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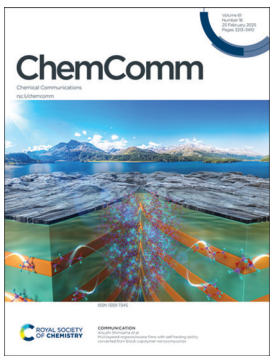
IN THIS ISSUE

ISSN 1359–7345 CODEN CHCOFS 61(16) 3213–3410 (2025)



Cover
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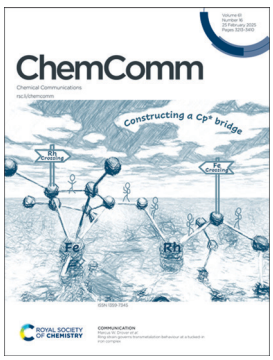

Inside cover
See Marcus W. Drover *et al.*, pp. 3323–3326. Image reproduced by permission of Connor S. Durfy and Marcus W. Drover from *Chem. Commun.*, 2025, **61**, 3323.

PROFILE

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Contributors to the Emerging Investigators collection 2024: Part 3

HIGHLIGHTS

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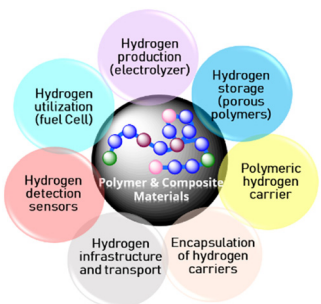
Polymer material innovations for a green hydrogen economy

Satyasankar Jana,* Anbanandam Parthiban* and Wendy Rusli



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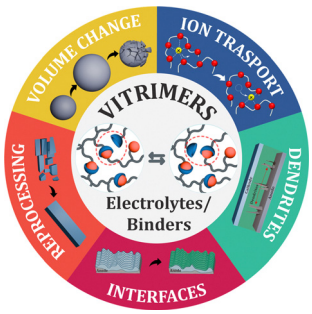
HIGHLIGHTS

3250

Vitrimeric electrolytes – overview and perspectives

Zviadi Katcharava, Anja Marinow* and Wolfgang H. Binder*



FEATURE ARTICLES

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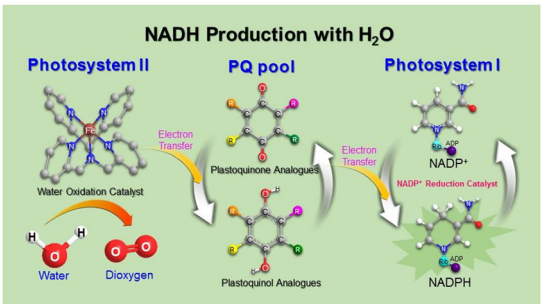
Catalytic reduction of NAD(P)$^+$ to NAD(P)H

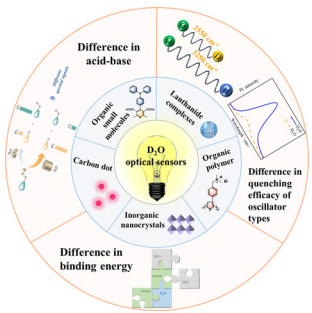
Shunichi Fukuzumi,* Yong-Min Lee* and Wonwoo Nam*



3283

Recent advances in optical heavy water sensors

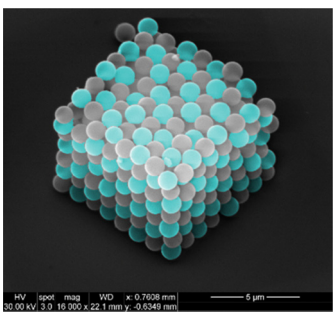
Fei Zheng, Chenghui Li, Yan Huang, Zhiyun Lu, Xiandeng Hou* and Yanju Luo*



3301

Building blocks for nanophotonic devices and metamaterials

Natalie Shultz and Euan McLeod*



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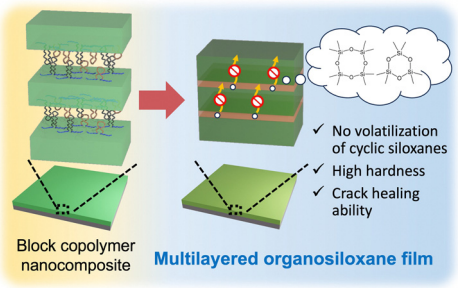

Multilayered organosiloxane films with self-healing ability converted from block copolymer nanocomposites

Yoshiaki Miyamoto, Takamichi Matsuno and Atsushi Shimojima*

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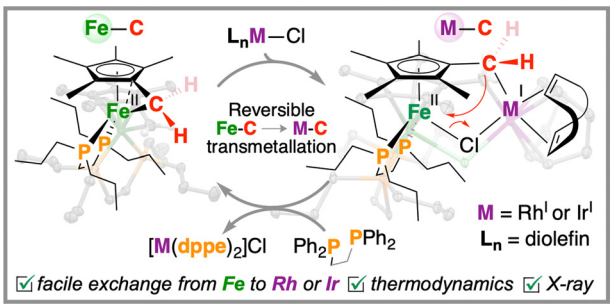

Ring strain governs transmetalation behaviour at a tucked-in iron complex

Connor S. Durfy, Michelle Huang, Joseph A. Zurakowski, Paul D. Boyle and Marcus W. Drover*

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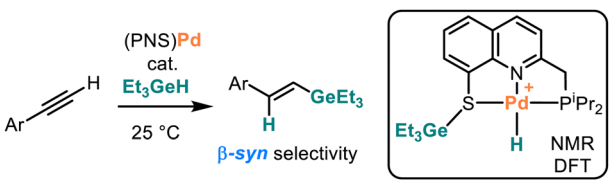

Hydrogermylation of alkynes *via* metal–ligand cooperative catalysis

Marceline Humbert, Arnaud Clerc, Karinne Miqueu, Julien Monot, Blanca Martin-Vaca* and Didier Bourissou*

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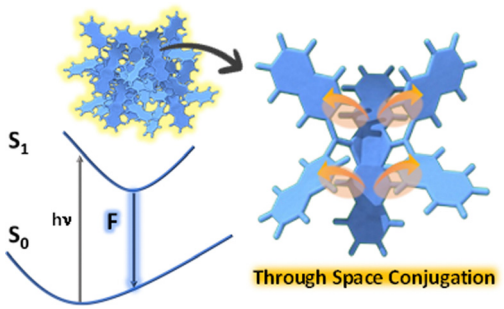

Through-space conjugation driven luminescence enhancement in crystalline butterfly architectures

Suvarna Sujilkumar, Avinash Hari and Mahesh Hariharan*

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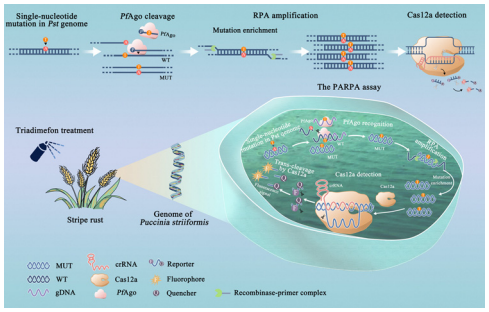
***Pyrococcus furiosus* Argonaute-mediated dual recognition enables the detection of trace single-nucleotide-mutated fungicide-resistant fungal pathogens**

Jiahao Lin, Jiannan Zhang, Xianglin Zhu, Xuhan Xia, Yong Zhang, Qingdong Zeng, Yuanhong Xu, Ruijie Deng* and Jinghong Li*



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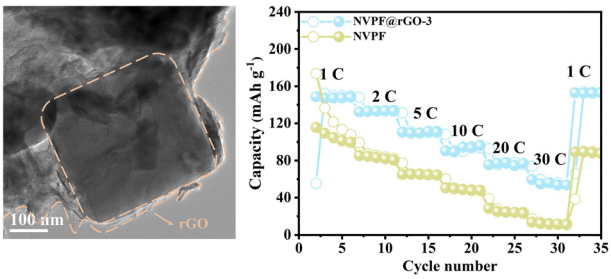
Tetragonal $NaVPO_4F$@rGO nanocomposite as a high-rate cathode for aqueous zinc-ion batteries

Jiajie Zhou, Shenghong Yang, Peiyin Xu, Xiaoyan Shi, Junling Xu, Lianyi Shao,* Yan Sun* and Zhipeng Sun*



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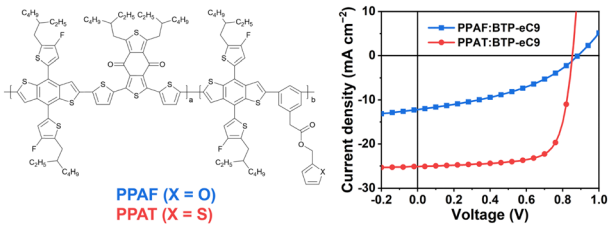
Polymer donors with phenylacetate pendants for efficient organic photovoltaics

Youlin Zhang, Jiayu Wang,* Yating Mo, Hongxiang Li, Fuqi Zhao, Hongbin Sun, Weibo Kong, Cenqi Yan, Hanlin Wang, Zhenjie Ni and Pei Cheng*



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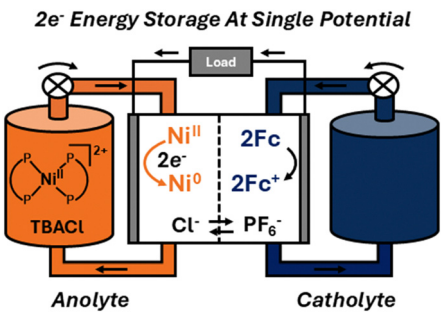
Mechanism guided two-electron energy storage for redox-flow batteries using nickel bis(diphosphine) complexes

Md. Musharraf Hossain and Byron H. Farnum*



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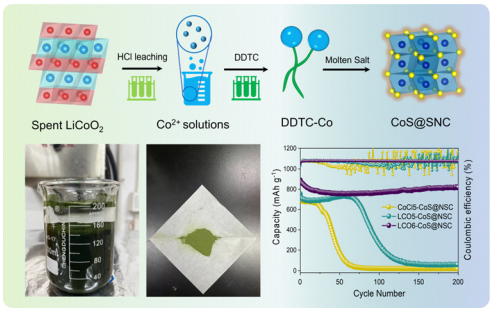

Upcycling of spent $LiCoO_2$: engineering the coordination-trapping behavior towards conversion-type anodes for advanced Li-storage

Zihao Zeng, Hai Lei, Yunpeng Wen, Chao Zhu, Jiexiang Li, Wei Sun, Yue Yang and Peng Ge*

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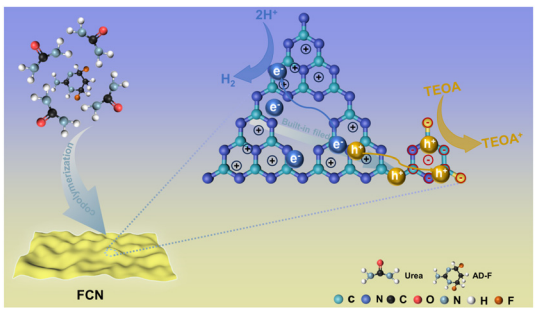

Constructing a built-in electric field by grafting strong electronegative small molecules for photocatalytic H_2 production

Mingtao Li, Wenying Yu, Na Tian,* Yihe Zhang and Hongwei Huang

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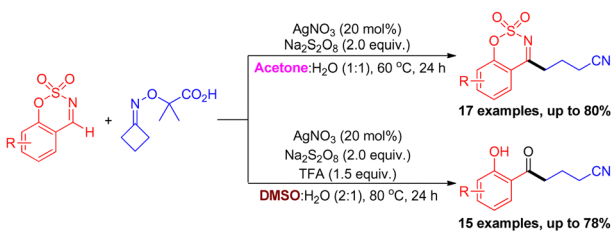

Solvent-controlled silver catalyzed radical transformation of α-imino-oxy acids with cyclic aldimines

Jingjing Wang, Yuran Qin, Ke Cui, Xueqi Li, Mingyue Cui, Sheng Cao, Linbo Zhang, Qin Shen, Teng Wang* and Feng Li*

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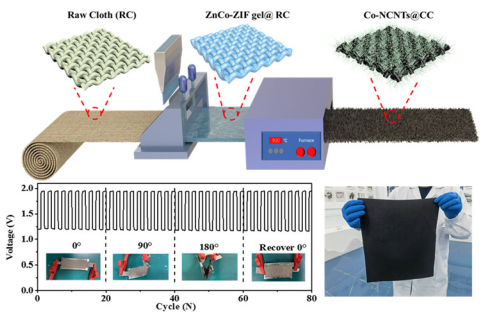

***In situ* gel pyrolysis-derived efficient self-supporting foldable electrodes for zinc–air batteries**

Liguang Lin, Wanbo Chen, Wen Zhang, Dong Li, Li Wang, Genhang Li, Feiyan Fu, Zhengbang Wang,* Yangyang Zhou* and Li Tao*

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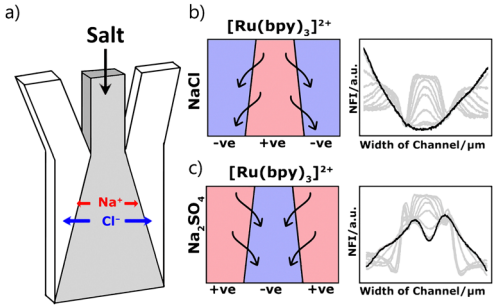
Ionic gradients in flow to control transport of emissive ions

Lucy L. Fillbrook, Isis A. Middleton, Hamid Rashidnejad, Aditya Sapre, Timothy W. Schmidt, Ayusman Sen and Jonathon E. Beves*



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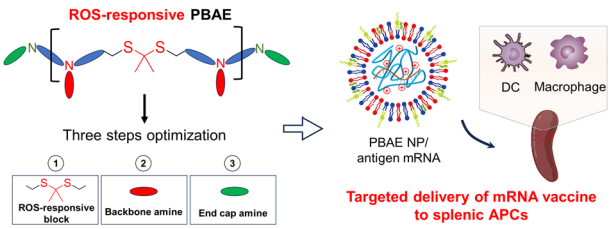
ROS-responsive poly(β-amino ester) nanoparticles enable targeted delivery of mRNA vaccine to splenic antigen-presenting cells

Meng Jiang, Lingjian Yan, Ling Zeng, Yingseng Tang, Zixi Zhang, Baihua Chen, Min Qiu* and Jinjin Chen*



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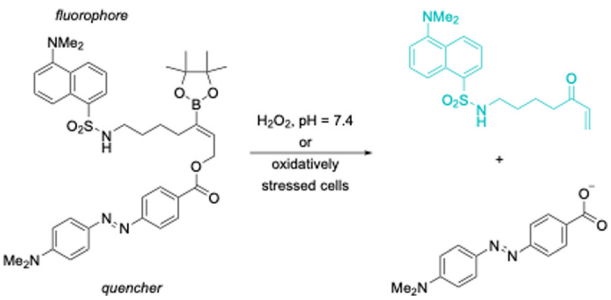
Difunctional oxidatively cleavable alkenyl boronates: application to cellular peroxide sensing from a fluorophore–quencher pair

Brittany M. Klootwyk, Grace M. Fleury, Savannah Albright, Alexander Deiters and Paul E. Floreancig*



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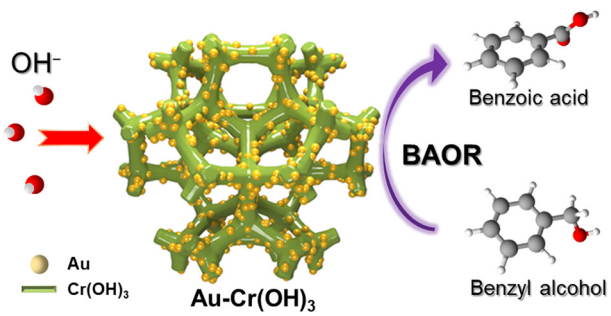
The metal–support interactions of $Cr(OH)_3$ enhance the performance of supported Au-based benzyl alcohol electrooxidation catalysts

Yufeng Zhang,* Di Liu, Hao Wu, Zhiyu Yang, Zhongxiang Xia, Qianhui Wu, Shan-Shan Yu, Hai-Ying Wang, Leiming Lang* and Guangxiang Liu*



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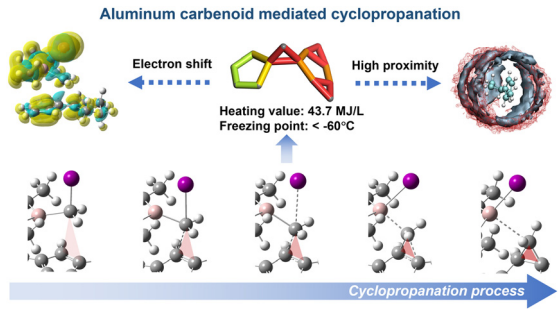

New insights into cyclopropanation: application in the synthesis of a novel high-heating-value hydrocarbon fuel derived from furfural

Haodong Zhang, Yisong Zhou, Jiawei Xie,* Yushuang Huang, Yakun Liu, Tingjiang Yan, Chang-an Zhou, Chao Wang, Kui Ma, Lei Song, Hairong Yue and Ji-Jun Zou

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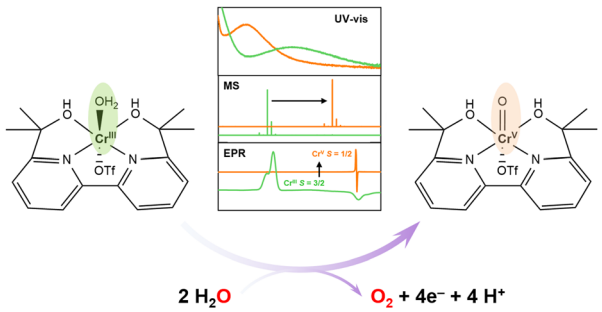

Identification of the Cr(v)═O intermediate in electrocatalytic water oxidation by a chromium(iii)–aqua complex

Zhi-Kai Shen, Zi-Jian Li, Zhigang Zou and Zhen-Tao Yu*

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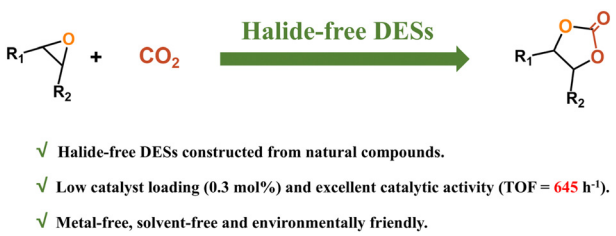

Halide-free deep eutectic solvents constructed from natural compounds for converting carbon dioxide to cyclic carbonate

Wen-Wang Yu, Xiang-Guang Meng,* Wen Li, Jie Zhou, Xian-Jian Ma and Dan-Dan Chu

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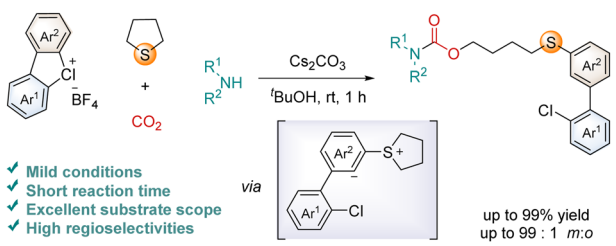

Metal-free four-component coupling of cyclic diarylchloronium salts, tetrahydrothiophene, amines and carbon dioxide

Bangxiong Kang, Wei Li, Huanfeng Jiang and Chaorong Qi*

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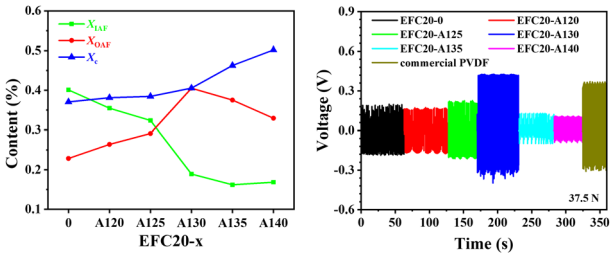
Manipulation of the oriented amorphous fraction of poly(vinylidene fluoride-*co*-trifluoroethylene) films by thermal annealing for high piezoelectricity

Zi-Wen Yang, Li-Wei Zhang and Yan-Fei Huang*



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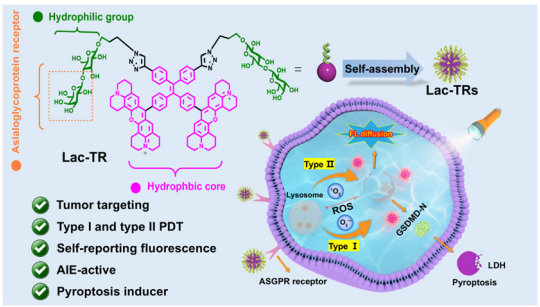
Glycosylated and rhodamine-conjugated tetraphenylethylene: a type I and II reactive oxygen species generator for photodynamic therapy

Jia-wei Zhang, Gai-li Feng, Xin Niu, Yi-chen Liu, Wei Zhou, Qing-yu Ma, Guang-jian Liu, Yuan Zhang* and Guo-wen Xing*



CORRECTION

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Correction: Development of a carbon quantum dots-based fluorescent Cu^{2+} probe suitable for living cell imaging

Qiang Qu, Anwei Zhu, Xiangling Shao, Guoyue Shi and Yang Tian*