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Associate Professor (Semi-independent position in the Yamaguchi group)
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ACADEMIC CAREER

- 2024- Associate Professor, Waseda Institute for Advanced Study (WIAS), Waseda University (with Professor Junichiro Yamaguchi)
- 2020-2024 Assistant Professor, Department of Applied Chemistry, Waseda University (with Professor Junichiro Yamaguchi)
- 2018-2020 Assistant Professor, Waseda Research Institute for Science and Engineering, Waseda University (with Professor Junichiro Yamaguchi)

EDUCATION

- 2017-2018 Postdoctoral Researcher, Princeton University, U.S.A. (with Professor Robert R. Knowles)
- 2016-2017 Postdoctoral Researcher, RIKEN, Japan (with Chief Scientist Mikiko Sodeoka)
- 2012-2016 Ph.D. in Science, RIKEN and Keio University, Japan
“Studies on Development of Alkyne-tagged Sialidase-resistant GM3 Analogues and Photoaffinity Groups”
(with Chief Scientist Mikiko Sodeoka and Professor Kazunobu Toshima)
- 2010-2012 M.Sc. in Science and Technology, Keio University, Japan
“Synthesis of 9-Methylstreptimidone Derivatives and Evaluation of Their Biological Properties”
(with Professor Shigeru Nishiyama)
- 2006-2010 B.Sc. in Science and Technology, Keio University, Japan
(with Professor Shigeru Nishiyama)

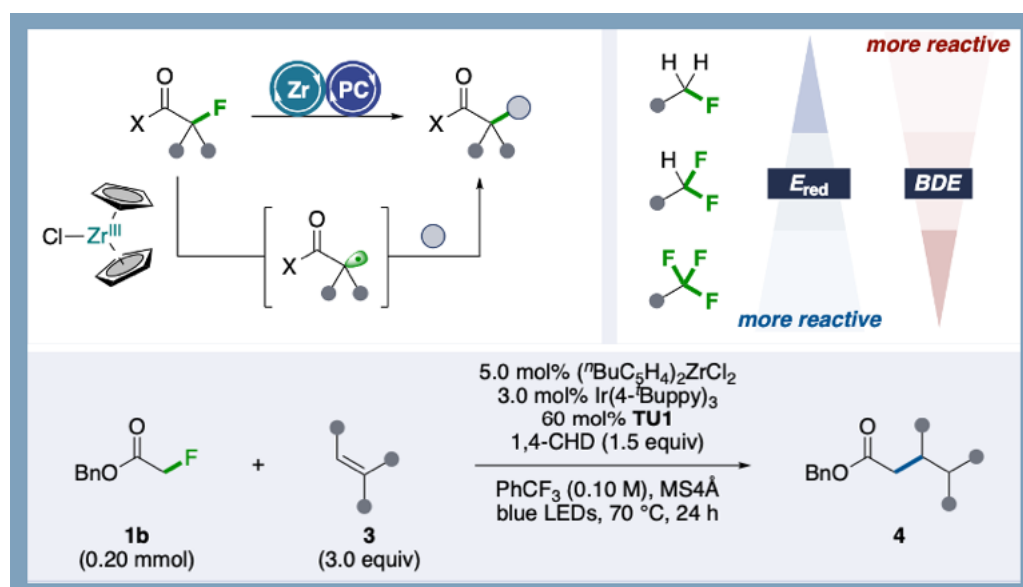
AWARDS AND FELLOWSHIPS

- 2026 The 66th Academic Encouragement Award, UBE Academic Promotion Foundation
- 2025 SYNLETT Poster Prize, The 11th Pacific Symposium on Radical Chemistry(PSRC-11)

2025	Incentive Award in Synthetic Organic Chemistry, The Society of Synthetic Organic Chemistry, Japan
2024	Lectureship Award, Digitalization-driven Transformative Organic Synthesis
2024	Young Scholar Lecture, The Chemical Society of Japan
2023	Oral Speaker Award, IUPAC The 23rd International Conference on Organic Synthesis (23-ICOS)
2023	Satomi Award
2023	WASEDA e-Teaching Award (Good Practice Award)
2021	Konica Minolta Award, Synthetic Organic Chemistry, Japan
2017-2018	JSPS Postdoctoral Fellowship for Research Abroad
2014-2016	JSPS Research Fellowship for Young Scientists (DC2)
2012-2014	RIKEN Junior Research Associate
2013	Glyco Tokyo 2013 Poster Award

SUBMITTED

- 1) Hotta, R.; **Ota, E.***; Yamaguchi, J.* “Direct C α -N Bond Cleavage of Unactivated Amides via Highly Reducing Photoredox Catalysis” *Submitted*
- 2) Kawabe, Y.; Hra, K.; Aida, K.; **Ota, E.***; Yamaguchi, J.* “Dual-fragment Functionalization of Simple Sulfides Enabled by Zirconocene/Photoredox Catalysis” *Submitted*
- 3) Takimoto, H.; Aida, K.; Nishimoto, Y.; Yokogawa, D.; **Ota, E.***; Yamaguchi, J.* “Reversing the Chemoselectivity in Photocatalytic C-F Bond Cleavage Enabled by Zirconocene and Photoredox Catalysis” *ChemRxiv*. **2024**.

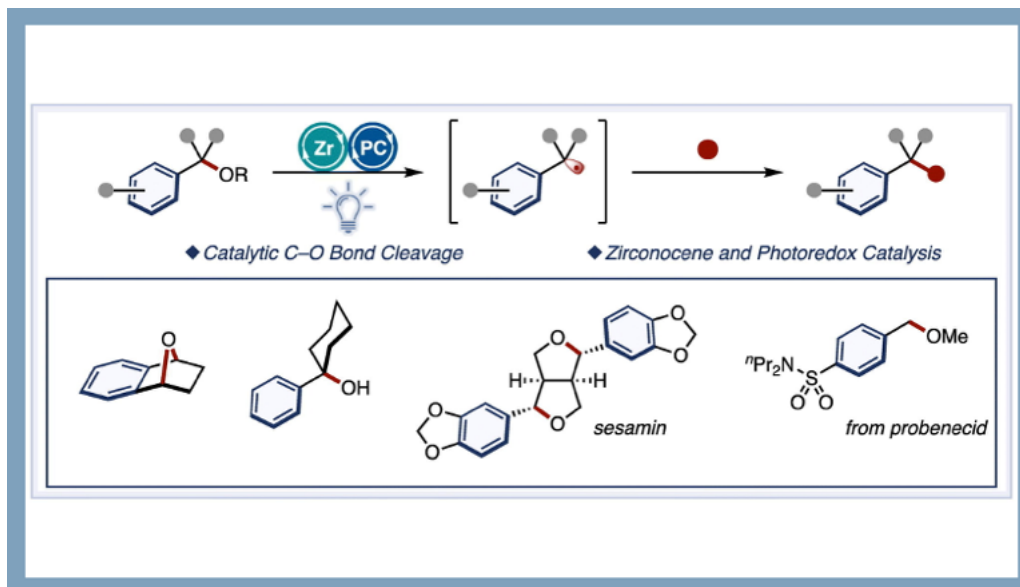


PUBLICATIONS

- 1) Aida, K.; Tajima, R.; **Ota, E.***; Yamaguchi, J.* “Selective C-O Bond Cleavage at Benzylic Positions Enabled by Zirconocene and Photoredox Catalysis” *Tetrahedron Lett.* **2025**, 169,

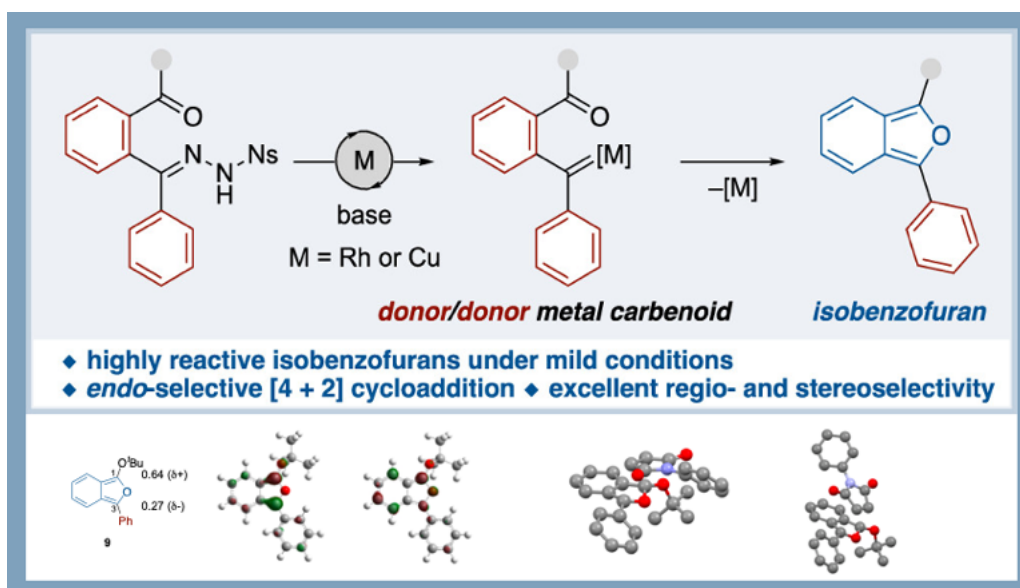
155741. (invited contribution)

Special issue for Prof. Song Lin Tetrahedron Young Investigator Award 2025



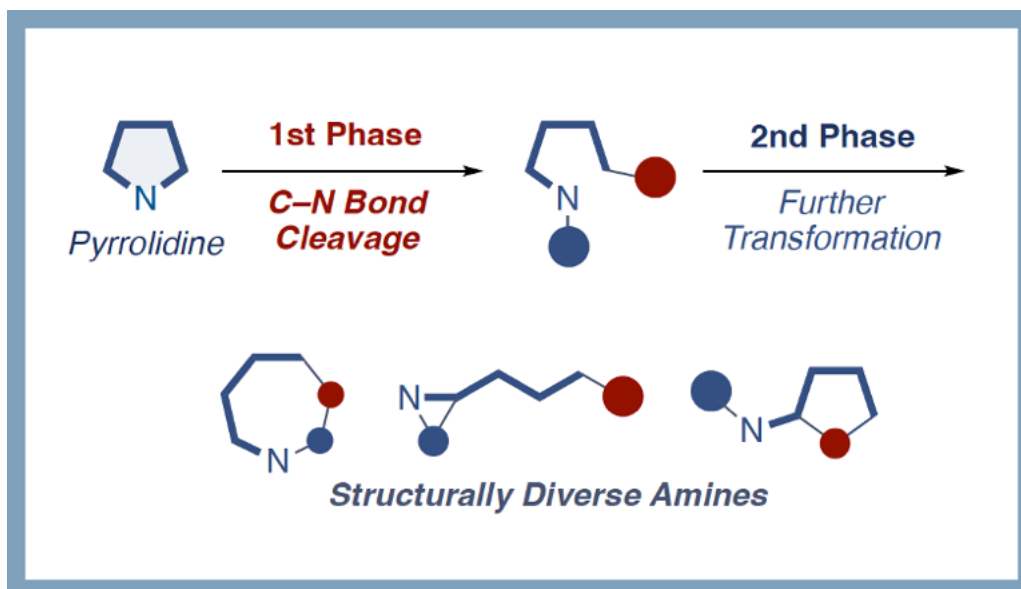
- 2) Morita, N.; Yoshikawa, S.; **Ota, E.**; Yamaguchi, J.* “Rh-Catalyzed Synthesis of Isobenzofurans via Donor/Donor-Type Metal Carbenoids and Their [4 + 2] Cycloaddition” *J. Org. Chem.*, **2025**, 90, 5986–5999.

Highlighted in Synfacts (DOI:10.1055/a-2601-4104)

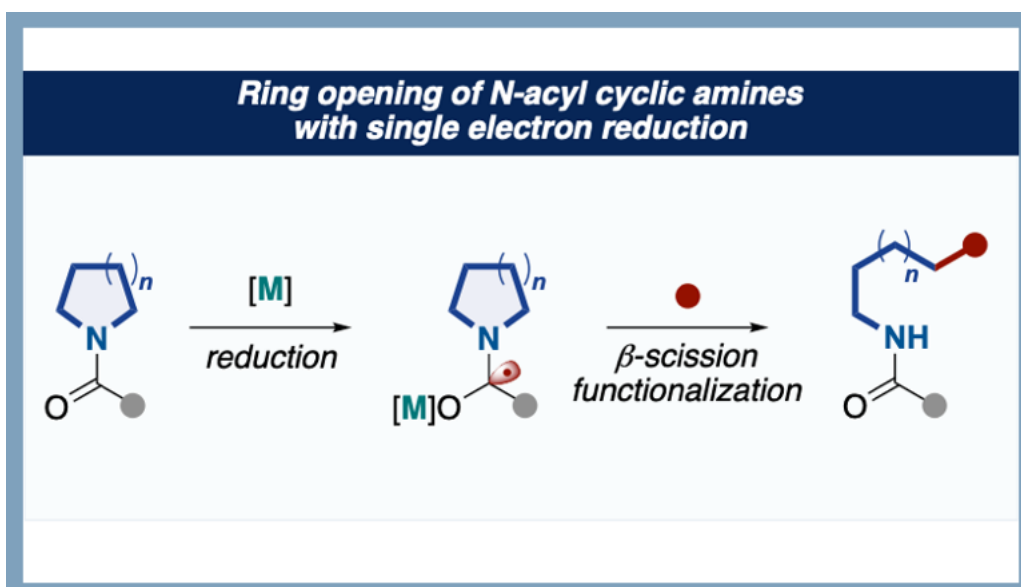


- 3) **Ota, E.***; Yamaguchi, J.* “Recent Developments for the Ring Opening of Pyrrolidines and Unstrained Cyclic Amines via C–N Bond Cleavage” *Eur. J. Org. Chem.* **2025**, e202401322. (Invited short review)

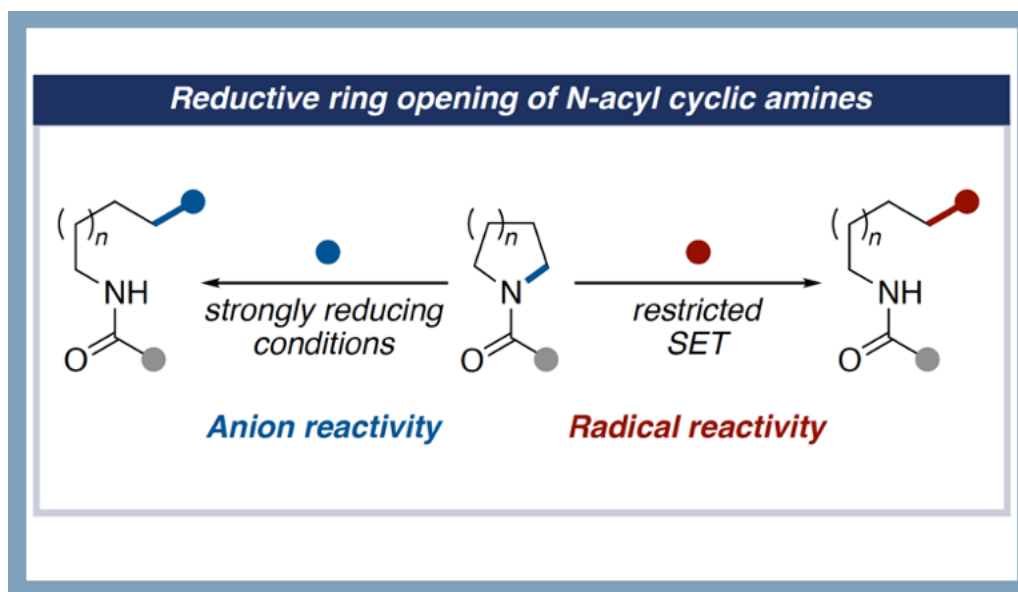
Editors' Choice (April 2025), Selected as Hot Topic: Photocatalysis, Selected as Front Cover.



- 4) Aida, K.; Ota, E.*; Yamaguchi, J. "Recent Advances in Single-Electron Reduction-Induced Ring Opening of N-Acyl Cyclic Amines" *Synthesis* **2025**, 57, 2278–2288. (Invited short review)

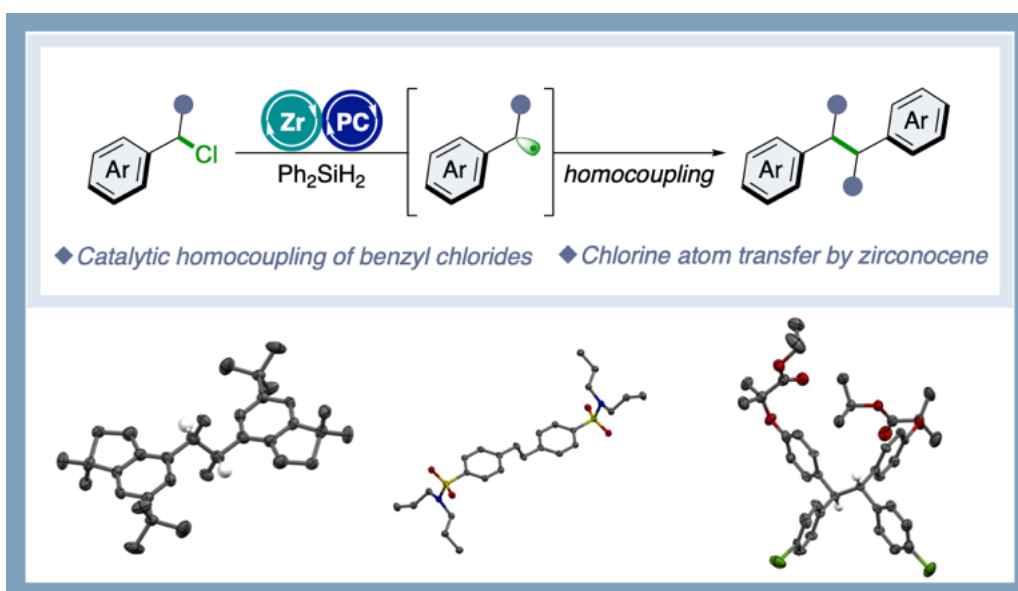


- 5) Aida, K.; Ota, E.*; Yamaguchi, J.* “Reductive Ring Opening of Cyclic Amines: Pyrrolidines and Beyond” *Synlett* **2025**, 36, 1142–1146. (SynPacts)



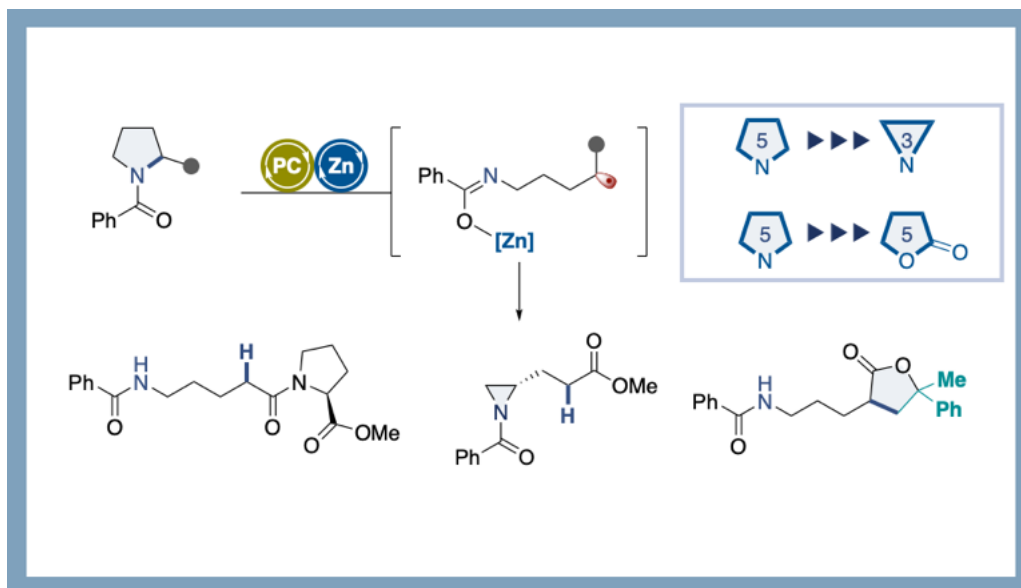
- 6) Tajima, R.; Tanaka, K.; Aida, K.; Ota, E.*; Yamaguchi, J.* “Catalytic Reductive Homocoupling of Benzyl Chlorides Enabled by Zirconocene and Photoredox Catalysis” *Precis. Chem.* **2024**, 3, 43–50. (Invited contribution).

Most Read Articles (1 Month) accessed on 11/15/2024 Highlighted by ACS Beijing Office
<https://mp.weixin.qq.com/s/4rlKkAMyVgTewyUwWlssfg>



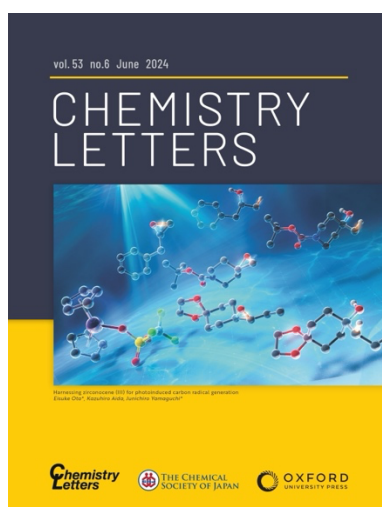
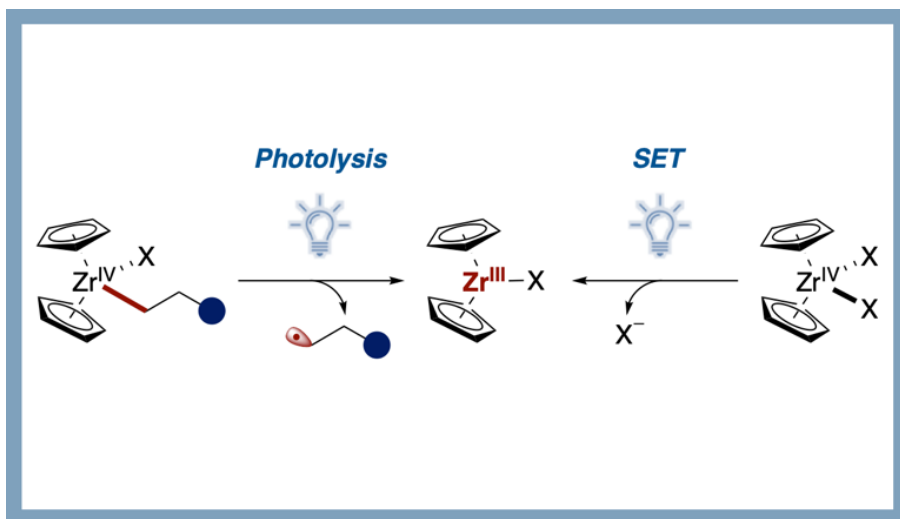
- 7) Aida, K.; Hirao, M.; Saitoh, T.; Yamamoto, T.; Einaga, Y.; Ota, E.*; Yamaguchi, J.* “Selective C–N Bond Cleavage in Unstrained Pyrrolidines Enabled by Lewis Acid and Photoredox Catalysis” *J. Am. Chem. Soc.* **2024**, 146, 44, 30698–30707.

Most Read Articles (1 Month) accessed on 11/15/2024, Highlighted in Synfacts (DOI:10.1055/a-2467-5629), Highlighted in Organic Chemistry Portal (<https://www.organic-chemistry.org/abstracts/lit9/840.shtm>)

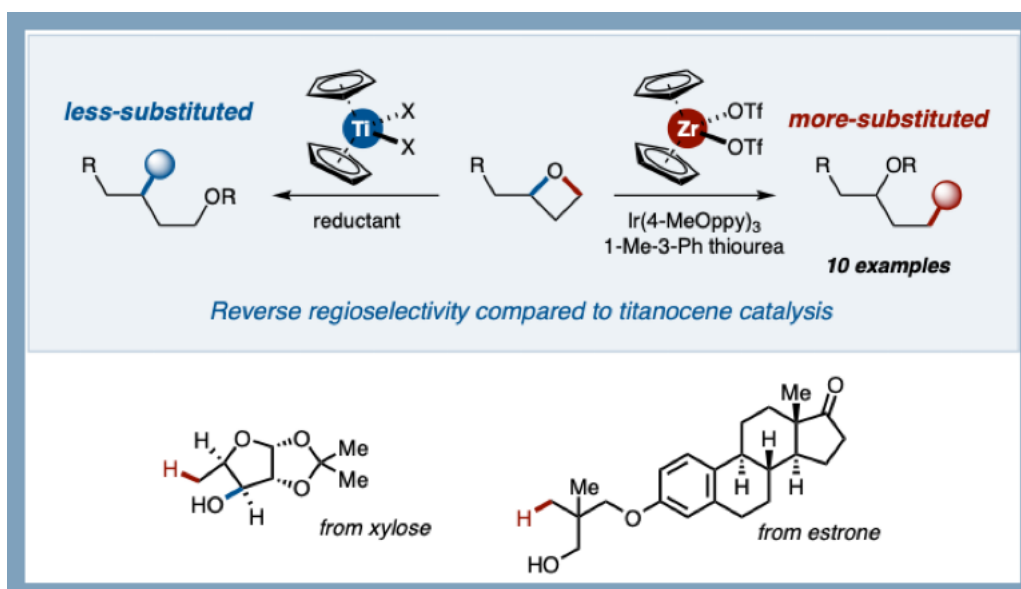


- 8) **Ota, E.***; Aida, K.; Yamaguchi, J.* “Harnessing Zirconocene (III) for Photoinduced Carbon Radical Generation” *Chem. Lett.* **2024**, 53, upae095. (invited review)

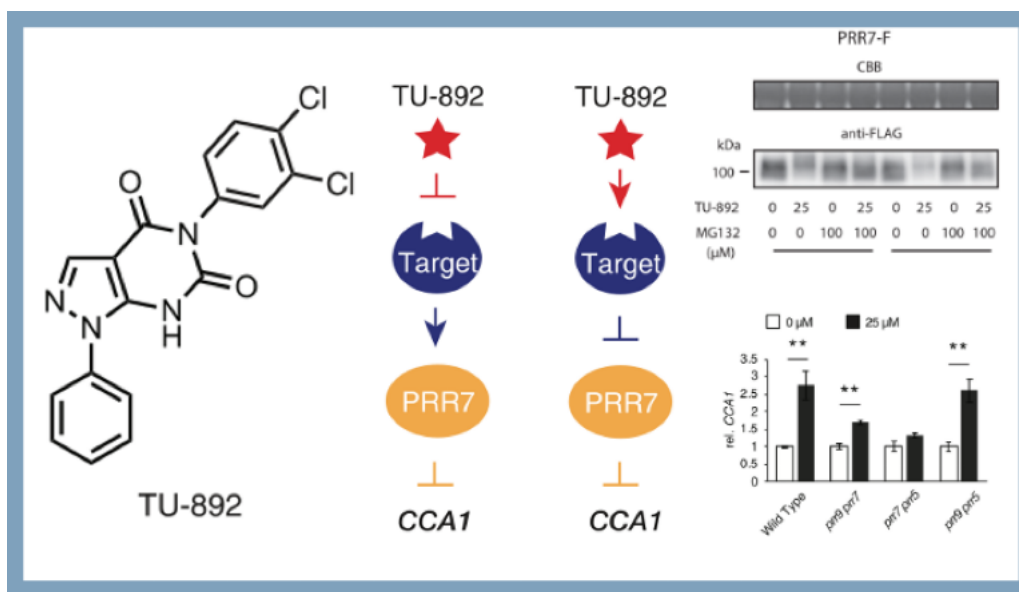
Invited as “Highlight Review”, Most Read, Selected as Front Cover and Inside Cover.



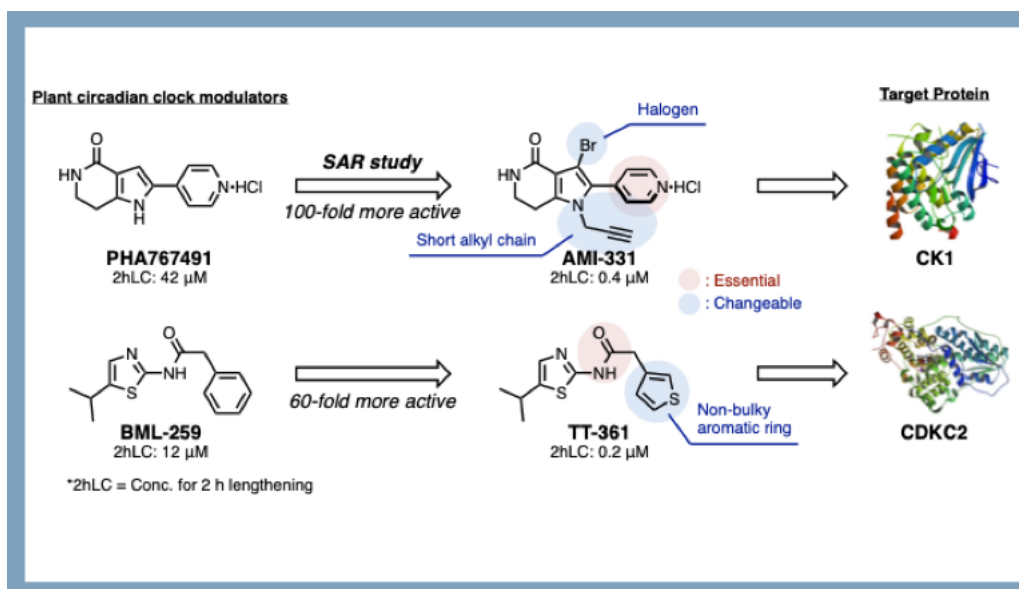
- 9) Aida, K.; Ota, E.*; Yamaguchi, J.* “Regioselective Ring Opening of Oxetanes Enabled by Zirconocene and Photoredox Catalysis”, *Synlett* **2024**, 35, 451–454. (Invited contribution).



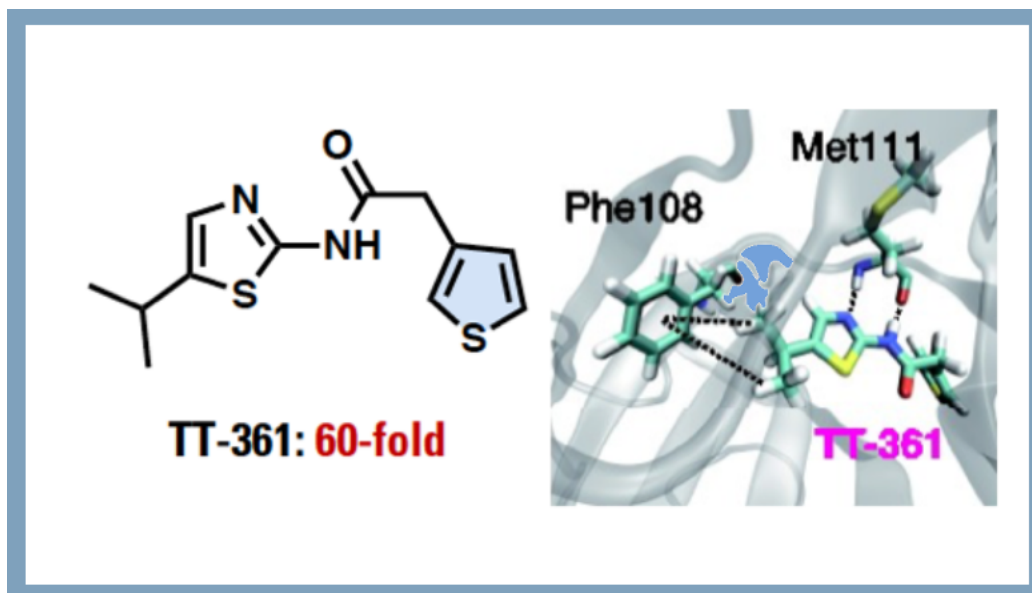
- 10) Uehara, T. N.; Takao, S.; Matsuo, H.; Saito, A. N.; **Ota, E.**; Ono, A.; Itami, K.; Kinoshita, T.; Yamaguchi, J.; Nakamichi, N. “A Small-Molecule Modulator Affecting the Clock-Associated PSEUDO-RESPONSE REGULATOR 7 Amount”, *Plant Cell Physiol* **2023**, 64, 1397–1406.



- 11) Saito, A. N.; **Ota, E.**; Nakamichi, N.; Yamaguchi, J. “Development of Plant Circadian Clock Modulators”, *J. Synth. Org. Chem. Jpn.* **2023**, 81, 718–730.

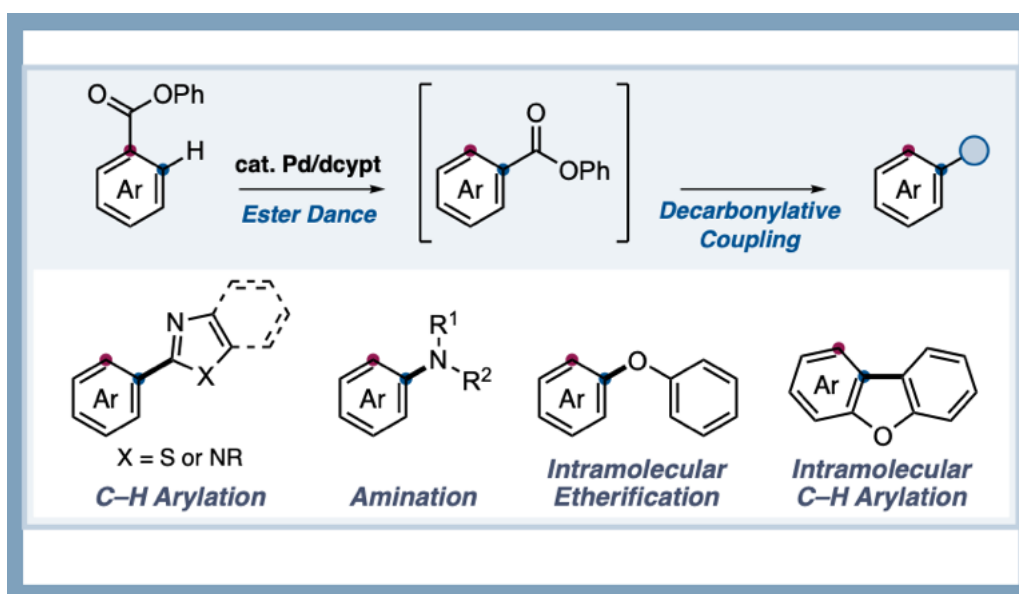


- 12) **Ota, E.**; Takeda, D.; Oonuma, K.; Kato, M.; Matoba, H.; Yoritake, M.; Sodeoka, M.; Hirai, G. “Synthesis and Biological Activity of Ganglioside GM3 Analogues with a (S)-CHF-Sialoside Linkage and an Alkyne Tag” *Glycoconj. J.* **2023**, 40, 333–341. (Invited contribution).

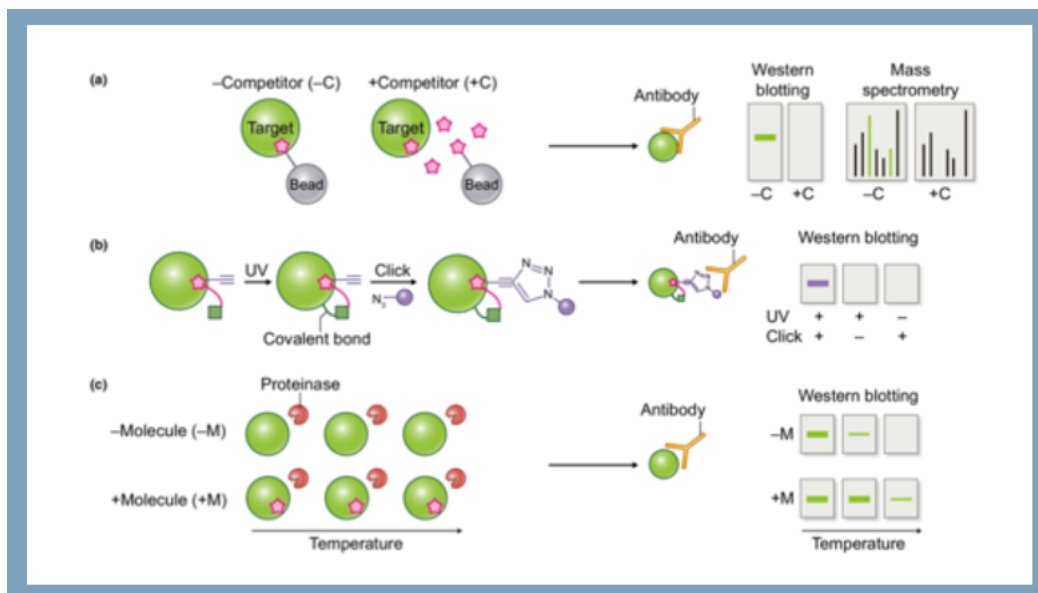


- 15) Kubo, M.; Inayama, N.; **Ota, E.**; Yamaguchi, J. “Palladium-Catalyzed Tandem Ester Dance/Decarbonylative Coupling Reactions” *Org. Lett.* **2022**, 24, 3855–3860.

Most Read Articles (1 Month), accessed on 06/06/2022



- 16) Nakamichi, N.; Yamaguchi, J.; Sato, A.; Fujimoto, K. J.; **Ota, E.** “Chemical biology to dissect molecular mechanisms underlying plant circadian clocks” *New Phytologist*, **2022**, 235, 1336–1343.



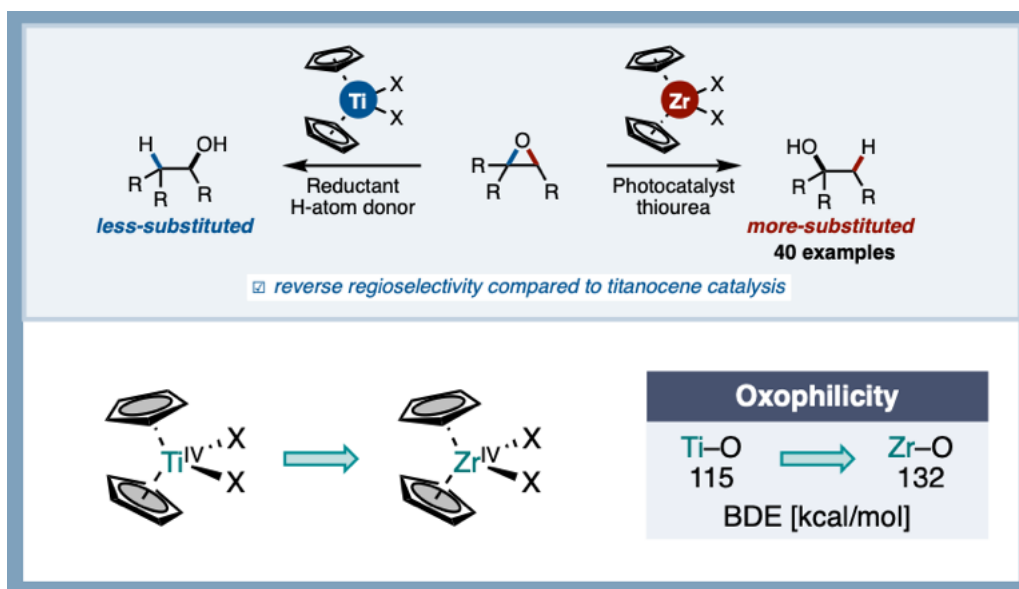
- 17) Aida, K.; Hirao, M.; Funabashi, A.; Sugimura, N.; **Ota, E.***; Yamaguchi, J.* “Catalytic Reductive Ring Opening of Epoxides Enabled by Zirconocene and Photoredox Catalysis” *Chem* **2022**, 8, 1762–1774.

Most Read (1 Month), accessed on 06/27/2022

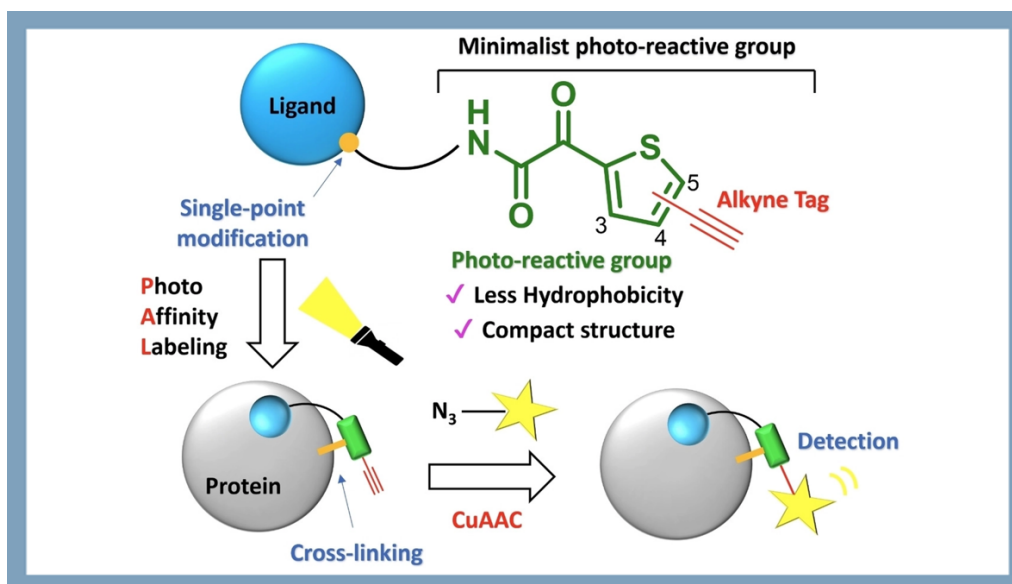
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Chem-Station Spotlight Research



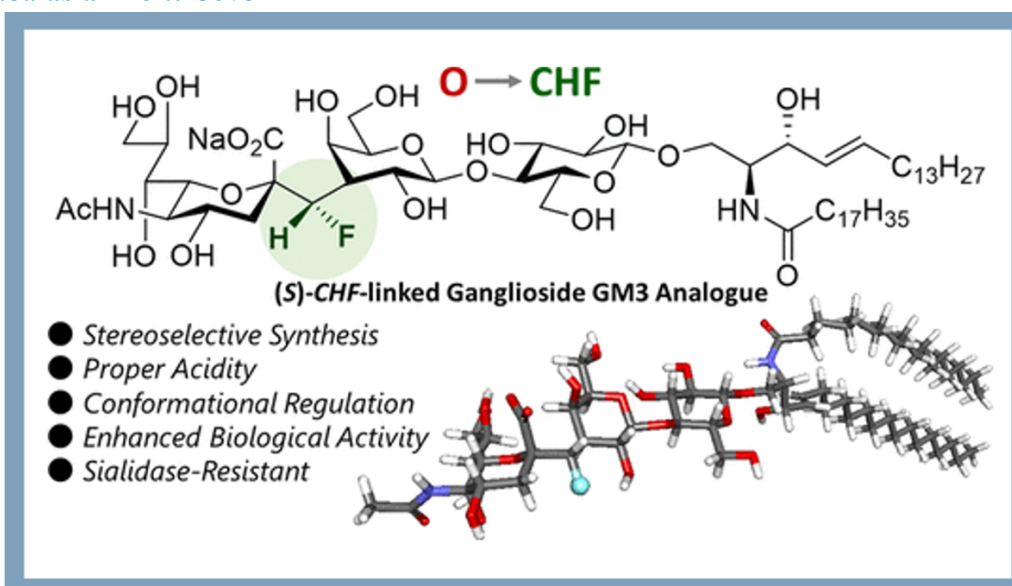
- 18) Moriyama, T.; Mizukami, D.; Yoritake, M.; Usui, K.; Takahashi, D.; **Ota, E.**; Sodeoka, M.; Ueda, T.; Karasawa, S.; Hirai, G. “Effect of Alkynyl Group on Reactivity in Photoaffinity Labeling with 2-Thienyl-Substituted α -Ketoamide” *Chem. Eur. J.* **2022**, 28, e202103925.



- 19) Hirai, G.; Kato, M.; Koshino, H.; Nishizawa, E.; Oonuma, K.; **Ota, E.**; Watanabe, T.; Hashizume, D.; Tamura, Y.; Okada, M.; Miyagi, T.; Sodeoka, M. “Ganglioside GM3 Analogues Containing Monofluoromethylene-Linked Sialoside: Synthesis, Stereochemical Effects, Conformational Behavior, and Biological Activities” *JACS Au* **2021**, *1*, 137–146.

Most Read Articles (1 Month), accessed on 01/02/2021

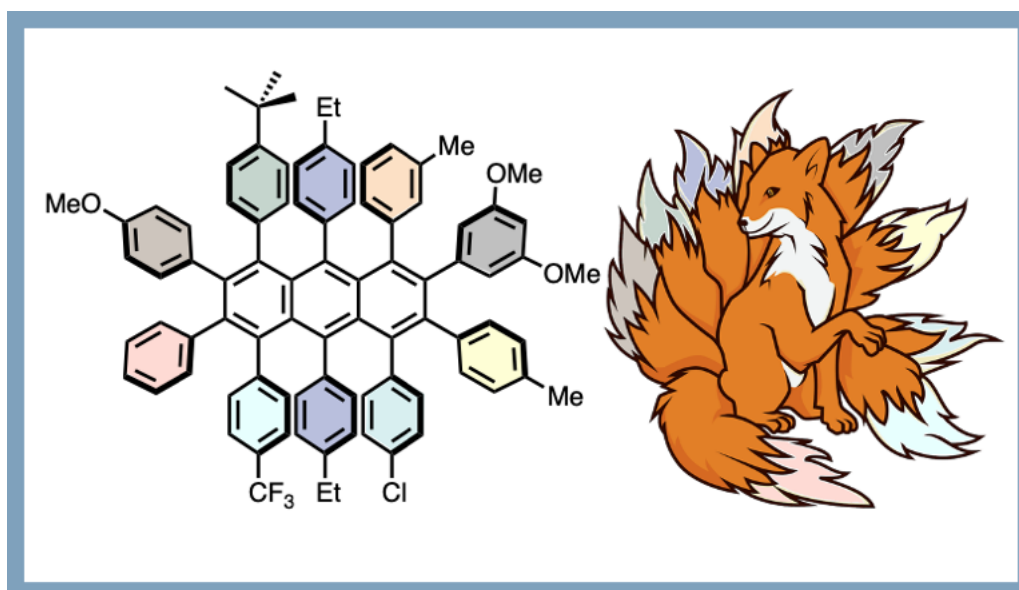
Selected as a Front Cover



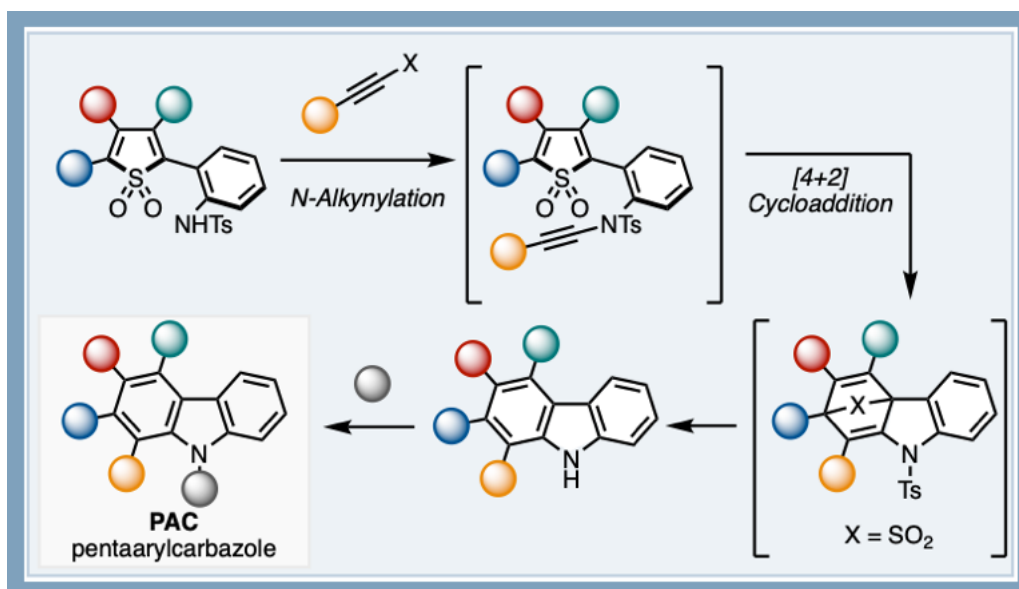
- 20) Asako, T.; Suzuki, S.; Tanaka, S.; **Ota, E.**; Yamaguchi, J. "Synthesis of Decaarylthracene with Nine Different Substituents" *J. Org. Chem.* **2020**, 85, 15437–15448.

Most Read Articles (1 Month), accessed on 12/04/2020

Highlighted in Synfacts (DOI: 10.1055/s-0040-1719344)



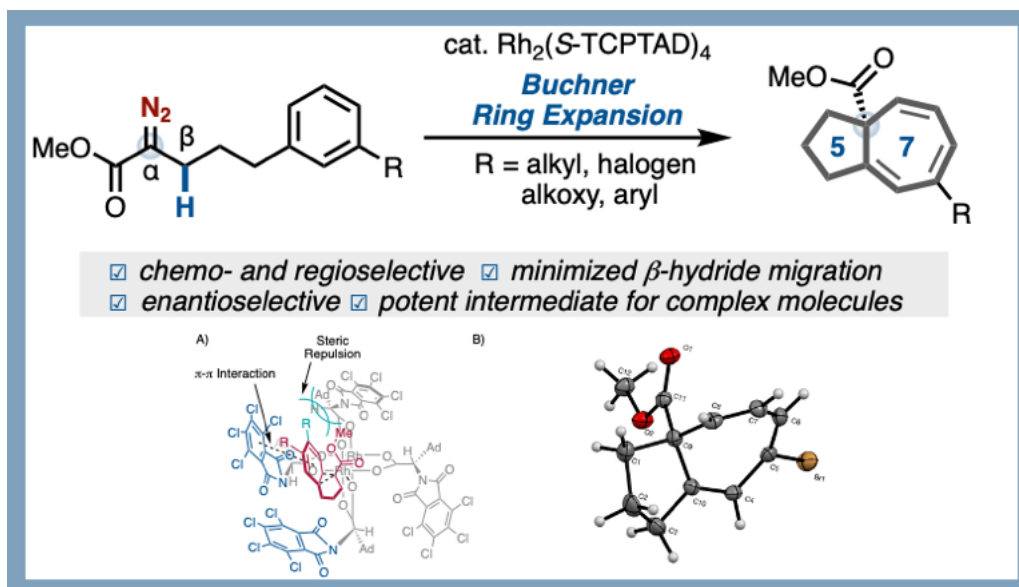
- 21) Tanaka, S.; Asako, T.; **Ota, E.**; Yamaguchi, J. "Synthesis of A Pentaarylcarbazole: Installation of Different Aryl Groups on Benzenoid Moiety" *Chemistry Letters*, **2020**, 49, 918–920.



- 22) Hoshi, T.; **Ota, E.**; Inokuma, Y.; Yamaguchi, J. "Asymmetric Synthesis of a 5,7-Fused Ring System Enabled by an Intramolecular Buchner Reaction with Chiral Rhodium Catalyst," *Organic Letters*, **2019**, 21, 10081–10084.

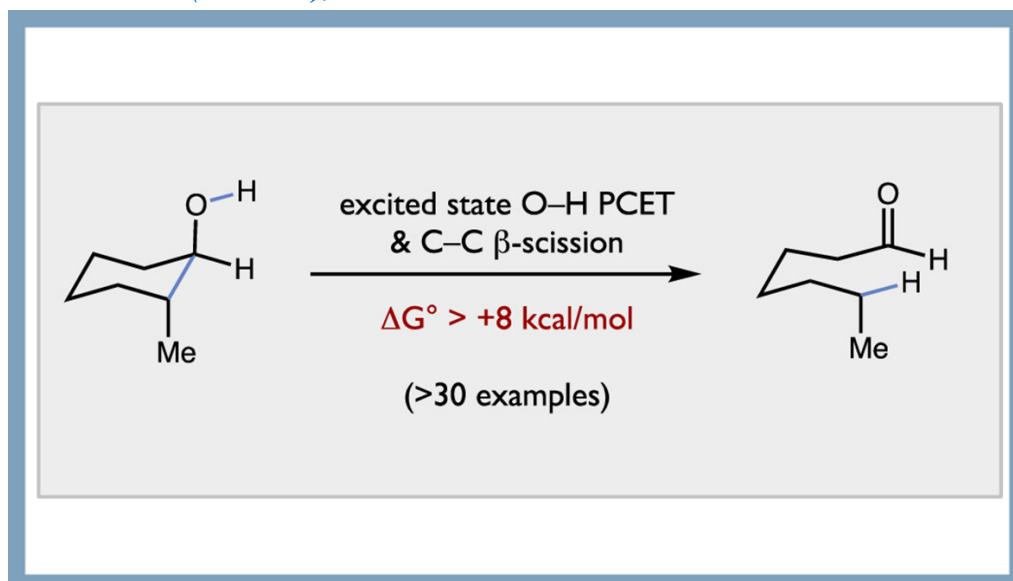
Highlighted in Org. Chem. Highlights 2020, August 10.

(<https://www.organic-chemistry.org/Highlights/2020/10August.shtm>)



- 23) Ota, E.; Wang, H.; Frye, N. L.; Knowles, R. R. “A Redox Strategy for Light-Driven, Out-of-Equilibrium Isomerizations and Application to Catalytic C-C Bond Cleavage Reactions,” *The Journal of American Chemical Society*, **2019**, *141*, 1457–1462.

Most Read Articles (1 Month), accessed on 2/14/2019

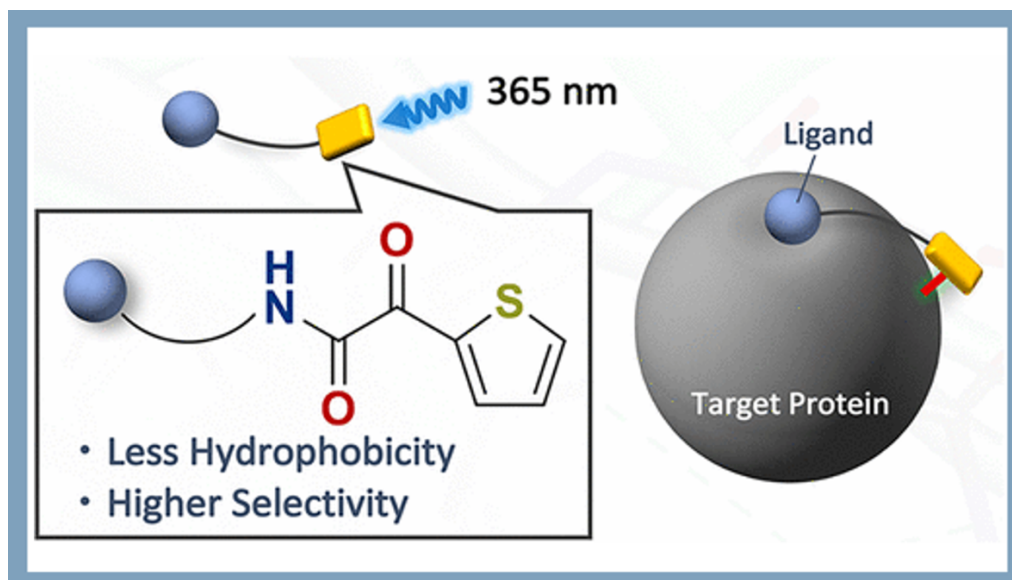


- 24) Ota, E.; Usui, K.; Oonuma, K.; Koshino, H.; Nishiyama, S.; Hirai, G.; Sodeoka, M. “Thienyl-Substituted α -Ketoamide: A Less Hydrophobic Reactive Group for Photo-Affinity Labeling,” *ACS Chemical Biology*, **2018**, *13*, 876–880.

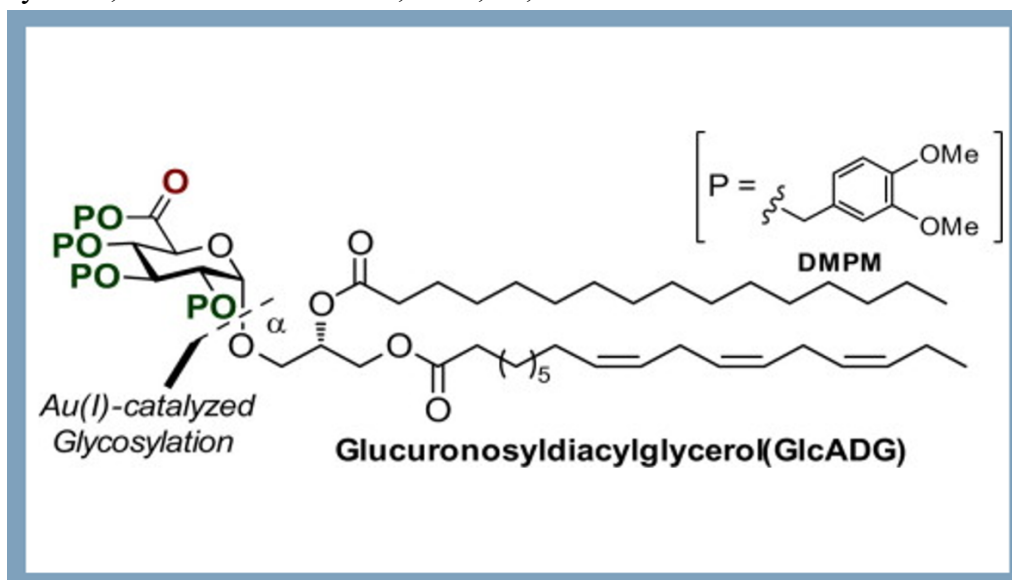
Most Read Articles (12 Months), accessed on 2/14/2019

Highlighted in In This Issue (ACS Chem. Biol. 2018, 13, 841–841.)

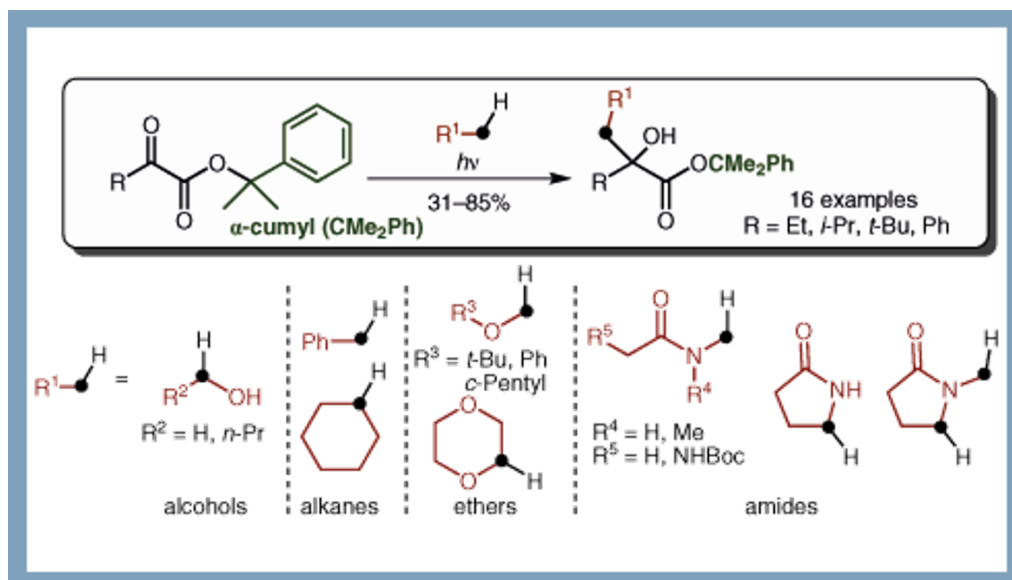
Chem-Station Spotlight Research



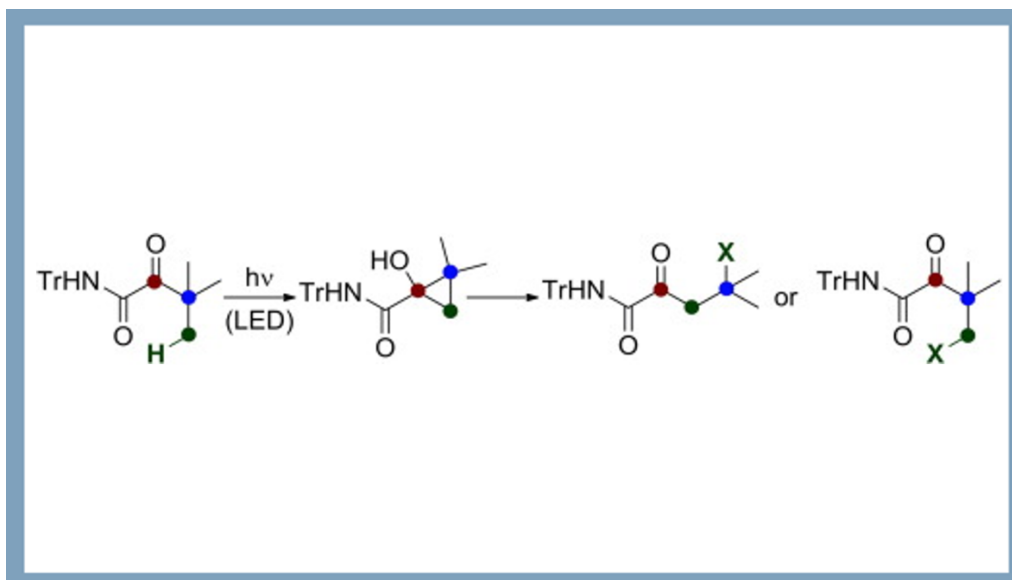
- 25) Wang, Q.; Kuramoto, Y.; Okazaki, Y.; **Ota, E.**; Morita, M.; Hirai, G.; Saito, K.; Sodeoka, M. "Synthesis of Polyunsaturated Fatty acid-containing glucuronosyl-diacylglycerol through Direct Glycosylation," *Tetrahedron Letters*, **2017**, 58, 2915–2918.



- 26) **Ota, E.**; Mikame, Y.; Hirai, G.; Nishiyama, S.; Sodeoka, M. "Photochemical and Additive-free Coupling Reaction of α -Cumyl α -Ketoesters via Intermolecular C-H Bond Activation," *Synlett*, **2016**, 27, 1128–1132.



- 27) Ota, E.; Mikame, Y.; Hirai, G.; Koshino, H.; Nishiyama, S.; Sodeoka, M. "Photo-induced Formation of Cyclopropanols from α -Ketoamides via γ -C-H bond activation," *Tetrahedron Letters*, **2015**, 56, 5991–5994.



- 28) Hirai, G.; Ota, E.; Sakai, M.; Nishiyama, S.; Sodeoka, M. "C-Sialosides: Synthesis and Biological Activities," *Trends in Glycoscience and Glycotechnology*, **2015**, 27, 47–60.
- 29) Ota, E.; Takeiri, M.; Tachibana, M.; Ishikawa, Y.; Umezawa, K.; Nishiyama, S. "Synthesis and biological evaluation of molecular probes based on the 9-methylstreptimidone derivative DTCM-glutarimide," *Bioorganic & Medicinal Chemistry Letters*, **2012**, 22, 164–1670.
- 30) Takeiri, M.; Ota, E.; Nishiyama, S.; Kiyota, H.; Umezawa, K. "Structure-activity relationship of 9-methylstreptimidone, a compound that induces apoptosis selectively in adult T-cell leukemia cells," *Oncology Research*, **2012**, 20, 15–24.

PRESENTATIONS (International)

- 1) “TBD”, International Symposium on Catalysis and Fine Chemicals 2026 (C&FC), the Suntec Convention and Exhibition Centre, December, 2026, **Eisuke Ota** (Invited)
- 2) “TBD”, International Symposium on Catalysis and Fine Chemicals 2026 (C&FC), Nanyang Technological University, December, 2026, **Eisuke Ota** (Invited)
- 3) “Altering Selectivity in Photocatalytic σ -Bond Cleavage”, The University of Hong Kong, Hong Kong SAR, November 4, 2025, **Eisuke Ota** (Invited: Prof. Aspen X.-Y. Chen)
- 4) “Altering Selectivity in Photocatalytic σ -Bond Cleavage”, The Hong Kong Polytechnic University, Hong Kong SAR, November 3, 2025, **Eisuke Ota** (Invited: Prof. Bengang Xing)
- 5) “Altering Selectivity in Photocatalytic σ -Bond Cleavage”, South China University of Science, China, October 31, 2025, **Eisuke Ota** (Invited: Prof. Zhao Wu)
- 6) "Harnessing Carbon Radicals through Photocatalytic C-N Bond Cleavage of Cyclic Amines Using Photoredox Catalysis" The Second Asian Conference for “MONODUKURI” Strategy by Synthetic Organic Chemistry (ACMS 2025), Okinawa Convention Center, Okinawa, August 1, 2025, **Eisuke Ota**
- 7) "Reversing the Chemoselectivity in Photocatalytic C-F Bond Cleavage Enabled by Zirconocene and Photoredox Catalysis" The 11th Pacific Symposium on Radical Chemistry (PSRC-11), Seoul National University, Korea, June 17, 2025, **Eisuke Ota**
- 8) "Altering Selectivity in Photocatalytic Bond Cleavage", University of Münster, Germany, December 12, 2024, **Eisuke Ota** (Invited: Prof. Armido Studer)
- 9) "Altering Selectivity in Photocatalytic Bond Cleavage", University of Amsterdam, Netherlands, December 10, 2024, **Eisuke Ota** (Invited: Prof. Timothy Noël)
- 10) "Altering Selectivity in Photocatalytic Bond Cleavage", University of Bonn, Germany, December 5, 2024, **Eisuke Ota** (Invited: Prof. Andreas Gansäuer)
- 11) "Altering Selectivity in Photocatalytic Bond Cleavage", Aachen RWTH, Germany, December 4, 2024, **Eisuke Ota** (Invited: Prof. Daniele Leonori)
- 12) “Photocatalytic C-N bond cleavage of pyrrolidines enabled by Lewis acid and photoredox catalysis” International Conference on Organic Synthesis (23-ICOS), Zhangjiang Science Hall Shanghai, China, October 15, 2023, **Eisuke Ota**,* Marina Hirao, Kazuhiro Aida, Junichiro Yamaguchi*

- 13) " σ -Bond Cleavage by Photoredox/Zirconocene Catalysis" 11th Singapore International Chemistry Conference (SICC-11), 2 Fusionopolis Way, Singapore, December 13, 2022, **Eisuke Ota** (Invited)
- 14) "Development of Molecular Probes Based on a Sialidase-resistant Ganglioside GM3 Analogue," The First Asian Conference for "MONODUKURI" Strategy by Synthetic Organic Chemistry, July 18, 2013, **Eisuke Ota**, Marie Kato, Kana Oonuma, Go Hirai, Shigeru Nishiyama, and Mikiko Sodeoka.
- 15) "Synthesis of 9-Methylstreptimidone Derivatives and the Mechanistic Study of Anti-inflammatory Activity," The 8th AFMC International Medicinal Chemistry Symposium, December 1, 2011, **Eisuke Ota**, Yuichi Ishikawa, Kazuo Umezawa, and Shigeru Nishiyama.
- 16) "Synthesis of 9-Methylstreptimidone Derivatives and Evaluation of their Biological Properties," 10th International Symposium on Organic Reactions, November 23, 2011, **Eisuke Ota**, Yuichi Ishikawa, Masatoshi Takeiri, Tsuyoshi Saitoh, Kazuo Umezawa, and Shigeru Nishiyama.
- 17) "Synthesis and biological activities of 9-methylstreptimidone derivatives," The 2010 International Chemical Congress of Pacific Basin Societies, December 19, 2010, **Eisuke Ota**, Yuichi Ishikawa, Miyuki Tachibana, Ayumi Kaneda, Kazuo Umezawa, and Shigeru Nishiyama.