

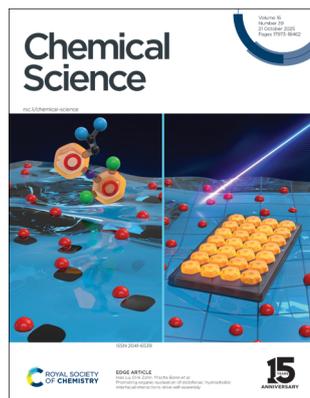
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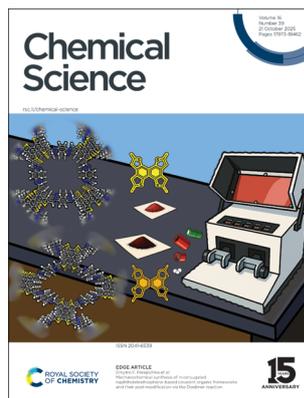
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See Hao Lu, Dirk Zahn, Mischa Bonn *et al.*, pp. 18092–18100. Image reproduced by permission of Hao Lu from *Chem. Sci.*, 2025, **16**, 18092.



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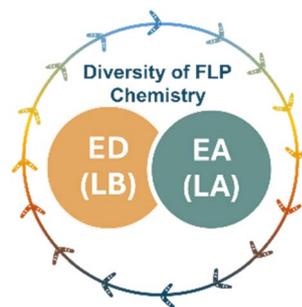
See Dmytro F. Perepichka *et al.*, pp. 18101–18112. Image reproduced by permission of Mohammad Hossein Gohari from *Chem. Sci.*, 2025, **16**, 18101. Some parts of the image generated using Microsoft Copilot AI.

COMMENTARY

17987

A reflection on frustrated Lewis pairs 20 years on: the gift that keeps on giving

Rebecca L. Melen* and Douglas W. Stephan*

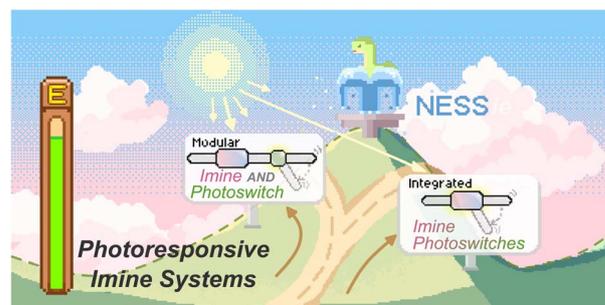


PERSPECTIVE

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Light them up: photoresponsive imine-containing systems

Jiarong Wu and Jake L. Greenfield*



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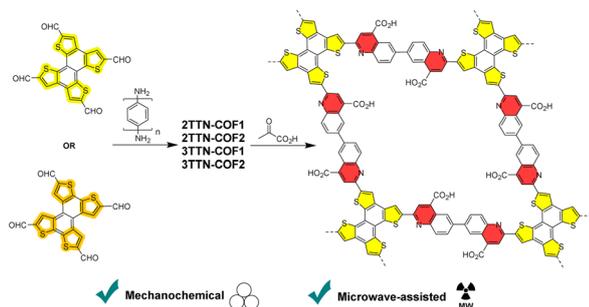
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Fundamental questions
Elemental answers



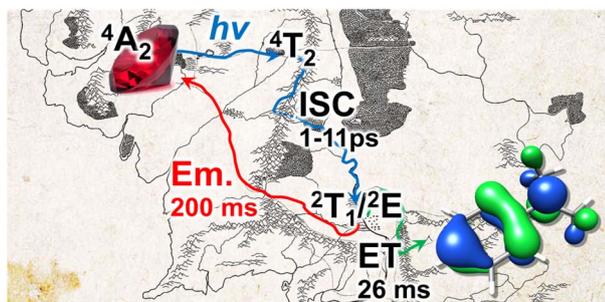
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Mechanochemical synthesis of π -conjugated naphthotetrathiphene-based covalent organic frameworks and their post-modification *via* the Doebner reaction

Mohammad Hossein Gohari, Pegah Ghamari, Ehsan Hamzehpoor, Farshid Effaty, Tomislav Friščić and Dmytro F. Perepichka*

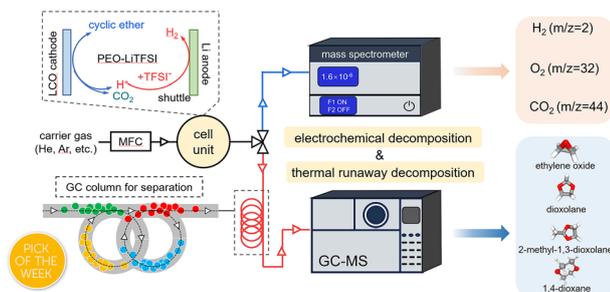
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Unraveling the photoredox chemistry of a molecular ruby

Guangjun Yang, Georgina E. Shillito, Phillip Seeber, Oliver S. Wenger and Stephan Kupfer*

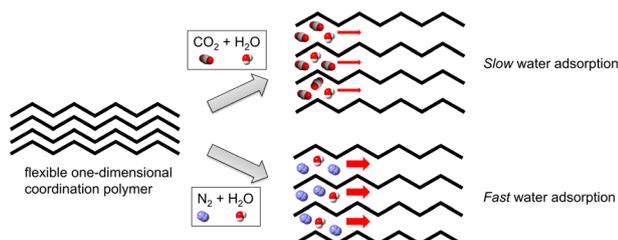
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In situ analysis of gaseous products from PEO-based polymer electrolyte decomposition

Yuan Tian, Nanbiao Pei, Jiyuan Xue, Jinzhi Wang, Haitang Zhang, Wenbin Tu,* Xin Sun,* Peng Zhang,* Yu Qiao* and Shi-Gang Sun

18135



Coexisting gases regulate the rates of water adsorption by a flexible one-dimensional coordination polymer

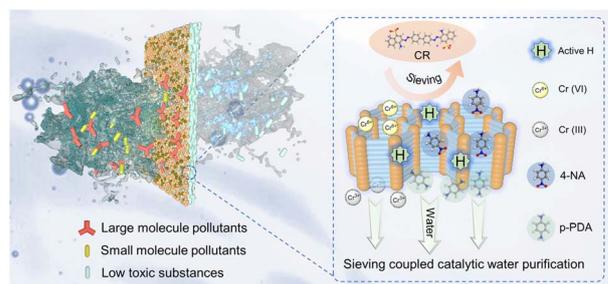
AnQi Wang, Xin Zheng, Yuki Saito, Arata Tateishi, Yuan Huang, Yuichi Kamiya, Hiroyasu Sato, Atsushi Kondo, Kiyonori Takahashi, Takayoshi Nakamura and Shin-ichiro Noro*



18141

Covalent organic framework catalytic membranes for durable multitasking water purification

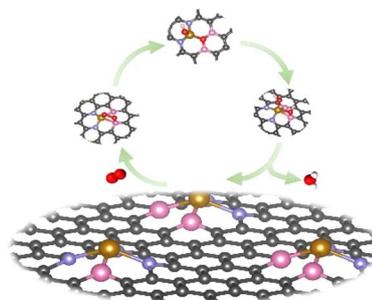
Guishan Hu, Binyu Zhou, Yu Zhen, Junyong Zhu,*
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Dual-function synergy in boron-doped Fe–N–C: enhanced site density and intrinsic activity

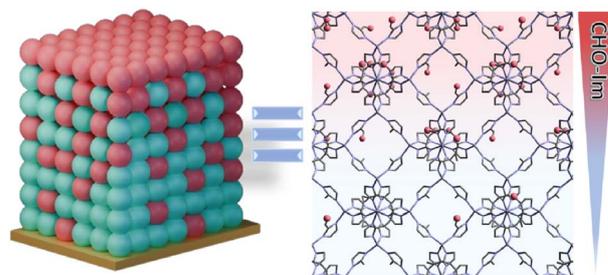
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Changpeng Liu* and Wei Xing*



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Spatial functionality gradient in a ZIF-8 thin film membrane

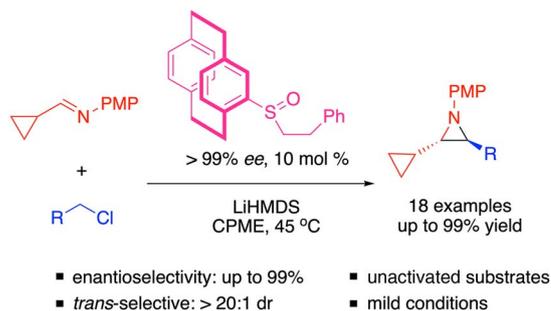
KM. Archana Yadav, Girish Mishra, Susmita Kundu,
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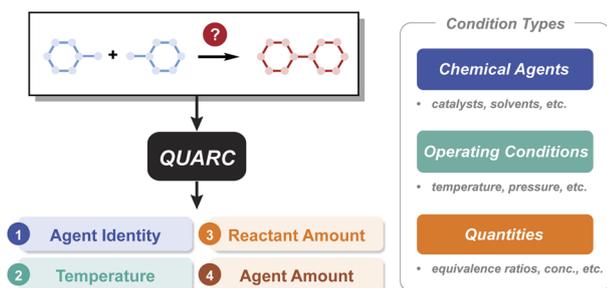
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Sulfonate anion catalyzed enantio- and diastereoselective aziridination

Youge Pu, Anthony M. Smaldone, Javier Adrio*
and Patrick J. Walsh*



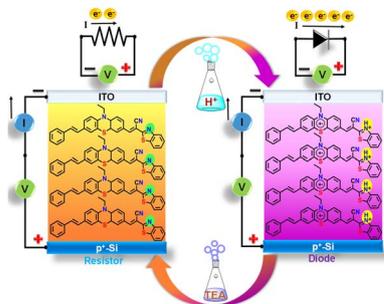
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Data-driven recommendation of agents, temperature, and equivalence ratios for organic synthesis

Xiaoqi Sun, Jiannan Liu, Babak Mahjour, Klavs F. Jensen and Connor W. Coley*

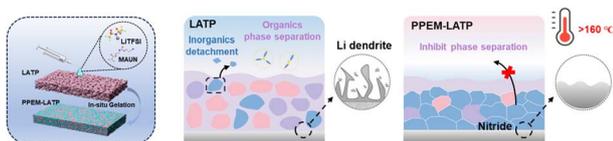
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Acid vapor-induced enhanced electrical current rectification in phenothiazine-based electronic devices

Reshma Kumari, Nila Pal, Rajwinder Kaur, Gunjan, Ritika Sharma, Debashree Manna, Konstantin Katin, Prakash Chandra Mondal* and Marilyn Daisy Milton*

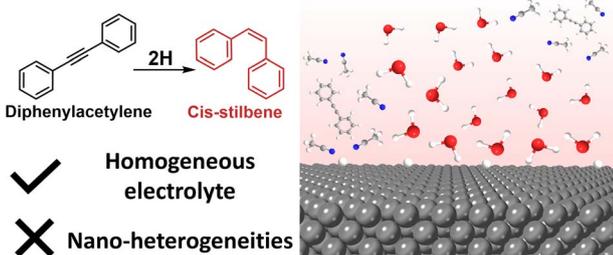
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A cyanate-functionalized polymer composite electrolyte with a self-healing gradient SEI affords ultra-thermally stable lithium batteries

Jiakai Wang, Siyu Zhang, Linchen Zhang, Shenzhen Deng, Yuanyuan Sun, Yimou Wang, Jinglin Wang, Weidong Zhou,* Zhongtao Li* and Mingbo Wu

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Optimizing semi-hydrogenation of unsaturated hydrocarbons by electrolyte engineering approach

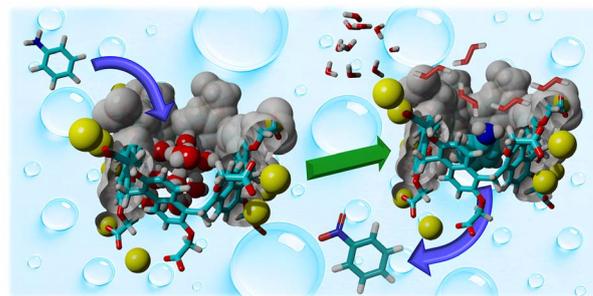
Rongyu Zhang, Xingyi Lyu, Tao Li and Alexis Grimaud*



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Carboxylato-prism[6]arene as a supramolecular catalyst in water: exploiting its deep hydrophobic cavity for green oxidation of aromatic amines

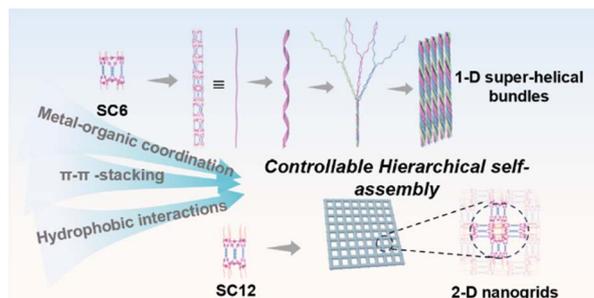
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Tailoring multi-dimensional hierarchical self-assembly of metallacages through balancing non-covalent interactions

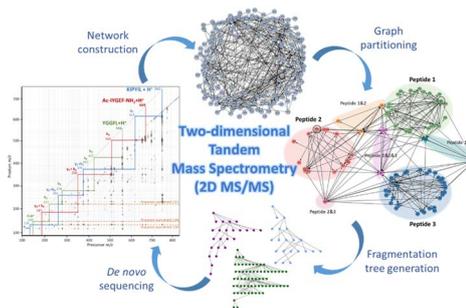
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Framework for *de novo* sequencing of peptide mixtures via network analysis and two-dimensional tandem mass spectrometry

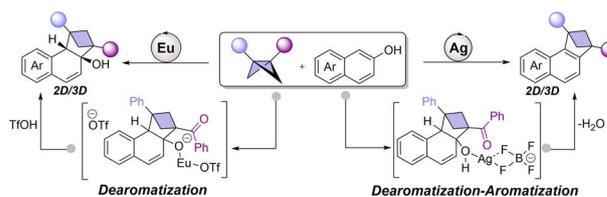
MyPhuong T. Le, Yu Zhu, Eric T. Dziekonski, Dylan T. Holden, David F. Gleich and R. Graham Cooks*



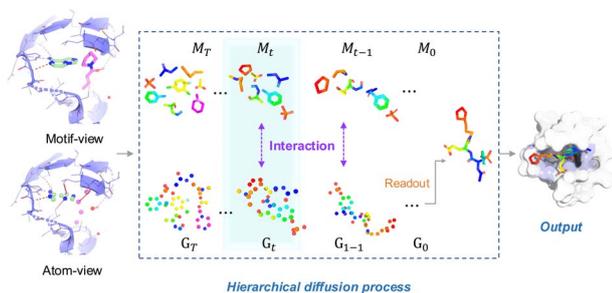
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Regiodivergent Lewis acid catalysis of bicyclo[1.1.0]butanes with 2-naphthols

Lin Fan, Pengyang Wang, Chang He, Xiaoyu Chen, Linlong Dai, Daokai Xiong and Guofu Zhong*



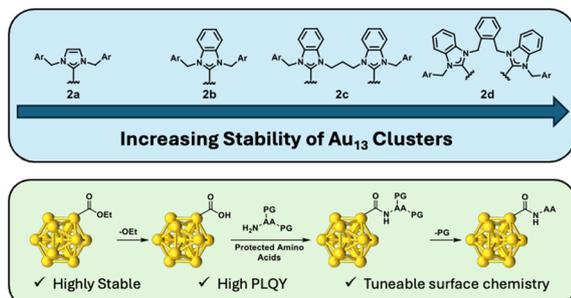
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Molecule generation for target protein binding with hierarchical consistency diffusion model

Guanlue Li, Chenran Jiang, Ziqi Gao, Yu Liu, Chenyang Liu, Jian Chen, Yong Huang* and Jia Li*

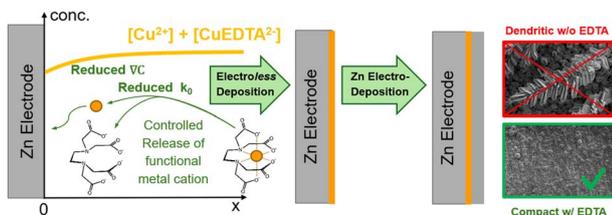
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Tuning the surface chemistry of NHC-protected Au₁₃ nanoclusters via a robust amide coupling procedure

Andrew L. D. M. Laluk, Dennis A. Buschmann, Shinjiro Takano, Angus I. Sullivan, Parimah Aminfar, Kevin Stamplecoskie,* Tatsuya Tsukuda* and Cathleen M. Crudden*

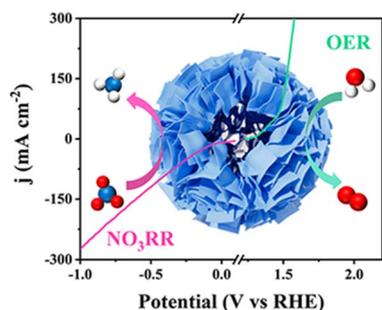
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Chelation-regulated release of alloying species stabilizes electrochemical interfaces on metal anodes in batteries

Rustam K. Gandhi, Sydney Manning and J. X. Kent Zheng*

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High-entropy sulfide nanoflowers with multi-atomic catalytic sites for efficient nitrate-to-ammonia conversion

Yuanting Lei, Lili Zhang, Xiaochen Wang, Dan Wang, Yafei Zhao, Bing Zhang, Ning Zhang* and Huishan Shang*



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Harnessing magnetic fields: temporal–spatial enabling in water-splitting electrocatalysis

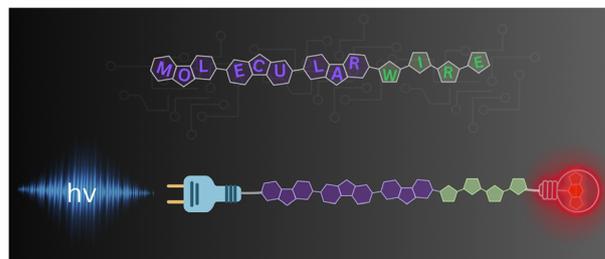
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Exciton structure and dynamics in π -conjugated molecular wires

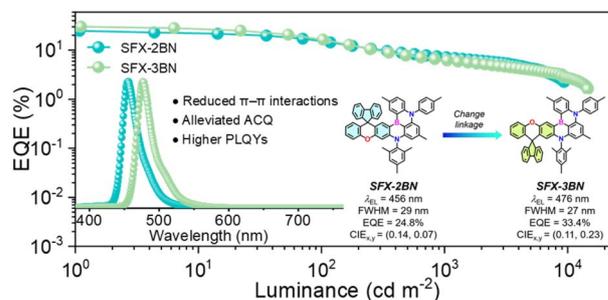
Naresh Duva, Habtom B. Gobeze, Isai Barboza-Ramos and Kirk S. Schanze*



18332

Peripherally fused spiro structures enable the development of narrowband TADF emitters for highly efficient blue OLEDs

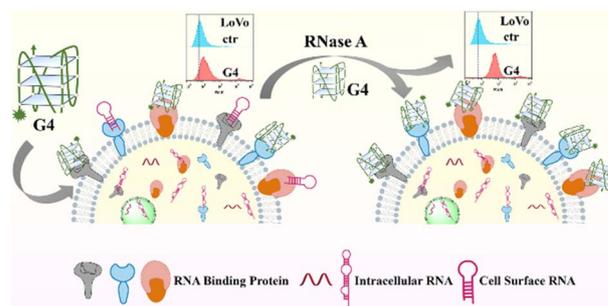
Deli Li, Denghui Liu, Mengke Li, Qingchao Liu, Wei Liu, Wei Li,* Shi-Jian Su* and Xuchuan Jiang*



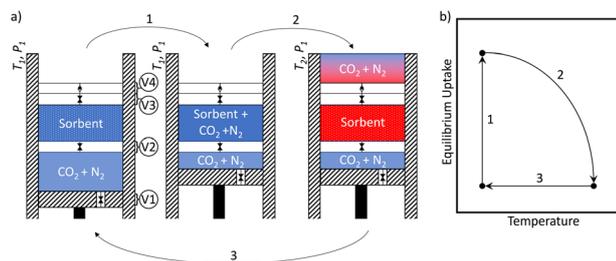
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A preliminary profile of RNA bound on the cell surface

Xiangru Zhang, Weiwei Li, Guomiao Liao, Yu Zhang, Jing Sheng, Zhenhao Long, Nan Zhang, Ji Zhu, Xiangjun Liu and Dihua Shangguan*



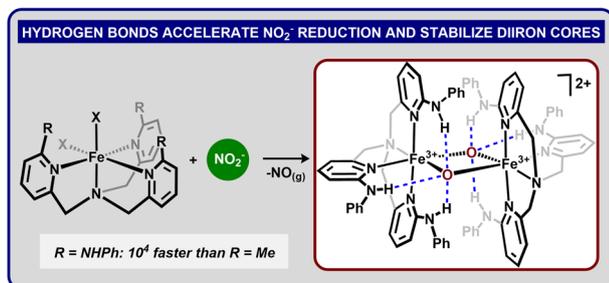
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Intrinsic direct air capture

Austin McDannald,* Daniel W. Siderius, Brian DeCost, Kamal Choudhary and Diana L. Ortiz-Montalvo

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Rapid nitrite reduction enabled by secondary sphere hydrogen bonds within non-heme iron complexes

Andrew R. LaDuca, Jared E. Gonder, Writhabrata Sarkar, John D. Gilbertson* and Nathaniel K. Szymczak*

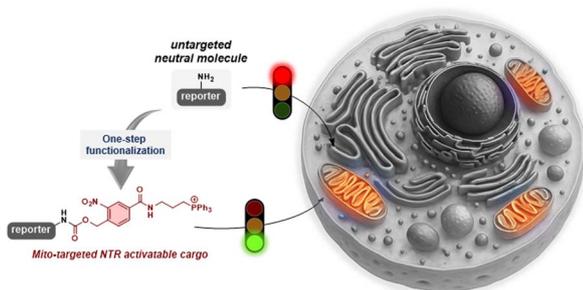
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Potential-driven dynamic strain in chemical bonds for urea electrosynthesis

Xin Zhang, Hao Sun, Hai-Yan Zheng, Zhan Shi, Jian-Rong Zeng, Jing-Yao Liu,* Chun-Yi Sun* and Zhong-Min Su*

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A mitochondria targeted nitroreductase-sensitive self-immolative spacer as an efficient shuttle for uncharged amine-based molecules

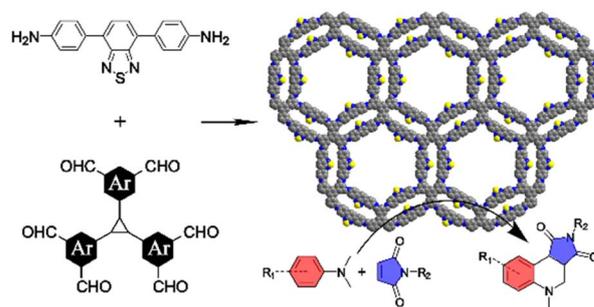
Laurane Michel, Vincent Steinmetz, Sophia Godel-Pastre, Philippe Durand and Arnaud Chevalier*



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Reticular chemistry guided construction of Olympic rings-inspired two-dimensional covalent organic frameworks for photocatalysis

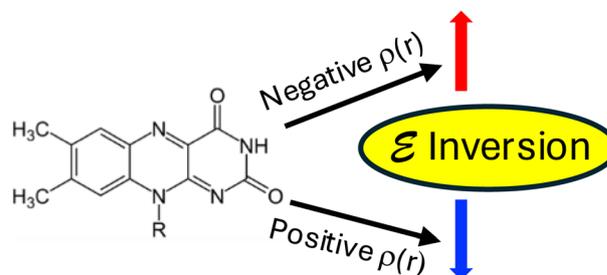
Ze-Yang Wang, Chao-Qin Han, Jia-Xin Guo, Shuai Sun and Xiao-Yuan Liu*



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The influence of protein electrostatics on potential inversion in flavoproteins

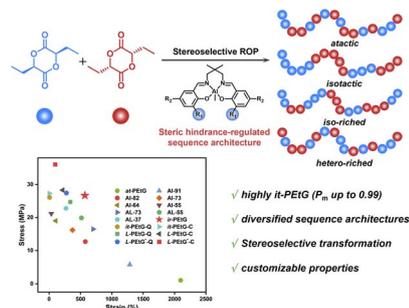
Niven Singh, Peng Zhang and David N. Beratan*



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Stereoselective ring-opening polymerization of racemic ethylglycolide: precisely regulated polyester properties via stereomicrostructure control

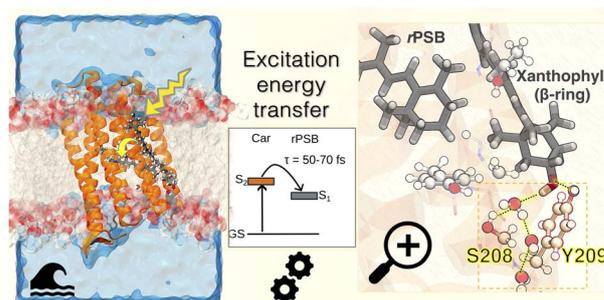
Jinbo Hu, Xinyan Liu, Yeqi Du, Wenbo Wang, Tianchang Wang, Hao Zhang, Ranlong Duan,* Xinchao Bian* and Xuesi Chen



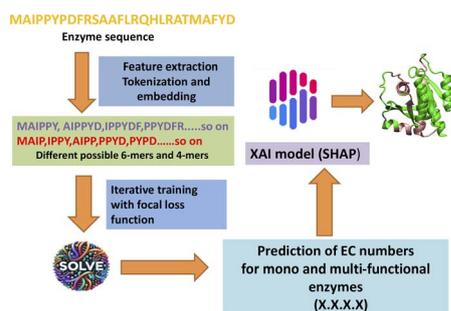
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Structural and spectroscopic basis of excitation energy transfer in microbial rhodopsins binding xanthophylls

Giacomo Salvadori, Piermarco Saraceno, Alisia Santomieri, Chris John and Laura Pedraza-González*



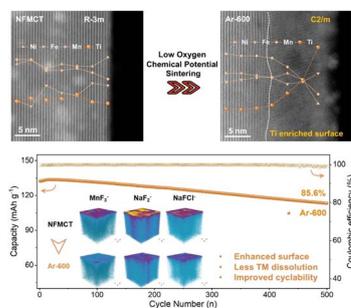
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Prediction of enzyme function using an interpretable optimized ensemble learning framework

Saikat Dhivar, Sumon Basak and Biman Jana*

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Surface reconstruction driven by low oxygen chemical potential sintering: unlocking superior material properties

Shuai Zhang, Jiexi Wang, Zhengwei Xu, Muzhou Li, Zhixing Wang, Huajun Guo, Xinhai Li, Wenjie Peng, Hui Duan, Guangchao Li and Guochun Yan*

