

履歴書

2024 年 10 月 1 日現在

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助教

東北大学大学院薬学研究科

分子薬科学専攻 合成制御化学分野

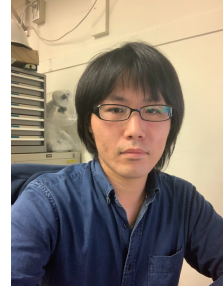
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生年月日: 1989 年 8 月 7 日

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学歴

2008 年 3 月 山形県立米沢興譲館高校 卒業

2012 年 3 月 東北大学薬学部創薬科学科 卒業

2014 年 3 月 東北大学大学院薬学研究科分子薬科学専攻博士課程

前期 2 年の課程 修了 (指導教官: 岩渕好治 教授)

2017 年 3 月 東北大学大学院薬学研究科分子薬科学専攻博士課程

後期 3 年の課程 修了

学位取得 博士 (薬科学) (指導教官: 岩渕好治 教授)

職歴

2014 年 4 月～2017 年 3 月 日本学術振興会特別研究員 (DC1)

2017 年 4 月～2017 年 5 月 東北大学大学院薬学研究科 博士研究員
(岩渕好治 教授)

2017 年 6 月～2019 年 3 月 Department of Chemistry, University of California,
Berkeley, Postdoctoral Scholar
(Prof. Richmond Sarpong)

2019 年 4 月～現在 東北大学大学院薬学研究科 助教
(岩渕好治 教授)

所属学会

有機合成化学協会，日本薬学会

受賞歴・その他

2020 年 令和 2 年度（第 33 回） 有機合成化学協会 帝人ファーマ 研究企画賞

2015 年 大津会議アワードフェロー

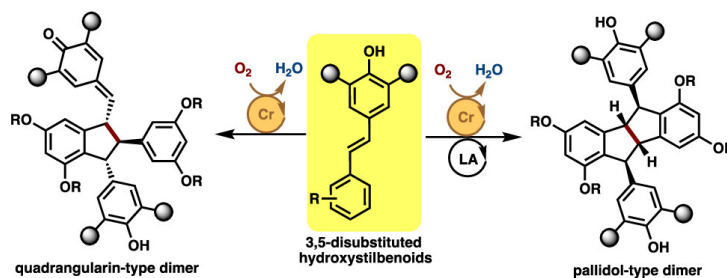
研究業績

a) 原著論文

24. Nagasawa, S.; Itagaki, Y.; Sasano, Y.; Iwabuchi, Y.*

“Controlled Aerobic Oxidative Dimerization of Hydroxystilbenoids by Chromium Catalysis”

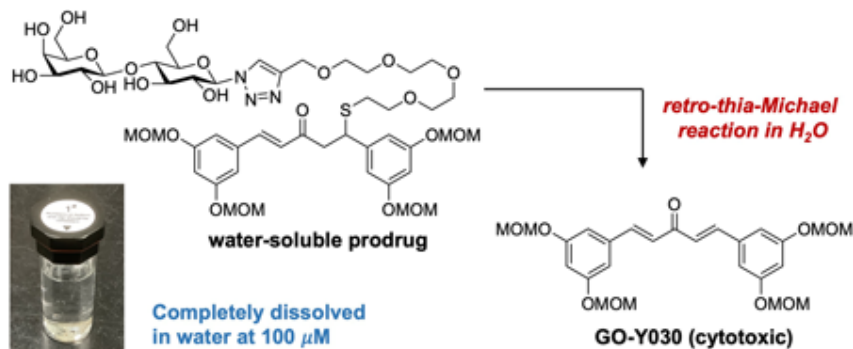
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23. Yamakoshi, H*.; Fukuda, M.; Ikeda, H.; Fujiki, S.; Kohyama, A.; Nagasawa, S.; Shinozaki, H.; Shibata, H.; Iwabuchi, Y.*

“Design, Synthesis, and Biological Evaluation of Water-Soluble Prodrugs of C5-Curcuminoid GO-Y030 Based on Reversible Thia-Michael Reaction”

Chem. Pharm. Bull. **2024**, 72, 127–134.



22. Hosaka, M.; Nagasawa, S.*; Iwabuchi, Y.*

“C–H Alkylation of Cubanes via Catalytic Generation of Cubyl Radicals”

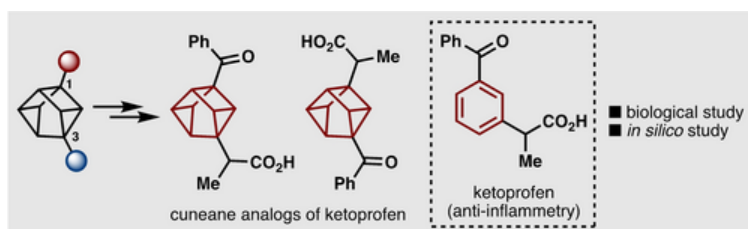
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21. Fujiwara, K.; Nagasawa, S.*; Maeyama, R.; Segawa, R.; Hirasawa, N.; Hirokawa, T.; Iwabuchi, Y.*

“Biological Evaluation of Isosteric Applicability of 1,3-Substituted Cuneanes as *m*-Substituted Benzenes Enabled by Selective Isomerization of 1,4-Substituted Cubanes”

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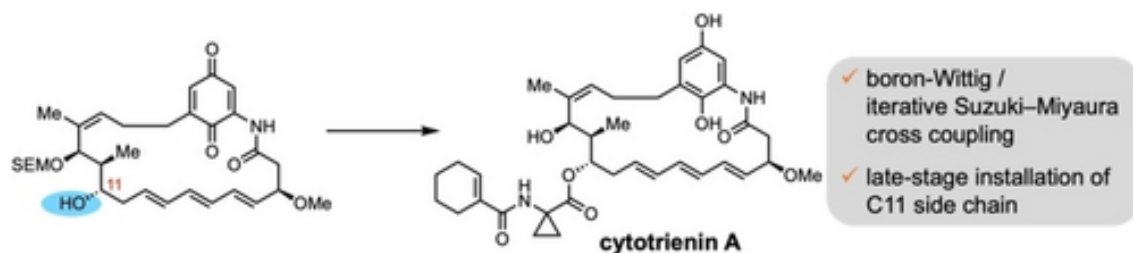
Press release.

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20. Tateishi, Y.; Sato, R.; Komatsu, S.; Noguchi, M.; Nagasawa, S.; Sasano, Y.; Kanoh, N.; Iwabuchi, Y.*

“Asymmetric Total Synthesis of Cytotrienin A: Late-stage Installation of C11 Side Chain onto the Macrolactam Scaffold”

Angew. Chem. Int. Ed. **2023**, *62*, e202303140.



19. Nagasawa, S.; Sasano, Y.; Iwabuchi, Y.

“4-Chloro-2-azaadamantane *N*-Oxyl (4-Cl-AZADO): A Readily Preparable Organocatalyst for NO_x Co-catalyzed Aerobic Alcohol Oxidation”

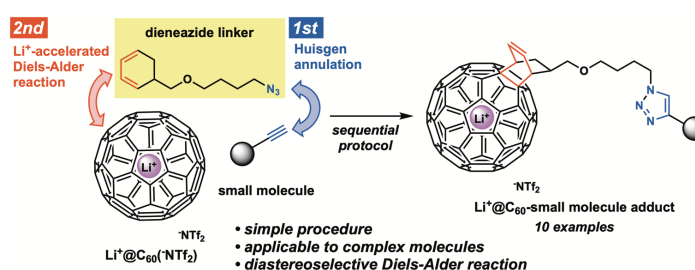
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18. Fujiki, S.; Takada, T.; Nagasawa, S.; Okada, H.; Sasano, Y.; Kwon, E.; Matsuo, Y.*; Iwabuchi, Y.*

“Sequential Click Modification of Lithium-ion Endohedral Fullerene Connecting Small Molecules through a Dieneazide Linker”

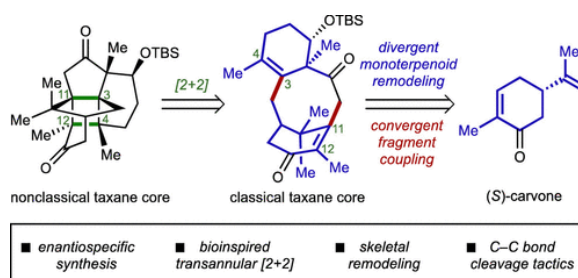
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17. Perea, M. A.; Wang, B. Wyler, B. C.; Ham, J. S.; O'Connor, N.R. Nagasawa, S.; Kimura, Y.; Manske, C.; Scherübl, M.; Nguyen, J. M.; Sarpong, R.*

“General Synthetic Approach to Diverse Taxane Cores”

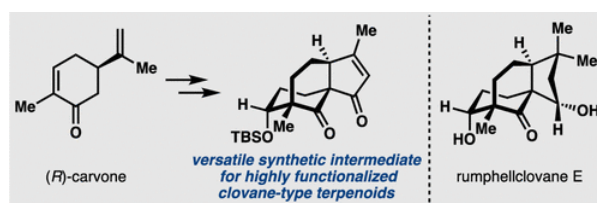
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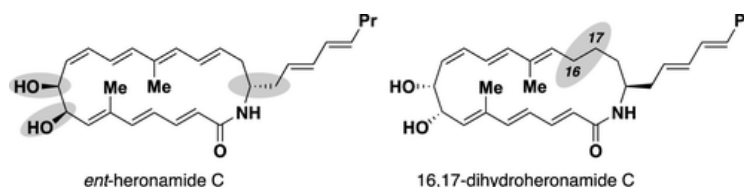
16. Ninomiya, D.; Nagasawa, S.*; Iwabuchi, Y.*

“Enantiocontrolled Access to an Intermediate for Highly Functionalized Clovane-Type Terpenoids: Formal Synthesis of Rumphellclovane E”

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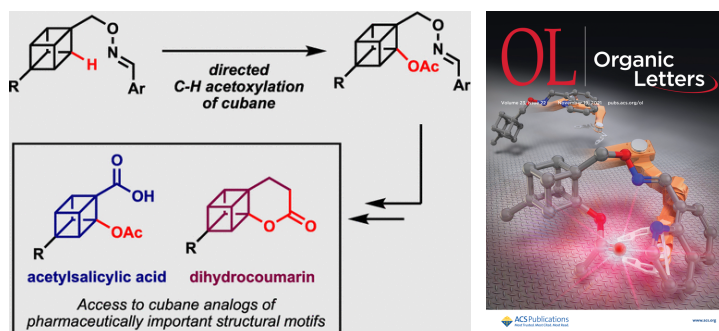
15. Kanoh, N.*; Terashima, R.; Nishiyama, H.; Terajima, Y.; Nagasawa, S.; Sasano, Y.; Iwabuchi, Y.; Saito, H.; Egoshi, S.; Dodo, K.; Sodeoka, M.; Pan, C.; Ikeuchi, Y.; Nishimura, S.; Kakeya, H.
 “Design, Synthesis and Antifungal Activity of 16,17-Dihydroheronamide C and *ent*-Heronamide”
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14. Kanoh, N.*; Terajima, Y.; Tanaka, S.; Terashima, R.; Nishiyama, H.; Nagasawa, S.; Sasano, Y.; Iwabuchi, Nishimura, S.; Kakeya, H.
 “Toward the Creation of Induced Pluripotent Small (iPS) Molecules: Establishment of a Modular Synthetic Strategy for the Heronamide C-type Polyene Macrolactams and Their Conformational and Reactivity Analysis”
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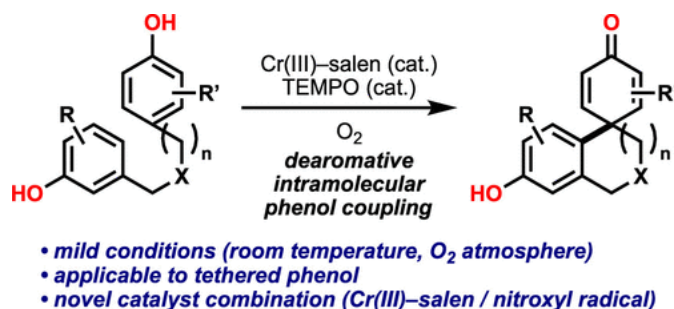


13. Nagasawa, S.*; Hosaka, M.; Iwabuchi, Y.*
 “*ortho*-C-H Acetoxylation of Cubane Enabling Access to Cubane Analogues of Pharmaceutically Relevant Scaffolds”
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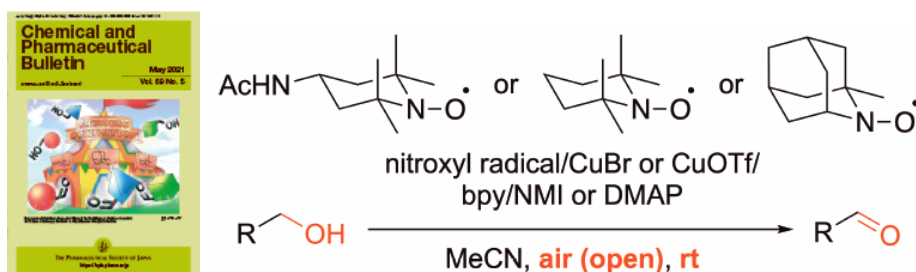
12. Nagasawa, S.; Fujiki, S.; Sasano, Y.; Iwabuchi, Y.*

“Chromium–Salen Complex/Nitroxyl Radical Cooperative Catalysis: A Combination for Aerobic Intramolecular Dearomative Coupling of Phenols”
J. Org. Chem. **2021**, 86, 6952-6968.



11. Sasano, Y.; Yamaichi, A.; Sasaki, R.; Nagasawa, S.; Iwabuchi, Y.*

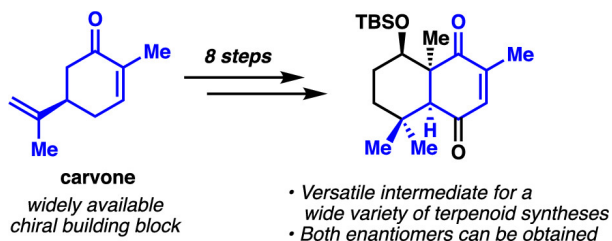
“Expansion of Substrate Scope for Nitroxyl Radical/Copper-Catalyzed Aerobic Oxidation of Primary Alcohols: A Guideline for Catalyst Selection”
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10. Nagasawa, S.; Jones, K. E.; Sarpong, R.*

“Enantiospecific Entry to a Common Decalin Intermediate for the Syntheses of Highly Oxygenated Terpenoids”

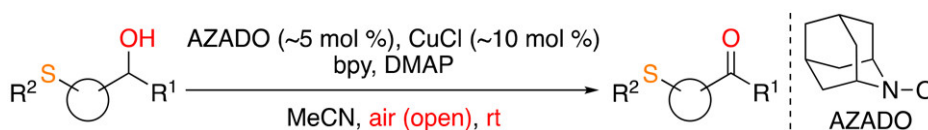
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9. Sasano, Y.; Kogure, N.; Nagasawa, S.; Kasabata, K.; Iwabuchi, Y.*

“2-Azaadamantane *N*-oxyl (AZADO)/Cu Catalysis Enables Chemoselective Aerobic Oxidation of Alcohols Containing Electron-Rich Divalent Sulfur Functionalities”

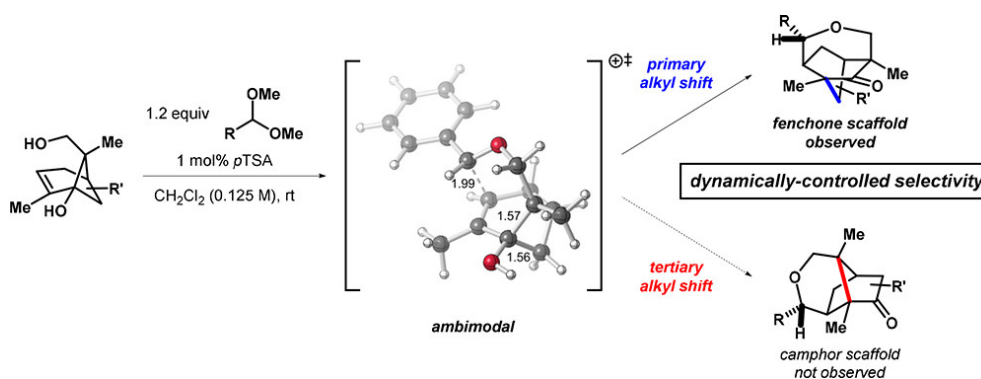
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8. Blümel, M.; Nagasawa, S.; Blackford, K.; Hare, S. R.; Tantillo, D. J.*; Sarpong, R.*

"Rearrangement of Hydroxylated Pinene Derivatives to Fenchone-Type Frameworks: Computational Evidence for Dynamically-Controlled Selectivity"

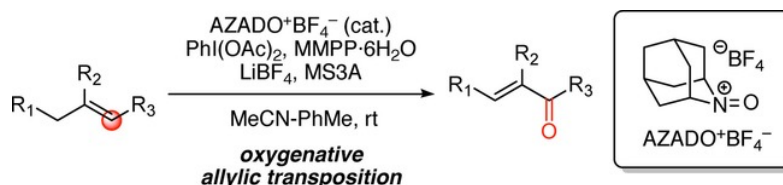
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7. Nagasawa, S.; Sasano, Y.; Iwabuchi, Y.*

“Catalytic Oxygenative Allylic Transposition of Alkenes into Enones with an Azaadamantane-type Oxoammonium Salt Catalyst”

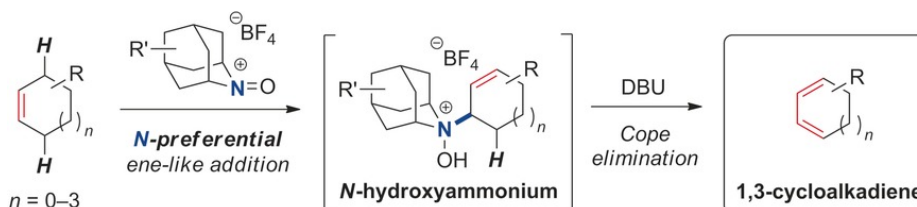
Chem. Eur. J. **2017**, *23*, 10276-10279. **selected as “Hot Paper”**



6. Nagasawa, S.; Sasano, Y.; Iwabuchi, Y.*

“Synthesis of 1,3-Cycloalkadienes from Cycloalkenes: Unprecedented Reactivity of Oxoammonium Salts”

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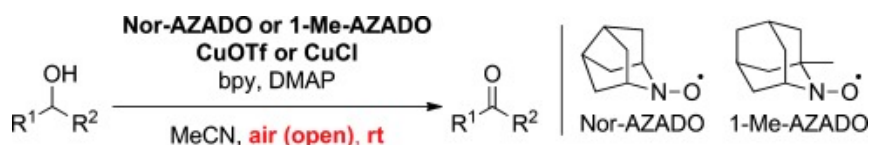


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5. Sasano, Y.; Kogure, N.; Nishiyama, T.; Nagasawa, S.; Iwabuchi, Y.*

“Highly Efficient Aerobic Oxidation of Alcohols by Using Less-Hindered Nitroxyl Radical/Copper Catalysis: Optimum Catalyst Combinations and Their Substrate Scope”

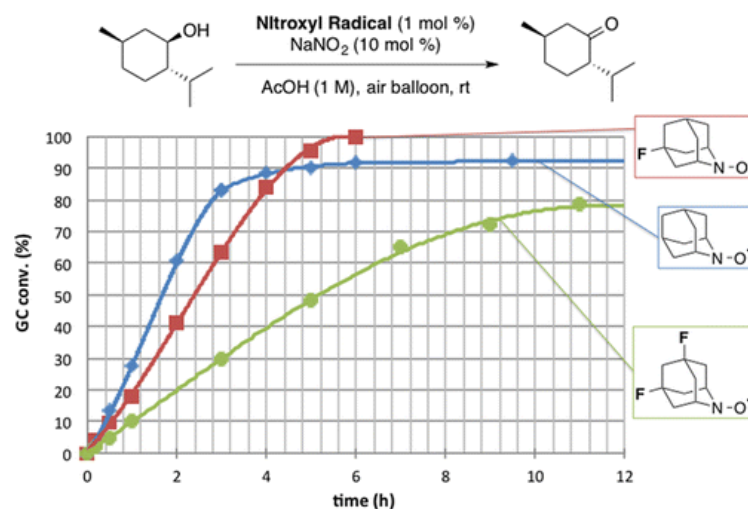
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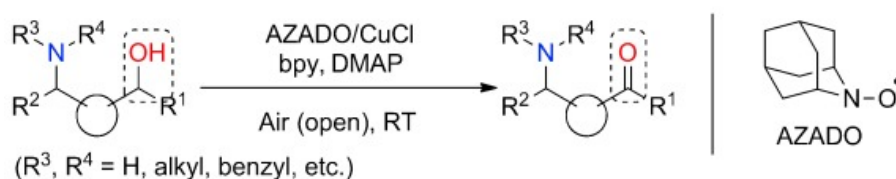
4. Shibuya, M.; Nagasawa, S.; Osada, Y.; Iwabuchi, Y.*

“Mechanistic Insight into Aerobic Alcohol Oxidation Using NO_x-Nitroxide Catalysis Based on Catalyst Structure-Activity Relationships”

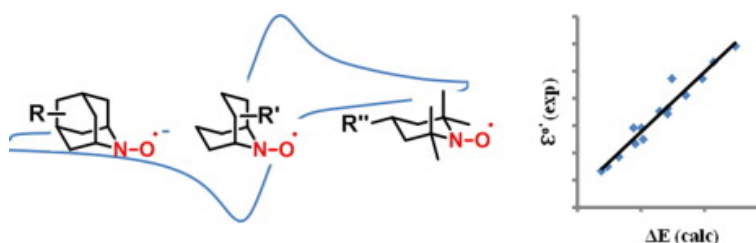
J. Org. Chem. **2014**, *79*, 10256–10268.



3. Sasano, Y.; Nagasawa, S.; Yamazaki, M.; Shibuya, M.; Park, J.; Iwabuchi, Y.*
 “Highly Chemoselective Aerobic Oxidation of Amino Alcohols into Amino Carbonyl Compounds”
Angew. Chem. Int. Ed. **2014**, *53*, 3236–3240.

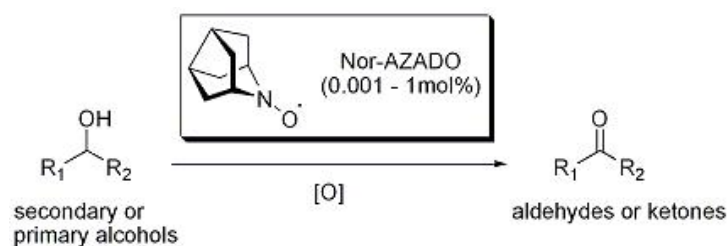


2. Shibuya, M.; Pichierri, F.; Tomizawa, M.; Nagasawa, S.; Suzuki, I.; Iwabuchi, Y.*
 “Oxidation of Nitroxyl Radicals: Electrochemical and Computational Studies”
Tetrahedron Lett. **2012**, *53*, 2070–2073.



1. Hayashi, M.; Sasano, Y.; Nagasawa, S.; Shibuya, M.; Iwabuchi, Y.*
 “9-Azanoradamantane *N*-Oxyl (Nor-AZADO): A Highly Active Organocatalyst for Alcohol Oxidation”

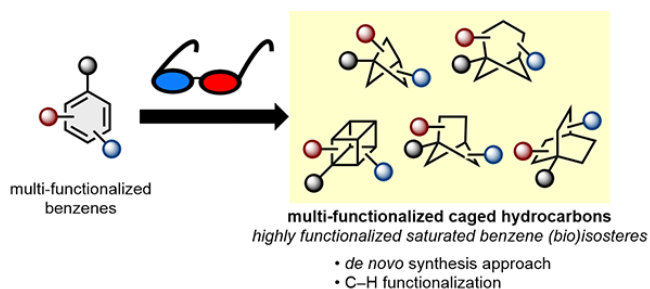
Chem. Pharm. Bull. **2011**, *59*, 1570–1573.



b) 総説

2. Nagasawa, S.; Iwabuchi, Y.*

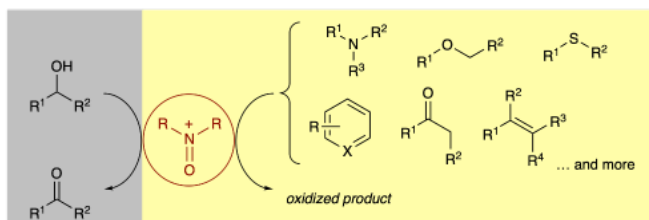
Recent Progress in Accessing Multi-functionalized Caged Hydrocarbons: En Route to Highly Functionalized Saturated (Bio)isosteres of Benzene Rings
Synthesis, doi:10.1055/a-2360-8218



1. Nagasawa, S.; Sasano, Y.; Iwabuchi, Y.*

“The Utility of Oxoammonium Species in Organic Synthesis: Beyond Alcohol Oxidation”

Heterocycles **2022**, *105*, 61–114.



c) 著書

特になし

d) 日本語総説・紹介記事

2. 長澤 翔太, “Late-stage functionalization を志向した芳香族 C-H 結合の直接的酸素化”, 有機合成化学協会誌, **2022**, 80, 377–378
1. 長澤 翔太, “窒素原子を削除して分子骨格を「編集」する”, ファルマシア, **2022**, 58, 168.

e) 特許

- ・アルコール酸化触媒及びそれを用いたアルコール酸化方法

岩淵好治、澁谷正俊、長澤翔太 WO2013191287 国立大学法人東北大学