【无机化学论坛】**Preparation of oligoaza-nanographenes from pyrroles and their aromaticity**

报告人: **Prof. Hidemitsu Uno**

**Graduate School of Science and Engineering, Ehime University**

时间：2019年10月16日（周三） 下午15:00—16:30

地点：北京大学化学学院A区717报告厅.

**报告人简历**：

CURRICULUM VITAE

Hidemitsu Uno, (Ph. D, Doctor of Science)

Executive Director and Vice President, Ehime University

and

Professor of Organic Chemistry

Department of Chemistry and Biology

Graduate School of Science and Engineering , Ehime University
Matsuyama 790-8577, Japan
Fax: (+)81-89-927-9610
E-mail: uno.hidemitsu.mm@ehime-u.ac.jp

**Home**

5-18 Higashinagato-4-chome

Matsuyama 791-8005, Japan

**Education**

1976.4-1980.3 Faculty of Science, Kyoto University (B. C.)

1980.4-1982.3 Graduate School of Kyoto University (Ms C.)

1982.4-1984.5 Graduate School of Kyoto University (D. C)

1986.7 Ph. D from Kyoto University

**Academic Career**

1984.5~1989.3 Assistant professor, Advanced Instrumentation Center for Chemical Analyses, Ehime University

1989.4~2003.3 Associate professor, Advanced Instrumentation Center for Chemical Analyses, Ehime University

1991.10~1993.3 Ramsay memorial fellow, Oxford University, (Sir Prof. Jack E. Baldwin)

2003.4~2009.3 Professor, Integrated Center for Sciences, Ehime University

2006.4~2008.3 Member of Ehime University Council

2008.4~2011.3 Visiting professor, Institute for Materials Chemistry and Engineering, Kyushu University

2008.4~2011.3 Visiting professor, The Open University of Japan

2009.4~present Professor, Department of Chemistry and Biology, Graduate School of Science and Engineering, Ehime University

2012.4~2013.3 Vice Dean, Faculty of Science, Ehime University

2013.4~2015.3 Dean, Faculty of Science, Ehime University

2015.4~present Executive Director and Vice President, Ehime University

**Research Fields**

Organic reaction chemistry; Organic halogen chemistry; Organic materials chemistry; Natural product chemistry; Synthetic organic chemistry.

**Laboratory Homepage**

http://chem.sci.ehime-u.ac.jp/~orgchem1/

**Professional Society**

The Chemical Society of Japan

The Royal Society of Chemistry, (Fellow, 2011~present)

The Society of Synthetic Organic Chemistry, Japan (Director, 2017~2019)

The Society of Physical Organic Chemistry, Japan (Director, 2015~present)

The Japanese Association for Organic π-Electron Systems (Director, 2013~present)

Community of Bromine Application (Chairman, 2007~present)

**Research Keywords**

NIR-Dye, -Expanded porphyrin; Fullerene; Pentacene; Organic field-effect transistor; Pericyclic reaction; Natural procuct synthesis

**Publications** (Recent 5 years)

1. Synthesis of the Soluble Precursors of Tetrabenzoporphyrin: Control of the Solubility and the Conversion Temperature, T. Okujima, Y. Hashimoto, T. Furuta, R. Yamanaka, G. Jin, S. Otsubo, S. Aramaki, S. Mori, H. Yamada, H. Uno, and N. Ono, *Bull. Chem. Soc. Jpn.* **2019**, *92*(8), 1370-1378. DOI:10.1246/bcsj.20190074.(Citation 0)
2. Synthesis, Structural and Optical Properties of Tetrabenzoporphyrin Complexes Bearing Four or Eight Peripheral Phenyl Groups, T. Furuyama, T. Okujima, K. Muramatsu, Y. Takahashi, A. Mikami, T. Fukumura, S. Mori, T. Nakae, M. Takase, H. Uno, and N. Kobayashi, *Eur. J. Org. Chem.* **2019**, *2019*(20), 3224-3235. DOI:10.1002/ejoc.201900528. (Citation 1)
3. Oxidation Behavior of 1,​3-​Dihydrothieno[3,​4-​*a*]​HPHAC, H. Uno, M. Ishiwata, K. Muramatsu, M. Takase, S. Mori, and T. Okujima, *Bull. Chem. Soc. Jpn*. **2019**, *92*(5), 973-981. DOI:10.1246/bcsj.20190022. (Citation 0)
4. Di(acenaphtho)​BODIPYs and Dipyrrins as Dyes with Deep-​Red To NIR Absorptions, H. Uno, M. Hirose, T. Honda, S. Mori, M. Takase, and T. Okujima, *Bull. Chem. Soc. Jpn*. **2019**, *92*(5), 1001-1007. DOI:10.1246/bcsj.20190021. (Citation 0)
5. Chrysene-​Bridged Porphyrin Tweezers: Chiral Receptors for Fullerenes, S. Mori, N. Kawamoto, and H. Uno, *ChemPlusChem*, **2019**, *84*(6), 686-693. DOI: org/10.1002/cplu.201900046. (Citation 0)
6. Synthesis and Redox Properties of Pyrrole- and Azulene-​Fused Azacoronene, Y. Sasaki, M. Takase, T. Okujima, S. Mori, and H. Uno, *Org. Lett.*, **2019**, *21*(6), 1900-1903. DOI: 10.1021/acs.orglett.9b00515. (Citation 0)
7. Synthesis, Structures, and Properties of Core-​Expanded Azacoronene Analogue: A Twisted π-​System with Two N-​Doped Heptagons, K. Oki, M. Takase, S. Mori, A. Shiotari, Y. Sugimoto, K. Ohara, T. Okujima, and H. Uno, *J. Am. Chem. Soc.*, **2018**, *140*(33), 10430-10434. DOI:10.1021/jacs.8b06079. (Citation 8)
8. Synthesis of bicyclo[2.2.2]octadiene-fused sapphyrins and their thermal conversion, T. Okujima, T. Abe, S. Mori, T, Nakae, and H. Uno, *Heterocycles* **2018**, 96(7), 1239-1247. DOI: 10.3987/COM-18-13910. (Citation 0)
9. Synthesis and antimicrobal activity of 2-​trifluoroacetonylbenzoxazole ligands and their metal complexes, G. Watanabe, H. Sekiya, E. Tamai, R. Saijo, H. Uno, S. Mori, T. Tanaka, J. Maki, and M. Kawase, *Chem. Pharm. Bull. Jpn.* **2018**, *66*(7), 732-740. DOI: org/10.1248/cpb.c18-00158 (Citation 4)
10. Deltaarenes; novel macrocyclic molecules that are readily available from 1,​4-​benzoquinone and benzene dithiols, A. Kamimura, R. Watanabe, T. Fukumitsu, K. Ikeda, T. Kawamoto, M. Sumimoto, S. Mori, and H. Uno, *Tetrahedron*, **2018**, *70*, 5303-5308 . DOI:10.1016/j.tet.2018.04.070. (Citation 0)
11. Benzene-​fused bis(acenaphthoBODIPY)​s, stable near-​infrared-​selective dyes, H. Uno, T Honda, M. Kitatsuka, S. Hiraoka, S. Mori, M. Takase, T. Okujima, and T. Nakae, *RSC Advances*, **2018**, *8*(25), 14072-14083. DOI:10.1039/C8RA01694A. (Citation 2)
12. Chiral Discrimination and Manipulation of Individual Heptahelicene Molecules on Cu(001) by Noncontact Atomic Force Microscopy, A. Shiotari, K. Tanaka, T. Nakae, S. Mori, T. Okujima, H. Uno, H. Sakaguchi, and Y. Sugimoto, *J. Phys. Chem. C*, **2018**, *122*(9), 4997-5003. DOI:10.1021/acs.jpcc.8b00487. (Citation 2)
13. Synthesis and Properties of Bicyclo[2.2.2]octadiene- and Benzene-fusing Bis(thiaporphyrin)s, H. Uno, K. Tagawa, S.Mori, T. Okujima, M. Takase, and T. Nakae, *Bull. Chem. Soc. Jpn.*, **2017**, *90*(12), 1375-1381, DOI: 10.1246/bcsj.20170257.（Frontispiece）(Citation 1)
14. Synthesis and crystal structure of 4-​trifluoroacetyl-​3-​phenylsydnone, M. Kawase, R. Saijo, S. Mori, and H. Uno, *Heterocycles* **2017**, *94*(11), 2103-2110. DOI:10.3987/COM-17-13802. (Citation 0)
15. Interchain-linked Graphene Nanoribbons from Dibenzo[*g,p*]chrysene via Two-zone Chemical Vapor Deposition, S. Song, G. Huang, T. Kojima, T. Nakae, H. Uno, and H. Taniguchi, *Chem. Lett.*, **2017**, *46*(10), 1525-1527. DOI: 10.1246/cl.170614. (Citation 2)
16. Strain-induced skeletal rearrangement of a polycyclic aromatic hydrocarbon on a copper surface, A. Shiotari, T. Nakae, K. Iwata, S. Mori, T. Okujima, H. Uno, H. Sakaguchi, and Y. Sugimoto, *Nature Commun.* **2017**, *8*, 16089. DOI: 10.1038/ncomms16089. (Citation 13)
17. Preparation of 2,​3-​*trans*-​substituted piperidines from optically active β-​amino-​α-​methylene esters: Synthesis of optically active (2S,​3R)​-​(-​)​-​epi-​CP-​99,​994, A. Kamimura, R. Yo, and H. Uno, *Tetrahedron* **2017**, *73*(32), 4770-4778. DOI:10.1016/j.tet.2017.06.054. (Citation 1)
18. Diethyl N,​N'-​dimethylpyrrol[3,​4-*​f*]​isoindole-​1,​7-​dicarboxylate as a 14π-​electronic aromatic compound with two azomethine-​ylide moieties, S. Hiraoka, H. Tahara, S. Mori, T Okujima, M. Takase, T. Nakae, and H. Uno, *Tetrahedron* **2017**, *73*(7), 957-963. DOI:10.1016/j.tet.2017.01.015.(Cover picture) (Citation 1)
19. Protonation behavior of thiaporphyrin and thiabenzoporphyrin, K. Tagawa, S. Mori, T. Okujima, M. Takase, and H. Uno, *Tetrahedron* **2017**, *73*(6), 794-801. DOI:10.1016/j.tet.2016.12.067. (Citation 3)
20. One-pot Synthesis of a Rice-ball-shaped Cyclophane with syn-Diethanoanthracene-fused Dipyrrole and Hexafluorobenzene, K. Oki, K. Tagawa, S. Mori, M. Takase, T. Okujima, and H. Uno, *Chem. Lett*. **2017**, *46*(2), 243-244. DOI: org/10.1246/cl.161026. (Citation 1)
21. A radical cascade reaction of aza-​1,​6-​enyne compounds using allyltributyltin, A. Kamimura, K. Miyazaki, T. Kawamoto, and H. Uno, *Tetrahedron*, **2016**, *72*(48), 7722-7726. DOI:10.1016/j.tet.2016.04.078. (Citation 1)
22. Facile synthesis of imidazo[1,​5-​a]​pyrazin-​8(7H)​-​ones from mesoionic 1,​3-​oxazolium-​5-​olates via a multistep one-​pot transformation, R. Saijo, H. Uno, and M. Kawase, *Heterocycles* **2016**, 92(11), 2047-2058. DOI:10.3987/com-16-13551. (Citation 2)
23. Synthesis, Characterization, and Electronic Structures of Porphyrins Fused with Polycyclic Aromatic Ring Systems, T. Okujima, J. Mack, J. Nakamura, G. Kubheka, T. Nyokong, H. Zhu, N. Komobuchi, N. Ono, H. Yamada, H. Uno, and N. Kobayashi, *Chem. Eur. J.* **2016**, *22*(41), 14730-14738. DOI:10.1002/chem.201602213. (Citation 6)
24. Hydrogen evolution from water under visible-​light irradiation using keggin-​type platinum(II)​-​coordinated phospho-​, silico-​, and germanotungstates as co-​catalysts, C. N. Kato, S. Suzuki, Y. Ihara, K. Aono, R. Yamashita,K. Kikuchi, T. Okamoto, and H. Uno, *Modern Research in Catalysis.* **2016**, *5*(4), 103-129. DOI: 10.4236/mrc.2016.54010. (Citation 0)
25. Boron Difluoride Complexes of Expanded N-​Confused Calix[n]​phyrins That Demonstrate Unique Luminescent and Lasing Properties, M. Ishida, T. Omagari, R. Hirosawa, K. Jono, Y. M. Sung, Y. Yasutake, H. Uno, M. Toganoh, H. Nakanotani, S. Fukatsu, D. Kim, and H. Furuta, *Angew. Chem. Int. Ed*. **2016**, *55*(39), 12045-12049. DOI: 10.1002/anie.201606246. (Citation 13)
26. Synthesis of hexagonal shape-persistent cyclophane with D2h symmetry, K. Tagawa, S. Mori, M. Takase, T. Okujima, I. Hisaki, and H. Uno, *Tetrahedron Lett.* **2016***, 57*(36)*,* 4079-4081*.* DOI: 10.1016/j.tetlet.2016.07.086. (Citation 3)
27. Organozirconium Complex with Keggin-​Type Mono-​Aluminum-​Substituted Silicotungstate: Synthesis, Molecular Structure, and Catalytic Performance for Meerwein-​Ponndorf-​Verley Reduction, C. N. Kato, W. Unno, S. Kato, T. Ogasawara, T. Kashiwagi, H. Uno, K. Suzuki, and N. Mizuno, *Catalysis Letters* **2016**, *146*(10), 2119-2128. DOI: 10.1007/s10562-016-1813-7. (Citation 1)
28. Synthesis of cyclo[8]​pyrrole-​polyoxometalate double-​decker complex, T. Okujima, H. Matsumoto, S. Mori, T. Nakae, M. Takase, and H. Uno, *Tetrahedron Lett.* **2016**, *57*(29), 3160-3162. DOI:10.1016/j.tetlet.2016.06.021. (Citation 2)
29. Template Synthesis of Decaphyrin without Meso-​Bridges: Cyclo[10]​pyrrole, T. Okujima, C. Ando, S. Agrawal, H. Matsumoto, S. Mori, K. Ohara, I. Hisaki, T. Nakae, M. Takase, H. Uno, and N. Kobayashi, *J. Am. Chem. Soc.* **2016**, *138*(24), 7540-7543. DOI: 10.1021/jacs.6b04941. (Citation 15)
30. Oxidative synthesis of isoxazoline-​N-​oxide from optically active nitro alcohols, K. Moriyama, T. Kawamoto, H. Uno, Hidemitsu and A. Kamimura, *Heterocycles* **2016**, *92*(8), 1479-1489. DOI: 10.3987/COM-16-13497. (Citation 2)
31. Synthesis and structures of stable phosphorus zwitterions derived from mesoionic 4-​trifluoroacetyl-​1,​3-​oxazolium-​5-​olates, R. Saijo, H. Uno, S. Mori, and M. Kawase, *Chem. Commun*. **2016**, *52*(51), 8006-8009. DOI:10.1039/C6CC01627H. (Citation 6)
32. Asymmetric Synthesis of Bicyclic Nitrocyclopropanes from Primary Nitro Compounds and Stereoselective Formation of Tetrahydro-​2*H*-​cyclopenta[*b*]​furans via Ring Expansion​/Cyclization Reaction, A. Kamimura, T. Moriyama, Y. Ito, T. Kawamoto, and H. Uno, *J. Org. Chem*. **2016**, *81*(11), 4664-4681, DOI:10.1021/acs.joc.6b0056. (Citation 6)
33. 4,​8-​Dihydropyrrol[3,​4-*​f*]​isoindole as a useful building block for near-​infrared dyes, H. Uno, M. Nakamura, K. Jodai, S. Mori, and T. Okujima, *Heterocycles,* **2015**, *90(2)*, 1158-1167, DOI:10.3987/COM-14-S(K)91. (Citation 1)
34. Synthesis of Unsymmetrical 3,​7-​Bisarylthio-​2,​8-​Dioxydibenzofuran and its Physical Properties, A. Kamimura, M. Ishikawa, R. Watanabe, S. Sakamoto, and H. Uno, *Phosphorus, Sulfur and Silicon and the Related Elements,* **2015**, *190(8)*, 1219-1224, DOI:10.1080/10426507.2014.983598. (Citation 0)
35. The β-​Silyl Effect on the Memory of Chirality in Friedel-​Crafts Alkylation Using Chiral α-​Aryl Alcohols, T. Nokami, Y. Yamane, S. Oshitani, J. Kobayashi, S. Matsui, T. Nishihara, H. Uno, S. Hayase, and T. Itoh, *Org. Lett.*, **2015**, *17*(12), 3182-3185. DOI:10.1021/acs.orglett.5b0158. (Citation 11)
36. A mechanistic study on SHi reaction at tin atoms in a radical cascade reaction, A. Kamimura, T. Yoshinaga, F. Noguchi, K. Miyazaki and H. Uno, *Org. Chem. Front.*, **2015**, *2*, 713-720. DOI: 10.1039/C5QO00063G. (Citation 0)

And 241 other original papers.