Keywords: Trace elements | Seawater | Certified reference material

Development and Co-Validation of a Certified Reference Material (NMIJ CRM 7204-A) for the Analysis of Trace Elements in Seawater Sample

Yanbei Zhu,* Tomohiro Narukawa, Shin-ichi Miyashita, Tomoko Ariga, Izumi Kudo, Masae Koguchi, Naoko Nonose,* Norliza Binti Baharom, Kyoung-Seok Lee, Yong-Hyeon Yim,* Qian Wang, and Jing-Bo Chao*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 208-215 doi:10.1246/bcsj.20210392

Keywords: Nanodot | Titanium dioxide | Self-assembly

Crystallization-Induced Uniform Nanodot Formation of Titanium Dioxide Films

Mitsuo Hara,* Ryota Oguri, Shingo Sarkar, Shusaku Nagano, and Takahiro Seki*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 216-220 doi:10.1246/bcsj.20210391

Keywords: DFT calculation | Enantioselective cyclization | Rhodium catalysis

Computational Study of the Rh/phanephos-Catalyzed Enantioselective [2+2+2] Cyclization of Enediyne, Affording Lactone-Fused Cyclohexadiene Bearing a Quaternary Bridgehead Carbon

Yoshihiko Yamamoto
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 221-229 doi:10.1246/bcsj.20210402

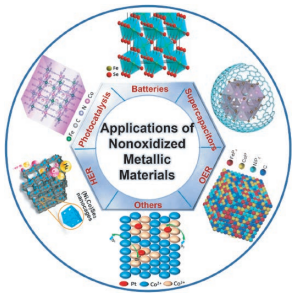
Account/Review for Masterpiece Materials with Functional Excellence

Open Access

Keywords: Prussian blue/Prussian blue analogues | Derivative materials | Metallic compounds

Recent Progress in Prussian Blue/Prussian Blue Analogue-Derived Metallic Compounds

Yang Shan, Guangxun Zhang, Wei Yin, Huan Pang,* and Qiang Xu*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 230-260 doi:10.1246/bcsj.20210324



Keywords: Amide-liked phospholipid | Lipid bilayer membrane | Phase transition

Temperature- and Pressure-Induced Bilayer Phase Transitions of an Amide-Linked Phosphatidylcholine: A Contrasting Effect of Chain-Linkage Type

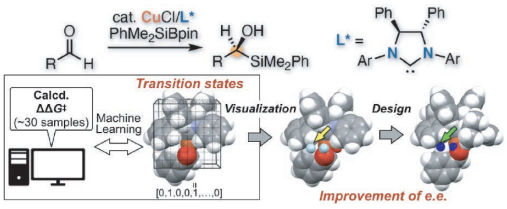
Toshiki Nakao, Masaki Goto, Masashi Kurashina, Nobutake Tamai, Mikito Yasuzawa, and Hitoshi Matsuki*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 261-270 doi:10.1246/bcsj.20210395

Selected Paper Open Access

Keywords: Computational molecular design | Molecular field analysis/3D-QSSR | Asymmetric catalysis

Molecular Field Analysis Using Computational-Screening Data in Asymmetric *N*-Heterocyclic Carbene-Copper Catalysis toward Data-Driven *In Silico* Catalyst Optimization

Masakiyo Mukai, Kazunori Nagao, Shigeru Yamaguchi,* and Hirohisa Ohmiya*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 271-277 doi:10.1246/bcsj.20210349

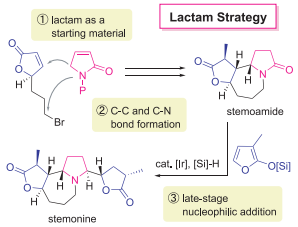


Selected Paper

Keywords: Amide | Stemona alkaloid | Total synthesis

Lactam Strategy Using Amide-Selective Nucleophilic Addition for Quick Access to Complex Amines: Unified Total Synthesis of Stemoamide-Type Alkaloids

Yasukazu Sugiyama, Yasuki Soda, Makoto Yoritate, Hayato Tajima, Yoshito Takahashi, Kana Shibuya, Chisato Ogihara, Takashi Yokoyama, Takeshi Oishi, Takaaki Sato,* and Noritaka Chida*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 278-287 doi:10.1246/bcsj.20210372



Keywords: Microwave | Tunneling electron transfer | Quantum dots-sensitization

Microwave Boosting of Interfacial Tunneling Electron Transfer in a Quantum Dot-Sensitized Photoelectrode

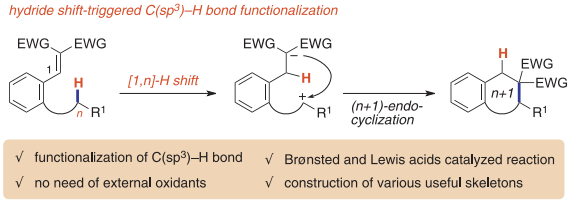
Masayuki Matsuhisa, Fuminao Kishimoto,* Kosuke Furusawa, Shuntaro Tsubaki, and Yuji Wada*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 288-295 doi:10.1246/bcsj.20210401

Award Accounts Open Access

Keywords: C(sp³)–H bond functionalization | Hydride shift | Redox process

C(sp³)–H Bond Functionalization Mediated by Hydride a Shift/Cyclization System

Keiji Mori
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 296-305 doi:10.1246/bcsj.20210420



Keywords: Organic quantum spin liquid | Radical | Spinon Fermi surface

An Organic Quantum Spin Liquid with Triangular Lattice: Spinon Fermi Surface and Scaling Behavior

Tetsuro Kusamoto,* Chie Ohde, Shiori Sugiura, Satoshi Yamashita,* Ryota Matsuoka, Taichi Terashima, Yasuhiro Nakazawa, Hiroshi Nishihara,* and Shinya Uji*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 306-313 doi:10.1246/bcsj.20210411

Keywords: van der Waals force | Particle adsorption | Polymer gel

Particle Adsorption on Polymer Gel Surface Driven by van der Waals Attraction

Yurina Aoyama, Naoko Sato, Akiko Toyotama, Tohru Okuzono, and Junpei Yamanaka*
Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 314-324 doi:10.1246/bcsj.20210356

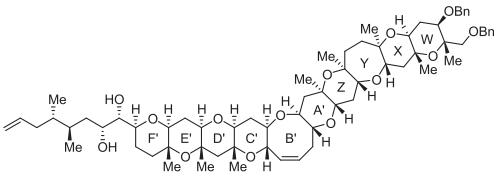
BCSJ Award Article | Open Access

Keywords: Maitotoxin | WXYZA′B′C′D′E′F′ ring | Convergent synthesis

Convergent Synthesis of the WXYZA′B′C′D′E′F′ Ring Segment of Maitotoxin

Keitaro Umeno, Hisaaki Onoue, Keiichi Konoki, Kohei Torikai, Yoko Yasuno, Masayuki Satake, and Tohru Oishi*

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 325-330 doi:10.1246/bcsj.20210397



WXYZA'B'C'D'E'F' ring segment of MTX (**1**)

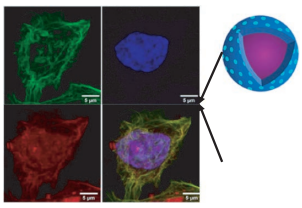
Article for Masterpiece Materials with Functional Excellence | Open Access

Keywords: Mesoporous | Drug delivery | Prostate cancer

Triple Surfactant Assisted Synthesis of Novel Core-Shell Mesoporous Silica Nanoparticles with High Surface Area for Drug Delivery for Prostate Cancer

Steffi Tiburcius, Kannan Krishnan, Vaishwik Patel, Jacob Netherton, C.I. Sathish, Judith Weidenhofer, Jae-Hun Yang, Nicole M Verrills, Ajay Karakoti,* and Ajayan Vinu*

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 331-340 doi:10.1246/bcsj.20210428



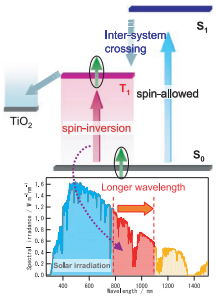
Account/Review for Masterpiece Materials with Functional Excellence | Award Accounts | Open Access

Keywords: Photoenergy conversion | Spin-orbit coupling | Multi-junction solar cells

Highly Efficient Wideband Solar Energy Conversion Employing Singlet-Triplet Transitions

Takumi Kinoshita

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 341-352 doi:10.1246/bcsj.20210423



Keywords: Mercury(II) | Pyrazol derivated | Selective electrode

Hg(II) Ion-Selective Electrodes with PVC Membranes Based on Bis-1,5-dimethyl-2-phenyl-1,2-dihydro-3H-pyrazol-3-one

Omer Isildak,* Ilyas Yildiz, Ramazan Erenler, Besir Dag, and Ibrahim Isildak

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 353-358 doi:10.1246/bcsj.20210353

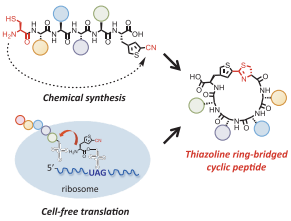
Selected Paper

Keywords: Cyclic peptide | Non-natural amino acid | Thiazoline

Chemical Synthesis and Cell-Free Expression of Thiazoline Ring-Bridged Cyclic Peptides and Their Properties on Biomembrane Permeability

Takashi Tamura, Masaaki Inoue, Yuji Yoshimitsu, Ichihiko Hashimoto, Noriyuki Ohashi, Kyosuke Tsumura, Koo Suzuki, Takayoshi Watanabe, and Takahiro Hohsaka*

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 359-366 doi:10.1246/bcsj.20210409



Open Access

Keywords: Ziegler-Natta catalyst | Soft X-ray emission spectrometer (SXES) | Ti peripheral electron

Characterization of Electronic Properties of Titanium Atom in Heterogeneous Ziegler-Natta Catalyst Analyzed by Soft X-ray Emission Spectrometry (SXES)

Masayoshi Saito,* Masahide Murata, Takuo Kataoka, Yusuke Sakuda, and Hideyuki Takahashi

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 367-373 doi:10.1246/bcsj.20210374

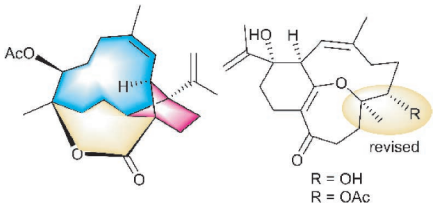
Selected Paper

Keywords: *Sarcophyton cinereum* | Sarsolenone | Cinerelolide

An Unprecedented Cembranoid with a Novel Tricyclo[9.3.0.0^{2,12}]tetradecane Skeleton and Related Diterpenes from the Soft Coral *Sarcophyton cinereum*

Yi-Ju Chen, Chih-Hua Chao, Chiung-Yao Huang, Tsong-Long Hwang, Fang-Rong Chang, Chang-Feng Dai, and Jyh-Horng Sheu*

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 374-379 doi:10.1246/bcsj.20210393



Additions and Corrections

New Polymers Made from Carbon Dioxide and Alkenes

Kyoko Nozaki

Bull. Chem. Soc. Jpn. 2022, 95, No. 2, pp. 380-380 doi:10.1246/bcsj.20210443

Keywords: Trimerization | C_3-Symmetric macrocycle | Triimine

Synthesis of C_3-Symmetric Macrocyclic Triimines from Monomers Having Boc-protected Amine and Formyl Group

Yu Moriya, Masahiro Yamanaka,* and Keiji Mori*
Chem. Lett. 2022, 51, No. 3, pp. 217-220 doi:10.1246/cl.210736

Keywords: Self-template method | $Ni_{0.85}Se$@C composites | Sodium-ion battery

In Situ Carbon-coated $Ni_{0.85}Se$@C Composite with High Performance for Sodium-ion Batteries

Mingyue Gao, Yongming Chen, Jing Wang, Ru Yang, Xingmei Guo, Fu Cao, Shasha Sun,* Junhao Zhang,* and Qinghong Kong
Chem. Lett. 2022, 51, No. 3, pp. 221-223 doi:10.1246/cl.210710

Keywords: CO_2 reduction | Electrocatalysis | Iron porphyrin

Synthesis and Electrocatalytic CO_2 Reduction Activity of an Iron Porphyrin Complex Bearing a Hydroquinone Moiety

Kento Kosugi, Maho Imai, Mio Kondo,* and Shigeyuki Masaoka*
Chem. Lett. 2022, 51, No. 3, pp. 224-226 doi:10.1246/cl.210734

Open Access

Keywords: Hierarchical nanostructure | Colloidal templating | Electrodeposition

Enhanced Electrochromic Properties of Hierarchical Iron Oxyhydroxide Hollow Sphere Array

Ke-Hsuan Wang, Genta Watanabe, Masaaki Yoshida, Yusaku Araki, and Takeshi Kawai*
Chem. Lett. 2022, 51, No. 3, pp. 227-230 doi:10.1246/cl.210677

Keywords: Osmium tetroxide | Hydrogen peroxide | Alkane oxidation

Alkane Oxidation with H_2O_2 Catalyzed by OsO_4-carboxylate Adduct and Its Application to Heterogeneous Catalyst

Tomohiro Fujimoto, Yuta Ueda, Hideki Sugimoto,* Jun Nakazawa, Shiro Hikichi,* and Shinobu Itoh*
Chem. Lett. 2022, 51, No. 3, pp. 231-234 doi:10.1246/cl.210751

Keywords: Drug delivery system | Amphiphilic block polydepsipeptide | Lactosome

Downsizing to 25-nm Reverse Polymeric Micelle Composed of AB_3-type Polydepsipeptide with Comprising siRNA

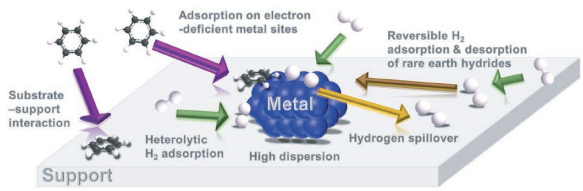
Hirotaka Uji,* Naoki Watabe, Tatsuya Komi, Tomoki Sakaguchi, Ryo Akamatsu, Kenta Mihara, and Shunsaku Kimura
Chem. Lett. 2022, 51, No. 3, pp. 235-238 doi:10.1246/cl.210704

Vol. 50 Commemorative Highlight Review Open Access

Keywords: Liquid organic hydrogen carrier | Hydrogenation | Supported metal catalysts

State-of-the-art Catalysts for Hydrogen Storage in Liquid Organic Hydrogen Carriers

Tae Wan Kim, Hwiram Jeong, Joon Hyun Baik,* and Young-Woong Suh*
Chem. Lett. 2022, 51, No. 3, pp. 239-255 doi:10.1246/cl.210742



(Hetero)aromatic hydrogenation

Keywords: Helicene | Exchange interaction | Molecular wire

Theoretical Investigation on Electron Transport Capabilities of Helically Twisted Molecules Based on Decay Constants of Exchange Interaction

Yusuke Nakakuki, Takshi Hirose,* and Kenji Matsuda*
Chem. Lett. 2022, 51, No. 3, pp. 256-259 doi:10.1246/cl.210727

Keywords: Porphyrin | Fullerene | Dye-sensitized solar cells

Donor-π-Acceptor Type Porphyrin-Fullerene Dyad with Acetylene Bridge for p-Type Dye-sensitized Solar Cell

Qi Guo, Tomohiro Higashino, Kosaku Kato, Akira Yamakata,* and Hiroshi Imahori*
Chem. Lett. 2022, 51, No. 3, pp. 260-263 doi:10.1246/cl.210717

Keywords: Supercapacitor | Graphene | Water-in-Salt

Microwave-exfoliated Graphene Oxide for High Voltage "Water-in-Salt" Electrolyte-based Supercapacitor

Sangho Yu, Hideaki Sano, Guobin Zheng,* and Shuji Tanabe
Chem. Lett. 2022, 51, No. 3, pp. 264-268 doi:10.1246/cl.210657

Open Access

Keywords: Machine learning (ML) | Catalysis informatics | Water gas shift (WGS)

Machine Learning Analysis of Literature Data on the Water Gas Shift Reaction toward Extrapolative Prediction of Novel Catalysts

Shinya Mine, Yuan Jing, Takumi Mukaiyama, Motoshi Takao, Zen Maeno, Ken-ichi Shimizu, Ichigaku Takigawa,* and Takashi Toyao*
Chem. Lett. 2022, 51, No. 3, pp. 269-273 doi:10.1246/cl.210645

Keywords: Micropacked-bed reactor | Continuous-flow catalytic hydrogenation | Riluzole

Continuous Catalytic Hydrogenation of a Key Intermediate of Riluzole Using a Micropacked-bed Reactor

Yang Si, Weixing Ming, Song Liu, Wei Wei, Lu Ji, Dangsheng Gong, Jing Wang, Cuncun Zuo, Haofei Huang, and Dongmao Yan*
Chem. Lett. 2022, 51, No. 3, pp. 274-277 doi:10.1246/cl.210716

Keywords: Copper | Radical | Cyclization

Cu- or Fe-catalyzed Atom-Transfer Radical Reactions in Cyclizations

Junki Matsumoto, Yusei Nakashima, and Takashi Nishikata*
Chem. Lett. 2022, 51, No. 3, pp. 278-280 doi:10.1246/cl.210811

Keywords: MX-chain | Charge-density wave | ^{15}N NMR

Charge-density-wave Amplitude in Quasi-one-dimensional Halogen-bridged Palladium Complex, $[Pd(^{15}N\text{-}en)_2Br](Suc\text{-}C_5)_2{\cdot}H_2O$ (Suc-C_5 = Dipentylsulfosuccinate), Estimated by ^{15}N Solid-state NMR

Shohei Kumagai, Hiroaki Iguchi, Masahiro Yamashita,* Sadamu Takeda, and Shinya Takaishi*
Chem. Lett. 2022, 51, No. 3, pp. 281-283 doi:10.1246/cl.210804

Keywords: Gold nanoparticles | Spherical polyelectrolyte brush | Catalysis

Catalytic Activity Comparison of Gold Nanoparticles in Annealed and Quenched Spherical Polyelectrolyte Brushes

Lingshan Li, Min Li, Zhiqiang Qiu, Kaimin Chen,* Yisheng Xu, Xuhong Guo, and Jie Wang*
Chem. Lett. 2022, 51, No. 3, pp. 284-287 doi:10.1246/cl.210733

Keywords: Hydrocarbon | Rubicene | Narrow HOMO–LUMO gap

Synthesis of Dibenzo[*h*,*t*]rubicene through Its Internally Dimethoxy-substituted Precursor

Masaki Kato, Norihito Fukui,* and Hiroshi Shinokubo*
Chem. Lett. 2022, 51, No. 3, pp. 288-291 doi:10.1246/cl.210754

Keywords: Azobenzene | DNA | Photoregulation

Unexpected Dissociation of Photoresponsive UV-ON DNA Carrying *p*-*tert*-Butyl Azobenzene under UV Light Irradiation

Satsuki Ishii, Keiji Murayama, Kazuki Sada, Hiroyuki Asanuma,* and Akira Kakugo*
Chem. Lett. 2022, 51, No. 3, pp. 292-295 doi:10.1246/cl.210788

Keywords: Flow microwave synthesis | Template-free mesoporous zeolite | Direct air capture

Microwave-assisted Green Synthesis of Mesoporous Zeolite Adsorbents for Direct Air Capture of CO_2

Takako Nagase,* Masato Miyakawa, Masateru Nishioka, and Takuji Ikeda
Chem. Lett. 2022, 51, No. 3, pp. 296-299 doi:10.1246/cl.210687

Keywords: Boron complexes | White-light emission | Aggregation

Design of Dimeric Dinuclear Boron Complexes with Flexible Linkers: Aggregation-induced White-light Emission *via* Molecular Engineering

Megumi Ihara, Luxia Cui, Yuto Konishi, Yoshio Hisaeda,* and Toshikazu Ono*
Chem. Lett. 2022, 51, No. 3, pp. 300-302 doi:10.1246/cl.210794

Keywords: Bimetallic signal probe | Aptasensor | cTnI

Integration of Magnetic Capture and SERS Signal Probes for Sensitive Competitive Aptamer-based Detection of Cardiac Troponin I

Chubing Lin, Lijun Li,* Yuhan He, and Yan Zhang
Chem. Lett. 2022, 51, No. 3, pp. 303-307 doi:10.1246/cl.210521

Open Access

Keywords: Glycopolymers | Siglec | RAFT polymerization

Synthesis of Glycopolymers Carrying 3′-Sialyllactose for Suppressing Inflammatory Reaction *via* Siglec-E

Takato Ishida, Masanori Nagao, Takahiro Oh, Takeshi Mori, Yu Hoshino, and Yoshiko Miura*
Chem. Lett. 2022, 51, No. 3, pp. 308-311 doi:10.1246/cl.210740

Keywords: Aromaticity | Azulene | Germanium

2-Germaazulene: Synthesis and Properties of 2-Heteraazulene Containing a Germanium Atom as a Skeletal Element

Taku Oshiro, Yoshiyuki Mizuhata,* and Norihiro Tokitoh*
Chem. Lett. 2022, 51, No. 3, pp. 312-316 doi:10.1246/cl.210773

Keywords: Nanoparticles | Dendrimers | Hydrocarbon oxidation

Copper-bismuth Binary Oxide Clusters: An Efficient Catalyst for Selective Styrene Bisperoxidation

Hiromu Koizumi, Makoto Tanabe,* Tetsuya Kambe, Takane Imaoka, Wang-Jae Chun, and Kimihisa Yamamoto*
Chem. Lett. 2022, 51, No. 3, pp. 317-320 doi:10.1246/cl.210725

Keywords: Nitrogen extrusion | Corrole | Copper

Nitrogen Extrusion of Diazacorrphycenes to Azacorroles and Synthesis of Two Types of Copper 10-Azacorrole Complexes

Atsumi Yagi, Naoya Okada, Norihito Fukui, Hisaaki Tanaka, Takuji Hatakeyama, and Hiroshi Shinokubo*
Chem. Lett. 2022, 51, No. 3, pp. 321-324 doi:10.1246/cl.210777

Open Access

Keywords: Diareno[*a*,*f*]pentalene | Hole-mobility | Antiaromatics

Synthesis and Characterization of Dinaphtho[2,1-*a*:2,3-*f*]pentalene: A Stable Antiaromatic/Quinoidal Hydrocarbon Showing Appropriate Carrier Mobility in the Amorphous Layer

Koki Horii, Akira Nogata, Yusuke Mizuno, Haruna Iwasa, Mitsuharu Suzuki, Ken-ichi Nakayama, Akihito Konishi,* and Makoto Yasuda*
Chem. Lett. 2022, 51, No. 3, pp. 325-329 doi:10.1246/cl.210809

Keywords: Acyclic nucleic acid | Hybridization chain reaction | RNA detection

Signal Amplification Circuit Composed of Serinol Nucleic Acid for RNA Detection

Yanglingzhi Chen, Keiji Murayama,* and Hiroyuki Asanuma*
Chem. Lett. 2022, 51, No. 3, pp. 330-333 doi:10.1246/cl.210813

Keywords: Cu^{2+}-containing LDH | Alcohol dehydrogenation | In situ reduction of CuO

In Situ Generation of Catalytically Active Cu^0 Species Derived from Cu-Al Layered Double Hydroxides for Acceptorless Alcohol Dehydrogenation

Enggah Kurniawan, Takayoshi Hara,* Yessi Permana, Nobuyuki Ichikuni, and Shogo Shimazu
Chem. Lett. 2022, 51, No. 3, pp. 334-337 doi:10.1246/cl.210743

Keywords: HRMC simulation | Quadrupole moment | Nanopore

Effect of Quadrupole of Nitrogen, as a Probe Molecule for Surface Area Estimation: XRD and HRMC Investigation

Ana Carolina Cons Bacilla, Ryusuke Futamura, and Taku Iiyama*
Chem. Lett. 2022, 51, No. 3, pp. 338-341 doi:10.1246/cl.210728

Keywords: Magnetic shielding | Vibrational quantum Monte Carlo | Isotope effect

Theoretical Study of the Isotope and Homologue Effects on Nuclear Magnetic Shielding in Water and Hydrogen Sulfide Molecules

Kiriko Ishii, Tomomi Shimazaki, Masanori Tachikawa,* and Yukiumi Kita*
Chem. Lett. 2022, 51, No. 3, pp. 342-344 doi:10.1246/cl.210760