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Cover
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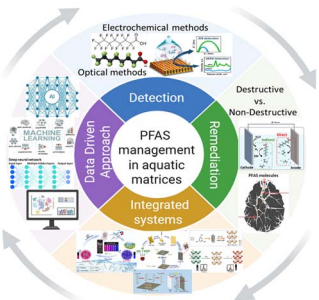
Inside cover
See Julia M. Stauber *et al.*, pp. 13636–13645. Image reproduced by permission of Julia M. Stauber from *Chem. Sci.*, 2025, **16**, 13636.

PERSPECTIVE

13564

A perspective of emerging trends in integrated PFAS detection and remediation technologies with data driven approaches

Samaneh Yaghoobian, Manuel A. Ramirez-Ubillus, Lei Zhai* and Jae-Hoon Hwang*

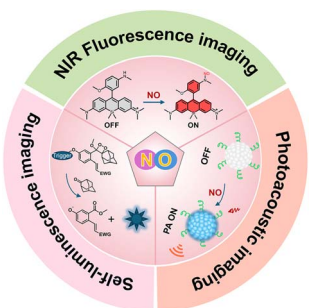


REVIEWS

13574

Organic probes for NO-activatable biomedical imaging: NIR fluorescence, self-luminescence, and photoacoustic imaging

Weihao An, Zhongkun Wang, Qingqing Miao* and Qing Li*



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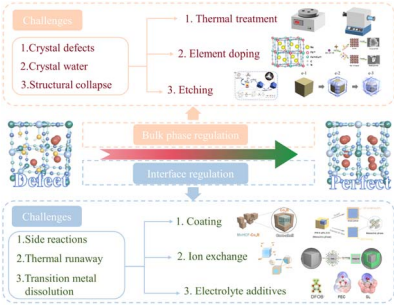
REVIEWS

13594

Bulk and interface engineering of Prussian blue analogue cathodes for high-performance sodium-ion batteries

Boao Zhou, Yun Gao, Xihao Lin, Bin Yang, Ning Kang, Yun Qiao, Hang Zhang,* Li Li* and Shulei Chou*

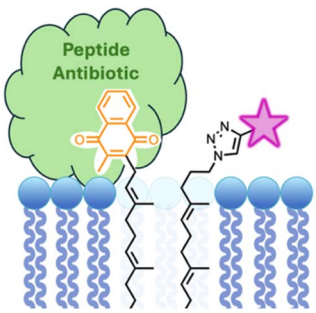


EDGE ARTICLES

13629

Chemical diversification of polyprenyl quinones for mechanistic studies on menaquinone-binding peptide antibiotics

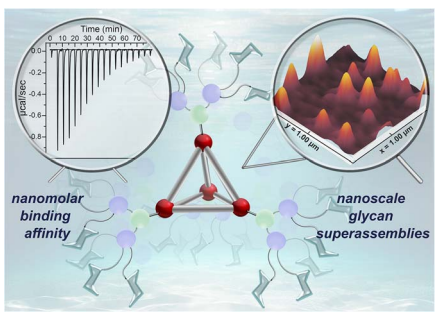
Eilidh J. Matheson, Roy A. M. van Beekveld, Paolo Innocenti, Nathaniel I. Martin, Markus Weingarth and Stephen A. Cochrane*



13636

Precision dendritic-supramolecular glycan assemblies for probing multivalent lectin interactions

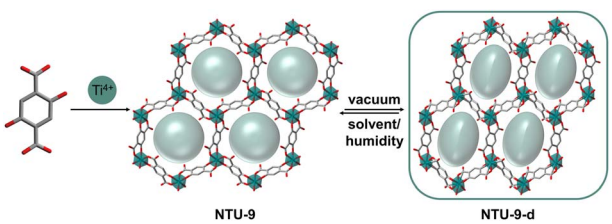
Tanvi M. Bhide, Garrett J. Musil, Wade Shipley, Emerson Hall, Alex J. Guseman, Andrea R. Tao and Julia M. Stauber*



13646

Dynamic breathing behaviour of the titanium-based metal–organic framework NTU-9 upon adsorption of water and organic solvents

Julia E. Knapp, Borja Ortín-Rubio, Fabian Heck, Kristina Gjorgjevikj, Anastasia Sleptsova, Simon Krause, Sebastian Bette* and Bettina V. Lotsch*



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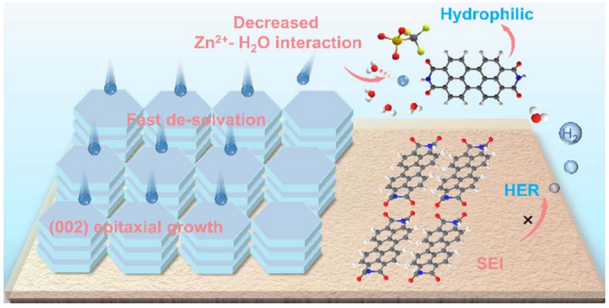
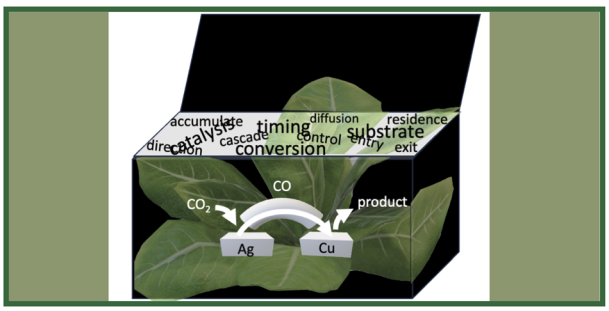


A dynamic amphiphilic additive with dual solubility modulates Zn^{2+} solvation and *in situ* SEI for a dendrite-free zinc anode

Can-Fei Xiao, Yong-Xia Lu, Ming Lu, Dongxiang Luo, Kang Xiao,* Yongke Wang and Zhao-Qing Liu*

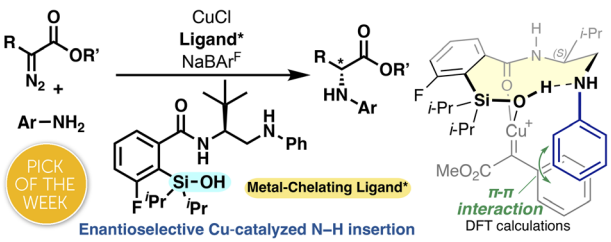
13667



Insights from designing an artificial cascade catalysis system using principles from substrate channeling in enzymes

Frances A. Houle,* Peter Agbo and Junko Yano

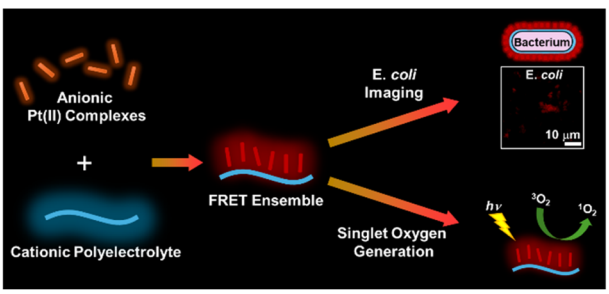
13678



Multifunctional chiral silanol ligands for enantioselective catalysis

Yun-Pu Chang, Kevin Blanco-Herrero, Turki M. Alturaifi, James C. Fettinger, Peng Liu and Annaliese K. Franz*

13684



Ensembles of cationic conjugated polymer and anionic platinum(II) complexes: from FRET properties to application studies in *E. coli* imaging and singlet oxygen generation

Angela Lok-Yin So, Jungu Guo, Huanxiang Yuan, Qi Shen, Eric Ka-Ho Wong, Shu Wang* and Vivian Wing-Wah Yam*

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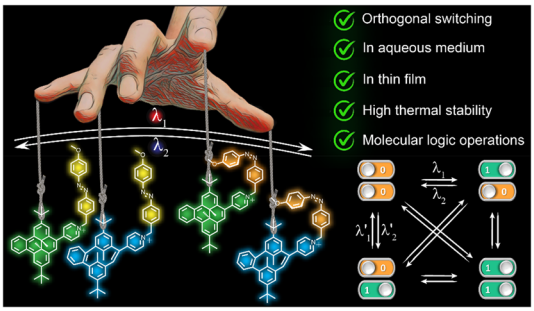
13694

All-photonic switching of a benzo[e]-fused dimethyldihydropyrene–azobenzene dyad in the solid-state for logic operations

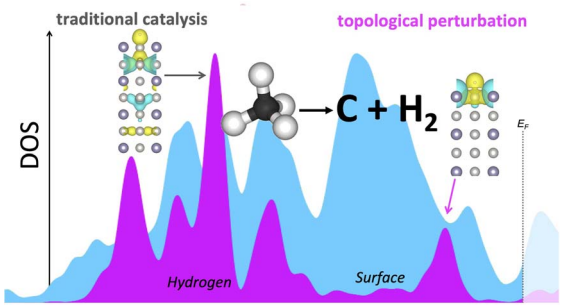
Sariful Molla, Jakir Ahmed and Subhajit Bandyopadhyay*



13704

Topological perturbation to a standard dehydrogenation catalyst, Pt_3Sn

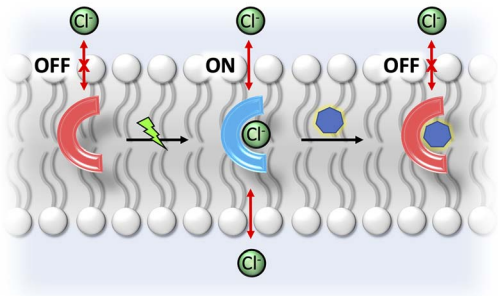
William T. Laderer, Xuance Jiang, Vojtech Vlcek, Harry W. T. Morgan and Anastassia N. Alexandrova*



13715

Resonsive anion transport with a Hamilton receptor-based anionophore controlled by photo-activation and host–guest competitive inhibition

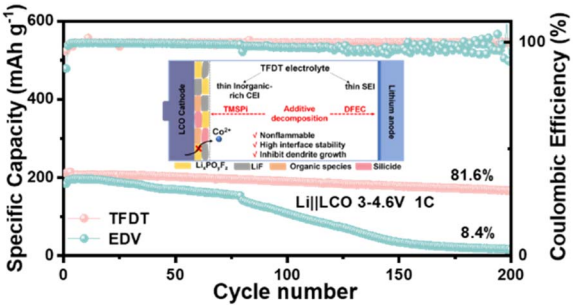
Manzoor Ahmad, Andrew Docker and Matthew J. Langton*



13723

Stabilizing the electrode–electrolyte interface for high-voltage Li||$LiCoO_2$ cells using dual electrolyte additives

Jiwei Ding, Chao Yang, Wenxi Hu, Xiaowei Liu, Anran Zhang, Deda Peng, Jin Han* and Ya You*



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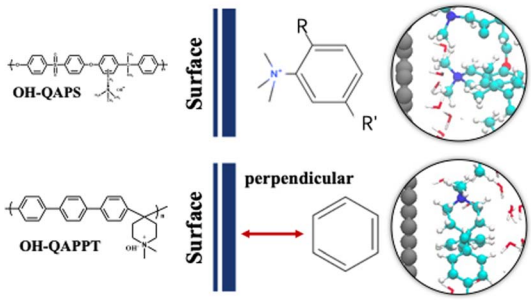
13731

Photosalient effect and reversible photochromic photoluminescence driven by cascade [2 + 2] cycloaddition reaction and water adsorption in a 0D hybrid metal halide

Chudong Chen, Ziquan Li, Yonghong Xiao, Chenghao Ye, Jianwu Wei, Ruosheng Zeng, Qi Pang and Binbin Luo*

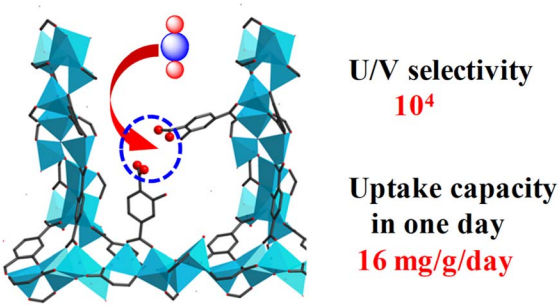
13741



Decoding the influence of monomer structures on the electrical double layer of alkaline fuel cells

Xiao-Hui Yang, Lin Zhuang and Jun Cheng*

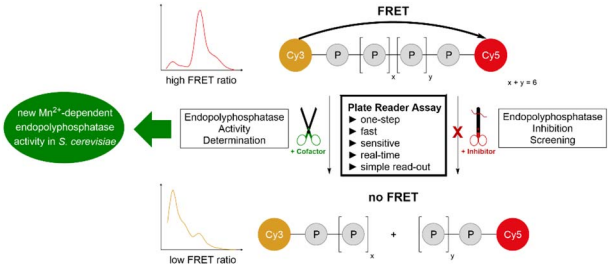
13749



Robust biomimetic MOF featuring a negative pocket for precise recognition of uranyl, enabling ultrahigh U/V selectivity and rapid uranium extraction from seawater

Anni Ye, Yuxuan Liu, Lele Gong, Xianqing Xie and Feng Luo*

13760



A screening approach unveils an unknown Mn^{2+}-dependent endopolyphosphatase activity in yeast

Sandra Moser, Gloria Hans, Anuj Shukla, Adolfo Saiardi, Samuel Bru, Asli Aras Taskin, Chris Meisinger and Henning J. Jessen*

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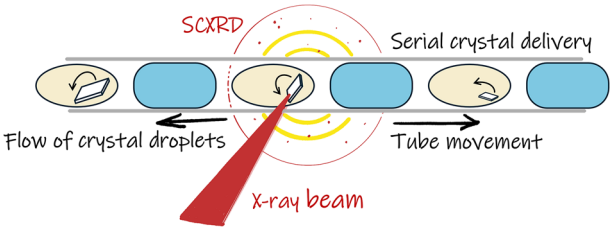
Segmented milli-fluidic crystallisation of paracetamol with *in situ* single-crystal X-ray diffraction

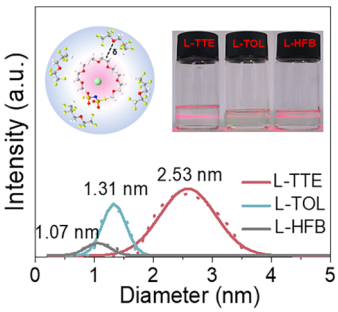
Lois E. Wayment, C. Daniel Scott, Lucy K. Saunders, Pollyanna Payne, Lauren E. Hatcher, Graeme Winter, Benjamin Williams, David R. Allan, Chick C. Wilson, Mark R. Warren* and Karen Robertson*



13774

Solvation structure modulation *via* dipole–dipole interactions for high-rate lithium metal batteries exceeding 400 Wh kg^{-1}

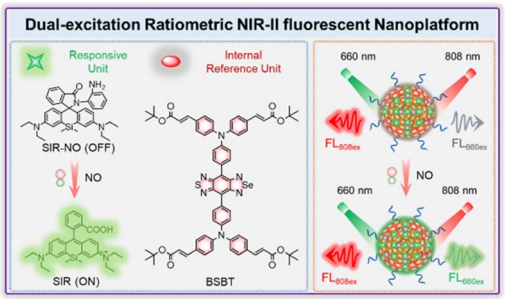
Liwen Zhang, Hongyu Liu, Tingting Wang, Hao Wang, Dong Yan, Min Li, Xiaodi Ren, Hong Li and Liping Wang*



13784

A dual-excitation ratiometric NIR-II fluorescent nanoplatform enables high contrast *in vivo* imaging

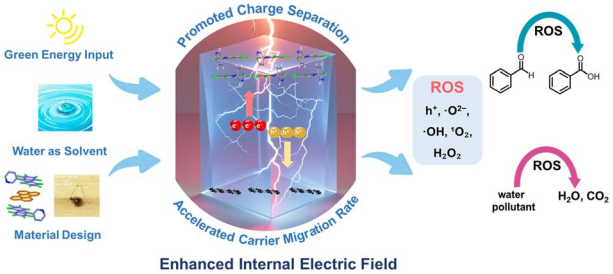
Yongchao Liu,* Lili Teng, Bo Zhang, Xiao-Bing Zhang and Guosheng Song*



13794

Perfluoroarene–arene interaction cocrystal of perfluorocarbazoles toward IEF-enhanced photocatalysis

Wenbo Hu, Heng Li and Bingxin Yuan*



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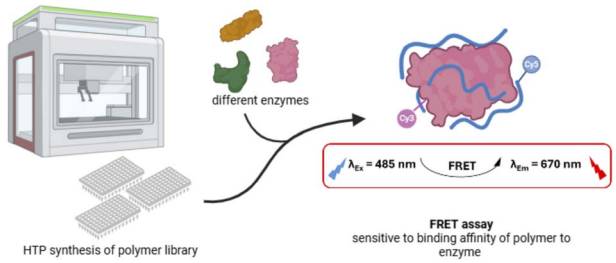
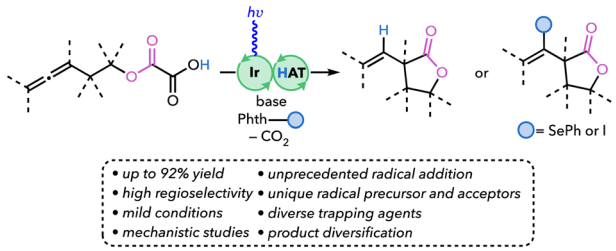


High throughput screening for the design of protein binding polymers

Carolin Bapp, Ahmed Z. Mustafa, Cheng Cao, Erica J. Wanless, Martina H. Stenzel* and Robert Chapman*

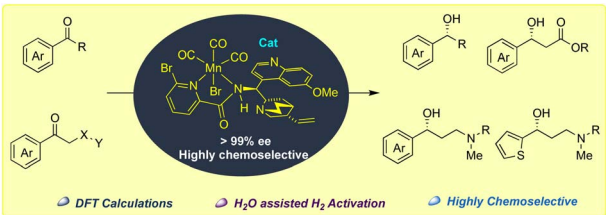
13816



Photoredox-catalyzed regioselective allene alkoxycarbonylations for the synthesis of α-allyl-γ-lactones

Elijah T. Marris, Ashley L. Palecek, Federico Barbieri, Derek B. Hu, Ken S. Lee and Jennifer M. Schomaker*

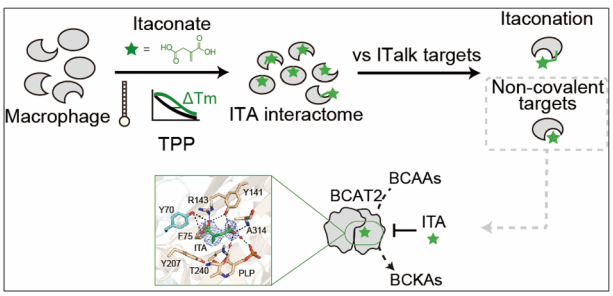
13826



A priori Design of [Mn(I)-Cinchona] catalyst for Asymmetric Hydrogenation of Ketones and β-Keto carbonyl Derivatives

Soumen Paira, Nupur Jain, Debarsee Adhikari, Raghavan B. Sunoj* and Basker Sundararaju*

13838



Thermal proteome profiling of itaconate interactome in macrophages

Yunzhu Meng, Tiantian Wei, Chenlin Zhang, Anqi Yu, Yuan Liu, Junyu Xiao and Chu Wang*

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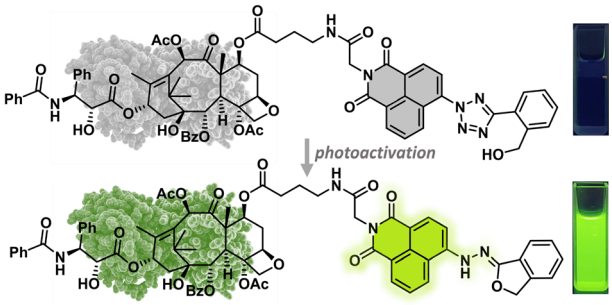
Hydroxy-pendant tetrazole as the cage group for photoactivatable push–pull fluorophores

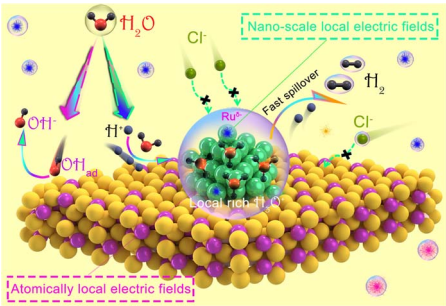
Meng Li, Maoting He and Peng An*



13855

Tailoring the local acid-like microenvironment with the synergism of nanoscale and atomically local electric fields for enhanced hydrogen spillover in alkaline seawater electrolysis

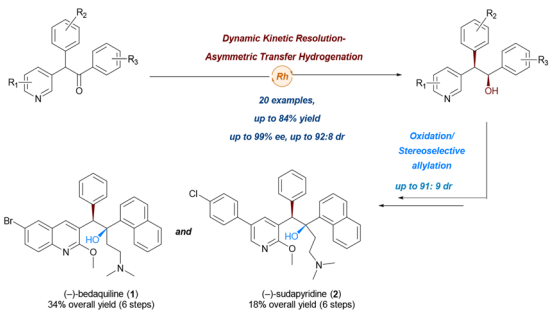
Lei Jin, Zhiyuan Wang, Hui Xu,* Kun Wang, Xingyue Qian, Haiqun Chen* and Guangyu He*



13864

Catalytic enantioselective total synthesis of antitubercular agents (−)-bedaquiline and (−)-sudapyridine enabled by dynamic kinetic resolution-asymmetric transfer hydrogenation

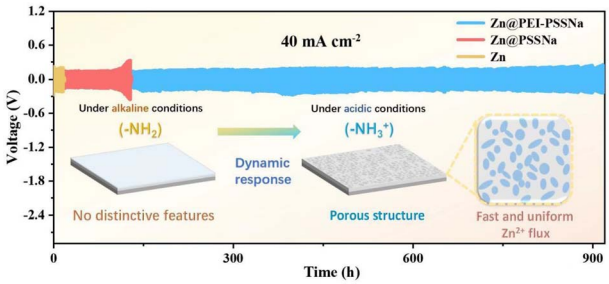
Jiyao Han, Dongliang Zhang, Yuan Tao, Pei Tang* and Fen-er Chen*



13873

A weak acid-responsive porous polyelectrolyte membrane enables the high efficiency of a zinc anode interface

Wenbin Li, Changhao Wang, Wenxuan Hu, Yongkang Wang, Congcong Li, Xiao Liu, Linyan Su, Beibei Yang,* Yunsong Li,* Duan Bin* and Hongbin Lu*



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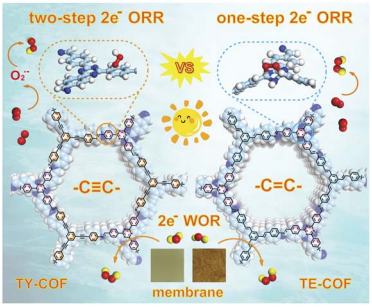
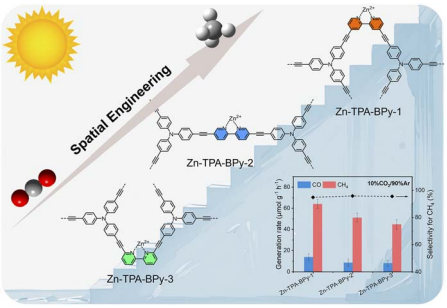


Distinct oxygen reduction pathways for solar H_2O_2 production by regulating unsaturated bonds in covalent organic frameworks

Jie-Yu Yue,* Zi-Xian Pan, Yan Guo, Peng Yang* and Bo Tang*

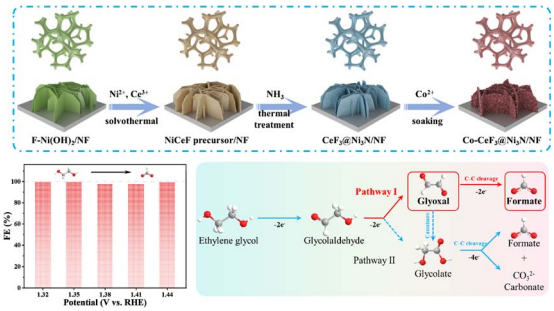
13893



Spatially programmed regioisomeric conjugated microporous polymers modulating zinc sites for selective CO_2 photoreduction to CH_4

Xingwang Lan,* Juan Wang, Lu Chen, Haobo Xu, Tianjun Zhang and Yong Chen*

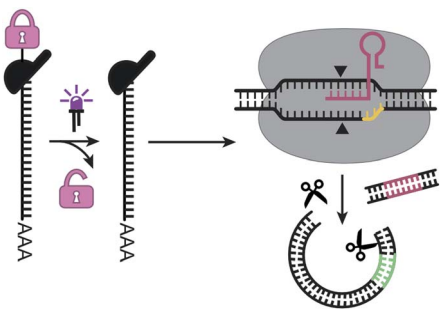
13905



Stable and highly selective Co-CeF_3@Ni_3N sheet-on-sheet heterostructures for PET electro-upgrading and hydrogen production

Kuan Deng, Xuesong Liu, Peng Liu, Xingbin Lv, Wen Tian and Junyi Ji*

13916



Light-controlled genome editing by activation of Cas9-mRNA translation

Helena Schepers, Greta Charlotte Dahm, Martin Sumser, Sabine Hüwel and Andrea Rentmeister*

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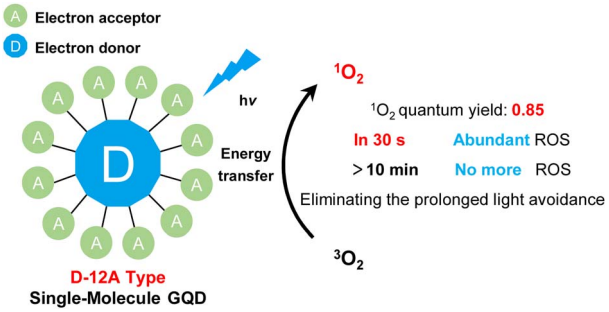
A single-molecule graphene quantum dot: a novel efficient photosensitizer for photodynamic cancer therapy

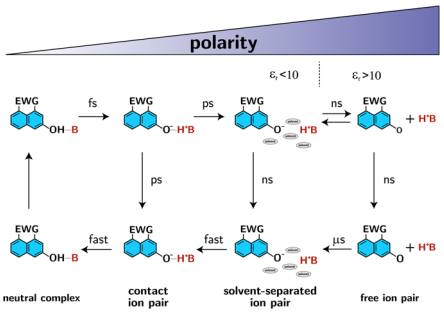
Jintao Chen, Shiru Yin, Futing Yang, Shengnan Guo, Jiaojiao Zhang, Zhenming Lu and Tian Gao*



13935

Dielectric stabilization controls excited-state proton transfer and ion pair dynamics in organic solvents

Amar Raj, Pragya Verma, Andrei Beliaev, Pasi Myllyperkiö and Tatu Kumpulainen*



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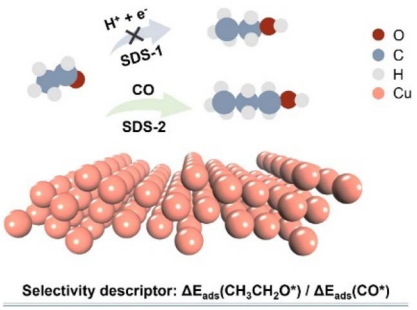
Promoting electrocatalytic CO_2 reduction to *n*-propanol over ethanol at Cu step sites

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