

CrystEngComm

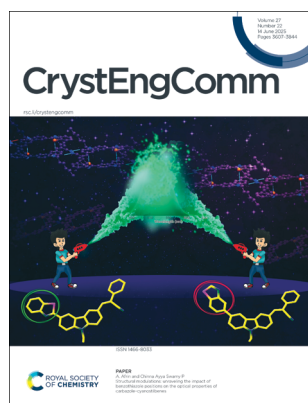
A journal at the forefront of the design and understanding of solid-state and crystalline materials

rsc.li/crystengcomm

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 1466-8033 CODEN CRECF4 27(22) 3607-3844 (2025)



Cover

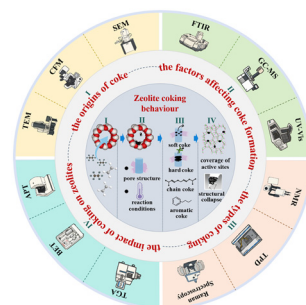
See A. Afrin and Chinna Ayya Swamy P, pp. 3664-3674. Image reproduced by permission of Chinna Ayya Swamy P from *CrystEngComm*, 2025, 27, 3664.

HIGHLIGHTS

3616

Advanced characterization techniques for the coking process of zeolites: a comprehensive review

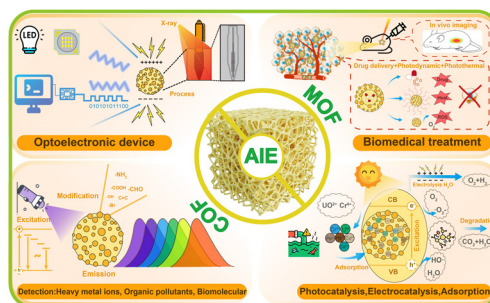
Xiaoyuan Gao,* Ping Sun, Jialiang Liao and Liwei Xia



3643

Recent multifunctional applications of AIE-MOF/COF porous materials

Siwen Liu, Guijie Liang, Song Wang* and Qingsong Hu*



Industrial Chemistry & Materials

GOLD
OPEN
ACCESS

Focus on industrial chemistry
Advance material innovations
Highlight interdisciplinary feature

Innovative.
Interdisciplinary.
Problem solving

APCs currently waived

Learn more about ICM
Submit your high-quality article

 **@IndChemMater**

 **@IndChemMater**

rsc.li/icm

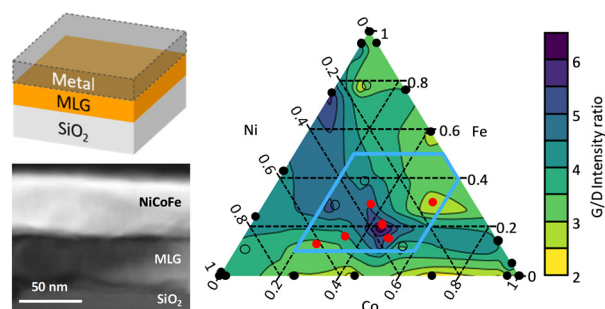


COMMUNICATION

3659

High-quality multilayer graphene on insulators via metal catalyst alloying in layer exchange with Bayesian optimization

R. Ito, T. Ishiyama, K. Nozawa, J. Kikkawa, T. Suemasu and K. Toko*

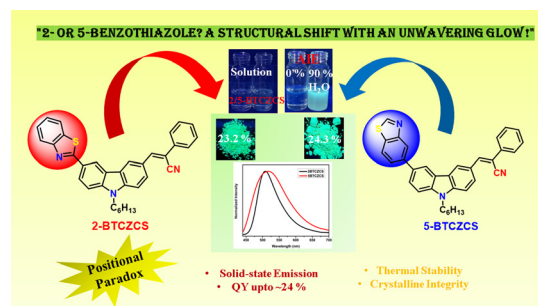


PAPERS

3664

Structural modulations: unraveling the impact of benzothiazole positions on the optical properties of carbazole–cyanostilbenes

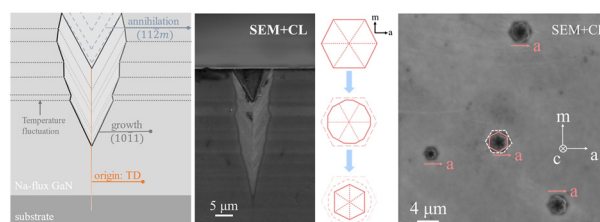
A. Afrin and Chinna Ayya Swamy P*



3675

Growth behavior and optical properties of V-pits in GaN grown by a Na flux method

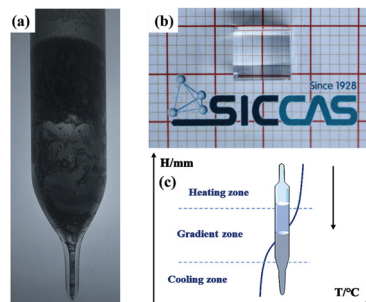
Tao Zhang, Zongliang Liu,* Zhiwei Si,* Xiaohui Peng, Xiaoming Dong, Mengya Li, Ning Tang and Ke Xu*



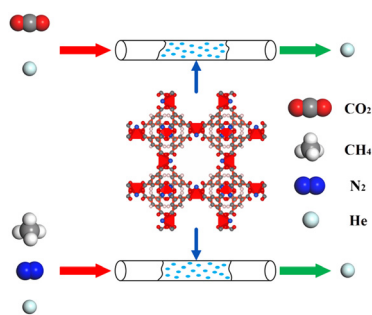
3682

Scintillation performance of 1-inch-diameter Cs₂ZnCl₄ crystals

Xiaoyi Zuo, Shaohan Wang, Tong Wu, Yugui Lu, Lingyan Lu, Yiyang Sun, Ding Wang, Sanan Han,* Yun Shi* and Junfeng Chen*



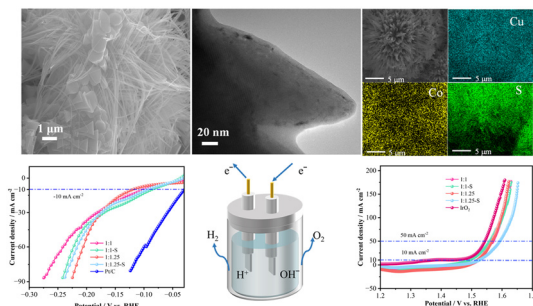
3690



A commercially scalable MOF adsorbent Cu-BTC for helium recovery from natural gas: performance and mechanism studies at room temperature and lower temperatures

Shoucheng Cui, Baosheng Chen, Jiasi Zhao, Hongbo Xu,* Nan Peng and Liqiang Liu*

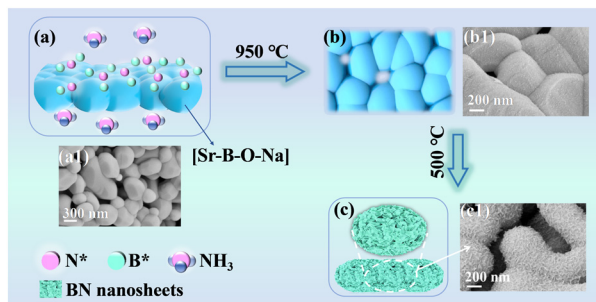
3700



Excellent electrocatalytic performance of CuCo₂S₄ nanowires for high-efficiency overall water splitting in alkaline and seawater media

Bo-yao Zhang, Song-lin Xu, Jia Li, Hui-ya Zhou, Xin Li, Rong-da Zhao,* Fu-fa Wu* and Depeng Zhao*

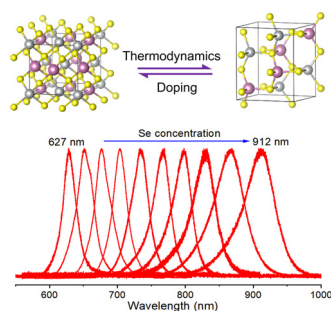
3712



Controllable synthesis of 3D-BN hollow nanonets for thermal-conductive epoxy composites

Rifeng Xiao, Jingqi Luo, Yuchun Ji,* Wanxing Xiong, Yuanlie Yu, Jilin Wang* and Fei Long

3722



Phase transition and doping-induced infrared tunable emission of an AgInS₂ luminescence semiconductor

Yuan Chen, Gaoyuan Chen, Guijia Hu, Hongcao Shi, Xin Yang,* Ailijiang Abudurusuli, Qi Sun and Chunjian Su*

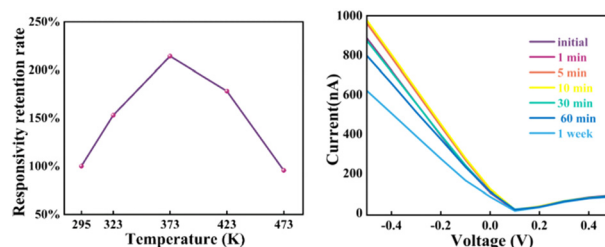


PAPERS

3733

Temperature dependence and mechanism of PdSe₂/Al₂O₃/AlGaIn van der Waals heterostructure self-powered solar-blind photodetectors

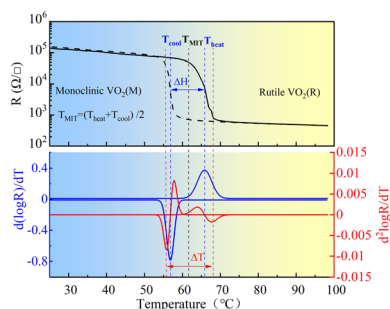
Tingting Lin, Changjian Zhou, Liang Xu and Wenliang Wang*



3742

Gadolinium doping and oxygen vacancies in vanadium dioxide thin films: effects on microstructure and properties

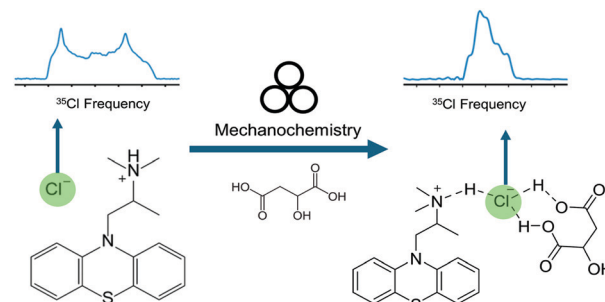
Qiang Wang, Chuandong Zhang, Jie Bai,* Yuanjun Guo, Qiang Hu, Lei Liu, Hong Liu, Lang Hu, Yongneng Xiao and Zhenhuai Yang*



3752

Mechanochemical synthesis and ³⁵Cl NMR crystallography of ionic cocrystals of phenothiazine drugs

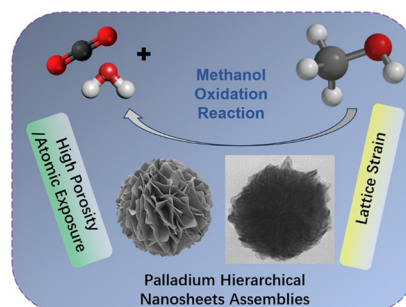
Zachary T. Dowdell, Austin A. Peach, John P. Purdie, Sean T. Holmes, Lara K. Watanabe, Jeremy M. Rawson and Robert W. Schurko*



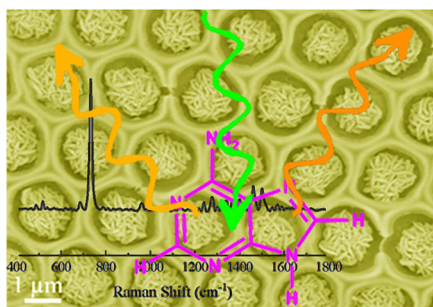
3769

Facile synthesis of palladium hierarchical nanosheet assemblies: unraveling the aggregation-induced synergistic effect for enhanced methanol oxidation reaction activity

Lijuan Han, Yuanyuan Min, Yingying Wang,* Feng Liu, Maochang Liu and Yiqun Zheng*



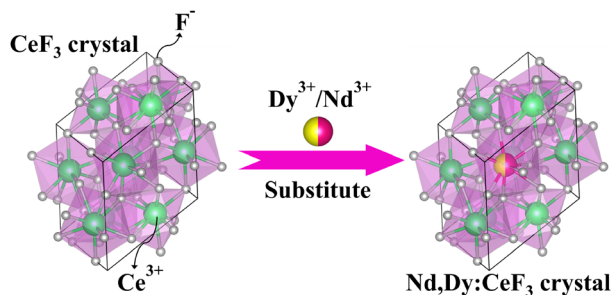
3778



Electrochemically engineered hierarchical flower-like Ag nanostructures within Al₂O₃ honeycomb microchannel periodic arrays for ultra-sensitive SERS detection

Penghui Wei, Jiajia Song, Haibin Tang, Qinglin Shi, Yongqing Ma, Ganhong Zheng, Meiling Wang, Sajid Imran, Muhammad Usman Amin,* Yilin Lu* and Chuhong Zhu*

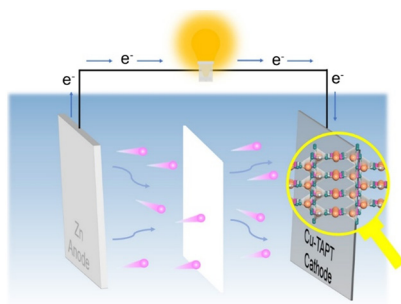
3790



Structure, optical properties and energy transfer analysis of Nd³⁺, Dy³⁺ co-doped CeF₃ crystal for potential laser application

Jiaqi Xia, Guoliang Deng, Yilun Yang, Min Xu,* Shanming Li, Qiannan Fang, Chengchun Zhao and Yin Hang*

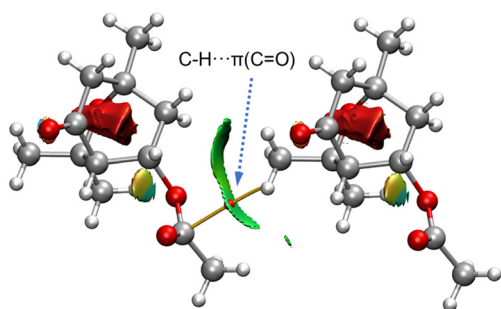
3800



Three-dimensional conductive copper-organic framework with a dual-redox center for high-performance aqueous zinc batteries

Jiacun Wang, Yuanxiang Gu* and Qingliang Lv*

3806



Supramolecular assembly mediated by hydrogen bonds and weak noncovalent interactions in two eucalyptol derivatives with potential antineoplastic activity: crystal structure, Hirshfeld surface analysis, DFT calculations and molecular docking analysis

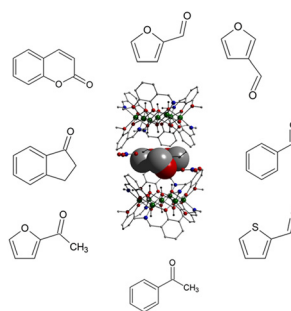
Carolina E. Galvez, Oscar E. Piro, Gustavo A. Echeverría, Krishnan Vignesh, Subbiah Thamotharan, María del H. Loandos and Diego M. Gil*



3823

Pseudo $[M(II)_7]$ ($M = Co, Ni$ and Zn) metallocalix[6]arene hosts encapsulate a range of organic guest molecules in the solid state

Mari Slater-Parry, Seán T. Meally, Chotima Ratanasakprakan, David E. Townrow, Rebecca J. Ellaby, Samuel J. Page and Leigh F. Jones*



3833

Hybrid computational approaches for accurate crystalline density prediction of *cyclo*-pentazolate salts

Chao Chen, Yilin Cao, Yiding Ma, Weipeng Lai, Tao Yu, Zhixiang Zhang, Sergey V. Bondarchuk* and Yingzhe Liu*

