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2019 年 3 月 東京大学大学院理学系研究科化学専攻 修士課程 修了  
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[専門・研究分野]

触媒化学・クラスター化学・物理化学

[論文]

33. **Shingo Hasegawa**, Shunta Tokutake, Koji Harano, Ken Motokura, "Pd Nanoparticles Decorated by Oxidized Ru Clusters for Efficient C–H/C–H Coupling of Arenes", *ACS Catalysis* **2025**, *15*, 487-493.
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28. Takuya Shiroshita, **Shingo Hasegawa**, Yusuke Tanimura, Azusa Kikuchi, Ken Motokura, "Recycling of Waste Silicon Wafers for Semihydrogenation of Alkynes", *ACS Sustainable Chemistry & Engineering* **2025**, *13*, 8331–8341.
27. Ken Motokura, Yurino Sasaki, Yusuke Tanimura, Takuya Shiroshita, **Shingo Hasegawa**, Kousuke Arata, Ryosuke Takemura, Kazuo Namba, Yuichi Manaka, "Conversion of CO<sub>2</sub> in Exhaust Gas to

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23. Kenta Suzuki, Shingo Hasegawa, Ken Motokura, "Direct alkylation of benzene with propane promoted by a hydrotalcite-supported Pt–Fe and solid acid catalyst system", *Catalysis Today* **2025**, *460*, 115448.
22. Mariko Honda, Shingo Hasegawa, Ken Motokura, "Oxygen-Accelerated Suzuki-Miyaura Coupling Reaction Without Stoichiometric Base Addition", *ChemistrySelect* **2025**, *10*, e02285.
21. Jincheng Wu, Yusuke Tanimura, Danyang Liu, Shingo Hasegawa, Kousuke Arata, Ryosuke Takemura, Kazuo Namba, Ken Motokura, "Conversion of CO<sub>2</sub> to Formic Acid Using Silicon Sludge as a Reducing Agent", *Journal of the Japan Petroleum Institute*, **2025**, *68*, 170–176.
20. Shingo Hasegawa, Koji Harano, Ken Motokura, "RhRu Bimetallic Oxide Cluster Catalysts for Cross-Dehydrogenative Coupling of Arenes and Carboxylic Acids", *Journal of the American Chemical Society* **2024**, *146*, 19059–19069.
19. Shunichi Sakai, Shingo Hasegawa, Siming Ding, Ryota Osuga, Kiyotaka Nakajima, Shinji Tanaka, Wang-Jae Chun, Ken Motokura, "Low temperature *N*-allylation of allylic alcohols via synergistic Pd/Cu catalysis: a silica-supported dual metal complex strategy", *ACS Catalysis* **2024**, *14*, 4835-4846.
18. Satoshi Misaki, Moe Takabatake, Shingo Hasegawa, Yuichi Manaka, Wang-Jae Chun, Ken Motokura, "Effect of Zeolites on the Alkylation of Aromatics with Alkanes using a Pd Nanoparticle/Solid Acid Cooperative Catalytic System", *Green Carbon* **2024**, *2*, 282-290.
17. Ken Motokura, Satoshi Misaki, Shingo Hasegawa, Moe Takabatake, Yusuke Tanimura, Yuichi Manaka, Wang-Jae Chun, "Effects of the Support Preparation Conditions on the Direct Alkylation of Toluene Catalyzed by Hydrotalcite-Supported Pd Nanoparticles and Solid Acid", *Journal of the Japan Petroleum Institute* **2024**, *67*, 186-194.

16. Yuanjun Zhao, Xin Zhou, Zihao Yang, **Shingo Hasegawa**, Ken Motokura, Zhaozhan Wang, Bo Yu, Xiaolin Shi, Guoqiang Xu, Xin Ding, Yong Yang, "Regioselective hydroformylation of allyl alcohol catalyzed by phosphine-stabilized single-atom Rh sites", *Chemical Engineering Journal* **2024**, *502*, 157733.
15. **Shingo Hasegawa**, Ken Motokura, "Design Strategy of Metal Nanoparticle Catalysis for C–H Bond Activation Reactions", *ChemCatChem* **2024**, *16*, e202301531.
14. Ken Motokura, Yukina Nakamura, Moe Takabatake, Kenta Suzuki, **Shingo Hasegawa**, "Direct alkylation of benzene with branched alkanes using solid acids: Unexpected product selectivity based on the tertiary carbon position", *Catalysis Today* **2024**, *425*, 114363.
13. **Shingo Hasegawa**, Keisuke Nakamura, Kosuke Soga, Kei Usui, Yuichi Manaka, Ken Motokura, "Concerted Hydrosilylation Catalysis by Silica-Immobilized Cyclic Carbonates and Surface Silanols", *JACS Au* **2023**, *3*, 2692-2697.
12. Satoshi Misaki, Hiroko Ariga-Miwa, Takashi U. Ito, Takefumi Yoshida, **Shingo Hasegawa**, Yukina Nakamura, Shunta Tokutake, Moe Takabatake, Koichi Shimomura, Wang-Jae Chun, Yuichi Manaka, Ken Motokura, "Pd Nanoparticles on the Outer Surface of Microporous Aluminosilicates for the Direct Alkylation of Benzenes using Alkanes", *ACS Catalysis* **2023**, *13*, 12281-12287.
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10. Ken Motokura, Ayaka Mizuno, **Shingo Hasegawa**, Masayuki Nambo, Moe Takabatake, Kenta Suzuki, Yuichi Manaka, Yohei Uemura, Shuntaro Tsubaki, Wang-Jae Chun, "In Situ Formation of Ru-Sn Bimetallic Particles for Non-Oxidative Coupling of Methane", *The Journal of Physical Chemistry C* **2023**, *127*, 15185-15194.
9. Zhaozhan Wang, **Shingo Hasegawa**, Ken Motokura, Shaoping Kuang, Yong Yang, "A Single-Atom Pd Catalyst Anchored on a Porous Organic Polymer for Highly Efficient Telomerization of 1,3-Butadiene with Methanol", *Industrial & Engineering Chemistry Research* **2023**, *62*, 3151-3156.
8. **Shingo Hasegawa**, Shinya Masuda, Shinjiro Takano, Koji Harano, Jun Kikkawa, Tatsuya Tsukuda, "Synergistically Activated Pd Atom in Polymer-Stabilized Au<sub>23</sub>Pd<sub>1</sub> Cluster", *ACS Nano* **2022**, *16*, 16932-16940.
7. **Shingo Hasegawa**, Shinya Masuda, Shinjiro Takano, Koji Harano, Tatsuya Tsukuda, "Polymer-Stabilized Au<sub>38</sub> Cluster: Atomically Precise Synthesis by Digestive Ripening and Characterization of Atomic Structure and Oxidation Catalysis", *ACS Catalysis* **2022**, *12*, 6550-6558.

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5. **Shingo Hasegawa**, Tatsuya Tsukuda, “Exploring Novel Catalysis Using Polymer-Stabilized Metal Clusters”, *Bulletin of the Chemical Society of Japan* **2021**, *94*, 1036-1044.
4. Atsushi Matsuo, **Shingo Hasegawa**, Shinjiro Takano, Tatsuya Tsukuda, “Electron-Rich Gold Clusters Stabilized by Polyvinylpyridines as Robust and Active Oxidation Catalysts”, *Langmuir* **2020**, *36*, 7844-7849.
3. Shinjiro Takano, **Shingo Hasegawa**, Megumi Suyama, Tatsuya Tsukuda, “Hydride Doping of Chemically Modified Gold-Based Superatoms”, *Accounts of Chemical Research* **2018**, *51*, 3074-3083.
2. **Shingo Hasegawa**, Shinjiro Takano, Seiji Yamazoe, Tatsuya Tsukuda, “Prominent Hydrogenation Catalysis of a PVP-Stabilized Au<sub>34</sub> Superatom Provided by Doping a Single Rh Atom”, *Chemical Communications* **2018**, *54*, 5915-5918.
1. Shun Hayashi, Ryo Ishida, **Shingo Hasegawa**, Seiji Yamazoe, Tatsuya Tsukuda, “Doping a Single Palladium Atom into Gold Superatoms Stabilized by PVP: Emergence of Hydrogenation Catalysis”, *Topics in Catalysis* **2018**, *61*, 136–141.

[受賞歴]

2024 年 12 月 2024 年度高難度選択酸化反応研究会シンポジウム「優秀ポスター発表賞」

2022 年 4 月 日本化学会第 102 春季年会「学生講演賞」

2020 年 9 月 第 126 回触媒討論会「学生ポスター賞」

2018 年 5 月 ナノ学会第 16 回大会「若手優秀ポスター賞」

2018 年 3 月 第 121 回触媒討論会「学生ポスター賞」