

CURRICULUM VITAE

2023年7月25日現在

米田友貴

連絡先

北海道札幌市北区北13条西8丁目フロンティア応用化学研究棟 4階 4-01室

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学歴

2006年3月 私立東大寺学園高等学校 卒業

2006年4月 京都大学理学部理学科 入学

2010年3月 京都大学理学部理学科 卒業

2010年4月 京都大学大学院理学研究科化学専攻修士課程 入学

2012年3月 京都大学大学院理学研究科化学専攻修士課程 修了

(指導教官：大須賀篤弘教授)

2012年4月 京都大学大学院理学研究科化学専攻博士課程 進学

2013年4月-2013年7月 ドイツ フリードリッヒ=アレクサンダー大学エアランゲン-ニュルンベルクに留学 (Rik R. Tykwinski 教授)

2015年3月 京都大学大学院理学研究科化学専攻博士課程 修了

博士(理学・京都大学)取得 (指導教官：大須賀篤弘教授)

職歴

2012年4月 日本学術振興会特別研究員 (DC1)

2015年4月 千葉大学大学院薬学研究院創薬科学講座

薬品物理化学研究室 助教 (テニユアトラック)

2018年9月 北海道大学大学院工学研究院応用化学部門

反応有機化学研究室 助教

2018年9月 北海道大学 化学反応創成研究拠点 (WPI-ICReDD)

研究協力者 (兼務)

現在に至る

業績等

原著論文（査読付）：55 報

1. “Chain Length-Dependent Hydrogen-Bonded Self-Assembly of Terminally Functionalized Discrete Polyketones”
K. I. Shivakumar, Y. Manabe, **T. Yoneda**, Y. Ide, Y. Inokuma
Precis. Chem. **2023**, *1*, 34–39.
2. “Chiral Calix[3]pyrrole Derivatives: Synthesis, Racemization Kinetics, and Ring Expansion to Calix[9]- and Calix[12]pyrrole Analogues”
Y. Inaba, J. Yang, Y. Kakibayashi, **T. Yoneda**, Y. Ide, Y. Hijikata, J. Pirillo, R. Saha, J. L. Sessler, Y. Inokuma
Angew. Chem. Int. Ed. **2023**, *62*, e202301460
3. “Toward Calix[2]-Type Macrocycles: Synthesis and Structural Analysis of Cyclic Tetraketone and Highly Strained Furanophane”
T. Sano, Y. Sun, T. Mukai, Y. Inaba, **T. Yoneda**, Y. Ide, J. Pirillo, Y. Hijikata, Y. Inokuma
J. Porphyrins. Phthalocyanines. **2023**, *27*, in Press.
4. “Absorption Spectra of Calix[3]pyrrole Analogues as Probes for Contracted Macrocycles”
K. Watanabe, R. Saha, Y. Inaba, Y. Manabe, **T. Yoneda**, Y. Ide, Y. Hijikata, Y. Inokuma
J. Porphyrins. Phthalocyanines. **2023**, *27*, 157–163.
5. “Carbonyl-Containing Solid Polymer Electrolyte Host Materials: Conduction and Coordination in Polyketone, Polyester and Polycarbonate Systems”
T. Eriksson, H. Gudla, Y. Manabe, **T. Yoneda**, D. Friesen, C. Zhang, Y. Inokuma, D. Brandell, J. Mindemark
Macromolecules **2022**, *55*, 10940-10949.
6. “Determination of the critical chain length for macromolecular crystallization using structurally flexible polyketones”
Y. Ide, Y. Manabe, Y. Inaba, Y. Kinoshita, J. Pirillo, Y. Hijikata, **T. Yoneda**, K. I. Shivakumar, S. Tanaka, H. Asakawa, Y. Inokuma
Chem. Sci. **2022**, *34*, 9848-9854.
7. “Alkali metal ion binding using cyclic polyketones”
N. Ozawa, K. I. Shivakumar, M. Murugavel, Y. Inaba, **T. Yoneda**, Y. Ide, J. Pirillo, Y. Hijikata, Y. Inokuma
Chem. Commun. **2022**, *58*, 2971–2974.
8. “Identification of the Inhibitory Compounds for Metallo- β -lactamases and Structural Analysis of the Binding Modes”
T. Kamo, K. Kuroda, S. Kondo, U. Hayashi, S. Fudo, **T. Yoneda**, A. Takaya, M. Nukaga, T. Hoshino
Chem. Pharm. Bull. **2022**, *69*, 1179–1183.
9. “Strain-induced Ring Expansion Reactions of Calix[3]pyrrole-related Macrocycles”
Y. Inaba, Y. Kakibayashi, Y. Ide, J. Pirillo, Y. Hijikata, **T. Yoneda**, Y. Inokuma
Chem Eur. J. **2022**, *28*, Early View (e202200056).

10. "Modulations of a Metal-Ligand Interaction and Photophysical Behaviors by Hückel-Möbius Aromatic Switching"
J. Kim, J. Oh, S. Park, **T. Yoneda**, A. Osuka, M. Lim, D. Kim
J. Am. Chem. Soc. **2022**, *144*, 582–589.
11. "Hybrid Eu^{III} Coordination Luminophore Standing on Two Legs on Silica Nanoparticles for Enhanced Luminescence"
T. Zhang, Y. Kitagawa, R. Moriake, P. P. F. de Rosa, M. J. Islam, **T. Yoneda**, Y. Inokuma, K. Fushimi, Y. Hasegawa
Chem. Eur. J. **2021**, *27*, 14438–14443.
12. "Calix[3]pyrrole: A Missing Link in Porphyrin-Related Chemistry"
Y. Inaba, Y. Nomata, Y. Ide, J. Pirillo, Y. Hijikata, **T. Yoneda**, A. Osuka, J. L. Sessler, Y. Inokuma
J. Am. Chem. Soc. **2021**, *143*, 12355–1236. (主要論文1)
13. "Reversible Redox System of 2-Oxypyriporpyhrin(1.2.1) Accompanying Intercoversion between 3-Pyridone and 3-Hydroxypyriine Units"
S.-G. Chong, **T. Yoneda***, Y. Ide, S. Neya
Chem. Asian J., **2021**, *16*, 1077–1080. (主要論文2)
14. "Isopyrazole-Masked Tetraketone: Tautomerism and Functionalization to Obtain Fluorophore for Metal-Ion Detection"
H. Shirakura, Y. Manabe, C. Kasai, Y. Inaba, M. Tsurui, Y. Kitagawa, Y. Hasegawa, **T. Yoneda**, Y. Ide, Y. Inokuma
Eur. J. Org. Chem. **2021**, *30*, 4345–4349.
15. "Pd^{II} insertion-triggered *meso*-carbon extrusion of N-fused pentaphyrin to form N-fused sapphyrin Pd^{II} complexes"
A. Nakai, **T. Yoneda**, T. Tanaka, A. Osuka
Chem. Commun, **2021**, *57*, 3034–3037.
16. "Insoluble π -Conjugated Polyimine as an Organic Adsorbent for Group 10 Metal Ions"
H. Shirakura, Y. Hijikata, J. Pirillo, **T. Yoneda**, Y. Manabe, M. Murugavel, Y. Ide, Y. Inokuma
Eur. J. Inorg. Chem. **2021**, 1705–1708.
17. "Deprotection of benzyl unit induces 22 π aromatic macrocycle of 3-oxypyripenaphyrin(0.1.1.1.0) with Strong NIR Absorption"
D. Mori, **T. Yoneda***, M. Suzuki, T. Hoshino, S. Neya
Org. Biomol. Chem., **2020**, *18*, 5334–5338.
18. "Modular Synthesis of Oligoacetylacetones via Site-selective Silylation of Acetylacetone Derivatives"
P. Sarkar, Y. Inaba, H. Shirakura, **T. Yoneda**, Y. Inokuma
Org. Biomol. Chem., **2020**, *18*, 3297–3302.
19. "Supramolecular Conformational Control of Aliphatic Oligoketones by Rotaxane Formation"
Y. Manabe, K. Wada, Y. Baba, **T. Yoneda**, T. Ogoshi, Y. Inokuma
Org. Lett., **2020**, *22*, 3224–3228.

20. "Luminescent Coordination Polymers Constructed from Flexible, Tetradentate Diisopyrazole Ligand and Copper(I) Halides"
T. Yoneda, C. Kasai, Y. Manabe, M. Tsurui, Y. Kitagawa, Y. Hasegawa, P. Sarkar, Y. Inokuma
Chem. Asian J. **2020**, *15*, 601–605. (主要論文3)
21. "Excited-State Aromaticity of Gold(III) Hexaphyrins and Metalation Effect Investigated by Time-Resolved Electronic and Vibrational Spectroscopy"
J. Kim, J. Oh, T. Soya, **T. Yoneda**, S. Park, M. Lim, A. Osuka, D. Kim
Angew. Chem. Int. Ed. **2020**, *59*, 5129–5134.
22. "Splitting and Reorientation of π -Conjugation by an Unprecedented Photo-Rearrangement Reaction"
Y. Inaba, **T. Yoneda**, Y. Kitagawa, K. Miyata, Y. Hasegawa, Y. Inokuma
Chem. Commun., **2020**, *56*, 348–351.
23. "Identification of actinomycin D as a specific inhibitor of the alternative pathway of peptidoglycan biosynthesis"
Y. Ogasawara, Y. Shimizu, Y. Sato, **T. Yoneda**, Y. Inokuma, T. Dairi
J. Antibiot., **2020**, *73*, 125–127.
24. "meso-Diketopyrripenaphyrin and Diketopyrihexaphyrin as Macrocyclic Tripyrrinone Ligands for Ni^{II} Ions"
D. Mori, **T. Yoneda***, M. Suzuki, T. Hoshino, S. Neya
Chem. Asian J. **2019**, *14*, 4169–4173.
25. "Two-Step Transformation of Aliphatic Polyketones into π -Conjugated Polyimines"
Y. Manabe, M. Uesaka, **T. Yoneda**, Y. Inokuma
J. Org. Chem. **2019**, *84*, 9957–9964.
26. "Anisotropic Distribution of Ammonium Sulfate Ions in Protein Crystallization"
M. Kitahara, S. Fudo, **T. Yoneda**, M. Nukaga, T. Hoshino
Cryst. Growth. Des. **2019**, *19*, 6004–6010.
27. "Control over coordination self-assembly of flexible, multidentate ligands by stepwise metal coordination of isopyrazole subunits"
Y. Ashida, Y. Manabe, S. Yoshioka, **T. Yoneda**, Y. Inokuma
Dalton Transactions, **2019**, *48*, 818–822.
28. "Aromatic and Antiaromatic Cyclophane-type Hexaphyrin Dimers"
A. Nakai, **T. Yoneda**, S.-i. Ishida, K. Kato, A. Osuka
Chem. Asian J. **2019**, *14*, 256–260.
29. "Simulation Time Required for Diminishing the Initial Conformational Deviations among Protein Crystal Structures."
F. Qi, **T. Yoneda**, S. Neya, T. Hoshino
J. Phys. Chem. B **2018**, *122*, 8503–8515.
30. "Near-Infrared S₂ Fluorescence from Deprotonated Möbius Aromatic [32]Heptaphyrin."
J. O. Kim, Y. Hong, T. Kim, W.-Y. Cha, **T. Yoneda**, T. Soya, A. Osuka, D. Kim
J. Phys. Chem. Lett. **2018**, *9*, 4527–4531.

31. "Charge-Transfer Character Derives Möbius Aromaticity in the Excited Triplet State of Twisted [28]Hexaphyrin."
F. Ema, M. Tanabe, S. Saito, **T. Yoneda**, K. Sugisaki, T. Tachikawa, S. Akimoto, S. Yamauchi, K. Sato, A. Osuka, T. Takui, Y. Kobori
J. Phys. Chem. Lett. **2018**, *9*, 2685–2690.
32. "Stable *meso*-Aryl β -Alkyl Hybrid Sapphyrin with a Warped π -Conjugation Circuit and Neo-Confused Sapphyrin-Silver Complex"
D. Mori, **T. Yoneda***, T. Hoshino, S. Neya
Chem. Asian J. **2018**, *13*, 934–938.
Selected as Very Important Paper (主要論文 4)
33. "[24]Pentaphyrin(2.1.1.1.1): a Strongly Antiaromatic Pentaphyrin"
T. Yoneda*, T. Hoshino, S. Neya
J. Org. Chem. **2017**, *82*, 10737–10741.
34. "S₂ Fluorescence from [26]Hexaphyrin Dianion"
W.-Y. Cha, W. Kim, H. Mori, **T. Yoneda**, A. Osuka, D. Kim
J. Phys. Chem. Lett. **2017**, *8*, 3795–3799.
35. "Synthesis of 1,4,5,8-tetraethyl-2,3,6,7-tetravinylporphyrin from a Knorr's pyrrole analogue"
S. Neya, **T. Yoneda**, H. Omori, T. Hoshino, A. T. Kawaguchi, M. Suzuki
Tetrahedron, **2017**, *73*, 6780–6785.
36. "Stable Non-fused [22]Pentaphyrins and A Fused [24]Pentaphyrin Displaying Crystal Polymorphism between Hückel and Möbius Structures"
T. Yoneda*, T. Hoshino, S. Neya
Chem. Asian J. **2017**, *12*, 405–407.
37. "[62]Tetradecaphyrin and Its Mono- and bis-Zn^{II} Complexes"
T. Yoneda*, T. Soya, S. Neya, A. Osuka
Chem Eur. J. **2016**, *22*, 14518–14522.
38. "Synthesis of type III isomers of diacetyldeutero-, hemo-, and protoporphyrins with the use of Knorr's pyrrole"
S. Neya, **T. Yoneda**, T. Hoshino, A. T. Kawaguchi, M. Suzuki
Tetrahedron, **2016**, *72*, 4022–4026
39. "Conformational Fixation of a Rectangular Antiaromatic [28]Hexaphyrin Using Rationally Installed Peripheral Straps"
T. Yoneda*, T. Kim, T. Soya, S. Neya, J. Oh, D. Kim, A. Osuka
Chem Eur. J. **2016**, *22*, 4413–4417.
40. "*meso*-Free Corroles: Synthesis, Structures, Properties, and Chemical Reactivities"
S. Ooi, **T. Yoneda**, T. Tanaka, A. Osuka
Chem, Eur. J. **2015**, *21*, 7772–7779.

41. "A Stable Organic π -Radical of a Zinc(II)–Copper(I)–Zinc(II) Complex of Decaphyrin"
Y. Tanaka, **T. Yoneda**, K. Furukawa, T. Koide, H. Mori, T. Tanaka, H. Shinokubo, A. Osuka
Angew. Chem. Int. Ed. **2015**, *54*, 10908–10911
42. "Pd(II) Complexes of [44]- and [46]Decaphyrins: The Largest Hückel Aromatic and Antiaromatic, and Möbius Aromatic Macrocycles"
T. Yoneda, Y. M. Sung, J. M. Lim, D. Kim, A. Osuka
Angew. Chem. Int. Ed. **2014**, *53*, 13169–13173 (主要論文 5)
(Selected as Represent paper for Reaxys PhD Prize 2016, Highlighted in *Chemistry World*, **2014**, Nov)
43. "Deprotonation Induced Formation of Möbius Aromatic[32]Heptaphyrins"
W.-Y. Cha, **T. Yoneda**, B. S. Lee, J. M. Lim, A. Osuka, D. Kim
Chem. Commun. **2014**, *50*, 548–550.
44. "Synthesis and Catalytic Activities of Porphyrin-Based PCP Pincer Complexes"
K. Fujimoto, **T. Yoneda**, H. Yorimitsu, A. Osuka
Angew. Chem. Int. Ed. **2014**, *53*, 1127–1130.
45. "The Marriage of Peripherally Metallated and Directly Linked Porphyrins: Bromidobis(phosphine)platinum(II) as a Cation-Stabilizing Substituent on Directly Linked and Fused Triply Linked Diporphyrins"
R. D. Hartnell, **T. Yoneda**, H. Mori, A. Osuka, D. P. Arnold
Chem. Asian J. **2013**, *8*, 2670–2679.
46. "Synthesis of a [26]Hexaphyrin Bis-Pd(II) Complex with a Characteristic Aromatic Circuit"
T. Yoneda, A. Osuka
Chem. Eur. J. **2013**, *19*, 7314–7318.
47. "Regioselective Fabrications of a Möbius Aaromatic [28]Hexaphyrin Palladium(II) Complex"
T. Yoneda, N. Aratani, A. Osuka
J. Pophyrins Phthalocyanines **2013**, *17*, 665–672.
48. "Ensemble and Single-molecule Spectroscopic Study on Excitation Energy Transfer Processes in 1,3-Phenylene-linked Perylenebisimide Oligomers"
H. W. Bahng, M.-C. Yoon, J.-E. Lee, Y. Murase, **T. Yoneda**, H. Shinokubo, A. Osuka, D. Kim
J. Phys. Chem. B **2012**, *116*, 1244–1255.
49. "A Non-fused Mono-meso-free Pentaphyrin and Its Rhodium(I) Complex"
T. Yoneda, H. Mori, B. S. Lee, M.-C. Yoon, D. Kim, A. Osuka
Chem. Commun. **2012**, *48*, 6785–6787.
50. "Iron-Catalyzed Oxidative Coupling of Alkylamines with Arenes, Nitroalkanes, and 1,3- Dicarbonyl Compounds"
E. Shirakawa, **T. Yoneda**, K. Moriya, K. Ota, N. Uchiyama, R. Nishikawa, T. Hayashi
Chem. Lett. **2011**, *40*, 1041–1043.

51. "Solvent-Dependent Aromatic versus Antiaromatic Conformational Switching in meso-(Heptakis)pentafluorophenyl [32]Heptaphyrin"
M.-C. Yoon, J.-Y. Shin, J. M. Lim, S. Saito, **T. Yoneda**, A. Osuka, D. Kim
Chem. Eur. J. **2011**, *17*, 6707–6715.
52. "Möbius Aromatic [28]Hexaphyrin Phosponium Adducts"
M. Inoue, **T. Yoneda**, N. Aratani, A. Osuka
Chem. Eur. J. **2011**, *17*, 9028–9031.
53. "Synthesis of Carbazole-Incorporated Porphyrinoids by Multiple Annulation Strategy: A Core-Modified and π -Expanded Porphyrin"
C. Maeda, **T. Yoneda**, N. Aratani, M.-C. Yoon, J. M. Lim, D. Kim, N. Yoshioka, A. Osuka
Angew. Chem. Int. Ed. **2011**, *50*, 5691–5694.
54. "A Möbius Aromatic Pd(II) Complex of [28]Hexaphyrin(2.1.1.0.1.1)"
K. Moriya, **T. Yoneda**, S. Saito, A. Osuka
Chem. Lett. **2011**, *40*, 455–457.
55. "Palladium(II)-Triggered Rearrangement of Heptaphyrins to N-Confused Porphyrin"
T. Yoneda, S. Saito, H. Yorimitsu, A. Osuka
Angew. Chem. Int. Ed. **2011**, *50*, 3475–3478.

総説（有審査）：3件

1. “Aliphatic polyketones as classic yet new molecular ropes for structural diversity in organic synthesis”
Y. Inokuma, **T. Yoneda**, Y. Ide, S. Yoshioka.
Chem. Commun, **2020**, *56*, 9079–9093.
2. 「ヘミン，銅イオンを担持したカーボンナノマテリアルからなる人工ペルオキシダーゼ」
米田 友貴
有機合成化学協会誌 2018年6月号 68ページ Review de Debut
3. “Utility of heme analogues to intentionally modify heme-globin interactions in myoglobin”
S. Neya, M. Nagai, S. Nagatomo, T. Hoshino, **T. Yoneda**, A. T. Kawaguchi
Biochim Biophys Acta. **2016**, *1857*, 582–588.

解説記事：1件

1. 「金(II)イオンの正体を解明」
米田 友貴
月刊「化学」 2018年2月 pp.62

受賞：3件

1. Reaxys Prize Club Symposium in Japan 2016 finalist (2016)
2. 7th Asian Conference on Coordination Chemistry (ACCC7), Early Career Resercher Presentation Award (Oral Presentation) (2019)
3. 19th Asian Chemical Congress, Rising Star Young Scientist Award (2023)

招待講演：3件

1. 米田友貴
ヘテロπ共役化合物とその金属錯体による機能開拓
若手研究者のための有機合成若手セミナー、札幌、(2019年)
2. Tomoki Yoneda
Aromaticity of Giant Expanded Porphyrins
Reaxys Prize Club Symposium in Japan 2017、慶應大学 (2017年)
3. Tomoki Yoneda
Metal Complexes of Expanded Porphyrins with Giant Hückel Aromatic, Antiaromatic, And Möbius Aromatic Macrocycles
Reaxys PhD Prize 2016 Final、ロンドン (英国) (2016年)

外部資金の獲得：7件

1. 2017年-2020年 科学研究費補助金 若手研究(B) 代表 総額 4420千円 3年間
2. 2023年-2024年 豊田理研スカラー 代表 総額 1000千円 1年間
3. 2023年-2024年 ノーステック財団 若手研究人材・ネットワーク育成補助金
総額 400千円 1年間
4. 2019年 徳山科学研究財団 渡航助成 総額 150千円
5. 2018年-2019年 公益財団法人奨学会猪鼻奨学会研究助成 若手の部 代表 総額 300千円 1年間
6. 2018年-2019年 ヨウ素研究助成 代表 総額 350千円 1年間
7. 2012年-2015年 特別研究員研究奨励費 代表 総額 3000千円 3年間