

IN THIS ISSUE

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Cover

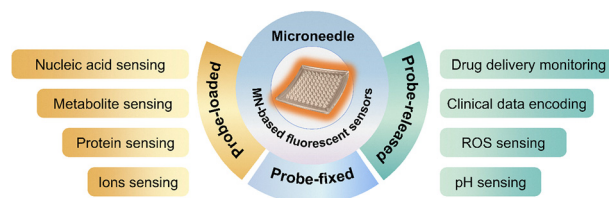
See Fenghua Bai,
Yoshifumi Hashikawa,
Chaolumen *et al.*,
pp. 11401–11404.
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2025, **61**, 11401.
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HIGHLIGHTS

11298

Advances in microneedle-based transdermal fluorescent sensors

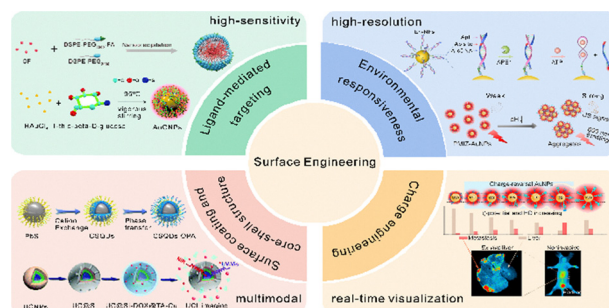
Saijin Huang, Wenxing Gao and Li Shang*



11312

Surface-engineered nanoprobe for multimodal bioimaging: from molecular design to theranostic integration

Leiming Chu, Xiaotong Zhang, Xurui Cao, Yu Zhang* and Honglin Liu*



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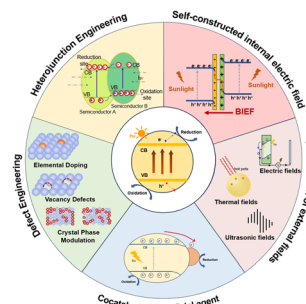


HIGHLIGHTS

11330

Improving the charge separation efficiencies of ternary metal sulfides for photocatalytic hydrogen production

Xinrong Zhang, Leqi Cheng, Yue Tian, Yishen Zhang and Songcan Wang*

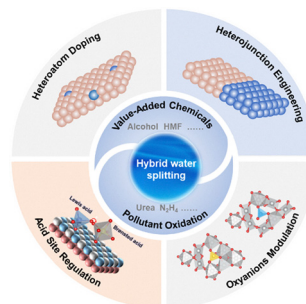


FEATURE ARTICLES

11353

Design of alternative oxidation processes for hybrid water electrolysis systems: recent progress and perspective

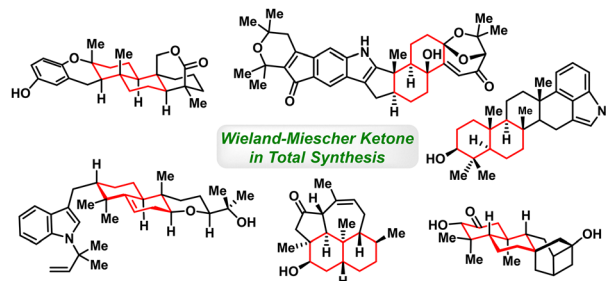
Xu Zhang, Xunlu Wang, Tongming Sun, Minmin Wang, Jinli Zhu and Jiacheng Wang*



11364

Wieland–Miescher ketone: a cornerstone in natural product synthesis

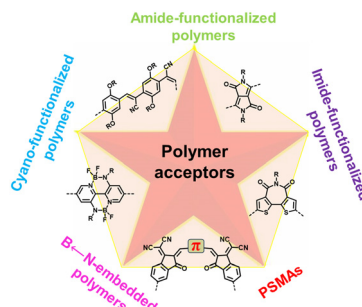
Dattatraya H. Dethe,* Nitin Sharma, Sakshi Juyal and Tinku Pratap



11382

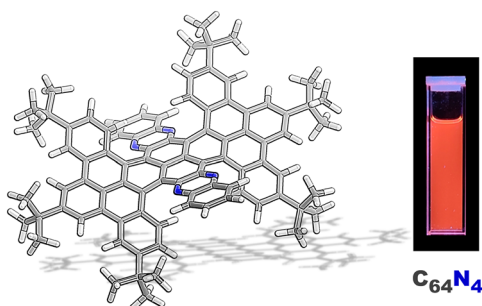
Recent advances of polymer acceptors for efficient all-polymer solar cells

Jichen Lv, Jiahao Chen, Bin Liu* and Xugang Guo*



COMMUNICATIONS

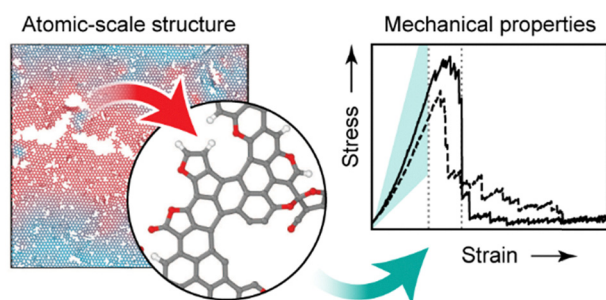
11401



Synthesis of a twisted azananographene featuring a diquinoxaline-fused pyrene

Zhiyu Zhang, Zhenxun Xu, Aihui Zhang, Fenghua Bai,*
Yoshifumi Hashikawa* and Chaolumen*

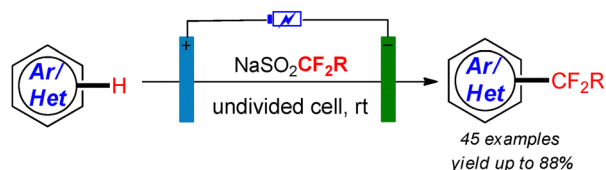
11405



Mechanical properties of graphene oxide from machine-learning-driven simulations

Zakariya El-Machachi, Bowen Cheng and
Volker L. Deringer*

11409

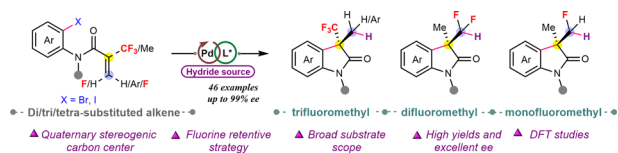


- metal- and oxidant-free
- good functional group tolerance
- broad substrate scope
- efficient and mild conditions

Electrochemically driven direct C–H difluoroethylation of (hetero)arenes under metal/catalyst-free conditions

Luping Zheng, Yunfei Tian,* Zhihui Gao, Jiayi Zhang,
Jiahui Zhang, Jiajia Wang, Yuanfeng Liang, Weijun Fu
and Zejiang Li*

11413



Pd-catalyzed enantioselective reductive Heck reaction of mono-fluoro, *gem*-difluoro, and trifluoromethyl tethered-alkenes

Naveen Sihag, Hemaang Bhartiya, Swati Jain,
Jitendra Singh, S. Rajagopala Reddy* and
M. Ramu Yadav*

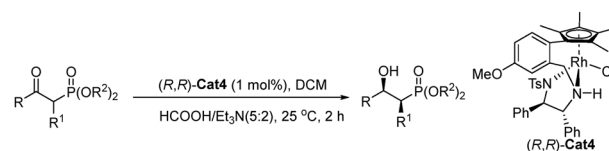


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11417

Rhodium-catalyzed enantioselective transfer hydrogenation of α -chloro β -ketophosphonates via dynamic kinetic resolution

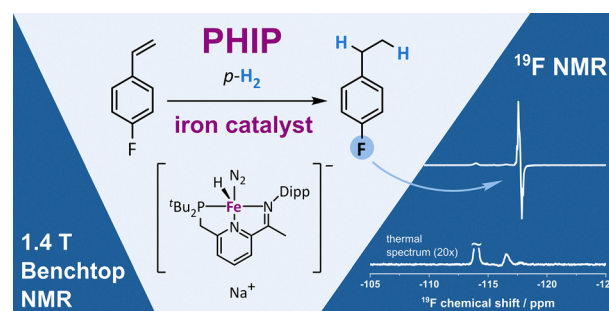
Jun Wang, Xiaobing Ding,* Sai Ruan, Longsheng Zheng, Virginie Ratovelomanana-Vidal,* Gen-Qiang Chen* and Xumu Zhang*



11421

Highly active iron catalysts for olefin hydrogenation enable *para*-hydrogen induced hyperpolarisation of ^1H and ^{19}F NMR resonances at 1.4 Tesla

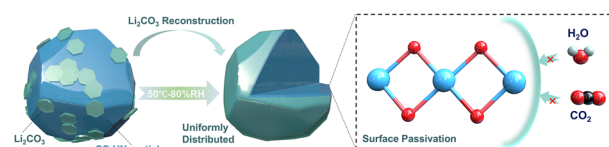
Julianna S. Doll, Jan Kergassner, Bingyu Zhang, Christina M. Thiele, Gerd Buntkowsky, Markus Enders, Torsten Gutmann* and Dragoş-Adrian Roşca*



11425

Revealing unusual storage failure of single-crystal high-nickel cathodes during high-temperature and high-humidity exposure

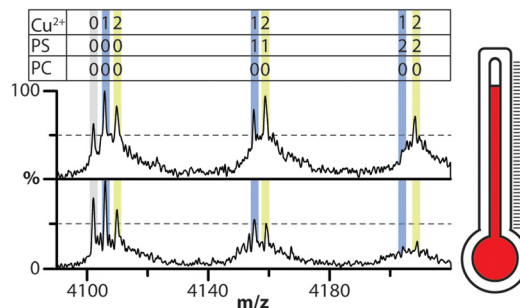
Ran An, Yuefeng Su, Yihong Wang, Enhua Dong, Yongjian Li, Pengfei Yan, Qing Huang, Meng Wang, Lian Wang, Lai Chen, Feng Wu and Ning Li*



11429

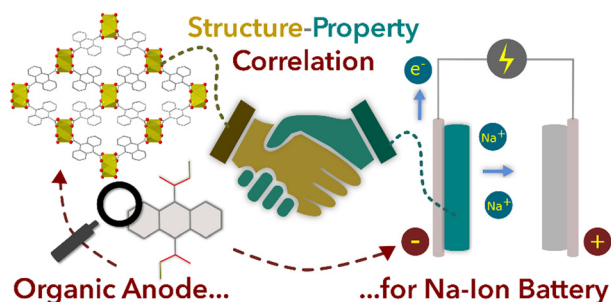
Temperature-dependence of membrane protein–lipid interactions in membranes

Smriti Kumar, James Downing, Michael Lynn, Lauren Stover, Carter Lantz, David H. Russell and Arthur Laganowsky*



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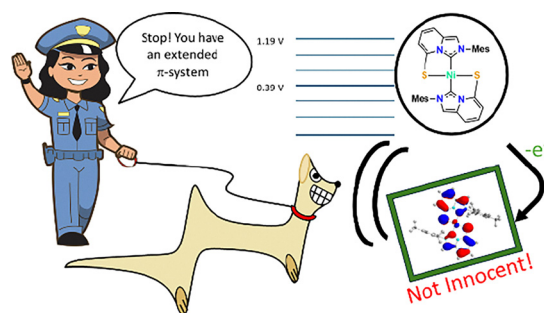
11433



Structure–property relationships in disodium anthracene dicarboxylate for sodium-ion storage via 3D electron diffraction

Aamod V. Desai, Heitor S. Seleghini, Daniel N. Rainer, Maximillian G. Stanzione, David B. Cordes, Oxana V. Magdysyuk, Aidan P. McKay, Simon J. Coles, Sharon E. Ashbrook, Russell E. Morris* and A. Robert Armstrong*

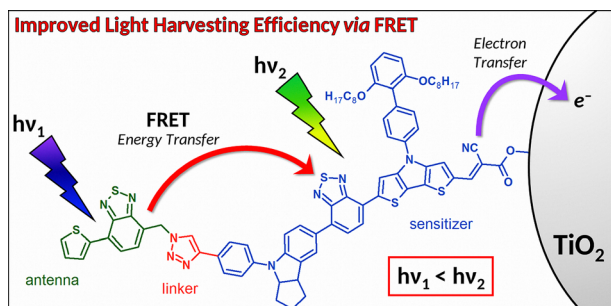
11437



A non-innocent, π -extended N-heterobicyclic carbene–thiolate ligand

Michael Marquardt, Laure Vendier, Alix Sournia-Saquet, Vincent Maurel, Jean-Marie Mouesca, Stéphanie Bastin*, Ivan Castillo* and Vincent César*

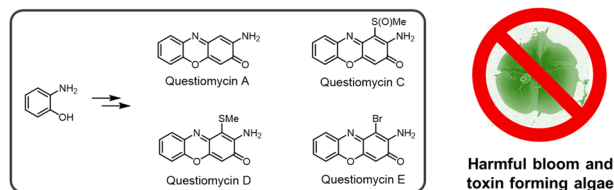
11441



Improved light harvesting via energy transfer within a benzothiadiazole-based antenna–sensitizer dyad for dye-sensitized solar cells

Rossella Infantino, Elena Ermini, Carmen Coppola, Irene Motta, Gregorio Bottaro, Lidia Armelao, Adalgisa Sinicropi, Alessandro Mordini, Gianna Reginato, Massimo Calamante, Lorenzo Zani, Daniele Franchi* and Alessio Dessi*

11445



Total synthesis and algacidal activity of questionomycins against harmful bloom forming dinoflagellates

Shuxin Yang, Niraj Aryal, Siti Nur Qamarina Binti Azmi, Yanfei Wang, Laura Burchill, Laurel E. Meke, Bryndan P. Durham* and Spencer J. Williams*

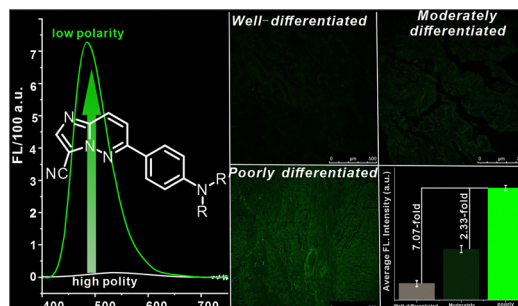


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11449

Polarity-sensitive fluorescent probes based on imidazopyridazine derivatives for imaging lung cancer tissues

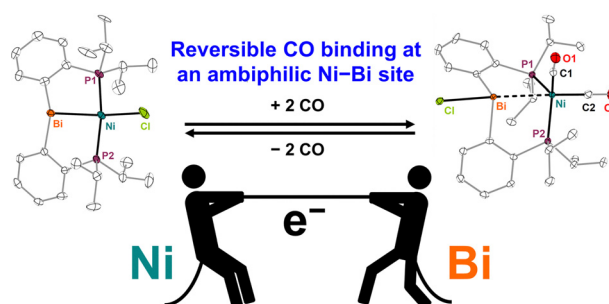
Huan Ma, Hui Wang, Xu Xu, Ru Sun, Yi Zhang* and Jian-Feng Ge*



11453

Reversible CO binding at a nickel complex supported by an ambiphilic PBiP tridentate ligand

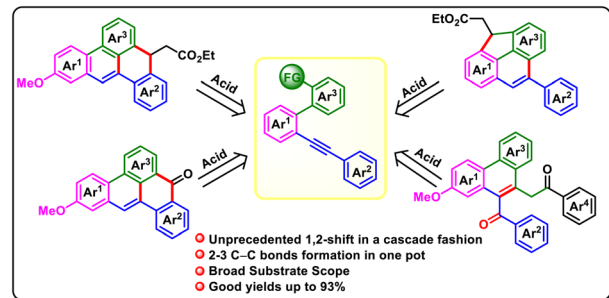
Dagyum Yoo, Alexander C. Brannan, Soohyun Lim, Heui Beom Lee* and Yunho Lee*



11457

Acid-triggered cascade cyclization pathways of enynes: A rapid access to fused polycyclic products

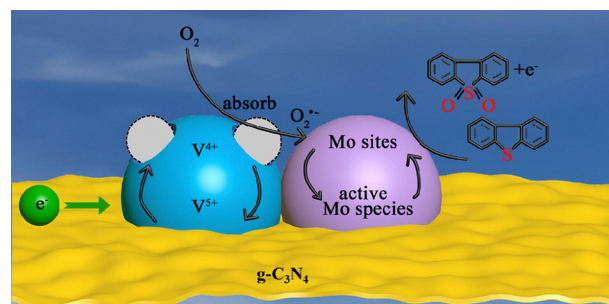
Komal Goel, Divya Shree V and Gedu Satyanarayana*



11461

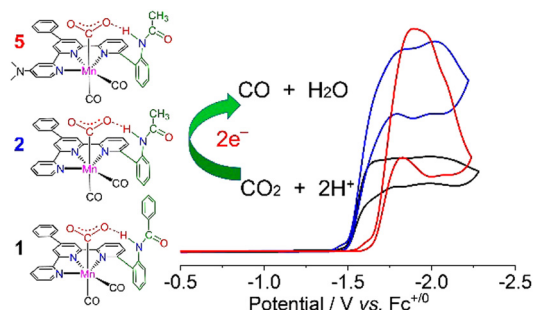
Mo-V/g-C₃N₄ with strong electron donating capacity and abundant oxygen vacancies for low-temperature aerobic oxidative desulfurization

Jia Guo, Xiaoshuang Tian, Hong Liu and Jiasheng Wang*



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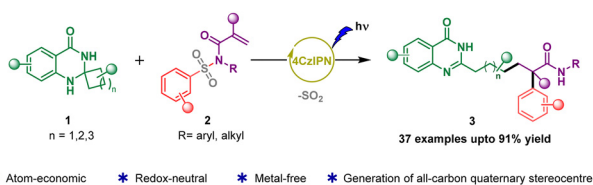
11465



Kinetics and thermodynamics of CO₂ binding to a metal centre promotes CO₂ reduction

Liliang Huang, Shuanglin He, Fang Huang,* Ping Zhang, Ying Xiong, Rong Zhang, Fei Li* and Lin Chen*

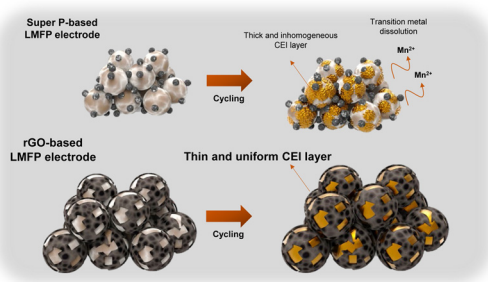
11469



Organophotoredox-catalyzed deconstructive alkylation/Truce-Smiles rearrangement cascade involving spiro-dihydroquinazolinones and activated alkenes

Mudavath Bhargav Sai Naik, Durga Golagani, Poojasri Dindi and Srirama Murthy Akondi*

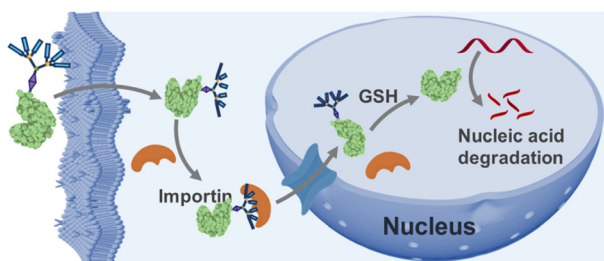
11473



Conformal CEI formation induced by oxygen-functionalized conductive agents on Mn-rich olivine cathodes

Eunseo Ko, Seojin Lee, Jaehwan Kim, Minseo Kim, So Hee Kim, Yung-Eun Sung, Seung-Ho Yu,* Joonhee Moon* and Jungjin Park*

11477



Nucleus-targeted protein delivery via lysine dendron conjugation

Ling Xiang, Dongmei Qi, Lan Yang, Huijuan Yang, Jiumeng Zhang,* Zuowen Zhang* and Xuli Feng*

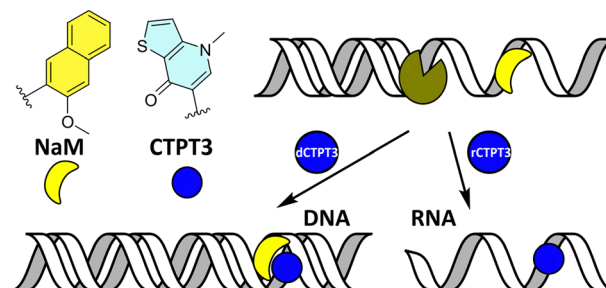


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11481

Towards a hydrolysis stable artificial base pair with C-glycosides

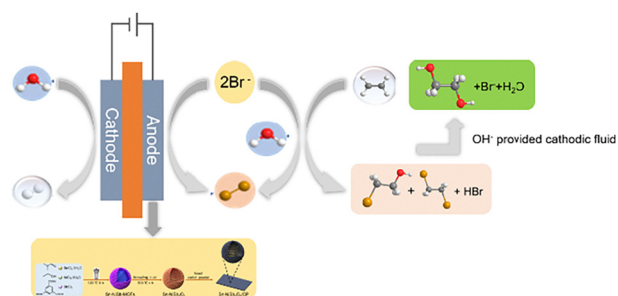
Robert Dörrenhaus, Philip K. Wagner and Stephanie Kath-Schorr*



11485

Bromide-mediated selective electrocatalytic oxidation of ethylene to ethylene glycol using non-precious metal catalyst Sn–NiSb₂O₆

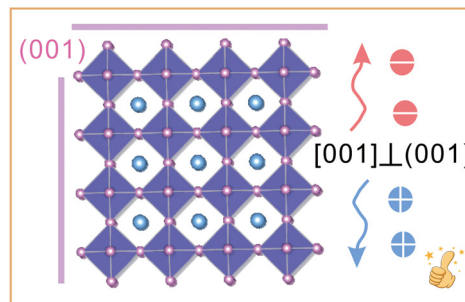
Xianglan Li, Rong Cheng, Ruifan Zhou, Yaojie Luo, Quanhua Zhang, Xiaobing Guo and Zihua Deng*



11489

Low temperature growth (001) facet-oriented p-type FAPbI₃ perovskite solar cells

Jing Chen, Cuina Gao, Junlei Tao, Xiaofei Yin, Zhi Li, Yingke Ren,* Chao He* and Xingtao An*



11493

Cycloaddition of bicyclo[1.1.0]butanes with enamides for the efficient synthesis of 2-amino-bicyclo[2.1.1]hexanes

Yanren Zhu, Shaoxiong Yang, Huiyu Chen, Fang Zhang, Enfan Pu, Piaopiao Jiang, Yi Jin,* Hongbin Zhang* and Jingbo Chen*

