

Publication List of Motomu Kanai

- (1) "An Expeditious Total Synthesis of Dolastatin 10" Kiyoshi Tomioka, Motomu Kanai, and Kenji Koga, *Tetrahedron Letters*, **32**, (21), 2395-2398 (1991).
- (2) "Enantioselective Conjugate Addition of Organocuprate Using a Chiral Amidophosphine Ligand" Motomu Kanai, Kenji Koga, and Kiyoshi Tomioka, *Tetrahedron Letters*, **33**, (37), 7193-7196 (1992).
- (3) "Solvent Effect and NMR Behavior in a Chiral Amidophosphine Mediated Reaction of Organocuprate with Chalcone" Motomu Kanai, Kenji Koga, and Kiyoshi Tomioka, *J. Chem. Soc., Chem. Commun.*, (16), 1248-1249 (1993).
- (4) "Asymmetric Conjugate Addition of Organocopper-Amidophosphine Reagents to Cycloalkenones" Motomu Kanai and Kiyoshi Tomioka, *Tetrahedron Letters*, **35**, (6), 895-898 (1994).
- (5) "Origin of Regioselectivity in Electrophilic Reaction of Ambident Enaldimines" Kiyoshi Tomioka, Tetsuji Okamoto, Motomu Kanai and Hiroshi Yamataka, *Tetrahedron Letters*, **35**, (12), 1891-1892 (1994).
- (6) "Asymmetric Conjugate Addition of Organomagnesium Cuprates Controlled by Stoichiometric Amount of Chiral Phosphine" Motomu Kanai and Kiyoshi Tomioka, *Tetrahedron Letters*, **36** (24), 4273-4274 (1995).
- (7) "Catalytic Asymmetric Conjugate Addition of Grignard Reagents Controlled by Copper(I)-Chiral Bidentate Phosphine Complex" Motomu Kanai and Kiyoshi Tomioka, *Tetrahedron Letters*, **36** (24), 4275-4278 (1995).
- (8) "Asymmetric Conjugate Addition Reaction of Organocopper Based on Metal Differentiating Coordination. (Review in Japanese)" Motomu Kanai and Kiyoshi Tomioka, *Organometallic News*, **2**, 44-49 (1995).
- (9) "Diastereoselective Thiophenol Addition to (*S*)-*N*- α,β -Unsaturated Carbonyl- γ -trityloxymethyl- γ -butyrolactams" Kiyoshi Tomioka, Aki Muraoka, and Motomu Kanai, *J. Org. Chem.*, **60** (19), 6188-6190 (1995).
- (10) "Enantioselective Reaction of An Imine with Methylolithium Catalyzed by A Chiral Ligand" Isao Inoue, Mitsuru Shindo, Kenji Koga, Motomu Kanai, and Kiyoshi Tomioka, *Tetrahedron: Asymmetry*, **6**, (10), 2527-2533 (1995).
- (11) "Conformational Preference and Diastereoselectivity of (*S*)-*N*-(α,β -Unsaturated Carbonyl)- γ -trityloxymethyl- γ -butyrolactam" Motomu Kanai, Aki Muraoka, Takanori Tanaka, Masami Sawada, Nobuo Ikota and Kiyoshi Tomioka, *Tetrahedron Letters*, **36** (51), 9349-9352 (1995).
- (12) "Theoretical Calculation-Based Reproduction of Thermodynamic, Kinetic Behaviors and Cytotoxicity of Azasteganes. (Special Issue for the Memory of Prof. Yoshio Ban)" Kiyoshi Tomioka, Motomu Kanai, and Nobuo Ikota, *Heterocycles*, **42** (1), 43-45 (1995).

- (13) "Asymmetric Conjugate Addition Reaction of Organometallic Reagents (Review in Japanese)" Motomu Kanai and Kiyoshi Tomioka, *Kagaku*, **51** (1), 64-65 (1996).
- (14) "Catalytic Asymmetric Conjugate Addition Reaction of Organocopper (Review in Japanese)" Motomu Kanai and Kiyoshi Tomioka, *Farumasia*, **32** (2), 171-174 (1996).
- (15) "Catalytic Asymmetric Conjugate Addition Reaction of Organocopper Reagents (Review in Japanese)" Motomu Kanai, Yuichi Nakagawa, and Kiyoshi Tomioka, *J. Syn. Org. Chem. Jpn.*, **54** (6), 474-480 (1996).
- (16) "Chiral Ligand Controlled Enantioselective Opening of Oxirane and Oxetane" Masashi Mizuno, Motomu Kanai, Akira Iida and Kiyoshi Tomioka, *Tetrahedron: Asymmetry*, **7** (9), 2483-2484 (1996).
- (17) "Structural Requirements of External, Chiral Amidophosphine Ligand for Asymmetric Reaction of Organocopper Reagent" Yuichi Nakagawa, Motomu Kanai, Yasuo Nagaoka, and Kiyoshi Tomioka, *Tetrahedron Letters*, **37** (43), 7805-7808 (1996).
- (18) "A Ternary Complex-Reagent for An Asymmetric Reaction of Lithium Ester Enolates with Imines" Hiroki Fujieda, Motomu Kanai, Takeshi Kambara, Akira Iida and Kiyoshi Tomioka *J. Am. Chem. Soc.*, **117** (8), 2060-2061 (1997).
- (19) "Asymmetric Addition Reaction of Phenyllithium to 1,2-Ethylenediimine with An Aid of A Chiral Ligand" Daisuke Taniyama, Motomu Kanai, Akira Iida and Kiyoshi Tomioka, *Chem. Pharm.Bull.*, **45** (10) 1705-1707 (1997).
- (20) "An External Chiral Ligand Controlled Enantioselective Opening of Oxirane and Oxetane By Organolithiums" Masashi Mizuno, Motomu Kanai, Akira Iida, and Kiyoshi Tomioka, *Tetrahedron*, **53**, 10699-10708 (1997).
- (21) "Varying the Size of Multivalent Ligands: The Dependence of Concanavalin A Binding on Neoglycopolymers Length" Motomu Kanai, Kathleen H. Mortell, Lauara L. Kiessling *J. Am. Chem. Soc.*, **119**, 9931-9932 (1997).
- (22) "Enantioselective Addition of Methylolithium to 2-Furaldehyde Imine with the Aid of Chiral Ligand" Daisuke Taniyama, Motomu Kanai, Akira Iida, Kiyoshi Tomioka *Heterocycles*, 46165-168 (1997).
- (23) "Enantioselective Addition of Thiazolylolithium to Aldimines with the Aid of Chiral Ligand. Asymmetric Synthesis of (*S*)-DOE, a Component of Marine Natural Product, Dolastatin 10" Kiyoshi Tomioka, Maki Satoh, Daisuke Taniyama, Motomu Kanai, and Akira Iida, *Heterocycles*, **47**, 77-80 (1998).
- (24) "An External Chiral Amidophosphine Ligand for Asymmetric Conjugate Addition of Organocopper" Yuichi Nakagawa, Motomu Kanai, Yasuo Nagaoka, and Kiyoshi Tomioka *Tetrahedron* **54**, 10295-10307 (1998).
- (25) "Structural Requirements of a Chiral Ligand for the Catalytic Asymmetric Addition of

Thiophenol to α,β -Unsaturated Esters” Kiyoshi Tomioka, Manabu Okuda, Katsumi Nishimura, Shino Manabe, Motomu Kanai, Yasuo Nagaoka, and Kenji Koga *Tetrahedron Lett.* **39**, 2141-2144 (1998).

- (26) “Linking BINOL: C₂-symmetric Ligands for Investigations on Asymmetric Catalysis” Erasmus M. Vogl, Shigeki Matsunaga, Motomu Kanai, Takehiko Iida, and Masakatsu Shibasaki *Tetrahedron Lett.* **39**, 7917-7920 (1998).
- (27) “Catalytic Asymmetric Michael Addition of Nitromethane to Enones Controlled by (R)-LPB” Ken Funabashi, Yoshinobu Saida, Motomu Kanai, Takayoshi Arai, Hiroaki Sasai, and Masakatsu Shibasaki *Tetrahedron Lett.* **39**, 7557-7558 (1998).
- (28) “Probing Low Affinity and Multivalent Interactions with Surface Plasmon Resonance: Ligands for Concanavalin A” David A. Mann, Motomu Kanai, Dustin J. Maly, and Laura Kiessling *J. Am. Chem. Soc.*, **120**, 10575-10582 (1998).
- (29) “Catalytic Enantioselective Conjugate Addition of Grignard Reagents to Cyclic α,β -Unsaturated Carbonyl Compounds” Motomu Kanai, Yuichi Nakagawa, Kiyoshi Tomioka *Tetrahedron* **55**, 3843-3854 (1999).
- (30) “An Asymmetric Conjugate Addition Reaction of Lithium Organocopper Reagent Controlled by a Chiral Amidophosphine” Motomu Kanai, Yuichi Nakagawa, Kiyoshi Tomioka *Tetrahedron* **55**, 3831-3842 (1999).
- (31) “Catalytic Asymmetric Addition of Diphenylphosphine oxide to Cyclic Imines” Koichi Yamakoshi, Simon, J. Harwood, Motomu Kanai, Masakatsu Shibasaki *Tetrahedron Lett.* **40**, 2565-2568 (1999).
- (32) “A New Bifunctional Asymmetric Catalysis: An Efficient Catalytic Asymmetric Cyanosilylation of Aldehydes” Yoshitaka Hamashima, Daisuke Sawada, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.*, **121**, 2641-2642 (1999).
- (33) “Development of Lewis-Acid Lewis Base Bifunctional Asymmetric Catalyst” Motomu Kanai, Yoshitaka Hamashima, Masakatsu Shibasaki *Farumasia* **35**, 690-694 (1999).
- (34) “Direct Chlorohydrin and Acetoxy Alcohol Synthesis from Olefins Promoted by a Lewis Acid, Bis(trimethylsilyl) Peroxide and (CH₃)₃SiX” I. Sakurada, S. Yamasaki, R. Goetlich, T. Iida, M. Kanai, and M. Shibasaki *J. Am. Chem. Soc.* **122**, 1245-1246 (2000).
- (35) “Dichlorotin Oxide-catalyzed New Direct Functionalization of Olefins: Synthesis of trans β -Azidohydrins and 1,2-Diols” I. Sakurada, S. Yamasaki, M. Kanai and M. Shibasaki *Tetrahedron Lett.*, **41**, 2415-2418 (2000).
- (36) “Design of a New Bifunctional Asymmetric Catalyst from Carbohydrates: Application to Catalytic Asymmetric Cyanosilylation of Aldehydes and Acetophenone” M. Kanai, Y. Hamashima and M. Shibasaki *Tetrahedron Lett.*, **41**, 2405-2409 (2000).
- (37) “A Catalytic Asymmetric Strecker-Type Reaction: Interesting Reactivity Difference between

TMSCN and HCN” M. Takamura, Y. Hamashima, H. Usuda, M. Kanai and M. Shibasaki *Angew. Chem. Int. Ed.* **2000**, *39*, 1650-1652.

(38) “Asymmetric Reissert-type Reaction Promoted by Bifunctional Catalyst” M. Takamura, K. Funabashi, M. Kanai, and M. Shibasaki *J. Am. Chem. Soc.*, **122**, 6327-6328 (2000).

(39) “Catalytic Enantioselective Cyanosilylation of Ketones” Y. Hamashima, M. Kanai, and M. Shibasaki *J. Am. Chem. Soc.*, **122**, 7412-7413 (2000).

(40) “Highly Enantioselective Cyanosilylation of Aldehydes Catalyzed by a Lewis Acid-Lewis Base Bifunctional Catalyst” Y. Hamashima, D. Sawada, H. Nogami, M. Kanai, and M. Shibasaki *Tetrahedron* **2001**, *57*, 805-814.

(41) “Enantioselective Total Synthesis of Epothilone A and B Using Multifunctional Asymmetric Catalysis” D. Sawada, M. Kanai and M. Shibasaki *J. Am. Chem. Soc.*, **122**, 10521-10532 (2000)

(42) “A Catalytic Asymmetric Strecker-Type Reaction Promoted by Lewis Acid-Lewis Base Bifunctional Catalyst” M. Takamura, Y. Hamashima, H. Usuda, M. Kanai, and M. Shibasaki *Chem. Pharm. Bull.*, **48**, 1586-1592 (2000)

(43) “Enantioselective Strecker-type reaction promoted by polymer-supported bifunctional catalyst” H. Nogami, S. Matsunaga, M. Kanai and M. Shibasaki *Tetrahedron Lett.*, **42**, 279-283 (2001)

(44) “Catalytic enantioselective cyanosilylation of ketones: improvement of enantioselectivity and catalyst turn-over by ligand tuning” Y. Hamashima, M. Kanai and M. Shibasaki *Tetrahedron Lett.*, **2001**, *42*, 691-694.

(45) “Novel Multiaction of Zr Catalyst: One-Pot Synthesis of β -Cyanohydrins from Olefins” S. Yamasaki, M. Kanai, M. Shibasaki *J. Am. Chem. Soc.* **2001**, *123*, 1256-1257.

(46) “Anti- and *Syn*-Selective Cyanosilylation Reactions Promoted by a Sugar-Based Bifunctional Catalyst: Stereoselective Synthesis of Essential Building Blocks for HIV Protease Inhibitor and Bestatin” Govindaswamy Manickam, Hiroyuki Nogami, Motomu Kanai, Harald Groeger, Masakatsu Shibasaki *Synlett* **2001**, *5*, 617-620.

(47) “Multifunctional Asymmetric Catalysis” M. Shibasaki, M. Kanai *Chem. Pharm. Bull.* **49**, 511-524 (2001).

(48) “Catalytic Enantioselective Reissert-Type Reaction: Development and Application to the Synthesis of a Potent NMDA Receptor Antagonist (-)-L-689,560 Using a Solid-Supported Catalyst” M. Takamura, K. Funabashi, M. Kanai, and M. Shibasaki *J. Am. Chem. Soc.*, **123**, 6801-6808 (2001)

(49) “Zirconium Alkoxides in Catalysis” S. Yamasaki, M. Kanai, and M. Shibasaki *Chem. Eur. J.*, **7**, 4066-4073 (2001)

(50) “Development and Application of Enantioselective Lewis Acid-Lewis Base Bifunctional Catalyst” M. Kanai, Y. Hamashima, M. Takamura, and M. Shibasaki *Journal of Synthetic Organic Chemistry, Japan*, **59**, 767-778 (2001)

- (51) "Switching Enantiofacial Selectivities Using One Chiral Source: Catalytic Enantioselective Synthesis of the Key Intermediate for (20S)-Camptothecin Family by (S)-Selective Cyanosilylation of Ketones" K. Yabu, S. Masumoto, S. Yamasaki, Y. Hamashima, M. Kanai, W. Du, D. P. Curran, and M. Shibasaki *J. Am. Chem. Soc.*, **123**, 9908-9909 (2001)
- (52) "Enantioselective Construction of Quaternary Stereocenter through a Reissert-Type Reaction Catalyzed by an Electronically Tuned Bifunctional Catalyst: Efficient Synthesis of Various Biologically Significant Compounds" K. Funabashi, H. Ratni, M. Kanai, and M. Shibasaki *J. Am. Chem. Soc.*, **123**, 10784-10785 (2001)
- (53) "Development and Application of Enantioselective Lewis Acid-Lewis Base Bifunctional Catalyst" M. Kanai *Yakugaku Zasshi*, **121**, 949–960 (2001).
- (54) "Studies toward the Total Synthesis of Garsubellin A: A Concise Synthesis of the 18-epi-Tricyclic Core" H. Usuda, M. Kanai, M. Shibasaki *Org. Lett.*, **4**, 859-862 (2002)
- (55) "Studies toward the total synthesis of garsubellin A: Synthesis of 8-deprendyl-garsubellin A" H. Usuda, M. Kanai, M. Shibasaki *Tetrahedron Lett.*, **43**, 3621-3624 (2002)
- (56) "Control of Multivalent Interactions by Binding Epitope Density" C. W. Cairo, J. E. Gestwicki, M. Kanai, L. L. Kiessling *J. Am. Chem. Soc.*, **124**, 1615-1619 (2002).
- (57) "Practical synthesis of chiral ligands for catalytic enantioselective cyanosilylation of ketones" Shuji Masumoto, Kazuo Yabu, Motomu Kanai and Masakatsu Shibasaki *Tetrahedron Lett.*, **43**, 2919-2922 (2002).
- (58) "Studies toward practical synthesis of (20S)-camptothecin family through catalytic enantioselective cyanosilylation of ketones: improved catalyst efficiency by ligand-tuning" Kazuo Yabu, Shuji Masumoto, Motomu Kanai, Dennis P. Curran and Masakatsu Shibasaki *Tetrahedron Lett.*, **43**, 2923-2926 (2002).
- (59) "Recent progress in asymmetric two-center catalysis" M. Shibasaki, M. Kanai, K. Funabashi *Chem. Commun.* 1989-1999 (2002).
- (60) "A General Catalytic Allylation Using Allyltrimethoxysilane" Shingo Yamasaki, Kunihiko Fujii, Reiko Wada, Motomu Kanai, and Masakatsu Shibasaki *J. Am. Chem. Soc.* **124**, 6536-6537 (2002).
- (61) "Efficient Synthesis of Antihyperglycemic (S)- α -Aryloxy- β -phenoxypropionic Acid Using a Bifunctional Asymmetric Catalyst" Takamura, M.; Yanagisawa, H.; Kanai, M.; Shibasaki, M. *Chem. Pharm. Bull.* **50**, 1118-1121 (2002).
- (62) "Dramatic Switching of Protein Kinase C Agonist/Antagonist Activity by Modifying the 12-Ester Side Chain of Phorbol Esters" Wada, R.; Suto, Y.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **124**, 10658-10659 (2002).
- (63) "Enhancement of Lewis Acidity by Ligand-Defined Metal Geometry: A Catalytic Allylation of Aldehydes with Allyltrimethylsilane" Kanai, M.; Kuramochi, A.; Fujii, K.; Shibasaki, M.

Synthesis, 1956-1958 (2002).

- (64) “A Practical Synthesis of (S)-Oxybutynin” Masumoto, S.; Suzuki, M.; Kanai, M.; Shibasaki, M. *Tetrahedron Lett.* **2002**, *43*, 8647–8651.
- (65) “Catalytic Enantioselective Synthesis of (20S)-Camptothecin Intermediates Using Cyanosilylation of Ketones Promoted by D-Glucose-Derived Lanthanide Catalyst” Yabu, K.; Masumoto S.; Kanai, M.; Du, W.; Curran, D. P.; Shibasaki, M. *Heterocycles*, **59**, 369-385 (2003).
- (66) “Efficient Synthesis of a Key Intermediate of Neurokinin Receptor Antagonists Using a Bifunctional Asymmetric Catalyst” Takamura, M.; Yabu, K.; Nishi, T.; Yanagisawa, H.; Kanai, M.; Shibasaki, M. *Synlett* **2003**, 353.
- (67) “Application of the Lewis Acid–Lewis Base Bifunctional Asymmetric Catalysts to Pharmaceutical Syntheses: Stereoselective Chiral Building Block Syntheses of HIV Protease Inhibitor and β 3-Adrenergic Receptor Agonist” Nogami, H.; Kanai, M. Shibasaki, M. *Chem. Pharm. Bull.* **2003**, *51*, 702-709.
- (68) “Formal Catalytic Asymmetric Total Synthesis of Fostriecin” Fujii, K.; Maki, K.; Kanai, M.; Shibasaki, M. *Org. Lett.* **2003**, *5*, 733-736.
- (69) “Catalytic Enantioselective Strecker Reaction of Ketoimines” Masumoto, S.; Usuda, H.; Suzuki, M.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2003**, *125*, 5634-5635.
- (70) “A New Method for the Catalytic Aldol Reaction to Ketones” Oisaki, K.; Suto, Y.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2003**, *125*, 5644-5645.
- (71) “Direct Catalytic Aldol-Type Reaction Using RCH₂CN” Suto, Y; Kumagai, N.; Matsunaga, S.; Kanai, M.; Shibasaki, M. *Organic Letters* **2003**, *5*, 3147-3150.
- (72) “Multicenter Strategy for the Development of Catalytic Enantioselective Nucleophilic Alkylation of Ketones: Me₂Zn Addition to α -Ketoesters” Funabashi K.; Jachmann, M.; Kanai, M.; Shibasaki M. *Angew. Chem. Int. Ed.* **2003**, *42*, 5489-5492.
- (73) “General and practical catalytic enantioselective Strecker reaction of ketoimines: significant improvement through catalyst tuning by protic additives” Nobuki Kato, Masato Suzuki, Motomu Kanai, and Masakatsu Shibasaki *Tetrahedron Lett.* **2004**, *45*, 3147-3151.
- (74) “Catalytic enantioselective Strecker reaction of ketoimines using catalytic amount of TMSCN and stoichiometric amount of HCN” Nobuki Kato, Masato Suzuki, Motomu Kanai, and Masakatsu Shibasaki *Tetrahedron Lett.* **2004**, *45*, 3153-3155.
- (75) “Identifying Specific Conformations by Using a Carbohydrate Scaffold: Discovery of Subtype-Selective LPA-Receptor Agonists and an Antagonist” Yoko Tamaruya, Masato Suzuki, Goshu Kamura, Motomu Kanai, Kotaro Hama, Kumiko Shimizu, Junken Aoki, Hiroyuki Arai, and Masakatsu Shibasaki *Angew. Chem. Int. Ed.* **2004**, *43*, 2834-2837.
- (76) “Catalytic Enantioselective Allylboration of Ketones” Reiko Wada, Kounosuke Oisaki, Motomu

Kanai, and Masakatsu Shibasaki *J. Am. Chem. Soc.* **2004**, *126*, 8910-8911.

(77) “New Entries in Lewis Acid-Lewis Base Bifunctional Asymmetric Catalyst: Catalytic Enantioselective Reissert Reaction of Pyridine Derivatives” Eiko Ichikawa, Masato Suzuki, Kazuo Yabu, Matthias Albert, Motomu Kanai, and Masakatsu Shibasaki *J. Am. Chem. Soc.* **2004**, *126*, 11808-11809.

(78) “Practical Synthesis of Chiral Ligands for Catalytic Enantioselective Cyanosilation of Ketones and Ketoimines” Nobuki Kato, Daisuke Tomita, Keisuke Maki, Motomu Kanai, and Masakatsu Shibasaki *J. Org. Chem.* **2004**, *69*, 6128-6130.

(79) “Catalytic Asymmetric Synthesis of (*S*)-Oxybutynin and a Versatile Intermediate for Anitimuscarinic Agents” Shuji Masumoto, Masato Suzuki, Motomu Kanai, and Masakatsu Shibasaki *Tetrahedron* **2004**, *60*, 10497-10504.

(80) “Challenge toward Structural Complexity Using Asymmetric Catalysis: Target-Oriented Development of Catalytic Enantioselective Diels-Alder Reaction” Hiroyuki Usuda, Akiyoshi Kuramochi, Motomu Kanai, and Masakatsu Shibasaki *Org. Lett.* **2004**, *6*, 4387-4390.

(81) “Catalytic Enantioselective Conjugate Addition of Cyanide to α,β -Unsaturated *N*-Acylpyrroles” Tsuyoshi Mita, Kazuki Sasaki, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2005**, *127*, 514–515.

(82) “Enantioselective Alkenylation and Phenylation Catalyzed by a Chiral CuF Complex” Daisuke Tomita, Reiko Wada, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2005**, *127*, 4138–4139.

(83) “New Chiral Bis(diphenylphospholane) Ligands: Design, Synthesis, and Application to Catalytic Enantioselective Aldol Reaction to Ketones” Kounosuke Oisaki, Dongbo Zhao, Yutaka Suto, Motomu Kanai, Masakatsu Shibasaki *Tetrahedron Lett.* **2005**, *46*, 4325–4329.

(84) “Catalytic Enantioselective Synthesis of Key Intermediates for Triazol Antifungal Agents” Masato Suzuki, Nobuki Kato, Motomu Kanai, Masakatsu Shibasaki *Org. Lett.* **2005**, *7*, 2527–2530.

(85) “Power of Cooperativity: Lewis Acid–Lewis Base Bifunctional Asymmetric Catalysis” Motomu Kanai, Nobuki Kato, Eiko Ichikawa, Masakatsu Shibasaki *Synlett* **2005**, 1491–1508.

(86) “Catalytic Enantioselective Desymmetrization of *meso-N*-Acylaziridines with TMSCN” Tsuyoshi Mita, Ikuo Fujimori, Reiko Wada, Jianfeng Wen, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2005**, *127*, 11252–11253.

(87) “Cu(I)-Catalyzed Direct Enantioselective Cross Aldol-Type Reaction of Acetonitrile” Yutaka Suto, Riichiro Tsuji, Motomu Kanai, Masakatsu Shibasaki *Org. Lett.* **2005**, *7*, 3757–3760.

(88) “Total Synthesis of (\pm)-Garsubellin A” Akiyoshi Kuramochi, Hiroyuki Usuda, Kenzo Yamatsugu, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2005**, *127*, 14200–14201.

(89) “Recent Progress in Lewis Acid-Lewis Base Bifunctional Asymmetric Catalysis” Motomu Kanai, Nobuki Kato, Eiko Ichikawa, Masakatsu Shibasaki *Pure Appl. Chem.* **2005**, *77*, 2047-2052.

- (90) "Catalyst-Controlled Asymmetric Synthesis of Fostriecin and 8-*epi*-Fostriecin" Keisuke Maki, Rie Motoki, Kunihiko Fujii, Motomu Kanai, Takayasu Kobayashi, Shinri Tamura, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2005**, *127*, 17111-17117.
- (91) "Synthetic Strategies of Fostriecin" Masakatsu Shibasaki, Motomu Kanai, *Heterocycles* **2005**, *66*, 727-741.
- (92) "Chiral, Poly(Rare-Earth Metal) Complexes in Asymmetric Catalysis" Masakatsu Shibasaki, Motomu Kanai, Shigeki Matsunaga, *Aldrichimica Acta* **2006**, *39*, 31-39.
- (93) "Catalytic Asymmetric Total Synthesis of (+)-Lactacystin" Nobuhisa Fukuda, Kazuki Sasaki, T. V. R. S. Sastry, Motomu Kanai, Masakatsu Shibasaki *J. Org. Chem.* **2006**, *71*, 1220-1225.
- (94) "Assembly State of Catalytic Modules as Chiral Switches in Asymmetric Strecker Amino Acid Synthesis" Nobuki Kato, Tsuyoshi Mita, Motomu Kanai, Buruno Therrien, Masaki Kawano, Kentaro Yamaguchi, Hiroshi Danjo, Yoshihisa, Sei, Akihiro Sato, Sanae Furusho, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2006**, *128*, 6768-6769.
- (95) "De Novo Synthesis of Tamiflu via a Catalytic Asymmetric Ring-Opening of *meso*-Aziridines with TMSN₃" Yuhei Fukuta, Tsuyoshi Mita, Nobuhisa Fukuda, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2006**, *128*, 6312-6313.
- (96) "Catalytic Enantioselective Allylation of Ketoimines" Reiko Wada, Tomoyuki Shibuguchi, Sae Makino, Kounosuke Oisaki, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2006**, *128*, 7687-7691.
- (97) "Catalytic Enantioselective Aldol Reaction of Ketones" Kounosuke Oisaki, Dongbo Zhao, Motomu Kanai, Masakatsu Shibasaki *J. Am. Chem. Soc.* **2006**, *128*, 7164-7165.
- (98) "Design and Development of Subtype-Selective LPA Ligands Based on Sugar Skeleton (Review in Japanese)" Rie Motoki, Motomu Kanai, Masakatsu Shibasaki *MedChem News* **2006**, *16*, 10-14.
- (99) "Development of Catalytic Asymmetric Reactions Using Chiral Multifunctional Rare-Earth Metal Catalyst (Review in Japanese)" Masakatsu Shibasaki, Motomu Kanai, Shigeki Matsunaga, *TCI Mail* **2006**, *131*, 2-13.
- (100) "Nucleophilic Activation of Alkenyl and Aryl Boronates by a Chiral Cu^IF Complex: Catalytic Enantioselective Alkenylation and Arylation of Aldehydes" Daisuke Tomita, Motomu Kanai, Masakatsu Shibasaki, *Chem. Asian. J.* **2006**, *1*, 161-166.
- (101) "Identification of Potent, Selective Protein Kinase C Inhibitors Based on a Phorbol Skeleton" Yamatsugu, K.; Motoki, R.; Kanai, M.; Shibasaki, M. *Chem. Asian. J.* **2006**, *1*, 314-321.
- (102) "Dramatic Ligand Effect in Catalytic Asymmetric Reductive Aldol Reaction of Allenic Esters to Ketones" Zhao, D.; Oisaki, K.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2006**, *128*, 14440-14441.

- (103) "Catalytic Enantioselective Alkenylation and Phenylation of Trifluoromethyl Ketones" Motoki, R.; Tomita, D.; Kanai, M.; Shibasaki, M. *Tetrahedron Lett.* **2006**, 47, 8083-8086.
- (104) "Key Role of the Lewis Base Position in Asymmetric Bifunctional Catalysis: Design and Evaluation of a New Ligand for Chiral Polymetallic Catalysts" Fujimori, I.; Mita, T.; Maki, K.; Shiro, M.; Sato, A.; Furusho, S.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2006**, 128, 16438-16439.
- (105) "Total Synthesis of Lactacystin and Salinosporamide A" Shibasaki, M.; Kanai, M.; Fukuda, N. *Chem. Asian J.* (Focus Review) **2007**, 2, 20-38.
- (106) "Second Generation Catalytic Asymmetric Synthesis of Tamiflu: Allylic Substitution Route" Mita, T.; Fukuda, N.; Roca, F. X.; Kanai, M.; Shibasaki, M. *Org. Lett.* **2007**, 9, 259-262.
- (107) "A concise synthesis of Tamiflu: third generation route via the Diels-Alder reaction and the Curtius rearrangement" Yamatsugu, K.; Kamijo, S.; Suto, Y.; Kanai, M.; Shibasaki, M. *Tetrahedron Lett.* **2007**, 48, 1403-1406.
- (108) "Catalytic Enantioselective Mannich-type Reactions of Ketoimines" Suto, Y.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2007**, 129, 500-501.
- (109) "Pd-Catalyzed allylic alkylation of secondary nitroalkanes" Maki, K.; Kanai, M.; Shibasaki, M. *Tetrahedron* **2007**, 63, 4250-4257.
- (110) "Catalytic Asymmetric Synthesis of Biologically Active Molecules" Kanai, M.; Shibasaki, M. *J. Synth. Org. Chem., Jpn.* **2007**, 65, 439-449.
- (111) "Catalytic Enantioselective Alkylative Aldol Reaction: Efficient Multicomponent-Assembling of Dialkylzincs, Allenic Esters, and Ketones toward Highly Functionalized δ -Lactones with Tetrasubstituted Chiral Center" Oisaki, K.; Zhao, D.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2007**, 129, 7439-7443.
- (112) "A New Approach for the Construction of a Highly Congested Bicyclic System in Polycyclic Polyprenylated Acylphloroglucinols (PPAPS)" Shimizu, Y.; Kuramochi, A.; Usuda, H.; Kanai, M.; Shibasaki, M. *Tetrahedron Lett.* **2007**, 48, 4173-4177.
- (113) "Toward a rational design of the assembly structure of polymetallic asymmetric catalysts: design, synthesis, and evaluation of new chiral ligands for catalytic asymmetric cyanation reactions" Fujimori, I.; Mita, T.; Maki, K.; Shiro, M.; Sato, A.; Furusho, S.; Kanai, M.; Shibasaki, M. *Tetrahedron* **2007**, 63, 5820-5831.
- (114) "Catalytic enantioselective construction of tetrasubstituted carbons by self-assembled poly rare earth metal complexes" Shibasaki, M.; Kanai, M. *Org. Biol. Chem.* **2007**, 5, 2027-2039.
- (115) "Copper(I) Alkoxide-Catalyzed Alkynylation of Trifluoromethyl Ketones" Motoki, R.; Kanai, M.; Shibasaki, M. *Org. Lett.* **2007**, 9, 2997-3000.
- (116) "Embryo Spacing and Implantation Timing Are Differentially Regulated by LPA3-Mediated Lysophosphatidic Acid Signaling in Mice" Hama, K.; Aoki, J.; Inoue, A.; Endo, T.; Amano, T.;

Motoki, R.; Kanai, M.; Ye, X.; Chun, J.; Matsuki, N.; Suzuki, H.; Shibasaki, M.; Arai, H. *Biol. Reproduction* **2007**, *77*, 954-959.

(117) “A Method for the Synthesis of an Oseltamivir PET Tracer” Morita, M.; Sone, T.; Yamatsugu, K.; Sohtome, Y.; Matsunaga, S.; Kanai, M.; Watanabe, Y.; Shibasaki, M. *Bioorg. Med. Chem. Lett.* **2008**, *18*, 600-602.

(118) “Pharmacologic Action of Oseltamivir on the Nervous System” K. Ishii, H. Hamamoto, T. Sasaki, Y. Ikegaya, K. Yamatsugu, M. Kanai, M. Shibasaki, K. Sekimizu, *Drug Discoveries & Therapeutics*, **2008**, *2*, 24-34.

(119) “P-Glycoprotein Restricts the Penetration of Oseltamivir across the Blood-Brain Barrier” A. Ose, H. Kusuhara, K. Yamatsugu, M. Kanai, M. Shibasaki, T. Fujita, A. Yamamoto, Y. Sugiyama, *Drug Metab. Dispos.* **2008**, *36*, 427-434.

(120) “Oseltamivir Enhances Hippocampal Network Synchronization” A. Usami, T. Sasaki, N. Satoh, T. Akiba, S. Yokoshima, T. Fukuyama, K. Yamatsugu, M. Kanai, M. Shibasaki, N. Matsuki, Y. Ikegaya, *J. Pharmacol. Sci.* **2008**, *106*, 659-662.

(121) “Synthetic Strategies for Oseltamivir Phosphate” M. Shibasaki, M. Kanai *Eur. J. Org. Chem.* **2008**, 1839-1850.

(122) “A Catalytic Enantioselective Conjugate Addition of Cyanide to Enones” Tanaka, Y.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2008**, *130*, 6072-6073.

(123) “Cu(I)-catalyzed asymmetric allylation of ketones and ketimines” Kanai, M.; Wada, R.; Shibuguchi, T.; Shibasaki, M. *Pure Appl. Chem.* **2008**, *80*, 1055-1062.

(124) “Asymmetric Synthesis of Tertiary Alcohols and α -Tertiary Amines via Cu-Catalyzed C–C Bond Formation to Ketones and Ketimines” Shibasaki, M.; Kanai, M. *Chem. Rev.* **2008**, *108*, 2853-2873.

(125) “Catalytic Conjugate Addition of Cyanide to Enones: Cooperative Catalysis of Ni(0) and Gd(OTf)₃” Tanaka, Y.; Kanai, M.; Shibasaki, M. *Synlett* **2008**, 2295-2298.

(126) “Asymmetric Reductive Mannich Reaction to Ketimines Catalyzed by a Cu(I) Complex” Du, Y.; Xu, W.; Shimizu, Y.; Oisaki, K.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2008**, *130*, 16146-16147.

(127) “Cu(I)-Catalyzed Hetero-Diels–Alder Reaction between Danishefsky-Type Siloxy Dienes and Ketones” Chen, I.-H.; Oisaki, K.; Kanai, M.; Shibasaki, M. *Org. Lett.* **2008**, *10*, 5151-5154.

(128) “A Synthesis of Tamiflu by Using a Barium-Catalyzed Asymmetric Diels–Alder-Type Reaction” Yamatsugu, K.; Yin, L.; Kamijo, S.; Kimura, Y.; Kanai, M.; Shibasaki, M. *Angew. Chem., Int. Ed.* **2009**, *48*, 1070–1076 (featured by *Synfacts* **2009**, 702).

(129) “Limited Brain Distribution of [3*R*,4*R*,5*S*]-4-Acetamido-5-Amino-3-(1-Ethoxypropoxy)-1-Cyclohexene-1-Carboxylate Phosphate (Ro 64-0802), a Pharmacologically Active Form of

Oseltamivir, by Active Efflux across the Blood-Brain Barrier Mediated by Organic Anion Transporter 3 (Oat3/*Slc22a8*) and Multidrug Resistance-Associated Protein 4 (Mrp4/*Abcc4*)” Ose, A.; Ito, M.; Kusuhsara, H.; Yamatsugu, K.; Kanai, M.; Shibasaki, M.; Hosokawa, M.; Schuetz, J. D.; Sugiyama, Y. *Drug Metab. Disp.* **2009**, *37*, 321–329.

(130) “Two Methods for Catalytic Generation of Reactive Enolates Promoted by a Chiral Poly Gd Complex: Application to Catalytic Enantioselective Protonation Reactions” Morita, M.; Drouin, L.; Motoki, R.; Kimura, Y.; Fujimori, I.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2009**, *131*, 3858–3859 (featured by *Synfacts* **2009**, 626).

(131) “Lysophosphatidylmethanol is a pan lysophosphatidic acid receptor agonist and is produced by autotaxin in blood” Tomoko Endo, Kuniyuki Kano, Rie Motoki, Kotaro Hama, Shinichi Okudaira, Mayuko Ishida, Hideo Ogiso, Masayuki Tanaka, Norio Matsuki, Ryo Taguchi, Motomu Kanai, Masakatsu Shibasaki, Hiroyuki Arai, and Junken Aoki *J. Biochem.* **2009**, *146*, 283–293.

(132) “Sequential Regulation of DOCK2 Dynamics by Two Phospholipids During Neutrophil Chemotaxis” Akihiko Nishikimi, Hideo Fukuhara, Wenjuan Su, Tsunaki Hongu, Shunsuke Takasuga, Hisashi Mihara, Qinhong Cao, Fumiuyuki Sanematsu, Motomu Kanai, Hiroshi Hasegawa, Yoshihiko Tanaka, Masakatsu Shibasaki, Yasunori Kanaho, Takehiko Sasaki, Michael A. Frohman, Yoshinori Fukui *Science* **2009**, *324*, 384–387.

(133) “Design and Synthesis of Immobilized Tamiflu Analog on Resin for Affinity Chromatography” Kimura, Y.; Yamatsugu, K.; Kanai, M.; Echigo, N.; Kuzuhara, T.; Shibasaki, M. *Tetrahedron Lett.* **2009**, *50*, 3205–3208 (50th anniversary issue).

(134) “Enantioselective Synthesis of SM-130686 Based on the Development of Asymmetric Cu(I)F Catalysis To Access 2-Oxindoles Containing a Tetrasubstituted Carbon” Tomita, D.; Yamatsugu, K.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2009**, *131*, 6946–6948.

(135) “An alternative synthesis of Tamiflu[®]: a synthetic challenge and the identification of a ruthenium-catalyzed dihydroxylation route” Yamatsugu, K.; Kanai, M.; Shibasaki, M. *Tetrahedron* **2009**, *65*, 6017–6024.

(136) “Nucleophile Generation via Decarboxylation: Asymmetric Construction of Contiguous Trisubstituted and Quaternary Stereocenters through a Cu(I)-Catalyzed Decarboxylative Mannich-Type Reaction” Yin, L.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2009**, *131*, 9610–9611 (featured by *Synfacts* **2009**, 1111).

(137) “Catalytic Asymmetric Synthesis of Chiral Tertiary Organoboronic Esters through Conjugate Boration of β-Substituted Cyclic Enones” Chen, I.-H.; Yin, L.; Itano, W.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2009**, *131*, 11664–11665.

(138) “Recent Progress in Asymmetric Bifunctional Catalysis Using Multimetallic Systems” Shibasaki, M.; Kanai, M.; Matsunaga, S.; Kumagai, N. *Acc. Chem. Res.* **2009**, *42*, 1117–1127.

(139) “Catalytic Asymmetric Total Synthesis of ent-Hyperforin” Shimizu, Y.; Shi, S.-L.; Ususda, H.; Kanai, M.; Shibasaki, M. *Angew. Chem., Int. Ed.* **2010**, *49*, 1103–1106 (featured by *Chem. & Eng. News* 2010, Jan. 25, p 28).

- (140) "Design and Synthesis of Resin-Conjugated Tamiflu Analogs for Affinity Chromatography" Kimura, Y.; Yamatsugu, K.; Kanai, M.; Echigo, N.; Kuzuhara, T.; Shibasaki, M. *Bull. Korean Chem. Soc.* **2010**, *31*, 588–594 (dedication issur to Professor Sunggak Kim).
- (141) "Identification of Modular Chiral Bisphosphines Effective for Cu(I)-Catalyzed Asymmetric Allylation and Propargylation of Ketones" Shi, S.-L.; Xu, L.-W.; Oisaki, K.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2010**, *132*, 6638–6639.
- (142) "Catalytic Asymmetric Synthesis of R207910" Saga, Y.; Motoki, R.; Makino, S.; Shimizu, Y.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2010**, *132*, 7905–7907.
- (143) "Catalytic Enantioselective Construction of β -Quaternary Carbons via a Conjugate Addition of Cyanide to β,β -Disubstituted α,β -Unsaturated Carbonyl Compound" Tanaka, Y.; Kanai, M.; Shibasaki, M. *J. Am. Chem. Soc.* **2010**, *132*, 8862–8863.
- (144) "The First Catalytic Asymmetric Total Synthesis of *ent*-Hyperforin" Shimizu, Y.; Shi, S.-L.; Usuda, H.; Kanai, M.; Shibasaki, M. *Tetrahedron* **2010**, *33*, 6569–6584.
- (145) "Copper(I)–Secondary Diamine Complex-Catalyzed Enantioselective Conjugate Boration of Linear β,β -Disubstituted Enones" Chen, I.-H.; Kanai, M.; Shibasaki, M. *Org. Lett.* **2010**, *12*, 4098–4101 (featured by *Synfacts* **2010**, 1253).
- (146) "Lewis Acid Catalyzed Benzylic C–H Bond Functionalization of Azaarenes: Addition to Enones" Komai, H.; Yoshino, T.; Matsunaga, S.; Kanai, M. *Org. Lett.* **2011**, *13*, 1706–1709.
- (147) "Recent Development in Synthetic Strategies for Oseltamivir Phosphate" Shibasaki, M.; Kanai, M.; Yamatsugu, K. *Isr. J. Chem.* **2011**, *51*, 316–328.
- (148) "Catalytic Asymmetric Ring-Opening of *meso*-Aziridines with Malonates under Heterodinuclear Rare Earth Metal Schiff Base Catalysis" Xu, Y.; Lin, L.; Kanai, M.; Matsunaga, S.; Shibasaki, M. *J. Am. Chem. Soc.* **2011**, *133*, 5791–5793.
- (149) "A Facile Pathway to Enantiomerically Enriched 3-Hydroxy-2-Oxindoles: Asymmetric Intramolecular Arylation of α -Keto Amides Catalyzed by a Palladium–DifluorPhos Complex" Yin, L.; Kanai, M.; Shibasaki, M. *Angew. Chem., Int. Ed.* **2011**, *50*, 7620–7623.
- (150) "Catalytic Migratory Oxidative Coupling of Nitrones" Hashizume, S.; Oisaki, K.; Kanai, M. *Org. Lett.* **2011**, *13*, 4288–4291.
- (151) "Catalytic Migratory Oxidative Coupling of Nitrones through an Outer-Sphere $C(sp^3)$ -H Activation Process" Hashizume, S.; Oisaki, K.; Kanai, M. *Chem. Rec.* **2011**, *5*, 236–241.
- (152) "Cu(I)-Catalyzed Decarboxylative Aldol-Type and Mannich-Type Reactions For Asymmetric Construction Of Contiguous Trisubstituted and Quaternary Stereocenters" Yin, L.; Kanai, M.; Shibasaki, M. *Tetrahedron* **2012**, *68*, 3497–3506.
- (153) "Asymmetric Synthesis of Dihydropyranones from Ynones by Sequential Copper(I)-Catalyzed Direct Aldol and Silver(I)-Catalyzed Oxy-Michael Reactions" Shi, S.-L.; Kanai, M.; Shibasaki, M. *Angew. Chem. Int. Ed.* **2012**, *51*, 3932–3935.
- (154) "Catalytic Asymmetric Total Synthesis of Chimonanthine, Folicanthine, and Calycanthine through Double Michael Reaction of Bisoxindole" Mitsunuma, H.; Shibasaki, M.; Kanai, M.; Matsunaga, S. *Angew. Chem. Int. Ed.* **2012**, *51*, 5217–5221.

- (155) "Blockade of Inflammatory Responses by a Small-Molecule Inhibitor of the Rac Activator DOCK2" Akihiko Nishikimi, Takehito Urano, Xuefeng Duan, Qinhong Cao, Yuji Okamura, Takashi Saitoh, Nae Saito, Shunsuke Sakaoka, Yao Du, Atsushi Suenaga, Mutsuko Kukimoto-Niino, Kei Miyano, Kazuhito Gotoh, Takayoshi Okabe, Fumiaki Sanematsu, Yoshihiko Tanaka, Hideki Sumimoto, Teruki Honma, Shigeyuki Yokoyama, Tetsuo Nagano, Daisuke Kohda, Motomu Kanai, Yoshinori Fukui *Chem. & Biol.* **2012**, *19*, 488-497.
- (156) "Mg-catalyzed Enantioselective Benzylic C-H Bond Functionalization of Isoindolinones: Addition to Imines" Yudai Suzuki, Motomu Kanai, Shigeki Matsunaga *Chem. Eur. J.* **2012**, *18*, 7654–7657.
- (157) "Lewis Acid Catalyzed Benzylic C-H Bond Functionalization of Azaarenes; Addition to Imines and Enones" Komai, H.; Yoshino, T.; Matsunaga, S.; Kanai, M. *Synthesis* **2012**, *44*, 2185–2194.
- (158) "Catalytic Asymmetric Synthesis of Spirooxindoles by a Mannich-Type Reaction of Isothiocyanato Oxindoles" Shota Kato, Tatsuhiko Yoshino, Masakatsu Shibasaki, Motomu Kanai and Shigeki Matsunaga *Angew. Chem. Int. Ed.* **2012**, *51*, 7007-7010.
- (159) "Functional-Group-Tolerant Catalytic Migratory Oxidative Coupling of Nitrones" Shogo Hashizume, Kounosuke Oisaki and Motomu Kanai, *Chem. Asian J.* **2012**, *7*, 2600–2606.
- (160) "Cu(I)-catalyzed α -alkylation of ketones with styrene derivatives" Shohei Majima, Yohei Shimizu, Motomu Kanai, *Tetrahedron Lett.* **2012**, *53*, 4381-4384.
- (161) "Catalytic aerobic production of imines *en route* to mild, green, and concise derivatizations of amines" Toshiaki Sonobe, Kounosuke Oisaki, Motomu Kanai, *Chem. Sci.* **2012**, *3*, 3249–3255.
- (162) "Rhodium-Catalyzed Cross-Aldol Reaction: In Situ Aldehyde-Enolate Formation from Allyloxyboranes and Primary Allylic Alcohols" Luqing Lin, Kumiko Yamamoto, Shigeki Matsunaga, Motomu Kanai, *Angew. Chem. Int. Ed.* **2012**, *51*, 10275–10279.
- (163) "Copper(I)-Catalyzed Enantioselective Incorporation of Ketones to Cyclic Hemiaminals for the Synthesis of Versatile Alkaloid Precursors" Shi, S.-L.; Wei, X.-F.; Shimizu, Y.; Kanai, M. *J. Am. Chem. Soc.* **2012**, *134*, 17019–17022.
- (164) "Synthesis of a New Oseltamivir Derivative Through Late-Stage Catalytic C-H Functionalization" Kenta Saito, Motomu Kanai *Heterocycles* **2013**, *86*, 1565-1574.
- (165) "Inhibition of MAO-A and stimulation of behavioural activities in mice by the inactive prodrug form of the anti-influenza agent oseltamivir" Miki Hiasa, Yumiko Isoda, Yasushi Kishimoto, Kenta Saitoh, Yasuaki Kimura, Motomu Kanai, Masakatsu Shibasaki, Dai Hatakeyama, Yutaka Kirino, Takashi Kuzuhara *British J. Pharmacology* **2013**, *169*, 115-129.
- (166) "A Cationic High-Valent Cp^{*}Co^{III} Complex for the Catalytic Generation of Nucleophilic Organometallic Species: Directed C-H Bond Activation" Yoshino, T. Ikemoto, H.; Matsunaga, S.; Kanai, M. *Angew. Chem. Int. Ed.* **2013**, *52*, 2207–2211.
- (167) "Cobalt-Catalyzed C4-Selective Direct Alkylation of Pyridines" Takashi Andou, Yutaka Saga, Hirotomo Komai, Shigeki Matsunaga, Motomu Kanai *Angew. Chem. Int. Ed.* **2013**, *52*, 3213-3216.
- (168) "Copper-Catalyzed C–H Alkoxylation of Azoles" Noriaki Takemura, Yoichiro Kuninobu, Motomu Kanai *Org. Lett.* **2013**, *15*, 844-847.

- (169) “Intracellular activation of acetyl-CoA by an artificial reaction promoter and its fluorescent detection” Hirokazu Komatsu, Yutaka Shindo, Shigehiro A. Kawashima, Kenzo Yamatsugu, Kotaro Oka, Motomu Kanai *Chem. Commun.* **2013**, *49*, 2876–2878.
- (170) “Iron-Catalyzed Oxidative C(3)–H Functionalization of Amines” Noriaki Takasu, Kounosuke Oisaki, and Motomu Kanai *Org. Lett.* **2013**, *15*, 1918–1921.
- (171) “Catalytic Asymmetric Synthesis of Spirooxindoles via Addition of Isothiocyanato Oxindoles to Aldehydes Under Dinuclear Nickel Schiff Base Catalysis” Shota Kato, Motomu Kanai, Shigeki Matsunaga, *Chem. Asian J.* **2013**, *8*, 1768–1771.
- (172) “Sultam Synthesis via Cu-Catalyzed Intermolecular Carboamination of Alkenes with *N*-Fluorobenzenesulfonimide” Keiichi Kaneko, Tatsuhiko Yoshino, Shigeki Matsunaga, Motomu Kanai *Org. Lett.* **2013**, *15*, 2502–2505.
- (173) “From Chiral Base Catalysts to Redox-Active Catalysts: Chasing the Identity of Metal Catalysts in Carbon–Carbon Bond-Forming Reactions” Motomu Kanai, Shigeki Matsunaga, Kounosuke Oisaki, Yohei Shimizu *J. Synth. Org. Chem. Japan* **2013**, *71*, 433–442.
- (174) “In situ Catalytic Generation of Allylcopper Species for Asymmetric Allylation: Toward 1*H*-Isochromene Skeletons” Junya Kawai, Prasanna Kumara Chikkade, Yohei Shimizu and Motomu Kanai *Angew. Chem. Int. Ed.* **2013**, *52*, 7177–7180.
- (175) “Cp^{*}Co^{III}-Catalyzed C2-Selective Addition of Indoles to Imines” Tatsuhiko Yoshino, Hideya Ikemoto, Shigeki Matsunaga and Motomu Kanai *Chem. Eur. J.* **2013**, *19*, 9142–9146.
- (176) “Manganese-Catalyzed Aerobic Dehydrogenative Cyclization toward Ring-Fused Indole Skeletons” Oisaki, K.; Abe, J.; Kanai, M. *Org. Biomol. Chem.* **2013**, *11*, 4569–4572.
- (177) “Copper-Catalyzed Intramolecular N–S Bond Formation by Oxidative Dehydrogenative Cyclization” Zhen Wang, Yoichiro Kuninobu, Motomu Kanai, *J. Org. Chem.* **2013**, *78*, 7337–7342.
- (178) “Catalytic Anomeric Aminoalkynylation of Unprotected Aldoses” Kimura, Y.; Ito, S.; Shimizu, Y.; Kanai, M. *Org. Lett.* **2013**, *15*, 4130–4133.
- (179) “Catalytic Asymmetric Synthesis of Spirooxindoles via Addition of Isothiocyanato Oxindoles to Aldehydes Under Dinuclear Nickel Schiff Base Catalysis” Shota Kato, Motomu Kanai, Shigeki Matsunaga, *Chem. Asian J.* **2013**, *8*, 1768–1771.
- (180) “Rhenium-Catalyzed Synthesis of 3-Imino-1-isoindolinones by C–H Bond Activation: Application to the Synthesis of Polyimide Derivatives” Shunsuke Sueki, Yuanfang Guo, Motomu Kanai, Yoichiro Kuninobu, *Angew. Chem. Int. Ed.* **2013**, *52*, 11879–11883.
- (181) “Rh-Catalyzed Aldehyde–Aldehyde Cross-Aldol Reaction under Base-Free Conditions: In Situ Aldehyde-Derived Enolate Formation through Orthogonal Activation” Luqing Lin, Kumiko Yamamoto, Shigeki Matsunaga, Motomu Kanai, *Chem. Asian J.* **2013**, *8*, 2974–2983.
- (182) “Structure-activity relationship study of novel iminothiadiazolo-1 pyrimidinone antimicrobial agents” Atmika Paudel, Keiichi Kaneko, Ayako Watanabe, Shigeki Matsunaga, Motomu Kanai, Hiroshi Hamamoto, Kazuhisa Sekimizu, *J. Antibiotics* **2013**, *66*, 663–667.

- (183) "Attenuation of the Aggregation and Neurotoxicity of Amyloid- β Peptides by Catalytic Photooxygenation" Taniguchi, A.; Sasaki, D.; Shiohara, A.; Iwatsubo, T.; Tomita, T.; Sohma, Y.; Kanai, M. *Angew. Chem. Int. Ed.* **2014**, *53*, 1382–1385.
- (184) "Enantioselective Synthesis of Spirooxindoles via Direct Catalytic Asymmetric Aldol-Type Reaction of Isothiocyanato Oxindoles" Shota Kato, Motomu Kanai, Shigeki Matsunaga, *Heterocycles*, **2014**, *88*, 475–491.
- (185) "A Catalytic C-C Bond-Formation with Minimal Use of Protecting Groups: Construction of Functionalized Isotetronic Acid Derivatives" Yohei Shimizu, Kouji Yasuda, Motomu Kanai, *Heterocycles*, **2014**, *88*, 919–927.
- (186) "Cobalt-Catalyzed C-4 Selective Alkylation of Quinolines" Yamamoto, S.; Saga, Y.; Andou, T.; Matsunaga, S.; Kanai, M. *Adv. Synth. Cat.* **2014**, *356*, 401–405.
- (187) "Catalytic enantioselective synthesis of 2-(2-hydroxyethyl)indole scaffolds via consecutive intramolecular amido-cupration of allenes and asymmetric addition of carbonyl compounds" Prasanna Kumara Chikkade, Yohei Shimizu, Motomu Kanai, *Chem. Sci.* **2014**, *5*, 1585–1590.
- (188) "Regioselective Trifluoromethylation of N-Heteroaromatic Compounds using Trifluoromethylidfluoroborane Activator" Nishida, T.; Ida, H.; Kuninobu, Y.; Kanai, M. *Nat. Commun.* **2014**, *5*, 3387–3392 (doi:10.1038/ncomms4387).
- (189) "Synthesis of Pyridine *N*-Oxide–BF₂CF₃ Complexes and Their Fluorescence Properties" Tomoaki Nishida, Aiko Fukazawa, Eriko Yamaguchi, Hiroya Oshima, Shigehiro Yamaguchi, Motomu Kanai, Yoichiro Kuninobu, *Chemistry Asian J.* **2014**, *9*, 1026–1030.
- (190) "Copper-Catalyzed Intramolecular C(sp³)–H and C(sp²)–H Amidation by Oxidative Cyclization" Zhen Wang, Jizhi Ni, Yoichiro Kuninobu, Motomu Kanai, *Angew. Chem. Int. Ed.* **2014**, *53*, 3496–3499.
- (191) "Copper-Catalyzed Benzylic C(sp³)–H Alkoxylation of Heterocyclic Compounds" Takemura, N.; Kuninobu, Y.; Kanai, M. *Org. Biomol. Chem.* **2014**, *12*, 2528–2532.
- (192) "Palladium-Catalyzed C–H Fluorosilylation of 2-Phenylpyridines: Synthesis of Silafluorene Equivalents" Qing Xiao, Xiangtai Meng, Motomu Kanai, Yoichiro Kuninobu, *Angew. Chem. Int. Ed.* **2014**, *53*, 3168–3172.
- (193) "Asparagine-Selective Cleavage of Peptide Bonds through Hypervalent Iodine-Mediated Hofmann Rearrangement in Neutral Aqueous Solution" Kana Tanabe, Atsuhiko Taniguchi, Takuya Matsumoto, Kounosuke Oisaki, Youhei Sohma, Motomu Kanai, *Chem. Sci.* **2014**, *5*, 2747 – 2753.
- (194) "Palladium-Catalyzed Direct C–H Silylation and Germanylation of Benzamides and Carboxamides" Kyalo Stephen Kanyiva, Yoichiro Kuninobu, Motomu Kanai, *Org. Lett.* **2014**, *16*, 1968–1971.
- (195) "Pyrroloindolone Synthesis via a Cp^{*}Co^{III}-Catalyzed Redox-Neutral Directed C–H Alkenylation/Annulation Sequence" Hideya Ikemoto, Tatsuhiko Yoshino, Ken Sakata, Shigeki Matsunaga, Motomu Kanai, *J. Am. Chem. Soc.* **2014**, *136*, 5424–5431.
- (196) "Air-Stable Carbonyl(pentamethylcyclopentadienyl)cobalt Diiiodide Complex as a Precursor for Cationic (Pentamethylcyclopentadienyl)cobalt(III) Catalysis: Application for Directed C-2

- Selective C-H Amidation of Indoles” Sun, B.; Yoshino, T.; Matsunaga, S.; Kanai, M. *Adv. Synth. Catal.* **2014**, *356*, 1491–1495.
- (197) “Copper-Catalyzed Regio- and Stereoselective Intermolecular Three-Component Oxyarylation of Allenes” Itoh, T.; Shimizu, Y.; Kanai, M. *Org. Lett.* **2014**, *16*, 2736–2739.
- (198) “Recent progress in copper-catalyzed difunctionalization of unactivated carbon-carbon multiple bonds” Shimizu, Y.; Kanai, M. *Tetrahedron Lett.* **2014**, *55*, 3727–3737.
- (199) “Chemoselective aerobic oxidation catalyzed by a metal/stable organoradical redox conjugate” Seki, Y.; Oisaki, K.; Kanai, M. *Tetrahedron Lett.* **2014**, *55*, 3738–3746.
- (200) “Serine-Selective Aerobic Cleavage of Peptides and a Protein Using Water-Soluble Copper Organoradical Conjugate” Seki, Y.; Tanabe, K.; Sasaki, D.; Sohma, Y.; Oisaki, K.; Kanai, M. *Angew. Chem. Int. Ed.* **2014**, *53*, 6501–6505.
- (201) “Rational Design and Identification of Non-Peptidic Aggregation Inhibitor of Amyloid-beta Based on a Pharmacophore Motif Obtained from cyclo[-Lys-Leu-Val-Phe-Phe-]” Tadamasa Arai, Takushi Araya, Daisuke Sasaki, Atsuhiko Taniguchi, Takeshi Sato, Youhei Sohma, Motomu Kanai, *Angew. Chem. Int. Ed.* **2014**, *53*, 8236–8239.
- (202) “Regiodivergent Kinetic Resolution of Terminal and Internal *rac*-Aziridines with Malonates under Dinuclear Schiff Base Catalysis” Yingjie Xu, Keiichi Kaneko, Motomu Kanai, Masakatsu Shibasaki, and Shigeki Matsunaga, *J. Am. Chem. Soc.* **2014**, *136*, 9190–9194.
- (203) “Reaction mediated artificial cell termination: control of vesicle viability using Rh(I)-catalyzed hydrogenation” Hirokazu Komatsu, Yuki Daimon, Kohsaku Kawakami, Motomu Kanai, Jonathan P. Hillad, Katsuhiko Ariga, *Phys. Chem. Chem. Phys.* **2014**, *16*, 16454–16457.
- (204) “Molybdenum-Mediated Desulfurization of Thiols and Disulfides” Zhen Wang, Yoichiro Kuninobu, Motomu Kanai, *Synlett* **2014**, *25*, 1869–1872.
- (205) “Chemoselective aerobic photo-oxidation of 9H-fluorenes for the synthesis of 9-fluorenones” Masahiro Kojima, Kounosuke Oisaki, Motomu Kanai, *Tetrahedron Lett.* **2014**, *55*, 4736–4738.
- (206) “Copper-Mediated Direct C(sp³)-H and C(sp²)-H Acetoxylation” Wang, Z.; Kuninobu, Y.; Kanai, M. *Org. Lett.*, **2014**, *16*, 4790–4793.
- (207) “A Cyclic KLVFF-Derived Peptide Aggregation Inhibitor Induces the Formation of Less Toxic Off-Pathway Amyloid-beta Oligomers” Tadamasa Arai; Daisuke Sasaki; Takushi Araya; Takeshi Sato; Youhei Sohma; Motomu Kanai, *ChemBioChem*, **2014**, *15*, 2577–2583.
- (208) “Structure-based design and synthesis of a bivalent biotin analog showing strong affinity toward a low immunogenic streptavidin mutant” Kawato, T.; Mizohata, E.; Shimizu, Y.; Meshizuka, Y.; Yamamoto, T.; Takasu, N.; Matsuoka, M.; Matsumura, H.; Kodama, T.; Kanai, M.; Doi, H.; Inoue, T.; Sugiyama, A. *Bioscience, Biotechnology, and Biochemistry* **2015**, *79*, 640–642.
- (209) “A Cp^{*}CoI₂-dimer as a precursor for cationic Co(III)-catalysis: application to C-H phosphoramidation of indoles” Sun, B.; Yoshino, T.; Matsunaga, S.; Kanai, M. *Chem. Commun.* **2015**, *51*, 4649–4661.
- (210) “Design and synthesis of biotin analogues reversibly binding with streptavidin” Yamamoto, T.; Aoki, K.; Sugiyama, A.; Doi, H.; Kodama, T.; Shimizu, Y.; Kanai, M. *Chem. Asian J.* **2015**, *10*, 1071–1078.

- (211) “Structure-based design of a streptavidin mutant specific for an artificial biotin analogue” Kawato, T.; Mizohata, E.; Shimizu, Y.; Mshizuka, T.; Yamamoto, T.; Takasu, N.; Matsuoka, M.; Matsumura, H.; Kodama, T.; Kanai, M.; Doi, H.; Inoue, T.; Sugiyama, A. *J. Biochem.* **2015**, *157*, 467–475.
- (212) “Cp^{*}Co(III)-catalyzed oxidative C-H alkenylation of benzamides with ethyl acrylate” Suzuki, Y.; Sun, B.; Yoshino, T.; Kanai, M.; Matsunaga, S., *Tetrahedron* **2015**, *71*, 4552–4556.
- (213) “Iridium-Catalyzed ortho-Selective C-H Silylation of Aromatic Compounds Directed toward the Synthesis of π-Conjugated Molecules with Lewis Acid-Base Interaction” Wakaki, T.; Kanai, M.; Kuninobu, Y. *Org. Lett.* **2015**, *17*, 1758–1761.
- (214) “Copper-Catalyzed Intermolecular C(sp³)-H Bond Functionalization Towards the Synthesis of Tertiary Carbamates” Chikkade, P. K.; Kuninobu, Y.; Kanai, M. *Chem. Sci.* **2015**, *6*, 3195–3200.
- (215) “Palladium-Catalyzed Construction of Heteroatom-Containing π-Conjugated Systems by Intramolecular Oxidative C-H/C-H Coupling Reaction” Saito, K.; Chikkade, P. K.; Kanai, M.; Kuninobu, Y. *Chem. Eur. J.* **2015**, *21*, 8365–8368.
- (216) “Palladium-Catalyzed Oxirane-Opening Reaction with Arenes via C-H Bond Activation” Wang, Z.; Kuninobu, Y.; Kanai, M. *J. Am. Chem. Soc.* **2015**, *137*, 6140–6143.
- (217) “Metal-free C(3)-H arylation of coumarins promoted by catalytic amounts of 5,10,15,20-tetrakis(4-diethylaminophenyl)porphyrin” Kojima, M.; Oisaki, K.; Kanai, M. *Chem. Commun.* **2015**, *51*, 9718–9721.
- (218) “Covalent modifier-type aggregation inhibitor of amyloid-β based on a cyclo-KLVFF motif” Kino, R.; Araya, T.; Arai, T.; Sohma, Y.; Kanai, M. *Bioorg. Med. Chem. Lett.* **2015**, *25*, 2972–2975.
- (218) “Synthesis of chemically-tethered amyloid-β segment trimer possessing amyloidogenic properties” Shinoda, K.; Sohma, Y.; Kanai, M. *Bioorg. Med. Chem. Lett.* **2015**, *25*, 2976–2979.
- (219) “Chemoselective Boron-Catalyzed Nucleophilic Activation of Carboxylic Acids for Mannich-Type Reactions” Morita, Y.; Yamamoto, T.; Nagai, H.; Shimizu, Y.; Kanai, M. *J. Am. Chem. Soc.* **2015**, *137*, 7075–7078.
- (220) “Organocatalytic Aerobic Oxidation to α-Fluoroalkyl Alcohols to Fluoroalkyl Ketones at Room Temperature” Kadoh, Y.; Tashiro, M.; Oisaki, K.; Kanai, M. *Adv. Synth. Catal.* **2015**, *357*, 2193–2198.
- (221) “Dehydrative Direct C-H Allylation with Allylic Alcohols under [Cp^{*}Co^{III}] Catalysis” Suzuki, Y.; Sun, B.; Sakata, K.; Yoshino, T.; Matsunaga, S.; Kanai, M. *Angew. Chem. Int. Ed.* **2015**, *54*, 9944–9947.
- (222) “A *meta*-selective C–H borylation directed by a secondary interaction between ligand and substrate” Yoichiro Kuninobu, Haruka Ida, Mitsumi Nishi, Motomu Kanai *Nature Chemistry* **2015**, *7*, 712–717.
- (223) “Benzylidene C(sp³)-H Perfluoroalkylation of 6-Membered Heteroaromatic Compounds” Yoichiro Kuninobu, Masahiro Nagase, Motomu Kanai *Angew. Chem. Int. Ed.* **2015**, *54*, 10263–10266.
- (224) “Cp^{*}Co^{III} Catalyzed Site-Selective C–H Activation of Unsymmetrical *O*-Acyl Oximes: Synthesis of Multisubstituted Isoquinolines from Terminal and Internal Alkynes” Bo Sun, Dr.

Tatsuhiko Yoshino, Motomu Kanai, Shigeki Matsunaga *Angew. Chem. Int. Ed.* **2015**, *54*, 12968–12972.

(225) “Copper-Catalyzed Oxyboration of Unactivated Alkenes” Itoh, T.; Matsueda, T.; Shimizu, Y.; Kanai, M. *Chem. Eur. J.* **2015**, *21*, 15955–15959.

(226) “Supramolecular Ligands for Histone Tails by Employing a Multivalent Display of Trisulfonated Calix[4]arenes” Kimura, Y.; Saito, N.; Hanada, K.; Liu, J.; Okabe, T.; Kawashima, S. A.; Yamatsugu, K.; Kanai, M. *ChemBioChem* **2015**, *16*, 2599–2604.

(227) “Catalytic Asymmetric Iterative/Domino Aldehyde Cross-Aldol Reactions for the Rapid and Flexible Synthesis of 1,3-Polyols” Lin, L.; Yamamoto, K.; Mitsunuma, H.; Kanzaki, Y.; Matsunaga, S.; Kanai, M. *J. Am. Chem. Soc.* **2015**, *137*, 15418–15421.

(228) “Chemo- and Regioselective Oxygenation of C(sp³)-H Bonds in Aliphatic Alcohols Using a Covalently Bound Directing Activator and Atmospheric Oxygen” Ozawa, J.; Tashiro, M.; Ni, J.; Oisaki, K.; Kanai, M. *Chem. Sci.* **2016**, *7*, 1904–1909.

(229) “An Expedited Synthesis of Sialic Acid Derivatives by Copper(I)-Catalyzed Stereodivergent Propargylation of Unprotected Aldoses” X.-F. Wei, Y. Shimizu, M. Kanai, *ACS. Cent. Sci.* **2016**, *2*, 21–26.

(230) "Directing activator-assisted regio- and oxidation state-selective aerobic oxidation of secondary C(sp³)-H bonds in aliphatic alcohols" Ni, J.; Ozawa, J.; Oisaki, K.; Kanai, M. *Org. Biomol. Chem.* **2016**, *14*, 4378–4381.

(231) "Ligand-Promoted, Boron-Mediated Chemoselective Carboxylic Acid Aldol Reaction" Nagai, H.; Morita, Y.; Shimizu, Y.; Kanai, M. *Org. Lett.* **2016**, *18*, 2276–2279.

(232) “4-Position-Selective C–H Perfluoroalkylation and Perfluoroarylation of Six-Membered Heteroaromatic Compounds” Masahiro Nagase, Yoichiro Kuninobu, and Motomu Kanai, *J. Am. Chem. Soc.* **2016**, *138*, 6103–6106.

(233) “Rhenium-Catalyzed Synthesis of 1,3-Diiminoisoindolines via Insertion of Carbodiimides into a C-H Bond of Aromatic and Heteroaromatic Imidates” Wang, Z.; Sueki, S.; Kanai, M.; Kuninobu, Y. *Org. Lett.* **2016**, *18*, 2459–2462.

(234) “Cp^{*}CoIII-Catalyzed Dehydrative C-H Allylation of 6-Arylpurines and Aromatic Amides Using Allyl Alcohols in Fluorinated Alcohols” Bunnno, Y.; Murakami, N.; Suzuki, Y.; Kanai, M.; Yoshino, T.; Matsunaga, S. *Org. Lett.* **2016**, *18*, 2216–2219.

(235) “Ligand-Enabled, Copper-Catalyzed Regio- and Stereoselective Synthesis of Trialkylsubstituted Alkenylboronates from Unactivated Internal Alkynes” Itoh, T.; Shimizu, Y.; Kanai, M. *J. Am. Chem. Soc.* **2016**, *138*, 7528–7531.

(236) "Switchable Photooxygenation Catalysts that Sense Higher-Order Amyloid Structures" Taniguchi, A.; Shimizu, Y.; Oisaki, K.; Sohma, Y.; Kanai, M. *Nat. Chem.* **2016**, *8*, 974–982.

(237) “Enhanced Structural Variety of Nonplanar N-Oxyl Radical Catalysts and Their Application to the Aerobic Oxidation of Benzylic C-H Bonds” Kadoh, Y.; Oisaki, K.; Kanai, M. *Chem. Pharm. Bull.* **2016**, *64*, 737–753.

(238) “5-Position-selective C-H trifluoromethylation of 8-aminoquinoline derivatives” Kuninobu, Y.; Nishi, M.; Kanai, M. *Org. Biomol. Chem.* **2016**, *14*, 8092–8100.

- (239) “Transition Metal-Free, Tryptophan-Selective Bioconjugation of Proteins” Seki, Y.; Ishiyama, T.; Sasaki, D.; Abe, J.; Sohma, Y.; Oisaki, K.; Kanai, M. *J. Am. Chem. Soc.* **2016**, *138*, 10798–10801.
- (240) “Tris(pentafluorophenyl)borane-Catalyzed Acceptorless Dehydrogenation of *N*-Heterocycles” Kojima, M.; Kanai, M. *Angew. Chem. Int. Ed.* **2016**, *55*, 12224–12227.
- (241) “Copper(I)-Catalyzed Dehydrative C-Glycosidation of Unprotected Pyranoses with Ketones” Wei, X.-F.; Shi, S.-L.; Xie, X.-W.; Shimizu, Y.; Kanai, M. *ACS Catal.* **2016**, *6*, 6718–6722.
- (242) “Lewis Acid-Base Interaction-Controlled ortho-Selective C-H Borylation of Aryl Sulfides” Hong Liang Li, Yoichiro Kuninobu, Motomu Kanai *Angew. Chem. Int. Ed.* **2017**, *56*, 1495–1499.
- (243) “Scandium(III) triflate-promoted serine/threonine selective peptide bond cleavage” Jizhi Ni, Youhei Sohma, Motomu Kanai *Chem. Commun.* **2017**, *53*, 3311–3314.
- (244) “Hybrid Catalysis Enabling Room-Temperature Hydrogen Gas Release from *N*-Heterocycles and Tetrahydronaphthalenes” Shota Kato, Yutaka Saga, Masahiro Kojima, Hiromu Fuse, Shigeki Matsunaga, Arisa Fukatsu, Mio Kondo, Shigeyuki Masaoka, Motomu Kanai *J. Am. Chem. Soc.* **2017**, *139*, 2204–2207.
- (245) “Silver-Catalyzed C(sp³)–H Chlorination” Jun Ozawa, Motomu Kanai, *Org. Lett.* **2017**, *19*, 1430–1433.
- (246) “Copper(I)-Catalyzed Enantioselective Addition of Enynes to Ketones” Xiao-Feng Wei, Xiao-Wei Xie, Yohei Shimizu, and Motomu Kanai, *J. Am. Chem. Soc.* **2017**, *139*, 4647–4650.
- (247) “Iron-Catalyzed Acyloxyalkylation of Styrenes Using Hypervalent Iodine Reagents” Z Wang, M Kanai, Y Kuninobu, *Org. Lett.* **2017**, *19*, 2398–2401.
- (248) “Targeting Ras-Driven Cancer Cell Survival and Invasion through Selective Inhibition of DOCK1” Hirotada Tajiri, Takehito Urano, Takahiro Shirai, Daisuke Takaya, Shigeki Matsunaga, Daiki Setoyama, Mayuki Watanabe, Mutsuko Kukimoto-Niino, Kounosuke Oisaki, Miho Ushijima, Fumiayuki Sanematsu, Teruki Honma, Takaho Terada, Eiji Oki, Senji Shirasawa, Yoshihiko Maehara, Dongchon Kang, Jean-François Côté, Shigeyuki Yokoyama, Motomu Kanai, Yoshinori Fukui, *Cell Reports* **2017**, *19*, 969–980.
- (249) “Stereoselective Synthesis of Tetrasubstituted Alkenes via a Cp^{*}CoIII-Catalyzed C–H Alkenylation/Directing Group Migration Sequence” H Ikemoto, R Tanaka, K Sakata, M Kanai, T Yoshino, S Matsunaga, *Angew. Chem. Int. Ed.* **2017**, *56*, 7156–7160.
- (250) “Synthetic Posttranslational Modifications: Chemical Catalyst-Driven Regioselective Histone Acylation of Native Chromatin” Yoshifumi Amamoto, Yuki Aoi, Nozomu Nagashima, Hiroki Suto, Daisuke Yoshidome, Yasuhiro Arimura, Akihisa Osakabe, Daiki Kato, Hitoshi Kurumizaka, Shigehiro A. Kawashima, Kenzo Yamatsugu, and Motomu Kanai, *J. Am. Chem. Soc.* **2017**, *139*, 7568–7576.
- (251) “Synthetic Chromatin Acylation by an Artificial Catalyst System” Tadashi Ishiguro, Yoshifumi Amamoto, Kana Tanabe, Jiaan Liu, Hidetoshi Kajino, Akiko Fujimura, Yuki Aoi, Akihisa Osakabe, Naoki Horikoshi, Hitoshi Kurumizaka, Kenzo Yamatsugu, Shigehiro A. Kawashima, Motomu Kanai, *Chem* **2017**, *2*, 840–859.
- (252) “Ligand-Free, Copper-Catalyzed Aerobic Benzylic sp³ C–H Oxygenation” Hirotaka Tanaka, Kounosuke Oisaki, Motomu Kanai, *Synlett* **2017**, *28*, 1576–1580.

- (253) “Iridium/Bipyridine-Catalyzed *ortho*-Selective C–H Borylation of Phenol and Aniline Derivatives” Hong-Liang Li, Motomu Kanai, Yoichiro Kuninobu, *Org. Lett.* **2017**, *19*, 5944–5947.
- (254) “Boron-Catalyzed Carboxylic Acid-Selective Aldol Reaction with Trifluoromethyl Ketones” Kouhei Ishizawa, Hideoki Nagai, Yohei Shimizu, Motomu Kanai, *Chem. Pharm. Bull.* **2018**, *66*, 231–234.
- (255) “LC-MS/MS-based quantitative study of the acyl group- and site-selectivity of human sirtuins to acylated nucleosomes” Tanabe, K.; Liu, J.; Kato, D.; Kurumizaka, H.; Yamatsugu, K.; Kanai, M.; Kawashima, S. A. *Sci. Rep.* **2018**, *8*, 2656–2666.
- (256) “Total synthesis of (+)-lysergic acid” Rentaro Kanno, Satoshi Yokoshima, Motomu Kanai, Tohru Fukuyama, *J. Antibiot.* **2018**, *71*, 240–247.
- (257) “DOCK1 inhibition suppresses cancer cell invasion and macropinocytosis induced by self-activating Rac1 P29S mutation” Takahiro Tomino, Hirotada Tajiri, Takaaki Tatsuguchi, Takahiro Shirai, Kounosuke Oisaki, Shigeki Matsunaga, Fumiuki Sanematsu, Daiji Sakata, Tomoharu Yoshizumi, Yoshihiko Maehara, Motomu Kanai, Jean-Francois Cote, Yoshinori Fukui, Takehito Uruno, *Biochem. Biophys. Res. Commun.*, **2018**, *497*, 298–304.
- (258) “Palladium-Catalyzed Synthesis of Diaryl Ketones from Aldehydes and (Hetero) Aryl Halides via CH Bond Activation” Takayuki Wakaki, Takaya Togo, Daisuke Yoshidome, Yoichiro Kuninobu, Motomu Kanai, *ACS Catal.*, **2018**, *8*, 3123–3128.
- (259) “2-Position-Selective C-H Perfluoroalkylation of Quinoline Derivatives” Takahiro Shirai, Motomu Kanai, and Yoichiro Kuninobu, *Org. Lett.*, **2018**, *20*, 1593–1596.
- (260) “Acceptorless Dehydrogenation of Hydrocarbons by Noble-Metal-Free Hybrid Catalyst System” Hiromu Fuse, Masahiro Kojima, Harunobu Mitsunuma, Motomu Kanai, *Org. Lett.* **2018**, *20*, 2042–2045.
- (261) “Near-Infrared Photoactivatable Oxygenation Catalysts of Amyloid Peptide” Jizhi Ni, Atsuhiko Taniguchi, Shuta Ozawa, Yukiko Hori, Yoichiro Kuninobu, Takashi Saito, Takaomi C. Saido, Taisuke Tomita, Youhei Sohma, Motomu Kanai, *Chem.* **2018**, *4*, 807–820.
- (262) “C(sp³)–H Cyanation Promoted by Visible-Light Photoredox/Phosphate Hybrid Catalysis” Takayuki Wakaki, Kentaro Sakai, Takafumi Enomoto, Mio Kondo, Shigeyuki Masaoka, Kounosuke Oisaki, Motomu Kanai, *Chem. Eur. J.* **2018**, *24*, 8051–8055.
- (263) “Leading approaches in synthetic epigenetics for novel therapeutic strategies” Kenzo Yamatsugu, Shigehiro A. Kawashima, Motomu Kanai, *Current Opinion in Chemical Biology*, **2018**, *46*, 10–17.
- (264) “Organophotoredox/Copper Hybrid Catalysis for Regioselective Allylic Aminodecarboxylation of β , γ -Unsaturated Carboxylic Acids” AD Manick, H Tanaka, K Oisaki, M Kanai, *Synthesis* **2018**, *50*, 2936–2947.
- (265) “Chemo- and Enantioselective Pd/B Hybrid Catalysis for the Construction of Acyclic Quaternary Carbons: Migratory Allylation of O-Allyl Esters to α -C-Allyl Carboxylic Acids” Taiki Fujita, Tomohiro Yamamoto, Yuya Morita, Hongyu Chen, Yohei Shimizu, and Motomu Kanai, *J. Am. Chem. Soc.* **2018**, *140*, 5899–5903.

- (266) "Malonylation of histone H2A at lysine 119 inhibits Bub1-dependent H2A phosphorylation and chromosomal localization of shugoshin proteins" Tadashi Ishiguro, Kana Tanabe, Yuki Kobayashi, Shinsuke Mizumoto, Motomu Kanai, Shigehiro A. Kawashima, *Sci. Rep.* **2018**, *8*, 7671.
- (267) "Copper(I)-Catalyzed Enantio- and Diastereodivergent Borylative Coupling of Styrenes and Imines" Taisuke Itoh, Yamato Kanzaki, Yohei Shimizu, Motomu Kanai, *Angew. Chem. Int. Ed.* **2018**, *57*, 8265–8269.
- (268) "Kinetic analyses and structure-activity relationship studies of synthetic lysine acetylation catalysts" Kenzo Yamatsugu, Masahiro Furuta, Siqi Xi, Yoshifumi Amamoto, Jiaan Liu, Shigehiro A. Kawashima, Motomu Kanai, *Bioorg. Med. Chem.* **2018**, *26*, 5359–5367.
- (269) "A chemically engineered, stable oligomer mimic of amyloid β 42 containing an oxime switch for fibril formation" Masashi Yamamoto, Kiyomichi Shinoda, Jizhi Ni, Daisuke Sasaki, Motomu Kanai, Youhei Sohma, *Org. Biomol. Chem.* **2018**, *16*, 6537–6542.
- (270) "A Catalytic One-step Synthesis of Peptide Thioacids: The Synthesis of Leuprolerelin via Iterative Peptide-fragment Coupling Reactions" Takuya Matsumoto, Koki Sasamoto, Ryo Hirano, Kounosuke Oisaki, Motomu Kanai, *Chem. Commun.* **2018**, *54*, 12222–12225.
- (271) "Hydroxy Group Directed Catalytic Hydrosilylation of Amides" Jizhi Ni, Tsubasa Oguro, Taka Sawazaki, Youhei Sohma, Motomu Kanai, *Org. Lett.* **2018**, *20*, 7371–7374.
- (272) "Convergent and Functional-Group-Tolerant Synthesis of B-Organo BODIPYs" Taka Sawazaki, Yusuke Shimizu, Kounosuke Oisaki, Youhei Sohma, Motomu Kanai, *Org. Lett.* **2018**, *20*, 7767–7770.
- (273) "Palladium-Catalyzed C-H Heteroarylation of 2,5-Disubstituted Imidazoles" Takaya Togo, Youhei Sohma, Yoichiro Kuninobu, Motomu Kanai, *Chem. Pharm. Bull.* **2019**, *67*, 196–198.
- (274) "Catalytic, Regio- and Enantio-Selective Proton Migration from Skipped Enynes to Allenes" Xiao-Feng Wei, Takayuki Wakaki, Taisuke Itoh, Hong-Liang Li, Takayshi Yoshimura, Aya Miyazaki, Kounosuke Oisaki, Miho Hatanaka, Yohei Shimizu, Motomu Kanai, *Chem* **2019**, *5*, 585–599. DOI: [10.1016/j.chempr.2018.11.022](https://doi.org/10.1016/j.chempr.2018.11.022)
- (275) "Catalytic Asymmetric Allylation of Aldehydes with Alkenes through Allylic C (sp³)–H Functionalization Mediated by Organophotoredox and Chiral Chromium Hybrid Catalysis" Harunobu Mitsunuma, Shun Tanabe, Hiromu Fuse, Kei Ohkubo, Motomu Kanai, *Chem. Sci.* **2019**, *10*, 3459–3465.
- (276) "Hydrogen Bond-Accelerated meta-Selective CH Borylation of Aromatic Compounds and Expression of Functional Group and Substrate Specificities" Xu Lu, Yusuke Yoshigoe, Haruka Ida, Mitsumi Nishi, Motomu Kanai, Yoichiro Kuninobu, *ACS Catal.* **2019**, *9*, 1705–1709.
- (277) "Design and properties of [Met35 (O)] A β 42-lactam (Asp23/Lys28) possessing a lactam tether as a salt-bridge surrogate" Masashi Yamamoto, Kiyomichi Shinoda, Daisuke Sasaki, Motomu Kanai, Youhei Sohma, *Bioorg. Med. Chem.* **2019**, *27*, 888–893.
- (278) "Molecular mechanism of lysophosphatidic acid-induced hypertensive response" Kuniyuki Kano, Hirotaka Matsumoto, Asuka Inoue, Hiroshi Yukiura, Motomu Kanai, Jerold Chun, Satoshi Ishii, Takao Shimizu, Junken Aoki, *Scientific Reports* **2019**, *9*, 2662.

- (279) "Photo-oxygenation inhibits tau amyloid formation" Takanobu Suzuki, Yukiko Hori, Taka Sawazaki, Yusuke Shimizu, Yu Nemoto, Atsuhiko Taniguchi, Shuta Ozawa, Youhei Sohma, Motomu Kanai, Taisuke Tomita, *Chem. Commun.* **2019**, 55, 6165–6168.
- (280) "Site-selective synthetic acylation of a target protein in living cells promoted by a chemical catalyst/donor system" Wataru Hamajima, Akiko Fujimura, Yusuke Fujiwara, Kenzo Yamatsugu, Shigehiro A. Kawashima, Motomu Kanai, *ACS Chem. Biol.* **2019**, 14, 1102–1109.
- (281) "Copper(I)-Catalyzed Stereodivergent Propargylation of N-Acetyl Mannosamine for Protecting Group Minimal Synthesis of C3-Substituted Sialic Acids" Kouhei Ishizawa, Sohei Majima, Xiao-Feng Wei, Harunobu Mitsunuma, Yohei Shimizu, Motomu Kanai, *J. Org. Chem.* **2019**, 84, 10615–10628.
- (282) "Synthetic Methodology-Driven Chemical Protein Modifications" Katsuya Maruyama, Motomu Kanai, *Chem. Lett.* **2019**, 48, 1421–1432.
- (283) "Photophysical properties and application in live cell imaging of B,B-fluoro-perfluoroalkyl BODIPYs" Atsuhiko Taniguchi, Taka Sawazaki, Yusuke Shimizu, Youhei Sohma, Motomu Kanai, *Med. Chem. Commun.* **2019**, 10, 1121–1125.
- (284) "Amine-Tethered Phenylboronic Acid-Enabling Ring-Opening Strategy for Carbon Chain Elongation from Double Aldol Cyclic Hemiacetals" Yamato Kanzaki, Yuki Hirao, Harunobu Mitsunuma, Motomu Kanai, *Org. Biomol. Chem.* **2019**, 17, 6562–6565.
- (285) "Nanoscale view of amyloid photodynamic damage" Patricia Bondia, Joaquim Torra, Caterina M. Tone, Taka Sawazaki, Adrián del Valle, Begoña Sot, Santi Nonell, Motomu Kanai, Youhei Sohma, Cristina Flors, *J. Am. Chem. Soc.* **2020**, 142, 922–930.
- (286) "Identification of Bond-Weakening Spirosilane Catalyst for Photoredox α -C-H Alkylation of Alcohols" Kentaro Sakai, Kounosuke Oisaki, Motomu Kanai, *Adv. Synth. Catal.* **2020**, 362, 337–343.
- (287) "Design, synthesis, and properties of a chemically-tethered amyloid- β segment trimer resistant to inter-trimer mis-aggregation" Kiyomichi Shinoda, Motomu Kanai, Yohei Sohma *J. Org. Chem.* **2020**, 85, 1635–1643.
- (288) "Catalytic Chemoselective O-Phosphorylation of Alcohols" K. Domon, M. Puripat, K. Fujiyoshi, M. Hatanaka, S. A. Kawashima, K. Yamatsugu and M. Kanai *ACS Cent. Sci.* **2020**, 6, 283–292.
- (289) "Catalytic Acceptorless Dehydrogenation of Aliphatic Alcohols" Hiromu Fuse, Harunobu Mitsunuma, Motomu Kanai *J. Am. Chem. Soc.* **2020**, 142, 4493–4499.
- (290) "Hydroxamic Acid-Piperidine Conjugate is an Activated Catalyst for Lysine Acetylation under Physiological Conditions" Shinsuke Mizumoto, Siqi Xi, Yusuke Fujiwara, Shigehiro A. Kawashima, Kenzo Yamatsugu, Motomu Kanai *Chem. Asian J.* **2020**, 15, 833–839.
- (291) "A Stable and Cleavable O-Linked Spacer for Drug Delivery Systems" Kei Ito, Toshifumi Tatsumi, Kazuki Takahashi, Yohei Shimizu, Kenzo Yamatsugu, Motomu Kanai *Chem. Pharm. Bull.* **2020**, 68, 212–215.
- (292) "Induction of ADCC by a folic acid-mAb conjugate prepared by tryptophan-selective reaction toward folate-receptor-positive cancer cells" Hiroshi Tagawa, Katsuya Maruyama, Koichi Sasaki,

Natsuki Konoue, Akihiro Kishimura, Motomu Kanai, Takeshi Mori, Kounosuke Oisaki, Yoshiki Katayama *RSC Adv.* **2020**, *10*, 16727–16731. DOI: [10.1039/d0ra03291c](https://doi.org/10.1039/d0ra03291c).

(293) “A Bond-Weakening Borinate Catalyst that Improves the Scope of the Photoredox α -C–H Alkylation of Alcohols” Kentaro Sakai, Kounosuke Oisaki, Motomu Kanai *Synthesis* **2020**, *52*, 2171–2189.

(294) “Sulfanylmethyldimethylaminopyridine as a Useful Thiol Additive for Ligation Chemistry in Peptide/Protein Synthesis” Kento Ohkawachi, Daishiro Kobayashi, Kyohei Morimoto, Akira Shigenaga, Masaya Denda, Kenzo Yamatsugu, Motomu Kanai, Akira Otaka, *Org. Lett.* **2020**, DOI: [10.1021/acs.orglett.0c01383](https://doi.org/10.1021/acs.orglett.0c01383).

(295) “Synthetic hyperacetylation of nucleosomal histones” Hidetoshi Kajino, Tomomi Nagatani, Miku Oi, Tomoya Kujirai, Hitoshi Kurumizaka, Atsuya Nishiyama, Makoto Nakanishi, Kenzo Yamatsugu, Shigehiro A. Kawashima, Motomu Kanai, *RSC Chem. Biol.* **2020**, *1*, 56–59.

(296) “Catalytic Allylation of Aldehydes Using Unactivated Alkenes” Shun Tanabe, Harunobu Mitsunuma, Motomu Kanai, *J. Am. Chem. Soc.* **2020**, *142*, 12374–12381.

(297) "Photocatalytic redox-neutral hydroxyalkylation of N-heteroaromatics with aldehydes" Hiromu Fuse, Hiroyasu Nakao, Yutaka Saga, Arisa Fukatsu, Mio Kondo, Shigeyuki Masaoka, Harunobu Mitsunuma and Motomu Kanai, *Chem. Sci.* **2020**, *11*, 12206–12211.

(298) "Chromium-Catalyzed Linear-Selective Alkylation of Aldehydes with Alkenes" Yuki Hirao, Yuri Katayama, Harunobu Mitsunuma and Motomu Kanai, *Org. Lett* **2020**, *22*, 8584–8588.

(299) "Integrating abiotic chemical catalysis and enzymatic catalysis in living cells" Christopher Adamson and Motomu Kanai, *Org. Biomol. Chem.* **2021**, *19*, 37–45.

(300) "Chemical Insights into Liquid-Liquid Phase Separation in Molecular Biology" Hugo R. Kamimura and Motomu Kanai, *Bull. Chem. Soc. Jpn* **2021**, *94*, 1045–1058.

(301) "POSOP", Kohei Fujiyoshi, Kenzo Yamatsugu and Motomu Kanai, *Electronic Encyclopedia of Reagents for Organic Synthesis e-EROS* **2021**, Wiley.

(302) "Live-cell epigenome manipulation by synthetic histone acetylation catalyst system" Yusuke Fujiwara, Yuki Yamanashi, Akiko Fujimura, Yuko Sato, Tomoya Kujirai, Hitoshi Kurumizaka, Hiroshi Kimura, Kenzo Yamatsugu, Shigehiro A. Kawashima and Motomu Kanai, *Proc. Natl. Acad. Sci. U.S.A.* **2021**, *118*, e2019554118. DOI: [10.1073/pnas.2019554118](https://doi.org/10.1073/pnas.2019554118)

(303) “Catalytic photooxygenation degrades brain A β in vivo” Nozomu Nagashima, Shuta Ozawa, Masahiro Furuta, Miku Oi, Yukiko Hori, Taisuke Tomita, Yohei Sohma and Motomu Kanai *Science Advances* **2021**, *7*, eabc9750. DOI: [10.1126/sciadv.abc9750](https://doi.org/10.1126/sciadv.abc9750)

(304) “Photo-oxygenation by a biocompatible catalyst reduces amyloid- β levels in the brains of Alzheimer’s disease model mice” Shuta Ozawa, Yukiko Hori, Yusuke Shimizu, Atsuhiko Taniguchi, Takanobu Suzuki, Wenbo Wang, Yung Wen Chiu, Reiko Koike, Satoshi Yokoshima, Tohru Fukuyama, Sho Takatori, Youhei Sohma, Motomu Kanai, and Taisuke Tomita *Brain* **2021**, *144*, 1884–1897.

(305) "Axially-substituted silicon phthalocyanine payloads for antibody-drug conjugates" Kazuki Takahashi, Akira Sugiyama, Kei Ohkubo, Toshifumi Tatsumi, Tatsuhiko Kodama, Kenzo Yamatsugu and Motomu Kanai *Synlett* **2021**, *32*, 1098–1103.

- (306) "A Single-Step Asymmetric Phosphodiester Synthesis from Alcohols with Phosphoenolpyruvate Phosphodiester" Kohei Fujiyoshi, Shigehiro A Kawashima, Kenzo Yamatsugu and Motomu Kanai *Synlett* **2021**, 32, 1135-1140.
- (307) "プロトン性官能基存在下での一価銅触媒による選択的結合形成反応" 金井 求, *有機合成化学協会誌* **2021**, 79, 391-405.
- (308) "Chemical Catalysis Intervening to Histone Epigenetics" Tamiko Nozaki and Motomu Kanai, *Acc. Chem. Res.* **2021**, 54, 2313-2322.
- (309) "Siloxy Esters as Traceless Activators of Carboxylic Acids: Boron-Catalyzed Chemoselective Asymmetric Aldol Reaction" Taiki Fujita, Mina Yamane, W. M. C. Sameera, Harunobu Mitsunuma, Motomu Kanai, *Angew. Chem. Int. Ed.* **2021**, 60, 24598–24604.
- (310) "A 4-hydroxyproline/trimethyl borate system for asymmetric synthesis of triple aldols from double aldol cyclic hemiacetals" Yuki Hirao, Yamato Kanzaki, Harunobu Mitsunuma, Motomu Kanai *Tetrahedron* **2021**, 98, 132448.
- (311) "Live-Cell Protein Modification by Boronate-Assisted Hydroxamic Acid Catalysis" Christopher Adamson, Hidetoshi Kajino, Shigehiro A. Kawashima, Kenzo Yamatsugu, Motomu Kanai *J. Am. Chem. Soc.* **2021**, 143, 14976-14980.
- (312) "Protein Modification at Tyrosine with Iminoxy Radicals" Katsuya Maruyama, Takashi Ishiyama, Yohei Seki, Kentaro Sakai, Takaya Togo, Kounosuke Oisaki, Motomu Kanai *J. Am. Chem. Soc.* **2021**, 143, 19844-19855.
- (313) "Data-driven catalyst optimization for stereodivergent asymmetric synthesis by iridium/boron hybrid catalysis" Hongyu Chen, Shigeru Yamaguchi, Yuya Morita, Hiroyasu Nakao, Xianging Zhai, Yohei Shimizu, Harunobu Mitsunuma, Motomu Kanai *Cell Reports Physical Sciences* **2021**, 2, 100679.
- (314) "Chemical catalyst-promoted photooxygenation of amyloid proteins" Yohei Sohma, Taka Sawazaki, Motomu Kanai *Org. Biomol. Chem.* **2021**, 19, 10017-10029.
- (315) "Antibody mimetic drug conjugate manufactured by high-yield Escherichia coli expression and non-covalent binding system" Kenzo Yamatsugu, Hiroto Katoh, Takefumi Yamashita, Kazuki Takahashi, Sho Aki, Toshifumi Tatsumi, Yudai Kaneko, Takeshi Kawamura, Mai Miura, Masazumi Ishii, Kei Ohkubo, Tsuyoshi Osawa, Tatsuhiko Kodama, Shumpei Ishikawa, Motomu Kanai, Akira Sugiyama *Protein Expression and Purification* **2022**, 192, 106043.
- (316) "Knoevenagel Condensation between 2-Methyl-thiazolo [4, 5-b] pyrazines and Aldehydes" Taka Sawazaki, Youhei Sohma, Motomu Kanai *Chem. Pharm. Bull.* **2022**, 70, 82-84.
- (317) "Titanium(IV) Chloride-Catalyzed Photoalkylation via C(sp³)–H Bond Activation of Alkanes" Mina Yamane, Yamato Kanzaki, Harunobu Mitsunuma, Motomu Kanai *Org. Lett.* **2022**, 24, 1486–1490.
- (318) "Identification of a Self-Photosensitizing Hydrogen Atom Transfer Organocatalyst System" Hiromu Fuse, Yu Irie, Masaaki Fuki, Yasuhiro Kobori, Kosaku Kato, Akira Yamakata, Masahiro Higashi, Harunobu Mitsunuma, Motomu Kanai *J. Am. Chem. Soc.* **2022**, 144, 6566–6574.
- (319) "A Germanium Catalyst Accelerates the Photoredox α-C(sp³)–H Alkylation of Primary Amines" Kentaro Sakai, Kounosuke Oisaki, Motomu Kanai, *Org. Lett.* **2022**, 24, 3325-3330.

- (320) “Pharmacological intervention of cholesterol sulfate-mediated T cell exclusion promotes antitumor immunity” Takaaki Tatsuguchi, Takehito Urano, Yuki Sugiura, Kounosuke Oisaki, Daisuke Takaya, Daiji Sakata, Yoshihiro Izumi, Takaya Togo, Yuko Hattori, Kazufumi Kunimura, Tetsuya Sakurai, Teruki Honma, Takeshi Bamba, Masafumi Nakamura, Motomu Kanai, Makoto Suematsu, Yoshinori Fukui *Biochem. Biophys. Res. Commun.* **2022**, *609*, 183-188.
- (321) “Site-Selective α -Alkylation of 1, 3-Butanediol Using a Thiophosphoric Acid Hydrogen Atom Transfer Catalyst” Hiroyasu Nakao, Harunobu Mitsunuma, Motomu Kanai *Chem. Pharm. Bull.* **2022**, *70*, 540-543.
- (322) “Catalytic Alkylation of Ketones via sp^3 C–H Bond Activation” Xue Peng, Yuki Hirao, Shunsuke Yabu, Hirofumi Sato, Masahiro Higashi, Takuya Akai, Shigeyuki Masaoka, Harunobu Mitsunuma, Motomu Kanai *J. Org. Chem.* **2022**, (the Progress in Photocatalysis for Organic Chemistry special issue)
- (323) “Activatable Iodinated BODIPYs for Selective Imaging and Photodynamic Disruption of Amyloid Structures in Pathogenic Bacterial Biofilms” Joaquim Torra, Taka Sawazaki, Patricia Bondia, Santi Nonell, Motomu Kanai, Youhei Sohma, Cristina Flors *Sensors and Actuators B: Chemical*, **2022**, 132475.
- (324) “Linear-Selective Allylation of Aldehydes with Simple Alkenes Mediated by Quadruple Hybrid Catalysis” Irie, Y.; Chen, H.; Fuse, H.; Mitsunuma, H.; Kanai, M. *Adv. Synth. Catal.* **2022**, *364*, 3378–3383.

Books

- (1) “Asymmetric Michael Reactions” in *Catalytic Asymmetric Synthesis* Motomu Kanai, Masakatsu Shibasaki, Wiley-VCH (2000) I. Ojima Ed., pp. 569-592.
- (2) “Rare earth bimetallic asymmetric catalysis” in *Multimetallic Catalysts in Organic Synthesis* Motomu Kanai, Masakatsu Shibasaki (2004), 103-120.
- (3) “Catalytic Asymmetric Total Synthesis of (–)-Strychnine and Fostriecin” in *Strategies and Tactics in Organic Synthesis* Vol. 4, Elsevier, Masakatsu Shibasaki, Motomu Kanai, Takashi Ohshima 2004 年, pp. 347–363.
- (4) “Nitroaldol Reaction” in *Comprehensive Asymmetric Catalysis, Supplement 1* Springer, Berlin, Masakatsu Shibasaki, Harald Gröger, Motomu Kanai, 2004 年, pp.131–133.
- (5) 実験化学講座第 5 版：触媒化学、電気化学 “医薬・農薬” 柴崎正勝、金井求 2006 年、pp. 77-88.
- (6) 「抗インフルエンザ薬タミフルの純化学的合成」柴崎正勝、金井求 医学のあゆみ 2006 年、Vol. 219, No. 10, 781.
- (7) 「タミフルの新合成法」柴崎正勝、金井求 化学と薬学の教室 2006 年、No.155, 33.
- (8) “Chiral Bifunctional Acid/Base Catalysts” in *New Frontiers in Asymmetric Catalysis* Masakatsu

Shibasaki and Motomu Kanai, Eds. Mikami, K. and Lautens, M. Wiley Interscience, 2007.

- (9) 「タミフル実用合成への道—切れのある合成を目指して—」柴崎正勝、金井求、山次健三、現代科学 2009 年 1 月号、454, pp 38-43.
- (10) "The Catalytic Asymmetric Strecker Reaction" Shibasaki, M.; Kanai, M.; Mita, T. *Org. React.* **2008**, 70, 1-117.
- (11) 「インフルエンザパンデミックに備える—科学者の使命—」柴崎正勝、金井求、化学と工業 **2009**, 62, 22-24.
- (12) "Catalytic Enantioselective Synthesis of α,α -Disubstituted Amino Acids: The Strecker Reaction of Ketimines Using Chiral Poly-Gadolinium Complexes" Shibasaki, M.; Kanai, M. in *Asymmetric Synthesis and Application of α -Amino Acids*, Editors: Vadim A. Soloshonok, Kunisuke Izawa, ACS Symposium Series, Volume 1009, 2009, Chapter 7, pp. 102–115.
- (13) "Recent Topics in Cooperative Catalysis: Asymmetric Catalysis, Polymerization, Hydrogen Activation, and Water Splitting" Kanai, M. in *Organic Chemistry—Breakthroughs and Perspectives*, Editors: Kuiling Ding and Li-Xin Dai, Wiley-VCH, 2012, Chapter 11, pp. 385–412.
- (14) 「銅触媒の多様な活性化形式を活用する反応開発と医薬リード合成」"Noble Catalytic Functions by Ubiquitous Copper Complexes: Asymmetric Catalysis to Oxidative Coupling" 嵯峨裕、金井求、「未来を拓く元素戦略—持続可能な社会を実現する化学—」日本化学会編、化学同人 2013 年
- (15) "Site-Selective Peptide/Protein Cleavage" Jizhi Ni, Motomu Kanai in *Site-Selective Catalysis, Topics in Current Chemistry*, Editor: Takeo Kawabata, Springer Berlin Heidelberg, 2015, DOI: 10.1007/128_2015_652.
- (16) "Catalytic asymmetric addition reactions of Cu(I)-conjugated soft carbon nucleophiles" Xiaofeng Wei, Yohei Shimizu and Motomu Kanai, in *Progress in enantioselective Cu(I)-catalyzed formation of stereogenic centers, Topics in Organometallic Chemistry*, Editor: Syuzanna Harutyunyan, Springer 2016, Vol. 58, Chapter 5, pp. 169-182, DOI: 10.1007/3418_2015_163.
- (17) 「無保護糖の直接変換を可能とする触媒開発」清水洋平、金井求、JACI News Letter 2016, No. 58, p.7.
- (18) 「金属触媒と有機分子触媒の違い」小島正寛、金井求「有機分子触媒の化学～モノづくりのパラダイムシフト」日本化学会 編、2016 年、CSJ Current Review, pp. 30-35.
- (19) "Chemical Catalyst-Mediated Selective Photo-oxygenation of Pathogenic Amyloids" Youhei Sohma, Motomu Kanai, *Handbook of In Vivo Chemistry in Mice: From Lab to Living System 2020*, Eds. Katsunori Tanaka, Kenward Vong, Wiley-VCH, pp 355-371.
- (20) "Chemical catalyst-promoted regioselective histone acylation" Yuki Yamanashi, Motomu Kanai, *Supramolecular Catalysis: New Directions and Developments 2021*, Wiley.

- (21) "化学触媒による合成的エピジェネティクス" 山次 健三, 金井 求, *化学* **2021**, 76, 12.
- (22) "エピゲノム操作が可能なヒストンアシル化触媒の開発" 川島 茂裕, 金井 求, *ファルマシア* **2021**, 57, 810-814.
- (23) 「光触媒／ラジカル触媒／金属錯体触媒の3成分ハイブリッドによる炭化水素の水素放出反応および炭素－炭素結合形成反応」 三ツ沼治信、金井求 有機光反応の化学～光が誘起する電子移動・触媒系・有機合成 日本化学会 編、2022年、CSJ Current Review, pp. 94-103.
- (24) 「触媒医療に向けた細胞や個体で機能する化学触媒」 岩井篤志、幅崎美涼、金井求 水中有機合成の開発動向 シーエムシー出版、2022年、ファインケミカルシリーズ