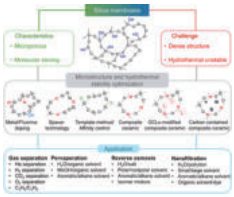
Accounts and Reviews | BCSJ 100th Anniversary Collection | Free Access

Keywords: amorphous silica | membrane separation | microstructure engineering

Microstructure engineering of silica-derived membranes and their applications in molecular separation

Xinpu Niu and Masakoto Kanezashi*
Chem. Lett. 2025, 98, No. 4, uoaf030 doi:10.1093/bulcsj/uoaf030

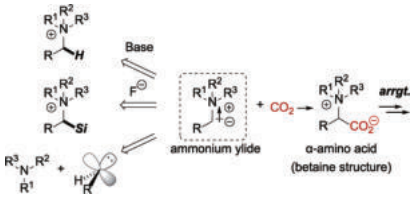


Award Accounts | BCSJ 100th Anniversary Collection | Free Access

Keywords: ammonium ylide | CO_2 | α-amino acids

Carboxylation of ammonium ylides with CO_2 for the synthesis of α-amino acids: integrating experimental and computational approaches

Tsuyoshi Mita*
Chem. Lett. 2025, 98, No. 4, uoaf028 doi:10.1093/bulcsj/uoaf028

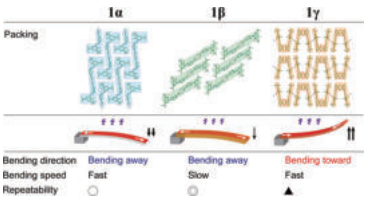


BCSJ Award Article | Free Access

Keywords: photomechanical crystals | polymorphism | salicylideneaniline

Photomechanical motion of three polymorphic salicylideneaniline crystals with distinct bending directions, speeds, and repeatability

Shodai Hasebe, Yuki Hagiwara, Toru Asahi, and Hideko Koshima*
Chem. Lett. 2025, 98, No. 4, uoaf032 doi:10.1093/bulcsj/uoaf032



Open Access

Keywords: mechanochemical process | polytetrafluoroethylene | recycling

Mechanochemical processing of polytetrafluoroethylene with NaCl crystals

Shogo Nishimura, Yao Li, Yuta Semba, Akihide Hibara,* Tomoya Oonuki, Takeshi Hasegawa,* and Junya Kano*
Chem. Lett. 2025, 98, No. 4, uoaf029 doi:10.1093/bulcsj/uoaf029

Keywords: coordination polymer | lanthanide | luminescent

The conformational arrangement effect of luminescent Eu(III) coordination polymers with phenylene diamide units on structural and photophysical properties

Joe Hayashi, Mengfei Wang, Yuichi Kitagawa, and Yasuchika Hasegawa*
Chem. Lett. 2025, 98, No. 4, uoaf026 doi:10.1093/bulcsj/uoaf026

Keywords: charge transport and separation | Sb_2S_3-sensitized solar cell | TiO_2 nanorod array

The charge transport and separation strategy for efficient Sb_2S_3-sensitized TiO_2 nanorod array solar cells

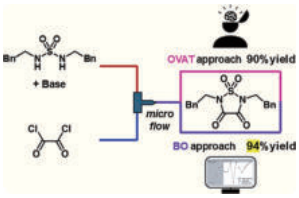
Huijun Wang, Hongbing Mao, Ping Fang, Xinmei Qin, Xiujun Cao, Xuxue Zhang,* and Chao Ying*
Chem. Lett. 2025, 98, No. 4, uoaf031 doi:10.1093/bulcsj/uoaf031

Selected Paper | Open Access

Keywords: Bayesian optimization | flow synthesis | sulfamide

Optimizing microflow sequential coupling and cyclization of multiple linear substrates guided by Bayesian optimization

Shinichiro Fuse,* Kohei Nakabayashi, Naoto Sugisawa, Hiroki Sugisawa, Shusaku Asano, and Naoto Yamasaki
Chem. Lett. 2025, 98, No. 4, uoaf022 doi:10.1093/bulcsj/uoaf022



Keywords: bisurea | organogel | POSS

Formation of supramolecular gels by self-assembly of dumbbell-shaped polyhedral oligomeric silsesquioxane derivatives linked with bisurea groups

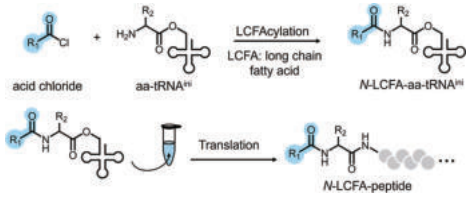
Jinshiro Takeuchi, Ichiyo Tokuami, Shinichi Sakurai, Hiroaki Imoto, and Kensuke Naka*
Chem. Lett. 2025, 98, No. 4, uoaf023 doi:10.1093/bulcsj/uoaf023

Selected Paper | Open Access

Keywords: long chain fatty acid | N-terminal-modified peptide | ribosomal synthesis

A versatile method of ribosomal synthesis of peptides containing long chain fatty acids at the N-terminus

Hiroki Murakami, Naohiro Terasaka, Haruo Aikawa, and Hiroaki Suga*
Chem. Lett. 2025, 98, No. 4, uoaf027 doi:10.1093/bulcsj/uoaf027



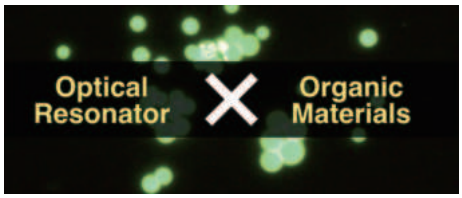
Award Highlight Review Open Access

Keywords: flexibility | functional organic materials | optical resonators

Development and applications of optical resonators based on functional organic materials

Hiroshi Yamagishi*

Chem. Lett. 2025, 54, No. 4, upaf067 doi:10.1093/chemle/upaf067



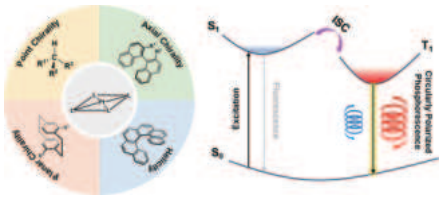
Highlight Review Free Access

Keywords: circularly polarized luminescence | phosphorescence | platinum complexes

Recent advances in circularly polarized luminescent materials based on phosphorescent platinum(II) complexes

Masahiro Ikeshita,* Yoshitane Imai,* and Takashi Tsuno*

Chem. Lett. 2025, 54, No. 4, upaf066 doi:10.1093/chemle/upaf066



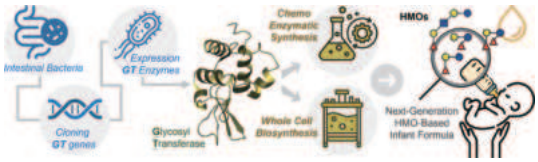
Highlight Review Free Access

Keywords: enzymatic synthesis | human milk oligosaccharides | microbial fermentation

Recent advances in enzymatic synthesis and microbial production of fucosylated human milk oligosaccharides

Cheng-Huan Liu, Po-Ting Chen, and Ching-Ching Yu*

Chem. Lett. 2025, 54, No. 4, upaf064 doi:10.1093/chemle/upaf064



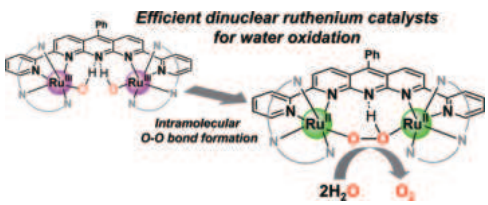
Highlight Review Free Access

Keywords: artificial photosynthesis | dinuclear ruthenium complex | water oxidation catalysis

Efficient water oxidation via intramolecular O–O bond formation by the coupling of vicinal hydroxo ligands on dinuclear ruthenium complexes immobilized on electrode surfaces

Yuta Tsubonouchi, Zaki N Zahra, Debraj Chandra, and Masayuki Yagi*

Chem. Lett. 2025, 54, No. 4, upaf037 doi:10.1093/chemle/upaf037



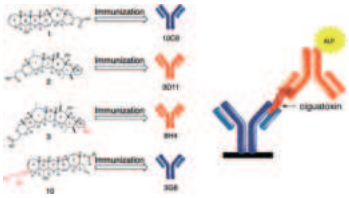
Highlight Review Free Access

Keywords: ciguatera | ciguatoxin | monoclonal antibody

Anti-ciguatoxin monoclonal antibodies: hapten design, production, ELISA, and treatment of ciguatera poisoning

Takeshi Tsumuraya* and Masahiro Hirama

Chem. Lett. 2025, 54, No. 4, upaf058 doi:10.1093/chemle/upaf058



Keywords: acylsilanes | hydroacylations | siloxycarbenes

Photo- and Cu(I)-promoted branched-selective formal hydroacylation of terminal alkynes via the intermolecular coupling of siloxycarbenes with alkyne–Cu complexes

Kohei Yamaguchi, Ryosuke Masuda, Kento Ishida, and Hiroyuki Kusama*

Chem. Lett. 2025, 54, No. 4, upaf084 doi:10.1093/chemle/upaf084

Open Access

Keywords: coupled-cluster theory | picture change correction | relativistic density functional theory

Role of picture change correction in relativistic density functional theory: an analogy with coupled cluster theory

Hiromi Nakai* and Chinami Takashima

Chem. Lett. 2025, 54, No. 4, upaf082 doi:10.1093/chemle/upaf082

Keywords: nitrogen-phosphorus-containing | poly(phthalazinone ether ketone)s | thermostability

Synthesis and characterization of novel nitrogen-phosphorus-containing poly(phthalazinone ether ketone)s

Huiping Liu, Mengyuan Yang, and Huiying Liao*

Chem. Lett. 2025, 54, No. 4, upaf073 doi:10.1093/chemle/upaf073

Open Access

Keywords: chemoenzymatic copolymerization | glycine | serine

Chemoenzymatic copolymerization of glycine with serine: effects on polypeptide structure and solubility

Kayo Terada,* Shogo Takemura, Kousuke Tsuchiya, and Keiji Numata*

Chem. Lett. 2025, 54, No. 4, upaf081 doi:10.1093/chemle/upaf081

Open Access

Keywords: citral hydrogenation | Cu/SiO_2 | sugar alcohols

Generation of highly dispersed Cu nanoparticles on SiO_2 support using impregnation protocol assisted with sugar alcohol for selective vapor-phase hydrogenation of citral

Kenta Matsusaka, Enggah Kurniawan, Takashi Kojima, Yasuhiro Yamada, and Satoshi Sato*

Chem. Lett. 2025, 54, No. 4, upaf076 doi:10.1093/chemle/upaf076

Open Access

Keywords: electron correlation theory | enthalpy of formation | quantum chemistry

High-accuracy thermodynamic calculations for lignocellulosic biomass molecules using re-optimized composite methods

Mikito Fujinami and Hiromi Nakai*

Chem. Lett. 2025, 54, No. 4, upaf083 doi:10.1093/chemle/upaf083

Open Access

Keywords: cyclic perfluorosulfonylamide anion | organic ionic crystals | organic ionic plastic crystals

Synthesis and ionic conductivity of organic ionic crystals consisting of quaternary phosphonium cations and cyclic perfluorosulfonylamide anion

Mie Mie Aung Naw and Makoto Moriya*
Chem. Lett. 2025, 54, No. 4, upaf079 doi:10.1093/chemle/upaf079

Open Access

Keywords: BCDEF ring | convergent synthesis | maitotoxin

Convergent synthesis of BCDEF ring system of maitotoxin

Tatsuya Teshigawara, Yuhei Suzuki, Yoko Yasuno, Masayuki Satake, and Tohru Oishi*
Chem. Lett. 2025, 54, No. 4, upaf074 doi:10.1093/chemle/upaf074

Keywords: DFT calculations | hydroamination of alkenes | photocatalysts

Theoretical investigation of hydroamination of alkenes with aqueous ammonia by Pt/TiO_2 photocatalyst

Taiki Toyao, Kenta Ohkuma, Tomohisa Yonemori, Yuhki Ishimaru, Yasutaka Hamada, Takashi Kawakami, Shusuke Yamanaka, Hisao Yoshida, and Mitsutaka Okumura*
Chem. Lett. 2025, 54, No. 4, upaf078 doi:10.1093/chemle/upaf078

Open Access

Keywords: cesium salts | methane oxidation | supported polyoxometalates

Catalytic methane oxidation to methanol using supported Cu-introduced polyoxometalate cesium salt catalysts

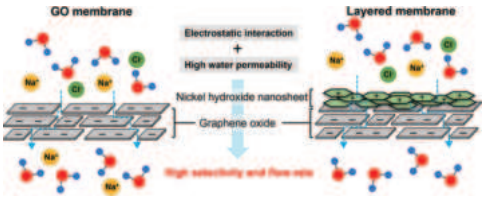
Takaaki Suzuki, Tomohiro Yabe,* Kosuke Suzuki, and Kazuya Yamaguchi*
Chem. Lett. 2025, 54, No. 4, upaf077 doi:10.1093/chemle/upaf077

Editor's Choice Free Access

Keywords: graphene oxide | membrane | nickel hydroxide nanosheet

Layered graphene oxide / nickel hydroxide nanosheet membranes with superior Na^+ blocking and water permeation properties

Tatsuki Tsugawa, Kazuto Hatakeyama, Kaito Takegami, Taichi Kawashima, Michio Koinuma, and Shintaro Ida*
Chem. Lett. 2025, 54, No. 4, upaf075 doi:10.1093/chemle/upaf075



Keywords: calcium nitrate solution | empirical potential structure refinement | x-ray scattering

Unveiling the structure of aqueous calcium nitrate solutions by x-ray scattering

Yunxia Wang, Yanlong Ma, Yifa Du, Fayan Zhu,* Guosheng Shi, Yongquan Zhou, and Min Wang*
Chem. Lett. 2025, 54, No. 4, upaf070 doi:10.1093/chemle/upaf070

Open Access

Keywords: inorganic synthesis | *molybdenum* | polyoxometalates

Ligand-directed bottom-up synthesis of trivacant lacunary polyoxomolybdates in organic media

Atsuhiro Jimbo, Chifeng Li, Kentaro Yonesato, Kazuya Yamaguchi, and Kosuke Suzuki*
Chem. Lett. 2025, 54, No. 4, upaf072 doi:10.1093/chemle/upaf072

Keywords: molecular oxygen | oxidative Heck arylation | Pd nanoparticles

Palladium nanoparticles for aerobic oxidative Heck arylation of alkenes

Kazuki Tabaru, Haruka Nishimura, Takeyuki Suzuki, and Yasushi Obora*
Chem. Lett. 2025, 54, No. 4, upaf068 doi:10.1093/chemle/upaf068

Keywords: amyloid-β fibrils | fluorescent probe | ^{19}F MRI

Fluorometric/^{19}F MRI probes for imaging of amyloid-β fibrils

Fei Zeng, Shuxin He, Bing Liu, Zirui Zhang, Tao Guo, Jie Zhang,* Sujuan Wang, and Yuangong Zhang*
Chem. Lett. 2025, 54, No. 4, upaf071 doi:10.1093/chemle/upaf071

Keywords: AQP7 | PaCS-MD | Z433927330

In silico analysis of inhibitor intrusion into the AQP7 channel for efficient drug design

Koryo Obata,* Yasuteru Shigeta, and Ryuhei Harada*
Chem. Lett. 2025, 54, No. 4, upaf063 doi:10.1093/chemle/upaf063

Keywords: azobenzene derivative | chiral transcription | helical nanofibers

Rapidly imparting chiroptical properties to an achiral azobenzene derivative using helical nanofibers composed of an amidoamine derivative with an unsaturated hydrocarbon

Tomoki Ito, Makoto Nakagawa, and Takeshi Kawai*
Chem. Lett. 2025, 54, No. 4, upaf069 doi:10.1093/chemle/upaf069

Free Access

Keywords: hydrogenase | model complex | synthesis

Synthesis of a [NiRu] hydrogenase model complex with a modifiable OH group

Takuo Minato,* Tatsuya Kado, Ki-Seok Yoon, and Seiji Ogo*
Chem. Lett. 2025, 54, No. 4, upaf057 doi:10.1093/chemle/upaf057

Keywords: paddlewheel-type diruthenium complex | poly aromatic hydrocarbon | redox property

Synthesis of *trans*-heteroleptic carboxylate-bridged paddlewheel-type diruthenium(II,II) complexes with poly aromatic hydrocarbon carboxylate

Wataru Kosaka, Taku Kitayama, Tomoka Shimada, Yoshihiro Sekine, and Hitoshi Miyasaka*
Chem. Lett. 2025, 54, No. 4, upaf065 doi:10.1093/chemle/upaf065

Open Access

Keywords: BETS-anion-mixed conduction sheets | charge-transfer complexes | self-doping

Organic crystals containing highly conducting cation-anion-mixed sheets

Sakura Hiramoto and Toshio Naito*
Chem. Lett. 2025, 54, No. 4, upaf062 doi:10.1093/chemle/upaf062

Open Access

Keywords: autoxidation | new particle formation | β-pinene ozonolysis

Chemical analysis of new particles with diameters less than 10 nm, generated from β-pinene ozonolysis

Satoshi Inomata,* Daisuke Fukuyama, and Kanako Sekimoto
Chem. Lett. 2025, 54, No. 4, upaf061 doi:10.1093/chemle/upaf061

Keywords: freeze-concentrated solution | electromotive force | concentration cells

Measurement of electromotive force generated by freezing aqueous salt solutions

Mao Nagao, Nobuo Uehara, and Arinori Inagawa*
Chem. Lett. 2025, 54, No. 4, upaf060 doi:10.1093/chemle/upaf060

Keywords: copper | ladder structure | magnetic property

Synthesis, structure, and magnetic properties of a ladder-like structure constructed by copper and carbonate ions

Xiao Zhang, Jun Manabe, Masaki Arima, Yuki Nakano, Katsuya Inoue, and Sadafumi Nishihara*

Chem. Lett. 2025, 54, No. 4, upaf059 doi:10.1093/chemle/upaf059

Keywords: aluminosilicate glass | ion exchange | ultrasonic irradiation

Ion exchange in glass at low temperature of 80 °C with the assistance of ultrasonic vibration

Yuji Sugibayashi,* Hiroshi Tomiyasu, Hiroshi Atarashi, and Yoon-Yul Park

Chem. Lett. 2025, 54, No. 4, upaf040 doi:10.1093/chemle/upaf040

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Keywords: hybrid materials | phenol detection | spectroscopic change

Spectroscopic change of rhodamine 3B incorporated in layered titanate/decyltrimethylammonium hybrid solid by exposure of phenol vapors

Ryo Sasai,* Fumitaka Aoto, and Takuya Fujimura

Chem. Lett. 2025, 54, No. 4, upaf056 doi:10.1093/chemle/upaf056

Keywords: organic–inorganic hybrid | polyoxometalate | polysiloxane

Organic–inorganic hybrid composites based on polysiloxane ionic-liquid and polyoxotungstates exhibiting improved thermal stability

Taishi Yoshida, Yoshiki Oda, Kaito Sasaki, Mafuyu Ichimura, Yosuke Okamura, Shinichi Koguchi, Yu Nagase, Masashi Higuchi, Naoki Shinyashiki, Tsukasa Ichikawa,* Nobukatsu Nemoto,* and Takeru Ito*

Chem. Lett. 2025, 54, No. 4, upaf054 doi:10.1093/chemle/upaf054

Open Access
Keywords: cobalt-doped $NaTaO_3$ | valence of doped Co | X-ray analysis

Calcination-driven Co^{4+} incorporation in hydrothermally synthesized $NaTaO_3$

Masato Yanagi, Juan Casanova-Cháfer, Takayoshi Hara, Yi-Hao Chew, Tomoko Yoshida, Hiroshi Onishi, Carla Bittencourt, and Nobuyuki Ichikuni*

Chem. Lett. 2025, 54, No. 4, upaf053 doi:10.1093/chemle/upaf053

Keywords: cation–π interaction | interface | magnesium

Hydration structure of magnesium ion at graphene interface

Yunxia Wang, Yifa Du, Xu Zhao, Yanan Wu, Fayan Zhu,* Guosheng Shi, Yongquan Zhou, and Min Wang*

Chem. Lett. 2025, 54, No. 4, upaf048 doi:10.1093/chemle/upaf048