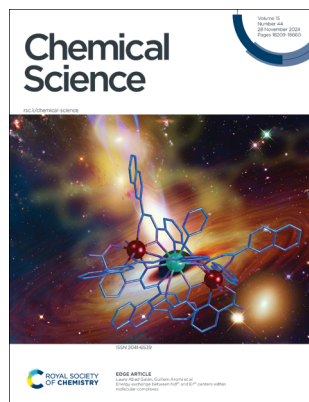
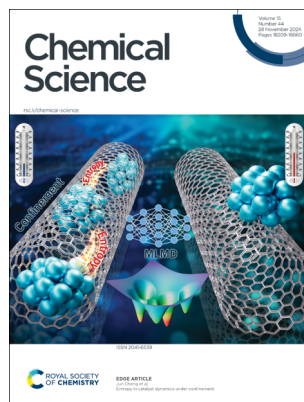


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ISSN 2041-6539 CODEN CSHCBM 15(44) 18209–18660 (2024)



Cover
See Laura Abad Galán, Guillem Aromí *et al.*, pp. 18295–18302. Image reproduced by permission of Guillem Aromí from *Chem. Sci.*, 2024, 15, 18295.



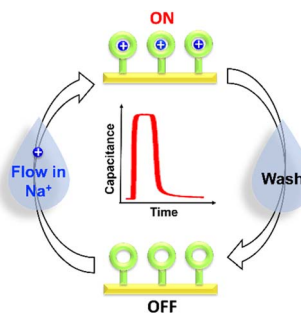
Inside cover
See Jun Cheng *et al.*, pp. 18303–18309. Image reproduced by permission of Jun Cheng from *Chem. Sci.*, 2024, 15, 18303.

COMMENTARY

18224

A focus on capacitive cation sensing under flow: play it again SAM

Debapriya Gupta and Amar H. Flood

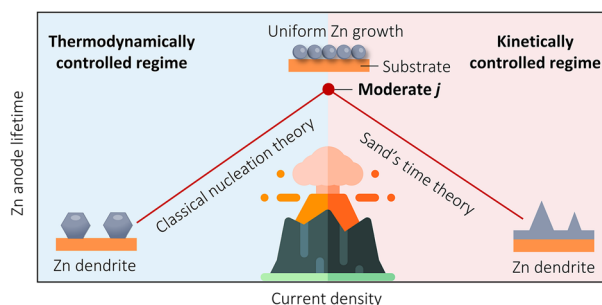


PERSPECTIVES

18227

Effects of current density on Zn reversibility

Licheng Miao, Wenqi Jia and Lifang Jiao*



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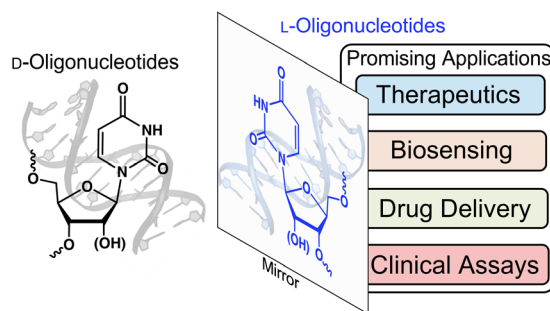
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PERSPECTIVES

18239

The clinical potential of L-oligonucleotides: challenges and opportunities

Victoria Shearer, Chen-Hsu Yu, Xuan Han and Jonathan T. Szepanski*

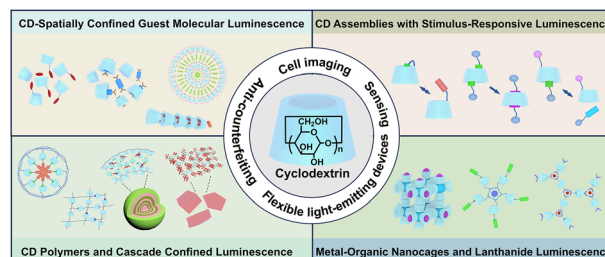


REVIEWS

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Cyclodextrin supramolecular assembly confined luminescent materials

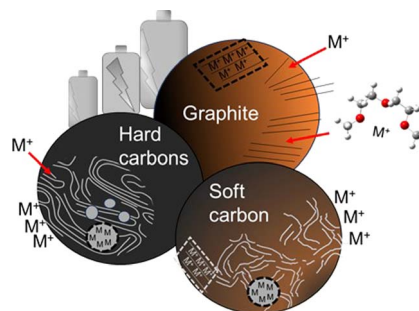
Xiaolu Zhou, Hengzhi Zhang and Yu Liu*



18272

New frontiers in alkali metal insertion into carbon electrodes for energy storage

Zachary T. Gossage, Daisuke Igarashi, Yuki Fujii, Masayuki Kawaguchi, Ryoichi Tatara, Kosuke Nakamoto and Shinichi Komaba*

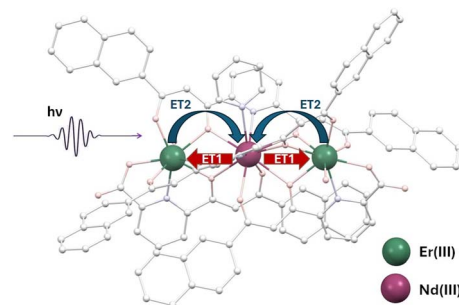


EDGE ARTICLES

18295

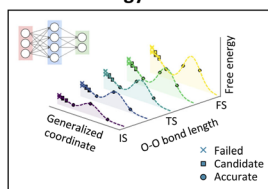
Energy exchange between Nd³⁺ and Er³⁺ centers within molecular complexes

Diamantoula Maniaki, Annika Sickinger, Leoní A. Barrios, David Aguilà, Olivier Roubeau, Yannick Guyot, François Riobé, Olivier Maury, Laura Abad Galán* and Guillem Aromí*



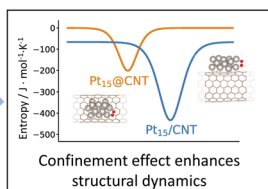
18303

Active learning for free energy calculation



MLMD

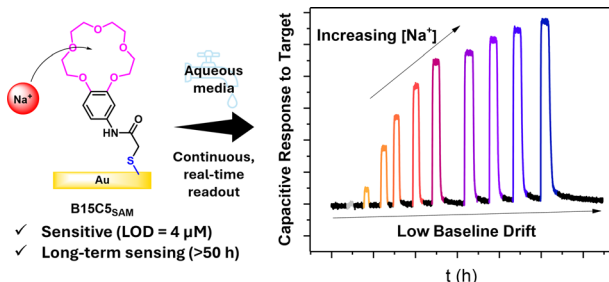
Dynamic catalysis under confinement



Entropy in catalyst dynamics under confinement

Qi-Yuan Fan, Yun-Pei Liu, Hao-Xuan Zhu, Fu-Qiang Gong, Ye Wang, Weinan E, Xinhe Bao, Zhong-Qun Tian and Jun Cheng*

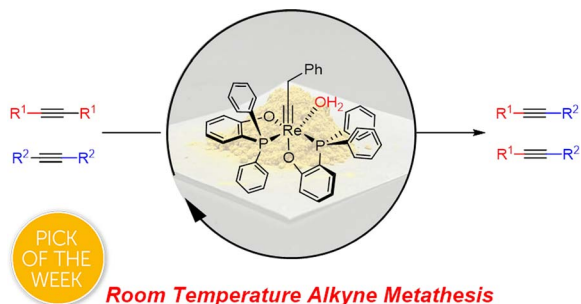
18310



Non-faradaic capacitive cation sensing under flow

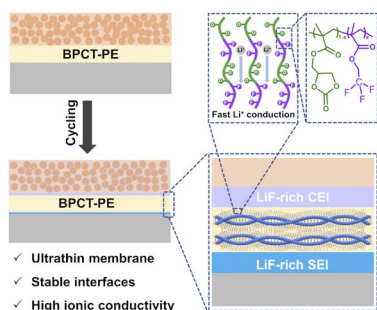
Sophie C. Patrick, Robert Hein, Paul D. Beer and Jason J. Davis*

18318

Exploring efficient and air-stable d² Re(v) alkylidyne catalysts: toward room temperature alkyne metathesis

Mingxu Cui, Jie Huang, Long Yiu Tsang, Herman H. Y. Sung, Ian D. Williams* and Guochan Jia*

18327



Molecular brush-based ultrathin polymer electrolytes with stable interfaces for high-voltage large-areal-capacity lithium metal batteries

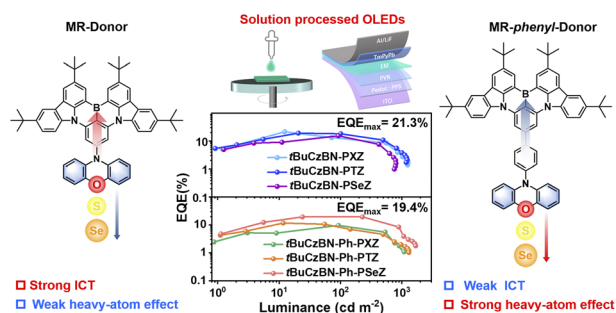
Rongfeng Liao, Congping Li, Minghong Zhou, Ruliang Liu, Shaohong Liu* and Dingcai Wu*



18335

Modulatory spin-flip of triplet excitons via diversiform electron-donating units for MR-TADF emitters towards solution-processed narrowband OLEDs

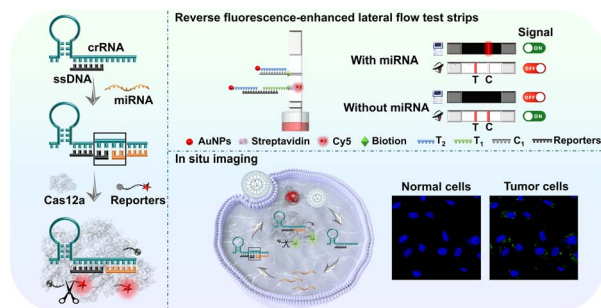
Shengyu Li, Zhi Yang, Yanchao Xie, Lei Hua, Shian Ying, Yuchao Liu,* Zhongjie Ren and Shouke Yan*



18347

Amplification-free miRNA detection with CRISPR/Cas12a system based on fragment complementary activation strategy

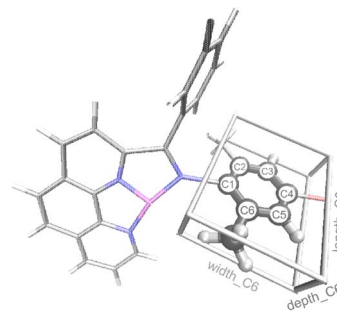
Shuang Zhao, Qiuting Zhang, Ran Luo, Jiudi Sun, Cheng Zhu, Dianming Zhou* and Xiaoqun Gong*



18355

Experimentally-based Fe-catalyzed ethene oligomerization machine learning model provides highly accurate prediction of propagation/termination selectivity

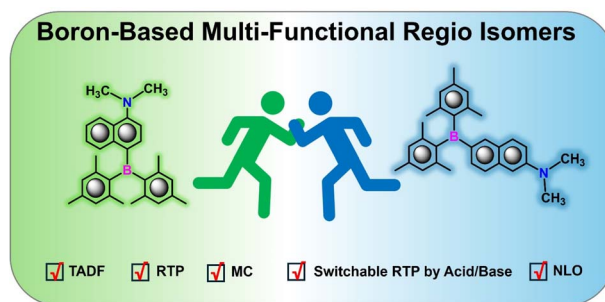
Bo Yang,* Anthony J. Schaefer, Brooke L. Small, Julie A. Leseberg, Steven M. Bischof, Michael S. Webster-Gardiner* and Daniel H. Ess*



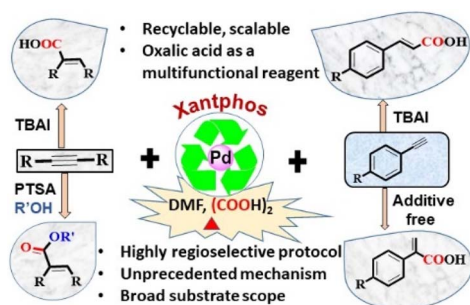
18364

Regioisomers containing triarylboron-based motifs as multi-functional photoluminescent materials: from dual-mode delayed emission to pH-switchable room-temperature phosphorescence

Ramar Arumugam, Akkarakaran Thayyil Muhammed Munthasir, Ramkumar Kannan, Dipanjan Banerjee, Pagidi Sudhakar, Venugopal Rao Soma, Pakkirisamy Thilagar* and Vadapalli Chandrasekhar*



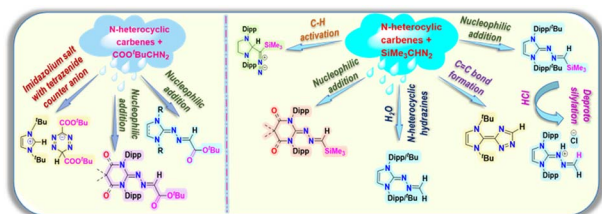
18379



Pd/C-catalyzed regiodivergent hydrocarboxylation and esterification of alkynes

Pushkar Mehara, Poonam Sharma, Rohit Bains, Ajay Kumar Sharma and Pralay Das*

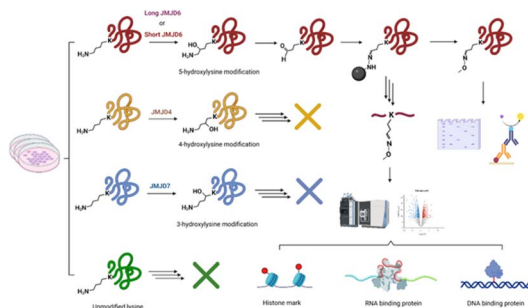
18387



Uncovering diverse reactivity of NHCs with diazoalkane: C–H activation, C=C bond formation, and access to N-heterocyclic methylenehydrazine

Kajal Balayan, Himanshu Sharma, Kumar Vanka, Rajesh G. Gonnade* and Sakya S. Sen*

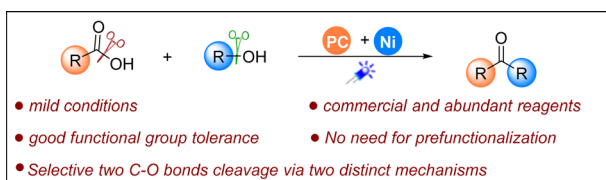
18395



A constitutional isomer selective chemical proteomic strategy for system-wide profiling of protein lysine 5-hydroxylation

Yi-Cheng Sin, Meeyeon Park, Timothy J. Griffin, Jeongsik Yong* and Yue Chen*

18405



Direct synthesis of dialkyl ketones from deoxygenative cross-coupling of carboxylic acids and alcohols

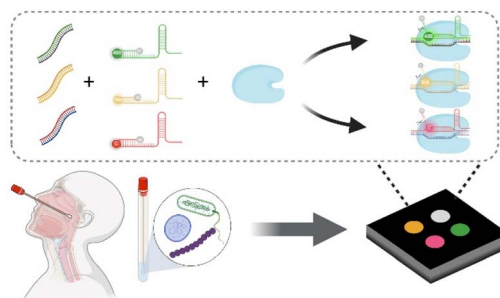
Bo Yang* and Ri-Yuan Tang*



18411

Multiplexed detection of respiratory pathogens using a portable device combining a CREM strategy

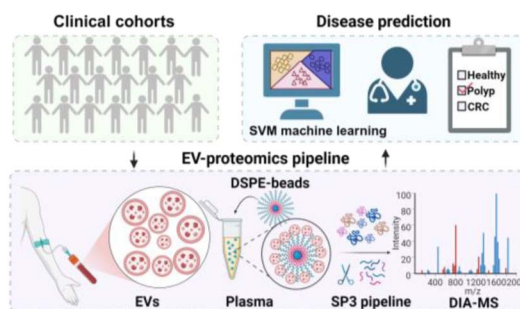
Xijuan Gu, Anli Pan, Lingwei Wu, Jing Zhang, Zixun Xu, Tao Wen, Miaomiao Wang, Xiuying Shi, Li Wu* and Yuling Qin*



18419

A simplified and efficient extracellular vesicle-based proteomics strategy for early diagnosis of colorectal cancer

Jin Zhang, Zhaoya Gao, Weidi Xiao, Ningxin Jin, Jiaming Zeng, Fengzhang Wang, Xiaowei Jin, Liguang Dong, Jian Lin,* Jin Gu* and Chu Wang*



18431

Facilitating intrinsic delayed fluorescence of conjugated emitters by inter-chromophore interaction

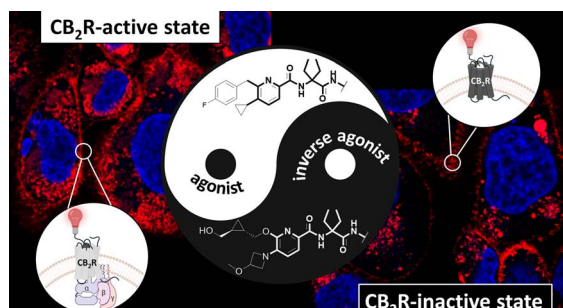
Yixuan Gao, Yingman Sun, Zilong Guo, Guo Yu, Yaxin Wang, Yan Wan, Yandong Han, Wensheng Yang, Dongbing Zhao* and Xiaonan Ma*



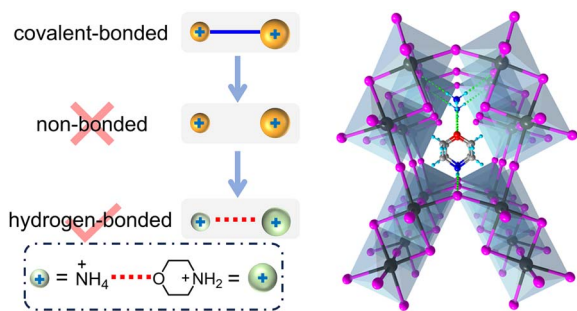
18443

Visualization of membrane localization and the functional state of CB₂R pools using matched agonist and inverse agonist probe pairs

M. Wąsińska-Katwa, A. Omran, L. Mach, L. Scipioni, J. Bouma, X. Li, S. Radetzki, Y. Mostinski, M. Schippers, T. Gazzì, C. van der Horst, B. Brennecke, A. Hanske, Y. Kolomeets, W. Guba, D. Sykes, J. P. von Kries, J. Broichhagen, T. Hua, D. Veprintsev, L. H. Heitman, S. Oddi,* M. Maccarrone,* U. Grether* and M. Nazare*



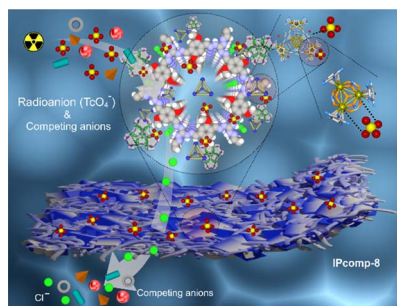
18455



A three-dimensional lead iodide perovskite analog featuring hydrogen-bonded dual monovalent cations

Wei Wang, Cheng-Dong Liu, Chang-Chun Fan and Wen Zhang*

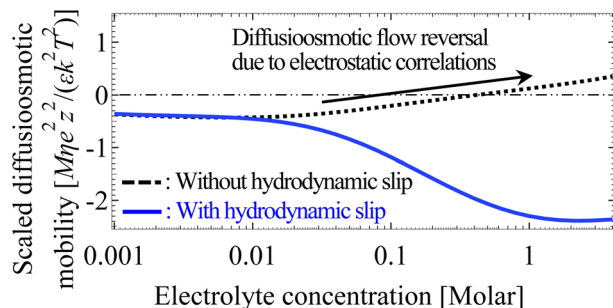
18463



A nanotrap infused ultrathin hybrid composite material for rapid and highly selective entrapment of $^{99}\text{TcO}_4^-$

Writakshi Mandal, Sahel Fajal, Dipanjan Majumder, Arijit Sengupta, Sumanta Let, Rajashri R. Urkude, Mandar M. Shirolkar, Arun Torris and Sujit K. Ghosh*

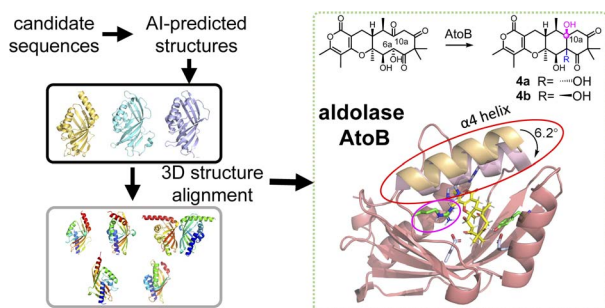
18476



Competition between ion–ion electrostatic correlations and hydrodynamic slip radically changes diffusioosmosis

Shengji Zhang and Henry C. W. Chu*

18490



Three-dimensional structural alignment based discovery and molecular basis of AtoB, catalyzing linear tetracyclic formation

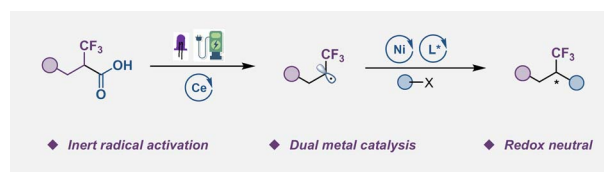
Ke Ma, Jie Liu, Zequan Huang, Mengyue Wu, Dong Liu, Jinwei Ren, Aili Fan* and Wenhan Lin*



18497

Redox-neutral decarboxylative coupling of fluoroalkyl carboxylic acids *via* dual metal photoelectrocatalysis

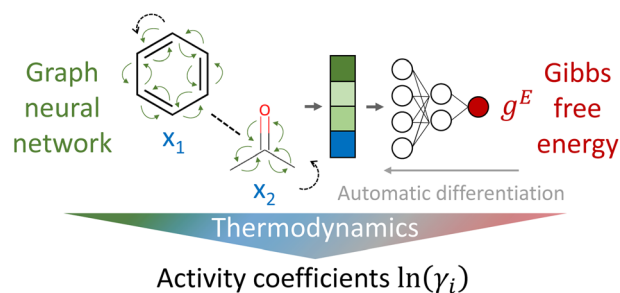
Yaxing Wu, Xiuling Wang, Zhenyu Wang and Chao Chen*



18504

Thermodynamics-consistent graph neural networks

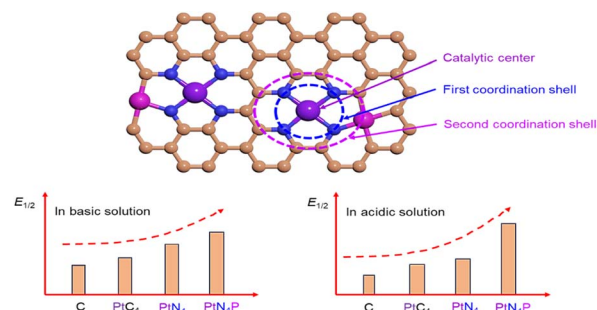
Jan G. Rittig and Alexander Mitsos*



18513

Second-shell modulation on porphyrin-like Pt single atom catalysts for boosting oxygen reduction reaction

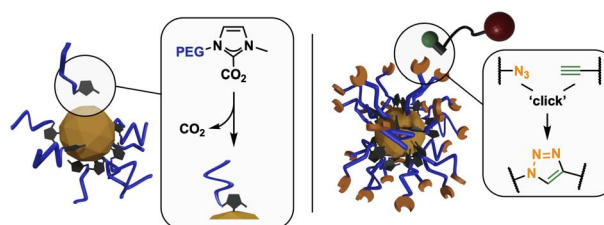
Tayyaba Najam, Syed Shoaib Ahmad Shah, Hanqing Yin, Xin Xiao, Shamraiz Talib, Qianqian Ji, Yonggui Deng, Muhammad Sufyan Javed, Jie Hu, Ruo Zhao, Aijun Du, Xingke Cai* and Qiang Xu*



18524

Fabrication of azido-PEG-NHC stabilized gold nanoparticles as a functionalizable platform

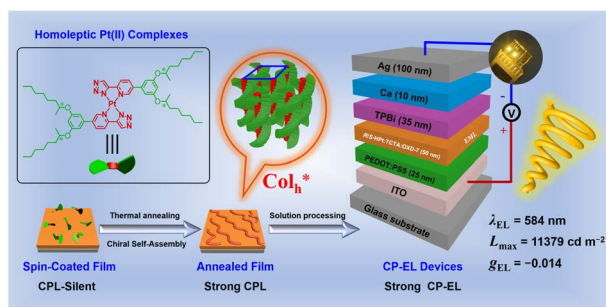
Constantin Eisen, Bernhard K. Keppler, Jia Min Chin,* Xiaodi Su* and Michael R. Reithofer*



Top-down Fabrication and Conjugation of PEG-NHC@AuNPs



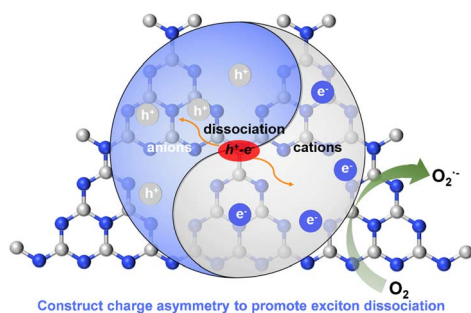
18534



Efficient helical columnar emitters of chiral homoleptic Pt(II) metallomesogens for circularly polarized electroluminescence

Guo Zou, Zhenhao Jiang, Dong Li, Qihuan Li and Yixiang Cheng*

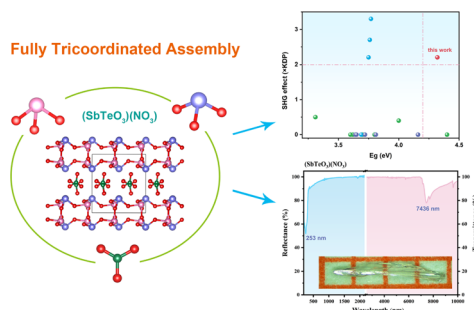
18543



Boosting exciton dissociation in anion and cation co-doped polymeric semiconductor for selective oxidation reaction

Junkang Ge, Jun Zhao, Lei Li, Zhihao Li, Hui Wang,* Xiaodong Zhang* and Yi Xie

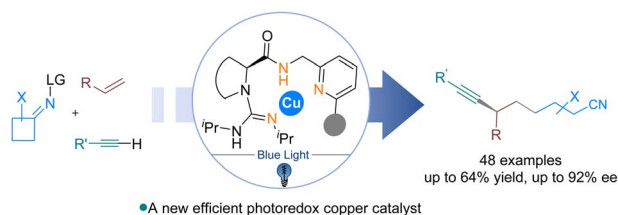
18549



Fully tricoordinated assembly unveils a pioneering nonlinear optical crystal (SbTeO₃)(NO₃)

Bo Zhang, Chun-Li Hu, Jiang-Gao Mao and Fang Kong*

18557



Photoinduced copper-catalyzed asymmetric cyanoalkylalkynylation of alkenes, terminal alkynes, and oximes

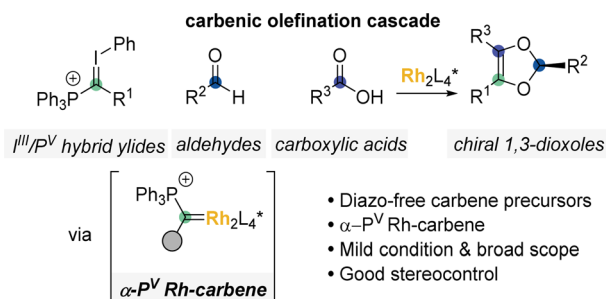
Shuang Xin, Jibang Liao, Qi Tang, Xiaoming Feng and Xiaohua Liu*



18564

Three-component modular synthesis of chiral 1,3-dioxoles via a Rh-catalyzed carbenic olefination cascade

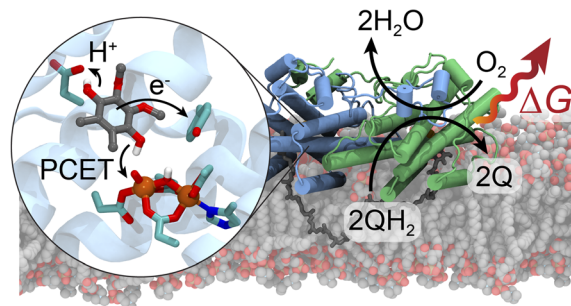
Shisheng Huang, Jilong Luo, Ping Chen, Jiean Chen* and Zhaofeng Wang*



18572

Proton-coupled electron transfer dynamics in the alternative oxidase

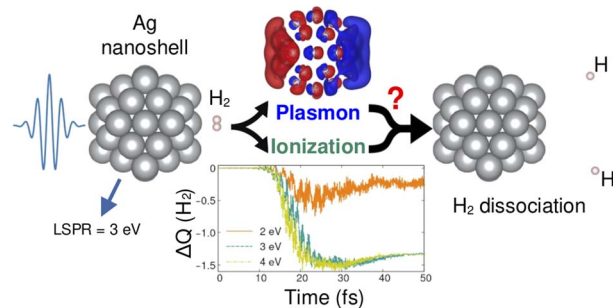
Patricia Saura, Hyunho Kim, Adel Beghiah, Luke Young, Anthony L. Moore and Ville R. I. Kaila*



18581

Strong-field effects in the photo-induced dissociation of the hydrogen molecule on a silver nanoshell

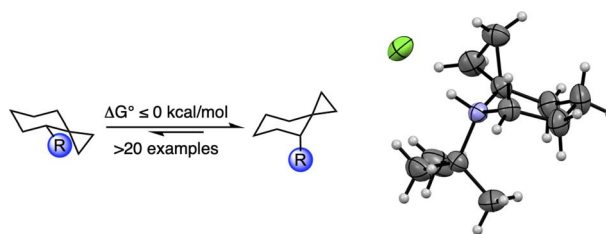
Natalia E. Koval,* J. Iñaki Juaristi and Maite Alducin



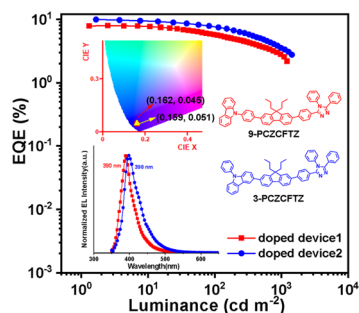
18592

Driving *tert*-butyl axial: the surprising cyclopropyl effect

Anthony R. Izzotti and James L. Gleason*



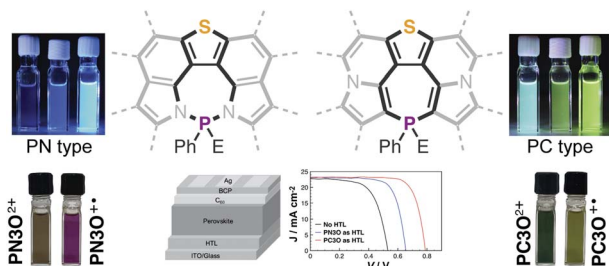
18601



Highly efficient pure organic near-ultraviolet (NUV) electro-fluorescent materials with high electron mobility and improved hole mobility

Huayi Zhou, Runze Wang, Mizhen Sun, Yannan Zhou, Li Zhang, Jingru Song, Qikun Sun, Shi-Tong Zhang,* Wenjun Yang and Shanfeng Xue*

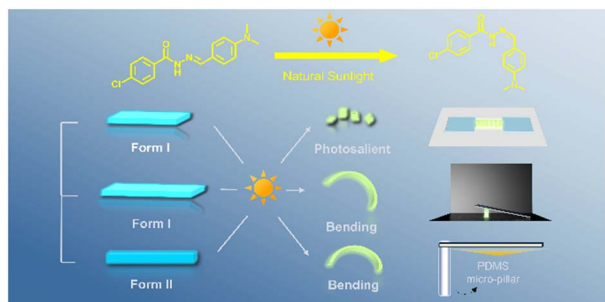
18608



Non-innocent P-centers in nonbenzenoid polycyclic aromatic molecules with tunable structures and properties

Can Li, Wei Zhou, Zhaoxin Liu, Rong Gao, Qixi Mi, Zhijun Ning* and Yi Ren*

18617

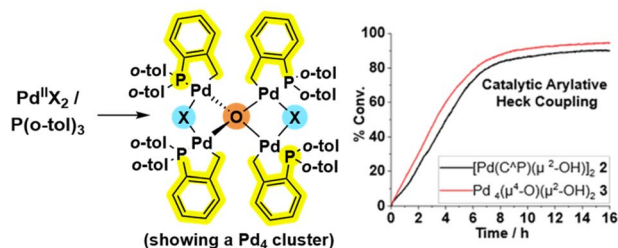


Dynamic organic crystals as exceptionally efficient artificial natural light-harvesting actuators

Jiaxuan Zhu, Wenbo Wu, Haoqiang Qi, Yutong Yao, Hui Yu, Xin Huang, Na Wang,* Ting Wang* and Hongxun Hao*

18627

Formation of palladacyclic Pd₄, Pd₆ & Pd₈ clusters



The ubiquitous P(o-tol)₃ ligand promotes formation of catalytically-active higher order palladacyclic clusters

David R. Husbands, Theo Tanner, Adrian C. Whitwood, Neil S. Hodnett, Katherine M. P. Wheelhouse and Ian J. S. Fairlamb*

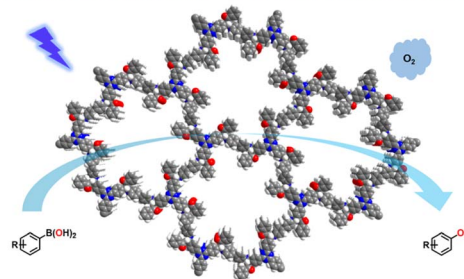


18634

Construction of covalent organic frameworks *via* the Mannich reaction at room temperature for light-driven oxidative hydroxylation of arylboronic acids

Jian-Cheng Wang,* Ting Sun, Jun Zhang, Zhi Chen, Jia-Qi Du, Jing-Lan Kan and Yu-Bin Dong*

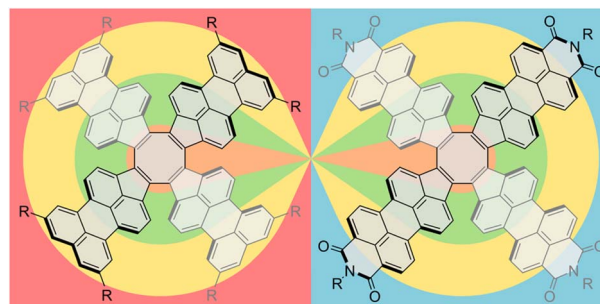
Construction of COFs via Mannich Reaction at Room Temperature



18640

Pentacosacyclenes: cruciform molecular nanocarbons based on cyclooctatetraene

Rakesh Kumar, Piotr J. Chmielewski, Tadeusz Lis, Mirosław Czarnecki and Marcin Stępień*



18650

Easy access to amphiphilic nitrogenous block copolymers *via* switchable catalysis

Xue Liang, Jiachen Lv, Hongru Qiang, Jiahui Li, Wenli Wang,* Jianzhong Du* and Yunqing Zhu*

