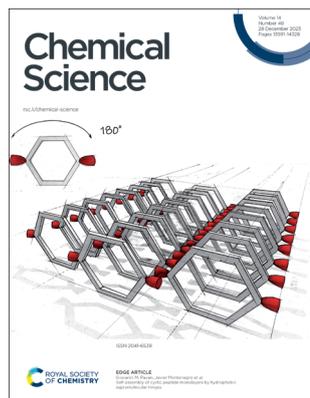


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ISSN 2041-6539 CODEN CSHCBM 14(48) 13991–14328 (2023)



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See Giovanni M. Pavan, Javier Montenegro *et al.*, pp. 14074–14081. Image reproduced by permission of Beatriz Perez and Javier Montenegro from *Chem. Sci.*, 2023, 14, 14074.



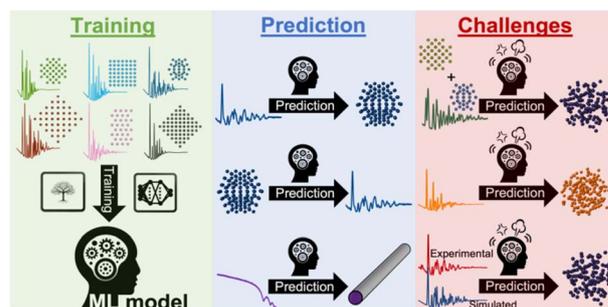
Inside cover
See Andrew Kellett, José Martínez-Costas, Miguel Vázquez López *et al.*, pp. 14082–14091. Image reproduced by permission of M. Eugenio Vázquez from *Chem. Sci.*, 2023, 14, 14082.

PERSPECTIVES

14003

Machine learning for analysis of experimental scattering and spectroscopy data in materials chemistry

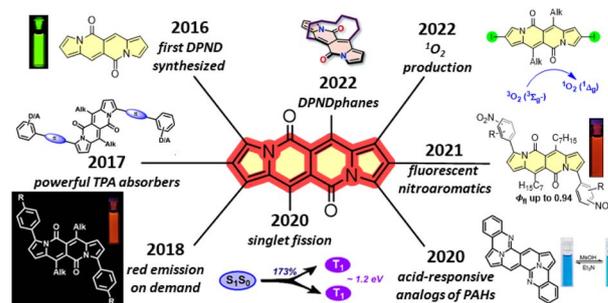
Andy S. Anker, Keith T. Butler, Raghavendra Selvan and Kirsten M. Ø. Jensen*



14020

Dipyrrolonaphthyridinedione – (still) a mysterious cross-conjugated chromophore

Bartłomiej Sadowski* and Daniel T. Gryko*



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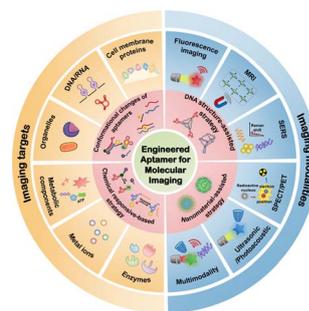


REVIEWS

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Engineered aptamers for molecular imaging

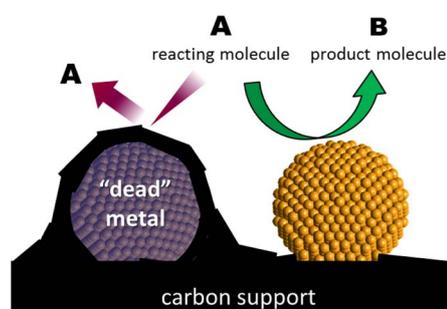
Bingqian Lin,* Feng Xiao, Jinting Jiang, Zhengjia Zhao and Xiang Zhou



14062

The phenomenon of “dead” metal in heterogeneous catalysis: opportunities for increasing the efficiency of carbon-supported metal catalysts

Roman M. Mironenko, Dmitry B. Eremin and Valentine P. Ananikov*

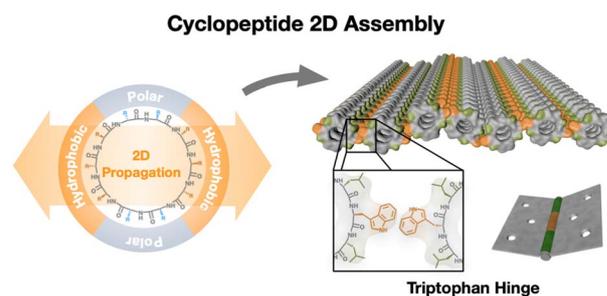


EDGE ARTICLES

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Self-assembly of cyclic peptide monolayers by hydrophobic supramolecular hinges

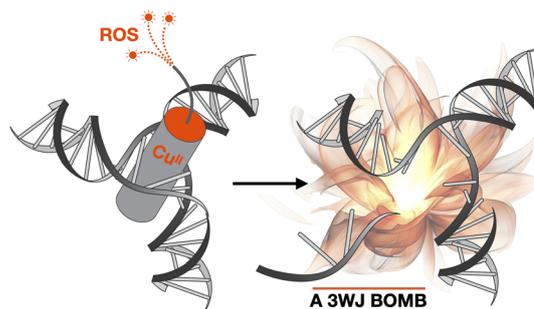
Ignacio Insua, Annalisa Cardellini, Sandra Díaz, Julian Bergueiro, Riccardo Capelli, Giovanni M. Pavan* and Javier Montenegro*



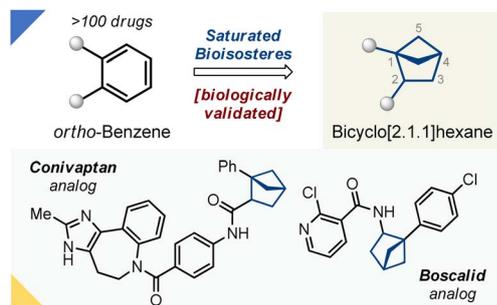
14082

A copper(II) peptide helicate selectively cleaves DNA replication foci in mammalian cells

Ana Alcalde-Ordóñez, Natalia Barreiro-Piñeiro, Brionna McGormann, Jacobo Gómez-González, David Bouzada, Francisco Rivadulla, M. Eugenio Vázquez, Andrew Kellett,* José Martínez-Costas* and Miguel Vázquez López*



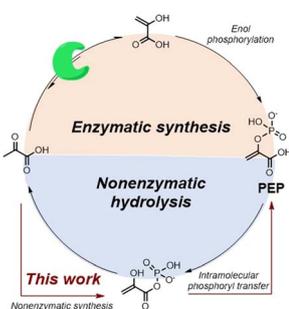
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1,2-Disubstituted bicyclo[2.1.1]hexanes as saturated bioisosteres of *ortho*-substituted benzene

Aleksandr Denisenko, Pavel Garbuz, Yelyzaveta Makovetska, Oleh Shablykin, Dmytro Lesyk, Galeb Al-Maali, Rodion Korzh, Iryna V. Sadkova and Pavel K. Mykhailiuk*

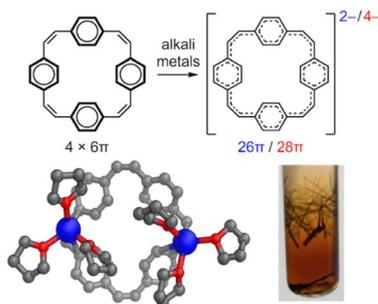
14100



A single phosphorylation mechanism in early metabolism – the case of phosphoenolpyruvate

Joris Zimmermann, Robert J. Mayer and Joseph Moran*

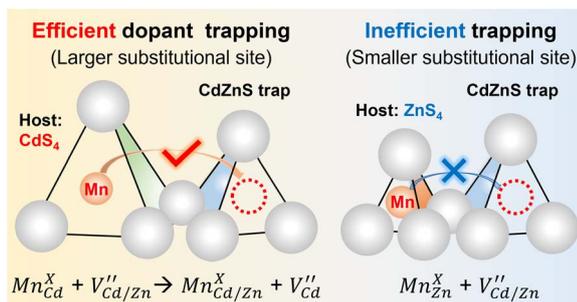
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Crystallographic evidence for global aromaticity in the di-anion and tetra-anion of a cyclophane hydrocarbon

Wojciech Stawski, Yikun Zhu, Zheng Wei, Marina A. Petrukhina* and Harry L. Anderson*

14115



Inserting an "atomic trap" for directional dopant migration in core/multi-shell quantum dots

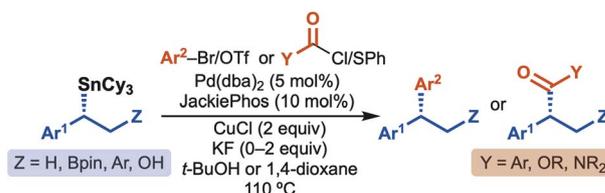
Chun Chu, Elan Hofman, Chengpeng Gao, Shuya Li, Hanjie Lin, Walker MacSwain, John M. Franck, Robert W. Meulenberg, Arindam Chakraborty and Weiwei Zheng*



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A general approach to stereospecific Pd-catalyzed cross-coupling reactions of benzylic stereocenters

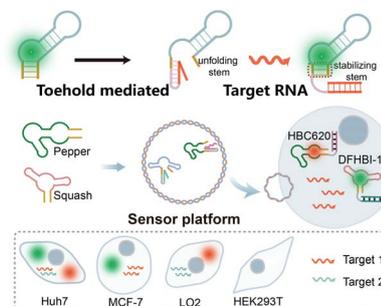
Meruyert Binayeva, Xinghua Ma,
Pejman Ghaemimohammadi and Mark R. Biscoe*



14131

A universal orthogonal imaging platform for living-cell RNA detection using fluorogenic RNA aptamers

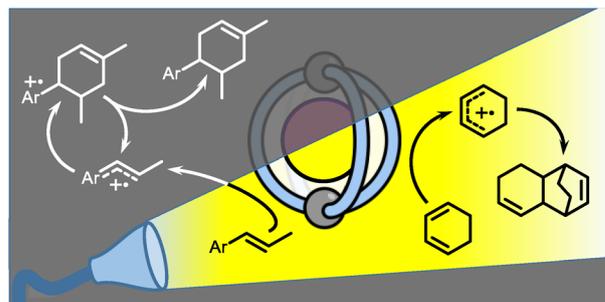
Peng Yin, Mingmin Ge, Shiyi Xie, Li Zhang, Shi Kuang*
and Zhou Nie*



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Exo-cage catalysis and initiation derived from photo-activating host-guest encapsulation

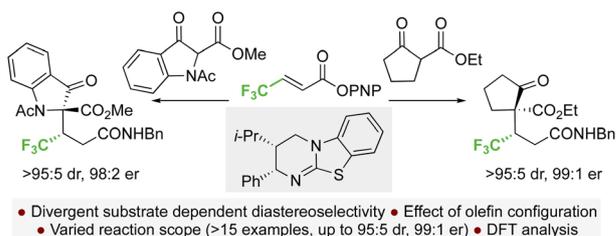
Rebecca L. Spicer, Helen M. O'Connor, Yael Ben-Tal,
Hang Zhou, Patrick J. Boaler, Fraser C. Milne, Euan
K. Brechin,* Guy. C. Lloyd-Jones* and Paul J. Lusby*



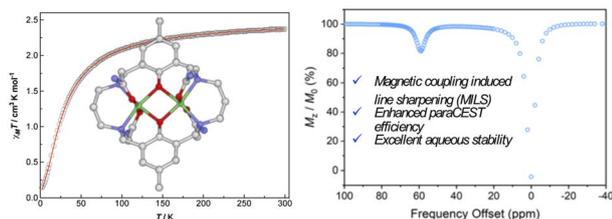
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Understanding divergent substrate stereoselectivity in the isothiurea-catalysed conjugate addition of cyclic α -substituted β -ketoesters to α,β -unsaturated aryl esters

Ding Yuan, Alister S. Goodfellow, Kevin Kasten,
Zhuan Duan, Tengfei Kang, David B. Cordes, Aidan
P. McKay, Michael Bühl,* Gregory R. Boyce* and Andrew
D. Smith*



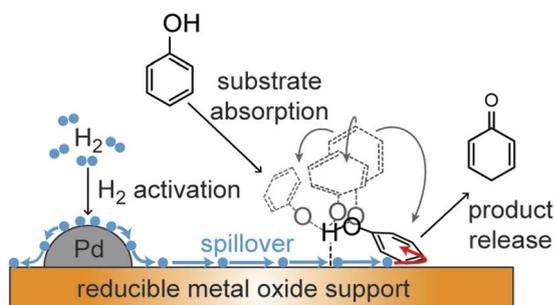
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Improving the potential of paraCEST through magnetic-coupling induced line sharpening

Xin Guo, Lei Zhang, Jiesheng Hu, Balázs Szilágyi, Meng Yu,* Shizhen Chen,* Gyula Tircsó, Xin Zhou and Jun Tao*

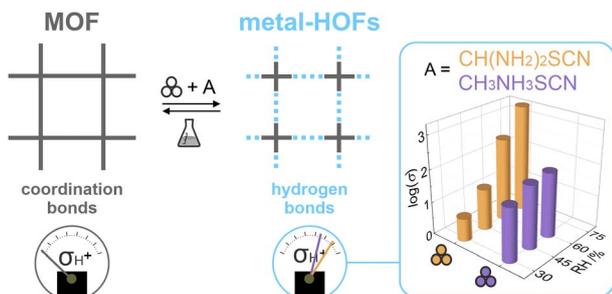
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Hydrogen spillover and substrate–support hydrogen bonding mediate hydrogenation of phenol catalyzed by palladium on reducible metal oxides

Yeongseo An, Puranjan Chatterjee, Pranjali Naik, Sayak Banerjee, Wenyu Huang, Igor I. Slowing and Vincenzo Venditti*

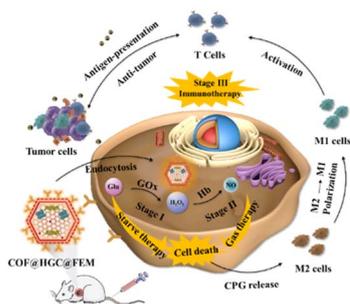
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From non-conductive MOF to proton-conducting metal-HOFs: a new class of reversible transformations induced by solvent-free mechanochemistry

Magdalena Lupa-Myszkowska, Marcin Oszajka and Dariusz Matoga*

14182



An erythrocyte membrane-camouflaged fluorescent covalent organic framework for starving/nitric oxide/immunotherapy of triple-negative breast cancer

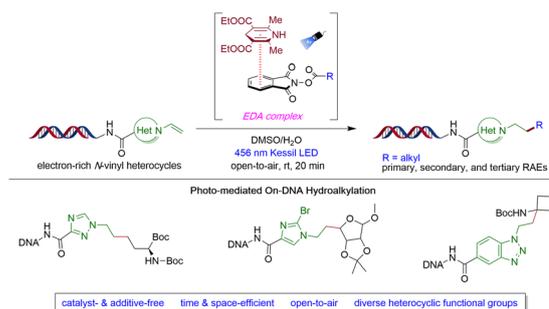
Fang Yuan, Cuiling Zhang,* Xianzhu Luo, Shasha Cheng, Yingxin Zhu and Yuezhong Xian*



14193

On-DNA hydroalkylation of *N*-vinyl heterocycles via photoinduced EDA-complex activation

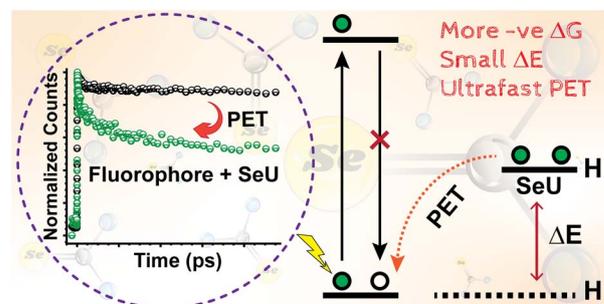
Mohammed Sharique, Bianca Matsuo, Albert Granados, Saegun Kim, Mahwish Arshad, Hyunjung Oh, Victoria E. Wu, Minxue Huang, Adam Csakai, Lisa A. Marcaurelle and Gary A. Molander*



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Critical assessment of selenourea as an efficient small molecule fluorescence quenching probe to monitor protein dynamics

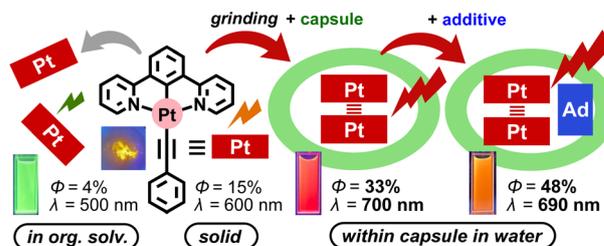
Subhrakant Jena, Kiran Devi Tulsian, Rudhi Ranjan Sahoo, Saiprakash Rout, Akshay Kumar Sahu and Himansu S. Biswal*



14211

Solution-state mechanochromic luminescence of Pt(II)-complexes displayed within micellar aromatic capsules

Yoshihisa Hashimoto, Yuri Katagiri, Yuya Tanaka* and Michito Yoshizawa*

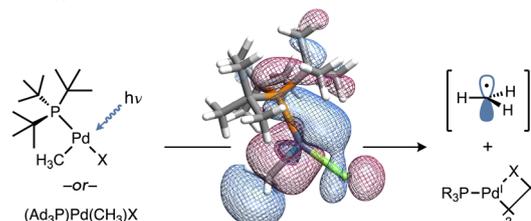


14217

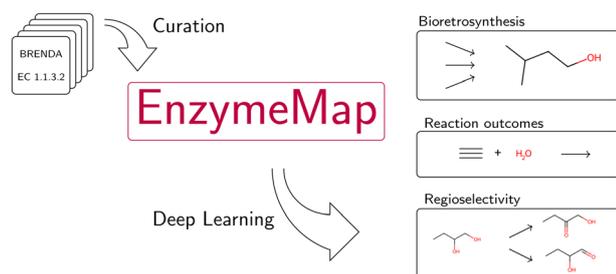
Visible light-induced palladium–carbon bond weakening in catalytically relevant T-shaped complexes

Peter M. Waddell, Lei Tian, Anthony R. Scavuzzo, Lalu Venigalla, Gregory D. Scholes and Brad P. Carrow*

low energy d-σ* transition · redirects ubiquitous Pd(II) into SET pathways



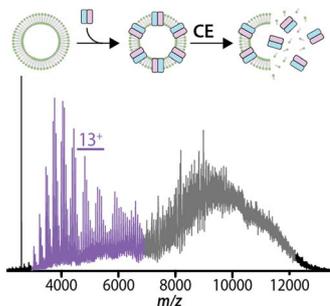
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EnzymeMap: curation, validation and data-driven prediction of enzymatic reactions

Esther Heid,^{*} Daniel Probst, William H. Green and Georg K. H. Madsen

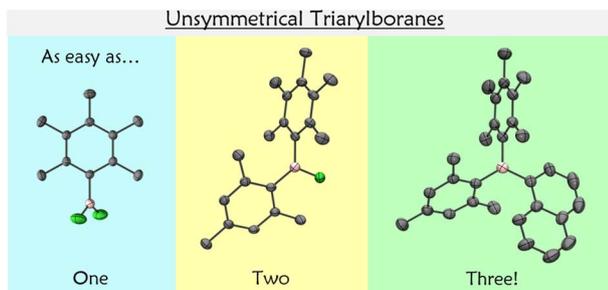
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Native mass spectrometry of proteoliposomes containing integral and peripheral membrane proteins

Yun Zhu, Sangho D. Yun, Tianqi Zhang, Jing-Yuan Chang, Lauren Stover and Arthur Laganowsky^{*}

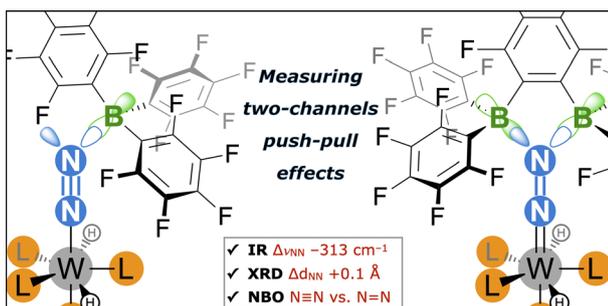
14256



Rapid, iterative syntheses of unsymmetrical di- and triarylboranes from crystalline aryl difluoroboranes

Douglas Turnbull and Marc-André Légaré^{*}

14262



An orbitally adapted push-pull template for N_2 activation and reduction to diazene-diide

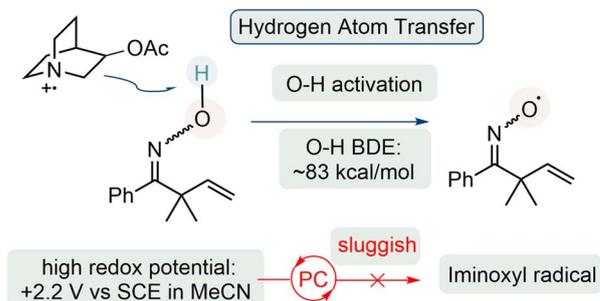
David Specklin, Marie-Christine Boegli, Anaïs Coffinet, Léon Escomel, Laure Vendier, Mary Grellier and Antoine Simonneau^{*}



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O–H bond activation of β,γ -unsaturated oximes via hydrogen atom transfer (HAT) and photoredox dual catalysis

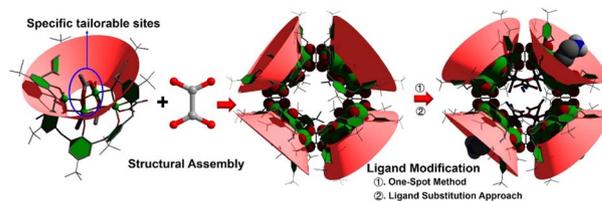
Liang Yi, Chen Zhu, Xiangyu Chen, Huifeng Yue, Tengfei Ji, Yiqiao Ma, Yuanyuan Cao, Rajesh Kancharla and Magnus Rueping*



14280

Atomically accurate site-specific ligand tailoring of highly acid- and alkali-resistant Ti(IV)-based metallamacrocycle for enhanced CO₂ photoreduction

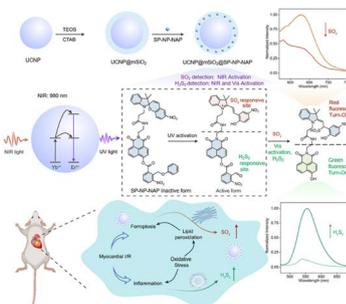
Yi-Qi Tian, Lin-Fang Dai, Wen-Lei Mu, Wei-Dong Yu, Jun Yan* and Chao Liu*



14290

A near-infrared light-activated nanoprobe for simultaneous detection of hydrogen polysulfide and sulfur dioxide in myocardial ischemia–reperfusion injury

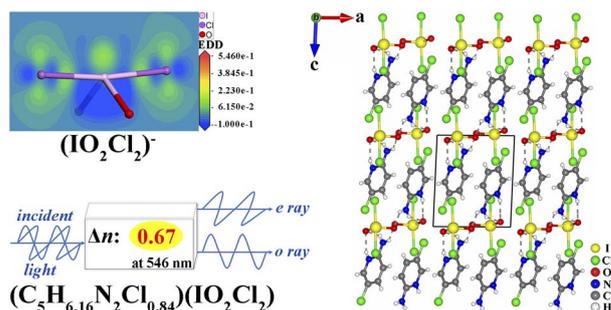
Xianzhu Luo, Cuiling Zhang,* Chenyang Yue, Yuelin Jiang, Fei Yang and Yuezhong Xian*



14302

(C₅H_{6.16}N₂Cl_{0.84})(IO₂Cl₂): a birefringent crystal featuring unprecedented (IO₂Cl₂)⁻ anions and π -conjugated organic cations

Qian-Qian Chen, Chun-Li Hu, Ming-Zhi Zhang and Jiang-Gao Mao*



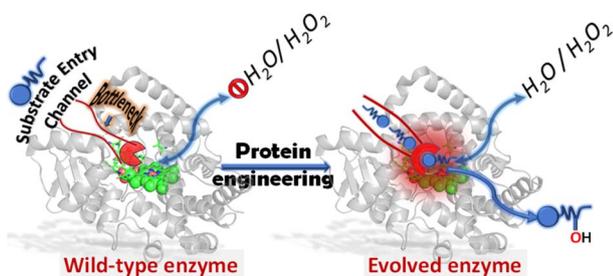
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Optimizing copper nanoparticles with a carbon shell for enhanced electrochemical CO₂ reduction to ethanol

Ting Yao, Wei Xia,* Shitao Han, Shuaiqiang Jia, Xue Dong, Min Wang, Jiapeng Jiao, Dawei Zhou, Jiahao Yang, Xueqing Xing, Chunjun Chen, Mingyuan He, Haihong Wu* and Buxing Han*

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Computationally guided bioengineering of the active site, substrate access pathway, and water channels of thermostable cytochrome P450, CYP175A1, for catalyzing the alkane hydroxylation reaction

Mohd Taher,* Kshatresh Dutta Dubey* and Shyamalava Mazumdar*

