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See Yuxinxin Chen and Pavlo O. Dral, pp. 15901–15912.
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See Lauren Takahashi, Keisuke Takahashi et al., pp. 15769–15780. Image reproduced by permission of Lauren Takahashi from *Chem. Sci.*, 2025, **16**, 15769.

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Highlights from the 58th Bürgenstock Conference on Stereochemistry 2025

Mattia Silvi* and Claudia Bonfio*



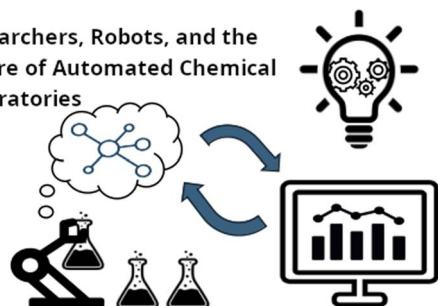
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AI and automation: democratizing automation and the evolution towards true AI-autonomous robotics

Lauren Takahashi,* Mikael Kuwahara and Keisuke Takahashi*

Researchers, Robots, and the Future of Automated Chemical Laboratories



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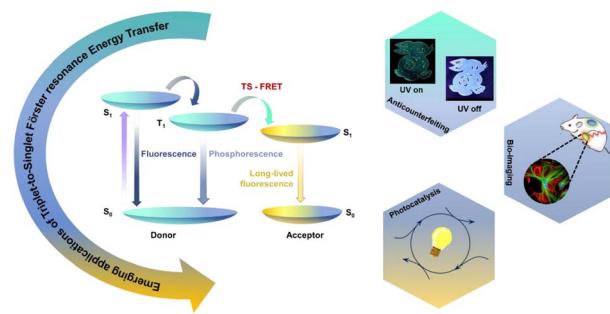
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Triplet-to-singlet FRET (TS-FRET) in pure organic phosphors: emerging applications and new opportunities

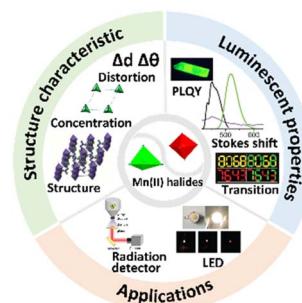
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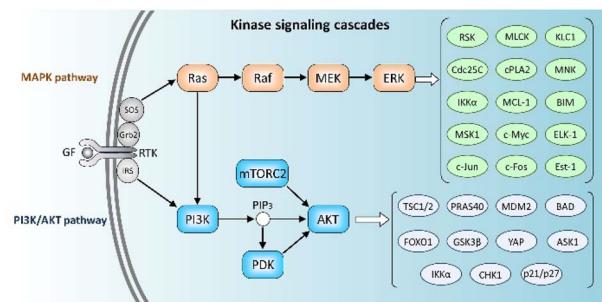


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Kinase signaling cascades: an updated mechanistic landscape

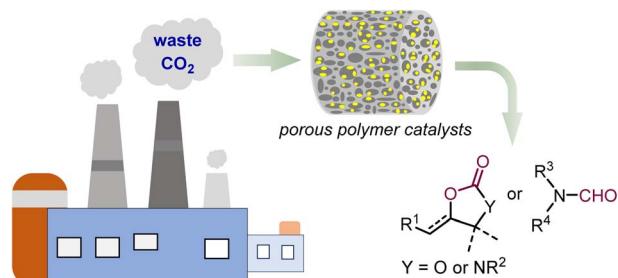
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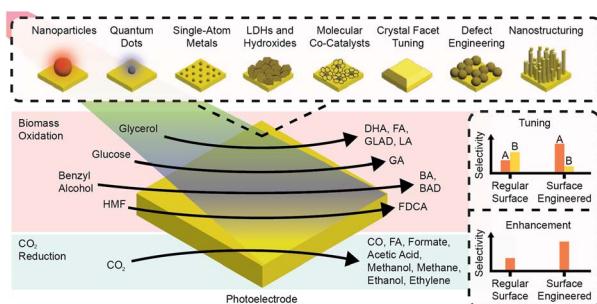
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Jun-Song Jia, Ying Liang* and Ying-Ming Pan*



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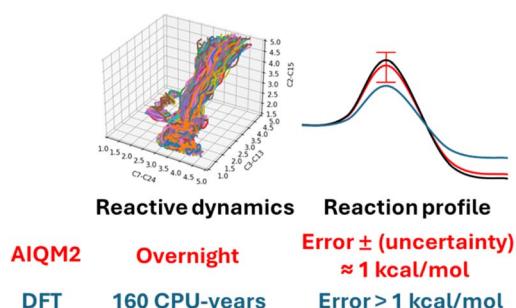
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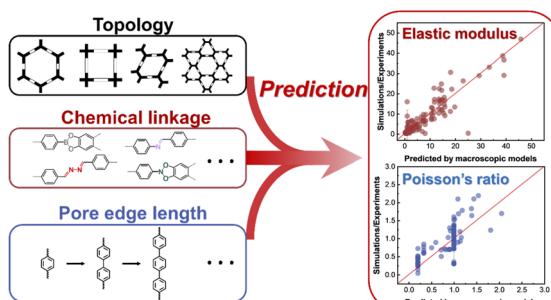
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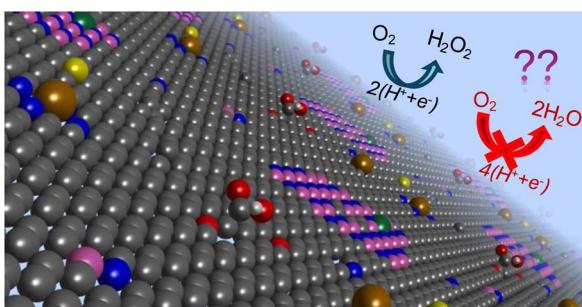
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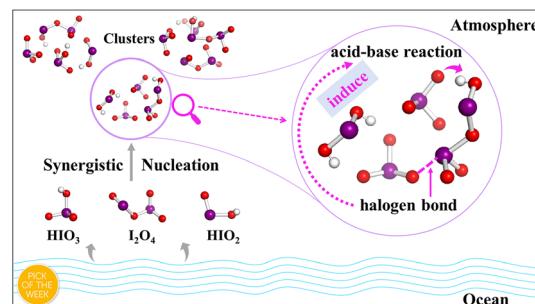


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Significance of halogen bonding in the synergistic nucleation of iodine oxoacids and iodine oxides

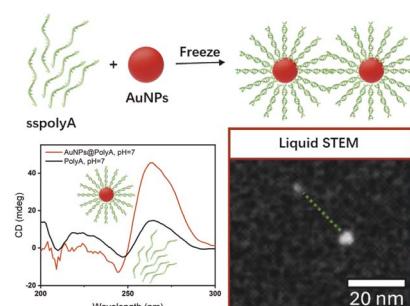
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Distinct structural interactions of polyadenine and polythymine on gold nanoparticles: from single strands to duplexes

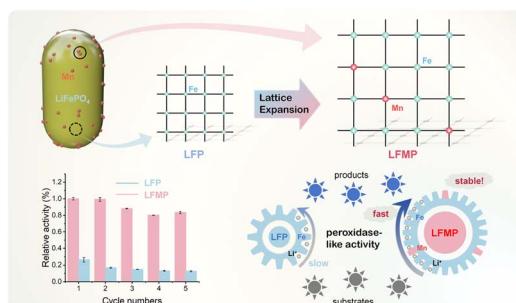
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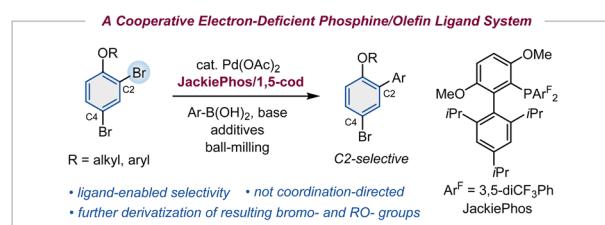
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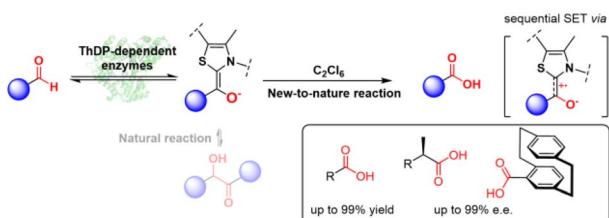
A cooperative electron-deficient phosphine/olefin ligand system for the site-selective mechanochemical Suzuki–Miyaura cross-coupling of 2,4-dibromoaryl ethers

Yunpeng Gao, Julong Jiang, Satoshi Maeda, Koji Kubota* and Hajime Ito*



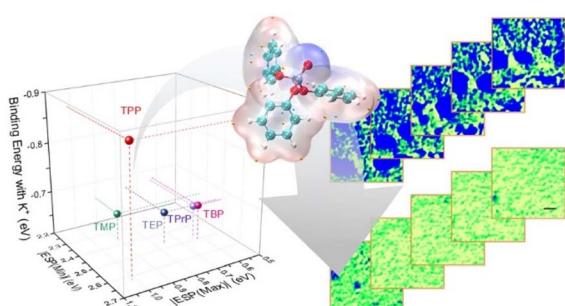
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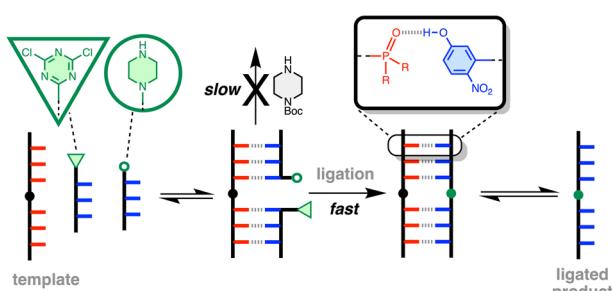
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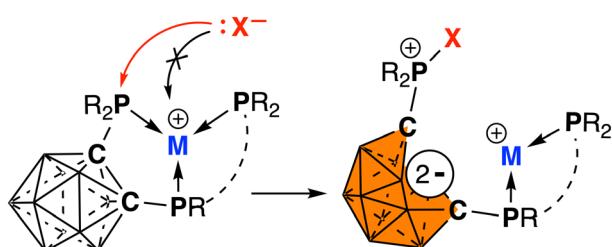
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Jared R. Riffle, Cash L. Jowers, Sarah Luna, Mark D. Smith and Dmitry V. Peryshkov*



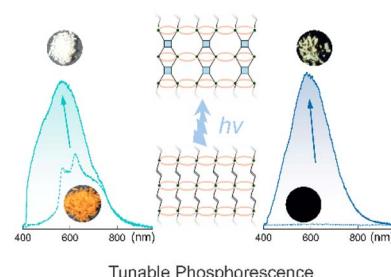
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Topochemical photocycloaddition in two-dimensional lead-halide coordination polymers with tunable phosphorescence

Zhongwei Chen, Jin Wu, Zeyu Deng,* Congcong Chen, Jianning Feng, Baixu Ma, Lizhi Tao, Lingling Mao and Haipeng Lu*

Topochemical [2+2] photocycloaddition

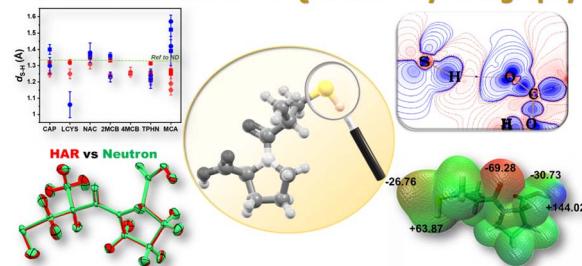


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Weak yet directional: supramolecular interactions of thiols unravelled by quantum crystallography

Ashi Singh, Kiran Avinash, Amit Kumar Pradhan, Aditya Kumar Prajapati, Alison J. Edwards and Sajesh P. Thomas*

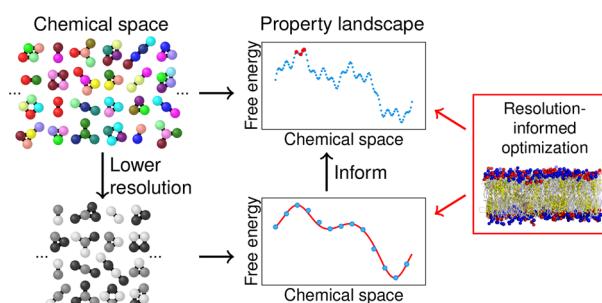
Thiols under the lens of Quantum Crystallography



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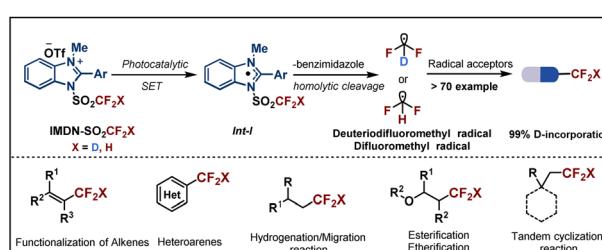
Luis J. Walter and Tristan Bereau*



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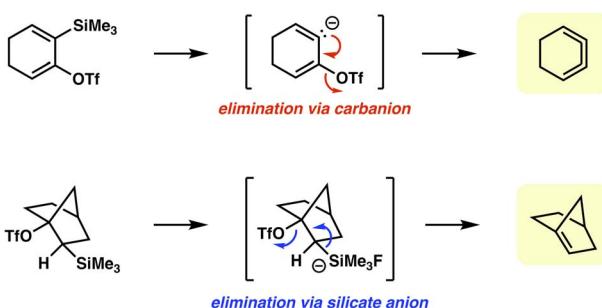
A practical photocatalytic strategy for radical (deutero)difluoromethylation using imidazolium reagents

Chao Sun, Yinpu Shen, Heyin Li, Zhen Wang, Yifan Li, Mengjun Huang, Zhenlei Zou, Jing Liu, Ao Liu, Yi Pan, Weigang Zhang* and Yi Wang*



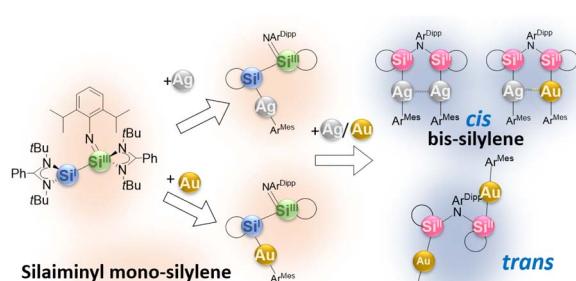
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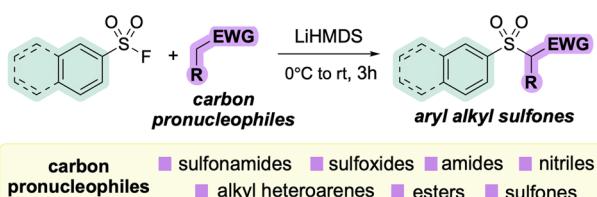
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**On-demand switching from mono-silylene to bis-silylene to access mono-, di- and mixed coinage metal complexes**

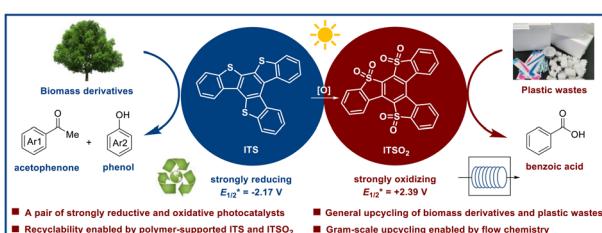
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Hao Cui, Xiang Chen, Xiong She, Wen-Xin Su, Shi-Chao Chen and Xiao Zhang*

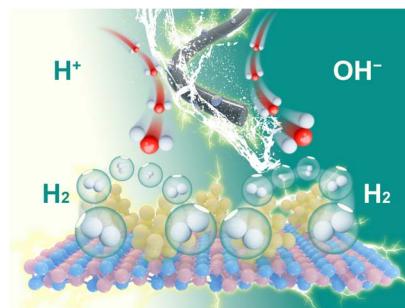


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Electronic metal–support interaction induces electron deficiency in iridium for promoted ampere-grade-current-density electrocatalytic hydrogen evolution

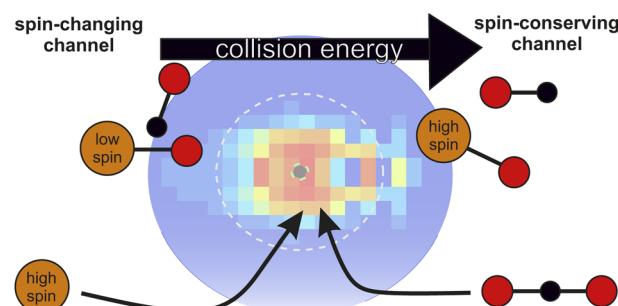
Linfeng Zhang, Weimo Li, Siyu Ren, Yue Zhang, Wei Song, Ce Wang and Xiaofeng Lu*



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CO₂ activation by gaseous zirconium cations: competition between spin-changing and spin-conserving pathways

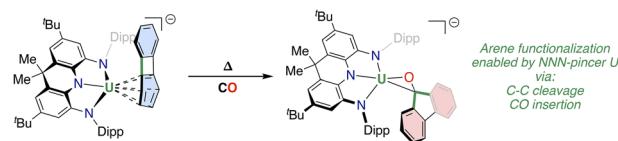
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C–C bond cleavage and carbonylation enabled by an NNN-pincer uranium scaffold via metal–arene interaction

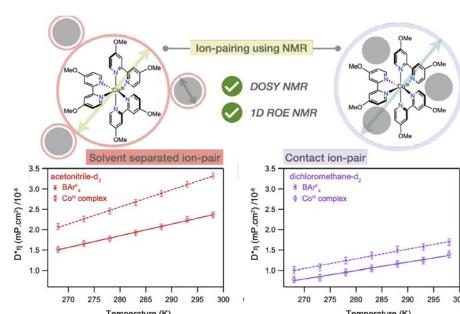
Yue Pang, Thayalan Rajeshkumar, Rosario Scopelliti, Laurent Maron* and Marinella Mazzanti*



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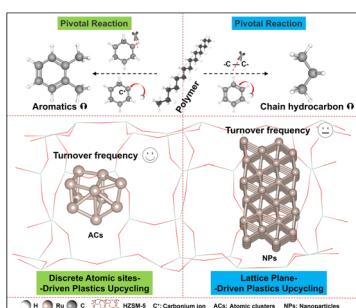
Probing the influence of ion-pairing on ligand-field excited-state dynamics

Atanu Ghosh, Daniel Holmes and James K. McCusker*



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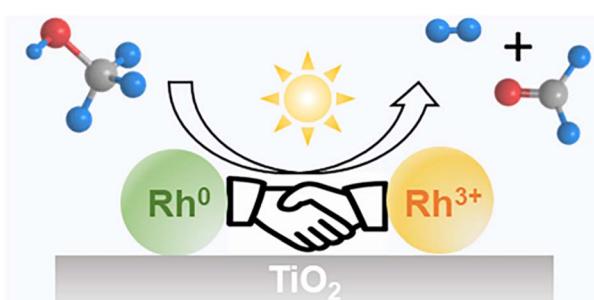
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Hydrogen/solvent-free plastic valorization via loosely coordinated ruthenium sites steering selective aromatization

Fan Mo, Qixing Zhou,* Pengfei Wang, Weitao Liu, Chuan Yin, Zelin Hou, Wenda Xue, Qi Wang, Jianling Wang, Tong Zheng, Zongxin Tao and Xiang Li

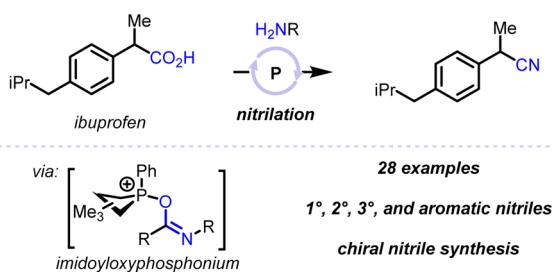
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Unlocking synergy between multi-valence rhodium species for promoted methanol photoreforming

Mu Xiao, Weizhen Meng, Yalong Jiao, Haijiao Lu, Zhiliang Wang, Guangyu Zhao, Zitong Wang, Yonggang Jin and Lianzhou Wang*

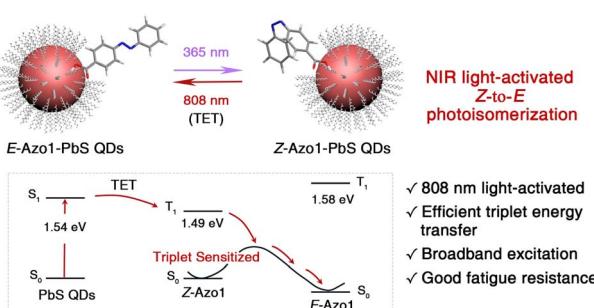
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Nitrilation of carboxylic acids by P^{III}/P^V-catalysis

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Yanan Feng, Qingxin Luan, Shuai Zhang, Lin Xi, Shijie Zhang, Kezhou Chen, Tiegen Liu and Lili Hou*

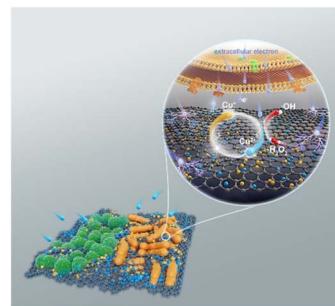


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Bacteria-driven bio-electroactive sterilization

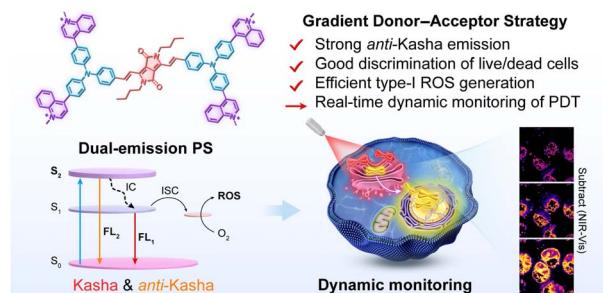
Mingming Qin, Qiuping Qian,* Xiaoqing Gao, Tianxi Shen, Feng Jia, Min Wu, Kelong Fan and Yunlong Zhou*



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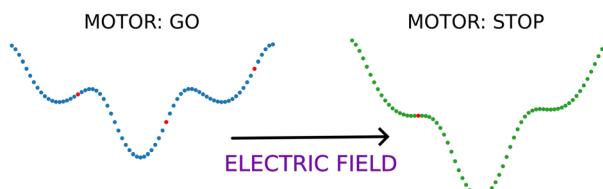
Xixin Gu, Xinyi Zhang, Yujie Han, Ju Mei,* Qi-Wei Zhang* and Jianli Hua*



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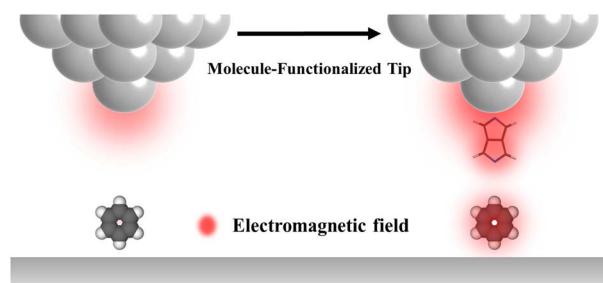
Marco Severi,* Ibério de P. R. Moreira, Jordi Ribas-Ariño, Wolfgang Quapp and Josep Maria Bofill



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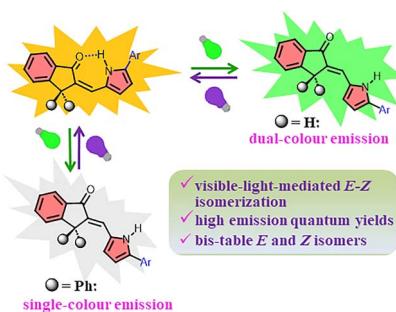
Design of functionalized tips driven by molecule–plasmon coupling

Huijie He, Xueyang Zhen, Shuang Li, Sibing Chen and Xing Chen*



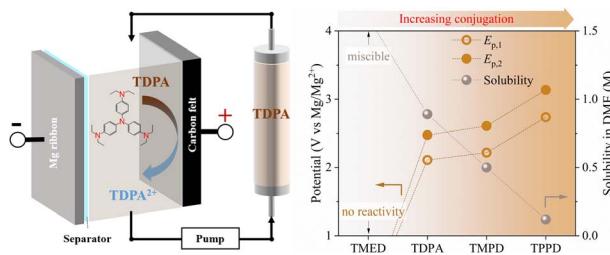
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**Arylpyrrolidene-indanones as readily synthesised photoswitches offering dual- and single-colour fluorescence toggling with nearly quantitative *E/Z* isomerisation under visible light**

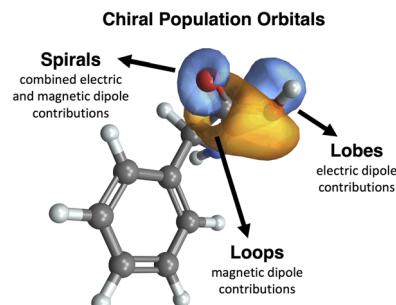
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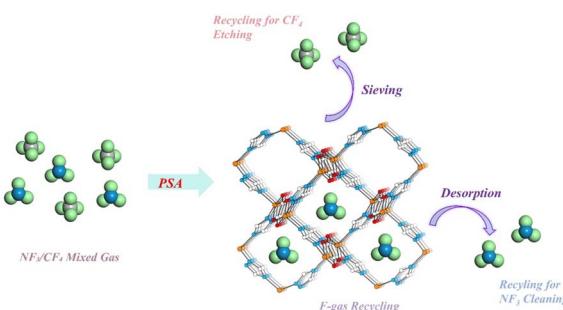
Yunan Qin, Vaidyanathan Sethuraman, Seong-Gyu Choi, Richard Gonzalez, Chengxiang Chen, Lei Cheng, Chao Luo* and Tao Gao*

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Victor M. Freixas,* Jérémie R. Rouxel, Sergei Tretiak, Niranjan Govind and Shaul Mukamel

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Yi-Tao Li, Weilin Li, Li-Ping Zhang, Na Geng, Li Xu, Shao-Min Wang, Tingyu Zhu, Qingqing Guan,* Yangyang Guo,* Xingxing Li* and Qing-Yuan Yang*

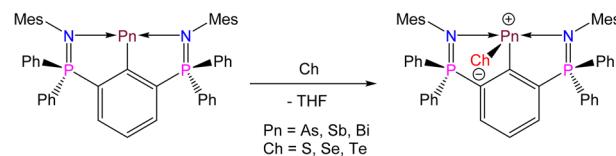


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Nature of the heavy formal double bonds As=Ch, Sb=Ch and Bi=Ch (Ch = S, Se, Te) in NCN-pincer supported arsinidene, stibinidene and bismuthinidene chalcogenides

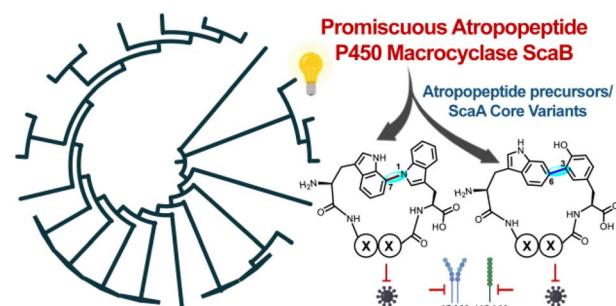
Fabio Meyer, Arina Siumbeli, Libor Dostál,* Emanuel Hupf* and Jens Beckmann*



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Phylogeny-guided discovery of a promiscuous P450 macrocyclase for the production of diverse atropopeptides

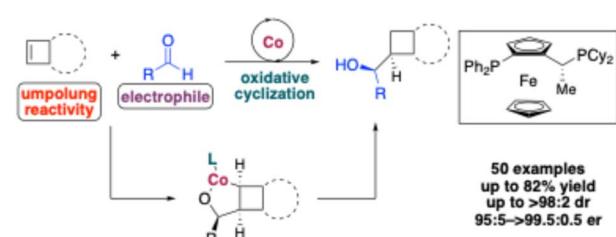
Bin Tan, Peter Breunig, Lamia Arbib, Yuya Kakumu, Friederike Biermann, Kornelia Hardes, Jasmin Hefendehl and Eric J. N. Helfrich*



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Cobalt-catalyzed diastereo- and enantioselective reductive coupling of cyclobutenes and aldehydes through umpolung reactivity

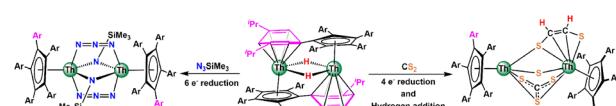
Chuiyi Lin, Jiwu Zhang, Zhihan Zhang,* Qinglei Chong* and Fanke Meng*



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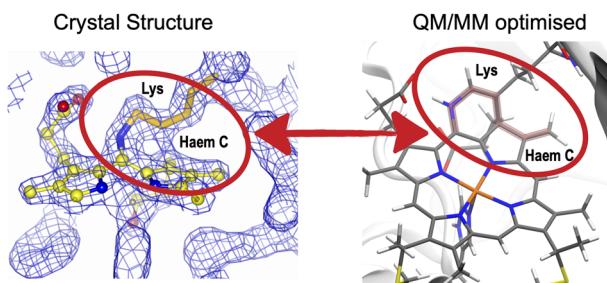
Multi-electron redox reactivity of a thorium(II) hydride synthon

Xianghui Shi, Guorui Qin, Peng Deng, Iker Del Rosal, Laurent Maron* and Jianhua Cheng*



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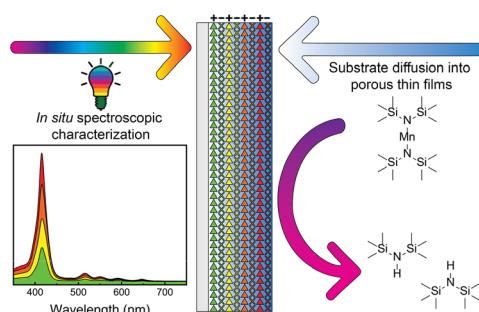
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Double crossed? Structural and computational studies of an unusually crosslinked haem in *Methylococcus capsulatus* cytochrome P450

Hans E. Pfalzgraf, Aditya G. Rao, Kakali Sen, Hannah R. Adams, Marcus Edwards, You Lu, Chin Yong, Sofia Jaho, Takehiko Toshia, Hiroshi Sugimoto, Sam Horrell, James Beilsten-Edmands, Robin L. Owen, Colin R. Andrew, Jonathan A. R. Worrall, Ivo Tews, Adrian J. Mulholland,* Michael A. Hough* and Thomas W. Keal*

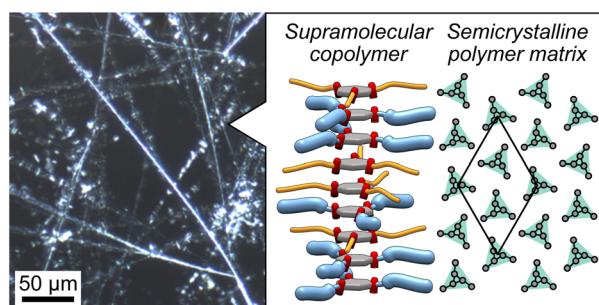
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In situ characterization of post-synthetic metalation in porous salt thin films

Joe D. Simmons, Subham Sarkar, Andrew A. Ezazi, Aishanee Sur, Ethan T. Iverson, Merissa N. Morey, Austin D. Chivington, Sarah G. Fisher, Jaime C. Grunlan, David C. Powers* and Eric D. Bloch*

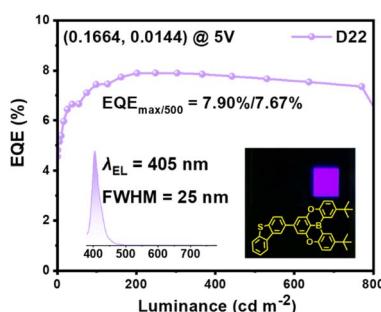
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Biassing the polymorphism of a semicrystalline covalent polymer by exploiting the microstructure of supramolecular copolymers

Alexi Riba-Bremerch, Arnaud Y.-G. Delplanque, Clément Guibert and Nathan J. Van Zee*

16304



Achieving high efficiency ultrapure violet OLEDs with a CIE_y coordinate of below 0.015 through precise manipulation of peripheral heavy atom sulfur

Rui Chen, Shengyu Li, Hao Huang, Xingwen Tong, Yuchao Liu, Zhongjie Ren, Shian Ying,* Liquun Liu* and Shouke Yan*

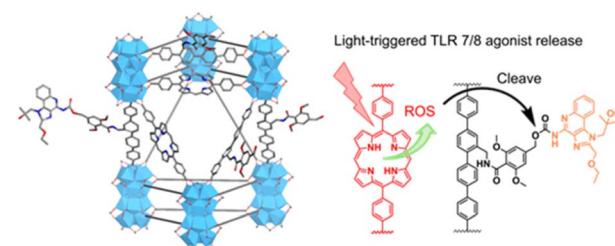


EDGE ARTICLES

16314

Light-triggered toll-like receptor activation in a nanoscale metal–organic framework for synergistic PDT and cancer immunotherapy

Yibin Mao, Langston Tillman, Xiaomin Jiang, Wangqing Bian, Chaoyu Wang, Tobias Fromme, Ralph R. Weichselbaum and Wenbin Lin*

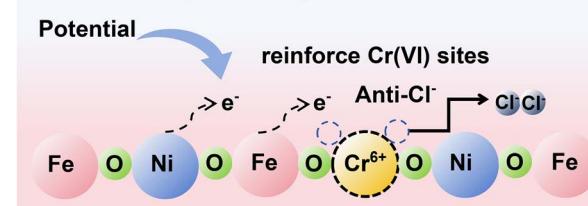


16321

Stabilizing NiFe active sites using a high-valent Lewis acid for selective seawater oxidation

Chenxi Liu, Zefeng Teng, Xu Liu, Rui Zhang, Jingqi Chi,* Jiawei Zhu, Junfeng Qin,* Xiaobin Liu, Zexing Wu and Lei Wang*

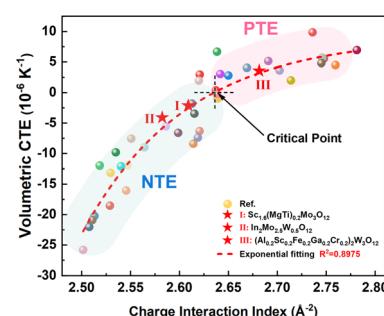
Schematic diagram of High-valent Cr



16331

Predicting thermal expansion in framework compounds using a charge interaction index

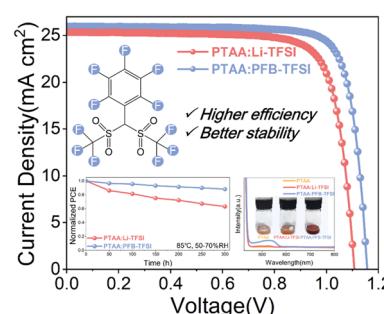
Xin Chen, Qilong Gao,* Kaiyue Zhao, Yongqiang Qiao, Andrea Sanson, Qiang Sun, Juan Guo, Shogo Kawaguchi, Erjun Liang and Jun Chen



16339

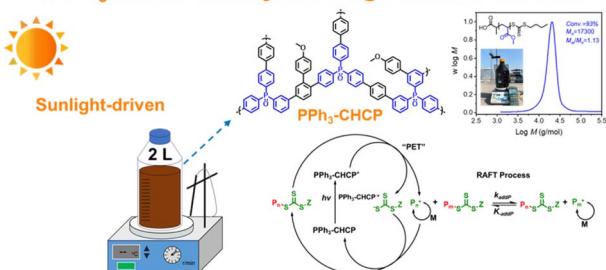
A non-ionic fluorinated p-dopant enables the construction of efficient and stable perovskite solar cells

Zhongquan Wan,* Wang Yu, Jinyu Yang, Yunpeng Zhang, Yuanxi Wang, Runmin Wei, Muhammad Azam, Junsheng Luo* and Chunyang Jia*



EDGE ARTICLES

16347

PPh₃-CHCP catalyzed large scale PET-RAFT**Sunlight-driven photoinduced electron/energy transfer-reversible addition-fragmentation chain transfer polymerization at a large scale**

Zi-Hui Fan, Wei-Wei Fang, Yi-Xing Liu, Zheng-Hao Xiao, Jian-Kun Yu, Xu-Yi He, Xian-Zhen Wang, Xue-Ning Tang, Lei Xia,* Long-Xiang Tang* and Tao He*

CORRECTION

16355

Correction: Unveiling the role of cobalt in the product regulation for CO₂ hydrogenation to light olefins over alumina-supported Co–Fe catalysts

Zhihao Liu, Wenlong Song, Peipei Zhang, Jiaming Liang,* Chengwei Wang, Chufeng Liu, Hanyao Song, Baojian Chen, Kangzhou Wang,* Guangbo Liu, Xiaoyu Guo, Yingluo He, Xinhua Gao, Jianli Zhang, Guohui Yang and Noritatsu Tsubaki*

