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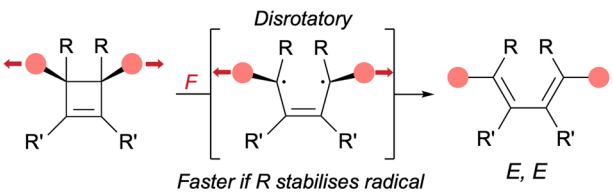
Inside cover
See Junjie Fu, Jian Yin *et al.*, pp. 7173–7190. Image reproduced by permission of Yunying Tan, Junjie Fu, and Jian Yin from *Chem. Sci.*, 2025, **16**, 7173.

COMMENTARY

7104

A focus on substituents effect in the force-promoted disrotatory ring-opening of *cis*-cyclobutenes

Lei Chen and Guillaume De Bo*

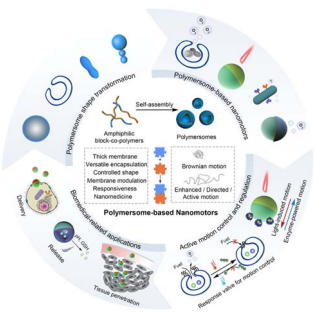


PERSPECTIVE

7106

Polymersome-based nanomotors: preparation, motion control, and biomedical applications

Siyu Song, Hao Han, Jianhong Wang, Yubin Pu, Jingxin Shao, Jing Xie,* Hailong Che,* Jan C. M. van Hest* and Shoupeng Cao*



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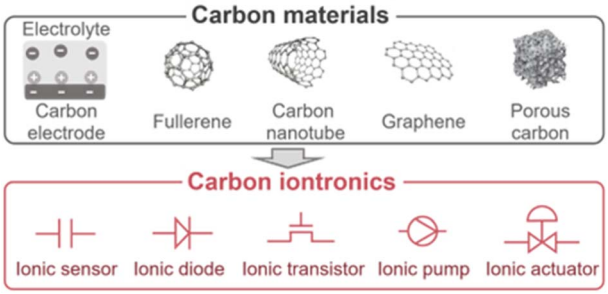
REVIEW

7130

Carbon-based iontronics – current state and future perspectives

Panlong Li, Przemyslaw Galek, Julia Grothe and Stefan Kaskel*

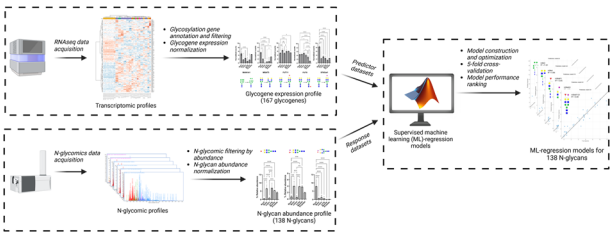


EDGE ARTICLES

7155

Integration of RNAseq transcriptomics and *N*-glycomics reveal biosynthetic pathways and predict structure-specific *N*-glycan expression

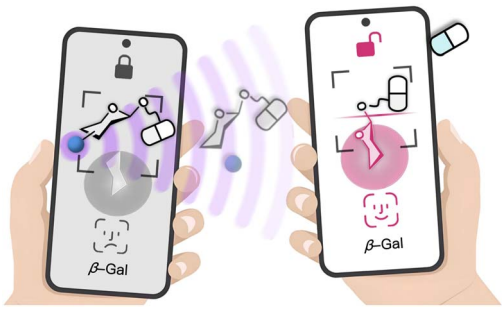
Michael Russelle S. Alvarez, Xavier A. Holmes, Armin Oloumi, Sheryl Joyce Grijaldo-Alvarez, Ryan Schindler, Qingwen Zhou, Anirudh Yadlapati, Atit Silsirivanit and Carlito B. Lebrilla*



7173

Tandem activated caged galactoside prodrugs: advancing beyond single galactosidase dependence

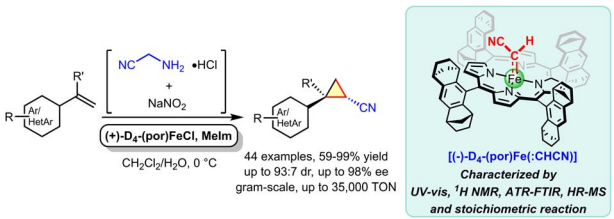
Yunying Tan, Jie Liu, Dianya Yong, Jing Hu, Peter H. Seeberger, Junjie Fu* and Jian Yin*



7191

Chiral iron porphyrin (+)-D_4-(por)FeCl catalyzes highly enantioselective cyclopropanation of alkenes using *in situ* generated diazoacetonitrile with up to 35 000 product turnover

Hao-Chong Tan, Ka-Pan Shing, Hua-Hua Wang, Yungen Liu and Chi-Ming Che*



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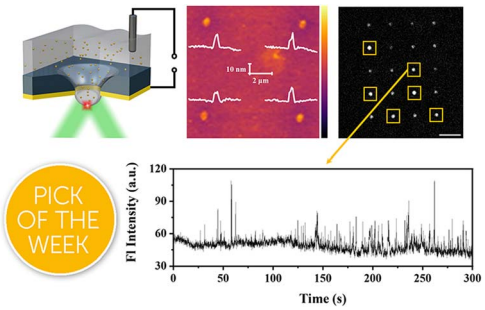
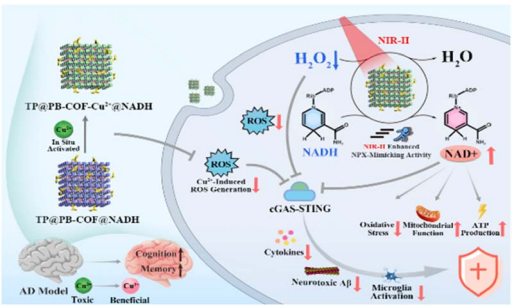


Imaging electrochemically regulated water–air nanointerfaces with single-molecule fluorescence

Guopeng Li, Lisi Wen, Runfeng Sun and Rui Hao*

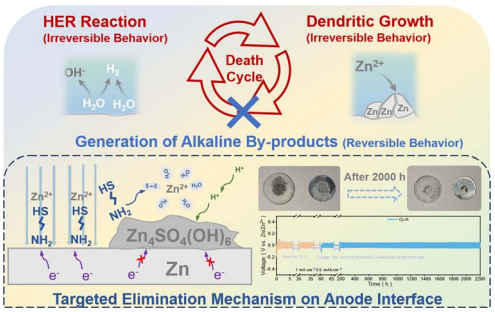
7215



Inhibition of the cGAS–STING pathway *via* an endogenous copper ion-responsive covalent organic framework nanozyme for Alzheimer's disease treatment

Haochen Zhang, Junlin Ya, Mengyu Sun, Xiubo Du, Jinsong Ren and Xiaogang Qu*

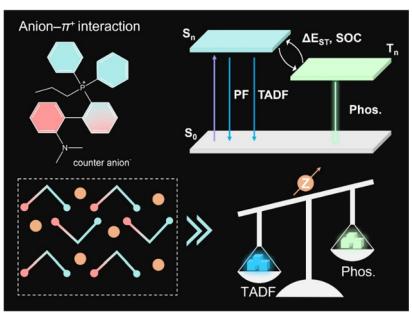
7227



A bioimmune mechanism-inspired targeted elimination mechanism on the anode interface for zinc–iodine batteries

Kaixin Wang, Yuting He, Ruduan Yuan, Zhaoyu Chen, Qianzhi Gou, Sida Zhang, Huaping Mei, Yujie Zheng, John Wang and Meng Li*

7239



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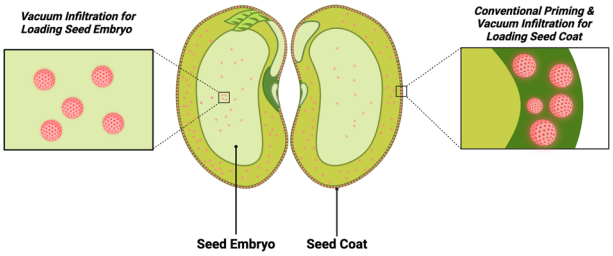
Vacuum infiltration for priming of soybean seeds: optimization and particle tracking using fluorescent silica nanoparticles

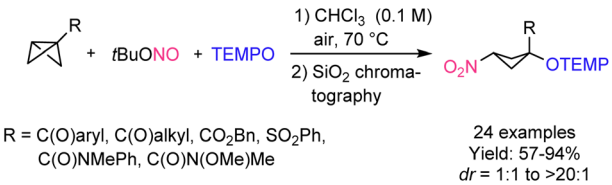
Tana L. O'Keefe, Beza Tuga, Chaoyi Deng, Sharmaka Mohamud, Rima Jamous, Mark A. Sanders, Wade H. Elmer, Jason C. White and Christy L. Haynes*



7264

Diastereoselective 1,3-nitrooxygenation of bicyclo [1.1.0]butanes

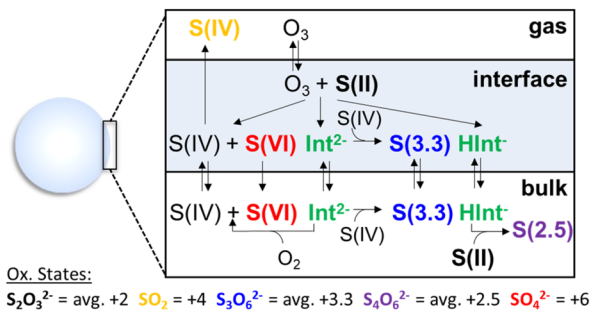
Anirban Maity, Kuruva Balanna, Constantin G. Daniliuc and Armido Studer*



7270

The role of the droplet interface in controlling the multiphase oxidation of thiosulfate by ozone

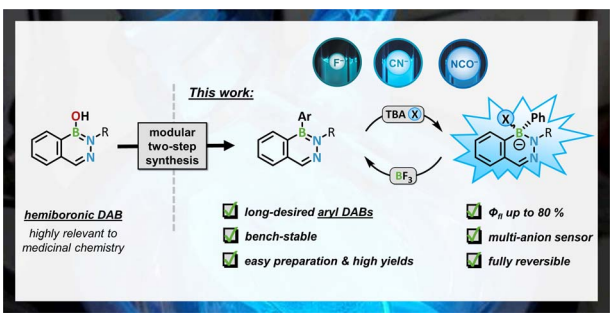
Alexandra M. Deal, Franky Bernal, Andreas Siebert, Alexander M. Prophet, Mauricio Lopez Luna, Monika Blum, Richard J. Saykally and Kevin R. Wilson*



7284

Synthetic access to organyl-substituted 1,2,3-benzodiazaborines with turn-on fluorescence activity

Leonie Wüst, Johannes Chorbacher, Tim Wellnitz, Samuel Nees, Holger Helten* and Holger Braunschweig*



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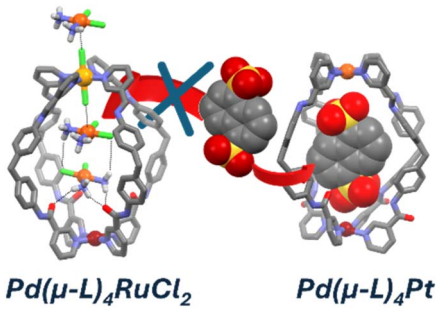

Pd(μ-L)$_4$Pt *vs.* Pd(μ-L)$_4$RuCl$_2$: chlorido ancillary ligands as defining factors in the host–guest interactions of M(μ-L)$_4$M′ heterodimetallic supramolecular architectures

Hayden B. Gearing, Monika Cziferszky, Tilo Söhnel, L. James Wright, James D. Crowley* and Christian G. Hartinger*

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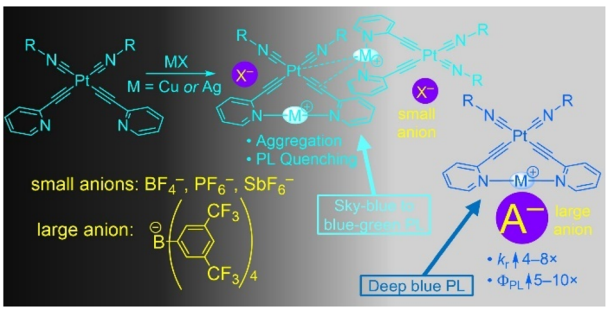
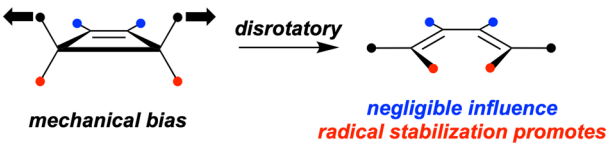


Enhanced blue phosphorescence in platinum acetylide complexes *via* a secondary heavy metal and anion-controlled aggregation

Vinh Q. Dang, Chenggang Jiang and Thomas S. Teets*

7311



Structure–property relationships for the force-triggered disrotatory ring-opening of cyclobutene

Brandon H. Bowser, Cameron L. Brown, Jan Meisner, Tatiana B. Kouznetsova, Todd J. Martinez* and Stephen L. Craig*

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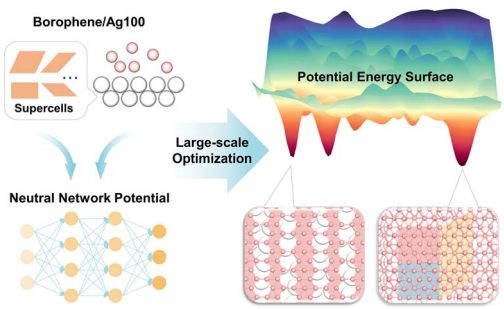

Machine learning-driven global optimization reveals nanometre-scale mixed phases of borophene on Ag(100)

Yunlei Wang, Haifeng Lv* and Xiaojun Wu*

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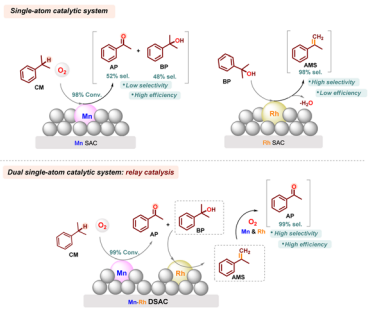
A Mn–Rh dual single-atom catalyst for inducing C–C cleavage: relay catalysis reversing chemoselectivity in C–H oxidation

Chang-Jie Yang, Yu-Da Huang, Yu-Yuan Zhang, Yong-Zhou Pan, Jiarui Yang, Ying-Ming Pan, Tao Gan, Hai-Tao Tang,* Xia Zhang, Wen-Hao Li* and Dingsheng Wang*



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Isoreticular 3D covalent organic frameworks with non-interpenetrated pcu-derived dia topology: pore regulation from micropores to mesopores

Xilin Li, Tongyi Zhao, Fengzhen Wang, Wenxuan Wu, Yali Sun, Hao Ren and Fuxing Sun*

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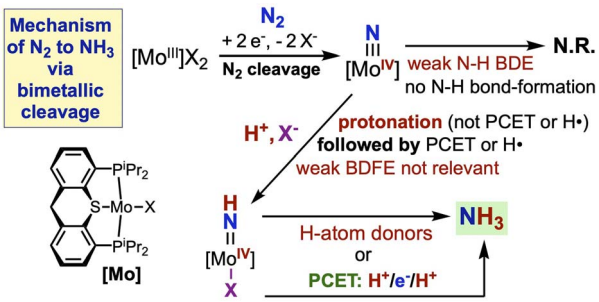
Dinitrogen reduction to ammonia with a pincer-Mo complex: new insights into the mechanism of nitride-to-ammonia conversion

Souvik Mandal, Xiaoguang Zhou, Quinton J. Bruch, Rachel N. Allen, Laurence W. Giordano, Nicholas J. I. Walker, Thomas J. Emge, Faraj Hasanayn, Alexander J. M. Miller, Santanu Malakar* and Alan S. Goldman*



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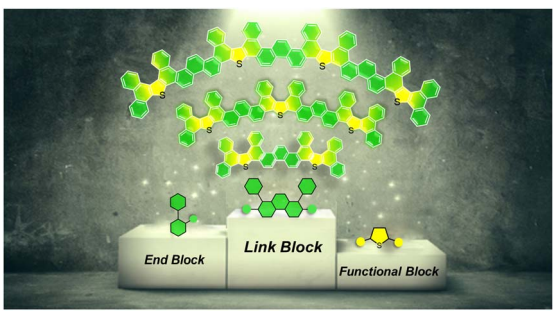
Thiophene-backbone arcuate graphene nanoribbons: shotgun synthesis and length dependent properties

Ruiying Zhang, Xinyu Chen, Lingyun Zhu, Yanxia Huang, Zi'ang Zhai, Qiang Wang, Lingding Wang, Taosong Wang, Wei-Zhen Wang, Ke-Yin Ye* and Yuanming Li*



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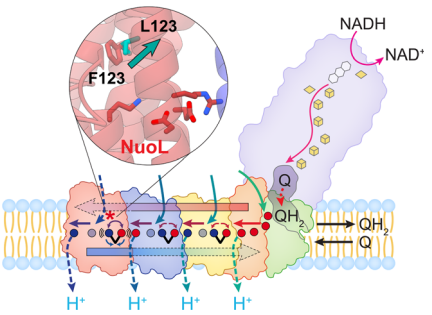

A leigh syndrome mutation perturbs long-range energy coupling in respiratory complex I

Franziska Hoeser, Patricia Saura, Caroline Harter, Ville R. I. Kaila* and Thorsten Friedrich*

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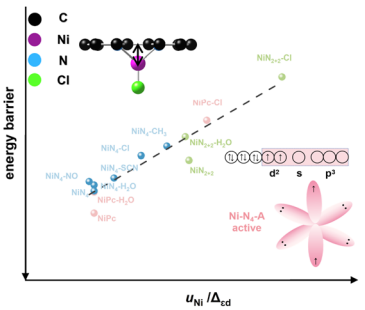

Rearranging spin electrons by axial-ligand-induced hybridization state transition to boost the activity of nickel single-atom-catalysts for electrochemical CO_2 reduction

Mingxia Peng, Kai Huang, Xiuyuan Hu, Andrea Zitolo, Honglai Liu, Cheng Lian* and Jingkun Li*

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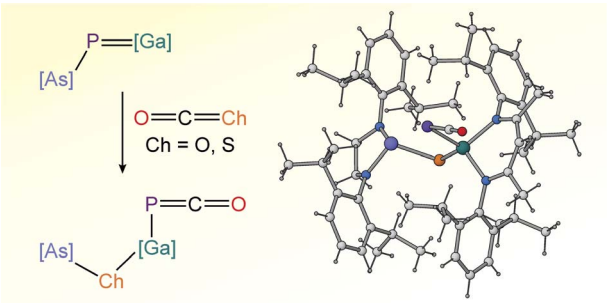

Reactivity of an arsanyl-phosphagallene: decarbonylation of CO_2 and COS to form phosphaketenes

Lilian S. Szych, Jonas Bresien, Lukas Fischer, Moritz J. Ernst and Jose M. Goicoechea*

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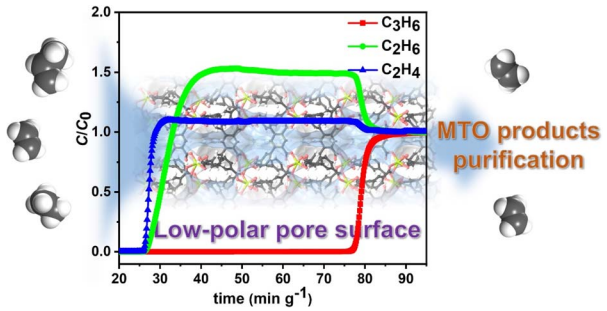

Reticular chemistry guided function customization: a case study of constructing low-polarity channels for efficient C_3H_6/C_2H_4 separation

Jiantang Li, Zitong Song, Xia Zhou, Xue Wang, Meng Feng, Dongmei Wang* and Banglin Chen*

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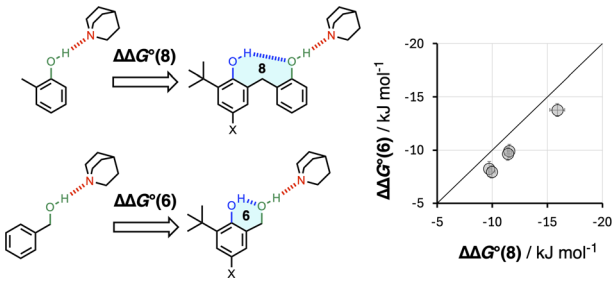
Relationship between interaction geometry and cooperativity measured in H-bonded networks of hydroxyl groups

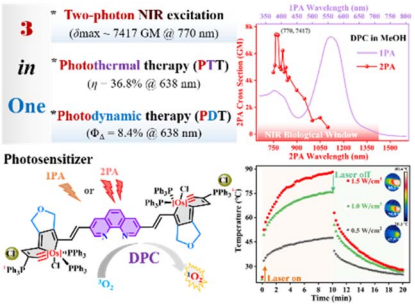
Lucia Trevisan, Andrew D. Bond and Christopher A. Hunter*



7424

Ultrafast excited-state dynamics and "three-in-one" phototheranostic properties of a phenanthroline-carbolong photosensitizer

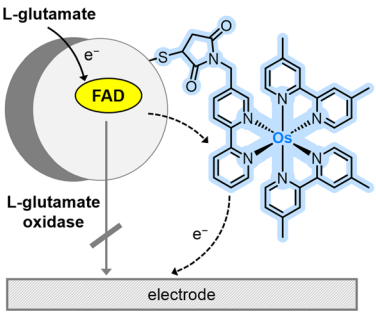
Haixia Chang, Jiang Feng, Xin-Ao Liu, Rong Miao,* Taihong Liu,* Liping Ding and Yu Fang



7433

Redirecting electron flows in glutamate oxidases by selective anchoring of osmium complexes

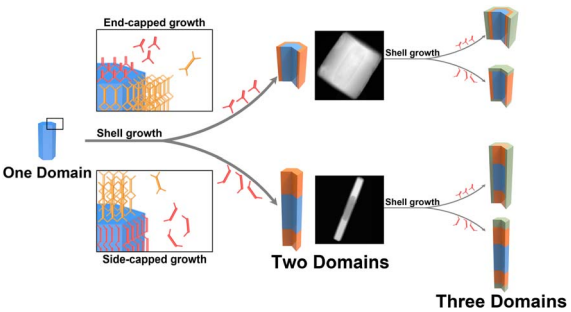
Minjung Han, Sun-heui Yoon, Jaehee Lee, Taek Dong Chung* and Woon Ju Song*



7442

Modulator approach for the design and synthesis of anisotropic multi-domain metal–organic frameworks

Yiwen He, Zhehao Li, Zoe M. Soilis, Gefan He and Nathaniel L. Rosi*



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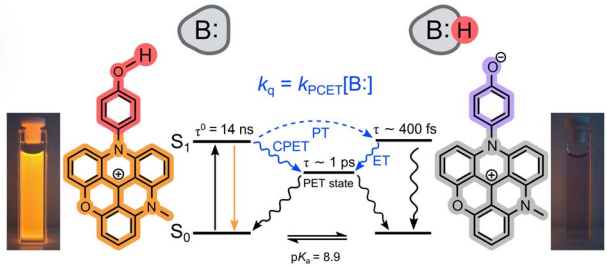
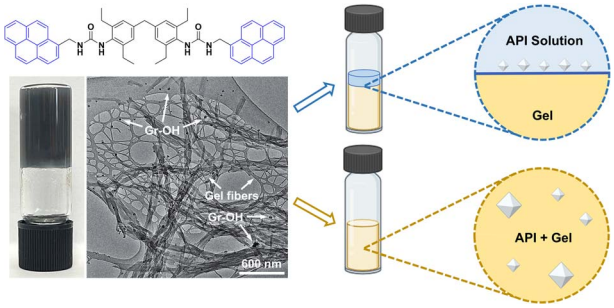


Dynamic proton coupled electron transfer quenching as a sensing modality in fluorescent probes

Rasmus K. Jakobsen, Stine G. Stenspil, Junsheng Chen and Bo W. Laursen*

7459



A tailored graphene supramolecular gel for pharmaceutical crystallization

Qi Zhang, Martin A. Screen, Leon Bowen, Yisheng Xu, Xiangyang Zhang* and Jonathan W. Steed*

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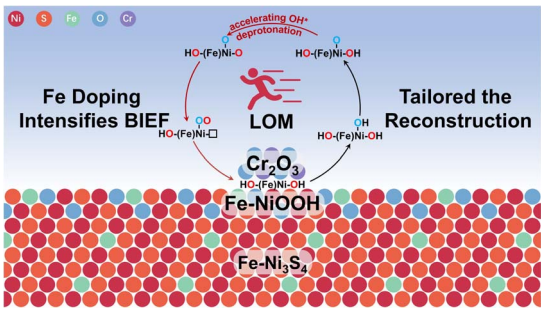
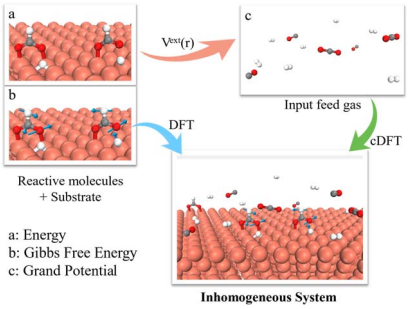


Fe doping intensifies the built-in electric field for tailoring the reconstruction of sulfides towards efficient oxygen evolution

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

7477



Modeling thermocatalytic systems for CO_2 hydrogenation to methanol

Jikai Sun and Jianzhong Wu*

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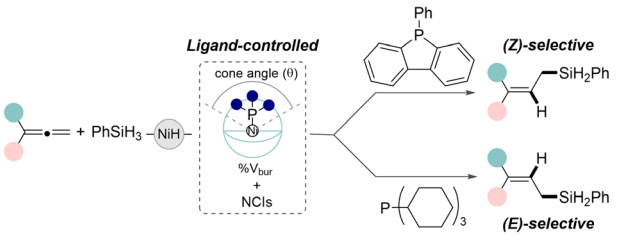
Nickel-catalyzed stereo-controlled 2,3-hydrosilylation of 1,1-disubstituted allenes

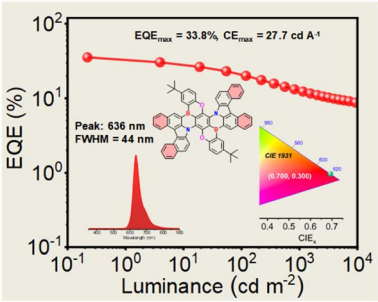
Jin A Kim, Seoyeon Kim, Shrikant D. Tambe, Jihoon Jang and Eun Jin Cho*



7495

Narrowband multi-resonance pure-red emitters *via* enhanced molecular orbital delocalization for high-performance organic light-emitting diodes

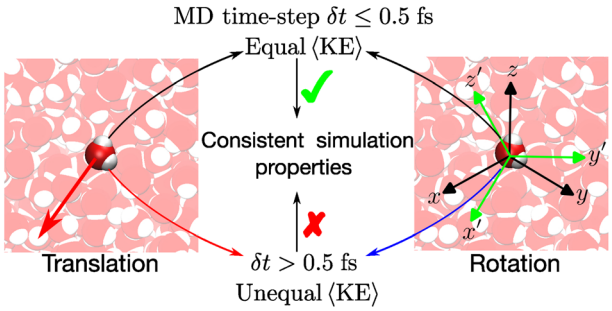
Xiaowei Wang, Tao Hua,* Nengquan Li, Guohao Chen, Zhanxiang Chen, Jingsheng Miao, Xiaosong Cao and Chuluo Yang*



7503

Consequences of the failure of equipartition for the *p–V* behavior of liquid water and the hydration free energy components of a small protein

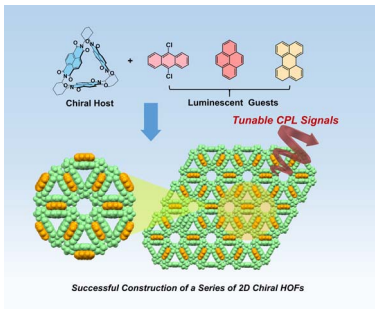
Dilipkumar N. Asthagiri,* Arjun Valiya Parambathu and Thomas L. Beck



7513

Single-crystal chiral two-dimensional supramolecular organic frameworks for tunable circularly polarized luminescence

Jialin Cui, Hui Wang, Hui Liu,* Hailong Yu, Wei Wang, Yu Wang* and Yingjie Zhao*



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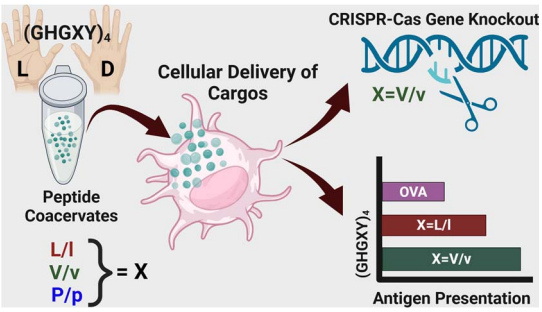
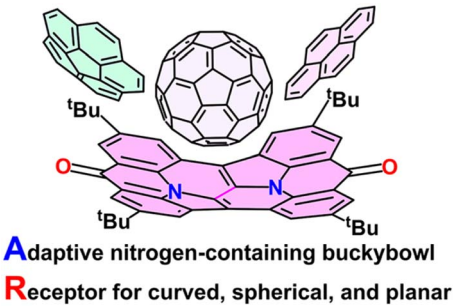
7523



Histidine-rich enantiomeric peptide coacervates enhance antigen sequestration and presentation to T cells

Ushasi Pramanik, Anirban Das, Elise M. Brown, Heather L. Struckman, Huihao Wang, Samuel Stealey, Macy L. Sprunger, Abdul Wasim, Jonathan Fascetti, Jagannath Mondal, Jonathan R. Silva, Silviya P. Zustiak, Meredith E. Jackrel and Jai S. Rudra*

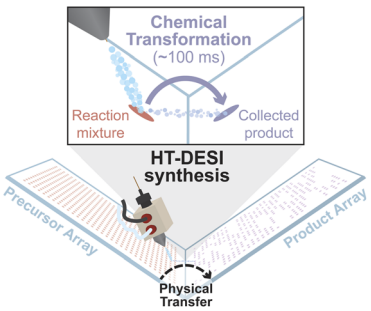
7537



Adaptive nitrogen-containing buckybowl: a versatile receptor for curved and planar aromatic molecules

Xu-Lang Chen,* Si-Qian Yu, Zi-You Zheng, Zhao-Yi Cheng, An-Na Chen, Jia-Qi Liang, Xin Sun, Chunyang Zheng,* Xiaohuan Huang* and Han-Yuan Gong*

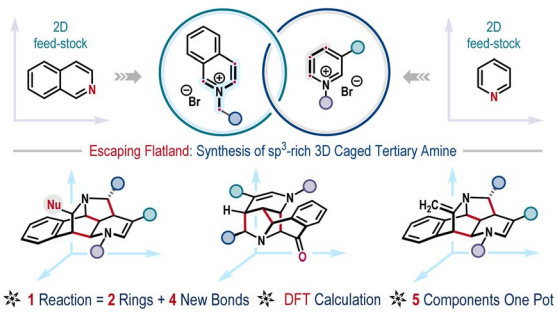
7544



High-throughput microdroplet-based synthesis using automated array-to-array transfer

Kai-Hung Huang, Kitmin Chen, Nicolás M. Morato, Thomas C. Sams, Eric T. Dziekonski and R. Graham Cooks*

7551



Transforming 2D azolium salts to 3D caged tertiary amines *via* stereoselective dearomative cascade annulation

Koushik Patra, Samiran Deb, Venkata Surya Kumar Choutipalli, Sana Mulani, Sumitava Mallik, Venkatesan Subramanian and Mahiuddin Baidya*

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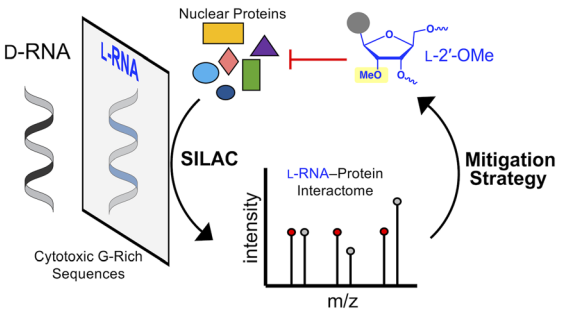
Interrogation of mirror-image L-RNA–protein interactions reveals key mechanisms of single-stranded G-rich L-RNA cytotoxicity and a potential mitigation strategy

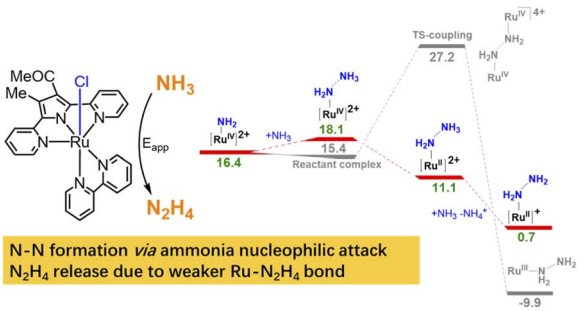
Chen-Hsu Yu, Xiaomei He, Rosemarie Elloisa P. Acero, Xuan Han, Yinsheng Wang and Jonathan T. Sczepanski*



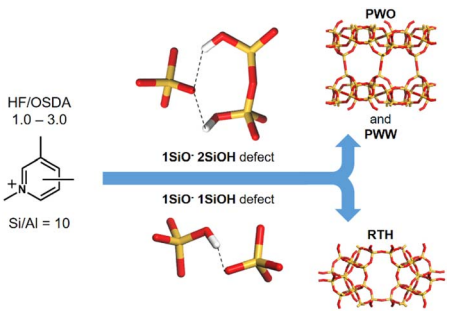
7573

Understanding the factors governing the ammonia oxidation reaction by a mononuclear ruthenium complex

Guo Chen, Xiao-Lv Ding, Piao He, Tao Cheng, Yang Chen, Jian Lin, Xi Zhang, Shan Zhao, Na Qiao and Xiao-Yi Yi*



7579

The role of structural defects in the fluoride-mediated synthesis of aluminosilicate zeolites

Kingsley Christian Kemp, Ömer F. Altundal, Donghui Jo, Weidong Huang, Qiang Wang, Feng Deng, German Sastre* and Suk Bong Hong*