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ISSN 1359-7345 CODEN CHCOFS 60(80) 11179-11372 (2024)



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See Naoyuki Shimada *et al.*, pp. 11202–11222. Image reproduced by permission of Naoyuki Shimada from *Chem. Commun.*, 2024, 60, 11202.



Inside cover

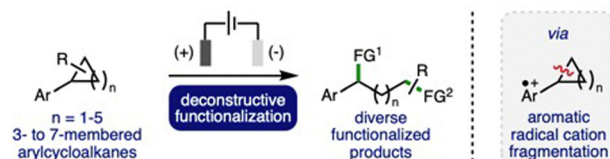
See Jianhui Wang *et al.*, pp. 11275–11278. Image reproduced by permission of Jianhui Wang from *Chem. Commun.*, 2024, 60, 11275.

HIGHLIGHT

11190

Electrochemical deconstructive functionalization of arylcycloalkanes *via* fragmentation of anodically generated aromatic radical cations

Hussain A. Maashi, Abdulrahman H. Husayni, James Harnedy and Louis C. Morrill*

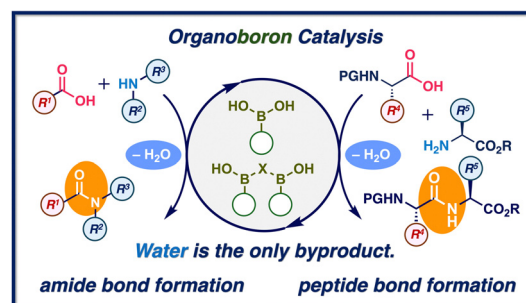


FEATURE ARTICLES

11202

Organoboron catalysis for direct amide/peptide bond formation

Masayoshi Koshizuka, Naoya Takahashi and Naoyuki Shimada*



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Uncover new possibilities
with outstanding
preliminary research

Original discoveries, fuelling
every step of scientific progress



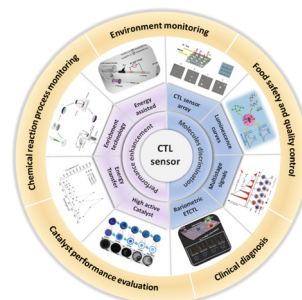
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Fundamental questions
Elemental answers

11223

Recent progress of cataluminescence sensing based on gas–solid interfaces

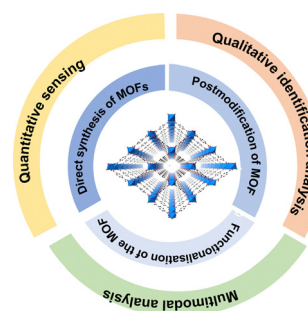
Jiayi Hu, Hongjie Song, Lichun Zhang and Yi Lv*



11237

The design, synthesis and application of metal–organic framework-based fluorescence sensors

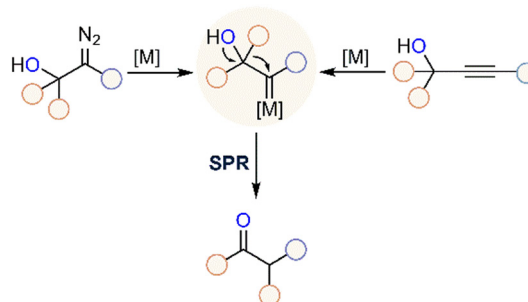
Juan He, Guijiao Wen, Qianqian Peng and Xiandeng Hou*



11253

Recent advances in metal carbene-induced semipinacol rearrangements

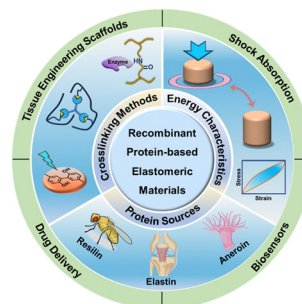
Yang Chen and Shifa Zhu*



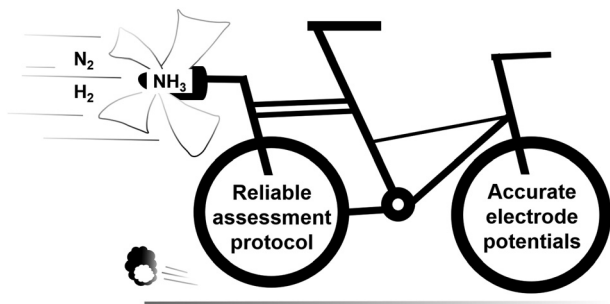
11267

Engineered protein elastomeric materials

Zhongcheng Liu, Haopeng Li, Jingjing Li,*
Jing Yu* and Kai Liu*



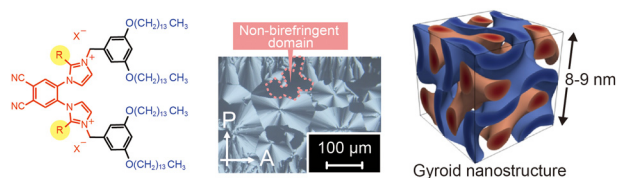
11275



Improvements in the evaluation of electrocatalytic ammonia oxidation reactions

Ting Zhang, Yongzhen Jin, Yang Liu, Runze Chen and Jianhui Wang*

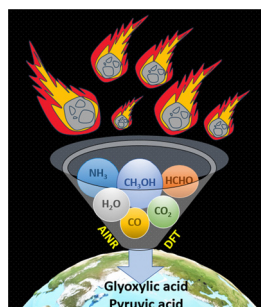
11279



Design of V-shaped ionic liquid crystals: atropisomerisation ability and formation of double-gyroid molecular assemblies

Takahiro Ichikawa,* Soki Obara, Saori Yamaguchi, Yumin Tang, Toshiyo Kato and Xiangbing Zeng

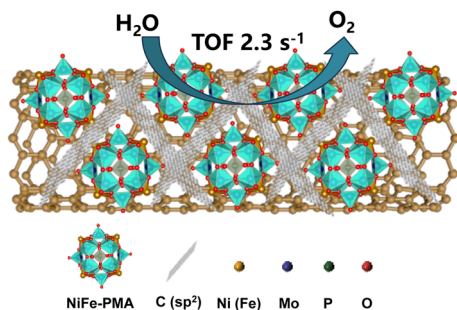
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Unravelling the prebiotic origins of the simplest α -ketoacids in cometary ices: a computational investigation

Soumya Ranjan Dash, Rinu Pandya, Geetika Singh, Himanshu Sharma, Tamal Das, Hritwik Haldar, Srinivas Hotha* and Kumar Vanka*

11287



Polyoxometalate-incorporated NiFe-based oxyhydroxides for enhanced oxygen evolution reaction in alkaline media

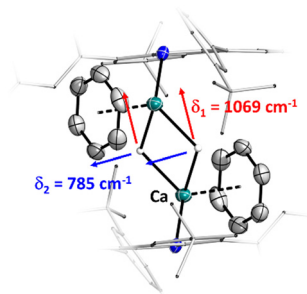
Yuyan Qiao, Yanqiu Pan, Wenjun Fan,* Guifa Long* and Fuxiang Zhang*



11291

CO reduction by calcium and ytterbium hydride complexes with a bulky monodentate carbazolyl ligand

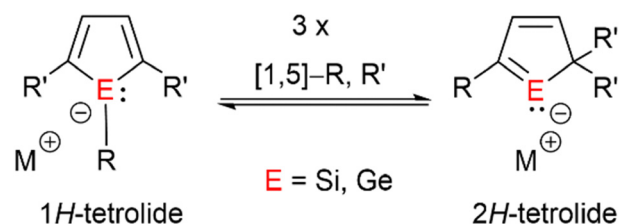
Alexander Hinz,* Lucas Winkler and Xiaofei Sun



11295

Metal ion-driven formation of 2*H*-silolides and -germolides

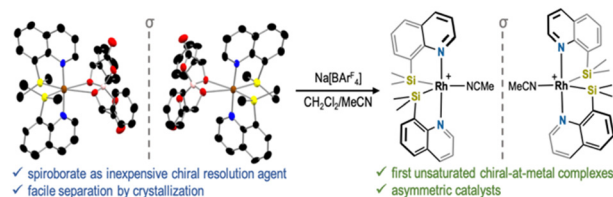
Chenghuan Liu, Marc Schmidtman and Thomas Müller*



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Unsaturated chiral-only-at-metal rhodium(III) complexes bearing SiN-type ligands

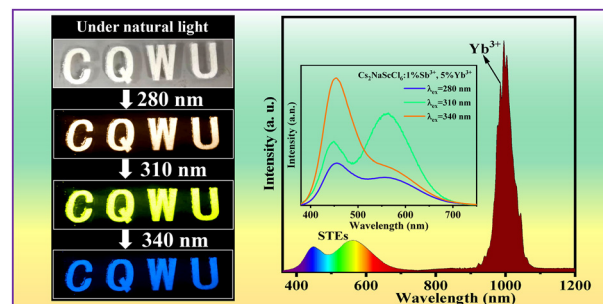
Unai Prieto-Pascual, Itxaso Bustos, Pablo Salcedo-Abraira, Iñigo J. Vitorica-Yrezabal, Aitor Landa, Zoraida Freixa* and Miguel A. Huertos*



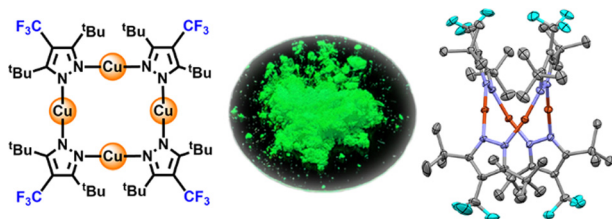
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Excitation-dependent emission and highly efficient near-infrared luminescence in Cs₂NaScCl₆ double perovskite via Sb³⁺–Yb³⁺ alloying for multifunctional photoelectric applications

Mingsheng Cai, Junyang Chen, Tianchun Lang,* Xiaolong Jing, Gaoxunyu Guan, Jun Wang, Qinqing Qiang, Wenbo Chen, Tao Han and Bitao Liu*



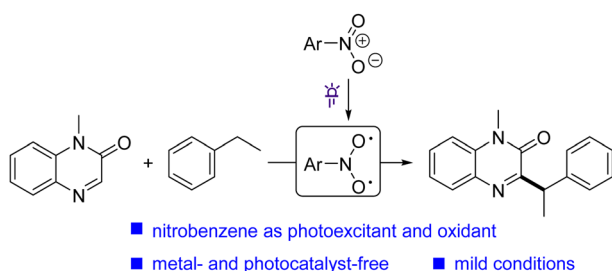
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Rigidochromism of tetranuclear Cu(I)-pyrazolate macrocycles: steric crowding with trifluoromethyl groups

Shinaj K. Rajagopal, Matthias Zeller, Sergei Savikhin, Lyudmila V. Slipchenko and Alexander Wei*

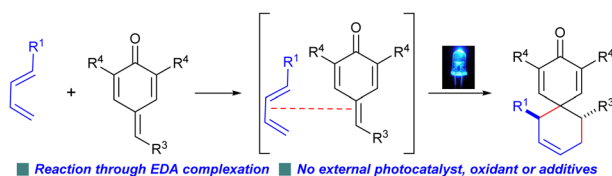
11311



Photoexcited nitroarenes for alkylation of quinoxalin-2(1H)-ones

Lingang Wu,* Zhaoxue Wang, Yanling Qiao, Lei Xie* and Qingmin Wang*

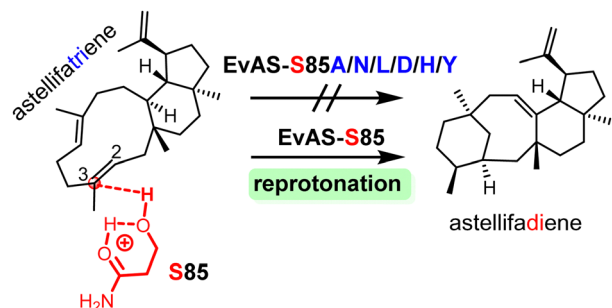
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Photoinduced [4+2] cycloaddition of dienes and quinonemethides

Jobsy Jose, Arun Yadav and Chandra Bhushan Tripathi*

11319



Serine 85 functions as a catalytic acid in the reprotonation process during EvAS-catalyzed astellifadiene biosynthesis

Weiyang Zhang, Kaitong Peng, Keying Lan, Kangwei Xu, Ruibo Wu, Tom Hsiang, Shaoping Nie, Lixin Zhang, Xinye Wang* and Xueting Liu*

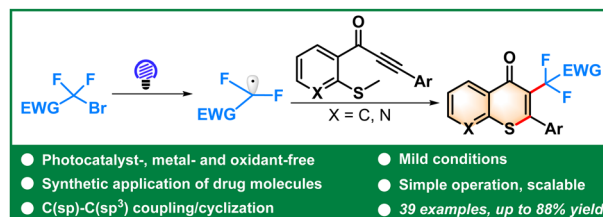


COMMUNICATIONS

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Photo-induced difluoroalkylation/cyclization of alkyne ketones: a novel strategy to access difluoroalkyl thiofavones

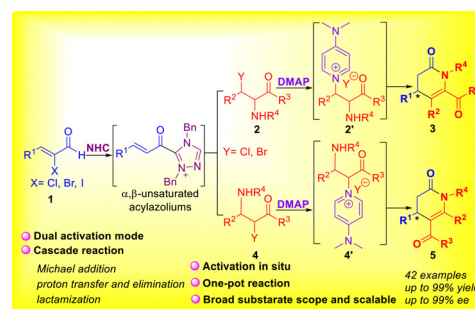
Shengjie Song, Can Luo, Guan Wang, Jingjing Guo, Zhi Chen and Jianjun Li*



11327

One-pot synthesis of functionalized dihydropyridin-2-ones via carbene-catalyzed base-controlled [3+3] annulation reaction

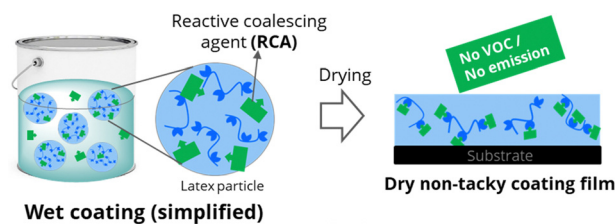
Zhan-Yong Wang, Guoyang Ma, Yaoyao Xu, Qingqing Wang, Mengru Zhang, Xueji Ma, Chenyang Ma, Aili Sun, Ran Xia* and Hongxin Liu*



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Amine functional reactive coalescing agents (RCA) for emission-free waterborne paints and coatings

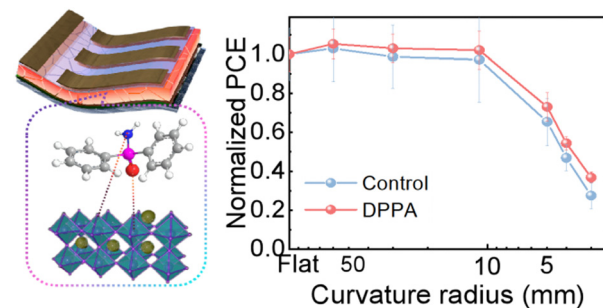
Ranganathan Krishnan, Jagjit Kaur, Balamurugan Ramalingam* and Satyasankar Jana*



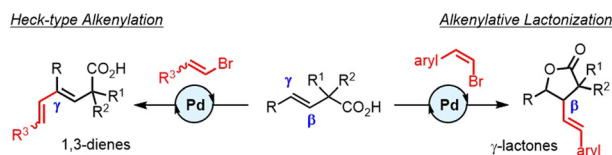
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A multifunctional phenylphosphinamide additive for stable flexible inverted perovskite solar cells

Feihu Liu, Jidong Geng, Wei Zhang, Jie Dou,* Qiyao Guo, Jialong Duan and Qunwei Tang*



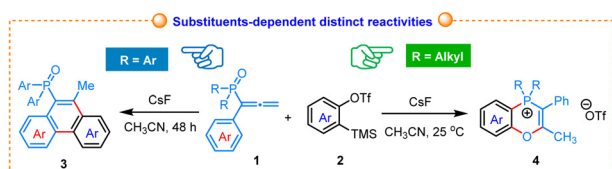
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Substrate-directed regioselective alkene functionalizations of (*E*)- β,γ -unsaturated carboxylic acids

Chi-Hao Chang, Chao-Ting Yen, Théo P. Goncalves, Yu-Sheng Lin, Yu-Chun Wang, R. Sidick Basha, Bo-Yan Chen, Cheng-Hao Fu, Liang-Wei Chen, Meng-Li Jhou, Kuo-Wei Huang and Chih-Ming Chou*

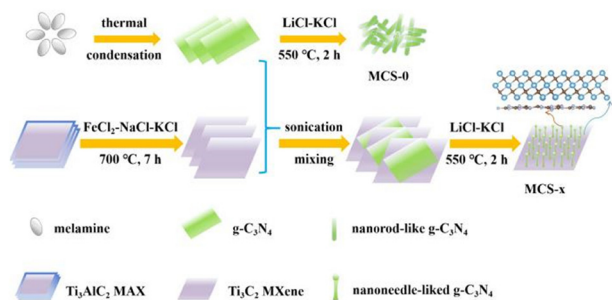
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Substituent-dependent [4+2] or [2+2] cycloadditions of phenylallenyl phosphine oxides with arynes

Yunlong Qin, Jianing Zhang, Congcong Zhang and Qilin Wang*

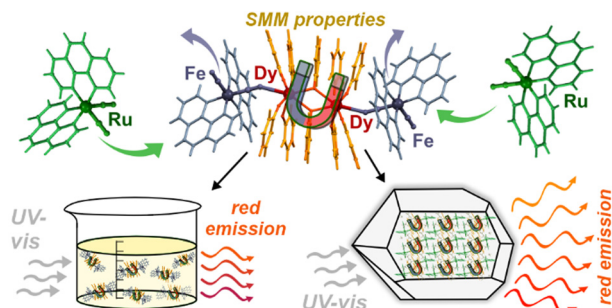
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The synthesis of 3D organic-inorganic hybrid heterojunctions of g-C₃N₄ nanoneedles@Ti₃C₂ MXene with superior photocatalytic H₂ evolution

Fang He,* Yuying Mao, Yan Hu, Jingyang Wu, Enqi Xie, Zhenxing Wang and Yuexiang Li*

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Making soluble Dy₂ single-molecule magnets red emissive through their functionalization by ruthenium-cyanido luminophores

Michal Liberka and Szymon Chorazy*



COMMUNICATIONS

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From Li_2NiO_3 to high-performance LiNiO_2 cathodes for application in Li-ion and all-solid-state batteries

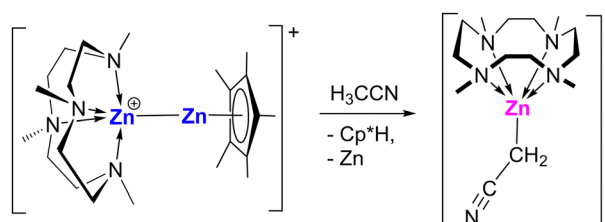
Leonhard Karger, Philip Henkel, Saravanakumar Murugan, Ruizhuo Zhang, Aleksandr Kondrakov* and Torsten Brezesinski*



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Hypervalent zinc(i) complexes with an *NNNN*-macrocyclic: C–H bond activation across the zinc(i)–zinc(i) bond

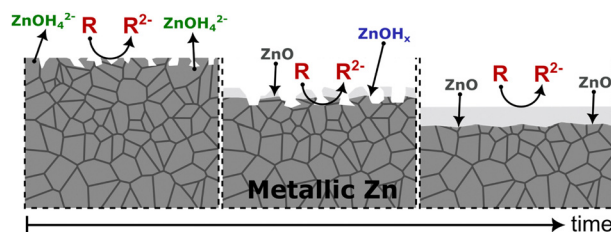
Pritam Mahawar, Thayalan Rajeshkumar, Thomas P. Spaniol, Laurent Maron and Jun Okuda*



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Phenomenological observations of quinone-mediated zinc oxidation in an alkaline environment

Christopher T. Mallia and Fikile R. Brushett*



11367

Silane-mediated, facile C–H and N–H methylation using formaldehyde

Jabir Khan, Neha Taneja, Naveen Yadav and Chinmoy Kumar Hazra*

