gold Vinylidenes. Wieteck, M.; Tokimizu, Y.; Rudolph, M.; Rominger, F.; Ohno, H.\*; Fujii, N.\*; Hashmi, A. S. K.\* *Chem. Eur. J.* **2014**, *20*, 16331–16336.
- 30) Gold-Catalyzed Cascade Cyclization of (Azido)ynamides: an Efficient Strategy for the Construction of Indoloquinolines. Tokimizu, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2014**, *16*, 3138–3141.
- 31) Wurster's Blue-type Cation Radicals Framed in a 5,10-Dihydrobenzo[*a*]indolo[2,3-*c*]carbazole (BIC) Skeleton: Dual Electrochromism with Drastic Changes in UV-Vis-NIR and Fluorescence, Suzuki, T.\*; Sakano, Y.; Tokimizu, Y.; Miura, Y.; Katoono, R.; Fujiwara, K.; Yoshioka, N.; Fujii, N.; Ohno, H.\* *Chem. Asian J.* **2014**, *9*, 1841–1846.
- 32) Synthesis of Fused Tetracyclic Spiroindoles via Palladium-Catalysed Cascade Cyclisation. Iwata, A.; Inuki, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Chem. Commun.* **2014**, *50*, 298–300.
- 33) 5,10-Dihydrobenzo[*a*]indolo[2,3-*c*]carbazole: A Highly Fluorescent Disk-shaped Electron Donor Exhibiting Dual UV-vis-NIR and Fluorescence Spectral Changes upon Electrolysis. Suzuki, T.\*; Tokimizu, Y.; Sakano, Y.; Katoono, R.; Fujiwara, K.; Naoe, S.; Fujii, N.; Ohno, H.\* *Chem. Lett.* **2013**, *42*, 1001–1003.
- 34) Palladium-Catalyzed Medium-Ring Formation for Construction of the Core Structure of *Laurencia* Oxacycles: Synthetic Study of Laurendecumallene B. Yoshimitsu, Y.; Inuki, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2013**, *15*, 3046–3049.
- 35) Synthesis of Pachastrissamine (Jaspine B) and Its Derivatives by the Late-Stage Introduction of the C-2 Alkyl Side-Chain Using Cross Metathesis. Yoshimitsu, Y.; Miyagaki, J.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Tetrahedron* **2013**, *69*, 4221–4220.
- 36) Convergent Synthesis of (–)-Quinocarcin Based on the Combination of Sonogashira Coupling and Gold(I)-Catalyzed 6-*endo-dig* Hydroamination, Chiba, H.; Sakai, Y.; Ohara, A.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Chem. Eur. J.* **2013**, *19*, 8875–8883.
- 37) Diversity-Oriented Synthesis of Pyrazolo[4,3-*b*]indoles by Gold-Catalysed Three-Component Annulation: Application to the Development of a New Class of CK2 Inhibitors. Hou, Z.; Oishi, S.; Suzuki, Y.; Kure, T.; Nakanishi, I.; Hirasawa, A.; Tsujimoto, G.; Ohno, H.\*; Fujii, N.\* *Org. Biomol. Chem.* **2013**, *11*, 3288–3296.
- 38) Lewis-Acid-Mediated Ring-Exchange Reaction of Dihydrobenzofurans and Its Application to the Formal Total Synthesis of (–)-Quinocarcinamide, Chiba, H.; Sakai, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Tetrahedron Lett.* **2012**, *53*, 6273–6276.
- 39) Total Synthesis of (–)-Quinocarcin via Au(I)-Catalyzed Regioselective Hydroamination, Chiba, H.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Angew. Chem.* **2012**, *124*, 9303–9306; *Angew. Chem., Int. Ed.* **2012**, *51*, 9169–9172 (**Hot Paper**).
- 40) Gold(I)-Catalyzed Regioselective Inter/Intramolecular Addition Cascade of Di- and Triynes for Direct Construction of Substituted Naphthalenes. Naoe, S.; Suzuki, Y.; Hirano, K.; Inaba, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2012**, *77*, 4907–4916 (**Featured Article**).
- 41) Double C-H Functionalization in Sequential Order: Direct Synthesis of Polycyclic Compounds by a Palladium-Catalyzed C-H Alkenylation–Arylation Cascade. Ohno, H.\*; Iuchi, M.; Kojima, N.; Yoshimitsu, T.; Fujii, N.; Tanaka, T.\* *Chem. Eur. J.* **2012**, *18*, 5352–5360.

- 42) Efficient Synthesis of Aminomethylated Azaindoles and Corresponding Pyrrole-Fused Derivatives by Copper-Catalyzed Domino Multicomponent Coupling and Cyclization. Hou, Z.; Suzuki, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Tetrahedron* **2012**, *68*, 1695–1703.
- 43) Gold-Catalyzed Three-Component Annulation: Efficient Synthesis of Highly Functionalized Dihydropyrazoles from Alkynes, Hydrazines, and Aldehydes or Ketones. Suzuki, Y.; Naoe, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2012**, *14*, 326–329.
- 44) Gold(I)-Catalyzed Polycyclizations of Poly(enyne)anilines Based on Hydroamination and Consecutive Hydroarylation Cascade. Hirano, K.; Inaba, Y.; Takasu, K.; Oishi, S.; Takemoto, Y.; Fujii, N.; Ohno, H.\* *J. Org. Chem.* **2011**, *76*, 9068–9080.
- 45) Palladium-Catalyzed Construction of Polycyclic Heterocycles by an Alkyne Insertion and Direct Arylation Cascade. Ohno, H.\*; Yamamoto, M.; Iuchi, M.; Fujii, N.; Tanaka, T.\* *Synthesis* **2011**, 2567–2578 (**Invited for Special Topic Issue**).
- 46) Formal Total Synthesis of (+)-Lysergic Acid via Zinc(II)-Mediated Regioselective Ring-Opening Reduction of 2-Alkynyl-3-indolyloxirane. Iwata, A.; Inuki, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2011**, *76*, 5506–5512.
- 47) Direct Synthesis of Highly Fused Perimidines by Copper(I)-Catalyzed Hydroamination of 2-Ethynylbenzaldehydes. Tokimizu, Y.; Ohta, Y.; Chiba, H.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Tetrahedron* **2011**, *67*, 5168–5175.
- 48) Enantioselective Total Synthesis of (+)-Lysergic Acid, (+)-Lysergol, and (+)-Isolysergol by Palladium-Catalyzed Domino Cyclization of Allenes Bearing Amino and Bromoindolyl Groups. Inuki, S.; Iwata, A.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2011**, *76*, 2072–2084.
- 49) Direct Synthesis of Fused-Indoles by Gold-Catalyzed Cascade Cyclization of Diynes. Hirano, K.; Inaba, Y.; Takahashi, N.; Shimano, M.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2011**, *76*, 1212–1227 (**Featured Article**).
- 50) Direct Synthesis of Quinazolines through Copper-Catalyzed Reaction of Aniline-Derived Benzamidines. Ohta, Y.; Tokimizu, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2010**, *12*, 3963–3965.
- 51) Stereoselective Divergent Synthesis of Four Diastereomers of Pachastrissamine (Jaspine B). Yoshimitsu, Y.; Inuki, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2010**, *75*, 3843–3846.
- 52) Ring-Construction/Stereoselective Functionalization Cascade: Total Synthesis of Pachastrissamine (Jaspine B) through Palladium-Catalyzed Bis-cyclization of Propargyl Chlorides and Carbonates. Inuki, S.; Yoshimitsu, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2010**, *75*, 3831–3842.
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- 54) Synthesis of Fused and Linked Bicyclic Nitrogen Heterocycles by Palladium-Catalyzed Domino Cyclization of Propargyl Bromides. Okano, A.; Tsukamoto, K.; Kosaka, S.; Maeda, H.; Oishi, S.; Tanaka, T.\*; Fujii, N.\*; Ohno, H.\* *Chem. Eur. J.* **2010**, *16*, 8410–8418 (**Very Important Paper**).
- 55) Gold-Catalyzed Intramolecular Alkyne Cycloisomerization Cascade: Direct Synthesis of Aryl-Annulated[*a*]carbazoles from Aniline-Substituted Diethynylarenes. Hirano, K.; Inaba, Y.; Watanabe, T.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Adv. Synth. Catal.* **2010**, *352*, 368–372.

- 56) Efficient Synthesis of Pyrimido[1,2-*c*][1,3]benzothiazin-6-imines and Related Tricyclic Heterocycles by S<sub>N</sub>Ar-Type C-S, C-N, or C-O Bond Formation with Heterocumulenes. Mizuhara, T.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2010**, *75*, 265–268.
- 57) Ring-Construction/Stereoselective Functionalization Cascade: Total Synthesis of Pachastrissamine (Jaspine B) through Palladium-Catalyzed Bis-cyclization of Bromoallenes. Inuki, S.; Yoshimitsu, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2009**, *11*, 4478–4481.
- 58) Construction of Nitrogen Heterocycles Bearing an Aminomethyl Group by Copper-Catalyzed Domino Three-Component Coupling–Cyclization. Ohta, Y.; Chiba, H.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2009**, *74*, 7052–7058.
- 59) Rapid Access to 3-(Aminomethyl)isoquinoline-Fused Polycyclic Compounds by Copper-Catalyzed Four-Component Coupling, Cascade Cyclization and Oxidation. Ohta, Y.; Kubota, Y.; Watabe, T.; Chiba, H.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2009**, *74*, 6299–6302.
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- 61) Efficient Synthesis of Aminomethylated Pyrroloindoles and Dipyrrolopyridines via Controlled Copper-Catalyzed Domino Multi-Component Coupling and Bis-cyclization. Suzuki, Y.; Ohta, Y.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *J. Org. Chem.* **2009**, *74*, 4246–4251.
- 62) Cu(II)-Mediated Oxidative Intermolecular *ortho* C-H Functionalisation Using Tetrahydropyrimidine as the Directing Group. Mizuhara, T.; Inuki, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Chem. Commun.* **2009**, 3413–3415.
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- 64) Total Synthesis of ( $\pm$ )-Lysergic Acid, Lysergol, and Isolysergol by Palladium-Catalyzed Domino Cyclization of Amino Allenes Bearing a Bromoindolyl Group. Inuki, S.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2008**, *10*, 5239–5242.
- 65) Concise Synthesis of Indole-Fused 1,4-Diazepines through Copper(I)-Catalyzed Domino Three-Component Coupling–Cyclization–*N*-Arylation under Microwave Irradiation. Ohta, Y.; Chiba, H.; Oishi, S.; Fujii, N.\*; Ohno, H.\* *Org. Lett.* **2008**, *10*, 3535–3538.
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- 68) Structure-Activity Relationship of Pyrazine-Based CK2 Inhibitors: Synthesis and Evaluation of 2,6-Disubstituted Pyrazines and 4,6-Disubstituted Pyrimidines. Suzuki, Y.; Cluzeau, J.; Hara, T.; Hirasawa, A.; Tsujimoto, G.; Oishi, S.; Ohno, H.\*; Fujii, N.\* *Arch. Pharm.* **2008**, *341*, 554–561.
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