CURRICULUM VITAE

Jun Shimokawa

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Personal

Date of Birth: September 19, 1980; Setagaya-ku, Tokyo, Japan
Marital Status: married (one daughter)

Education

Undergraduate: The University of Tokyo, Tokyo, Japan, B.S. (2003)
Graduate: The University of Tokyo, M.S. (2005)
The University of Tokyo, Ph.D. (2011)
Research Advisor: Prof. Tohru Fukuyama

Positions Held

Assistant Professor (Apr. 1, 2006–Mar. 31, 2012)
Graduate School of Pharmaceutical Sciences, The University of Tokyo

Assistant Professor (Apr. 1, 2012–Dec. 31, 2017)
Graduate School of Pharmaceutical Sciences, Nagoya University

Associate Professor (Jan. 1, 2018–)
Graduate School of Science, Kyoto University

Professional Activities

Member: American Chemical Society
The Pharmaceutical Society of Japan
The Society of Synthetic Organic Chemistry, Japan
The Chemical Society of Japan

Honors and Awards

Young Scientist's Research Award in Natural Product Chemistry (2012)
Thieme Chemistry Journals Award 2014 (2013)
Mitsubishi Tanabe Pharma Corporation Award in Synthetic Organic Chemistry, Japan (2014)
Asian Core Program/Advanced Research Network Lectureship Award, China (2016)
Asian Core Program/Advanced Research Network Lectureship Award, Malaysia (2016)
The Pharmaceutical Society of Japan Award for Young Scientists (2017)
Chemist Award BCA 2017 (2017)
The Young Scientists' Prize, The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (2018)

Research Interests

Total synthesis of natural products of biological and medicinal importance and the development of the new synthetic methodology toward the novel approach to complex structure

Certificate

Pharmacist License in Japan (No. 387214, Jun. 2004)

List of Publications

50. "Development of the Dioxasilepanyl Group Si(pan): A Seven-Membered Dialkoxysilane Unit." Jun Shimokawa, Kenshiro Hitoshio, Hideki Yorimitsu, *Synlett* **2025**, *in press*. (DOI: 10.1055/a-2580-9035)

49. "Silylation of Aryl and Alkyl Chlorides by a Seven-Membered Dialkoxysilyl Group Si(pan)Me via an In Situ Generated Silylpotassium." Kenshiro Hitoshio, Jun Shimokawa, Hideki Yorimitsu, *Angew. Chem. Int. Ed.* **2025**, *64*, e20242418. (DOI: 10.1002/anie.202424183)

48. "Methoxydioxasilepane: A Versatile and Stable Synthetic Precursor of Trimethoxysilane." Kenshiro Hitoshio, Takuto Morinaga, Ryohei Sahashi, Shinya Goshona, Hiroki Yamagishi, Hayate Saito, Jun Shimokawa, Hideki Yorimitsu, *Synthesis* **2025**, *57*, 1475–1480 (DOI: 10.1055/a-2408-7577)

47. "Aryl Silyl Ethers Enable Preferential Ar−O bond Cleavage in Reductive Generation of Aryllithium Species." Daiki Asai, Ziwei Zhang, Fumiya Takahashi, Hayate Saito, Jun Shimokawa, Hideki Yorimitsu, *JACS Au* **2024**, *4*, 3118–3124. (DOI: 10.1021/jacsau.4c00448)

46. "Synthesis of unsymmetrical dialkoxydiarylsilanes and diarylsilanediols from tetraalkoxysilane having a dioxasilepane unit." Kenshiro Hitoshio, Hiroki Maeda, Kento Teranishi, Jun Shimokawa, Hideki Yorimitsu, *Chem. Commun.* **2024**, *60*, 7339–7342. (DOI: 10.1039/d4cc02051k)

45. "Utilization of Silanols in Transition Metal-Catalyzed Organic Synthesis." Hiroki Yamagishi, Jun Shimokawa, Hideki Yorimitsu, *ACS Catal.* **2023**, *13*, 7472–7487. (DOI: 10.1021/acscatal.3c01504)

44. "Regioselective *Anti*-Silyllithiation of Propargylic Amines." Tomohiko Sato, Somnath N. Karad, Jun Shimokawa, Hideki Yorimitsu, *Synlett* **2024**, *35*, 419–422 (DOI: 10.1055/a-2047-8456)

43. "Diphenylsilylsilanolates Enable the Transfer of a Wide Range of Silyl Groups." Hiroki Yamagishi, Fuyuki Harata, Jun Shimokawa, Hideki Yorimitsu, *Org. Lett.* **2023**, *25*, 11–15. (DOI: 10.1021/acs.orglett.2c03558)

42. "Regioselective *Anti*-Silyllithiation of Propargylic Alcohols." Somnath N. Karad, Hayate Saito, Jun Shimokawa, Hideki Yorimitsu, *J. Org. Chem.* **2024**, 89, 3677–3683 (DOI: 10.1021/acs.joc.2c01795)

41. "Sodium silylsilanolate as a precursor of silylcopper species." Hiroki Yamagishi, Kenshiro Hitoshio, Jun Shimokawa, Hideki Yorimitsu, *Chem. Sci.* **2022**, *13*, 4334–4340. (DOI: 10.1039/d2sc00227b)

40. "AgF-Mediated Electrophilic Amination of Alkoxyarylsilanes with Azodicarboxylates." Qian Zhang, Shijun Deng, Dong Li, Jun Shimokawa, Hideki Yorimitsu, *Chem. Asian J.* **2022**, *17*, e202101345. (DOI: 10.1002/asia.202101345)

39. "Design, Synthesis, and Implementation of Sodium Silylsilanolates as Silyl Transfer Reagents." Hiroki Yamagishi, Hayate Saito, Jun Shimokawa, Hideki Yorimitsu, *ACS Catal.* **2021**, *11*, 10095–10103. (DOI: 10.1021/acscatal.1c02733)

38. "Sodium silylsilanolate enables nickel-catalyzed silylation of aryl chlorides." Kenshiro Hitoshio, Hiroki Yamagishi, Jun Shimokawa, Hideki Yorimitsu, *Chem. Commun.* **2021**, *57*, 6867–6870. (DOI: 10.1039/D1CC02683F)

37. “Dioxasilepanyl Group as a Versatile Organometallic Unit: Studies in Stability, Reactivity, and Utility” Hayate Saito, Jun Shimokawa, Hideki Yorimitsu, *Chem. Sci.* **2021**, *12*, 9546–9555. (DOI: 10.1039/D1SC02083H)

36. “Copper-catalyzed Electrophilic Amination of Alkoxyarylsilanes” Qian Zhang, Kenshiro Hitoshio, Hayate Saito, Jun Shimokawa, Hideki Yorimitsu, *Eur. J. Org. Chem.* **2020**, 4018–4021. (DOI: 10.1002/ejoc.202000562)

35. “Palladium-catalyzed Silylation of Aryl Chlorides with Bulky Dialkoxydisilanes” Keitaro Fukui, Hayate Saito, Jun Shimokawa, Hideki Yorimitsu, *Synlett* **2020**, *31*, 1328–1332. (DOI: 10.1055/s-0039-1690877)

34. “C–F Arylation of Polyfluorophenols by Means of Sigmatropic Dearomatization/Defluorination Sequence” Koichi Okamoto, Keisuke Nogi, Jun Shimokawa, Hideki Yorimitsu, *Chem. Eur. J.* **2020**, *26*, 5615–5618. (DOI: 10.1002/chem.202001158)

33. “Copper-catalyzed Twofold Silylmetalation of Alkynes” Hiroki Yamagishi, Jun Shimokawa, Hideki Yorimitsu, *Synlett* **2019**, *30*, 1551–1554. (DOI: 10.1055/s-0037-1611869)

32. “Photoredox Fischer Indole Synthesis” Atsushi Kaga, Tomohiro, Fukushima, Jun Shimokawa, Masato Kitamura, *Synthesis* **2019**, *51*, 3214–3220. (DOI: 10.1055/s-0037-1611535)

31. “Identification of Target Protein for Batzelladines as CD4” Jun Shimokawa, Kazuo Nagasawa, *Heterocycles* **2019**, *99*, 521–533. (DOI: 10.3987/COM-18-S(F)49)

30. “Four-component Coupling Strategy for 2,3,4-Trisubstituted 3,4-Dihydroquinoline” Hiroki Yamagishi, Shun Tsuchiya, Hayate Saito, Keisuke Nogi, Jun Shimokawa, Hideki Yorimitsu, *Heterocycles* **2019**, *99*, 301–309. (DOI: 10.3987/COM-18-S(F)24)

29. “Synthesis of the Core Structure of Phalarine” Kazuya Douki, Jun Shimokawa, Masato Kitamura, *Org. Biomol. Chem.* **2019**, *17*, 1727–1730. (DOI: 10.1039/C8OB02320D)

28. “Modified McFadyen-Stevens Reaction for a Versatile Synthesis of Aromatic Aldehydes” Yuri Iwai, Jun Shimokawa, *Org. Synth.* **2018**, *95*, 275–288. (DOI: 10.15227/orgsyn.095.0276)

27. “Synthetic Studies on Heteropolycyclic Natural Products: Development of Divergent Strategy” Jun Shimokawa, *Chem. Pharm. Bull.* **2018**, *65*, 105–115. (DOI: 10.1248/cpb.c17-00819)

26. “Synthetic Studies on Heteropolycyclic Natural Products: Strategies via Novel Reactions and Reactivities” Jun Shimokawa, Tohru Fukuyama, *J. Synth. Org. Chem., Jpn.* **2017**, *75*, 1115–1124. (DOI: 10.5059/yukigoseikyokaishi.75.1115)

25. “The cryo-EM structure of gastric H^+,K^+-ATPase with bound BYK99, a high-affinity member of K^+-competitive, imidazo[1,2-*a*]pyridine inhibitors” Kazuhiro Abe, Jun Shimokawa, Mao Naito, Keith Munson, Olga Vagin, George Sachs, Hiroshi Suzuki, Kazutoshi Tani, Yoshinori Fujiyoshi, *Sci. Rep.* **2017**, *7*, 6632. (DOI: 10.1038/s41598-017-06698-8)

24. “Enantioselective Total Synthesis of (+)-Hinckdentine A via a Catalytic Dearomatization Approach” Kazuya Douki, Hiroyuki Ono, Tohru Taniguchi, Jun Shimokawa, Masato Kitamura, Tohru Fukuyama, *J. Am. Chem. Soc.* **2016**, *138*, 14578–14581. (DOI: 10.1021/jacs.6b10237)

23. “Unified Total Synthesis of Five Gelsedine-type Alkaloids: (–)-Gelsenicine, (–)-Gelsedine, (–)-Gelsedilam, (–)-14-Hydroxygelsenicine, and (–)-14,15-Dihydroxygelsenicine” Takaaki, Harada, Jun Shimokawa, Tohru Fukuyama, *Org. Lett.* **2016**, *18*, 4622–4625.

(DOI: 10.1021/acs.orglett.6b02263)

22. "Antiproliferative Activity of Amathaspiramide Alkaloids and Analogs" Jun Shimokawa, Koji, Chiyoda, Hirotatsu Umihara, Tohru Fukuyama, *Chem. Pharm. Bull.* **2016**, *64*, 1239–1241. (DOI: 10.1248/cpb.c16-00256)

21. "Development of a Divergent Synthetic Route to the Erythrina Alkaloids: Asymmetric Syntheses of 8-Oxo-erythrinine, Crystamidine, 8-Oxo-erythraline, and Erythraline" Hirotatsu Umihara, Tomomi Yoshino, Jun Shimokawa, Masato Kitamura, Tohru Fukuyama, *Angew. Chem. Int. Ed.* **2016**, *55*, 6915–6918. (DOI: 10.1002/anie.201602650)

20. "Synthesis of the Common Core Structure of the Stemofoline Alkaloids" Eiji Ideue, Jun Shimokawa, Tohru Fukuyama, *Org. Lett.* **2015**, *17*, 4964–4967. (DOI: 10.1021/acs.orglett.5b02373)

19. "Divergent strategy in natural product synthesis" Jun Shimokawa, *Tetrahedron Lett.* **2014**, *55*, 6156–6162. (DOI: 10.1016/j.tetlet.2014.09.078)

18. "Development of a route to chiral epidithiodioxopiperazine moieties and application to the asymmetric synthesis of (+)-hyalodendrin" Ren Takeuchi, Jun Shimokawa, Tohru Fukuyama, *Chem. Sci.* **2014**, *5*, 2003-2006. (DOI: 10.1021/ol403415z)

17. "TMSCN/DBU-Mediated Facile Redox Transformation of α,β-Unsaturated Aldehydes to Carboxylic Acid Derivatives" Hiromi Kaise, Jun Shimokawa, Tohru Fukuyama, *Org. Lett.* **2014**, *16*, 727–729. (DOI: 10.1039/C3SC53222D)

16. "Stereoselective Synthesis of Spirotryprostatin A" Katsushi Kitahara, Jun Shimokawa, Tohru Fukuyama, *Chem. Sci.* **2013**, *4*, 904–907. (DOI: 10.1039/C3SC52525B)

15. "Modified McFadyen–Stevens reaction for a versatile synthesis of aliphatic/aromatic aldehydes: design, optimization, and mechanistic investigations" Yuri Iwai, Takashi Ozaki, Ryo Takita, Masanobu Uchiyama, Jun Shimokawa, Tohru Fukuyama, *Chem. Sci.* **2013**, *4*, 1111–1119. (DOI: 10.1039/C2SC22045H)

14. "Convenient Synthesis of α-Diazoacetates from α-Bromoacetates and *N*,*N'*-Ditosylhydrazine: Preparation of Benzyl Diazoacetate" Eiji Ideue, Tatsuya Toma, Jun Shimokawa, Tohru Fukuyama, *Org. Synth.* **2012**, *89*, 501–509. (DOI: 10.15227/orgsyn.089.0501)

13. "Efficient Synthesis of Oxime Using *O*-TBS-*N*-Tosylhydroxylamine: Preparation of (2Z)-4-(Benzyloxy)but-2-enal Oxime" Katsushi Kitahara, Tatsuya Toma, Jun Shimokawa, Tohru Fukuyama, *Org. Synth.* **2012**, *89*, 480–490. (DOI: 10.15227/orgsyn.089.0480)

12. "Total Synthesis of Gelsemoxonine" Jun Shimokawa, Takaaki Harada, Satoshi Yokoshima, Tohru Fukuyama, *Pure Appl. Chem.* **2012**, *84*, 1643–1650. (DOI: 10.1351/PAC-CON-11-10-25)

11. "Total Syntheses of All the Amathaspiramides" Koji Chiyoda, Jun Shimokawa, Tohru Fukuyama, *Angew. Chem. Int. Ed.* **2012**, *51*, 2505–2508. (DOI: 10.1002/anie.201109221)

10. "Total Synthesis of Gelsemoxonine" Jun Shimokawa, Takaaki Harada, Satoshi Yokoshima, Tohru Fukuyama, *J. Am. Chem. Soc.* **2011**, *133*, 17634–17637. (DOI: 10.1021/ja208617c)

9. "Total Synthesis of Tryprostatins A and B" Takayuki Yamakawa, Eiji Ideue, Yuzo Iwaki, Ayumu Sato, Jun Shimokawa, Tohru Fukuyama, *Tetrahedron* **2011**, *67*, 6547–6560.

(DOI: 10.1016/j.tet.2011.05.112)

8. "Confirmation of molecular planarity disruption effect on aqueous solubility improvement of β-naphthoflavone analogs" Yuji Fujita, Mitsuhiro Yonehara, Katsushi Kitahara, Jun Shimokawa, Yuichi Hashimoto, Minoru Ishikawa, *Heterocycles* **2011**, *83*, 2563–2575. (DOI: 10.3987/COM-11-12352)

7. "Total Synthesis of Tryprostatins A and B" Takayuki Yamakawa, Eiji Ideue, Jun Shimokawa, Tohru Fukuyama, *Angew. Chem. Int. Ed.* **2010**, *49*, 9262–9265. (DOI: 10.1002/anie.201004963)

6. "*O*-TBS-*N*-tosylhydroxylamine: A Reagent for Facile Conversion of Alcohols to Oximes" Katsushi Kitahara, Tatsuya Toma, Jun Shimokawa, Tohru Fukuyama, *Org. Lett.* **2008**, *10*, 2259–2261. (DOI: 10.1021/ol800677p)

5. "*N*,*N'*-Ditosylhydrazine: A Convenient Reagent for Facile Synthesis of Diazoacetates" Tatsuya Toma, Jun Shimokawa, Tohru Fukuyama, *Org. Lett.* **2007**, *9*, 3195–3197. (DOI: 10.1021/ol701432k)

4. "Synthesis and Biological Activities on Batzelladine Derivatives" Jun Shimokawa, Yumi Iijima, Yuichi Hashimoto, Harumi Chiba, Haruo Tanaka, Kazuo Nagasawa, *Heterocycles* **2007**, *72*, 145–150. (DOI: 10.3987/COM-06-S(K)31)

3. "Synthetic studies on cyclic guanidine natural products for the elucidation of their controlling mechanism of protein-protein interaction" Kazuo Nagasawa, Jun Shimokawa, *J. Synth. Org. Chem., Jpn.* **2006**, *64*, 539–547. (DOI: 10.5059/yukigoseikyokaishi.64.539)

2. "Total synthesis of (+)-batzelladine A and (–)-batzelladine D, and identification of their target protein" Jun Shimokawa, Takanori Ishiwata, Koji Shirai, Hiroyuki Koshino, Aya Tanatani, Tadashi Nakata, Yuichi Hashimoto, Kazuo Nagasawa, *Chem. Eur. J.* **2005**, *11*, 6878–6888. (DOI: 10.1002/chem.200500852)

1. "Enantioselective total synthesis of batzelladine A" Jun Shimokawa, Koji Shirai, Aya Tanatani, Yuichi Hashimoto, Kazuo Nagasawa, *Angew. Chem. Int. Ed.* **2004**, *43*, 1559–1562. (DOI: 10.1002/anie.200353200)

Lectures

25. Dec. 15, 2022 "Organosilane Synthesis via New Silicon Species" Nanyang Technological University, Singapore

24. Dec. 11, 2022 "Organosilane Synthesis via New Silicon Species" 11th Singapore International Chemistry Conference (SICC-11), Singapore

23. Nov. 9, 2022 "Organosilane Synthesis via New Silicon Species" 9th International Kyoto Symposium on Organic Chemistry (IKSOC), Kyoto University, Japan

22. Dec. 22, 2021 "Synthetic Organic Chemistry on Silicon" Kyoto Prefectural University, Japan

21. Nov. 22, 2021 "More Silicons to Organic Chemistry!" 141th Pharmaceutical Sciences Seminar/GTR seminar, Nagoya University, Japan

20. Jan. 16, 2020 "Syntheses of Heteropolycyclic Natural Products" Nanyang Research Conference on Synthetic Chemistry and Catalysis, Nanyang Technological University, Singapore

19. May. 12, 2018 "Development of Synthetic Strategy for Polyfunctional Natural Products" 6th Keio Organic Chemistry Symposium for Young Researchers, Keio University, Japan

18. Oct. 28, 2016 "Synthetic Studies on Polycyclic Natural Products: Enantioselective Total Synthesis of (+)-Hinckdentine A" 11th International Conference on Cutting-Edge Organic Chemistry in Asia/The 2nd Advanced Research Network on Cutting-Edge Organic Chemistry in Asia, Daejeon, Korea

17. Dec. 16, 2014 "Toward Divergent Syntheses of Polycyclic Natural Products" 8th Singapore International Chemistry Conference, Singapore

16. Dec. 12, 2014 "Toward Divergent Syntheses of Polycyclic Natural Products" 9th Process Chemistry Lounge, Yugawara, Shizuoka, Japan

15. Mar. 7, 2013 "Study Toward the Comprehensive Syntheses of Closely Related Natural Products" Grants for Excellent Graduate Schools, Seminar for Young Generation, Kyoto University. Kyoto, Japan

14. Oct. 26, 2012 "Synthetic Studies on Polycyclic Natural Products" Peking University Health Science Center. Beijing, China

13. Oct. 24, 2012 "Synthetic Studies on Polycyclic Natural Products" Shanghai Institute of Organic Chemistry. Shanghai, China

12. Oct. 22, 2012 "Synthetic Studies on Polycyclic Natural Products" Chinese University of Hong Kong. Hong Kong, China

11. Oct. 19, 2012 "Synthetic Studies on Polycyclic Natural Products" The University of Hong Kong. Hong Kong, China

10. Oct. 16, 2012 "Synthetic Studies on Polycyclic Natural Products" National University of Singapore, Singapore

9. Oct. 15, 2012 "Synthetic Studies on Polycyclic Natural Products" Nanyang Technological University, Singapore

8. Jan. 27, 2012 "Synthetic Studies on Polycyclic Natural Products" 2nd Young Scientist Lectures, Chiba University, Chiba, Japan

7. Oct. 22, 2011 "Total Synthesis of Gelsemoxonine" The Society of Synthetic Organic Chemistry, Japan, Seminar for Young Generation, Tokyo University of Agriculture and Technology, Tokyo, Japan

6. Oct. 8, 2011 "Total Synthesis of Gelsemoxonine" The Pharmaceutical Society of Japan, Kanto Section Meeting, Toho University, Chiba, Japan

5. Jul. 29, 2011 "Synthetic Studies on Polycyclic Natural Products" Technische Universität München, Munich, Germany

4. Jul. 29, 2011 “Synthetic Studies on Polycyclic Natural Products” Ludwig-Maximillians-Universität München, Munich, Germany

3. Jul. 26, 2011 “Synthetic Studies on Polycyclic Natural Products” University of Zurich, Zurich, Switzerland

2. Jul. 25, 2011 “Synthetic Studies on Polycyclic Natural Products” ETH, Zurich, Switzerland

1. Jan. 29, 2010 “Synthetic Studies on Gelsemoxonine” University of Shizuoka, Shizuoka, Japan