

## Curriculum Vitae

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I currently do not accept post-docs, Ph.D. candidate or any other forms of students. Anyone who wants to join the Takao group should contact Prof. Takao in person or by post. All application e-mails to me are ignored !

### Education and Occupation

2022~ Senior Assistant Professor, Keio Univ.  
2021~ Assistant Professor, Keio Univ.  
2016~ Research Associate, Keio Univ. (Prof. Ken-ichi Takao)  
2013~ Postdoctoral Fellow, RIKEN (Dr. Katsunori Tanaka)  
2013 Ph.D. (Prof. Tohru Fukuyama)  
2010~ JSPS Research Fellow, Univ. of Tokyo (Prof. Tohru Fukuyama)  
2008~ Graduate School of Pharmaceutical Sciences, Univ. of Tokyo (Prof. Tohru Fukuyama)

### Publication List:

- 1) Ogura, A.; Yamada, K.; Yokoshima, S.; Fukuyama, T.\*  
“Total Synthesis of (–)-Anisatin”  
*Org. Lett.* **2012**, *14*, 1632-1635.  
2nd Most Read Paper of *Org. Lett.* during 2012,  
Highlighted in Synfacts  
Virtual Issue “A Platinum Anniversary Collector’s Edition” Most-read article  
published in 2012
- 2) Ogura, A.; Kurbangalieva, A.; Tanaka, K.\*  
“In vivo kinetics and biodistribution analysis of neoglycoproteins: effects of

chemically introduced glycans on proteins”

*Glycoconjugate J.* **2014**, *31*, 273-279.

3) Ogura, A.\*

“Metal-catalyzed Organic Reactions in Live Cell”

*J. Synth. Org. Chem., Jpn.* **2014**, *72*, 726-727.

小椋 章弘

「金属触媒を用いた細胞内有機化学反応」

*有機合成化学協会誌* **2014**, *72*, 726-727.

4) Ogura, A.; Kurbangalieva, A.; Tanaka, K.\*

“Metal-catalyzed Organic Reaction in Live Cell: Future Prospect of Time- and Space-selective Glycan Conjugation In Live Systems”

*Trends Glycosci. Glycotechnol.* **2014**, *26*, 73-75.

5) Pradipta, A. R.; Tsutsui, A.; Ogura, A.; Hanashima, S.; Yamaguchi, Y.;

Kurbangalieva, A.; Tanaka, K.\*

“Microfluidic mixing of polyamine with acrolein enables the detection of the [4+4] polymerization of intermediary unsaturated imines: The properties of a cytotoxic 1,5-diazacyclooctane hydrogel”

*Synlett* **2014**, 2442-2446.

6) Ogura, A.; Kurbangalieva, A.; Tanaka, K.\*

“Chemical Glycan Conjugation Controls the Biodistribution and Kinetics of Proteins in Live Animals”

*Mini Rev. Med. Chem.* **2014**, *14*, 1072-1077.

7) Ogura, A.; Tanaka, K.\*

“Azoelectrocyclization on cell surface: convenient and general approach to chemical biology research”

*Tetrahedron* **2015**, *71*, 4518-4521.

8) Ogura, A.; Tahara, T.; Nozaki, S.; Morimoto, K.; Kizuka, Y.; Kitazume, S.; Hara, M.; Kojima, S.; Onoe, H.; Kurbangalieva, A.; Taniguchi, N.; Watanabe, Y.; Tanaka, K.\*

“Visualizing Trimming Dependence of Biodistribution and Kinetics with Homo- and Heterogeneous *N*-Glycoclusters on Fluorescent Albumin”

*Sci. Rep.* **2016**, *6*, 21797.

9) Tsutsui, A.¶; Ogura, A.¶; Tahara, T.; Nozaki, S.; Urano, S.; Kitazume, S.; Hara, M.; Kojima, S.; Kurbangalieva, A.; Onoe, H.; Watanabe, Y.; Taniguchi, N.; Tanaka, K.\* (¶ equal contribution)

“In Vivo Imaging of Advanced Glycation Endo Products (AGEs) of Albumin: First Observation of Significantly Reduced Clearance and Liver Deposition Properties in Mice”

*Org. Biomol. Chem.* **2016**, *14*, 5755-5760.

- 10) Ogura, A.; Kurbangalieva, A.; Tanaka, K.\*

“Exploring the glycan interaction in vivo: Future prospects of neo-glycoproteins for diagnostics”

*Glycobiology* **2016**, *26*, 804-812.

- 11) Ogura, A.; Tahara, T.; Nozaki, S.; Onoe, H.; Kurbangalieva, A.; Watanabe, Y.; Tanaka, K.\*

“Glycan multivalency effects toward albumin enable *N*-glycan-dependent tumor targeting”

*Bioorg. Med. Chem. Lett.* **2016**, *26*, 2251-2254.

- 12) Latypova, L.; Sibgatullina, R.; Ogura, A.; Fujiki, K.; Khabibrakhmanova, A.; Tahara, T.; Nozaki, S.; Urano, S.; Tsubokura, K.; Onoe, H.; Watanabe, Y.; Kurbangalieva, A.; Tanaka, K.\*

“Sequential Double “Clicks” Toward Structurally Well-defined Heterogeneous *N*-Glycoclusters: The Importance of Cluster Heterogeneity on Pattern Recognition *In Vivo*”

*Adv. Sci.* **2017**, *4*, 1600394.

Selected as “Cover Picture”

- 13) Tsubokura, K.; Vong, K. K. H.; Pradipta, A. R.; Ogura, A.; Urano, S.; Tahara, T.; Nozaki, S.; Onoe, H.; Nakao, Y.; Sibgatullina, R.; Kurbangalieva, A.; Watanabe, Y.; Tanaka, K.\*

“In vivo gold complex catalysis within live mice”

*Angew. Chem. Int. Ed.* **2017**, *56*, 3579-3584.

Selected as “Hot Paper” “Back Cover”

- 14) Takao, K.\*; Nemoto, R.; Mori, K.; Namba, A.; Yoshida, K. Ogura, A.

“Total Synthesis and Structural Revision of Clavilactone D”

*Chem. Eur. J.* **2017**, *23*, 3828-3831.

- 15) Matsuki, K.; Miyazaki, S.; Yoshida, K.; Ogura, A.; Sasazawa, Y.; Takao, K.; Simizu, S.\*

“Synthesis and evaluation of biological activities of vibsantin A analogs”

*Bioorg. Med. Chem. Lett.* **2017**, *27*, 4536-4539.

Selected as “Cover Picture”

- 16) Takao, K.\*; Mori, K.; Kasuga, K.; Nanamiya, R.; Namba, A.; Fukushima, Y.; Nemoto, R.; Mogi, T.; Yasui, H.; Ogura, A.; Yoshida, K.; Tadano, K.  
“Total Synthesis of Clavilactones”  
*J. Org. Chem.* **2018**, *83*, 7060-7075.
- 17) Ogura, A.; Urano, S.; Tahara, T.; Nozaki, S.; Sibgatullina, R.; Vong, K.; Suzuki, T.; Dohmae, N.; Kurbangalieva, A.; Watanabe, Y.; Tanaka, K.\*  
“A viable strategy for screening the effects of glycan heterogeneity on target organ adhesion and biodistribution in live mice”  
*Chem. Commun.* **2018**, *54*, 8693-8696.
- 18) Yoshida, K.\*; Fujino, Y.; Takamatsu, Y.; Matsui, K.; Ogura, A.; Fukami, Y.; Kitagaki, S.; Takao, K.\*  
“Enantioselective Total Synthesis of (–)-Misramine”  
*Org. Lett.* **2018**, *20*, 5044-5047.  
2nd Most Read Paper of *Org. Lett.* in Sep 2018  
10th Most Read Paper of *Org. Lett.* during Sep 2018-Aug 2019  
Highlighted in Synfacts  
Virtual Issue “*Organic Letters Global Enterprise*”: most-read article published from Japan in 2018
- 19) Ogura, A.; Tanaka, K.\*  
“Next-generation glycocluster for achieving pattern recognition in living system”  
*J. Synth. Org. Chem., Jpn.* **2019**, *77*, 163-172.  
小椋 章弘、田中 克典  
「生体内でのパターン認識を可能とする次世代糖鎖クラスター」  
*有機合成化学協会誌* **2019**, *77*, 163-172.
- 20) Nakajima, T.; Takiguchi, K.; Yoshida, K.; Ogura, A.; Takao, K.\*  
“Studies toward the synthesis of perforatumone: synthesis of the 7-oxabicyclo-[4.2.1]nonane-8,9-dione core”  
*Heterocycles* **2019**, *99*, 661-668.
- 21) Takao, K.\*; Kai, H.; Yamada, A.; Fukushima, Y.; Komatsu, D.; Ogura, A.; Yoshida, K.  
“Total Syntheses of (+)-Aquatolide and Related Humulanolides”  
*Angew. Chem. Int. Ed.* **2019**, *58*, 9851-9855.  
Highlighted in Synfacts
- 22) Otake, K.; Yamada, K.; Miura, K.; Sasazawa, Y.; Miyazaki, S.; Niwa, Y.; Ogura,

A.; Takao, K.; Simizu, S.\*

“Identification of topoisomerases as molecular targets of cytosporolide C and its analog”

*Bioorg. Med. Chem.* **2019**, *27*, 3334-3338.

23) Miura, K.; Matsuki, W.; Ogura, A.; Takao, K.; Simizu, S.\*

“Identification of vibsantin A analog as a novel HSP90 inhibitor”

*Bioorg. Med. Chem.* **2020**, *28*, 115253.

24) Takao, K.\*; Ogura, A.; Yoshida, K.; Simizu, S.

“Total Synthesis of Natural Products Using Intramolecular Nozaki–Hiyama–Takai–Kishi Reactions”

*Synlett* **2020**, *31*, 421-433.

25) Sakama, A.; Kameshima, R.; Motohashi, Y.; Sumida, W.; Unno, Y.; Yoshida, K.; Ogura, A.; Takao, K.\*

“Stereoselective Synthesis of the Tricyclic Core of (–)-Callophycoic Acid A”

*J. Org. Chem.* **2020**, *85*, 3245-3264.

26) Ogura, A.\*; Ichii, N.; Shibata, K.; Takao, K.\*

“Red-Light-Mediated Barton–McCombie Reaction”

*Bull. Chem. Soc. Jpn.* **2020**, *93*, 936-941.

Selected as “Selected Paper”

27) Ogura, A.; Takao, K.\*

“Recent Advances in the Total Synthesis of Clavilactones”

*Heterocycles* **2020**, *100*, 1355-1370.

28) Yoshinaga, T.; Shinoda, M.; Iso, Y.\*; Isobe, T.\*; Ogura, A.; Takao, K.

“Glycothermally Synthesized Carbon Dots with Narrow-Bandwidth and Color-Tunable Solvatochromic Fluorescence for Wide-Color-Gamut Displays”

*ACS Omega* **2021**, *6*, 1741-1750.

29) Ogura, A.\*; Ito, T.; Moriya, K.; Horigome, H.; Takao, K.\*

“Asymmetric Diels–Alder Reaction between Furans and Propiolates”

*Tetrahedron Lett.* **2021**, *72*, 153075.

30) Shibata, K.; Takao, K.\*; Ogura, A.\*

“Diaryliodonium Salt-based Synthesis of *N*-Alkoxyindolines and Further Insights into the Ishikawa Indole Synthesis”

*J. Org. Chem.* **2021**, *86*, 10067-10087.

31) Saegusa, J.; Osada, Y.; Miura, K.; Sasazawa, Y.; Ogura, A.; Takao, K.; Simizu, S.\*

“Elucidation of structure-activity relationship of humulanolides and identification of humulanolide analog as a novel HSP90 inhibitor”

*Bioorg. Med. Chem. Lett.* **2022**, *60*, 128589.

Selected as “Cover Picture”

- 32) Oga, M.; Takamatsu, Y.; Ogura, A.; Takao, K.\*  
“Asymmetric Synthesis of Cyclopentene Compounds Containing All-Carbon Quaternary Stereocenters by (3 + 2) Cycloaddition and Its Application in the Formal Synthesis of (*R*)-(-)-Puraquinonic Acid”  
*J. Org. Chem.* **2022**, *87*, 8788-8795.
- 33) Fukuhara, R.; Ogura, A.; Yoshinaga, S.; Fukunaga, T.; Kinoshita, T.; Sumiyoshi, W.; Higuchi, Y.; Tanaka, K.; Takegawa, K.\*  
“*In vivo* imaging of fluorescent albumin modified with pyruvylated-human-type complex oligosaccharide reveals sialylation-like biodistribution and kinetics”  
*Bioorg. Med. Chem.* **2022**, *70*, 116943.
- 34) Katakami, R.; Sato, K.; Ogura, A.; Takao, K.; Iso, Y.\*; Isobe, T.\*  
“Open system synthesis of narrow-bandwidth red-fluorescent carbon quantum dots with a function of multi-metal ion sensing”  
*J. Mater. Chem. C* **2023**, *11*, 4143-4152.
- 35) Yamamoto, H.; Yamaoka, K.; Shinohara, A.; Shibata, K.; Takao, K.\*; Ogura, A.\*  
"Red-Light-Mediated Barton Decarboxylation Reaction and One-Pot Wavelength-Selective Transformations"  
*Chem. Sci.* **2023**, *14*, 11243-11250.
- 36) Uchida, T.; Saito, R.; Takao, K.\*; Ogura, A.\*  
"Synthesis of Indoles via Sigmatropic Rearrangements and Olefin Isomerization"  
*Adv. Synth. Catal.* **2024**, *366*, 465-472.
- 37) Matagawa, T.; Sasazawa, Y.; Agui, K.; Fujimaki, M.; Kawano, S.; Ogura, A.; Takao, K.; Igarashi, M.; Simizu, S.\*  
“Antiproliferative activities through accelerating autophagic flux by basidalin and its analogs in human cancer cells”  
*Bioorg. Med. Chem. Lett.* **2024**, *104*, 129713.
- 38) Ochi, Y.; Otani, A.; Katakami, R.; Ogura, A.; Takao, K.; Iso, Y.\*; Isobe, T.\*  
"Open system massive synthesis of narrow-band blue and green fluorescent graphene quantum dots and their application to water sensing"

*J. Mater. Chem. C* **2024**, *12*, 6548-6558.

- 39) Oka, D.; Ohtsuka, T.; Takao, K.\*; Ogura, A.\*  
“Synthesis of Tetrahydro- $\beta$ -carbolines via Cascade Sigmatropic Rearrangements”  
*Adv. Synth. Catal.* **2025**, *367*, e202401189.
- 40) Nanataki, S.; Aoki, D.; Onozawa, H.; Akiya, T.; Okuyama, G.; Abo, K.; Yoshida, K.; Ogura, A.; Takao, K.  
“Synthetic Studies of Polycyclic Polyprenylated Acylphloroglucinols: Asymmetric Construction of a Cyclohexanone Moiety”  
*Synlett* doi: 10.1055/s-00000083.

Books (includes chapter):

- 1) Ogura, A.  
“可視光照射で進行する Birch 還元” (Review of Chemistry in 2020)  
*化学* **2020**, *75*, 60-61.
- 2) Ogura, A.; Takao, K.  
"Total Syntheses of (+)-Aquatolide and Related Humulanolides"  
*Modern Natural Product Synthesis Overcoming Difficulties*  
Springer, Singapore, **2024**, pp 281-297.

Presentations:

72 oral presentations, including

18<sup>th</sup> International Conference on Organic Synthesis (Bergen, Norway)  
20<sup>th</sup> International Conference on Organic Synthesis (Budapest, Hungary)  
Pacifichem 2015 (Honolulu, USA)

30 poster presentations, including

The 11<sup>th</sup> International Kyoto Conference on New Aspects of Organic Chemistry  
The 8<sup>th</sup> AFMC International Medicinal Chemistry Symposium (Tokyo, Japan)  
9<sup>th</sup> Pacific Symposium on Radical Chemistry (Pacific Grove, USA)

Patents:

- 1) Katsunori Tanaka, Yasuyoshi Watanabe, Akihiro Ogura, Takahiro Yamamoto  
“Albumin-sugar chain complex”

PCT Int. Appl. WO 2017002918 A1, 2017

Award:

- 1) Meiji Seika Pharma Award in Synthetic Organic Chemistry, Japan 2024

Invited Lectures:

- 1) Ogura, A.  
"One-pot Fluorescence Labeling of Live Cell Surface by  $6\pi$ -Azaelectrocyclization"  
Kazan (Volga Region) Federal University (Russia), 3<sup>rd</sup> Jul. 2015
- 2) 小椋 章弘  
"クリック反応を駆使した糖鎖クラスターの合成"  
東京医科歯科大学生体材料工学研究所、東京、2018年3月2日
- 3) Akihiro Ogura, Ken-ichi Takao  
"Red-Light-Mediated Radical Reactions and Wavelength-Selective Transformations"  
16th Keio LCC-Yonsei CBMH Joint Symposium  
Keio Univ., 4th Nov. 2023
- 4) 小椋 章弘  
"「触媒の先」を見たい反応開発"  
第11回慶應有機化学若手シンポジウム、横浜、2024年5月11日
- 5) Akihiro Ogura  
"Synthesis of Indoles via Sigmatropic Rearrangements"  
17th Yonsei CECS-Keio LCC Joint Symposium  
Yonsei Univ. (Korea), 22nd Nov. 2024

Research Grant List (External Funds Only):

- 1) JSPS Fellowship for Young Scientists (DC1), 2010~2013
- 2) AstraZeneca R&D Grant 2013
- 3) JSPS Grants-in-Aid for Scientific Research (KAKENHI), 2014~2017
- 4) Tobe Maki Scholarship Foundation Research Grant 2018
- 5) JSPS Grants-in-Aid for Scientific Research (KAKENHI), 2019~2022
- 6) JSPS Grants-in-Aid for Scientific Research (KAKENHI), 2022~2025
- 7) Fujimori Science and Technology Foundation Research Grant 2023



8) Nakatani Foundation Grant for Research Study 2023

Here are links for Organic Synthesis Exercises Based on Takao Group Journal Club.

2016-2	2017-1	2017-2	2018-1	2018-2
2019-1	2019-2	2020-1	2020-2	2021-1
2021-2	2022-1	2022-2	2023-1	2023-2
2024-1	2024-2			

2016-2-a	2017-1-a	2017-2-a	2018-1-a	2018-2-a
2019-1-a	2019-2-a	2020-1-a	2020-2-a	2021-1-a
2021-2-a	2022-1-a	2022-2-a	2023-1-a	2023-2-a
2024-1-a	2024-2-a			