Curriculum Vitae

Kenta KATO Ph.D.

Assistant Professor

Waseda Research Institute for Science and Engineering

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Shinjuku, Tokyo, 162-0041, Japan.

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Date of Birth: July 10, 1991

Education

Mar 2014	B.Sc., Nagoya University, Japan (Prof. Kenichiro Itami)
Aug.–Nov. 2015	Visiting student (Prof. Marina A. Petrukhina, University at Albany, U.S.A.)
Mar 2016	M.Sc. in Chemistry, Nagoya University, Japan (Prof. Kenichiro Itami)
Mar 2019	Ph.D. in Chemistry, Nagoya University, Japan (Prof. Kenichiro Itami) Thesis title: Synthesis and Properties of Corannulene-based Nonplanar Aromatic Hydrocarbons

Academic Career

Apr. 2019	Postdoctoral Researcher, Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University, Japan (Prof. Hajime Ito)
Apr. 2020	Postdoctoral Researcher, Division of Applied Chemistry and Frontier Chemistry Center, Faculty of Engineering, Hokkaido University, Japan (Prof. Hajime Ito)
Oct. 2020	Assistant Professor, Waseda Research Institute for Science and Engineering, Waseda University, Japan (Prof. Junichiro Yamaguchi)

Publications

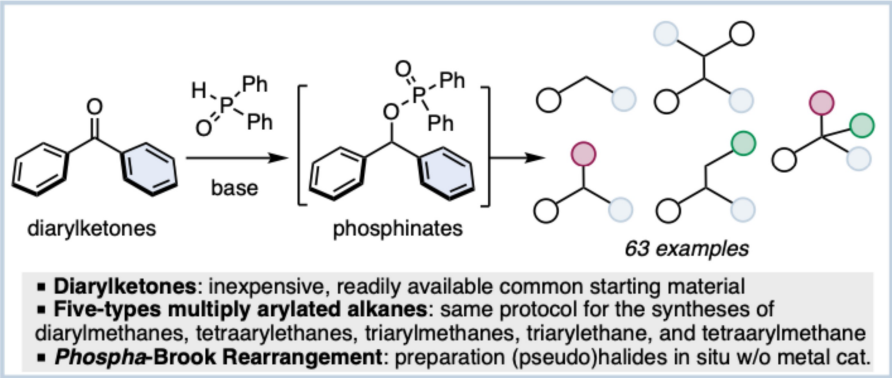
Original Papers

(13) **Unified Synthesis of Multiply Arylated Alkanes by Catalytic Deoxygenative Transformation of Diaryl-ketones**

Kurosawa, M. B.; Kato, K.; Muto, K.; Yamaguchi, J.*

Chem. Sci. **2022**, *13*, 10743–10751. DOI: 10.1039/D2SC03720C

(See also: ChemRxiv **2022**, DOI*:* 10.26434/chemrxiv-2022-h1860*)*

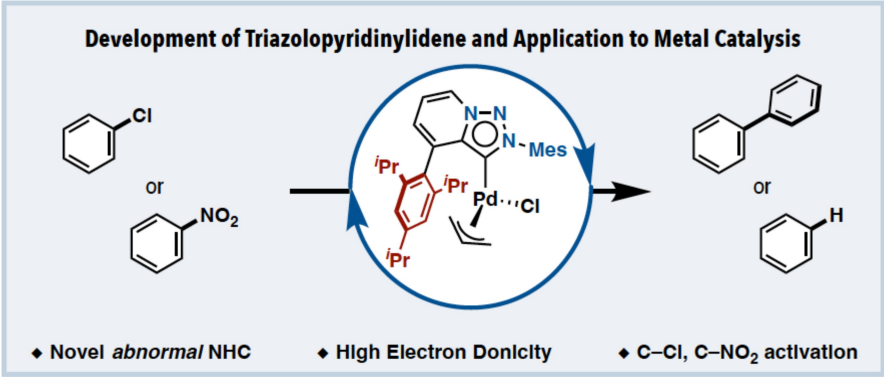


(12) **Synthesis and Properties of Palladium–Triazolopyridinylidene: Catalyst for Cross-Coupling Using Chloroarenes and Nitroarenes**

Iizumi, K.; Nakayama, K. P.; Kato, K.; Muto, K.*; Yamaguchi, J.*

J. Org. Chem. **2022**, 87, 11909–11918. DOI: 10.1021/acs.joc.2c01562

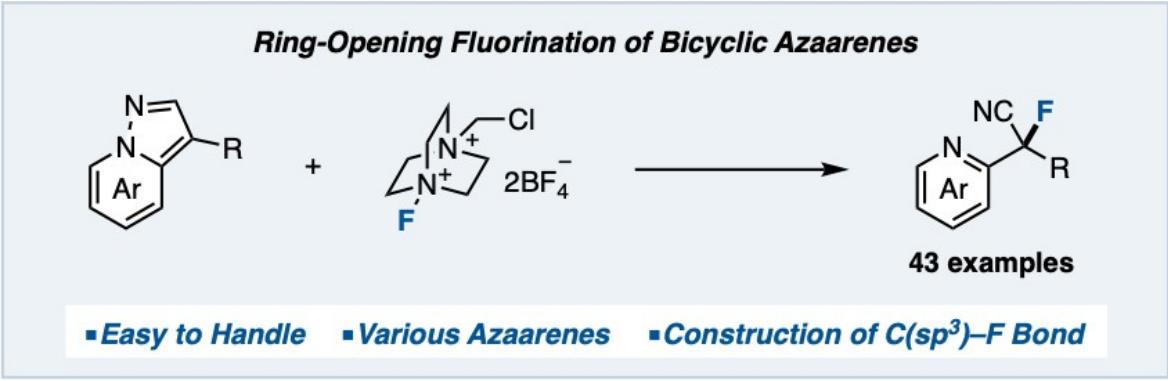
(*See also*: *ChemRxiv* **2022**, DOI 10.26434/chemrxiv-2022-qs9s9)



(11) **Ring-Opening Fluorination of Bicyclic Azaarenes**

Komatsuda Masaaki, Suto Ayane, Kondo Hiroki Jr. Takada Hiroyuki, Kato Kenta, Saito Bunnai, Yamaguchi Junichiro*

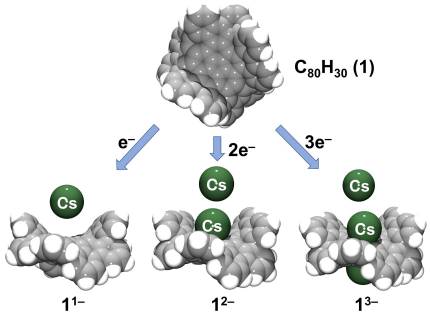
Chem. Sci. **2022**, *13,* 665–670. DOI: 10.1039/d1sc06273e



(10) **Stepwise Generation of Mono-, Di-, and Triply-Reduced Warped Nanographenes: Charge-Dependent Aromaticity, Surface Nonequivalence, Swing Distortion and Metal Binding Sites**

Sarah N. Spisak, Zheng Zhou, Shuyang Liu, Qi Xu, Zheng Wei, Kenta Kato, Yasutomo Segawa, Kenichiro Itami,* Andrey Yu. Rogachev,* Marina A. Petrukhina*

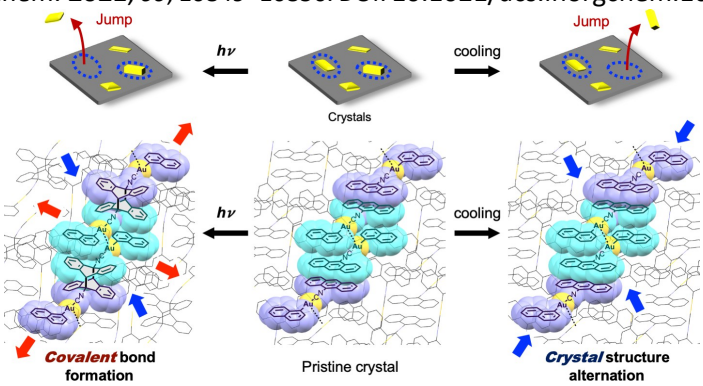
Angew. Chem., Int. Ed. **2021**. *60*, 25445–25453. DOI: 10.1002/anie.202110748

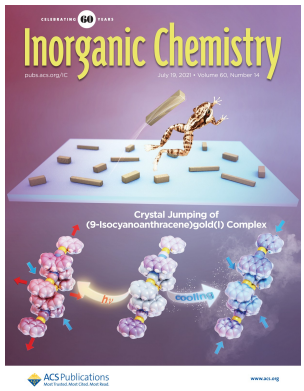


(9) **(9-Isocyanoanthracene)gold(I) Complexes Exhibiting Two Modes of Crystal Jumps by Different Structure Change Mechanisms**

Kenta Kato, Tomohiro Seki,* Hajime Ito*

Inorg. Chem. **2021**, *60*, 10849–10856. DOI: 10.1021/acs.inorgchem.1c00881 ***Cover Picture***





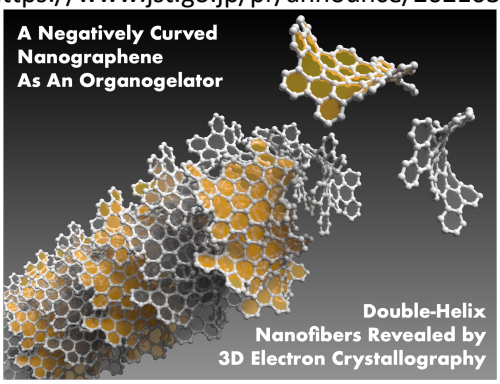
(8) **Double-Helix Supramolecular Nanofibers Assembled from Negatively Curved Nanographenes**

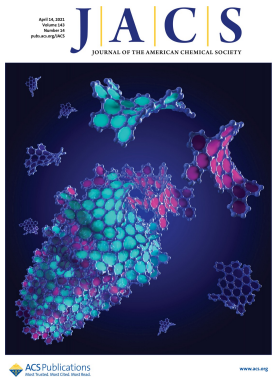
Kenta Kato, Kiyofumi Takaba, Saori Maki-Yonekura, Nobuhiko Mitoma, Yusuke Nakanishi, Taishi Nishihara, Taito Hatakeyama, Takuma Kawada, Yuh Hijikata, Jenny Pirillo, Lawrence T. Scott, Koji Yonekura,* Yasutomo Segawa,* Kenichiro Itami*

J. Am. Chem. Soc. **2021**, *143*, 5465–5469. DOI: 10.1021/jacs.1c00863 ***Supplementary Cover Art***

ChemRxiv DOI: 10.26434/chemrxiv.13270607.v1

Press Release https://www.jst.go.jp/pr/announce/20210324-3/index.html

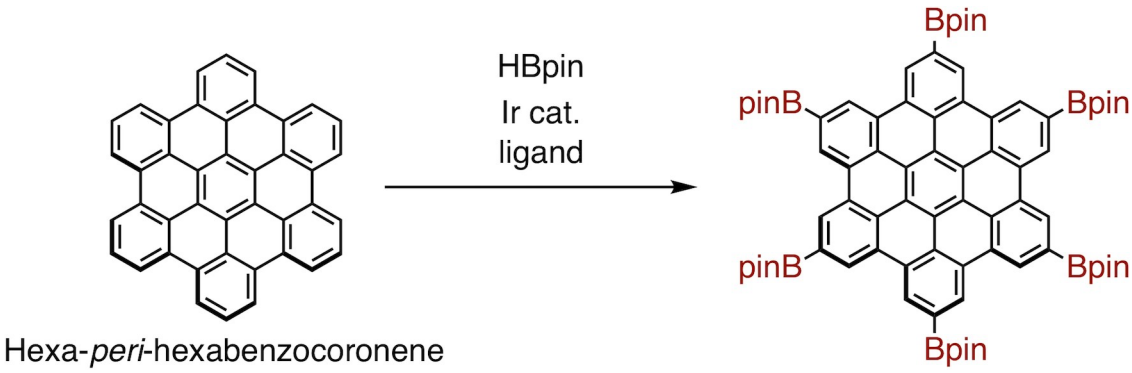




(7) **Six-Fold C–H Borylation of Hexa-peri-Hexabenzocoronene**

Mai Nagase, Kenta Kato, Akiko Yagi, Yasutomo Segawa,* Kenichiro Itami*

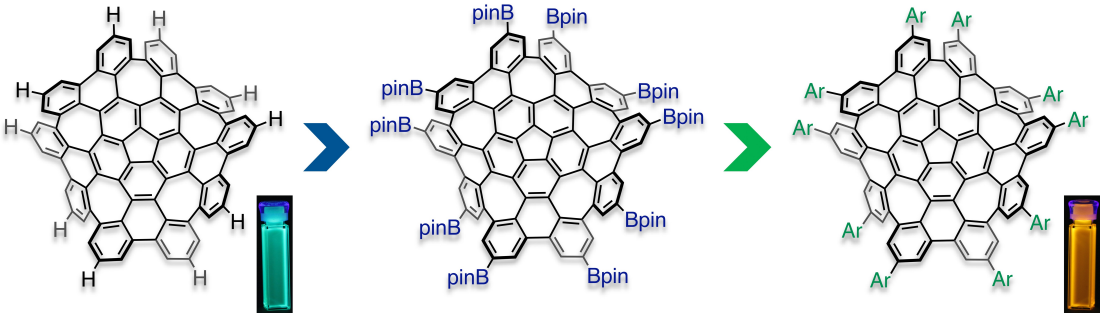
Beilstein J. Org. Chem. **2020**, *16*, 391–397. DOI: 10.3762/bjoc.16.37



(6) **Two-Step Synthesis of a Red-Emissive Warped Nanographene Derivative *via* a Ten-Fold C–H Borylation**

Kenta Kato, Hsing-An Lin, Motonobu Kuwayama, Mai Nagase, Yasutomo Segawa,* Lawrence T. Scott, Kenichiro Itami*

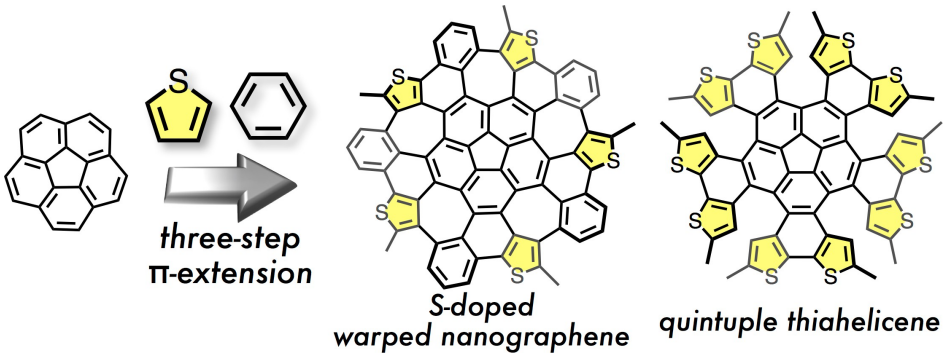
Chem. Sci. **2019**, *10,* 9038–9041. DOI: 10.1039/C9SC03061A



(5) **Synthesis and Structural Features of Thiophene-fused Analogues of Warped Nanographene and Quintuple Helicene**

Hsing-An Lin, Kenta Kato, Yasutomo Segawa,* Lawrence T. Scott, Kenichiro Itami*

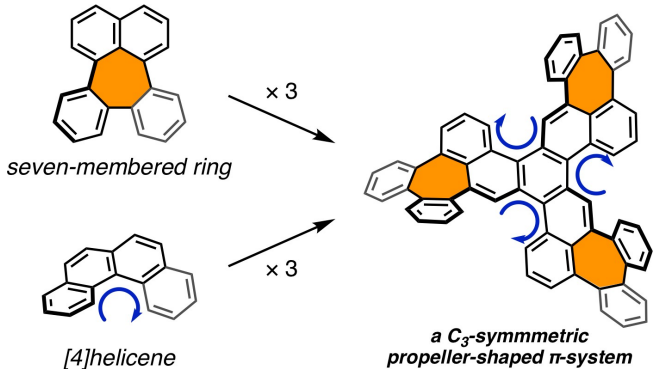
Chem. Sci. **2019**, *10,* 2326–2330. DOI: 10.1039/C8SC04470H



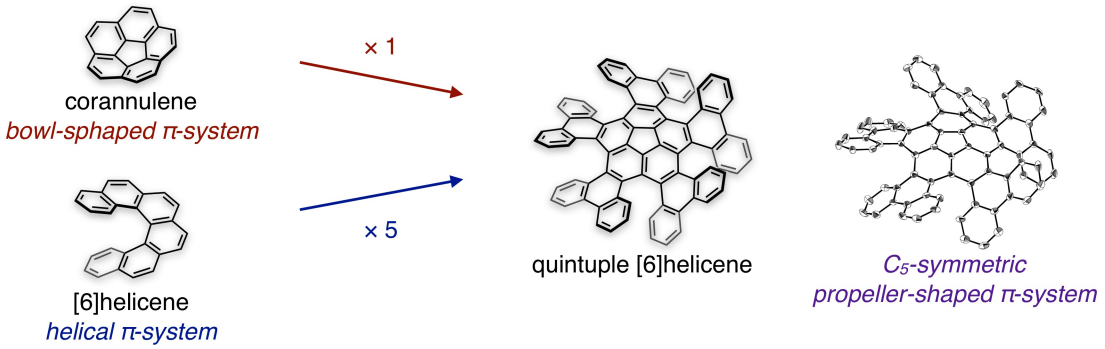
(4) **Synthesis and Structure of a Propeller-Shaped Polycyclic Aromatic Hydrocarbon Containing Seven-Membered Rings**

Kazuya Kawai, Kenta Kato, Lingqing Peng, Yasutomo Segawa,* Lawrence T. Scott, Kenichiro Itami*

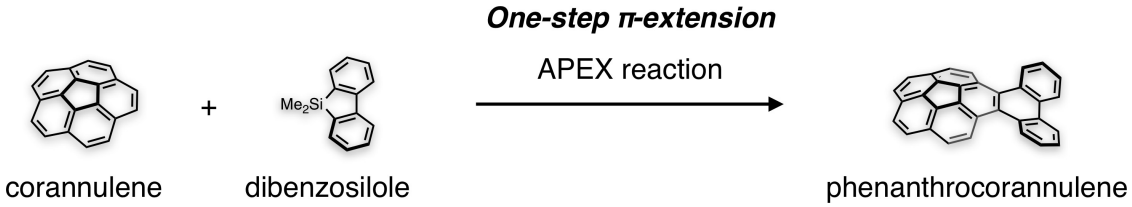
Org. Lett. **2018**, *20,* 1932–1935. DOI: 10.1021/acs.orglett.8b00477



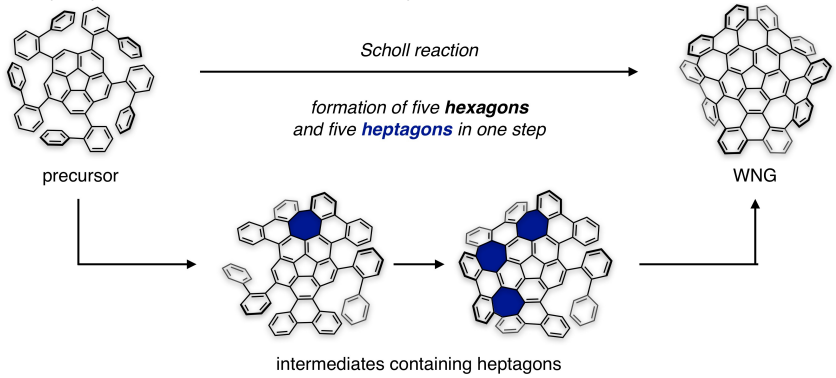
(3) **A Quintuple [6]Helicene with a Corannulene Core as a C_5-Symmetric Propeller-Shaped π-System**
Kenta Kato, Yasutomo Segawa,* Lawrence T. Scott, Kenichiro Itami*
Angew. Chem., Int. Ed. **2018**, *57,* 1337–1341. DOI: 10.1002/anie.201711985 ***Hot paper***
Highlighted on web site of the Cambridge Crystallographic Data Centre (CCDC); only two crystal data were highlighted of 20,004 data updated in 2018.



(2) **Phenanthro[9,10-*a*]corannulene by One-step Annulative π-Extension of Corannulene**
Kenta Kato, Yasutomo Segawa,* Kenichiro Itami*
Can. J. Chem. **2017**, *95,* 329–333. DOI: 10.1139/cjc-2016-0467



(1) **Synthesis, Properties, and Packing Structures of Corannulene-Based π-Systems Containing Heptagons**
Kenta Kato, Yasutomo Segawa,* Lawrence T. Scott, Kenichiro Itami*
Chem. Asian J. **2015**, *10,* 1635–1639. DOI: 10.1002/asia.201500560

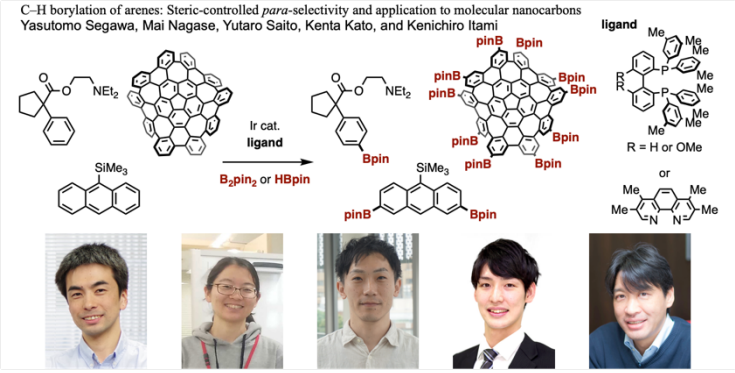


Reviews & Accounts

(2) **C–H Borylation of Arenes: Steric-controlled *para*-selectivity and Application to Molecular Nanocarbons**

Yasutomo Segawa,* Mai Nagase, Yutaro Saito, Kenta Kato, Kenichiro Itami*

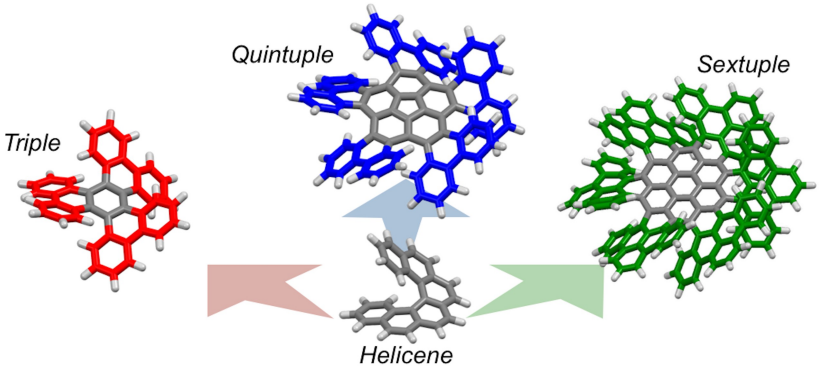
J. Synth. Org. Chem. Jpn. **2022**, *80,* 994–999. DOI: 10.5059/yukigoseikyokaishi.80.994



(1) **Symmetric Multiple Carbohelicenes**

Kenta Kato, Yasutomo Segawa,* Kenichiro Itami*

Synlett **2019**, *30,* 3070–377. DOI: 10.1055/s-0037-1610283



Oral Presentation

(1) **Synthesis, Properties, and Packing Structures of Corannulene-Based π-Systems Containing Heptagons**
Kenta Kato, Yasutomo Segawa, Lawrence T. Scott, Kenichiro Itami.
The 96th Chemical Society of Japan Annual Meeting
Doshisha University, Kyoto, Japan, March 27, 2016.

(2) **Synthesis and Structures of a Quintuple [6]helicene with a Corannulene Core**
Kenta Kato, Yasutomo Segawa, Lawrence T. Scott, Kenichiro Itami.
The 98th Chemical Society of Japan Annual Meeting
Nihon University, Chiba, Japan, March 21, 2018.

(3) **Synthesis and Structure of Corannulene-Based Quintuple [6]helicene**
Kenta Kato, Yasutomo Segawa, Lawrence T. Scott, Kenichiro Itami.
Enabling Excellence Japanese-European Workshops
Nagoya University, Nagoya, Japan, May 28, 2018. ***Student Presentation Award***

(4) **Creation of Grossly Warped Nanographene**
Kenta Kato
The 9th Otsu Conference
Otsu Prince Hotel, Shiga, Japan, October 22, 2018.

(5) **One-dimensional Self-assembly of a Negatively Curved Aromatic Hydrocarbon**
Kenta Kato, Yuh Hijikata, Jenny Pirillo, Taishi Nishihara, Yusuke Nakanishi, Yasutomo Segawa, Lawrence T. Scott, Kenichiro Itami
The 99th Chemical Society of Japan Annual Meeting
Konan University, Hyogo, Japan, March 18, 2019.

(6) **Ten-fold Functionalization of Warped Nanographene through an Ir-catalyzed C–H Borylation**
Kenta Kato, Hsing-An Lin, Yasutomo Segawa, Lawrence T. Scott, Kenichiro Itami.
The 99th Chemical Society of Japan Annual Meeting

Konan University, Hyogo, Japan, March 18, 2019.

(7) **Gold(I) Complexes Exhibiting Both Photo- and Thermosalient Effect**
Kenta Kato
Ace Meeting Online
Virtual, May 2, 2020.

Awards, Honor and Fellowships

(1) Japan Society for the Promotion of Science Research Fellowship for Young Scientists (DC) for 2017
(2) ISNA'17 Poster Award, 17th International Symposium on Novel Aromatic Compounds in 2017
(3) Chemical Society of Japan Student Presentation Award 2018
(4) Poster Award, 29th Symposium on Physical Organic Chemistry in 2018
(5) Selected as the 9th Otsu Conference Fellow in 2018
(6) ISNA'18 Poster Award, 18th International Symposium on Novel Aromatic Compounds in 2019
(7) Japan Society for the Promotion of Science Research Fellowship for Young Scientists (PD) for 2020
(8) The 38th Inoue Research Award for Young Scientist in 2021