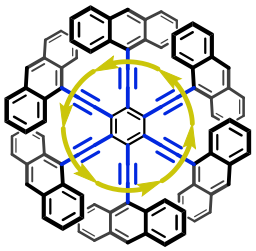
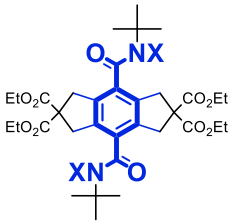
My research interest is ***chiral chemistry***, and I have synthesized chiral (mostly macrocyclic) molecules characterized in my designs based on **terephthalamide** and **arylacetylene**, which originated from studies by Professor Dr. Takashi Tsuji and Professor Dr. Masakazu Ohkita.

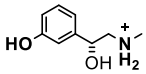
Background



propeller·triple bond·Sonogashira coupling
プロペラ・三重結合・薗頭カップリング

Professor Ohkita
（大北雅一先生）





Kawai, H; Katoono, R; Tsuji, T. *Chem. Eur. J.* **2005**, 815.

diamide·hydrogen bond·complexation
ジアミド・水素結合・錯体形成

Professor Tsuji
（辻 孝先生・河合英敏先生）

MY WORK

Terephthalamide **Macrocycle** **Triple bond** **CHIRAL CHEMISTRY**

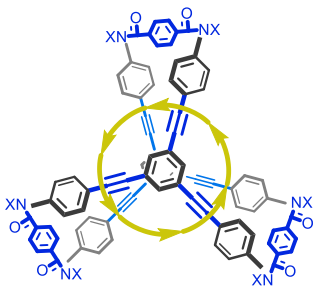
dynamic	two chiral elements: dynamic and undynamic		undynamic
propeller chirality	helical chirality	planar chirality	mechanical helical chirality

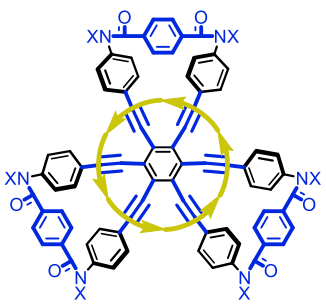
Twisted and folded macrocycles (page 2)

Dynamic helical cyclophanes (page 3)

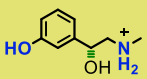
Chiral [1]rotaxanes and others based on PAMs (page 4)

Molecular propellers

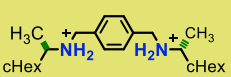




hydrogen bonding guest

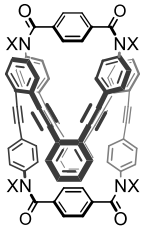


⇩ modify

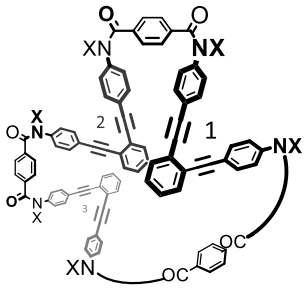


Katoono, *Org. Biomol. Chem.* **2014**, 9532.
Katoono, *Chem. Comm.* **2014**, 5438.
Katoono, *Chem. Comm.* **2013**, 10352.
Katoono et al., *J. Am. Chem. Soc.* **2009**, 16896.
Katoono et al., *Chem. Comm.* **2008**, 4906.

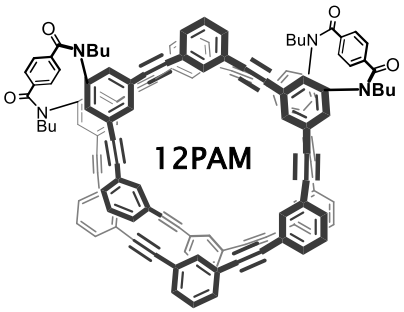
Twisted and folded macrocycles



KUSAKA

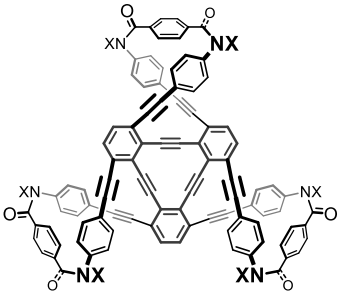


TANAKA

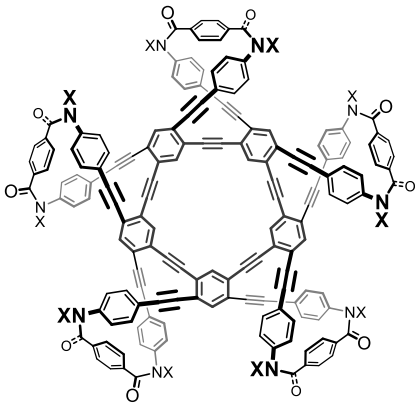


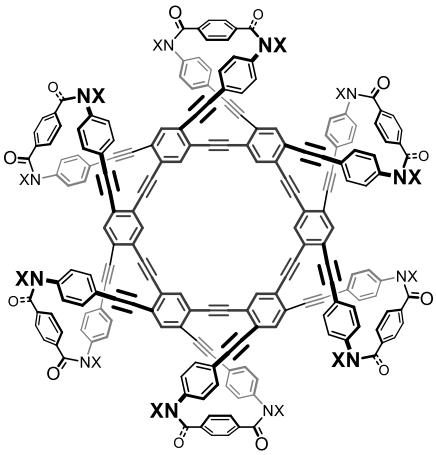
KUSAKA SAITO

Fused oligomers of twisted macrocycles

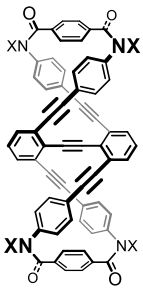


SAKAMOTO

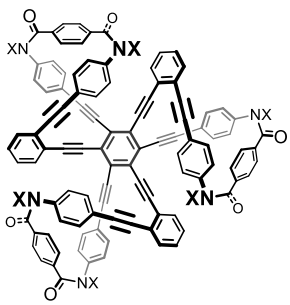




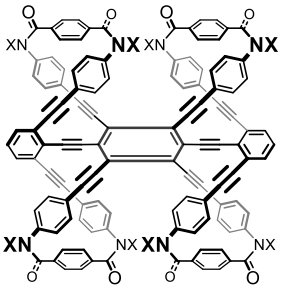
etc.



KAWAI

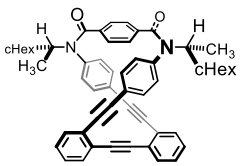


KUDO



OBARA MIYASHITA

Twisted macrocycles (figure-eight chirality)



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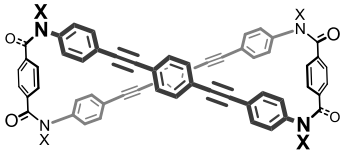
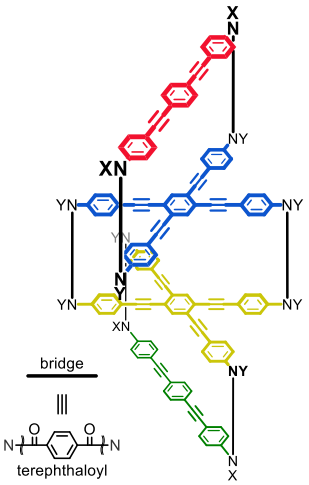


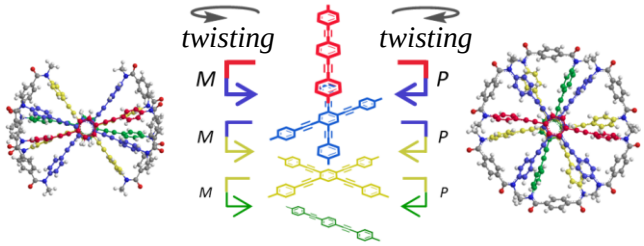
Terephthalamide **Macrocycle** **Triple bond** **CHIRAL CHEMISTRY**

Katoono, Kudo and Kawai, *Org. Biomol. Chem.* **2023**, 2562.
Katoono and Sakamoto, *Chem. Comm.* **2019**, 5503.
Katoono, Kusaka and Tanaka, *Org. Biomol. Chem.* **2018**, 1167.
Katoono, Tanaka and Kusaka, *J. Org. Chem.* **2015**, 7613.
Katoono and Tanaka, *J. Org. Chem.* **2014**, 10218.
Katoono et al., *Tetrahedron Lett.* **2004**, 8455; *Chem. Comm.* **2005**, 5154; *Tetrahedron Lett.* **2006**, 1513.
Katoono, Obara, Sakamoto and Miyashita, *RSC Adv.* **2024**, 20735.
Katoono, *Chem. Lett.* **2023**, 627.
Katoono, Kusaka, Saito and Sakamoto, *Chem. Sci.* **2019**, 4782.
Katoono and Kawai, *Chem. Sci.* **2015**, 6592.
Katoono and Kusaka, *Chem. Asian J.* **2014**, 3182.

Dynamic helical cyclophanes

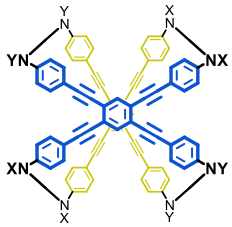


a three-fold twisting in the same direction

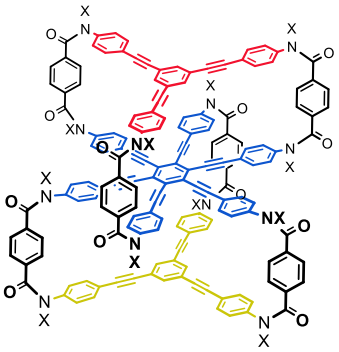


MMM diastereomeric conformations ***PPP***

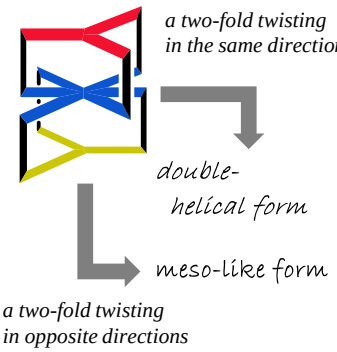
optical activity from optically-inactive form

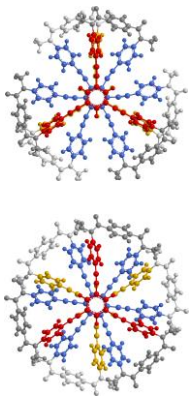


SHIMOMURA



OBARA

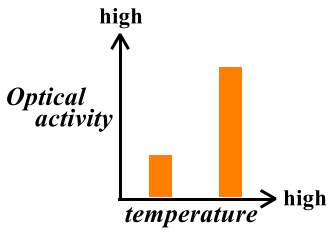




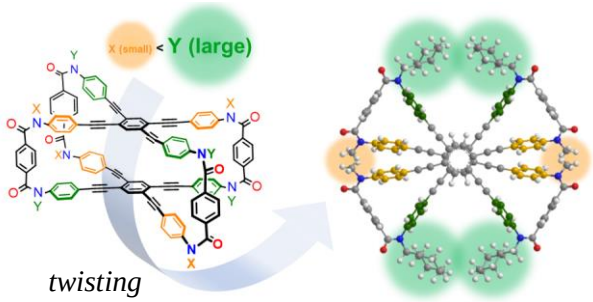
PP

PM

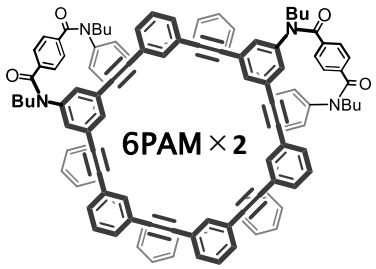
enhanced CD at elevated temperatures



Difference in size

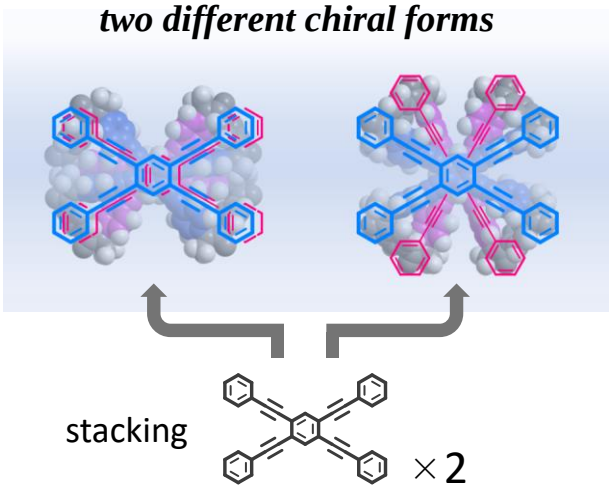


induced a screw-sense preference without using any transmission of chirality



KUSAKA **SAITO**

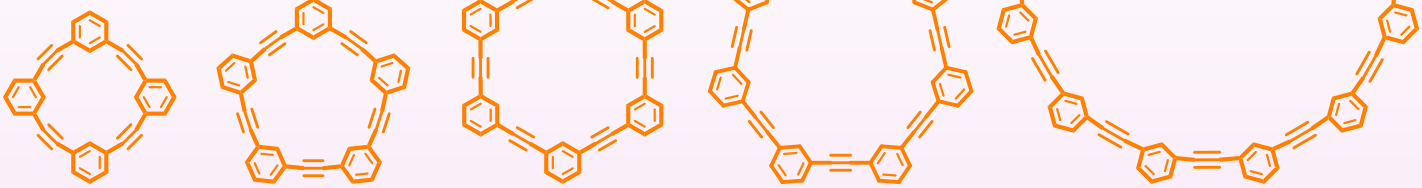
two different chiral forms



Terephthalamide **Macrocycle** **Triple bond** **CHIRAL CHEMISTRY**

Katoono, Kusaka, Saito and Sakamoto, *Chem. Sci.* **2019**, 4782.
Katoono and Obara, *Chem. Sci.* **2018**, 2222.
Katoono, *Chem. Comm.* **2016**, 1029.
Katoono et al., *Chem. Comm.* **2005**, 5154.
Katoono and Shimomura, *Chem. Comm.* **2022**, 13385.
Katoono and Kawai, *Chem. Sci.* **2016**, 3240.
Katoono, *Chem. Comm.* **2014**, 5438.

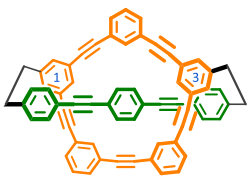
Chiral [1]rotaxanes and others based on PAMs

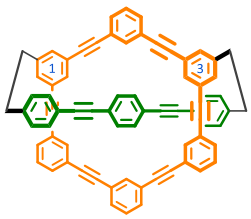


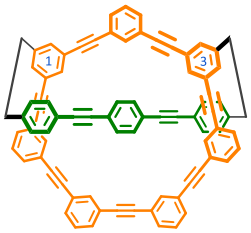
4PAM 5PAM 6PAM 7PAM 12PAM

bridge
ring rod ≡ BuN NBu

bridge
ring ring ≡ BuN NBu







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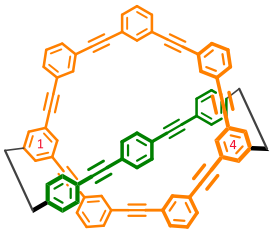

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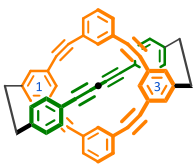
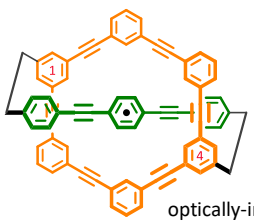
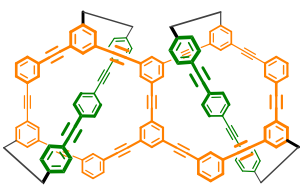


optically-inactive

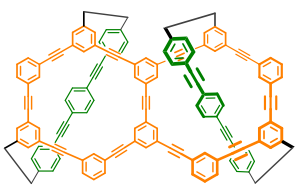


optically-inactive

mechanical helical chirality



TANIOKA



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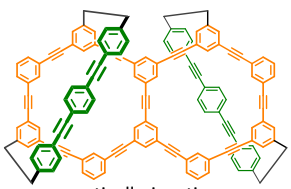

optically-inactive

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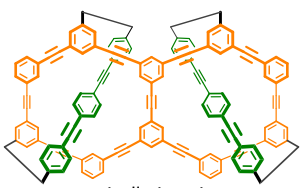
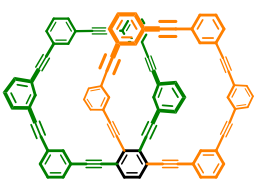


optically-inactive

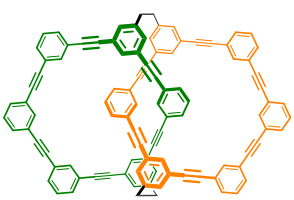
TANIOKA

non-racemized
helical chirality

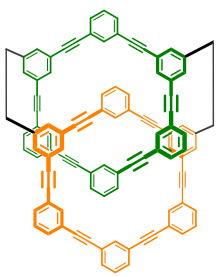


ARISAWA

non-racemized



KUSAKA
SAITO



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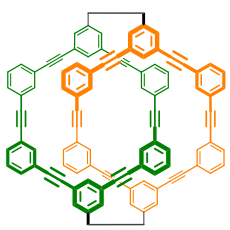
SAITO



Terephthalamide **Macrocycle** **Triple bond** **CHIRAL CHEMISTRY**

Katoono and Asai, *Chem. Lett.* **2024**, upad006.
Katoono and Tanioka, *J. Org. Chem.* **2023**, 4606.
Katoono, Kusaka and Obara, *Chem. Comm.* **2018**, 735.
Katoono and Arisawa, *RSC Adv.* **2023**, 11712.
Katoono, Kusaka, Saito and Sakamoto, *Chem. Sci.* **2019**, 4782.

Acknowledgments

Special thanks to **Professor Ohkita** (2000) (Hokkaido University)
and **Professor Tsuji** (2001–2002) (Hokkaido University).

I greatly appreciate all true co-authors for their tremendous efforts:
KAWAI, Shunsuke; **TANAKA**, Yuki; **KUSAKA**, Keiichi; **KUDO**, Takaaki; **OBARA**, Yudai; **SAITO**, Yuki; **SAKAMOTO**, Kazuki; **MIYASHITA**, Rei; **ARISAWA**, Kohei; **SHIMOMURA**, Kai; **ASAI**, Kota; and **TANIOKA**, Takumi (2012–2021) (Hokkaido University).

I greatly appreciate Professor Yui and all laboratory members (2006–2011) (JAIST).

Publication list

Study of optical rotation based on the molecular structure in fused oligomers of macrocycles.
By: KATOONO, Ryo; OBARA, Yudai; SAKAMOTO, Kazuki; MIYASHITA, Rei.
RSC advances (**2024**), 14(29), 20735-20742 |

Chiral [1]rotaxanes with a two-fold bridge based on phenylacetylene macrocycles (PAMs): two different chiroptical properties created by 7PAM.
By: KATOONO, Ryo; ASAI, Kota.
Chemistry Letters (**2024**), 53(1), upad006 |

Macrocycle of Macrocycles: Endless Succession of an Identical Sense of Twisting.
By: KATOONO, Ryo.
Chemistry Letters (**2023**), 52(8), 627-630 |

Two-ring chirality generated by the alignment of two achiral phenylacetylene macrocycles.
By: KATOONO, Ryo; ARISAWA, Kohei.
RSC Advances (**2023**), 13(17), 11712-11719 |

A Dualistic Arrangement of a Chiral [1]Rotaxane Based on the Assembly of Two Rings and Two Rods.
By: KATOONO, Ryo ; TANIOKA, Takumi.
Journal of Organic Chemistry (**2023**), 88(7), 4606-4618 |

An attempt to consider cooperativity in helical-sense preferences induced in fused macrocycles.
By: KATOONO, Ryo; KUDO, Takaaki; KAWAI, Shunsuke.
Organic & Biomolecular Chemistry (**2023**), 21(12), 2562-2569 |

Controlled helical senses of twisting in two-, three- and four-layer cyclophanes with planar chirality.
By: KATOONO, Ryo; SHIMOMURA, Kai.
Chemical Communications (**2022**), 58(96), 13385-13388 |

Cyclic molecules and chirality.
By: KATOONO, Ryo.
Kobunshi (**2022**), 71(4), 158-159 |

Dual dynamic chirality generated in the assembly of three achiral rods through the three-fold twisting of a macrocycle.
By: KATOONO, Ryo; SAKAMOTO, Kazuki.
Chemical Communications (**2019**), 55(38), 5503-5506 |

Chiral diversification through the assembly of achiral phenylacetylene macrocycles with a two-fold bridge.
By: KATOONO, Ryo; KUSAKA, Keiichi; SAITO, Yuki; SAKAMOTO, Kazuki.
Chemical Science (**2019**), 10(18), 4782-4791 |

Supramolecular chiroptical switching of helical-sense preferences through the two-way intramolecular transmission of a single chiral source.
By: KATOONO, Ryo; KUSAKA, Keiichi; TANAKA, Yuki.
Organic & Biomolecular Chemistry (**2018**), 16(7), 1167-1171 |

Enhanced circular dichroism at elevated temperatures through complexation-induced transformation of a three-layer cyclophane with dualistic dynamic helicity.
By: KATOONO, Ryo; OBARA, Yudai.
Chemical Science (**2018**), 9(8), 2222-2229 |

Dynamic or undynamic chirality generated by helical arrangement of a shape-persistent ring and rod doubly bridged in a molecule.
By: KATOONO, Ryo; OBARA, Yudai; KUSAKA, Keiichi.
Chemical Communications (**2018**), 54(7), 735-738 |

Dynamic helical cyclophanes with two quadruply-bridged planes arranged in an "obverse and/or reverse" relation.
By: KATOONO, Ryo; KAWAI, Shunsuke.
Chemical Science (**2016**), 7(5), 3240-3247 |

Planar chiral desymmetrization of a two-layered cyclophane and control of dynamic helicity through the arrangement of two nonstereogenic centers.
By: KATOONO, Ryo.
Chemical Communications (**2016**), 52(5), 1029-1031 |

Dynamic Figure Eight Chirality: Multifarious Inversions of a Helical Preference Induced by Complexation.
By: KATOONO, Ryo; TANAKA, Yuki; KUSAKA, Keiichi.
Journal of Organic Chemistry (**2015**), 80(15), 7613-7625 |

Controllability of dynamic double helices: quantitative analysis of the inversion of a screw-sense preference upon complexation.
By: KATOONO, Ryo; KAWAI, Shunsuke.
Chemical Science (**2015**), 6(11), 6592-6600 |

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By: KATOONO, Ryo.
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Journal of Organic Chemistry (**2014**), 79(21), 10218-10225 |

Chiroptical molecular propellers based on hexakis(phenylethynyl)benzene through the complexation-induced intramolecular transmission of local point chirality.
By: KATOONO, Ryo; KUSAKA, Keiichi; KAWAI, Shunsuke; TANAKA, Yuki; HANADA, Keisuke; et al.
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Controlled Dynamic Helicity of a Folded Macrocycle Based on a Bisterephthalamide with a Twofold Z-Shaped Structure.
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Chemical Communications (**2014**), 50(41), 5438-5440 |

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By: KATOONO, Ryo; OHKITA, Masakazu.
Chemical Communications (**2013**), 49(88), 10352-10354 |

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Yuki Gosei Kagaku Kyokaishi (**2012**), 70(6), 640-650 |

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By: YAMADA, Ko; KATOONO, Ryo; YUI, Nobuhiko.
Polymer Journal (**2012**), 44(3), 286-293 |

Modulation of reversible self-assembling of dumbbell-shaped poly(ethylene glycol)s and β-cyclodextrins: precipitation and heat-induced supramolecular crosslinking.
By: KOBAYASHI, Yuichiro; KATOONO, Ryo; YAMAGUCHI, Masayuki; YUI, Nobuhiko.
Polymer Journal (**2011**), 43(11), 893-900 |

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By: TAKAHASHI, Akihiro; KATOONO, Ryo; YUI, Nobuhiko.
Macromolecules (**2009**), 42(22), 8587-8589 |

Dynamic Molecular Propeller: Supramolecular Chirality Sensing by Enhanced Chiroptical Response through the Transmission of Point Chirality to Mobile Helicity.
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Journal of the American Chemical Society (**2009**), 131(46), 16896-16904 |

Immobilization of polyrotaxane on a solid substrate as the design of dynamic surface.
By: YANG, Dae Hyeok; KATOONO, Ryo; YAMAGUCHI, Jun; MIURA, Yoshiko; YUI, Nobuhiko.
Polymer Journal (**2009**), 41(11), 952-953 |

Functional cyclodextrin polyrotaxanes for drug delivery.
By: YUI, Nobuhiko; KATOONO, Ryo; YAMASHITA, Atsushi.
Advances in Polymer Science (**2009**), 222, 55-77 |

Designed molecular propellers based on tetraarylterephthalamide and their chiroptical properties induced by biased helicity through transmission of point chirality.
By: KATOONO, Ryo; KAWAI, Hidetoshi; FUJIWARA, Kenshu; SUZUKI, Takanori.
Chemical Communications (**2008**), (40), 4906-4908 |

Supramolecular control of polyplex dissociation and cell transfection: Efficacy of amino groups and threading cyclodextrins in biocleavable polyrotaxanes.
By: YAMASHITA, Atsushi; KANDA, Daizo; KATOONO, Ryo; YUI, Nobuhiko; OOYA, Tooru; MARUYAMA, Atsushi; AKITA, Hidetaka; KOGURE, Kentaro; HARASHIMA, Hideyoshi.
Journal of Controlled Release (**2008**), 131(2), 137-144 |

Preparation of hydrolyzable polyrotaxane containing ester linkages and its degradation behavior.
By: KATOONO, Ryo; FUKUDA, Shin-ichiroh; SHIN, Hojoon; YUI, Nobuhiko.
Chemistry Letters (**2008**), 37(9), 988-989 |

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By: UTSUNOMIYA, Hideto; KATOONO, Ryo; YUI, Nobuhiko; SUGIURA, Tomoko; KUBO, Yoshiyuki; KATO, Yukio; TSUJI, Akira.
Macromolecular Bioscience (**2008**), 8(7), 665-669 |

Bundling Two Polymeric Chains with γ-Cyclodextrin Cavity Contributing to Supramolecular Network Formation.
By: KAWABATA, Ryouji; KATOONO, Ryo; YAMAGUCHI, Masayuki; YUI, Nobuhiko.
Macromolecules (**2007**), 40(4), 1011-1017 |

Change in conformation upon complexation of double-armed terephthalamide hosts: dynamic molecular recognition of ditopic guests with strong CD signaling.
By: KATOONO, Ryo; KAWAI, Hidetoshi; FUJIWARA, Kenshu; SUZUKI, Takanori.
Tetrahedron Letters (**2006**), 47(10), 1513-1518 |

Stereospecific change in conformation upon complexation of an exoditopic tetraamide host with a bis(ammonium) guest: chiral recognition and strong CD signaling.
By: KATOONO, Ryo; KAWAI, Hidetoshi; FUJIWARA, Kenshu; SUZUKI, Takanori.
Chemical Communications (**2005**), (41), 5154-5156 |

Multipoint recognition of catecholamines by hydrindacene-based receptors accompanied by the complexation-induced conformational switching.
By: KAWAI, Hidetoshi; KATOONO, Ryo; TSUJI, Takashi.
Chemistry - A European Journal (**2005**), 11(3), 815-824 |

[10]Paracyclophanediamides and their octadehydro derivatives: novel exotopic receptors with hydrogen-bonding sites on the bridge.
By: KATOONO, Ryo; KAWAI, Hidetoshi; FUJIWARA, Kenshu; SUZUKI, Takanori.
Tetrahedron Letters (**2004**), 45(46), 8455-8459 |

Appendix

I contributed little to the following publications (2012–2019) to satisfy the requisites for authorship. However, my name was automatically and mandatorily listed as an author against my will.

Molecular Wires with Controllable π-Delocalization Incorporating Redox-Triggered π-Conjugated Switching Units.
By: Nojo, Wataru; Tamaoki, Hitomi; Ishigaki, Yusuke; Katoono, Ryo; Fujiwara, Kenshu; Fukushima, Takanori; Suzuki, Takanori
ChemPlusChem (**2019**), 84(6), 634-642 |

Transmission of Point Chirality to Axial Chirality for Strong Circular Dichroism in Triarylmethylium- o,o -dimers.
By: Ishigaki, Yusuke ; Iwai, Tomohiro; Hayashi, Yuki; Nagaki, Aiichiro; Katoono, Ryo; Fujiwara, Kenshu; Yoshida, Jun-ichi; Suzuki, Takanori
Synlett (**2018**), 29(16), 2147-2154 |

Double bond formation based on nitro-aldol reaction and radical elimination: A prototype segment connection method for the total synthesis of nigricanoside A dimethyl ester.
By: Tsunoda, Takayuki; Fujiwara, Kenshu; Okamoto, Satoshi; Kondo, Yoshihiko; Akiba, Uichi; Ishigaki, Yusuke ; Katoono, Ryo; Suzuki, Takanori
Tetrahedron Letters (**2018**), 59(19), 1846-1850 |

Narrower HOMO-LUMO gap attained by conformational switching through peripheral polyarylation in 1,4,5,8-tetraaza-9,10-anthraquinodimethanes.
By: Suzuki, Takanori; Ishigaki, Yusuke; Sugawara, Kazuma; Umezawa, Yu; Katoono, Ryo; Shimoyama, Atsushi; Manabe, Yoshiyuki; Fukase, Koichi; Fukushima, Takanori
Tetrahedron (**2018**), 74(18), 2239-2244 |

Longest C-C Single Bond among Neutral Hydrocarbons with a Bond Length beyond 1.8 Å.
By: Ishigaki, Yusuke; Shimajiri, Takuya; Takeda, Takashi; Katoono, Ryo; Suzuki, Takanori
Chem (**2018**), 4(4), 795-806 |

An improved synthesis of the C42-C52 segment of ciguatoxin 3C.
By: Saito, Takafumi; Fujiwara, Kenshu; Sano, Yusuke; Sato, Takuto; Kondo, Yoshihiko; Akiba, Uichi; Ishigaki, Yusuke; Katoono, Ryo; Suzuki, Takanori
Tetrahedron Letters (**2018**), 59(14), 1372-1376 |

Expandability of a long C-O bond by a scissor effect in acenaphthofuran.
By: Uchimura, Yasuto; Shimajiri, Takuya; Ishigaki, Yusuke; Katoono, Ryo; Suzuki, Takanori
Chemical Communications (**2018**), 54(73), 10300-10303 |

Synthesis of the ABCDEF-ring of ciguatoxin 3C.
By: Sato, Takuto; Fujiwara, Kenshu; Nogoshi, Keisuke; Goto, Akiyoshi; Domon, Daisuke; Kawamura, Natsumi; Nomura, Yoshitaka; Sato, Daisuke; Tanaka, Hideki; Murai, Akio; Kondo, Yoshihiko; Akiba, Uichi; Katoono, Ryo; Kawai, Hidetoshi; Takanori Suzuki
Tetrahedron (**2017**), 73(6), 703-726 |

Bis(diarylethenyl)-thiophenes, -bithiophenes, and -terthiophenes: a new series of electrochromic systems that exhibit a fluorescence response.
By: Ishigaki, Yusuke; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Higuchi, Hiroki; Kikuchi, Hirotsugu; Suzuki, Takanori
Canadian Journal of Chemistry (**2017**), 95(3), 243-252 |

Organic Molecular Layer with High Electrochemical Bistability: Synthesis, Structure, and Properties of a Dynamic Redox System with Lipoate Units for Binding to Au(111).
By: Ohta, Eisuke; Uehara, Hiromitsu; Han, Ying; Wada, Kazuhisa; Noguchi, Hidenori; Katoono, Ryo; Ishigaki, Yusuke; Ikeda, Hiroshi; Uosaki, Kohei; Suzuki, Takanori
ChemPlusChem (**2017**), 82(7), 1043-1047 |

Oxidative desulfurization of electron-donating 5,5,7,7-tetraaryl-5,7-dihydrodibenzo[c,e]thiepins and the related heterocycles: generation of dicationic dyes upon two-electron oxidation.
By: Suzuki, Takanori; Kuroda, Takuma; Tamaoki, Hitomi; Higasa, Sho; Nehira, Tatsuo; Katoono, Ryo; Ishigaki, Yusuke; Fujiwara, Kenshu; Fukushima, Takanori; Yamada, Hidetoshi
Heterocycles (**2017**), 95(2), 816-829 |

Stereoselective encapsulation for a triarylmethylium o,o-dimer by natural γ-cyclodextrin: origin of chiral recognition for the axially chiral dicationic guest.
By: Suzuki, Takanori; Ceron-Carrasco, Jose P.; Tamaoki, Hitomi; Ishigaki, Yusuke; Katoono, Ryo; Fukushima, Takanori; Perez-Sanchez, Horacio
Heterocycles (**2017**), 94(6), 1123-1132 |

9,10-Dihydrophenanthrene with two spiro(dibenzocycloheptatriene) units: a highly strained caged hydrocarbon exhibiting reversible electrochromic behavior.
By: Ishigaki, Yusuke ; Hayashi, Yuki; Sugawara, Kazuma; Shimajiri, Takuya; Nojo, Wataru; Katoono, Ryo; Suzuki, Takanori
Molecules (**2017**), 22(11), 1900/1-1900/14 |

Assembly of an Axially Chiral Dynamic Redox System with a Perfluorobiphenyl Skeleton into Dumbbell- or Tripod-type Electron Donors.
By: Tamaoki, Hitomi; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Angewandte Chemie, International Edition (**2016**), 55(7), 2582-2586 |

Redox-induced conformational changes in 1,3-propylene- and m-xylylenebis[5-(10-butyl-5,10-dihydrobenzo[a]indolo[2,3-c]carbazole)]: twin-bic donors that form sandwich-like dimeric cations exhibiting NIR absorption.
By: Suzuki, Takanori; Nojo, Wataru; Sakano, Yuto; Katoono, Ryo; Ishigaki, Yusuke; Ohno, Hiroaki; Fujiwara, Kenshu
Chemistry Letters (**2016**), 45(7), 720-722 |

Bis(10-methylacridinium)s as a Versatile Platform for Redox-Active Functionalized Dyes and Novel Structures.
By: Suzuki, Takanori; Takeda, Takashi; Ohta, Eisuke; Wada, Kazuhisa; Katoono, Ryo; Kawai, Hidetoshi; Fujiwara, Kenshu
Chemical Record (**2015**), 15(1), 280-294 |

New Insights into the Hexaphenylethane Riddle: Formation of an α,o-Dimer.
By: Uchimura, Yasuto; Takeda, Takashi; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Angewandte Chemie, International Edition (**2015**), 54(13), 4010-4013 |

Reversible interconversion between 11,11,12,12-tetraaryl-1,4-diaza/-1,4,5,8- tetraazaanthraquinodimethanes and their cationic species: electrochromic and halochromic responses.
By: Suzuki, Takanori; Umezawa, Yu; Sakano, Yuto; Tamaoki, Hitomi; Katoono, Ryo; Fujiwara, Kenshu
Chemistry Letters (**2015**), 44(7), 905-907 |

Two-way chromic interconversion of the 2,2'-biphenol-6,6'-diyl dication with 5H,10H-dioxapyrene or 9H,10H-4,5-dihydroxyphenanthrene.
By: Sakano, Yuto; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Chemical Communications (**2015**), 51(76), 14303-14305 |

Synthesis of Ganbajunins D and E and the Proposed Structure of Thelephantin D.
By: Fujiwara, Kenshu; Kushibe, Keisuke; Sato, Takuto; Norikura, Toshio; Matsue, Hajime; Iwai, Kunihisa; Katoono, Ryo; Suzuki, Takanori
European Journal of Organic Chemistry (**2015**), 2015(26), 5798-5809 |

Stereoselective synthesis of the A-ring of armatol A from a bromo-substituted chiral building block based on Ireland-Claisen rearrangement and ring-closing olefin metathesis.
By: Hirose, Yuta; Fujiwara, Kenshu; Saito, Takafumi; Katoono, Ryo; Suzuki, Takanori
Heterocycles (**2015**), 91(1), 76-103 |

Bis(diarylethenyl)thiophene, -bithiophene, and -terthiophene: a new series of violene-cyanine hybrid-type electron donors.
By: Ishigaki, Yusuke; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Heterocycles (**2015**), 90(1), 136-143 |

Three-way output molecular response system based on tetrakis(3,4-dialkoxyphenyl)-3,4-dihydro[5]helicenes: Perturbation of properties by long alkyl chains.
By: Ishigaki, Yusuke; Yoshida, Satoshige; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Fukushima, Takanori; Suzuki, Takanori
Heterocycles (**2015**), 90(1), 126-135 |

Redox mediated reversible σ bond formation/cleavage.
By: Suzuki, Takanori; Tamaoki, Hitomi; Nishida, Jun-ichi; Higuchi, Hiroki; Iwai, Tomohiro; Ishigaki, Yusuke; Hanada, Keisuke; Katoono, Ryo; Kawai, Hidetoshi; Fujiwara, Kenshu; Fukushima, Takanori, Edited by Nishinaga, Tohru
Organic Redox Systems (**2015**), 13-37 |

Electrochiroptical response in aqueous media: 9,10-dihydrophenanthrene-9,10-diyl dications with Michlar's hydrol blue chromophores attached with oligoethylene glycol units.
By: Suzuki, Takanori; Hanada, Keisuke; Katoono, Ryo; Ishigaki, Yusuke; Higasa, Sho; Higuchi, Hiroki; Kikuchi, Hirotsugu; Fujiwara, Kenshu; Yamada, Hidetoshi; Fukushima, Takanori
Chemistry Letters (**2014**), 43(7), 982-984 |

Preparation, redox properties, and X-ray structures of electrochromic 11,11,12,12-tetraarylanthraquinodimethane and its bianthraquinodimethane analogue: drastic geometrical changes upon interconversion with dicationic dyes.
By: Sakano, Yuto; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Chemistry Letters (**2014**), 43(7), 1143-1145 |

Oxidative protonolysis of the expanded central C-C bond in a di(spiroacridan)-type hexaphenylethane derivative accompanied by UV-vis, FL, and CD spectral changes.
By: Suzuki, Takanori; Kuroda, Yusuke; Wada, Kazuhisa; Sakano, Yuto; Katoono, Ryo; Fujiwara, Kenshu; Kakiuchi, Fumitoshi; Fukushima, Takanori
Chemistry Letters (**2014**), 43(6), 887-889 |

Expandability of ultralong C-C bonds: largely different C1-C2 bond lengths determined by low-temperature X-ray structural analyses on pseudopolymorphs of 1,1-bis(4-fluorophenyl)-2,2-bis(4-methoxyphenyl)pyracene.
By: Suzuki, Takanori; Uchimura, Yasuto; Nagasawa, Fumika; Takeda, Takashi; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Murakoshi, Kei; Fukushima, Takanori; Nagaki, Aiichiro; Yoshida, Jun-ichi
Chemistry Letters (**2014**), 43(1), 86-88 |

Total Synthesis of Pectenotoxin-2.
By: Fujiwara, Kenshu; Suzuki, Yuki; Koseki, Nao; Aki, Yu-ichi; Kikuchi, Yuta; Murata, Shun-ichi; Yamamoto, Fuyuki; Kawamura, Mariko; Norikura, Toshio; Matsue, Hajime; Murai, Akio; Katoono, Ryo; Kawai, Hidetoshi; Suzuki, Takanori
Angewandte Chemie, International Edition (**2014**), 53(3), 780-784 |

Chiral memory units based on dynamic redox systems with a dibenzoxepinone skeleton: drastic change in racemization barrier and electrochemical bistability.
By: Wada, Kazuhisa; Chiba, Yuna; Takeda, Takashi; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Heterocycles (**2014**), 88(2), 945-952 |

Preparation and structure of acenaphthylene-1,2-diyldi(9-acridine) derivatives with a long C=C bond.
By: Takeda, Takashi; Uchimura, Yasuto; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Chemical Communications (**2014**), 50(30), 3924-3927 |

Electrochromic and unique chiroptical properties of helically deformed tetraarylquinodimethanes generated from less-hindered dicationic precursors upon reduction.
By: Suzuki, Takanori; Sakano, Yuto; Iwai, Tomohiro; Iwashita, Shinichi; Miura, Youhei; Katoono, Ryo; Kawai, Hidetoshi; Fujiwara, Kenshu; Tsuji, Yasushi; Fukushima, Takanori
Pure and Applied Chemistry (**2014**), 86(4), 507-516 |

Wurster's Blue-type Cation Radicals Framed in a 5,10-Dihydrobenzo[a]indolo[2,3-c]carbazole (BIC) Skeleton: Dual Electrochromism with Drastic Changes in UV/Vis/NIR and Fluorescence.
By: Suzuki, Takanori; Sakano, Yuto; Tokimizu, Yusuke; Miura, Youhei; Katoono, Ryo; Fujiwara, Kenshu; Yoshioka, Naoki; Fujii, Nobutaka; Ohno, Hiroaki
Chemistry - An Asian Journal (**2014**), 9(7), 1841-1846 |

Geometrical remote steric effects in 4,5-disubstituted-9,10-dihydrophenanthrenes: expansion of prestrained C9-C10 bond in di(spiroacridan) derivatives.
By: Wada, Kazuhisa; Takeda, Takashi; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Chemistry Letters (**2013**), 42(10), 1194-1196 |

Time-integrated one-pot synthesis, X-ray structure, and redox properties of electrochromic 1,3-diarylisobenzofurans.
By: Hamura, Toshiyuki; Nakayama, Ryosuke; Hanada, Keisuke; Sakano, Yuto; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Chemistry Letters (**2013**), 42(10), 1244-1246 |

Hexaphenylethanes with an ultralong C-C bond: expandability of the C-C bond in highly strained tetraarylpyracenes.
By: Takeda, Takashi; Uchimura, Yasuto; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Suzuki, Takanori
Chemistry Letters (**2013**), 42(9), 954-962 |

5,10-dihydrobenzo[a]indolo[2,3-c]carbazole: a highly fluorescent disk-shaped electron donor exhibiting dual UV-vis-NIR and fluorescence spectral changes upon electrolysis.
By: Suzuki, Takanori; Tokimizu, Yusuke; Sakano, Yuto; Katoono, Ryo; Fujiwara, Kenshu; Naoe, Saori; Fujii, Nobutaka; Ohno, Hiroaki
Chemistry Letters (**2013**), 42(9), 1001-1003 |

Preparation, properties, and X-ray structures of bis(10-methyl-9-methyleneacridan)-type electron donors with a thiophene, bithiophene, or terthiophene skeleton: redox switching of thiophene-thienoquinoid structure accompanied by UV-vis-NIR electrochromic response.
By: Suzuki, Takanori; Hoshiyama, Yuuki; Wada, Kazuhisa; Ishigaki, Yusuke; Miura, Youhei; Kawai, Hidetoshi; Katoono, Ryo; Fujiwara, Kenshu; Fukushima, Takanori
Chemistry Letters (**2013**), 42(9), 1004-1006 |

A stereoselective method for the construction of the C8'-O-C6" ether of nigricanoside-A: synthesis of simple models for the C20 lipid chain/galactosyl glycerol segment.
By: Kinashi, Naoto; Fujiwara, Kenshu; Tsunoda, Takayuki; Katoono, Ryo; Kawai, Hidetoshi; Suzuki, Takanori
Tetrahedron Letters (**2013**), 54(34), 4564-4567 |

A new variant of fused cyclic ether synthesis based on Ireland-Claisen rearrangement and RCM.
By: Domon, Daisuke; Fujiwara, Kenshu; Kawamura, Natsumi; Katoono, Ryo; Kawai, Hidetoshi; Suzuki, Takanori
Natural Product Communications (**2013**), 8(7), 929-934 |

Redox switching of conjugation length using 9,9,10,10-tetraaryl-9,10-dihydrophenanthrene as an ON/OFF unit: preparation, X-ray structure, and redox properties of perfluorobiphenyl derivative and its SNAr reactions to π-extended analogues.
By: Suzuki, Takanori; Tamaoki, Hitomi; Katoono, Ryo; Fujiwara, Kenshu; Ichikawa, Junji; Fukushima, Takanori
Chemistry Letters (**2013**), 42(7), 703-705 |

Oxidative conversion of tetraaryldihydrodibenzothiepins into elemental sulfur and stable cationic dyes accompanied by dual UV-vis and CD spectral changes.
By: Suzuki, Takanori; Kuroda, Takuma; Tamaoki, Hitomi; Higasa, Sho; Katoono, Ryo; Fujiwara, Kenshu; Fukushima, Takanori; Yamada, Hidetoshi
Chemistry Letters (**2013**), 42(7), 706-708 |

An Ireland-Claisen rearrangement/RCM based approach for the construction of the EF-ring of ciguatoxin 3C.
By: Nogoshi, Keisuke; Domon, Daisuke; Fujiwara, Kenshu; Kawamura, Natsumi; Katoono, Ryo; Kawai, Hidetoshi; Suzuki, Takanori
Tetrahedron Letters (**2013**), 54(7), 676-680 |

7,7,8,8-Tetraaryl-o-quinodimethane Stabilized by Dibenzo Annulation: A Helical π-Electron System That Exhibits Electrochromic and Unique Chiroptical Properties.
By: Suzuki, Takanori; Sakano, Yuto; Iwai, Tomohiro; Iwashita, Shinichi; Miura, Youhei; Katoono, Ryo; Kawai, Hidetoshi; Fujiwara, Kenshu; Tsuji, Yasushi; Fukushima, Takanori
Chemistry - A European Journal (**2013**), 19(1), 117-123 |

Stable neutral radicals based on the polyazaacene skeleton that exhibit high electrochemical amphotericity.
By: Miura, Youhei; Chiba, Hiroshi; Katoono, Ryo; Kawai, Hidetoshi; Fujiwara, Kenshu; Suzuki, Shuichi; Okada, Keiji; Suzuki, Takanori
Tetrahedron Letters (**2012**), 53(48), 6561-6564 |

Total Synthesis of Thelephantin O, Vialinin A/Terrestrin A, and Terrestrins B-D.
By: Fujiwara, Kenshu; Sato, Takuto; Sano, Yusuke; Norikura, Toshio; Katoono, Ryo; Suzuki, Takanori; Matsue, Hajime
Journal of Organic Chemistry (**2012**), 77(11), 5161-5166 |

Nonadditive substituent effects on expanding prestrained C-C bond in crystal: X-ray analyses on unsymmetrically substituted tetraarylpyracenes prepared by a flow microreactor method.
By: Suzuki, Takanori; Uchimura, Yasuto; Ishigaki, Yusuke; Takeda, Takashi; Katoono, Ryo; Kawai, Hidetoshi; Fujiwara, Kenshu; Nagaki, Aiichiro; Yoshida, Jun-ichi
Chemistry Letters (**2012**), 41(5), 541-543 |

Induced preference for axial chirality in a triarylmethylium o,o-dimer upon complexation with natural γ-cyclodextrin: strong ECD signaling and fixation of supramolecular chirality to molecular chirality.
By: Suzuki, Takanori; Tamaoki, Hitomi; Wada, Kazuhisa; Katoono, Ryo; Nehira, Tatsuo; Kawai, Hidetoshi; Fujiwara, Kenshu
Chemical Communications (**2012**), 48(22), 2812-2814 |

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