

Accounts and Reviews BCSJ 100th Anniversary Collection

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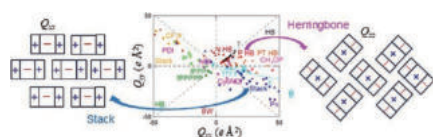
Keywords: crystal structure prediction | organic semiconductors | quadrupole moment

Crystal structures of organic semiconductors

Takehiko Mori*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf109

doi:10.1093/bulcsj/uoaf109



Accounts and Reviews BCSJ 100th Anniversary Collection

Free Access

Keywords: hetero-metal | metal-metal bonds | one-dimensional chain

Structures, electronic configurations, and magnetic interactions of heterometallic one-dimensional chains

Kazuhiro Uemura* and Atsushi Takamori

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf101

doi:10.1093/bulcsj/uoaf101



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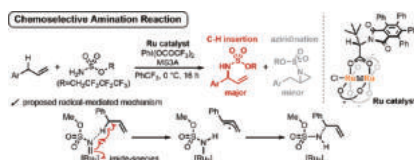
Keywords: asymmetric amination | paddle-wheel complex | ruthenium catalysis

Enantioselective C(sp³)-H amination of allyl benzene derivatives enabled by paddle-wheel diruthenium catalysis

Kohei Mori, Kotoko Makino, Maria Kosaka, Tatsuhiko Yoshino, Kosuke Higashida,* Yuki Kurashige,* and Shigeki Matsunaga*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf106

doi:10.1093/bulcsj/uoaf106



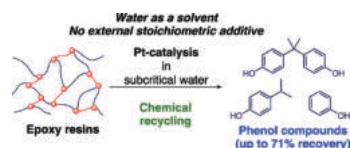
Selected Paper

Keywords: chemical recycling | epoxy resin | hydrothermal condition
Platinum-catalyzed degradation of epoxy resins in water under hydrothermal conditions for recovery of small organic molecules

Kyoko Nozaki,* Yumeng Liao, Satomi Hosokawa, Kohei Takahashi,* Shintaro Nakagawa, Naoko Yoshie, and Yuki Yamasaki*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf108

doi:10.1093/bulcsj/uoaf108



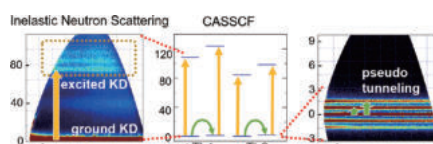
Selected Paper

Keywords: CASSCF | crystal field | inelastic neutron scattering
Crystal field analysis of single-ion magnets based on Tb³⁺, Tm³⁺, and Yb³⁺ squarates from neutron experiments and first-principles calculations

Rina Takano, Maiko Kofu, Seiko Ohira-Kawamura, Yasutaka Kitagawa, and Takayuki Ishida*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf096

doi:10.1093/bulcsj/uoaf096



Selected Paper

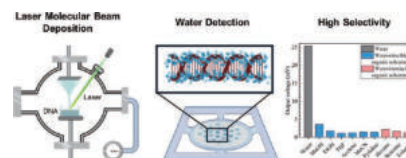
Keywords: laser deposition | membrane-type surface stress sensor | water detection

Reproducible DNA thin films prepared by laser molecular beam deposition for water detection

Xuechen Shen,* Tomohiro Murata,* Shuai Liu, Kosuke Minami, Genki Yoshikawa, Nobuyuki Matsuki,* and Katsuhiko Ariga*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf098

doi:10.1093/bulcsj/uoaf098



Keywords: 2,2,6,6-tetramethylpiperidine 1-oxyl | hydroxylammonium salt | sulfonamide

One-pot reduction of TEMPO derivatives by triethylsilane and trifluoroacetic acid: isolation and structural analysis of the air-stable TEMPOH ammonium trifluoroacetate

Kazushi Ando, Kin-ichi Oyama,* Shin-ichiro Kawano, Hedong Zhang, and Masaki Tsukamoto*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf107

doi:10.1093/bulcsj/uoaf107

Keywords: five-coordinated iridium(III) complexes | stereoselective transformation | vibrational circular dichroism spectroscopy

Clay column chromatography for optical resolution: separation and asymmetric induction of cyclometalated iridium(III) complexes

Akihiko Yamagishi,* Kazuyoshi Takimoto, Kyaw Naing, Kenji Tamura, Masumi Kamon, Jun Yoshida, and Hisako Sato*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf110

doi:10.1093/bulcsj/uoaf110

Selected Paper

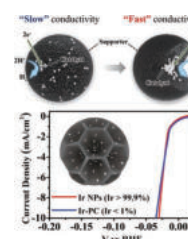
Keywords: hydrogen evolution reaction | inverted core-shell structure | mesoporous iridium electrocatalyst

Inverted carbon-shell iridium-core mesoporous structured electrocatalyst for HER

Jin Woo Park, Sung Hyun Kim, Godeung Park, Jieun Jang, Jisoo Park, Nochang Park, Myeong-Jun Song, Yusuke Yamauchi, Seong-Min Bak,* Jeonghun Kim,* and Hyunsoo Lim*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf103

doi:10.1093/bulcsj/uoaf103



Open Access

Keywords: stannanethione | stannanone | stannylene
Synthesis and characterization of a diarylstannylene bearing (MeO)EPind groups and its oxidation reactions

Yuto Ueno, Mizuki Imai, Yuki Machara, Kotomi Matsui, Yuria Kawase, Kei Ota, Daisuke Hashizume, and Tsukasa Matsuo*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf104

doi:10.1093/bulcsj/uoaf104

Keywords: AIEE | fluorochromism | perfluorophenyl
Synthesis and photophysical properties of D-A type ring-fluorinated benzofuran-3(2H)-one dyes through a novel 1,2-rearrangement of a perfluorophenyl group

Yudai Suzuki, Hiroki Masuoka, Shota Mizuno, Yasuhiro Kubota, Toshiyasu Inuzuka, Masahiro Ebihara, and Kazumasa Funabiki*

Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf102

doi:10.1093/bulcsj/uoaf102

Keywords: anthracene | dinaphthocarbazole | Scholl reaction
Structural diversity in Scholl reactions of a nitrogen-bridged 1-anthryl dimer: formation of dinaphtho[a,*h*]carbazole and higher oligomers

Atsuki Shimizu and Tetsuo Iwanaga*
Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf100 doi:10.1093/bulcsj/uoaf100

Keywords: effective quasistatic processes | photo-induced phenomena | real-time measurements
Direct observation of slow photochemical changes in a molecular crystal: energies, spins, and structures

Minaho Nakaie, Yuka Nishiyama, Mizuki Takishita, Shuji Shiose, Yoko Miyaji, Hiromichi Toyota, and Toshio Naito*
Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf099 doi:10.1093/bulcsj/uoaf099

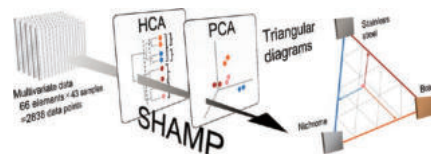
Keywords: chromenones | oxidation | synthesis
Access to 2,3-dihydro-4*H*-furo[3,2-*c*]chromen-4-ones based on the mechanistic study of the formation of a tiny amount of byproduct isolated from Mn(III)-based oxidation of 1-(2-methoxynaphthalen-1-yl)butane-1,3-dione with 1,1-diphenylethene[†]

Koji Morinaga, Daichi Hagiwara, Yuka Tanoue, Tomoyuki Kawakami, and Hiroshi Nishino*
Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf097 doi:10.1093/bulcsj/uoaf097

Selected Paper

Keywords: hierarchical cluster analysis | ICP-MS | principal component analysis
Stepwise hierarchical clustering-assisted materials principal component analysis for semi-quantitative estimation of three-component inorganic materials

Tamao Tanji,* Tamari Shibuya, Makoto Furukawa, Katsushige Fujimoto, and Yoshitaka Takagai*
Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf093 doi:10.1093/bulcsj/uoaf093



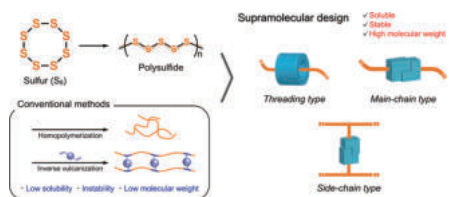
Keywords: herbicides | *Lactobacillus casei* | magnetic photocatalysts
Nano-sized magnetic TiO₂-SiO₂/Fe₃O₄ photocatalysts and their application to photokilling of *Lactobacillus casei* and photocatalytic degradation of persistent herbicides

Manabu Kiguchi,* Jingshen Wang, Li Yuxin, Dan Zhang, Zhongqing Liang, Mei Ma, Akira Fujishima, and Nobuhiro Hanada*
Bull. Chem. Soc. Jpn. 2025, 98, No. 11, uoaf095 doi:10.1093/bulcsj/uoaf095

Chemistry Letters

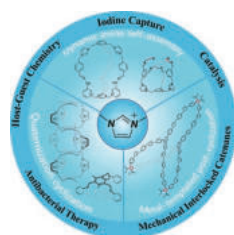
Highlight Review **Free Access**
Keywords: stability and processability enhancement | sulfur polymer | supramolecular polymer
Synthesis and properties of polysulfide-containing supramolecular polymers

Takumi Yoshida, Shun Hashimoto, Ryunosuke Kamioka, Tomonori Yamawaki, Hiroyasu Yamaguchi,* and Yuichiro Kobayashi*
Chem. Lett. 2025, 54, No. 11, upaf198 doi:10.1093/chemle/upaf198



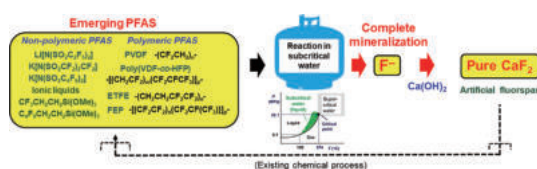
Highlight Review **Free Access**
Keywords: covalent organic cages | imidazolium | Pyrgos[n]cages
Imidazolium-based covalent organic cages: from construction to functions

Wenyu Zhang, Meiyue Zhang, Qiang Liu,* and Qing He*
Chem. Lett. 2025, 54, No. 11, upaf197 doi:10.1093/chemle/upaf197



Highlight Review **Free Access**
Keywords: mineralization | PFAS | subcritical water
Efficient mineralization of emerging per- and polyfluoroalkyl substances (PFAS) using subcritical water

Hisao Hori*
Chem. Lett. 2025, 54, No. 11, upaf188 doi:10.1093/chemle/upaf188



Keywords: carbodisulfane | pincer-like ligand | polynuclear Ag complex
Hexanuclear and octanuclear silver(I) complexes featuring a bimolecular cooperative coordination mode of iminosulfane-carbone ligands

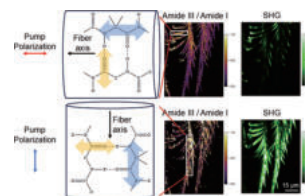
Keiko Noguchi, Hiroyasu Sato, Shogo Morisako, and Takayoshi Fujii*
Chem. Lett. 2025, 54, No. 11, upaf203 doi:10.1093/chemle/upaf203

Open Access
Keywords: M06-2X | ωB97X | PM7
Comparison of theoretical methods for calculating Strecker degradation

Shota Ishida,* Enlai Xie, Daichi Iwata, Koichi Miyagawa, and Mitsuo Shoji*
Chem. Lett. 2025, 54, No. 11, upaf202 doi:10.1093/chemle/upaf202

Editor's Choice **Open Access**
Keywords: β-keratin | CARS | SHG
β-Sheet alignment in intact feathers revealed by polarization-resolved second harmonic generation (SHG) and coherent Raman imaging

Zuliang Hu, Ryosuke Oketani, Kotaro Hiramatsu, Philippe Leproux, Ryo Suzuki, and Hideaki Kano*
Chem. Lett. 2025, 54, No. 11, upaf207 doi:10.1093/chemle/upaf207



Keywords: iminomethylazole ligand | phosphorescence | Pt(II) complexes
A *trans*-bis(iminomethylpyrazolato)platinum(II) complex exhibiting exceptional room-temperature phosphorescence

Shufang Huang, Ngoc Ha-Thu Le, Soichiro Kawamori,* Shuichi Suzuki, and Takeshi Naota
Chem. Lett. 2025, 54, No. 11, upaf206 doi:10.1093/chemle/upaf206

Keywords: benzene adsorption | machine learning | metal-organic frameworks

Data-driven discovery of MOFs for benzene adsorption with transferable stacking model

Haokun Ti, Fu Yang, Yujing Yue, Shuhan Jiang, Ruiting Zhu, Haiqing Zhao, Yang He, and Shi Li*
Chem. Lett. 2025, 54, No. 11, upaf204 doi:10.1093/chemle/upaf204

Open Access

Keywords: block copolymer | micro phase-separation | template Nanoarchitectonics of all catechol-based AA'-type block copolymer for sequential template application

Mizuki Ohke, Ryoichi Akaishi, Shotaro Nishitsuji, Shusaku Nagano, Hinako Ebe, and Jun Matsui*
Chem. Lett. 2025, 54, No. 11, upaf200 doi:10.1093/chemle/upaf200

Keywords: phenothiazine | photophysical properties | triarylborane Triple-triarylboron-functionalized phenothiazine as a thermally stable dual-function material for enhanced luminescence and fluoride detection

Ying Guang, Yudong Wang, Yongheng Wen, Bao hui, Lina Zhang, Tingchun Ma,* and Wenjuan Xu*
Chem. Lett. 2025, 54, No. 11, upaf201 doi:10.1093/chemle/upaf201

Open Access

Keywords: Congo Red | degradation | layered manganese oxide Ultrafast azo dye degradation by alkylammonium-intercalated layered MnO₂ films

Masami Matsui,* Takumi Sato, Ryo Sasaki, and Kazuaki Tomono*
Chem. Lett. 2025, 54, No. 11, upaf205 doi:10.1093/chemle/upaf205

Open Access

Keywords: alkene | alkylation | photocatalysis La(SPh)₃ as a superior multifunctional catalyst for photoinduced alkylation reactions of active methylene compounds with nonactivated alkenes

Tomoya Hisada, Yuki Sato, Yasuhiro Yamashita,* and Shū Kobayashi*
Chem. Lett. 2025, 54, No. 11, upaf174 doi:10.1093/chemle/upaf174

Keywords: atropisomerism | hypervalent iodine compounds | racemization Benziodoxol(on)e scaffolds as critical elements of C–I(III) bond atropostability

Bin Li, Jun Kikuchi,* Arimasa Matsumoto,* and Naohiko Yoshikai*
Chem. Lett. 2025, 54, No. 11, upaf199 doi:10.1093/chemle/upaf199

Keywords: carboxylic acid | epoxynitrile | squaric acid Two-step transformation of ketones to carboxylic acids through a ring-opening reaction of epoxynitriles with a squarate anion

Tomoyuki Fujita, Kazuto Sato, Takahiro Suzuki, Kazutada Ikeuchi,* and Keiji Tanino*
Chem. Lett. 2025, 54, No. 11, upaf194 doi:10.1093/chemle/upaf194

Keywords: C–H activation | polymer backbone transformation | quinoline

Synthesis of a precursor for polymer backbone transformation via quinoline *N*-oxidation and subsequent C–H activation

Naoya Kanbayashi,* Kota Kawasaki, and Kiyotaka Onitsuka*
Chem. Lett. 2025, 54, No. 11, upaf193 doi:10.1093/chemle/upaf193

Open Access

Keywords: benzene bioisostere | chiral cage hydrocarbon | 1,3-disubstituted cuneane | enzymatic kinetic resolution Lipase-mediated acylation of 3-hydroxymethylcuneane-1-carboxylic acid esters: enantioselective access to 1,3-disubstituted cuneanes

Hiyori Takebe and Seijiro Matsubara*
Chem. Lett. 2025, 54, No. 11, upaf192 doi:10.1093/chemle/upaf192

Open Access

Keywords: aldehyde oxidase | molecular docking | molecular dynamics

Site of metabolism prediction for aldehyde oxidase using molecular docking and molecular dynamics simulations

Ryoma Shimizu, Naoki Isemura, Yu Takano, and Toru Saito*
Chem. Lett. 2025, 54, No. 11, upaf196 doi:10.1093/chemle/upaf196

Keywords: deep eutectic solvent | morphology control | synthesis Deep eutectic solvent-assisted synthesis of cubic ZnIn₂S₄ nanodots with sub-10 nm size

Reiko Furukawa, Takuya Hasegawa,* Ayahisa Okawa, and Shu Yin
Chem. Lett. 2025, 54, No. 11, upaf195 doi:10.1093/chemle/upaf195

Keywords: battery cathode | low temperature synthesis | Ni³⁺ species Low temperature synthesis of nickel-based layered cathodes

Ryo Nakanishi, Yasuhide Nakajima, Kerd Siri Somphong, Akira Nasu, Hiroaki Kobayashi, and Masaki Matsui*
Chem. Lett. 2025, 54, No. 11, upaf190 doi:10.1093/chemle/upaf190

Keywords: photochemical reaction | rubromycin | spiroacetal Synthetic study on γ-rubromycin: spiroacetal formation by using photochemical reaction of 2-hydroxy-1,4-naphthoquinone

Yoshio Ando,* Daichi Ogawa, Shuichi Morishita, Keisuke Suzuki, and Ken Ohmori*
Chem. Lett. 2025, 54, No. 11, upaf186 doi:10.1093/chemle/upaf186

Open Access

Keywords: catalyst support | manganese oxide nanocluster | X-ray analysis

Effect of support on the oxidation state and catalytic activity of MnO_x nanocluster catalyst in aerobic oxidative dehydrogenation of 1-phenylethanol

Takuya Hashimoto, Takayoshi Hara, Carla Bittencourt, and Nobuyuki Ichikuni*
Chem. Lett. 2025, 54, No. 11, upaf191 doi:10.1093/chemle/upaf191

Keywords: Fei-Mao dye | near-infrared fluorescence | plant cell imaging

Development of red-shifted Fei-Mao dyes with elongated polymethine chain and their imaging studies in plants

Yutaro Shimizu, Shuhei Kusano,* and Shinya Hagihara
Chem. Lett. 2025, 54, No. 11, upaf189 doi:10.1093/chemle/upaf189

Keywords: birefringence | liquid crystalline polymer | photoalignment

In situ modification of mesogenic side groups for photoinduced reorientation of photoreactive non-liquid crystalline polymeric films

Daigo Katayama, Soma Kuroda, Mizuho Kondo, Hirofumi Takatsuka, Moritsugu Sakamoto, Tomoyuki Sasaki, Hiroshi Ono, and Nobuhiro Kawatsuki*
Chem. Lett. 2025, 54, No. 11, upaf187 doi:10.1093/chemle/upaf187

Keywords: H₂S | metal sulfide | methanethiol Direct synthesis of methanethiol from methane and hydrogen sulfide over Ni-based catalysts

Ryo Watanabe,* Yoshiumi Kohno, Hiroshi Akama, and Choji Fukuhara*
Chem. Lett. 2025, 54, No. 11, upaf180 doi:10.1093/chemle/upaf180