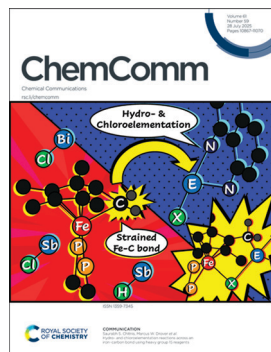


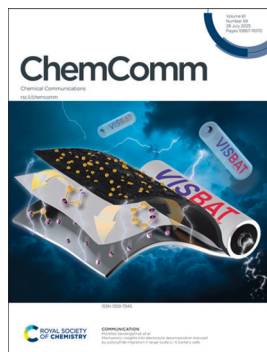
IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(59) 10867-11070 (2025)



Cover

See Saurabh S. Chitnis, Marcus W. Drover *et al.*, pp. 10969–10972. Image reproduced by permission of Connor S. Durfy and Marcus W. Drover from *Chem. Commun.*, 2025, 61, 10969.



Inside cover

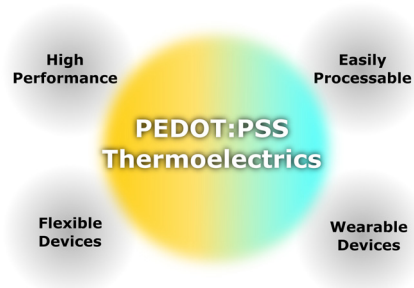
See Montree Sawangphruk *et al.*, pp. 10973–10976. Image reproduced by permission of Montree Sawangphruk from *Chem. Commun.*, 2025, 61, 10973.

HIGHLIGHTS

10878

What's new in PEDOT:PSS thermoelectrics?

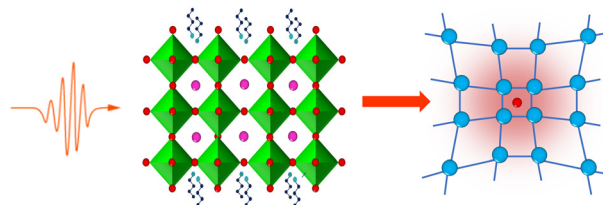
Rafiq Mulla



10898

Electron–phonon coupling in two-dimensional Ruddlesden–Popper hybrid perovskites

Vanga Ravali and Tufan Ghosh*



Advance your career in science

with professional recognition that showcases your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment to attaining excellence in your field

Gain the recognition you deserve

Achieve a professional qualification that inspires confidence and trust

Unlock your career potential

Apply for our professional registers (RSci, RSciTech) or chartered status (CChem, CSci, CEnv)

Apply now

rsc.li/professional-development

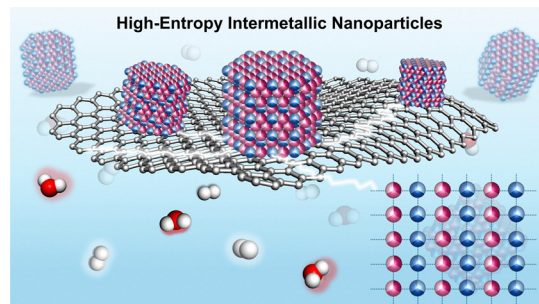


FEATURE ARTICLES

10911

Recent advances in high-entropy intermetallic nanoparticles: synthesis and electrocatalytic applications

Xin Zhou, Megumi Mukoyoshi* and Hiroshi Kitagawa*



10931

Advancing NASICON-structured solid-state sodium-ion batteries through compositional and interfacial engineering

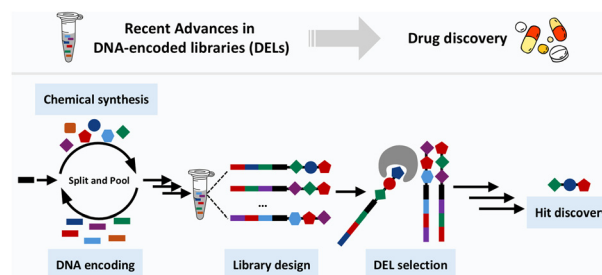
Raghunayakula Thirupathi, Ravi P. Srivastava, Bhumika Patankar, Sandipan Bhattacharyya, Mohd Aman, Saurabh Sharma and Shobit Omar*



10952

Recent advances in DNA-encoded libraries

Yuting Gao, Jinlu Liu, Sijie Huang, Nana Du, Gong Zhang* and Yizhou Li*

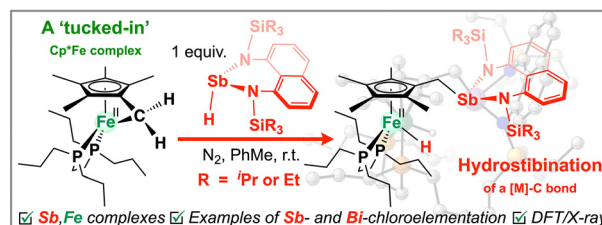


COMMUNICATIONS

10969

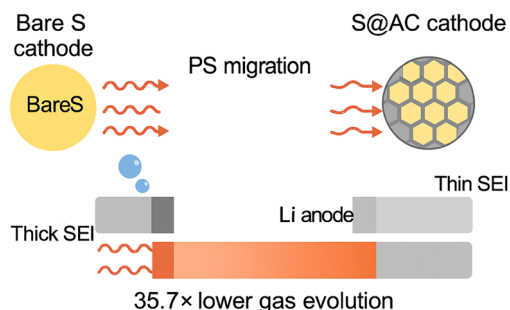
Hydro- and chloroelementation reactions across an iron–carbon bond using heavy group 15 reagents

Joseph A. Zurakowski, Mitchell A. Z. MacEachern, Connor S. Durfy, Paul D. Boyle, Saurabh S. Chitnis* and Marcus W. Drover*



COMMUNICATIONS

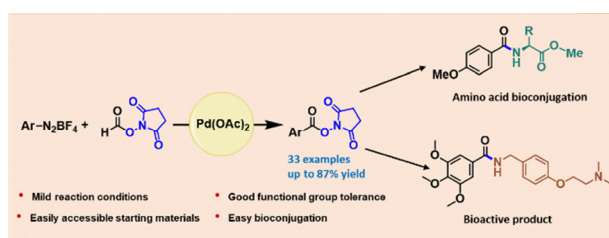
10973



Mechanistic insights into electrolyte decomposition induced by polysulfide migration in large-scale Li–S battery cells

Nurulsafeelanaria Benwannamas, Thitiphum Sangsanit, Samutr Assavachin, Ronnachai Songtan, Nattanon Joraleechanchai and Montree Sawangphruk*

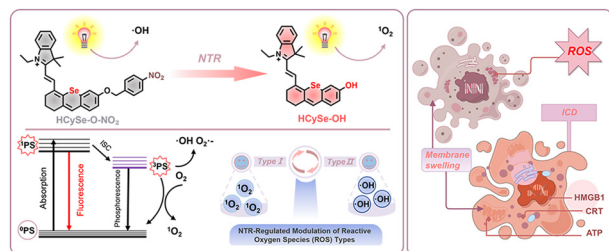
10977



Palladium-catalysed carbonylation of aryl diazonium salts to access bioconjugation-ready esters

Pratap Paul and Jyotirmayee Dash*

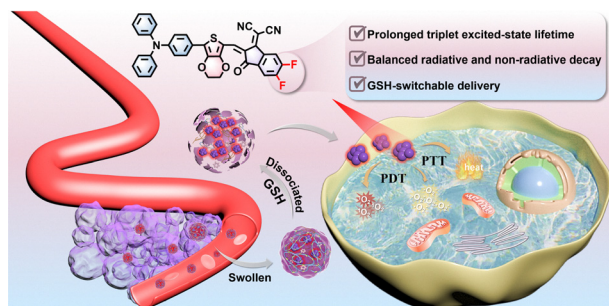
10981



Switching between type I/II photosensitization processes for of an unconventional dye as modulated by the tumor microenvironment for inducing immunogenic death

Lei Hao, Yumei Wang, Shuang Zeng, Zhuo Yang, Saran Long, Wen Sun, Jingyun Wang,* Xiaojun Peng and Haidong Li*

10985



Construction of balanced-transition AIE phototherapeutic agents based on a fluorination strategy for prolonged triplet excited state lifetime

Mengyan Tian, Xinyue Zhao, Shuai Zhao, Yaning Li, Ruofei Wang, Jun Guo and Pai Liu*

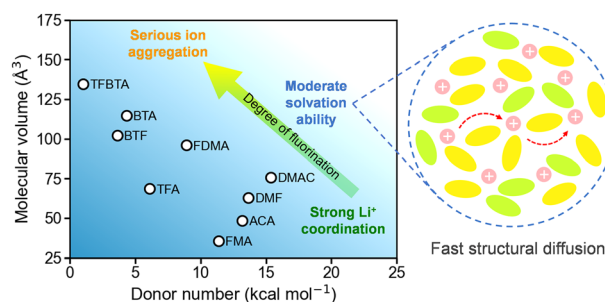


COMMUNICATIONS

10989

Optimizing the transport and redox properties of PVDF-based electrolytes through structural design of residual solvents

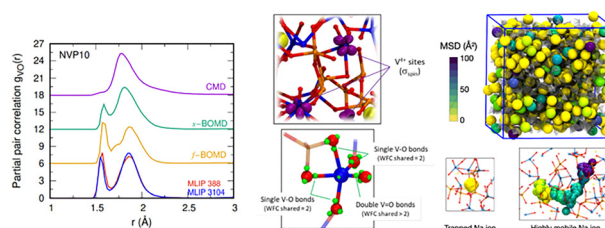
Chaoyuan Ji, Shendong Tan, Bochun Liang, Ke Yang, Zihui Li, Yanfei Zhu, Yaoshu Xie, Yan-Bing He, Jia Li and Tingzheng Hou*



10993

Structure, bonding and ionic mobility in Na–V–P–O glasses for energy storage applications

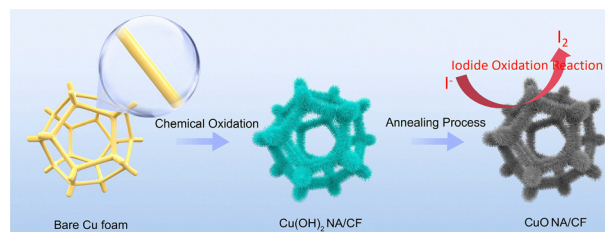
Steve Dave Wansi Wendji, Rémi Piotrowski, Antonio Familiari, Carlo Massobrio, Mauro Boero, Christine Tugène, Firas Shuaib, David Hamani, Pierre-Marie Geffroy, Philippe Thomas, Alfonso Pedone, Assil Bouzid, Olivier Masson, Gaëlle Delaizir and Guido Ori*



10997

Balancing the electronic structure and surface reconstruction of Cu-based nanostructures for iodide oxidation reactions

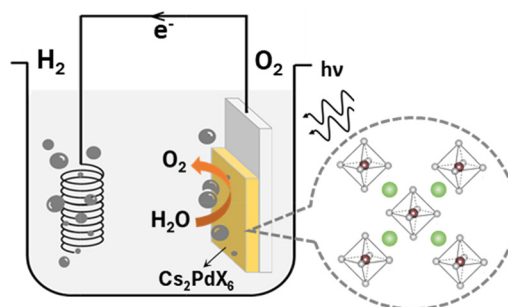
Hainan Sun,* Zhicheng Wei, Liangshuang Fei, Zhiwei Wei, Zhongxiang Zhang, Mujia Sun, Jiaqiao Yang, Junxiong Zhang, Jiapeng Liu* and Zongping Shao*



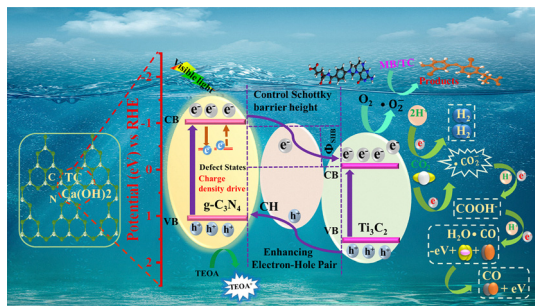
11001

Tuneable vacancy-ordered Halide perovskites Cs₂PdX₆ (X = Cl, Br) for photoelectrochemical water splitting

Manasa Manoj, Jigar Shaileshkumar Halpati and Aravind Kumar Chandiran*



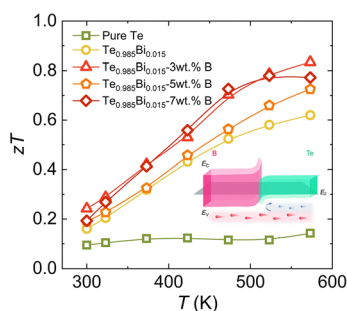
11005



Schottky barrier modulation via calcium hydroxide nanoparticles on g-C₃N₄/Ti₃C₂ for overall photocatalytic applications

Zeeshan Asghar, Jawad Ahmad Jrar, Alauddin, Faheem K. Butt, Kewang Zheng, Yongcai Zhang, Nian-Tzu Suen* and Jianhua Hou*

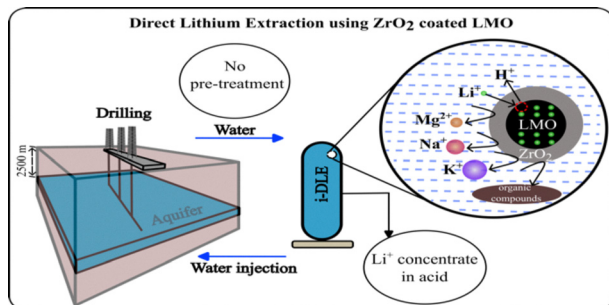
11009



Interfacial chemical bond engineering on a Te semiconductor to weaken carrier-phonon coupling to boost thermoelectric conversion performance

Decheng An,* Min Liu, Zhiyong Si, Wang Yue, Wutao Yang and Xian-Ming Zhang*

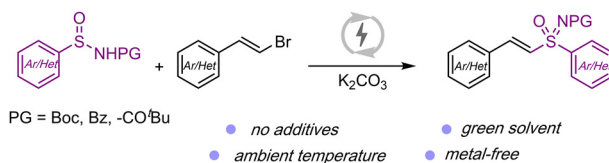
11013



Lithium extraction using zirconium oxide coated lithium manganese oxide ion-exchange adsorbents

Karthik Ramachandran Shivakumar, Ashkan Zolfaghari, Salman Safari, Fangshuai Wu, Brendan A. Bishop, Ning Chen, Leslie J. Robbins and Daniel S. Alessi*

11017



Electrochemical S-vinylation of sulfinamides with β-bromostyrenes

Yaseen Hussain, Ivan Sliusarevskyi, Claire Empel, Magnus Rueping* and Rene M. Koenigs*

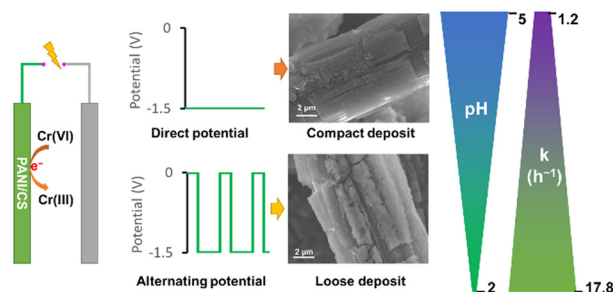


COMMUNICATIONS

11021

Enhanced electrocatalytic reduction of hexavalent chromium with reduced pH dependence via alternating potential polarization using a polyaniline–chitosan composite electrode

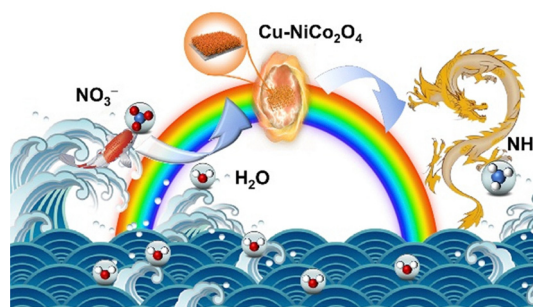
Huihui Zheng, Weitong Xian, Ye Xiao,* Yetao Tang and Rongliang Qiu



11025

Electrodeposition of Cu on NiCo_2O_4 nanoarrays for efficient electrochemical nitrate reduction to ammonia

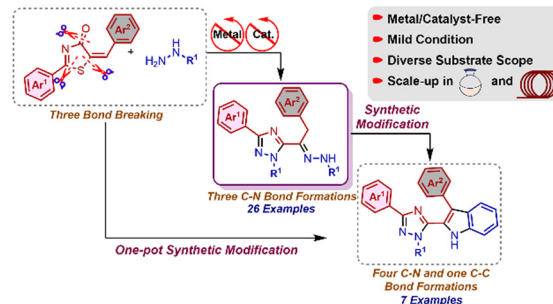
Chun Liu, Shuxian Yang, Yubin Xiang, Liang Wang,* Qin Tang and Dongdong Zhu*



11029

Catalyst-free efficient synthesis of functionalized 1,2,4-triazole via ring opening/cyclization of arylidene thiazolone with aryl/alkyl-hydrazine

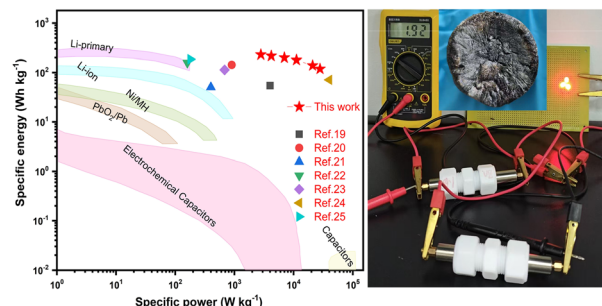
Akanksha Kumari, Anshul Jain, Himani Sharma, Selvakumar Sermadurai and Nirmal K. Rana*



11033

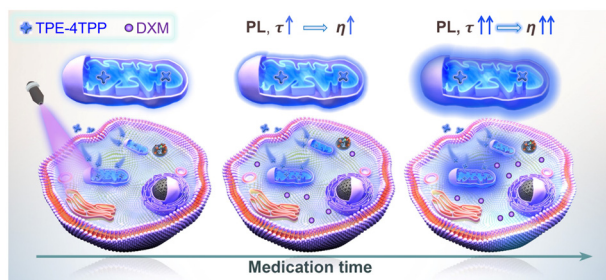
$\text{V}_5\text{O}_{12} \cdot 6\text{H}_2\text{O}/\text{f-MWCNT}/\text{rGO}$ hybrid aerogels as high-performance electrode materials for zinc-ion supercapacitors

Longnian Tang, Xianglong Dai, Xiaolong Lin, Shiqi Zhang, Jiao Li, Ying Zhan, Yechen Qian, Xiangyu Hu and Wenyao Li*



COMMUNICATIONS

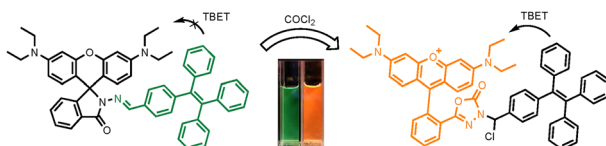
11037



Quantifying mitochondrial viscosity changes by an AIE probe during drug therapy

Jinghui Qiao, Yueyao Liu, Zhigui Ma, Xuezhi Zhao* and Yujun Feng*

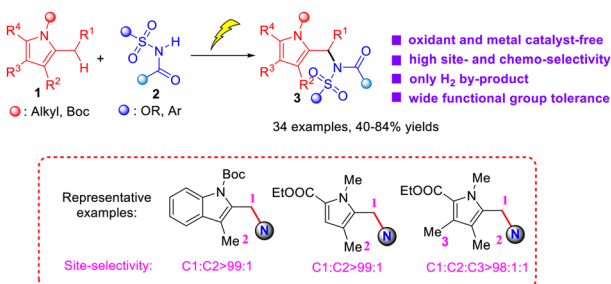
11041



An AIEgen-based fluorescence probe for ratiometric detection of phosgene in solution and gas

Kuilang Li,* Changlu He, Tian Zhang, Wenqiang Xie, Dexin Fu, Ping Yang and Duo-Duo Hu*

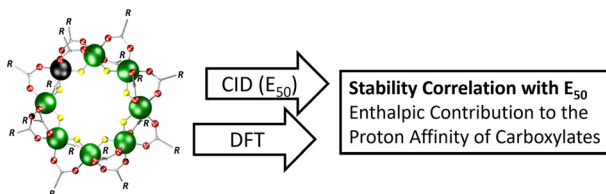
11045



Electrochemical site-selective C(sp³)-H amination of alkyl substituted indoles and pyrroles

Shuai Liu,* Yongqi Ge, Jianan Li, Xiaoyu Sheng, Tian-Shu Zhang, Qiong Wu, Weijie Ding* and Xu Cheng*

11049



Energetics of carboxylate-metal bonds in polymetallic rings

Niklas Geue,* Tim Renningholtz, George F. S. Whitehead, Grigore A. Timco, Cristina Trujillo, Perdita E. Barran* and Richard E. P. Winpenny*

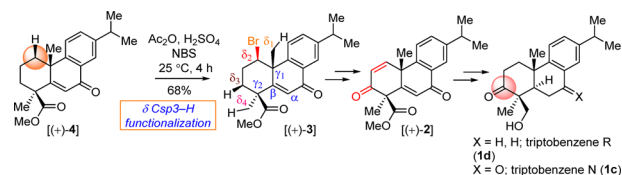


COMMUNICATIONS

11053

Asymmetric total syntheses of immunosuppressive diterpenoids triptobenzenes N and R via a remote Csp³–H functionalization

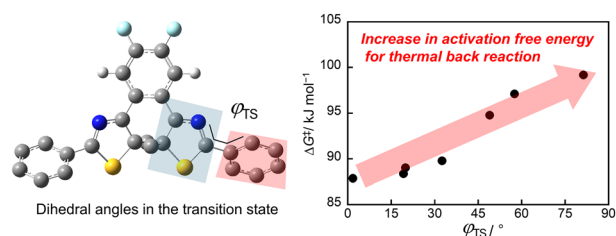
Nanda Kishore Roy, Ranjit Murmu, Mintu Munda, Sovan Niyogi and Alakesh Bisai*



11057

Twisting of aryl groups affects thermal back reactivity of diarylbenzene photoswitches

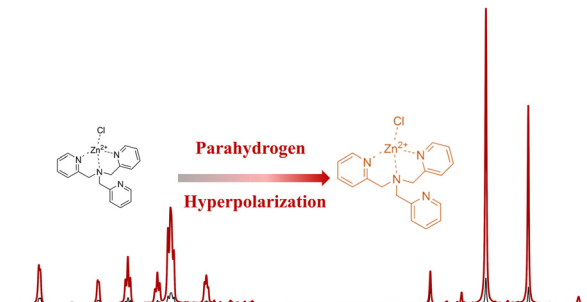
Oka Fukata, Daichi Kitagawa,* Katsuya Mutoh and Seiya Kobatake*



11061

Parahydrogen-induced hyperpolarization of a Zn(II) complex using NMR signal amplification by reversible exchange (SABRE)

Jisu Kim, Hye Jin Jeong, Sein Min, Sarah Kim, Juhee Baek, Jaelim Kim, Eunsung Lee,* Sangwon Oh* and Keunhong Jeong*



11065

Glucose-responsive magnetic microrobots: 4D printing and targeted embolization application

Tong Lan, Qiong Wu, Chengyong Zhao, Haoyu Li, Jianguo Guan and Fangzhi Mou*

