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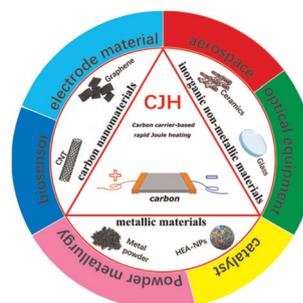
Fundamental questions
Elemental answers

REVIEWS

12309

Carbon carrier-based rapid Joule heating technology: a review on the preparation and applications of functional nanomaterials

Xinrui Ding, Zihan He, Jiasheng Li,* Xiaolin Xu and Zongtao Li*

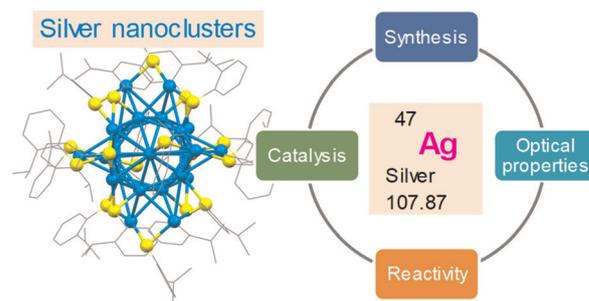


MINIREVIEWS

12329

Recent advances in synthesis and properties of silver nanoclusters

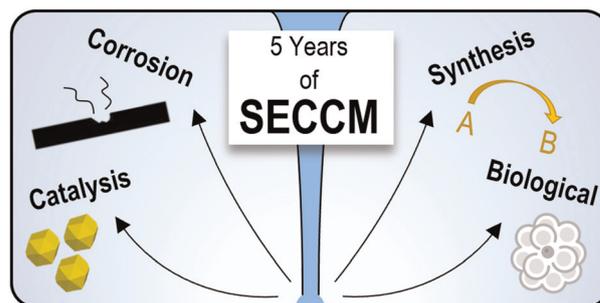
Xiaolin Liu, Taeyoung Ki, Guocheng Deng, Seungwoo Yoo, Kangjae Lee, Byoung-Hoon Lee, Taeghwan Hyeon* and Megalamane S. Bootharaju*



12345

Five years of scanning electrochemical cell microscopy (SECCM): new insights and innovations

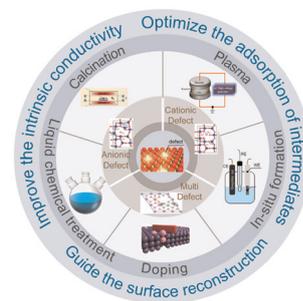
Lachlan F. Gaudin, India R. Wright, Thom R. Harris-Lee, Gunani Jayamaha, Minkyung Kang and Cameron L. Bentley*



12368

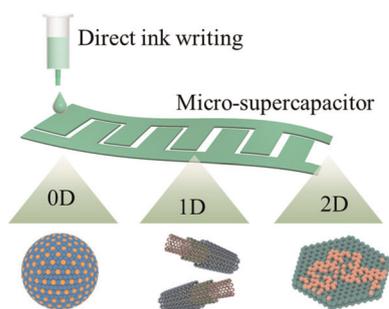
A review on defect modulated electrocatalysts for the oxygen evolution reaction

Qianyun He, Lei Han, Chao Lin* and Kai Tao*



MINIREVIEWS

12380

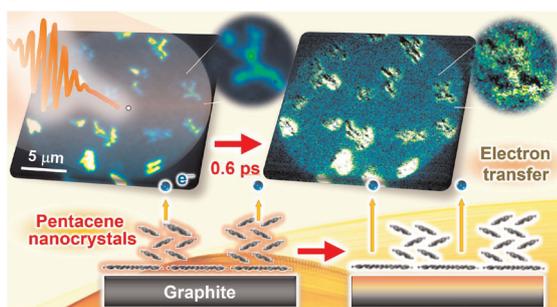


Direct ink writing 3D printing of low-dimensional nanomaterials for micro-supercapacitors

Yanan Hou, Mutawara Mahmood Baig, Jingqi Lu, Hongcheng Zhang, Pin Liu, Guoyin Zhu,* Xinlei Ge, Huan Pang* and Yizhou Zhang*

COMMUNICATIONS

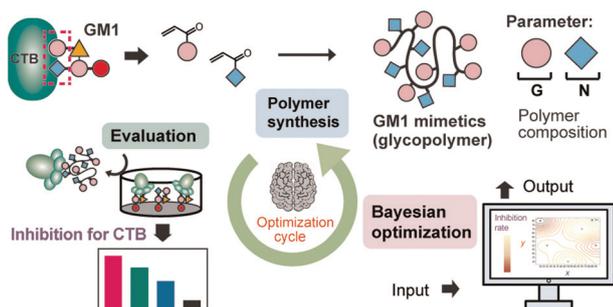
12397



Imaging of ultrafast photoexcited electron dynamics in pentacene nanocrystals on a graphite substrate

Masahiro Shibuta and Atsushi Nakajima*

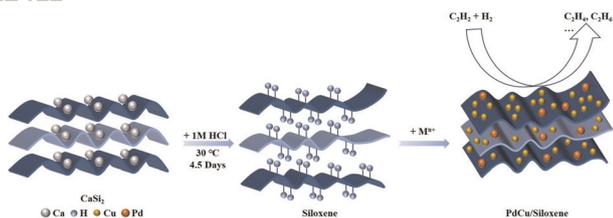
12406



Bayesian optimization of glycopolymer structures for the interaction with cholera toxin B subunit

Masanori Nagao, Osuke Nakahara, Xincheng Zhou, Hikaru Matsumoto and Yoshiko Miura*

12411



Cu–Pd bimetal-decorated siloxene nanosheets for semi-hydrogenation of acetylene

Xinyi Pei, Dake Zhang, Rui Tang, Shenghua Wang, Chengcheng Zhang, Wentao Yuan and Wei Sun*

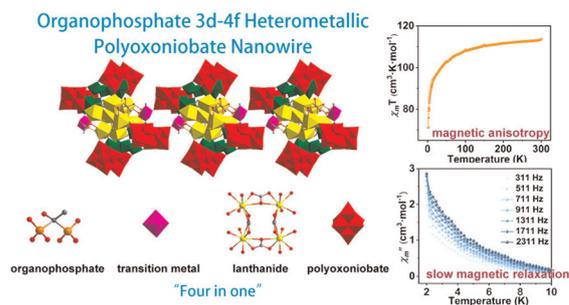


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12420

An organophosphate 3d–4f heterometallic polyoxoniobate nanowire

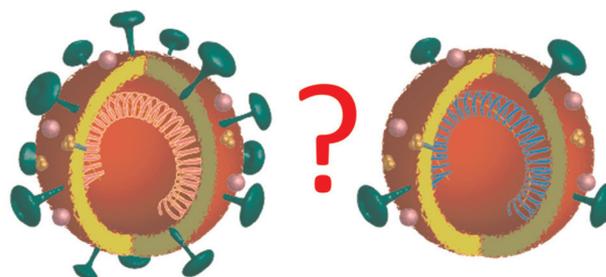
Jin-Ai Fan, Hao Yu, Yu-Diao Lin, Ming-Qiang Qi, Xiang-Jian Kong, Cai Sun* and Shou-Tian Zheng*



12424

Optical detection of infectious SARS-CoV-2 virions by counting spikes

Denis S. Kudryavtsev, Vera A. Mozhaeva, Igor A. Ivanov, Andrey E. Siniavin, Alexey S. Kalmykov, Anton S. Gritchenko, Boris N. Khlebtsov, Shao-Peng Wang, Bin Kang, Victor I. Tsetlin, Victor I. Balykin and Pavel N. Melentiev*

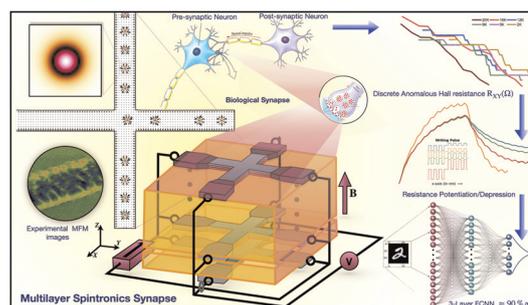


PAPERS

12431

Multilayer ferromagnetic spintronic devices for neuromorphic computing applications

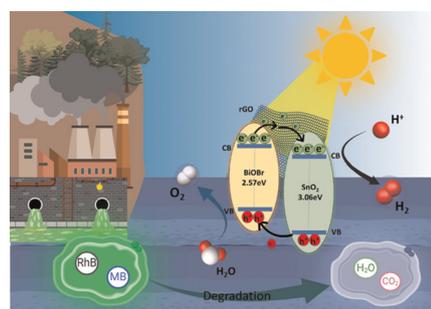
Aijaz H. Lone,* Xuecui Zou, Kishan K. Mishra, Venkatesh Singaravelu, R. Sbiaa, Hossein Fariborzi* and Gianluca Setti*



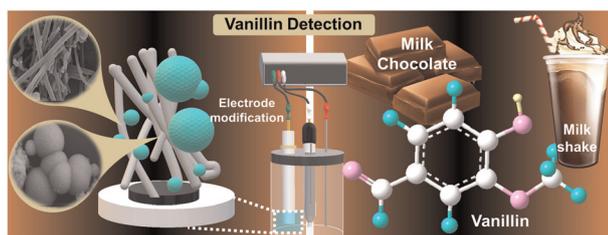
12445

A novel GO hoisted SnO₂–BiOBr bifunctional catalyst for the remediation of organic dyes under illumination by visible light and electrocatalytic water splitting

Manshu Dhillon, Abhishek Naskar, Neha Kaushal, Shekhar Bhansali, Avishek Saha and Aviru Kumar Basu*



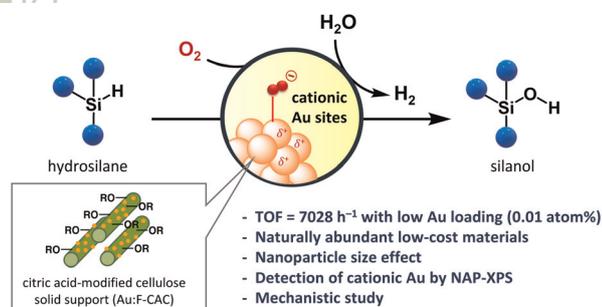
12459



Neodymium niobate nanospheres on functionalized carbon nanofibers: a nanoengineering approach for highly sensitive vanillin detection

I. Jenisha Daisy Priscilla and Sea-Fue Wang*

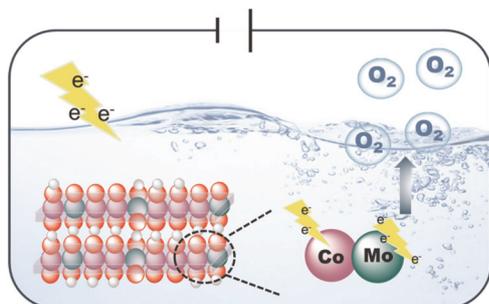
12474



Dehydrogenative oxidation of hydrosilanes using gold nanoparticle deposited on citric acid-modified fibrillated cellulose: unveiling the role of molecular oxygen

Butsaratip Suwattanaturuk, Yuta Uetake,* Rise Ichikawa, Ryo Toyoshima, Hiroshi Kondoh and Hidehiro Sakurai*

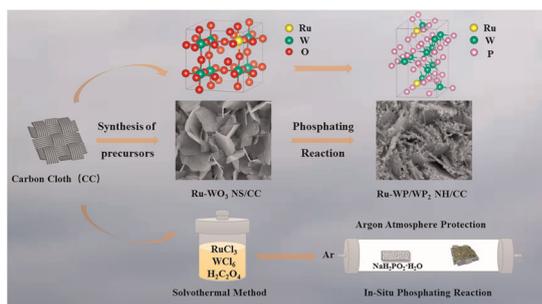
12482



Engineering high-valence metal-enriched cobalt oxyhydroxide catalysts for an enhanced OER under near-neutral pH conditions

Ruijing Dong, Jiajian Gao, Truong-Giang Vo, Shibo Xi, Choon Wee Kee, Xun Cao, Wei Chu* and Yan Liu*

12492



Ru doping and interface engineering synergistically boost the electrocatalytic performance of a WP/ WP₂ nanosheet array for an efficient hydrogen evolution reaction

Zhichang Hu, Zhizhong Xiao, Wei Wei, Jian Yang, Xiaoyu Huang, Qingcheng Lu, Sundaram Chandrasekaran, Huidan Lu* and Yongping Liu*

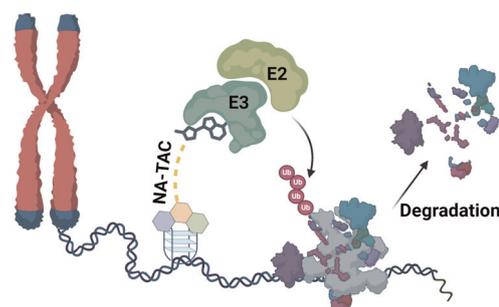


PAPERS

12502

Design and synthesis of nucleic acid nano-environment interactome-targeting small molecule PROTACs and their anticancer activity

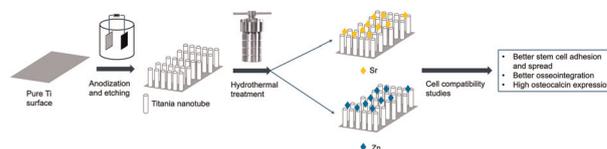
Sadiya Tanga, Arkadeep Karmakar, Arpita Hota, Paramita Banerjee and Basudeb Maji*



12510

Titania (TiO₂) nanotube surfaces doped with zinc and strontium for improved cell compatibility

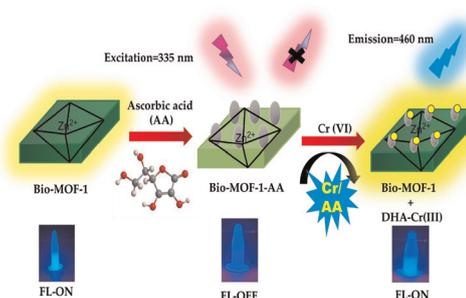
Abhishek Bhattacharjee, Bruno Pereira, Paulo Soares and Ketul C. Popat*



12523

Simple fluorochromic detection of chromium with ascorbic acid functionalized luminescent Bio-MOF-1

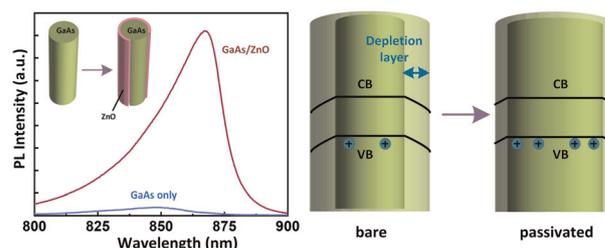
Gurjeet Kaur, Saloni Sharma, Neha Bhardwaj, Manoj K. Nayak* and Akash Deep*



12534

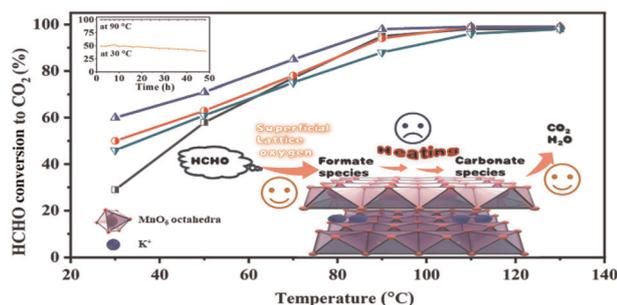
Effective surface passivation of GaAs nanowire photodetectors by a thin ZnO capping

Fuxiang Shang, Chaofei Zha, Hanchen Zhu, Zheyu Zhang, Yuanhao Shen, Qichao Hou, Linjun Zhang, Yanmeng Chu, Lulu Chen, Junjie Zhao, Wenzhang Fang, Yishu Zhang, Zhiyuan Cheng* and Yunyan Zhang*



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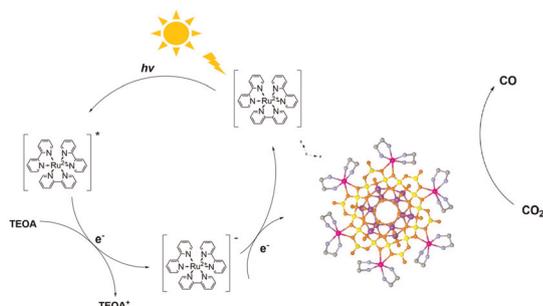
12541



Insights into the roles of superficial lattice oxygen in formaldehyde oxidation on birnessite

Zhaoxia Ma, Yongqi Li, Kongyuan Sun, Jahangeer Ahmed, Wei Tian* and Jinjia Xu*

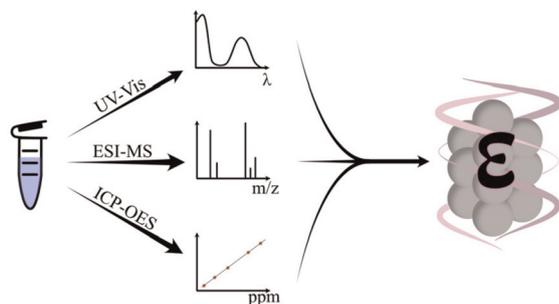
12550



Efficient reduction of CO₂ and inhibition of hydrogen precipitation by polyoxometalate photocatalyst modified with the metal Mn

Guifen Li, Yulan Gu, Rui Ren, Sitan Li,* Houen Zhu, Dongdong Xue, Xiangyi Kong, Ziyi Zheng, Nuo Liu, Bei Li* and Jiangwei Zhang*

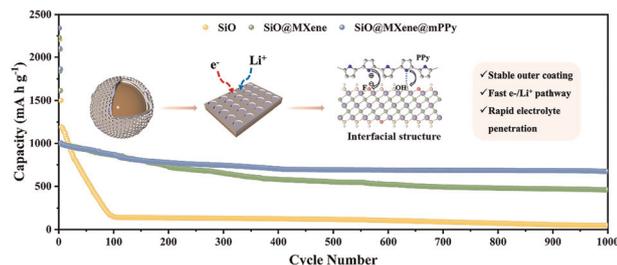
12559



Analytical method for the determination of the absorption coefficient of DNA-stabilized silver nanoclusters

Giacomo Romolini, Cecilia Cerretani,* Vanessa Rück, Mikkel Baldtzer Liisberg, Christian Brinch Mollerup and Tom Vosch*

12567



Porous hybrid encapsulation enables high-rate lithium storage for a micron-sized SiO anode

Xiaoyi Chen, Guanxia Zhu,* Xinlin Zhang, Dandan Luo, Zhongling Cheng and Haijiao Zhang*

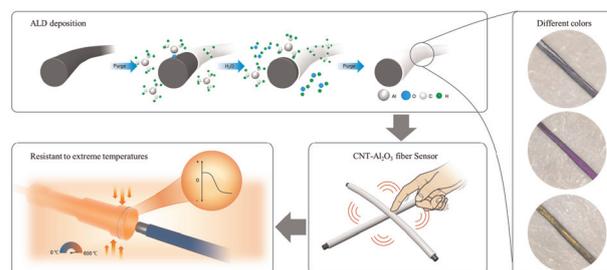


PAPERS

12577

A flexible precontact CNT-Al₂O₃ fiber sensor resistant to extreme temperatures

Xinghai Pan, Zisong Zhou, Yanling Liu, Yuhang Xiao, Sen Lin, Wei Pu and Haolun Wang*



12586

Multi-MXene assisted large-scale manufacturing of electrochemical biosensors based on enzyme-nanoflower enhanced electrodes for the detection of H₂O₂ secreted from live cancer cells

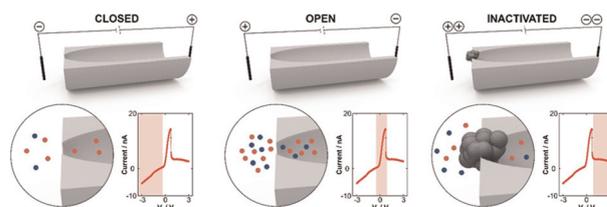
Wenwu Wang, Zeyu Ma, Qi Shao, Jiangwang Wang, Leixin Wu, Xiyao Huang, Zilu Hu, Nan Jiang, Jun Dai and Liang He*



12599

Insight into the transport of ions from salts of moderated solubility through nanochannels: negative incremental resistance assisted by geometry

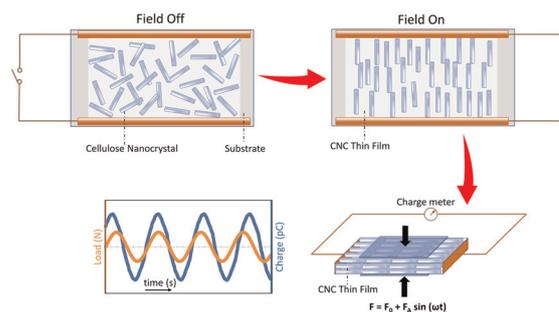
Gregorio Laucirica,* L. Miguel Hernández Parra, Angel L. Huamani, Michael F. Wagner, Alberto G. Albesa, María Eugenia Toimil-Molares, Waldemar Marmisollé* and Omar Azzaroni*



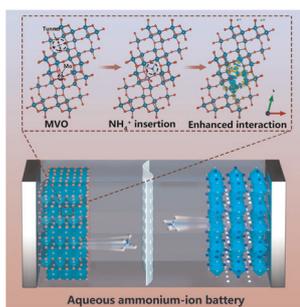
12611

Electric field-modulated evaporative thin film deposition of bio-particles for piezoelectric applications

Sameer Mhatre,* Xun Niu, Gio F. Bautista, Sajana Sumanasinghe and Orlando J. Rojas*



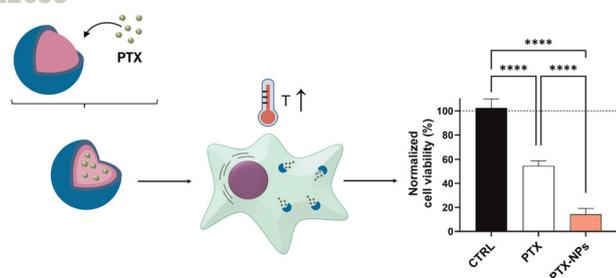
12624



Enhancing ammonium-ion storage in Mo-doped VO₂ (B) nanobelt-bundles anode for aqueous ammonium-ion batteries

Long Chen, Jie Zhang, Zuoshu Wang and Dewei Wang*

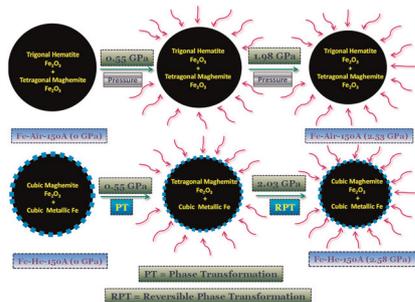
12635



Zwitterionic nanoparticles for thermally activated drug delivery in hyperthermia cancer treatment

Camillo Colli, Ilenia Masi, Emanuela Jacchetti, Silvia Santoni, Mattia Sponchioni,* Bianca Maria Colosimo, Laura Rosanò, Manuela Teresa Raimondi, Emanuele Mauri* and Davide Moscatelli

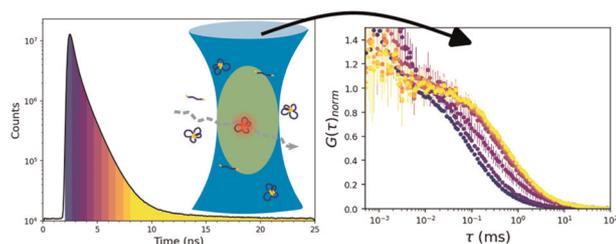
12650



Hydrostatic pressure-induced reversible phase transformation in iron oxide nanoparticles

Arkaprava Das,* Anumeet Kaur and Parwinder Kaur

12660



Understanding associative polymer self-assembly with shrinking gate fluorescence correlation spectroscopy

Timothy J. Murdoch, Baptiste Quienne, Julien Pinaud, Sylvain Caillol and Ignacio Martin-Fabiani*



12670

Robust Bi-anchoring carbon dot/BiOCl sheet heterojunction photocatalysts toward superior photocatalytic activity

Han Wang, Xi Zhang, Hongyu Zhu and Gang Xiang*

