

Award Accounts **Open Access**

Keywords: **entropy production rate** | **self-assembly** | **self-organization**

Structural selection rules in self-assembly and self-organization: role of entropy production rate

Hideki Nabika*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf048

doi:10.1093/bulcsj/uoaf048



BCSJ Award Article **Free Access**

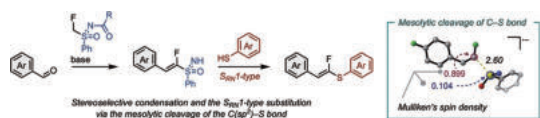
Keywords: **mesolytic cleavage** | **sulfoximines** | **α -fluorovinyl radical**

Stereoselective generation and use of α -fluorovinyl radicals via mesolytic cleavage of the C(sp²)-S bond of α -fluorovinyl sulfoximines

Kosuke Yasui,* Masayuki Miyaoka, Yuichiro Tomishima, and Koji Hirano*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf043

doi:10.1093/bulcsj/uoaf043



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Keywords: **long bond** | **noncovalent interaction** | **substituent effects**

Mechanism for expansion or contraction of extremely elongated C-C single bond by substituents: "seesaw" principle in bis(dibenzocycloheptatriene)s

Soki Kawaguchi, Takuya Shimajiri,* Yuta Kawakami, Yusuke Ishigaki,* and Takanori Suzuki*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf054

doi:10.1093/bulcsj/uoaf054

Keywords: **chlorine evolution reaction** | **density functional theory** | **electrocatalyst**

Computational study of electrocatalytic chlorine evolution reaction over transition metal-embedded porphyrin substrates

Jewel Hossen* and Naoki Nakatani

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf051

doi:10.1093/bulcsj/uoaf051

Keywords: **dipyrrin** | **nanowire** | **zinc**

One-dimensional bis(dipyrrinato)zinc(II)-linked porphyrinatozinc(II) polymer: synthesis, exfoliation into single wires, and photofunctionality

Suzalza Mustafar,* Rio Shoji, Ryojun Toyoda, Hiroaki Maeda, Yasuyo Ogino, Hiroshi Nishihara, and Ryota Sakamoto*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf050

doi:10.1093/bulcsj/uoaf050

Keywords: **coordination cage** | **metallocyclic framework** | **silver complex**

Remarkably distorted M₃L₂ cage and M₄L₄ metallocyclic frameworks obtained from Ag(NO₃) and bis-benzimidazole-type ligand having an NH₂ group: effects of the NH₂ chemical interaction site on the obtained structures

Kanoko Watanabe, Masaru Mochizuki, Hiroyuki Takemoto, and Mitsuru Kondo*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf049

doi:10.1093/bulcsj/uoaf049

Selected Paper

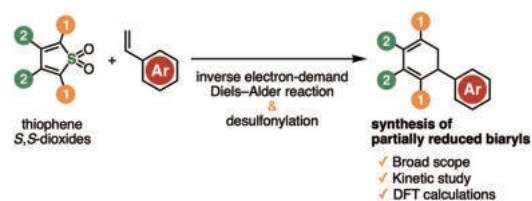
Keywords: **inverse-electron-demand diels-Alder reaction** | **partially reduced biaryls** | **thiophene dioxides**

Synthesis of partially reduced biaryls from thiophene S,S-dioxides and styrenes

Kayoko Ohira, Koyo Numata, and Suguru Yoshida*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf052

doi:10.1093/bulcsj/uoaf052



Keywords: **α -iodoalkylammonium salts** | **decarboxylative halogenation** | **oxime esters**

Decarboxylative synthesis of α -iodoalkylammonium salts via ammonio oxime esters

Kazuki Hirate, Takumi Kinoshita, Yota Sakakibara,* and Kei Murakami*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf047

doi:10.1093/bulcsj/uoaf047

Keywords: **chiral macrocycle** | **chiroptical property** | **spirobifluorene**

Synthesis and chiroptical properties of macrocycles composed of chiral spirobifluorenes linked by π -conjugated spacers

Rina Nakazono and Toru Amaya*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf046

doi:10.1093/bulcsj/uoaf046

Keywords: **actin filament** | **photomodulation** | **self-assembling peptide**

Photomodulation of actin filaments using spiropyran-modified peptide nanofibers

Subhajit Guria, Yingbing Liang, Hiroshi Inaba, and Kazunori Matsuura*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf045

doi:10.1093/bulcsj/uoaf045

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Keywords: **redox potential** | **photoredox catalysis** | **[2 + 2] cycloaddition**

Redox-potential-controlled intermolecular [2 + 2] cycloaddition of styrenes for the regio- and diastereoselective synthesis of multisubstituted halogenocyclobutanes

Asuka Mizutani, Momo Kondo, Shoko Itakura, Hiroyoshi Takamura, Yujiro Hoshino, Makiya Nishikawa, Isao Kadota,* Kosuke Kusamori,* and Kenta Tanaka*

Bull. Chem. Soc. Jpn. 2025, 98, No. 6, uoaf044

doi:10.1093/bulcsj/uoaf044

Highlight Review Free Access

Keywords: RNA therapeutics | RNA-binding peptides | structure-based design

Structure-based design of TAV2b-derived RNA modulators

Marvin A. Albers and Tom N. Grossmann*
Chem. Lett. 2025, 54, No. 6, upaf110

doi:10.1093/chemle/upaf110

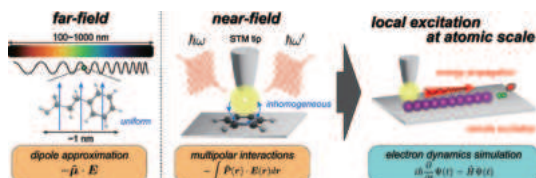


Highlight Review Free Access

Keywords: local excitation | optical near-field | real-time TDDFT
Theoretical study of near-field-induced local excitation dynamics

Daisuke Nishizawa, Tetsuya Taketsugu, and Takeshi Iwasa*
Chem. Lett. 2025, 54, No. 6, upaf109

doi:10.1093/chemle/upaf109



Keywords: chemical reaction | solid-liquid interface | x-ray spectroscopy

X-ray spectroscopic observation of Fe and Ni K-edges for solid-liquid interface of stainless steel and water

Hitoshi Abe,* Yasuhiro Niwa, and Masao Kimura
Chem. Lett. 2025, 54, No. 6, upaf115

doi:10.1093/chemle/upaf115

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Keywords: 2,5-frandicarboxylic acid | metal-supported catalyst | vesicles

Vesicle-combined PtBi/C catalyst for base-free conversion of 5-hydroxymethylfurfural to 2,5-furandicarboxylic acid

Toshinori Shimanouchi,* Koji Deguchi, Kazuma Yasuhara, and Yukitaka Kimura
Chem. Lett. 2025, 54, No. 6, upaf104

doi:10.1093/chemle/upaf104

Keywords: molecular dynamics simulation | taste receptor protein | water cluster

Molecular dynamics simulation analysis of water cluster in the ligand-binding pocket of medaka fish taste receptor protein

Kie Araki and Koji Ando*
Chem. Lett. 2025, 54, No. 6, upaf114

doi:10.1093/chemle/upaf114

Keywords: Li-ion battery | regenerate | sustainable synthesis
Tin oxide/graphite nanocomposite prepared from the negative graphite electrode of spent Li-ion batteries via a potentially sustainable synthesis method

Hiroshi Itahara,* Masato Matsubara, Naoko Takahashi, Satoru Kosaka, Mio Shibata, and Yasuhiro Takatani
Chem. Lett. 2025, 54, No. 6, upaf113

doi:10.1093/chemle/upaf113

Keywords: exposure assessment | human biomonitoring | naphthyl sulfate

Refinement of naphthalene exposure assessment in human biomonitoring based on the synthesis of naphthyl sulfate isomers and HPLC-MS analysis

Fuki Iwasaki, Akari Mizuno, Shinobu Aoyagi, Sayaka Kato, Yuki Ito,* Michihiro Kamijima,* and Toru Amaya*
Chem. Lett. 2025, 54, No. 6, upaf106

doi:10.1093/chemle/upaf106

Keywords: extended K-orbital | GSGA | spin-adapted parallelized CASCI

Extension of the K-orbital method and its demonstration in conjunction with spin-adapted large-scale parallelized complete active space configuration interaction

Kiyoshi Tanaka,* Takeshi Ishikawa, and Yuji Mochizuki
Chem. Lett. 2025, 54, No. 6, upaf112

doi:10.1093/chemle/upaf112

Keywords: carboxylic acid | hydrogen bond | network topology
Formation of a hydrogen-bonded 6³-network composed of 1,2,3-tris(4-carboxyphenyl)benzene

Takuto Fujii, Kentaro Takaji, Kazuki Shiga, Ryusei Oketani, Hajime Shigemitsu, Toshiyuki Kida, Norimitsu Tohna, and Ichiro Hisaki*
Chem. Lett. 2025, 54, No. 6, upaf111

doi:10.1093/chemle/upaf111

Keywords: black phosphorene | hydrogen separation | MXene
Black phosphorene-MXene composite membrane for efficient gas separation

Weiren Yang, Yanqi Liu, Jiaming Luo, Xinzhi Chen,* and Yi Mei
Chem. Lett. 2025, 54, No. 6, upaf108

doi:10.1093/chemle/upaf108

Keywords: host-guest | phenothiazine | RTP
Synthesis of phenothiazine derivative and the host-guest system for room-temperature phosphorescence

Jie Sun, Yonghe Zhang, Hanfei Xiang, Zhefeng Wang, Manchang Kou, Peng Zhang,* and Xiaoliang Tang*
Chem. Lett. 2025, 54, No. 6, upaf107

doi:10.1093/chemle/upaf107

Keywords: O-reverse prenylation/Claisen rearrangement | practical synthesis | prenylated natural phenylpropanoids
Practical and unified synthesis of prenylated phenylpropanoids via O-reverse prenylation/Claisen rearrangement

Tomoya Sugai, Kenshiro Nakamura, and Noriki Kutsumura*
Chem. Lett. 2025, 54, No. 6, upaf105

doi:10.1093/chemle/upaf105

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Keywords: 2,1,3-benzothiadiazole | crystal structure | photoisomerization

Synthesis and photophysical properties of trans- and cis-vinylene-bridged benzothiadiazole dimers

Soya Yamasaki, Ryoko Oyama,* and Naoki Aratani*
Chem. Lett. 2025, 54, No. 6, upaf103

doi:10.1093/chemle/upaf103