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【略歴】

2009年3月	崇城大学 薬学部 薬学科	卒業
2011年3月	京都大学大学院 薬学研究科 創薬科学専攻	修士課程修了
2014年3月	京都大学大学院 薬学研究科 創薬科学専攻	博士後期課程修了
2014年4月	第一薬科大学 薬学部 育薬研究センター	助教
2015年11月	千葉大学大学院 理学研究科 化学コース	特任助教
2017年4月	千葉大学大学院 理学研究科 化学研究部門	特任助教
2020年5月	東京工業大学 理学院 化学系	助教
2024年10月	東京科学大学 理学院 化学系	助教

【受賞】

2013年3月	日本薬学会第133年会（横浜）優秀発表賞
2014年4月	平成25年度笹川科学研究奨励賞
2017年12月	2017年度有機合成化学協会 東レ研究企画賞
2025年2月	令和6年度理学院若手研究奨励賞

【発表論文】

1. S. Kuwano, J. Kikushima, T. Nakada, S. Sase, K. Goto*
“Reusable Selenenyl Iodide-Initiated Cascade Cyclization of Polyenes with *N*-terminating Groups”
Chem. Asian J. **2025**, *in press*.
2. R. Masuda, T. Karasaki, S. Sase, S. Kuwano, K. Goto*
“Highly Electrophilic Intermediates in the Bypass Mechanism of Glutathione Peroxidase: Synthesis, Reactivity, and Structures of Selenocysteine-Derived Cyclic Selenenyl Amides”
Chem. Eur. J. **2023**, *29*, e202302615.
(Selected as the “Hot paper” and “Inside cover”)
3. T. Inokuma, K. Hashimoto, T. Fujiwara, C. Sun, S. Kuwano, K. Yamada*
“Remote Electronic Effect of Chiral *N*-Heterocyclic Carbene Catalyst on an Asymmetric Benzoin Reaction”

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4. R. Masuda, **S. Kuwano**, K. Goto*
“Modeling Selenoprotein *Se*-Nitrosation: Synthesis of a *Se*-Nitrososelenocysteine with Persistent Stability”
J. Am. Chem. Soc. **2023**, *145*, 14184–14189.
(Featured in the “*JACS spotlights*” and selected as the “Supplementary Cover”)
5. **S. Kuwano**, E. Takahashi, J. Kikushima, S. Sase, K. Goto*
“Efficient Oxyselenation and Aminosenation Utilizing a Selenenyl Iodide Based on the Characteristic Thermodynamics of Its Reaction with Olefins”
New J. Chem. **2023**, *47*, 9569–9574.
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6. K. Goto,* T. Sano, R. Masuda, S. Otaka, R. Kimura, S. Sase, **S. Kuwano**
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7. T. Inokuma, K. Iritani, Y. Takahara, C. Sun, Y. Yamaoka, **S. Kuwano**, K. Yamada,*
“Remote electronic effect on the N-heterocyclic carbene-catalyzed asymmetric intramolecular Stetter reaction and structural revision of products”
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8. K. Yamada,* A. Yamauchi, T. Fujiwara, K. Hashimoto, Y. Wang, **S. Kuwano**, T. Inokuma
“Kinetic Resolution of alpha-Hydroxyamide via N-Heterocyclic Carbene-Catalyzed Acylation”
Asian J. Org. Chem. **2022**, *11*, e202200452.
9. R. Masuda, **S. Kuwano**, S. Sase, M. Bortoli, A. Madabeni, L. Orian, K. Goto*
“Model Study on the Catalytic Cycle of Glutathione Peroxidase Utilizing Selenocysteine-Containing Tripeptides: Elucidation of the Protective Bypass Mechanism Involving Selenocysteine Selenenic Acids”
Bull. Chem. Soc. Jpn. **2022**, *95*, 1360–1379.
(Selected as the “BCSJ Award” and “Front cover”)
10. Y. Wang, A. Yamauchi, K. Hashimoto, T. Fujiwara, T. Inokuma, Y. Mitani, K. Ute, **S. Kuwano**, Y.

Yamaoka, K. Takasu,* K. Yamada.*

“Enhanced Molecular Recognition through Substrate–Additive Complex Formation in N-Heterocyclic-Carbene-Catalyzed Kinetic Resolution of α -Hydroxythioamides”

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11. E. Ogino, **S. Kuwano**, T. Arai*

“Chiral Aminomethylbinaphthol-catalyzed Diastereo- and Enantioselective Epoxidation of Trisubstituted Acrylonitriles”

Adv. Synth. Catal. **2022**, *364*, 1503–1506.

12. **S. Kuwano**, E. Takahashi, K. Ebisawa, Y. Ishikawa, S. Sase, K. Goto*

“Oxyselenation and Aminoselenation of Alkenes Utilizing an Isolable Selenenyl Iodide”

Mendeleev Commun. **2022**, *32*, 80–82.

13. R. Masuda, **S. Kuwano**, K. Goto*

“Late-Stage Functionalization of the Periphery of Oligophenylene Dendrimers with Various Arene Units via Fourfold C-H Borylation”

J. Org. Chem. **2021**, *86*, 14433–14443.

(Selected as the "Supplementary Cover")

14. **S. Kuwano**, E. Ogino, T. Arai*

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15. Y. Nishida, T. Suzuki, Y. Takagi, E. Amma, R. Tajima, **S. Kuwano**, T. Arai*

“A Hypervalent Cyclic Dibenzoiodolium Salt as a Halogen-Bond-Donor Catalyst for the [4+2] Cycloaddition of 2-Alkenylindoles.”

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16. E. Ogino, A. Nakamura, **S. Kuwano**, T. Arai*

“Chiral C_2 -Symmetric Aminomethylbinaphthol as Synergistic Catalyst for Asymmetric Epoxidation of Alkylidenemalononitriles: Easy Access to Chiral Spirooxindoles”

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(Selected as the "Cover picture")

17. J. Ma, T. Suzuki, **S. Kuwano**, T. Arai*
“Catalytic Asymmetric Chlorination of α -Ketoesters Using N-PFB-PyBidine-Zn(OAc)₂”
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18. T. Suzuki, **S. Kuwano**, T. Arai*
“Non-bonding Electron Pair versus π -Electrons in Solution Phase Halogen Bond Catalysis: Povarov Reaction of 2-Vinylindoles and Imines”
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19. A. Nakamura, **S. Kuwano**, J. Sun, K. Araseki, E. Ogino, T. Arai*
“Practically Useful Chiral Dinuclear Benzyliminobinaphthoxy-Pd Catalyst for Asymmetric Mannich Reaction of Aldimines and Isatin-derived Ketimines with Alkylmalononitriles”
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20. **S. Kuwano**, Y. Nishida, T. Suzuki, T. Arai*
“Catalytic Asymmetric Mannich-Type Reaction of Malononitrile with *N*-Boc α -Ketiminoesters Using Chiral Organic Base Catalyst with Halogen Bond Donor Functionality”
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21. **S. Kuwano**,* Y. Hosaka, T. Arai*
“Chiral Benzazaborole-Catalyzed Regioselective Sulfonylation of Unprotected Carbohydrate Derivatives”
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22. T. Arai,* Y. Iimori, M. Shirasugi, R. Shinohara, Y. Takagi, T. Suzuki, J. Ma, **S. Kuwano**, H. Masu
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23. **S. Kuwano**, T. Suzuki, M. Yamanaka, R. Tsutsumi, T. Arai*
“Catalysis Based on C–I $\cdots\pi$ Halogen Bonds: Electrophilic Activation of 2-Alkenylindoles by Cationic Halogen-Bond-Donors for [4+2] Cycloadditions”
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24. **S. Kuwano**,* Y. Hosaka, T. Arai*
“Chiral Benzazaborole as Catalyst for Enantioselective Sulfonylation of *cis*-1,2-Diols”

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25. **S. Kuwano**, T. Suzuki, Y. Hosaka, T. Arai*
“Chiral Organic Base Catalyst with Halogen Bonding Donor Functionality: Asymmetric Mannich Reaction of Malononitrile with N-Boc Aldimines and Ketimines”
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26. **S. Kuwano**, T. Suzuki, T. Arai*
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27. T. Arai,* T. Tosaka, **S. Kuwano**
“Catalytic Asymmetric Mannich Reaction of Isatin-derived N-Boc Imines with Malononitrile by Bis(imidazolidine)-derived Pincer Rh Complex”
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28. B. Kang, Y. Wang, **S. Kuwano**, Y. Yamaoka, K. Takasu,* K. Yamada*
“Site-selective Benzoin-type Cyclization of Unsymmetrical Dialdoses Catalyzed by N-Heterocyclic Carbenes for Divergent Cyclitol Synthesis”
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“Oxa- and Azacycle-formation via Migrative Cyclization of Sulfonylalkynol and Sulfonylalkynamide with N-Heterocyclic Carbene”
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32. **S. Kuwano**,* T. Masuda
“N-Heterocyclic Carbene Catalyzed Monoacylation of Vicinal Diols”
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33. T. Arai,* C. Tokumitsu, T. Miyazaki, **S. Kuwano**, A. Awata
“Catalytic Asymmetric [3+2]-Cycloaddition for Stereodivergent Synthesis of Chiral Indolyl-pyrrolidines”
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34. B. Kang, T. Sutou, Y. Wang, **S. Kuwano**, Y. Yamaoka, K. Takasu,* K. Yamada*
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35. **S. Kuwano**, S. Harada, B. Kang, R. Oriez, Y. Yamaoka, K. Takasu,* K. Yamada*
“Enhanced Rate and Selectivity by Carboxylate Salt as a Basic Cocatalyst in Chiral N-Heterocyclic Carbene-Catalyzed Asymmetric Acylation of Secondary Alcohols”
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36. S. Harada, **S. Kuwano**, Y. Yamaoka, K. Yamada,* K. Takasu*
“Kinetic Resolution of Secondary Alcohols Catalyzed by Chiral Phosphoric Acids”
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37. **S. Kuwano**, S. Harada, R. Oriez, K. Yamada*
“Chemoselective Conversion of α -Unbranched Aldehyde to Amide, Ester, and Carboxylic Acids by NHC-Catalysis”
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