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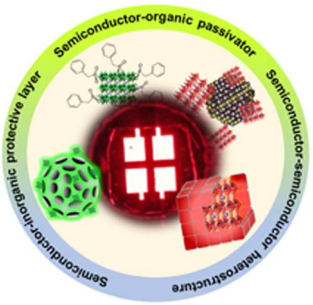
Cover
See Carmine D'Agostino, Hao Li *et al.*, pp. 9000–9009. Image reproduced by permission of Hao Li from *Chem. Sci.*, 2023, **14**, 9000.

PERSPECTIVE

8984

Impact of core–shell perovskite nanocrystals for LED applications: successes, challenges, and prospects

Samrat Das Adhikari, Andrés F. Gualdrón Reyes, Subir Paul, Jeevan Torres, Beatriu Escuder, Iván Mora-Seró and Sofia Masi*

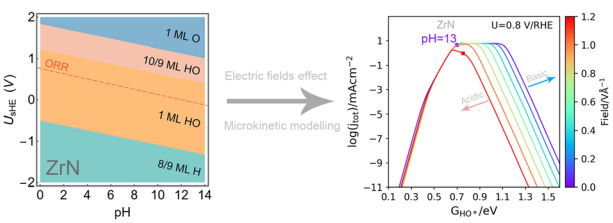


EDGE ARTICLES

9000

Origin of the superior oxygen reduction activity of zirconium nitride in alkaline media

Heng Liu, Di Zhang, Stuart M. Holmes, Carmine D'Agostino* and Hao Li*



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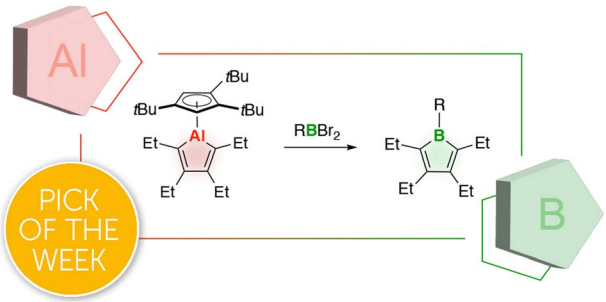
Boroles from alumoles: accessing boroles with alkyl-substituted backbones *via* transtrielation

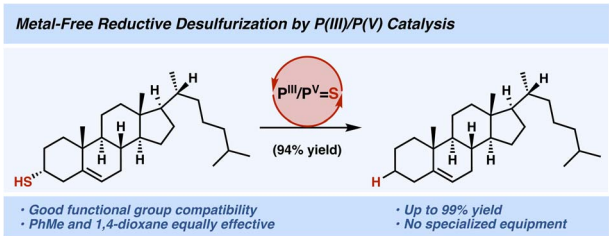
Josina L. Bohlen, Lukas Endres, Regina Drescher, Krzysztof Radacki, Maximilian Dietz, Ivo Krummenacher and Holger Braunschweig*



9016

Metal-free reductive desulfurization of C-sp^3-substituted thiols using phosphite catalysis

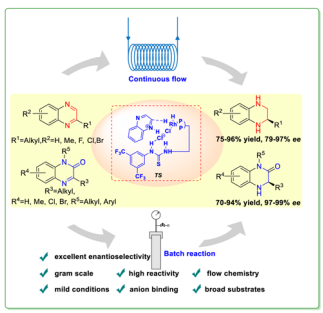
Rana M. I. Morsy, Ganesh Samala, Ankur Jalan, Michael E. Kopach, Naresh M. Venneti* and Jennifer L. Stockdill*



9024

Highly enantioselective synthesis of both tetrahydroquinoxalines and dihydroquinoxalinones *via* Rh–thiourea catalyzed asymmetric hydrogenation

Ana Xu, Chaoyi Li, Junrong Huang, Heng Pang, Chengyao Zhao, Lijuan Song,* Hengzhi You,* Xumu Zhang and Fen-Er Chen*



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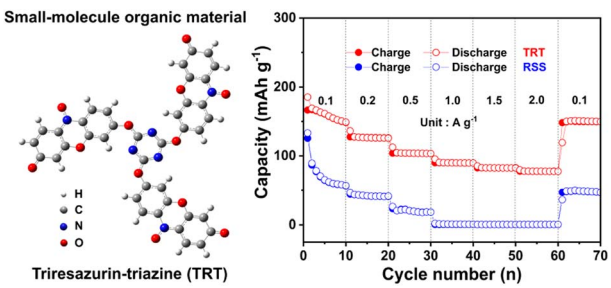
Boosting the zinc storage of a small-molecule organic cathode by a desalinization strategy

Wei Wang, Ying Tang, Jun Liu, Hongbao Li,* Rui Wang, Longhai Zhang, Fei Liang, Wei Bai,* Lin Zhang and Chaofeng Zhang*



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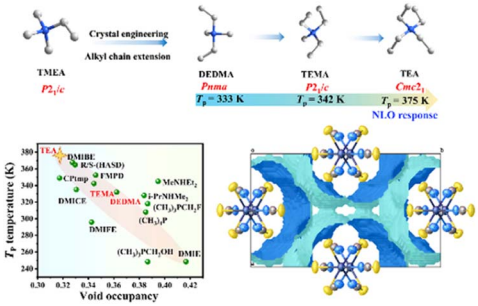
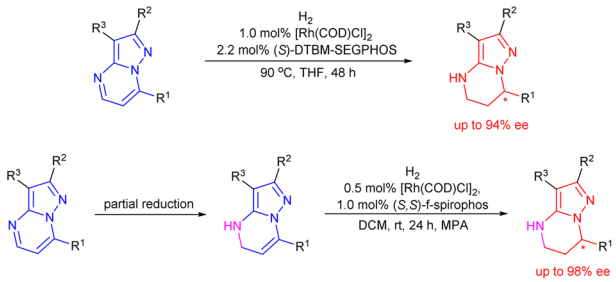


Targeted regulation and optimization of multifunctional phase transition materials by novel void occupancy engineering

Zhi-Jie Wang, Hao-Fei Ni, Tie Zhang, Jie Li, Meng-Meng Lun, Da-Wei Fu,* Zhi-Xu Zhang* and Yi Zhang*

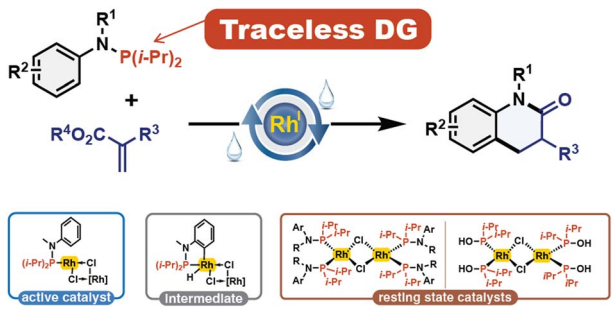
9048



Highly enantioselective Rh-catalyzed asymmetric reductive dearomatization of multi-nitrogen polycyclic pyrazolo[1,5-*a*]pyrimidines

Chaochao Xie, Guiying Xiao, Qianling Guo, Xiaoxue Wu, Guofu Zi, Wanjian Ding* and Guohua Hou*

9055



Rhodium(I)-catalyzed cascade C(sp^2)–H bond alkylation – amidation of anilines: phosphorus as traceless directing group

Marie Peng, Denis Ari, Thierry Roisnel, Henri Doucet and Jean-François Soulé*

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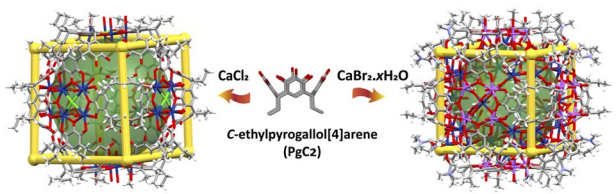

Nanocapsules of unprecedented internal volume seamed by calcium ions

Kanishka Sikligar, Steven P. Kelley, Durgesh V. Wagle, Piyuni Ishtaweera, Gary A. Baker* and Jerry L. Atwood*

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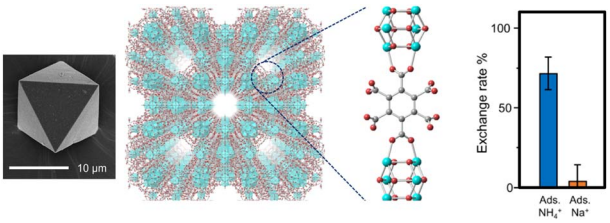
Design of a robust and strong-acid MOF platform for selective ammonium recovery and proton conductivity

Genki Hatakeyama, Hongyao Zhou, Takashi Kikuchi, Masaki Nishio, Kouki Oka, Masaaki Sadakiyo, Yusuke Nishiyama and Teppei Yamada*



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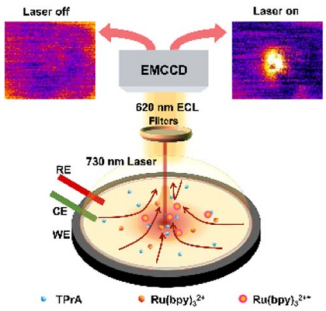
Site-selective heat boosting electrochemiluminescence for single cell imaging

Xiaodan Gou, Yiwen Zhang, Zejing Xing, Cheng Ma,* Changjie Mao* and Jun-Jie Zhu*



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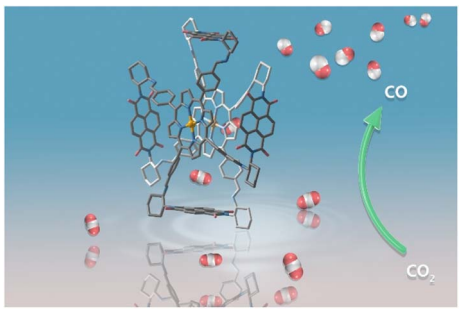
Cofacial porphyrin organic cages. Metals regulating excitation electron transfer and CO_2 reduction electrocatalytic properties

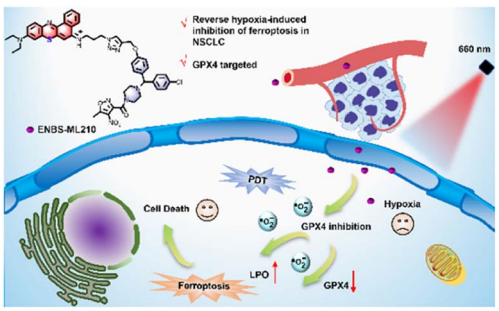
Xiaolin Liu, Chenxi Liu, Xiaojuan Song, Xu Ding, Hailong Wang,* Baoqiu Yu, Heyuan Liu,* Bin Han, Xiyou Li* and Jianzhuang Jiang*



9095

A GPX4-targeted photosensitizer to reverse hypoxia-induced inhibition of ferroptosis for non-small cell lung cancer therapy

Qiao Hu, Wanjie Zhu, Jianjun Du,* Haoying Ge, Jiazhu Zheng, Saran Long, Jiangli Fan and Xiaojun Peng



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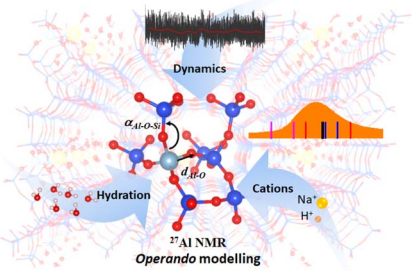
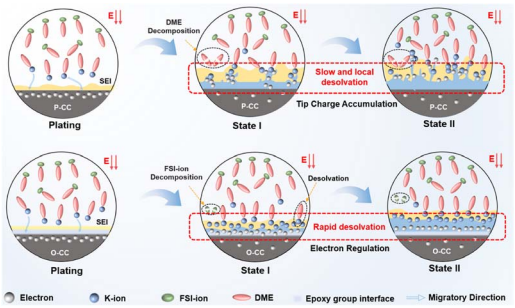


The need for *operando* modelling of ^{27}Al NMR in zeolites: the effect of temperature, topology and water

Chen Lei, Andreas Erlebach, Federico Brivio, Lukáš Grajciar, Zdeněk Tošner, Christopher J. Heard* and Petr Nachtigall

9114



A host potassiophilicity strategy for unprecedentedly stable and safe K metal batteries

Zhibin Li, Liang Ma, Kai Han, Yingying Ji, Junpeng Xie, Likun Pan, Jinliang Li* and Wenjie Mai*

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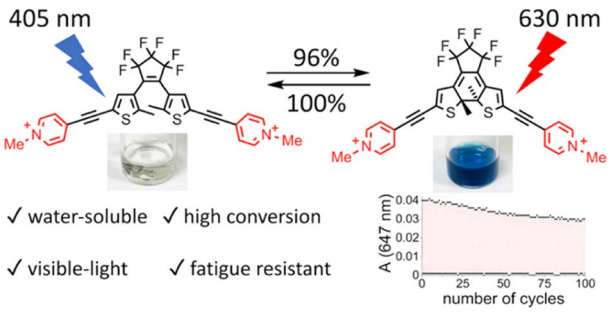

How do donor and acceptor substituents change the photophysical and photochemical behavior of dithienylethenes? The search for a water-soluble visible-light photoswitch

Sili Qiu, Andrew T. Frawley,* Kathryn G. Leslie and Harry L. Anderson*

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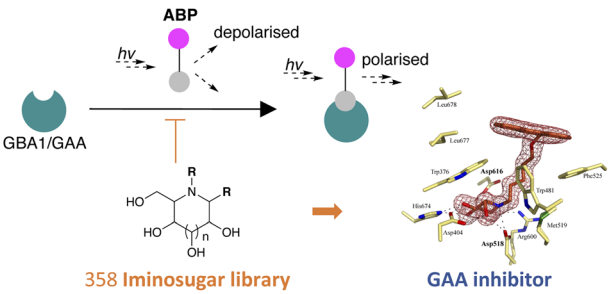

Fluorescence polarisation activity-based protein profiling for the identification of deoxynojirimycin-type inhibitors selective for lysosomal retaining alpha- and beta-glucosidases

Daniël van der Gracht, Rhianna J. Rowland, Véronique Roig-Zamboni, Maria J. Ferraz, Max Louwerse, Paul P. Geurink, Johannes M. F. G. Aerts, Gerlind Sulzenbacher, Gideon J. Davies, Herman S. Overkleeft* and Marta Artola*

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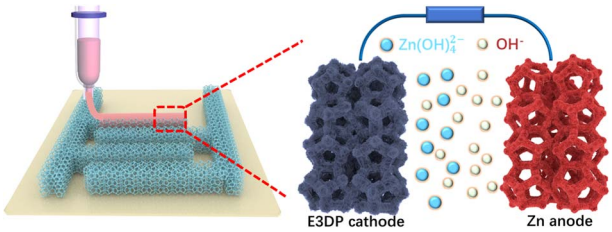
Achieving desirable charge transport by porous frame engineering for superior 3D printed rechargeable Ni–Zn alkaline batteries

Wenyu Cao, Haojie Li, Hui Ma, Jintao Fan and Xiaocong Tian*



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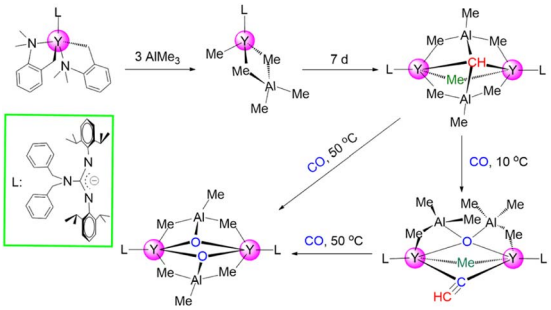
A binuclear guanidinate yttrium carbyne complex: unique reactivity toward unsaturated C–N, C–O and C–S bonds

Wen Jiang, Feng Kong, Iker del Rosal, Meng Li, Kai Wang, Laurent Maron* and Lixin Zhang*



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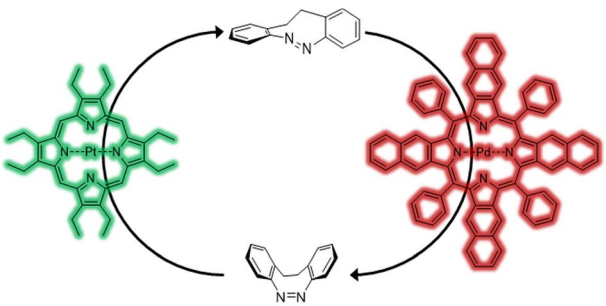
Triplet sensitization enables bidirectional isomerization of diazocine with 130 nm redshift in excitation wavelengths

Jussi Isokuortti, Thomas Griebenow, Jan-Simon von Glasenapp, Tim Raeker, Mikhail A. Filatov, Timo Laaksonen, Rainer Herges* and Nikita A. Durandin*



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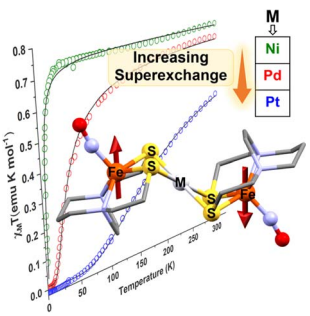
Magnetic coupling between Fe(NO) spin probe ligands through diamagnetic Ni^{II}, Pd^{II} and Pt^{II} tetrathiolate bridges

Manuel Quiroz, Molly M. Lockart, Shan Xue, Dakota Jones, Yisong Guo, Brad S. Pierce, Kim R. Dunbar,* Michael B. Hall* and Marcetta Y. Darensbourg*



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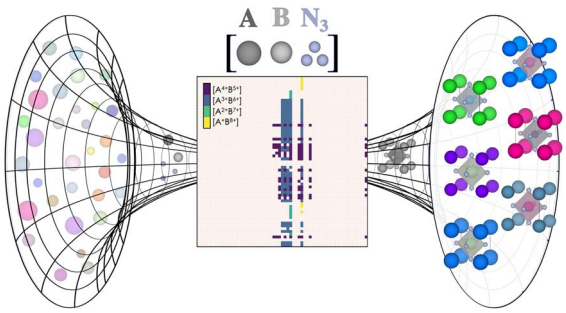
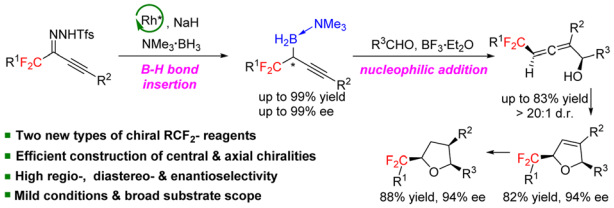


Accessible chemical space for metal nitride perovskites

Bastien F. Grosso, Daniel W. Davies, Bonan Zhu, Aron Walsh* and David O. Scanlon*

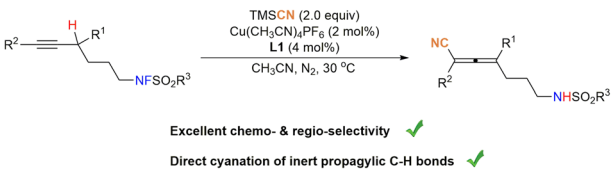
9186



Chiral *gem*-difluoroalkyl reagents: *gem*-difluoroalkyl propargylic borons and *gem*-difluoroalkyl α-allenols

Hui-Na Zou, Meng-Lin Huang, Ming-Yao Huang, Yu-Xuan Su, Jing-Wei Zhang, Xin-Yu Zhang and Shou-Fei Zhu*

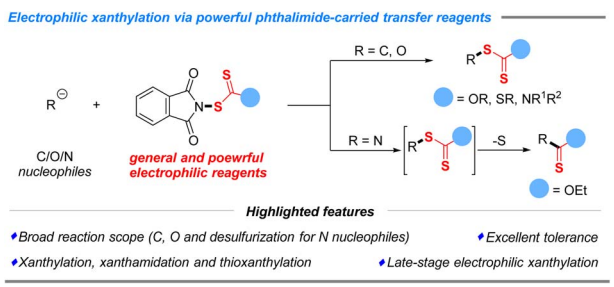
9191



Copper-catalyzed propargylic C–H functionalization for allene syntheses

Dongjie Zhang, Junjie Fan, Yaqi Shi, Yankai Huang, Chunling Fu, Xiaoyan Wu* and Shengming Ma*

9197



Synthetic exploration of electrophilic xanthylation *via* powerful *N*-xanthylphthalimides

Shuo Wang, Liuqing Yang, Fangcan Liang, Yu Zhong, Xueru Liu, Qingling Wang* and Dianhu Zhu*

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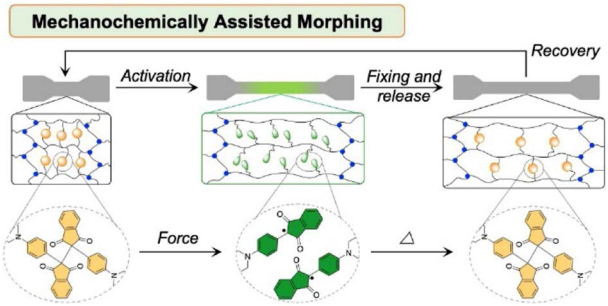
EDGE ARTICLES

9207

Mechanochemically assisted morphing of shape shifting polymers

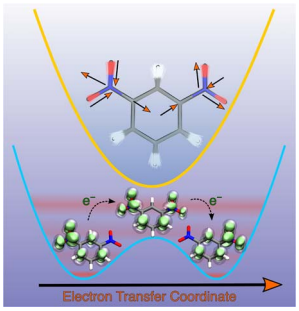
Rui Tang, Wenli Gao, Yulin Jia, Kai Wang, Barun Kumar Datta, Wei Zheng, Huan Zhang, Yuanze Xu, Yangju Lin* and Wengui Weng*



9213

The Marcus dimension: identifying the nuclear coordinate for electron transfer from *ab initio* calculations

Adam Šrut, Benjamin J. Lear* and Vera Krewald*



CORRECTIONS

9226

Correction: 2-Mercaptomethyl-thiazolidines use conserved aromatic–S interactions to achieve broad-range inhibition of metallo-β-lactamases

Maria-Agustina Rossi, Veronica Martinez, Philip Hinchliffe, Maria F. Mojica, Valerie Castillo, Diego M. Moreno, Ryan Smith, Brad Spellberg, George L. Drusano, Claudia Banchio, Robert A. Bonomo, James Spencer, Alejandro J. Vila* and Graciela Mahler*

9227

Correction: A visible-light-driven molecular motor based on barbituric acid

Kim Kuntze, Daisy R. S. Pooler, Mariangela Di Donato, Michiel F. Hilbers, Pieter van der Meulen, Wybren Jan Buma, Arri Priimagi, Ben L. Feringa* and Stefano Crespi*