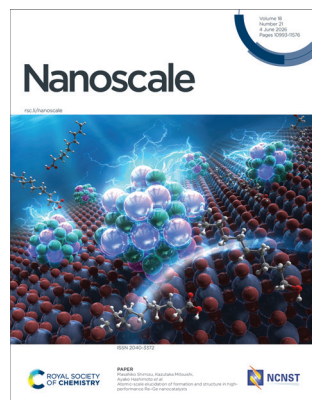


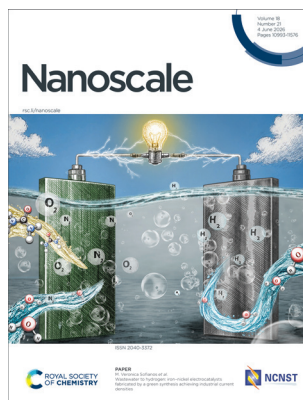
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ISSN 2040-3372 CODEN NANOHL 18(21) 10993–11576 (2026)



**Cover**  
See Masahiko Shimizu, Kazutaka Mitsuishi, Ayako Hashimoto *et al.*, pp. 11232–11241.

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**Inside cover**  
See M. Veronica Sofianos *et al.*, pp. 11242–11257.

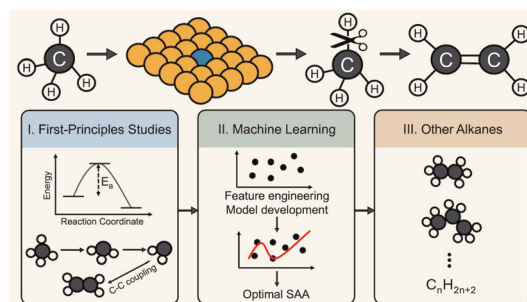
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11007

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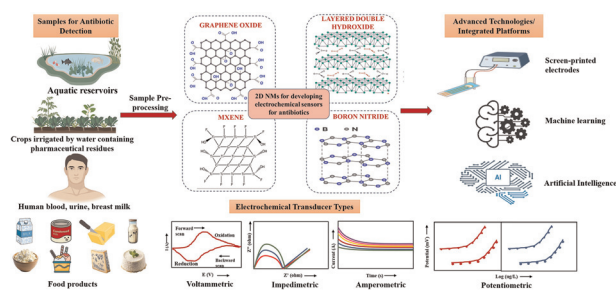
Chengyu Zhou and Qing Zhao\*



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### Advancements in two-dimensional nanomaterial-based sensing of antibiotics in environmental and biological samples

Prakriti Sharda, Akash Deep\* and Jyotsana Mehta\*



# RSC Applied Interfaces

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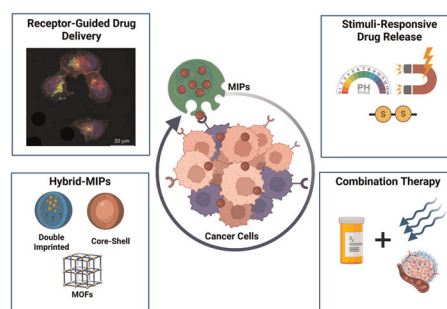
Fundamental questions  
Elemental answers

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**Engineering molecularly imprinted polymers for receptor-specific cancer therapeutics**

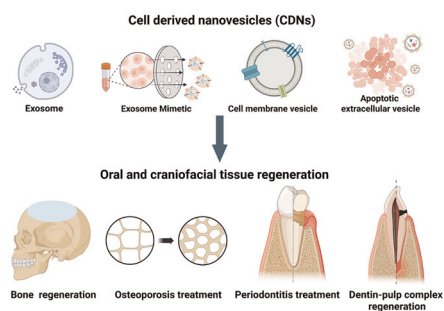
Shreya Tiwari, Charles L. Hutchinson, Pankaj Singla, Robert C. Rintoul, Timothy H. Witney, Nicholas W. Turner and Marloes Peeters\*



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**Cell derived nanovesicles for oral and craniofacial tissue regeneration**

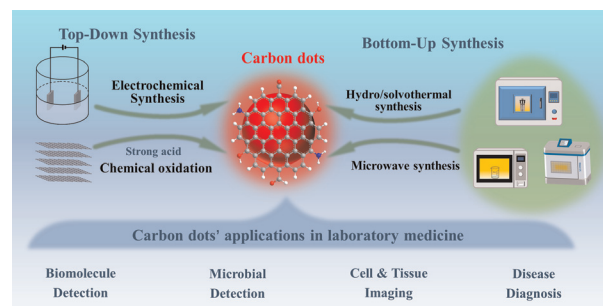
Linna Zhong, Jeffrey S. Marschall, Kyungsup Shin and Hongli Sun\*



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**Carbon dots in laboratory medicine: synthesis, properties, and applications**

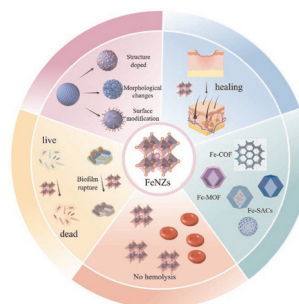
Mengdan Chen, Jie Liu, Chunfeng Zhai, Qiufang Gong,\* Yunyang Zhao\* and Chao Liang\*



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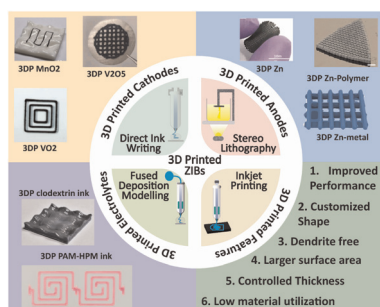
**Applications of iron-based nanoenzymes in wound healing: antibacterial, anti-inflammatory, and wound-promoting effects**

Lihui Huang, Xiaozhen Su, Tian Lin, Jiafeng Zou, Xinglu He, Weirong Qin, Suosu Wei\* and Jin Huang\*



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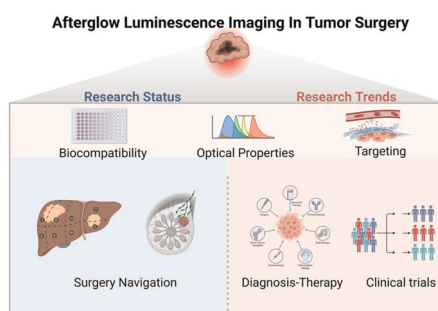


### Advances in 3D printing for zinc-ion battery applications: a review of electrode materials and electrolytes

Hamza Ahmad, Kiran Khan, Mutawara Mahmood Baig, Suhail Ayoub Khan, Kai Li, Mushtaq Ahmad, Jehangir Shah, Longyan Li, Gouyin Zhu\* and Yizhou Zhang\*

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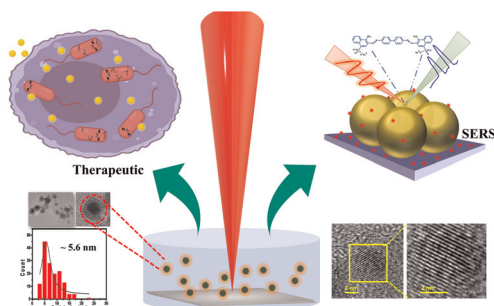


### Clinical translation of afterglow luminescence imaging in precision surgery of tumors: opportunities and challenges

Jinghua Li, Liangxuan Ding, Weijie Ma, Yong He, Qianqian Li,\* Yufeng Yuan\* and Zhen Li\*

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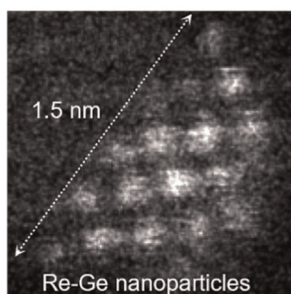


### Study of antimicrobial effects of laser-engineered SERS-active Cu@Cu<sub>2</sub>O nanostructures and their compatibility with human embryonic kidney cells

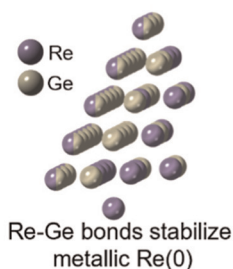
Jyotsna Patra, Govind Chouhan, Pratyush Dash, Manika Dandapat, Satyaranjan Satyajit, Umakanta Tripathy, Sheeja Jagadevan and Amitava Adak\*

## PAPERS

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fcc-like mixing alloy



### Atomic-scale elucidation of formation and structure in high-performance Re–Ge nanocatalysts

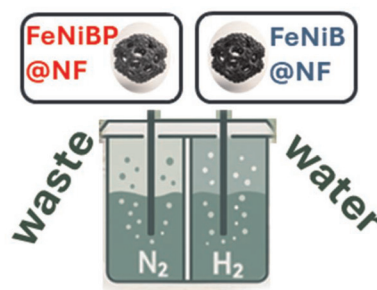
Masahiko Shimizu,\* Yuta Inami, Ryuichi Shimogawa, Takeshi Matsuo, Yu Fujikata, Hajime Matsumoto, Kazutaka Mitsuishi\* and Ayako Hashimoto\*



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### Wastewater to hydrogen: iron–nickel electrocatalysts fabricated by a green synthesis achieving industrial current densities

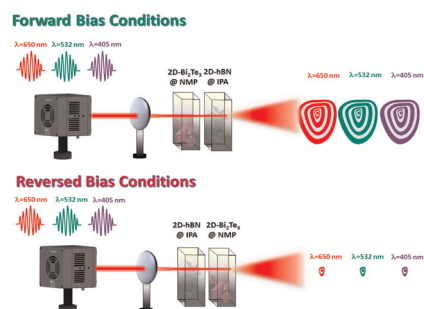
Thomas Karagiannis, Eamonn Devlin, Aran Rafferty, Raman Bekarevich, Vasileios Psycharis, Vasileios Tzitzios, Aphrodite Tomou, Rocco Villano, Leila Negahdar and M. Veronica Sofianos\*



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### An all-photonic isolator using atomically thin (2D) bismuth telluride ( $\text{Bi}_2\text{Te}_3$ )

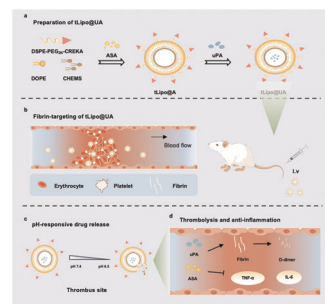
Saswata Goswami, Bruno Ipaves, Juan Gomez Quispe, Caique Campos de Oliveira, Surbhi Slatia, M. B. Abhijith, Varinder Pal, Christiano J. S. de Matos, Samit K. Ray, Douglas S. Galvao, Pedro A. S. Autreto\* and Chandra Sekhar Tiwary\*



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### Fibrin-targeted and pH-responsive liposomes for synergistic thrombolysis and thrombotic microenvironment reprogramming

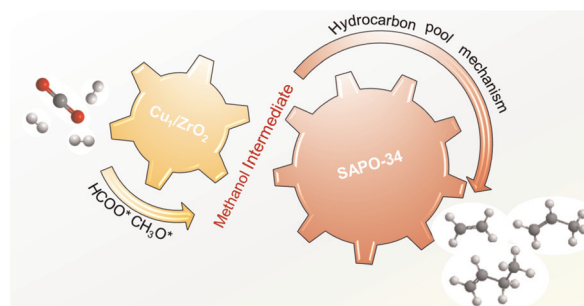
Xinyuan Li, Lingying Chen, Rui Sun, Lishan Xiong, Jinhan Yan, Qiongfang Liu, Chunrong Yang,\* Zuowen Zhang\* and Chenhui Wang\*



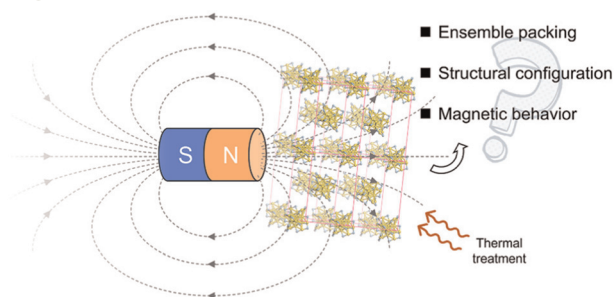
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### Single-atom $\text{Cu}_1/\text{ZrO}_2$ coupled with SAPO-34 enhances $\text{CO}_2$ hydrogenation to light olefins

Linlong Hu, Chentao Wang, Huibin Wang, Hua Pan, Mi Yan, Ke Wang\* and Pengfei Xie\*



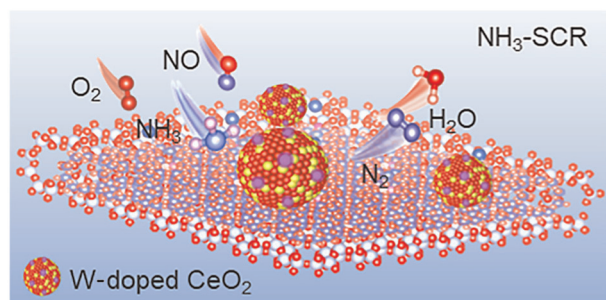
11292



### Modulating the crystalline assembly of paramagnetic Au<sub>25</sub> nanoclusters using an external magnetic field

Zhipeng Chen, Xinran Xu, Yajie Guan and Nan Xia\*

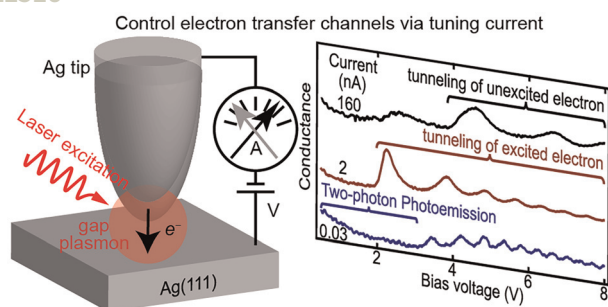
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### High-valent W-doped CeO<sub>2</sub> regulates Cu–Cd-SSZ-13 for enhancing NH<sub>3</sub>-SCR performance

Min Li, Chong Chen, Weijuan Chen, Yuan Pan\* and Yunqi Liu\*

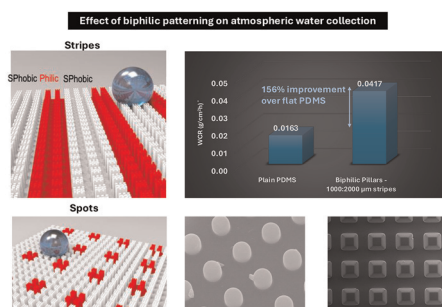
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### Controlling electron transfer channels in a plasmonic scanning tunneling microscope junction under light excitation

Chenfang Lin,\* Xinyu Liu, Takashi Kumagai, Melanie Müller, Martin Wolf and Shuyi Liu\*

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### Effect of biphilic pattern type, size and wettability ratio on atmospheric water collection

Konstantinos Taliantzis and Kosmas Ellinas\*



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### Crossing the paths: the possible role of Co-based materials from lithium-ion battery recycling in the efficient electrocatalytic hydrogen production

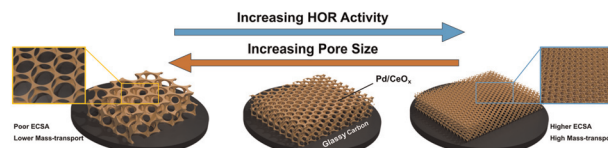
Eleonora Carena, Leire Caizán-Juanarena, Andrea Marchionni, Jonathan Filippi, Enrico Berretti, Andrea Giacomo Marrani, Carlo Santoro, Mohsin Muhyuddin and Chiara Ferrara\*



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### Highly ordered Pd/CeO<sub>x</sub> inverse opals for alkaline hydrogen oxidation

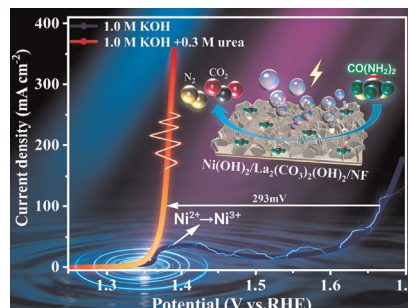
Michael Wilms, Arma Musa Yau, Ruby Susan Raju, Deya Sallaberry and Mathilde Luneau\*



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### Constructing a composite catalyst containing amorphous nickel hydroxide and crystalline lanthanum carbonate hydroxide for urea electrolysis

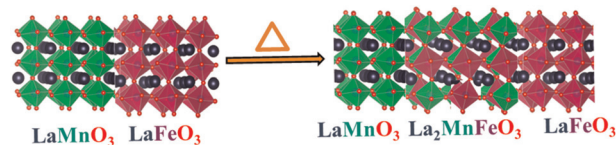
Xing Gan, Hua Jin, Kun Xiong,\* Shiqian She, Jianfeng Song, Jia Chen and Haidong Zhang\*



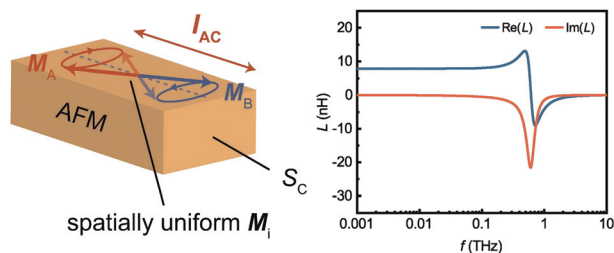
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### Complex magnetic, electrical and magnetoresistance properties of the coexisting Mn–Fe order–disorder phase derived from nanocomposite perovskite oxides

Sudipa Bhattacharya, Sujana Sen, Sudisha Mondal, Shreyashi Chowdhury, Tapas Kumar Mandal, Arup Gayen and Md. Motin Seikh\*



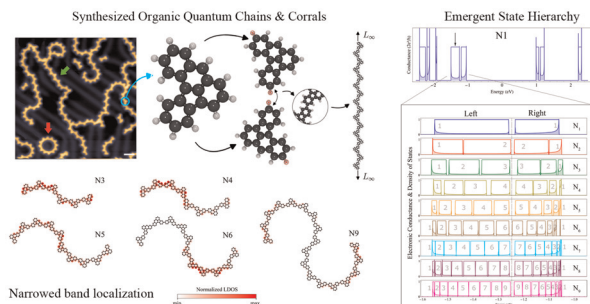
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### Emergent inductance in antiferromagnetic systems with spin–orbit coupling

Shiqi Wang, Daoqian Zhu,\* Yuhao Jiang, Ao Du and Weisheng Zhao\*

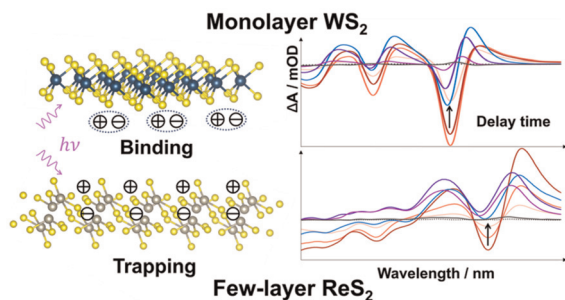
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### Emergent hierarchy in localized states of organic quantum chains

L. L. Lage, A. B. Félix, D. S. Gomes, M. L. Pereira, Jr. and A. Latgé\*

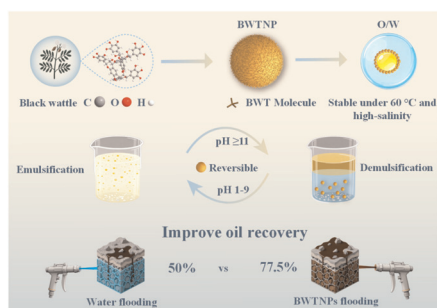
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### Binding versus trapping: band structure guided ultrafast dynamics in monolayer WS<sub>2</sub> and few-layer ReS<sub>2</sub> under identical above-gap excitation

Jingjing Su, Jialin Li,\* Yatian Ning, Nannan Ding, Liang-Wen Pi, Yanqing Ge, Chunhui Lu, Xinlong Xu, Ruijuan Wen, Yu Fang and Yuxi Fu\*

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### Black wattle tannin nanoparticles as recyclable, efficient polyphenol-based emulsifiers for enhanced oil recovery

Tong Shao, Kunpeng Gu, Zijun Zhu, Lantao He, Jianwu Lan, Shaojian Lin and Jiaojiao Shang\*

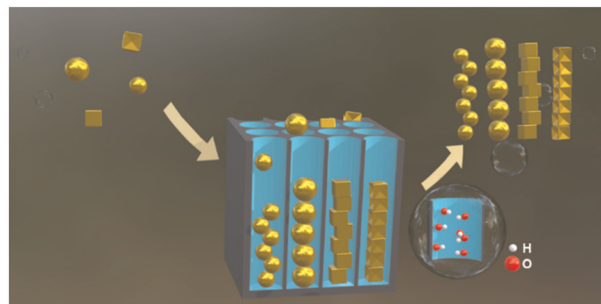


## PAPERS

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### Template-assisted assembly of structurally diverse plasmonic nanoparticle chains

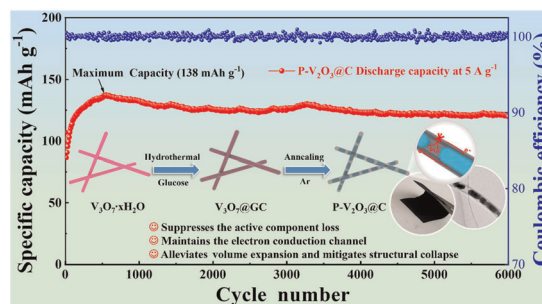
Jun-Hyun Kim, Jung Young Jung, Yonghyeon Kim, Ui Jeong Pyo, Yeji Han, Seunghoon Lee, Jong Wook Hong, Dae Han Wi\* and Sang Woo Han\*



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### Rationally designed freestanding peapod-like carbon-coated V<sub>2</sub>O<sub>3</sub> nanowire film cathodes enable highly stable aqueous zinc-ion batteries

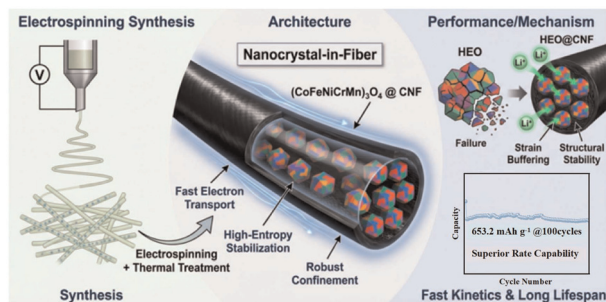
Xingxing Li,\* Linling Zheng, Zhirui Huang, Meichen Ding, Haishu Wu, Hao Xie, Mengying Xu, Guoqiang Ma and Biao Gao\*



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### A confined nanocrystal-in-nanofiber architecture: stabilizing high-entropy oxide nanoparticles in carbon nanofibers for superior lithium storage

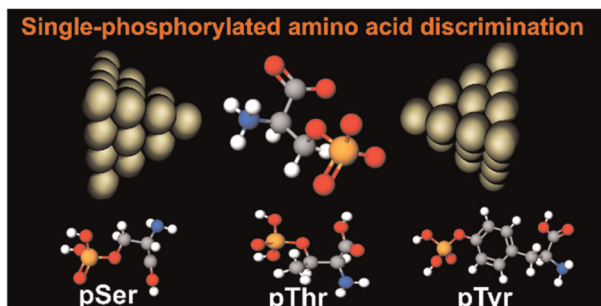
Liangliang Wu, Min Wang,\* Yibing Li, Xiaoman Meng, Dongyu Chen, Gengrui Liu and Jinkai Wang\*



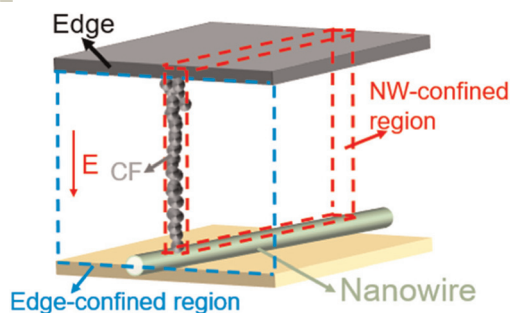
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### Single-molecule detection of amino acid phosphorylation using electron tunnelling currents: toward neurodegenerative disease diagnosis

Yuki Komoto, Wataru Takahagi, Takahito Ohshiro, Sumire Nishihata, Kosuke Fujishima and Masateru Taniguchi\*



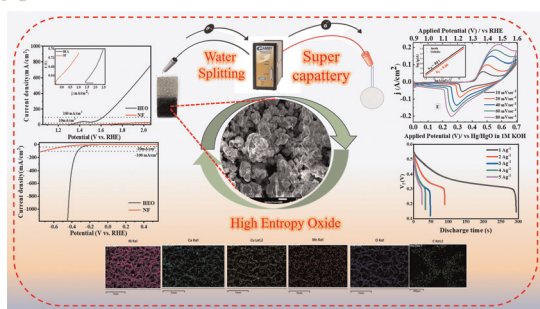
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### A true random number generator based on nanowire-edge crossing memristors for image encryption

Minghao Wei, Lei Yan, Yifei Zhang, Junzhan Wang and Linwei Yu\*

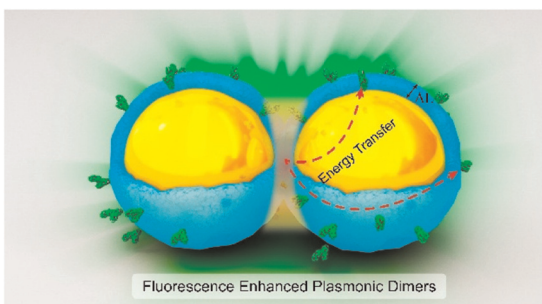
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### High-entropy oxide ( $\text{CaCu}_3\text{Ti}_{3.85}\text{Mn}_{0.05}\text{Sn}_{0.1}\text{O}_{12}$ ) as a multifunctional electrocatalyst for supercapattery and water electrolysis

Yamini Singh, Prakhar Mishra, Navneet Yadav, Narendra Kumar Singh,\* Vinod Kumar, Anji Reddy and Bharat Kumar\*

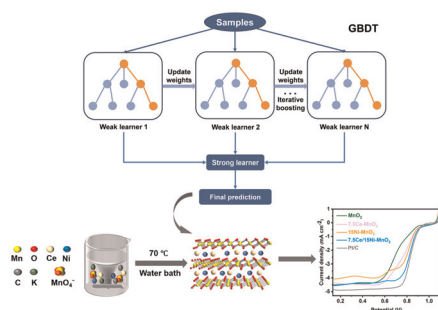
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### Rapid assembly of fluorescence enhanced plasmonic dimers for intracellular single-particle imaging

Yang Zhou, Fengju Shen, Qirong Zou, Le Sun, Ziwei Dong, Yi Wang,\* Jingjing Shen,\* Quli Fan\* and Lei Zhang\*

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### Design of $\text{MnO}_2$ -based catalysts with activity approaching Pt/C via machine learning

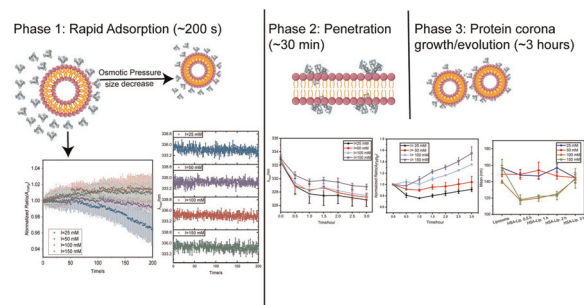
Huang Jiasheng, Li Jiangtao, Zhu Yuhao, Wang Zehao, Xu Jian, Wang Fu, Xia Lan, Miao He\* and Yuan Jinliang



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### Real-time monitoring of protein–liposome interaction kinetics using absorption, polarized intrinsic emission, and scattering (APIES): insights into protein corona formation

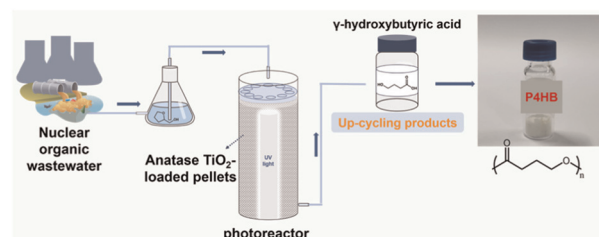
Huajie F. Wang and Alan G. Ryder\*



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### Photocatalytic upcycling of tetrahydrofurfuryl alcohol to high-value $\gamma$ -hydroxybutyric acid in radioactive organic wastewater

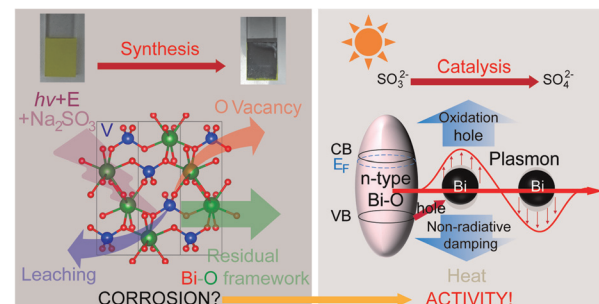
Zewen Shen, Tao Jiang, Gehong Liu, Jiayi Liu, Yezi Hu,\* Haotian Zhang, Huihui Jin, Bingfeng Li, Shuxian Hu, Xiangke Wang,\* Guixia Zhao\* and Xiubing Huang\*



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### From photocorrosion to photoactivity: sulfite-gated self-etching of $\text{BiVO}_4$ into a black Bi–O phase

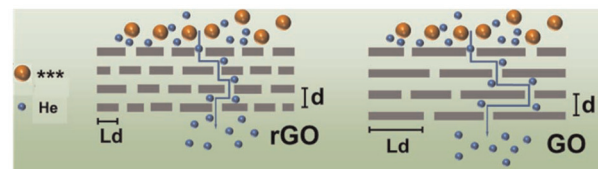
Hangyu Hu, Yang Han, Zhemeng Bao, Weijie Zhuang, Yaohua Jia, Kai Yang, Miao Kan\* and Jinlong Zhang\*



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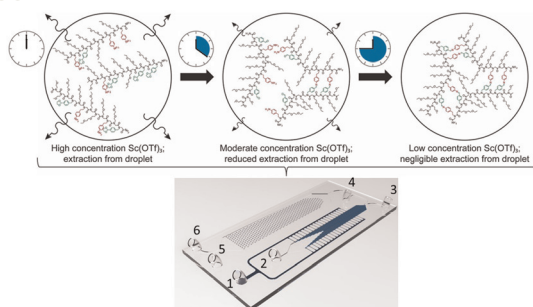
### Highly efficient and ultrafast gaseous iodide removal by controlling the oxidation degree and size of graphene oxide membranes

Wei Gong, Zhengyang Liu, Yufeng Sun, Gang Zhang, Zehui Zhang, Junjie Chen, Tao Ding, Minghong Wu\* and Guosheng Shi\*



## PAPERS

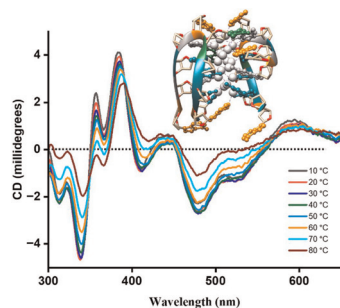
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### Microfluidic-assisted self-assembly of information-bearing oligomers

Davood Khoeini,\* Samuel C. Leguizamon, Adrian Neild\* and Timothy F. Scott\*

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### Solution-phase dynamics of DNA-stabilized metal quantum clusters: a chiroptical spectroscopic approach

Nanditha Rajeev, Minnu Sunny and Krishnadas Kumaranchira Ramankutty\*

## CORRECTION

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### Correction: An EGFRvIII targeted dual-modal gold nanoprobe for imaging-guided brain tumor surgery

Qi Yue, Xihui Gao, Yang Yu, Yang Li, Wei Hua, Kun Fan, Ren Zhang, Jun Qian, Liang Chen,\* Cong Li\* and Ying Mao\*

