

EES Catalysis

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and environmental catalysis

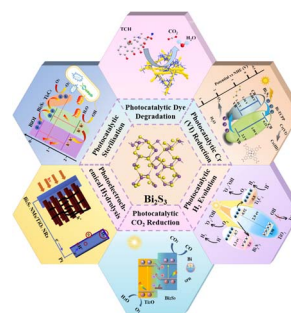
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Fundamental questions
Elemental answers

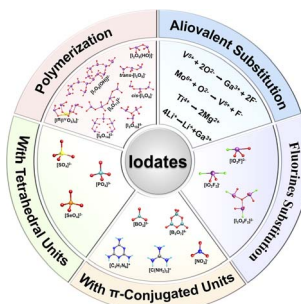
REVIEWS

9856

Unlocking the potential of Bi_2S_3 for photocatalysis: a roadmap for next-generation solar catalystsWei Zhao, Qing Chen, Lifeng Cai,^{*} Jie Liang^{*} and Fang-Xing Xiao^{*}

9888

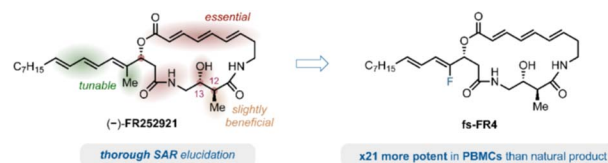
Recent progress in iodate based nonlinear optical crystals

Yu-Wei Kang, Chun-Li Hu, Cai-Chun Zhang and Jiang-Gao Mao^{*}

EDGE ARTICLES

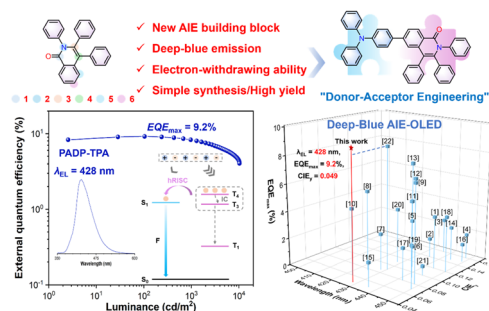
9912

Target-agnostic SAR mapping and immunological evaluation of (–)-FR252921 and analogs against primary human immune cells

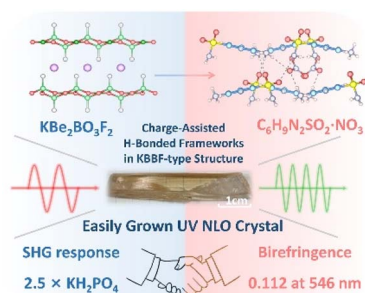
Iakovos Saridakis, Manuel Schupp, Haoqi Zhang, Thomas Leischner, Laura Marie Gail, Konstantin Günther, Martina Drescher, Florian Doubek, Daniel Kaiser, Georg Stary^{*} and Nuno Maulide^{*}

9921

A novel lactam-based AIE building block for high-performance deep-blue electroluminescent materials

Luyao Liu, Jingli Lou, Jiaying Wan, Yin Li, Hao Xiong, Yu Huang, Dezhi Yang, Han Zhang,^{*} Ben Zhong Tang and Zhiming Wang^{*}

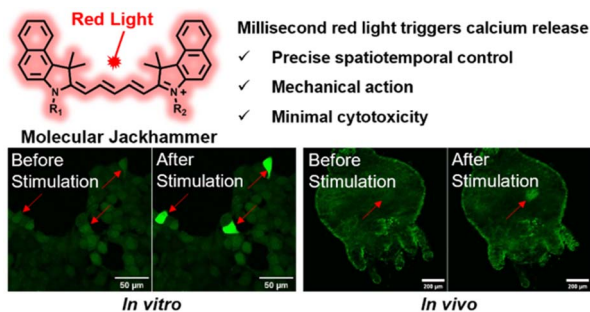
9930



Regulating KBBF-like structures *via* a charge-assisted hydrogen-bonded framework to enable easily grown ultraviolet nonlinear optical crystals

Mingshu Zhang, Shuya Zhao, Zhen-Cheng Wu, Yue Yin, Zheyu Zhang, Jiafeng Chen, Sheng-Ping Guo* and Yan Zhou*

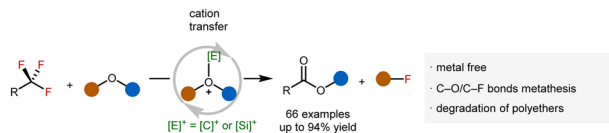
9938



Molecular jackhammers induce intracellular calcium release and skeletal muscle contraction by vibronic-driven action

Yuchen Rui, Bowen Li,* Vardan Vardanyan, Soonyoung Kim, Dallin Arnold, Jacob L. Beckham, Ciceron Ayala-Orozco, Ana L. Santos, Gautam Chaudhry, Lixin Zhou, Shichen Xu, Tengda Si, Zicheng Wang, Angel A. Martí, Anatoly Kolomeisky,* Jacob T. Robinson* and James M. Tour*

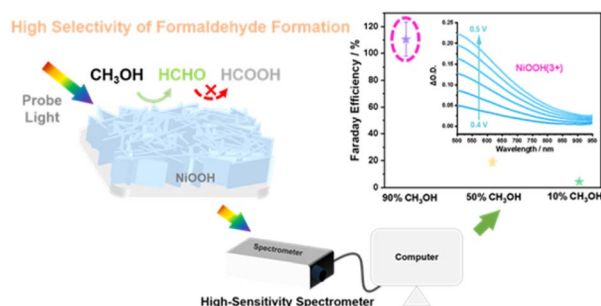
9952



Conversion of trifluoromethyls into esters along with polyether upcycling *via* cation-transfer-catalyzed C-O/C-F metathesis

Zhuojun Li, Xiangqian Shi, Dongke Zhang and Qian Wu*

9960



Unraveling the hidden conditions in NiOOH for electrocatalytic oxidation of methanol to formaldehyde with unity Faraday efficiency and selectivity

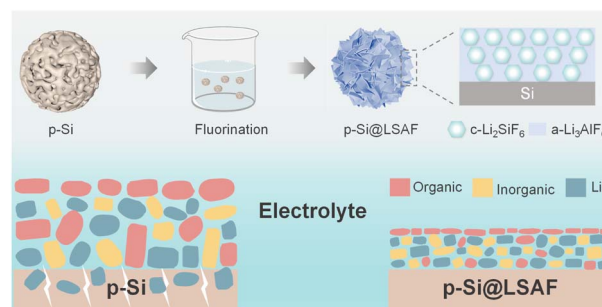
Zixuan Ma, Yuling Yuan, Ze Lv and Yimeng Ma*



9971

Functional-oriented design of gradient composite fluoride interphase for enhanced silicon anode performance

Yu Jing, Zhixing Wang, Huajun Guo, Xinhai Li, Hui Duan, Wenjie Peng, Guochun Yan, Guangchao Li* and Jiexi Wang



9982

Synergistic Cu nanoparticles and Cu single atoms leveraging hydrogen spillover for selective CO electroreduction to acetate

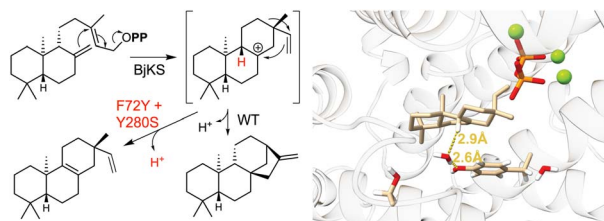
Qinglong Wang, Tianfu Liu,* Xinhui Guo, Pengfei Wei, Dunfeng Gao,* Guoxiong Wang and Xinhe Bao



9990

Dock & design: engineering specificity for an alternative pimaradiene outcome with the ent-kaurene synthase from *Bradyrhizobium japonicum*

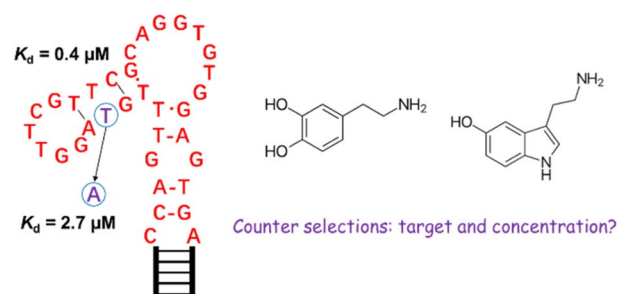
Mark Schmidt-Dannert, Yue Zhang, Jin Liang, Qiang Wang, Samuel Tufts, Meirong Jia, Dean J. Tantillo,* Justin B. Siegel* and Reuben J. Peters*



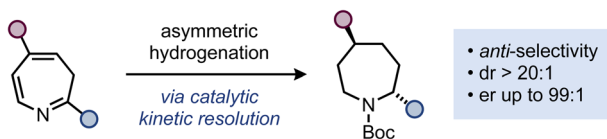
9997

A high-affinity dopamine aptamer: implications of library diversity and negative selection

Yi Yu, Yuanli Li and Juewen Liu*



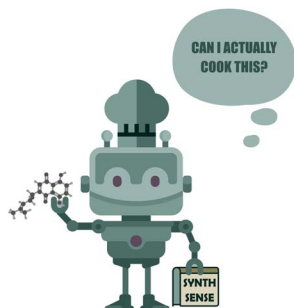
10007



Asymmetric hydrogenation of 3*H*-azepines via catalytic kinetic resolution: access to *anti*-disubstituted azepanes

Linda Bui, Dilara Berna Yildiz, Diego García Matesanz, Esteban Matador, Raquel Sanchez, Iuliana Atodiresei, Giovanni Lonardi* and Daniele Leonori*

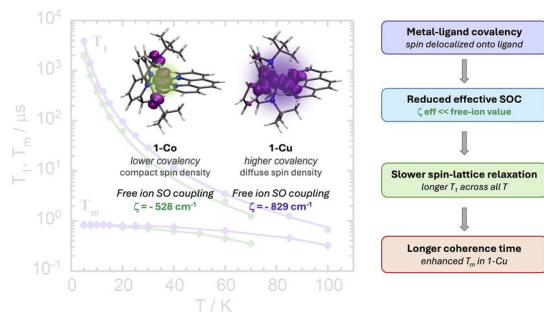
10015



Synthesizability via reward engineering: expanding generative molecular design into synthetic space

Dominik Dekleva,* Alexey Voronov, Jon Paul Janet, Albin Ekborg, Jure Borišek, Martina H. Rambaher and Hannes H. Loeffler

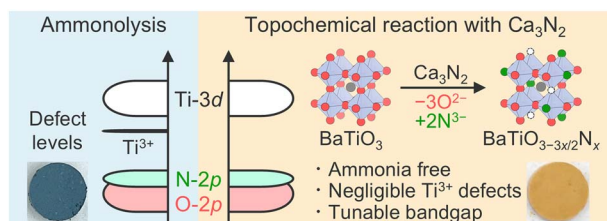
10029



Quantum coherence enhancement through control of metal–ligand covalency: modulating spin–orbit coupling in isostructural molecular qubits

Subrata Ghosh, Paul H. Oyala, Maksym Fizer, Vsevolod D. Dergachev, Sergey A. Varganov and Natia L. Frank*

10047



Reductive-defect-suppressed titanium oxynitrides via Ca₃N₂-assisted topochemical nitridation

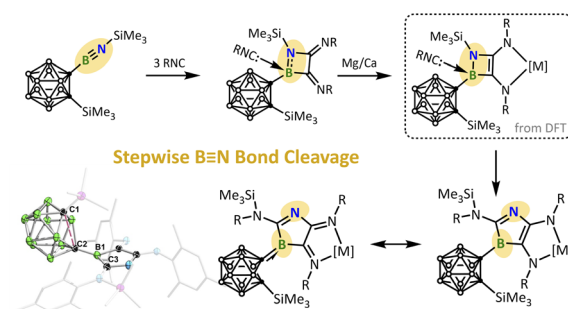
Yuki Sasahara, Kento Yoshii, Daichi Kato, Issei Yamamoto, Yusuke Tsutsui, Kei Morisato, Hikaru Takeuchi, Tatsuya Tsumori, Hiroshi Takatsu, Satoshi Horike, Shu Seki, Kazuhiko Maeda and Hiroshi Kageyama*



10053

Stepwise B≡N bond cleavage by isocyanides: access to the 3-azaborole structural motif

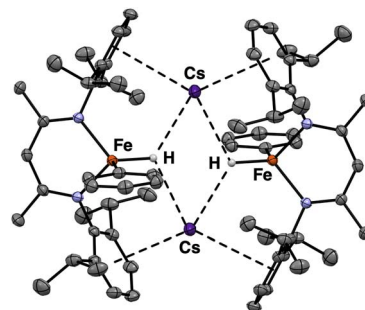
Libo Xiang, Ka Ho Kwan, Yi Jing, Junyi Wang, Alexander Matler, Xuenian Chen, Zhenyang Lin* and Qing Ye*



10061

Alkali metal cation effects for rapid C–H activation by iron(0) complexes

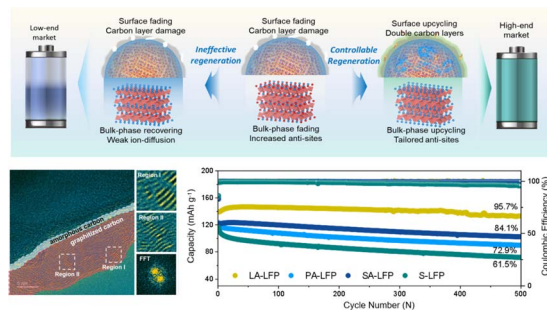
Nereida Hidalgo, Kendal W. Southwell, Ryan S. Donnelly, Brandon Q. Mercado, Sebastian M. Krajewski, Xiaoping Wang* and Patrick L. Holland*



10067

Regenerating spent LiFePO₄ with tailored molecular groups: from bulk lattice repair to surface conductive coating for enhanced cycling stability

Yi Chen, Xizhuo Chen, Zihao Zeng, Wei Sun, Yue Yang and Peng Ge*

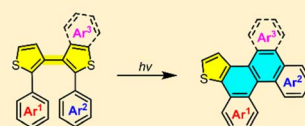


10082

Photochemical skeletal editing: one-step transformation of diaryl dithiophenes into regiodefined helicenes

Xiaoli Shi, Ling Mei, Chenxi Dong, Chunmei Zhao, Chen Chen, Yimin Xu, Wan Xu, Chunli Li, Guangxia Wang,* Zhiying Ma* and Hua Wang*

Photochemical Skeletal Editing of Diaryl Dithiophenes for Helicenes

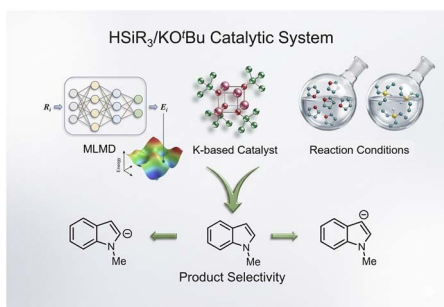


- ✓ Mild Reaction Condition
- ✓ One-step Synthesis
- ✓ Broad Substrate Scope
- ✓ Good Regioselectivity

π -extended multiple [n]helicenes (n = 4-6)



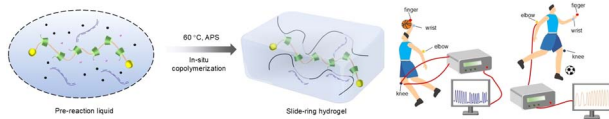
10092



Solvent–temperature coupled hydride transfer controls product selectivity in the HSiR₃/KO^tBu catalytic system

Haojiang Yao, Zhenhao Zhou, Ye Liu,^{*}
Dong H. Zhang^{*} and Guohui Li^{*}

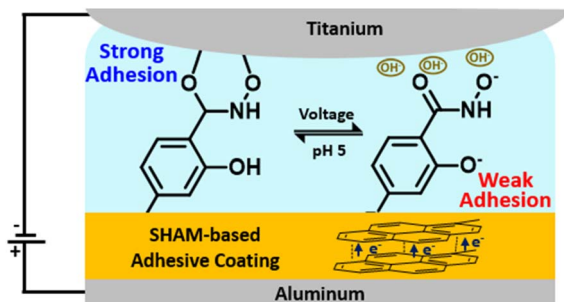
10104



Stretchable cyclodextrin slide-ring copolymer self-generating hydrogels for high-performance flexible electronics

Xu Pan, Bo Wang, Xiao-Yong Yu, Jin-Long Yue, Xu Zhang, Chen Zhang, Ying-Ming Zhang, Yong Chen^{*} and Yu Liu^{*}

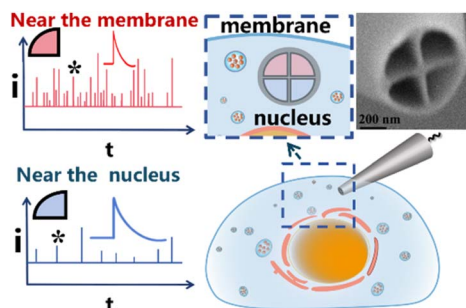
10113



Salicylhydroxamic acid as an electro-responsive and switchable adhesive molecule

Kan Wang, Vedika Khare, Abhilash Arjan Das, Fatemeh Razaviamri and Bruce P. Lee^{*}

10126



Individually addressable multichannel nanoelectrodes reveal spatially resolved functional heterogeneity of vesicles in single cells

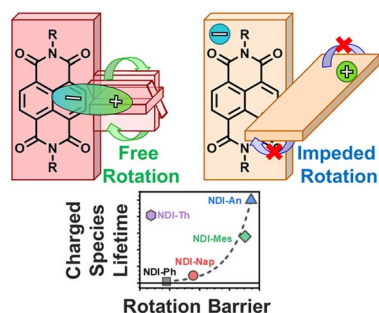
Chuchu Xu, Ruolin Liu, Yuhao Zheng, Yue Chen, Irina Svir, Alexander Oleinick,^{*} Zhongqun Tian, Christian Amatore and Keke Hu^{*}



10133

Geometric orthogonality as a recipe for efficient intramolecular charge generation in core substituted NDI derivatives

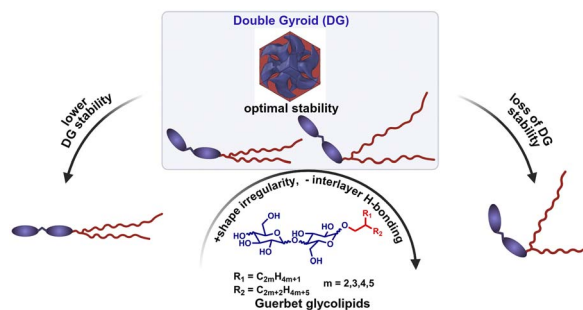
Hugh C. Britton,* Alberto M. Santa Daría, Chao Lyu, Andras B. Augusztin, Lewis M. Cowen, Dejan-Krešimir Bučar, Alethea B. Tabor, Bob C. Schroeder, Sandra Gómez* and Jose M. Marin-Beloqui*



10145

Influence of molecular shape and hydrogen bonding on glycolipid self-assembly into thermotropic gyroid phases

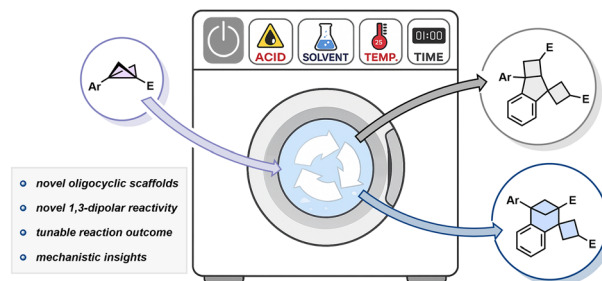
Soumi Das, Caini Zheng, Timothy P. Lodge, J. Ilja Siepmann, Michelle A. Calabrese* and Theresa M. Reineke*



10159

Dimerisation of aryl-substituted bicyclobutanes (BCBs): revealing a new mode of 1,3-dipolar background reactivity

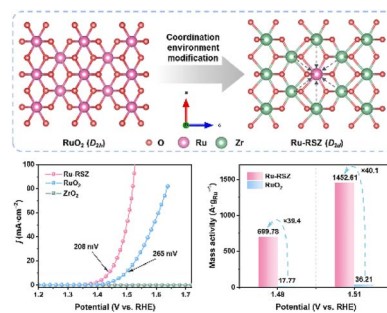
Malini George, Daniil A. Knyazev, Kamil Swiatek, Heinrich F. von Köller and Daniel B. Werz*



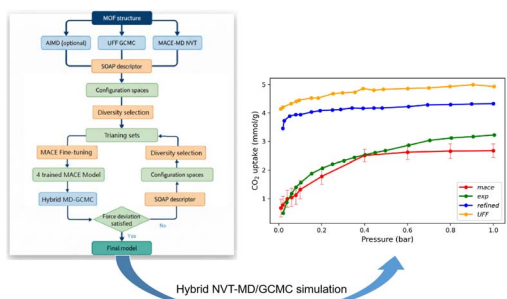
10168

ZrO₂-induced d-d spatial coordination effects of Ru single-atom catalysts to boost the oxygen evolution reaction

Dandan Yu, Bin Liu, Dongming Li, Junkai Yu, Xijie Lan, Shuhong Liu, Zhuxin Li, Pengyun Gao, Yong Zhang* and Hong Zhao*



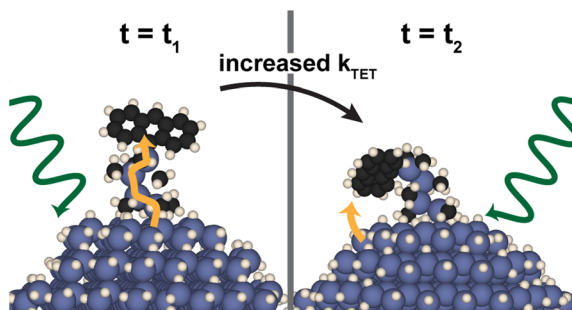
10177



Machine learning potential for modelling dynamic hydrogen bond networks in MOF MIL-120

Xin Jin, Yutao Li, Kelian Gaedecke, Xiaoqi Zhang and Berend Smit*

10192

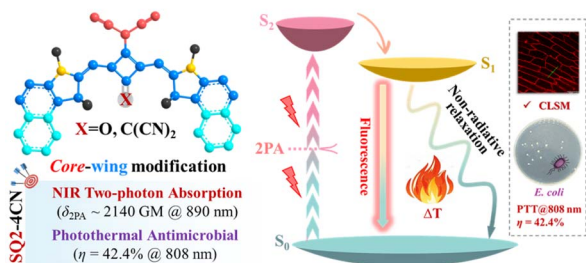


Flexible dimethylsilylene bridges in silicon quantum dot-anthracene adducts promote triplet energy transfer

Sina G. Lewis, Kefu Wang, Nhien Q. Nguyen, Aracely Gonzalez, Honghao Wang, Timothy C. Siu, Lorenzo Mangolini, Sean T. Roberts, Timothy A. Su,* Joel David Eaves* and Ming Lee Tang*

10203

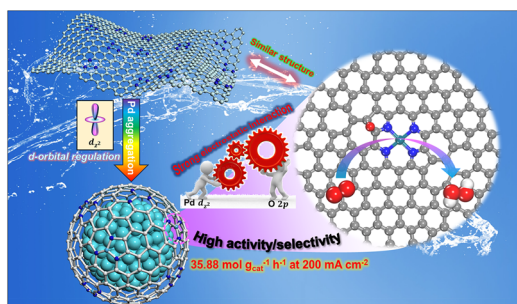
Mono/Bis(dicyanovinylene)-cored indolenine squaraines



Core-wing modulated squaraines with enhanced two-photon absorption and efficient photothermal eradication of bacteria

Xin-Ao Liu, Xingtong Zhou, Tong Zhang, Congdi Shang,* Liping Ding,* Taihong Liu* and Yu Fang

10213



Pd-N-C shelled Pd nanoparticle catalysts for high-performance hydrogen peroxide electrosynthesis

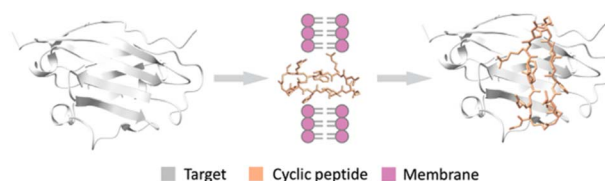
Jiao Dong, Zixiang Su, Yanyan Jia, Runjia Xing, Sixuan She, Daqin Guan, Sheng Dai, Jinling Wang, Manqing Chai, Zhenshan Hou, Zhi-Qiang Wang,* Hehe Wei,* P. Hu and Xue-Qing Gong*



10223

Design of permeability-optimized target-binding macrocycles via direct preference optimization

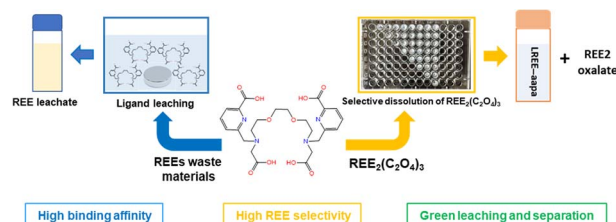
Heqi Sun, Hong Tan, Yanyi Chu, Jiayi Li, Ruixuan Wang and Dong-Qing Wei*



10237

Picolinate-based acyclic ligand for rare earth element extraction and separation

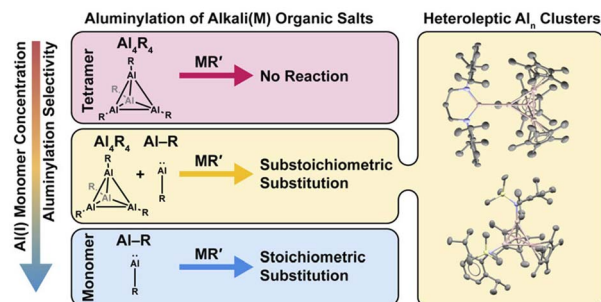
Yangyang Gao, Sean Medin, Alexa M. Schmitz and Justin J. Wilson*



10251

Aluminylation: a generalizable route towards low-valent aluminum under moderate conditions with controlled product nuclearity through precursor design

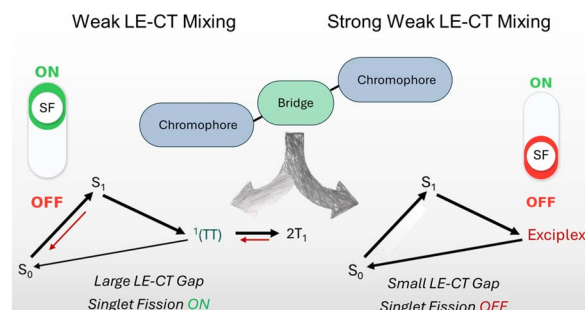
Paris C. Reuel, Yogesh Shandilya, M. Talha Wattoo and Alison B. Altman*



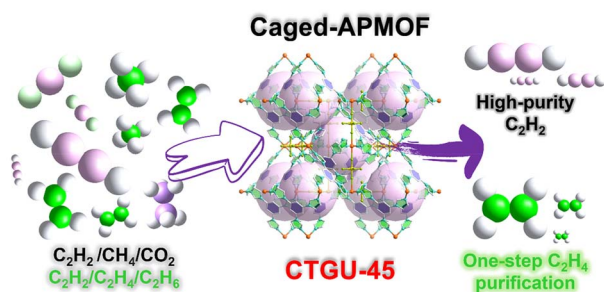
10260

Controlling triplet-pair formation in acene-bridged trimers through locally excited-charge-transfer state mixing

Ebin Sebastian, Daniel G. Congrave, Jeroen Royakkers, Stephanie Montanaro, Huaxi Huang, Ashish Sharma, Julia Osmólska, He Zhu, Chanakarn Phansa, Jurjen Winkel, Oliver Millington, Murad J. Y. Tayebjee, Luis M. Campos, Hugo Bronstein* and Akshay Rao*



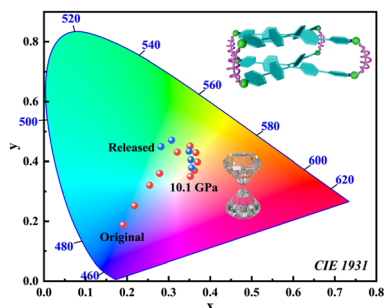
10271



Linker desymmetrisation directs low-polar cages in an anion-pillared MOF for acetylene and ethylene purification from ternary mixtures

Jun-Jie Wu, Peng-Dan Zhang,^{*} Xue-Qian Wu,^{*} Shuai-Hao Huang, Wen-Wen Dong, Ya-Pan Wu and Dong-Sheng Li^{*}

10281



Deciphering the stimuli-responsive behavior of TPPE-incorporated flexible metal-organic frameworks

You Fan, Zhikai Zhu, Shuo Zhou, Federico Gorelli, Yuchen Ye, Huixin Hu, Shenghan Zhang, Hongliang Dong, Changzhong Liao,^{*} Ziyou Zhang^{*} and Zhiqiang Chen^{*}

RETRACTION

10290

Retraction: Ligand assisted Co(II) catalyzed direct C–H alkylation of aryl ketones with diverse alkyl halides

Aniket Nigade, Saurabh Vinod Parmar and Vidya Avasare^{*}

