

Original Articles

70. “Defluorinative Transformation of (2,2,2-Trifluoroethyl)arenes Catalyzed by the Phosphazene Base *t*-Bu-P2”
Masanori Shigeno,* Yoshiteru Shishido, Amane Soga, Kanako Nozawa-Kumada, and Yoshinori Kondo*
J. Org. Chem. **2023**, 88, 1796–1802.
69. “Transition-Metal-Free Intermolecular Hydrocarbonation of Styrenes Mediated by NaH/1,10-Phenanthroline”
Kanako Nozawa-Kumada*, So Onuma, Kanako Ono, Tomohiro Kumagai, Yuki Iwakawa, Katsuhiko Sato,
Masanori Shigeno, and Yoshinori Kondo*
Chem. Eur. J. **2023**, e202203143.
68. “LiHMDS-Mediated Deprotonative Coupling of Toluenes with Ketones”
Masanori Shigeno*, Akihisa Kajima, Eito Toyama, Toshinobu Korenaga, Hiroyuki Yamakoshi, Kanako
Nozawa-Kumada, and Yoshinori Kondo*
Chem. Eur. J. **2023**, 29, e2022035.
67. “1,5-Double-carboxylation of 2-alkylheteroarenes mediated by a combined Brønsted-base system”
Masanori Shigeno*, Itsuki Tohara, Kanako Nozawa-Kumada, and Yoshinori Kondo*
Synlett **2022**, 33, A–E.
66. “Palladium-Catalyzed Borylative Cyclizations of α -(2-Bromoaryl) Ketones to Form 1,2-Benzoxaborinines”
Masanori Shigeno*, Yuto Iseya, Ryotaro Kume, Kanako Nozawa-Kumada, and Yoshinori Kondo*
Org. Lett. **2022**, 24, 7227–7231.
65. “Combined Brønsted Base-Promoted CO₂ Fixation into Benzylic C–H Bonds of Alkylarenes”
Masanori Shigeno*, Itsuki Tohara, Keita Sasaki, Kanako Nozawa-Kumada, and Yoshinori Kondo*
Org. Lett. **2022**, 24, 4825–4830.
64. “Organic superbase *t*-Bu-P4-catalyzed demethylations of methoxyarenes”
Masanori Shigeno*, Kazutoshi Hayashi, Toshinobu Korenaga*, Kanako Nozawa-Kumada, and Yoshinori
Kondo*
Org. Chem. Front. **2022**, 9, 3656–3663.
Selected as a cover picture
63. “Copper-catalyzed aerobic benzylic C(sp³)–H lactonization of 2-alkylbenzamides *via* N-centered radicals”
Kanako Nozawa-Kumada,* Kanako Ono, Satoshi Kurosu, Masanori Shigeno, Yoshinori Kondo*
Org. Biomol. Chem. **2022**, 20, 5948–5952.
Invited contribution to a New Talent web themed issue
62. “Organic superbase *t*-Bu-P4-catalyzed demethylations of methoxyarenes”
Masanori Shigeno,* Kazutoshi Hayashi, Toshinobu Korenaga, Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Chem. Front. **2022**, 9, 3656–3663.
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61. “Direct C–H Carboxylation Forming Polyfunctionalized Aromatic Carboxylic Acids by Combined Brønsted
Bases”
Masanori Shigeno,* Kazuya Hanasaka, Itsuki Tohara, Koki Izumi, Hiroyuki Yamakoshi, Eunsang Kwon,
Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Lett. **2022**, 24, 809–814.
60. “Construction of 1,2,3-Benzodiazaborole by Electrophilic Borylation of Azobenzene and Nucleophilic
Dialkylative Cyclization”
Masanori Shigeno,* Masaya Imamatsu, Yusuke Kai, Moe Kiriya, Shintaro Ishida, Kanako
Nozawa-Kumada, Yoshinori Kondo
Org. Lett. **2021**, 23, 8023–8027.
59. “Regio- and Stereoselective Hydroiodination of Internal Alkynes with *ex Situ* Generated HI”
Kanako Nozawa-Kumada,* Koto Noguchi, Tomoya Akada, Masanori Shigeno, Yoshinori Kondo*
Org. Lett. **2021**, 23, 6659–6663.
Selected as a cover picture
58. “KO-*t*-Bu Catalyzed Thiolation of β -(Hetero)arylethyl Ethers *via* MeOH Elimination/hydrothiolation”

- Masanori Shigeno,* Yoshiteru Shishido, Kazutoshi Hayashi, Kanako Nozawa-Kumada, Yoshinori Kondo*
Eur. J. Org. Chem. **2021**, 3932–3935.
57. “Copper-catalyzed aerobic double functionalization of benzylic C(sp³)-H bonds for the synthesis of 3-hydroxyisoindolinones”
Kanakano Nozawa-Kumada,* Yuta Matsuzawa, Kanako Ono, Masanori Shigeno, Yoshinori Kondo*
Chem. Commun. **2021**, 57, 8604–8607.
56. “Catalytic amide base system generated *in situ* for 1,3-diene formation from allylbenzenes and carbonyls”
Masanori Shigeno,* Akihisa Kajima, Kunihito Nakaji, Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Biomol. Chem. **2021**, 19, 983–987.
Selected as a cover picture
55. “Di-*tert*-butyl Peroxide (DTBP)-Mediated Oxsilylation of Unsaturated Carboxylic Acids for the Synthesis of Silyl Lactones”
Kanakano Nozawa-Kumada,* Takuto Ojima, Moeto Inagi, Masanori Shigeno, Yoshinori Kondo*
Org. Lett. **2020**, 22, 9591–9596.
54. “Catalytic C(sp²)-C(sp³) Bond Formation of Methoxyarenes by the Organic Superbase *t*-Bu-P4”
Masanori Shigeno,* Kazutoshi Hayashi, Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Lett. **2020**, 22, 9107–9113.
53. “NaH-Mediated Direct C-H Arylation in the Presence of 1,10-Phenanthroline”
Kanakano Nozawa-Kumada,* Yuki Iwakawa, So Onuma, Masanori Shigeno, Yoshinori Kondo*
Chem. Commun. **2020**, 56, 7773–7776.
52. “Direct C-2 carboxylation of 3-substituted-indoles using a combined Brønsted base consisting of LiO-*t*-Bu/CsF/18-crown-6”
Masanori Shigeno,* Itsuki Tohara, Kanako Nozawa-Kumada, Yoshinori Kondo*
Eur. J. Org. Chem. **2020**, 1987–1991.
51. “Transition-Metal-Free Trifluoromethylation of Benzyl Bromides Using Trifluoromethyltrimethylsilane and CsF in 1,2-Dimethoxyethane”
Kanakano Nozawa-Kumada,* Sayuri Osawa, Takuto Ojima, Koto Noguchi, Masanori Shigeno, Yoshinori Kondo*
Asian. J. Org. Chem. **2020**, 9, 765–768.
Invited contribution to a special issue: 100th Annual Meeting of the Chemical Society of Japan
50. “Copper-Catalyzed Oxidative Benzylic C(sp³)-H Cyclization for the Synthesis of β -Lactams”
Kanakano Nozawa-Kumada,* Satoshi Saga, Yuta Matsuzawa, Masahito Hayashi, Masanori Shigeno, Yoshinori Kondo*
Chem. Eur. J. **2020**, 26, 4496–4499.
49. “Super Electron Donor-mediated Reductive Desulfurization Reactions”
Kanakano Nozawa-Kumada,* Shungo Ito, Koto Noguchi, Masanori Shigeno, Yoshinori Kondo*
Chem. Commun. **2019**, 55, 12968–12971.
48. “Deprotonative Coupling of Pyridines with Aldehydes Catalyzed by an HMDS-amide Base Generated *in Situ*”
Masanori Shigeno,* Kunihito Nakaji, Akihisa Kajima, Kanako Nozawa-Kumada, Yoshinori Kondo*
Chem. Pharm. Bull. **2019**, 67, 1179–1182.
47. “Tetramethylammonium Fluoride Tetrahydrate-Mediated Transition Metal-Free Coupling of Aryl Iodides with Unactivated Arenes in Air”
Kanakano Nozawa-Kumada,* Kosuke Nakamura, Satoshi Kurosu, Yuki Iwakawa, Charline Denneval, Masanori Shigeno, Yoshinori Kondo*
Chem. Pharm. Bull. **2019**, 67, 1042–1045.
46. “Catalytic Amination of β -(Hetero)arylethyl Ethers by Phosphazene Base *t*-Bu-P4”
Masanori Shigeno,* Ryutaro Nakamura, Kazutoshi Hayashi, Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Lett. **2019**, 21, 6695–6699.
45. “Organic Superbase *t*-Bu-P4 Catalyzes Amination of Methoxy(hetero)arenes”
Masanori Shigeno,* Kazutoshi Hayashi, Kanako Nozawa-Kumada, Yoshinori Kondo*

- Org. Lett.* **2019**, *21*, 5505–5508.
44. “Catalytic Alkynylation of Polyfluoroarenes by Amide Base Generated In Situ”
Masanori Shigeno,* Takuya Okawa, Masaya Imamatsu, Kanako Nozawa-Kumada, Yoshinori Kondo*
Chem. Eur. J. **2019**, *25*, 10294–10297.
Selected as a Hot Paper
43. “Double-Carboxylation of Two C–H Bonds in 2-Alkylheteroarenes Using LiO-*t*-Bu/CsF”
Masanori Shigeno,* Keita Sasaki, Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Lett. **2019**, *21*, 4515–4519.
42. “Peroxydisulfate-Mediated Transition-Metal-Free Oxidative C(sp³)–H Bond Lactonization”
Kanako Nozawa-Kumada,* Satoshi Kurosu, Masanori Shigeno, Yoshinori Kondo*
Asian J. Org. Chem. **2019**, *8*, 1080–1083.
Invited contribution to a special issue: Heterocyclic Chemistry
Selected as a cover picture
41. “Catalytic Amide–Base System of TMAF and N(TMS)₃ for Deprotonative Coupling of Benzylic C(sp³)–H Bonds with Carbonyls”
Masanori Shigeno,* Kunihito Nakaji, Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Lett. **2019**, *21*, 2588–2592.
40. “Phosphazene Base *t*-Bu-P₄-Catalyzed Methoxy–Alkoxy Exchange Reaction on (Hetero)arenes”
Masanori Shigeno,* Kazutoshi Hayashi, Kanako Nozawa-Kumada, Yoshinori Kondo*
Chem. Eur. J. **2019**, *25*, 6077–6081.
Selected as a cover picture
Selected as a Hot Topic: Organocatalysis
39. “Direct Carboxylation of Electron-Rich Heteroarenes Promoted by LiO-*t*Bu with CsF and [18]Crown-6”
Masanori Shigeno,* Kazuya Hanasaka, Keita Sasaki, Kanako Nozawa-Kumada, Yoshinori Kondo*
Chem. Eur. J. **2019**, *25*, 3235–3239.
Selected as a Hot Paper
38. “Ferroelectric Alkylamide-Substituted Helicene Derivative with Two-Dimensional Hydrogen-Bonding Lamellar Phase”
Hayato Anetai, Takashi Takeda, Norihisa Hoshino, Higashi Kobayashi, Nozomi Saito, Masanori Shigeno, Masahiko Yamaguchi, Tomoyuki Akutagawa*
J. Am. Chem. Soc. **2019**, *141*, 2391–2397.
37. “Catalytic Deprotonative α -Formylation of Heteroarenes by an Amide Base Generated in Situ from TMAF and N(TMS)₃”
Masanori Shigeno,* Yuki Fujii, Akihisa Kajima, Kanako Nozawa-Kumada, Yoshinori Kondo*
Org. Process Res. Dev. **2019**, *23*, 443–451.
36. “Construction of Biaryl Scaffolds from Iodoarenes and C-H Heteroarenes Using an Amide Base Generated in Situ from Aminosilane and Fluoride Anion”
Masanori Shigeno,* Yusuke Kai, Tetsuya Yamada, Kazutoshi Hayashi, Kanako Nozawa-Kumada, Charline Denneval, Yoshinori Kondo*
Asian J. Org. Chem. **2018**, *7*, 2082–2086.
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35. “Super Electron Donor-mediated Reductive Transformation of Nitrobenzenes: A Novel Strategy to Synthesize Azobenzenes and Phenazines”
Kanako Nozawa-Kumada, Erina Abe, Shungo Ito, Masanori Shigeno, Yoshinori Kondo*
Org. Biomol. Chem. **2018**, *16*, 3095–3098.
34. “NaOPh Mediated Hydroxymethylation of Alkynylsilanes with *N*-((Trimethylsilyloxy)methyl)phthalimide”
Narumi Asano, Keita Sasaki, Isabelle Chataigner, Masanori Shigeno,* Yoshinori Kondo*
Eur. J. Org. Chem. **2017**, 6926–6930.
33. “Deprotonative Silylation of Aromatic C–H Bonds Mediated by a Combination of

Trifluoromethyltrialkylsilane and Fluoride”

Kanako Nozawa-Kumada, Sayuri Osawa, Midori Sasaki, Isabelle Chataigner, Masanori Shigeno, Yoshinori Kondo*

J. Org. Chem. **2017**, *82*, 9487–9496.

32. “Pendant-Type Helicene Oligomers with *p*-Phenylene Ethynylene Main Chains: Synthesis, Reversible Formation of Ladderlike Bimolecular Aggregates, and Control of Intramolecular and Intermolecular Aggregation”
Nozomi Saito, Yutaro Kondo, Tsukasa Sawato, Masanori Shigeno, Ryo Amemiya, Masahiko Yamaguchi*
J. Org. Chem. **2017**, *82*, 8389–8406.
31. “Synthesis of 1,128-Octacosahectanediol and Its Sharp Thermoresponse in Solution with Concomitant Structural Change”
Nozomi Saito, Yasuhiro Shinozaki, Masanori Shigeno, Kumiko Mushiake, Masahiko Yamaguchi*
ChemistrySelect **2017**, *2*, 8459–8464.
30. “Mechanical Stirring Induces Heteroaggregate Formation and Self-assembly of Pseudoenantiomeric Oxymethylene Helicene Oligomers in Solution”
Tsukasa Sawato, Nozomi Saito, Masanori Shigeno, Masahiko Yamaguchi*
ChemistrySelect **2017**, *2*, 2205–2211.
29. “Multiple Competing Pathways for Chemical Reaction: Drastic Shortcut of Reaction for Self-Catalytic Double-Helix Formation of Helicene Oligomers”
Yo Kushida, Nozomi Saito, Masanori Shigeno, Masahiko Yamaguchi*
Chem. Sci. **2017**, *8*, 1414–1421.
28. “Deterministic and Stochastic Chiral Symmetry Breaking Exhibited by Racemic Aminomethylenehelicene Oligomers”
Yo Kushida, Tsukasa Sawato, Masanori Shigeno, Nozomi Saito, Masahiko Yamaguchi*
Chem. Eur. J. **2017**, *23*, 327–333.
27. “Spatially Heterogeneous Nature of Self-Catalytic Reaction in Hetero-Double Helix Formation of Helicene Oligomers”
Yo Kushida, Tsukasa Sawato, Nozomi Saito, Masanori Shigeno, Hiroshi Satozono, Masahiko Yamaguchi*
ChemPhysChem, **2016**, *17*, 3283–3288.
26. “Molecular Switching Involving Metastable States: Molecular Thermal Hysteresis and Sensing of Environmental Changes by Chiral Helicene Oligomeric Foldamers”
Masanori Shigeno, Yo Kushida, Masahiko Yamaguchi*
Chem. Commun. **2016**, *52*, 4955–4970.
25. “Equilibrium and Nonequilibrium Chemical Reactions of Helicene Oligomers in the Noncovalent Bond Formation”
Masahiko Yamaguchi,* Mieko Arisawa, Masanori Shigeno, Nozomi Saito
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24. “Fibril Film Formation of Pseudoenantiomeric Oxymethylenehelicene Oligomers at Liquid-Solid Interface: Structural Change, Aggregation, and Discontinuous Heterogeneous Nucleation”
Masanori Shigeno, Tsukasa Sawato, Masahiko Yamaguchi*
Chem. Eur. J. **2015**, *21*, 17676–17682.
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23. “Structure and Property Diversity of Chiral Helicene Oligomers”
Nozomi Saito, Masanori Shigeno, Masahiko Yamaguchi*
Encyclopedia of Polymer Science and Technology **2015**, DOI: 10.1002/0471440264.pst643.
22. “Concentration Threshold and Amplification Exhibited by a Helicene Oligomer during Helix-dimer Formation: A Proposal on How a Cell Senses Concentration Changes of a Chemical”
Yo Kushida, Masanori Shigeno, Masahiko Yamaguchi*
Chem. Eur. J. **2015**, *21*, 13788–13792.
21. “Self-catalysis in Thermal Hysteresis during Random-coil to Helix-dimer Transition of Sulfonamidohelicene Tetramer”

- Masanori Shigeno, Yo Kushida, Masahiko Yamaguchi*
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20. “Energy Aspects of Thermal Molecular Switching: Molecular Thermal Hysteresis of Helicene Oligomers”
Masanori Shigeno, Yo Kushida, Masahiko Yamaguchi*
ChemPhysChem **2015**, 16, 2076–2083.
19. “Molecular Function of Counting the Numbers 1 and 2 Exhibited by Sulfoneamidohelicene Tetramer”
Masanori Shigeno, Yo Kushida, Yuta Kobayashi, Masahiko Yamaguchi*
Chem. Eur. J. **2014**, 20, 12759–12762.
18. “Heating/Cooling Stimulus Induces Three-State Molecular Switching of Pseudoenantiomeric Aminomethylenehelicene Oligomers: Reversible Nonequilibrium Thermodynamic Processes”
Masanori Shigeno, Yo Kushida, Masahiko Yamaguchi*
J. Am. Chem. Soc. **2014**, 136, 7972–7980.
17. “Equilibrium Crossing Exhibited by Ethynylhelicene (*M*)-Nonamer during Random-Coil-to-Double-Helix Thermal Transition in Solution”
Masamichi Miyagawa, Atsushi Yagi, Masanori Shigeno, Masahiko Yamaguchi*
Chem. Commun. **2014**, 50, 14447–14450.
16. “Aminomethylenehelicene Oligomers Possessing Flexible Two-Atom Linker Form a Stimuli-Responsive Double-Helix in Solution”
Masanori Shigeno, Masahiko Sato, Yo Kushida, Masahiko Yamaguchi*
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15. “Reversible Switching of Charge Injection Barriers at Metal/Organic-Semiconductor Contacts Modified with Structurally Disordered Molecular Monolayers”
Ryo Nouchi,* Masanori Shigeno, Nao Yamada, Tomoaki Nishino, Katsumi Tanigaki, Masahiko Yamaguchi*
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14. “Synthesis, Double-Helix Formation, and Higher-Assembly Formation of Chiral Polycyclic Aromatic Compounds: Conceptual Development of Polyketide Aldol Synthesis”
Masahiko Yamaguchi,* Masanori Shigeno, Nozomi Saito, Koji Yamamoto
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13. “Molecular Thermal Hysteresis in Helix-Dimer Formation of Sulfonamidohelicene Oligomers in Solution”
Masanori Shigeno, Yo Kushida, Masahiko Yamaguchi*
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12. “Multiple States of Dimeric Aggregates Formed by (Amido-ethynyl)helicene Bidomain Compound and (Amido-ethynyl-amido)helicene Tridomain Compound”
Wataru Ichinose, Masanori Shigeno, Masahiko Yamaguchi*
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11. “Two-component Fibers/Gels and Vesicles Formed from Hetero-double-helices of Pseudoenantiomeric Ethynylhelicene Oligomers with Branched Side-chains”
Nozomi Saito, Masanori Shigeno, Masahiko Yamaguchi*
Chem. Eur. J. **2012**, 18, 8994–9004.
10. “Formation of Organic Gel/Liquid Two-Layer Systems Using Diffusion-Controlled Gelation with Helicene Derivative”
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9. “Side Chain Effect on the Double Helix Formation of Ethynylhelicene Oligomers”
Nozomi Saito, Ryo Terakawa, Masanori Shigeno, Ryo Amemiya, Masahiko Yamaguchi*
J. Org. Chem. **2011**, 76, 4841–4858.
8. “Synthesis and Duplex Formation of the Reverse Amidohelicene Tetramer”
Wataru Ichinose, Masamichi Miyagawa, Jun Ito, Masanori Shigeno, Ryo Amemiya, Masahiko Yamaguchi*
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7. “Gold-catalysed Alkenyl- and Arylsilylation Reactions Forming 1-Silaindenes”
Takanori Matsuda, Yoshiyuki Yamaguchi, Masanori Shigeno, Shinya Sato, Masahiro Murakami*

- Chem. Commun.* **2011**, 47, 8697–8699.
6. “Stereoselective Restructuring of 3-Arylcyclobutanols into 1-Indanols via Sequential Breaking and Formation of Carbon–Carbon Bonds”
Masanori Shigeno, Taiga Yamamoto, Masahiro Murakami*
Chem. Eur. J. **2009**, 15, 12929–12931.
 5. “Palladium-Catalyzed Sequential Carbon–Carbon Bond Cleavage/Formation Producing Arylated Benzolactones”
Takanori Matsuda, Masanori Shigeno, Masahiro Murakami*
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 4. “Asymmetric Synthesis of 3,4-Dihydrocoumarins by Rhodium-Catalyzed Reaction of 3-(2-Hydroxyphenyl)cyclobutanones”
Takanori Matsuda, Masanori Shigeno, Masahiro Murakami*
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 3. “Rhodium-Catalyzed Reactions of Cyclobutanones with Alcohols and Amines Forming Esters and Amides”
Takanori Matsuda, Masanori Shigeno, Yohei Maruyama, Masahiro Murakami*
Chem. Lett. **2007**, 36, 744–745.
 2. “Enantioselective C–C Bond Cleavage Creating Chiral Quaternary Carbon Centers”
Takanori Matsuda, Masanori Shigeno, Masaomi Makino, Masahiro Murakami*
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 1. “Activation of a Cyclobutanone Carbon–Carbon Bond over an Aldehyde Carbon–Hydrogen Bond in the Rhodium-Catalyzed Decarbonylation”
Takanori Matsuda, Masanori Shigeno, Masahiro Murakami*
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Reviews

5. “Combined Brønsted-Base-Mediated Direct C-H Carboxylation of Heteroarenes with CO₂”
Masanori Shigeno,* Keita Sasaki, Kazuya Hanasaka, Itsuki Tohara, Kanako Nozawa-Kumada, Yoshinori Kondo*
Heterocycles **2021**, 103, 592–608.
4. “スルホンアミドヘリセンオリゴマーによる可逆的な非平衡系-平衡系化学反応と非平衡系分子スイッチ機能”
重野 真徳, 串田 陽, 山口 雅彦*
有機合成化学協会誌 **2017**, 75, 228–239.
3. “Nonequilibrium Molecular Switching of Chiral Helicene Oligomers in Double-helix Formation”
Masanori Shigeno*
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2. “有機化合物による分子レベル自己触媒反応—結果が原因に影響を与える化学反応”
重野真徳, 山口雅彦*
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1. “合成ラセン分子の熱的ヒステリシス応答:分子レベルの記憶効果”
重野真徳, 山口雅彦*
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