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IN THIS ISSUE

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Cover

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PROFILE

19527

Contributors to the Emerging Investigators collection 2025: part 3

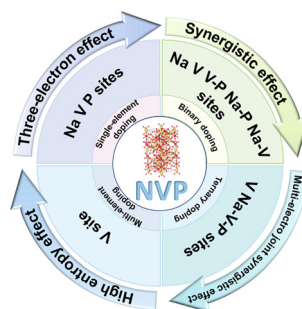


HIGHLIGHT

19537

Doping regulation enables a high-performance $\text{Na}_3\text{V}_2(\text{PO}_4)_3$ cathode for sodium-ion batteries: review

Siyuan Li, Hongen Shi, Yanzhong Wang and Yanjun Chen*



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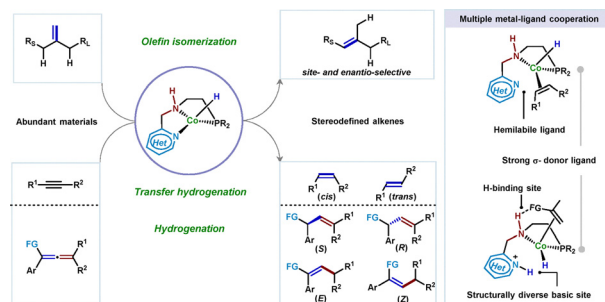


FEATURE ARTICLES

19555

Harnessing metal–ligand cooperation in cobalt-catalyzed hydride transfer reactions of non-polar unsaturated compounds

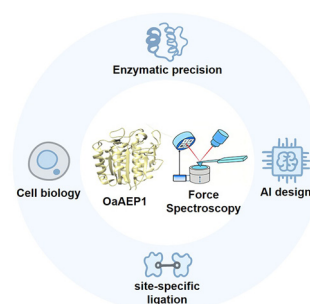
Xianle Rong, Jie Yang, Xufang Liu and Qiang Liu*



19568

OaAEP1-dependent enzymatic protein ligation and immobilization for single-molecule force spectroscopy

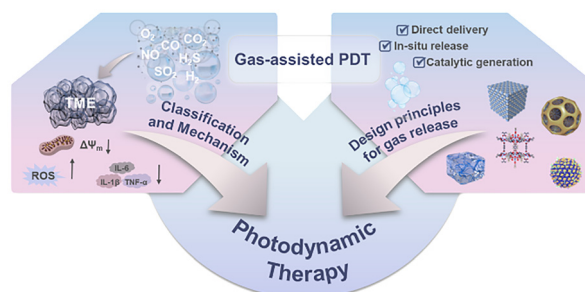
Lichao Liu and Peng Zheng*



19578

Engineering principles of nanomedicine in gas-mediated enhanced anti-tumor photodynamic therapy

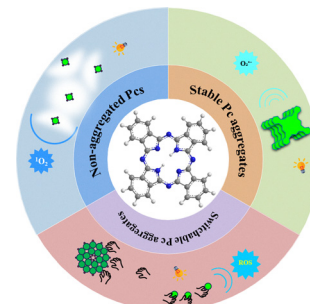
Mengyan Tian, Yaning Li, Jiawei Rao, Yuanjiao He, Shuo Wang,* Yi Liu* and Pai Liu*



19596

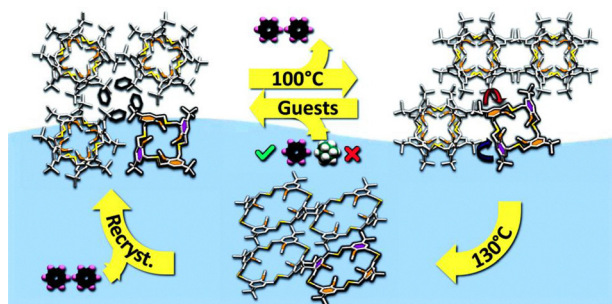
Modulation of phthalocyanine assembly morphology for photodynamic therapy

Wei-Zhen Wang, Huan Xu, Zixuan Chen, Shuwen Fu, Chuanchuan Wang and Xingshu Li*



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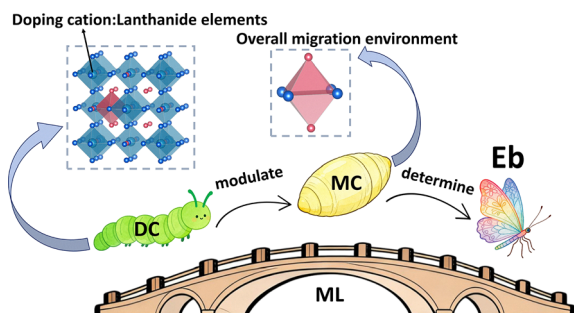
19608



Adaptive crystals of homothiacalix[4]arene capable of molecular recognition, with preferential uptake of benzene over cyclohexane

Renny Maria Losus, Sem Bleus, Volodymyr Bon, Stefan Kaskel, Wim Dehaen and Liliana Dobrzańska*

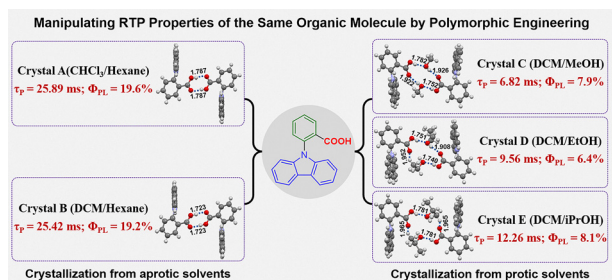
19612



Bridging doping cation properties to lithium migration barriers in halide electrolytes *via* machine learning: the determining role of migration channel geometry

Tongmin Xu, Xuening Li, Zheyuan Liu* and Chengkai Yang*

19616



Manipulating RTP properties of the same organic molecule by polymorphic engineering

Deliang Wang, Hongzhuo Wu, Songwang Lin, Kangfan Wang, Dong Wang, Yu Xiong* and Ben Zhong Tang

19620



Direct observation of an ionic cobalt complex electron mediator *via operando* X-ray absorption spectroscopy in photocatalytic Z-scheme CO₂ reduction with (CuGa)_{0.3}Zn_{1.4}S₂ and BiVO₄

Tomiko M. Suzuki,* Takamasa Nonaka, Takeshi Uyama, Naonari Sakamoto, Keita Sekizawa, Yuichi Yamaguchi, Akihiko Kudo* and Takeshi Morikawa*

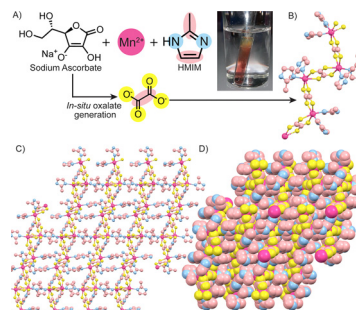


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19624

From spontaneous ligand evolution to high-throughput water-based synthesis: scalable access to CO₂ selective mixed-ligand metal organic frameworks

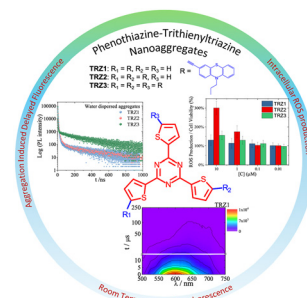
Thomas S. Howlett, Ziqi Wang, Wendy Tang, Niyati Arora, Prapti M. Shende, Phillip M. Liu, Sneha Kumari, Monu Joy, Mario Wriedt, Ronald A. Smaldone and Jeremiah J. Gassensmith*



19628

Tuning the fate of the triplet by changing the degree of branching in phenothiazine–trithienyltriazine nanoaggregates

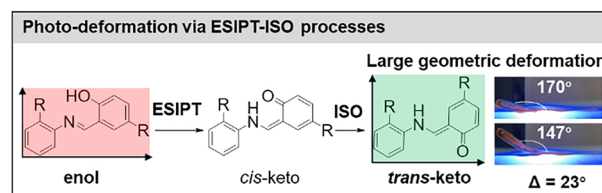
Pietro Mancini, Chiara Montanari, Penelope Venturi, Kusum Yadav, Tommaso Bianconi, Eleonora Calzoni, Alessio Cesaretti, Rajneesh Misra* and Benedetta Carlotti*



19632

Tunable photo-deformation of simple AIE-active salicylideneaniline Schiff bases via an ESIPT-ISO process

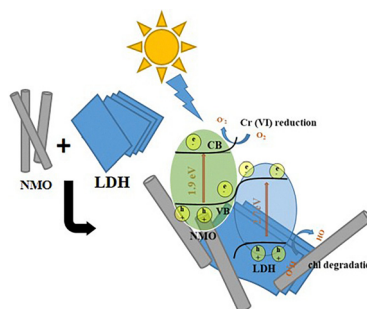
Xiao Chen, Cheng Cheng, Yang Yu, Weiren Zhong, Zhichen Zhao, Shilong Yang, Zheng Zhao, Jianyu Zhang* and Xu-Min Cai*



19636

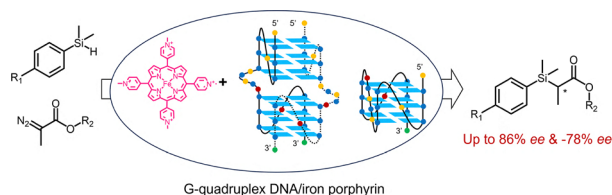
A superior dual functional S-scheme NiMoO₄/Mg–Al LDH heterojunction for simultaneous redox photocatalysis

Dwaipayan Dhar and Sonali Sengupta*



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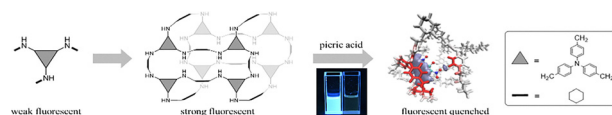
19640



G-quadruplex DNA/iron cationic porphyrin catalyzes enantioselective carbon–silicon bond formation

Wenhui Miao, Wenqin Zhou, Guoqing Jia* and Can Li*

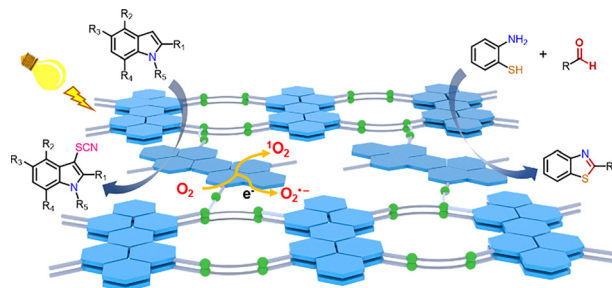
19644



Highly sensitive detection of nitroaromatic explosives using a fluorescent porous organic cage: spatially confined triphenylamine as the sole fluorophore

Zhiwei Lin, Qiang Gan, Bingyu Wang, Shuang-Fei Zhu, Junying Li, Wei Yang, Zhaobo Zhang, Fanzhi Yang,* Min Xia* and Yunjun Luo

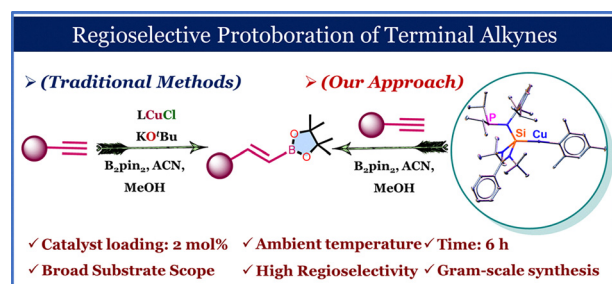
19648



Integration of perylene diimide into a two-dimensional cobalt–organic framework for enhanced photocatalysis

Li-Li Ma, Shengjin Liu, Feinian Yang, Jian Cao, Longyi Ding, Yang Li* and Guozan Yuan*

19652



Silylene–copper(I) catalysis: regioselective protoboration of terminal alkynes

Sandeep H. Kaulage, Brij Kumar Shah, Rishukumar Panday, Himanshu Sharma, Kumar Vanka and Shabana Khan*

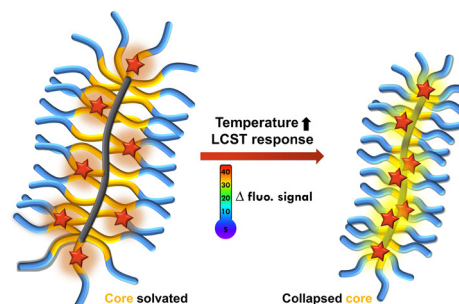


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19656

Unimolecular thermometers: core-shell polymer bottlebrushes with solvatochromic responses to temperature

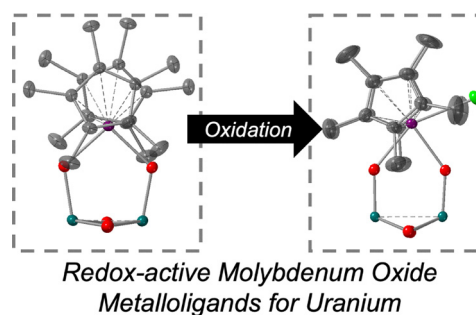
Chenyong Zhang, Simran D. Kerai, Tom Hawtrey, Elizabeth J. New and Markus Müllner*



19660

Synthesis and characterization of a low-valent uranium complex supported by a redox-active molybdenum oxide metalloligand

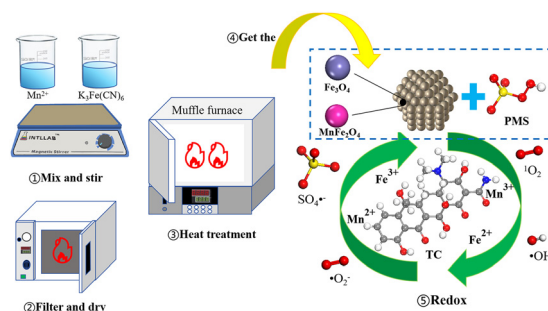
Leyla R. Valerio, Kamaless Patra, Dominic Shiels, William W. Brennessel and Ellen M. Matson*



19664

MnFe-PBA-derived porous catalysts with enhanced peroxymonosulfate activation for tetracycline removal: insights from experiment and theory

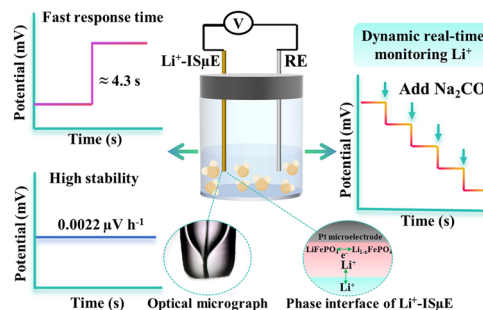
Youwei Yang, Yuyun Xie, Yan Gao, Xuekun Tang, Chunying Wang* and Xianping Luo*



19668

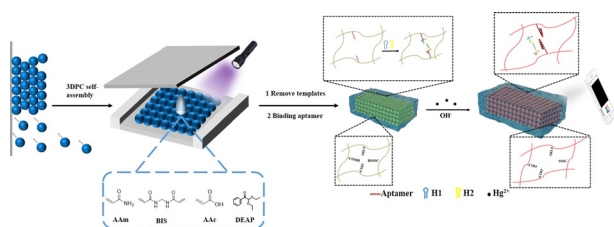
Potentiometric microsensor for real-time dynamic monitoring of Li⁺ in the lithium-ion battery material recovery process

Xiaoqian Leng, Jiayi Liu, Yihan Xing, Yunzhe Pan, Chunyuan Tian, Feng Luan, Lijun Zhao, Chao Shi, Xuming Zhuang* and Yanhong Li*



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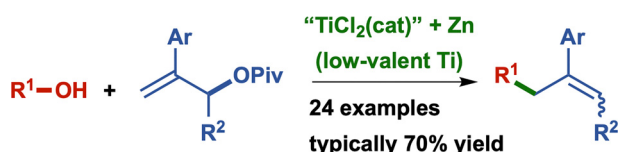
19672



Photonic crystal/DNA hydrogels for Hg(II) and pH semi-quantitative visual detection in seawater

Minjun Zhao, Zhe Zhang, Xiaoting Ji* and Caifeng Ding*

19676

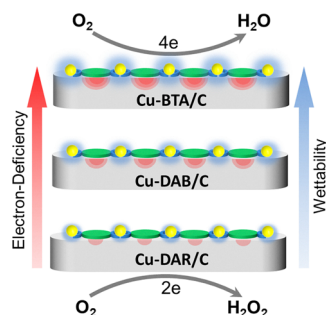


- Radical allylation using alcohols and allyl esters
- Inexpensive reagent and simple procedure

Radical substitution of allyl carboxylates by carbon radicals derived from non-activated alcohols

Takuya Suga,* Tatsuto Egawa, Chinatsu Miki and Yutaka Ukaji*

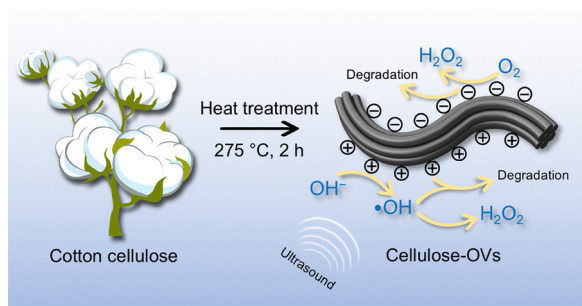
19680



Engineering electron-deficiency and wettability of Cu-based catalysts using arylamine ligands to promote electrocatalytic oxygen reduction

Kaiyuan Wang, Yuan Xu, Fei He, Yanqin Lv,* Yanfei Shen,* Songqin Liu and Yuanjian Zhang*

19684



Defect engineering in cellulose for piezocatalytic generation of hydrogen peroxide under ambient conditions

Yanfeng Wang, Yao Wang, Jiaxin Li, Yun Fang, Peipei Ouyang, Peiyun Wei, Baowei Hu, Muqing Qiu and Kun Yang*

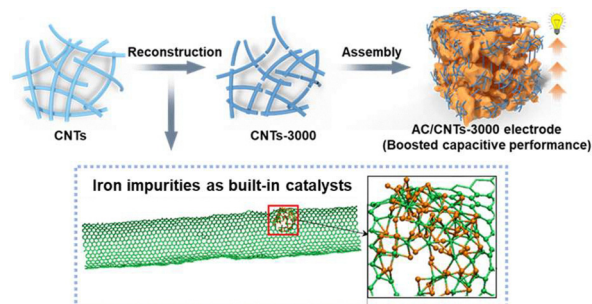


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High-temperature reconstruction of carbon nanotubes with iron impurities as built-in catalysts for potent electrical-conductive additives in supercapacitor electrodes

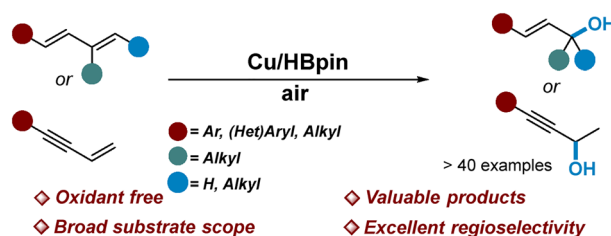
Keyang Li, Yunfeng Feng, Qi Zhang, Yiqing Guo, Jianing Gan, Yilun Huang,* Menghao Yang,* Ming Zhao, Daming Zhuang and Qianming Gong*



19692

Regioselective synthesis of allylic/propargylic alcohols from conjugated dienes/enynes catalyzed by CuCl under aerobic conditions

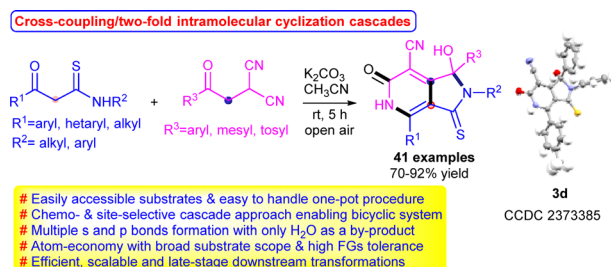
Mengjie Zhang, Yingying Huang, Qingqing Xuan* and Qiuling Song*



19696

Synthesis of pyrrolo[3,4-c]pyridines via metal-free cross-coupling/cyclization cascades of β -ketothioamides with 2-aroylemalononitrile at room temperature

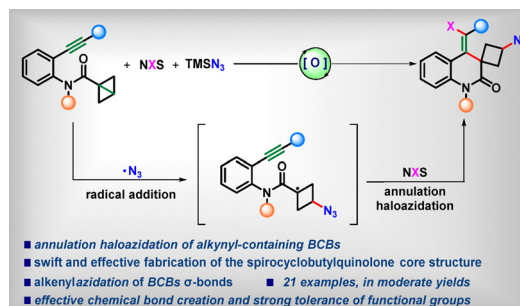
Anup Kumar Yadav, Vipin Kumar, Saurabh Singh, Subhasis Samai and Maya Shankar Singh*



19700

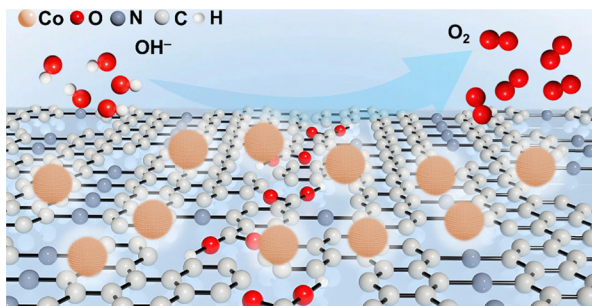
Radical-triggered annulation-haloazidation of alkynyl-bicyclo[1.1.0]butanes: an efficient route for the construction of spiro-cyclobutyl quinolinones

Yu-Ting Wang, Xiao Zou, Peng-Cheng Xu, Shenghu Yan, Yue Zhang,* Jia-Yin Wang* and Hang-Dong Zuo*



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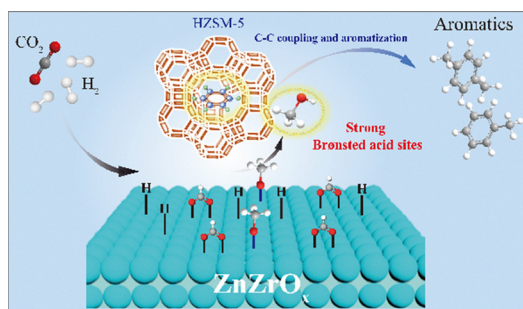
19704



Strong ligand-modified polyaniline decorated with cobalt nanoparticles optimizes surface electron density for efficient oxygen evolution

Jiang-Bo Chen, Shan Chen,* Huan-Yu Wang, Xin-Liang Fu, Zhi-Feng Zhai, Li Zeng, Yong Zheng* and Jia-Xin Yuan*

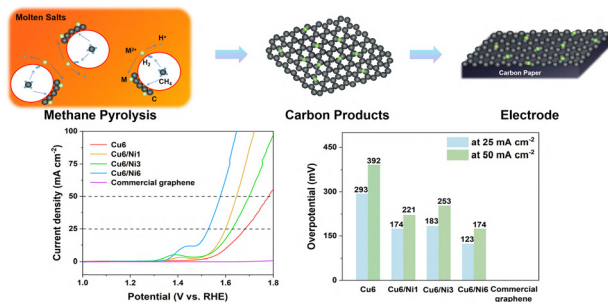
19708



Tailoring strong Brønsted acid sites in HZSM-5 for selective aromatics production from CO₂ hydrogenation

Tangkang Liu, Chuan Qin,* Zixin Wang, Linfeng Wang, Guoliang Liu* and Anmin Zheng*

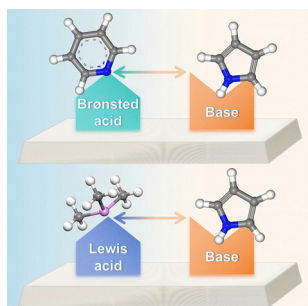
19712



Molten salt-mediated synthesis of a graphene-based electrode from low-concentration methane for enhanced oxygen evolution reaction

Zeai Huang,* Tong Liu, Ruiyang Zhang, Junjie Zhan, Mingkai Yang, Kuikui Zhang, Yunxiao Zhou, Chao Duan, Guoxing Chen and Ying Zhou*

19716



Spectroscopic identification of acid–base pairs in solid catalysts

Yao Xiao, Xianfeng Yi,* Youdong Xing, Xin Yu, Lei Zhao, Peng Peng and Anmin Zheng*

