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Cover
See Thalappil Pradeep *et al.*,
pp. 1446–1470.

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Inside cover
See Tomasz Grzyb *et al.*,
pp. 1692–1702.

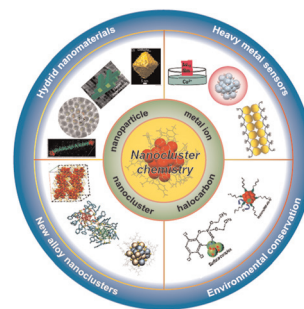
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REVIEWS

1446

A concise guide to chemical reactions of atomically precise noble metal nanoclusters

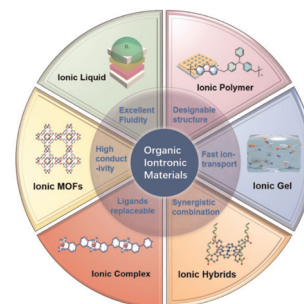
Paulami Bose, Krishnadas Kumaranchira Ramankutty, Papri Chakraborty, Esma Khatun and Thalappil Pradeep*



1471

Organic iontronic memristors for artificial synapses and bionic neuromorphic computing

Yang Xia, Cheng Zhang,* Zheng Xu, Shuanglong Lu, Xinli Cheng,* Shice Wei, Junwei Yuan, Yanqiu Sun* and Yang Li*



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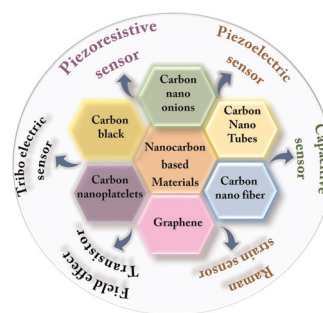
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REVIEWS

1490

Nanocarbon-based sensors for the structural health monitoring of smart biocomposites

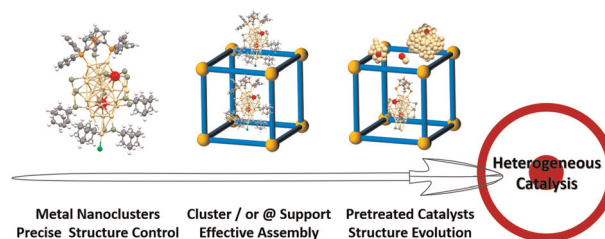
Gouri Sankar Das, Vijayendra Kumar Tripathi, Jaya Dwivedi, Lokesh Kumar Jangir* and Kumud Malika Tripathi*



1526

Structure control and evolution of atomically precise gold clusters as heterogeneous precatalysts

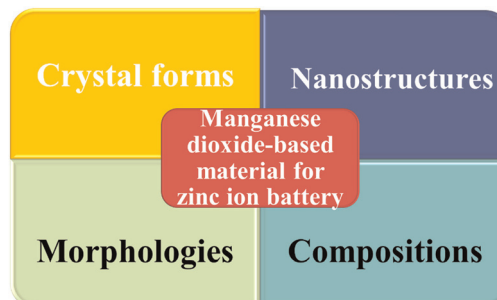
Bei Zhang,* Chengcheng Xia, Jinhui Hu, Hongting Sheng and Manzhou Zhu*



1539

Recent development of manganese dioxide-based materials as zinc-ion battery cathode

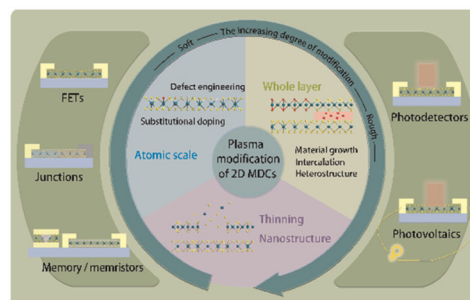
Shaofeng Jia, Le Li,* Yue Shi, Conghui Wang, Minghui Cao, Yongqiang Ji and Dan Zhang*



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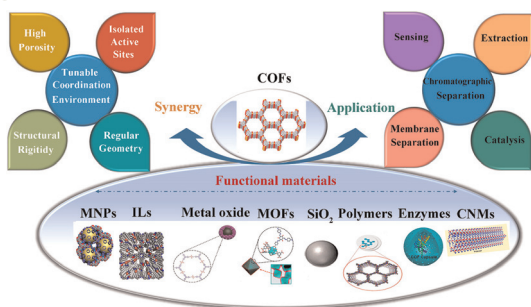
Recent progress in plasma modification of 2D metal chalcogenides for electronic devices and optoelectronic devices

Siying Tian, Dapeng Sun, Fengling Chen, Honghao Wang, Chaobo Li* and Chujun Yin*



REVIEWS

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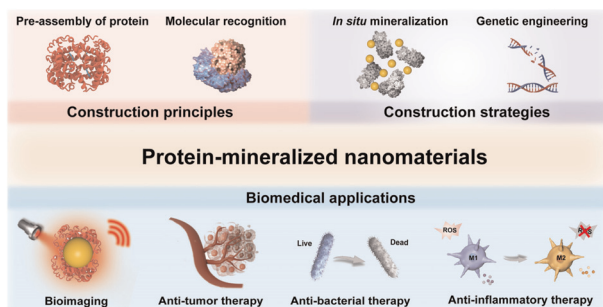


Recent progress in the synthesis and applications of covalent organic framework-based composites

Mingxuan Ma, Yonghao Yang, Zhonghua Huang, Fuhong Huang, Quanliang Li and Hongyu Liu*

MINIREVIEWS

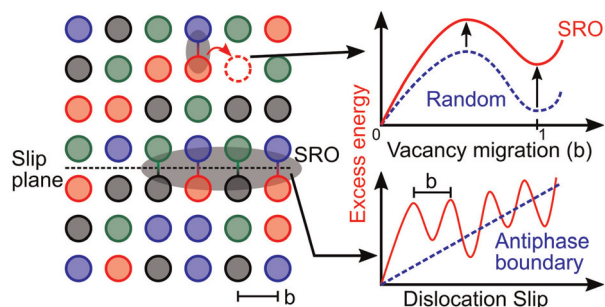
1633



Protein-guided biomimetic nanomaterials: a versatile theranostic nanoplatform for biomedical applications

Da-Gui Zhang, Yu-Jing Pan, Biao-Qi Chen,* Xiao-Chang Lu, Qin-Xi Xu, Pei Wang, Ranjith Kumar Kankala, Ni-Na Jiang, Shi-Bin Wang and Ai-Zheng Chen*

1650

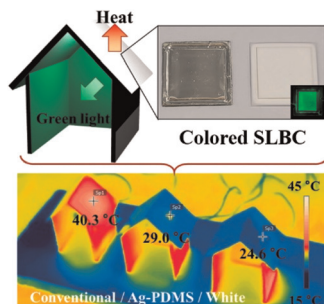


Deformation mechanisms in high entropy alloys: a minireview of short-range order effects

Novin Rasooli, Wei Chen* and Matthew Daly*

COMMUNICATIONS

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Smart building block with colored radiative cooling devices and quantum dot light emitting diodes

Sang Yeop Lee, Dongwoo Chae, Jungho Kim, Seongkeun Oh, Hangu Lim, Jiwan Kim,* Heon Lee* and Soong Ju Oh*

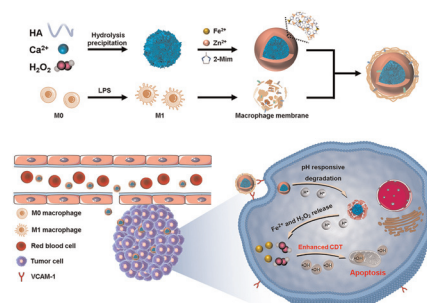


COMMUNICATIONS

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Macrophage-membrane-coated hybrid nanoparticles with self-supplied hydrogen peroxide for enhanced chemodynamic tumor therapy

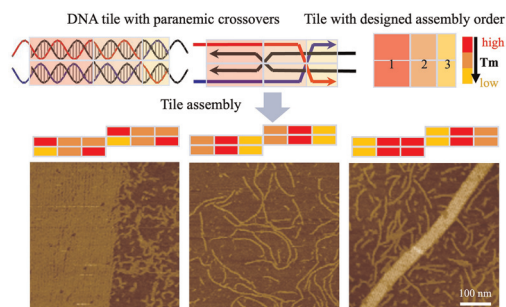
Ke Ling, Zhihao Zhao, Renfei Wu, Chengcheng Tao, Sidi Liu, Tianrong Yu, Qinghua Cao, Jun Yan, Tianjin Ge, Mohsen Shariati, Mahdi Sadeghi and Jian Liu*



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Self-assembly of DNA parallel double-crossover motifs

Jung Yeon Lee, Qi Yang, Xu Chang, Maciej Jeziorek, Devanathan Perumal, Tiffany R. Olivera, Jean-Pierre Etchegaray and Fei Zhang*

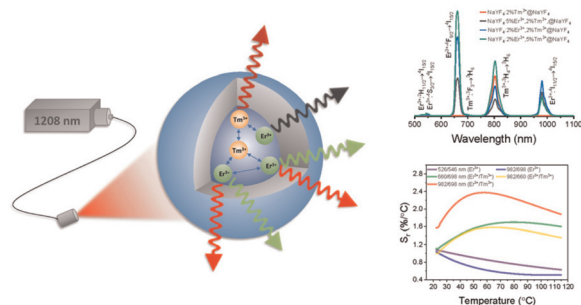


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The use of energy looping between Tm^{3+} and Er^{3+} ions to obtain an intense upconversion under the 1208 nm radiation and its use in temperature sensing

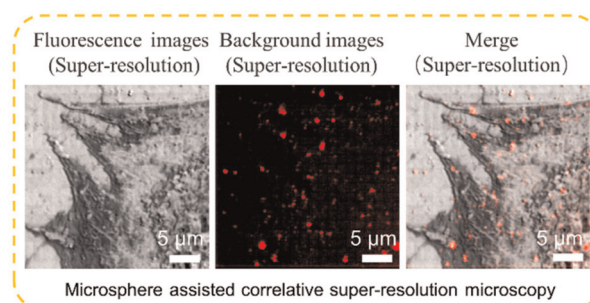
Tomasz Grzyb,* Inocencio R. Martín and Radian Popescu



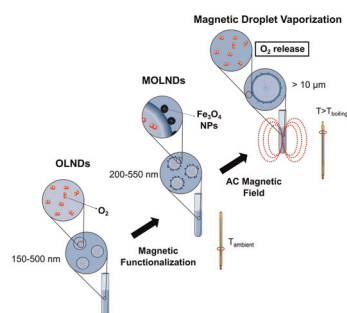
1703

Correlative super-resolution bright-field and fluorescence imaging by microsphere assisted microscopy

Hao Luo, Chaodi Jiang, Yangdong Wen, Xiaoduo Wang, Feifei Wang, Lianqing Liu and Haibo Yu*



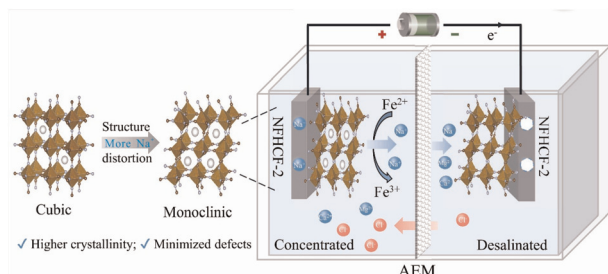
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Dual-responsive magnetic nanodroplets for controlled oxygen release *via* ultrasound and magnetic stimulation

Simone Galati,* Marta Vassallo,* Marta Vicentini, Marta Vallino, Federica Celegato, Gabriele Barrera, Daniele Martella, Elena S. Olivetti, Alessio Sacco, Jessica Petiti, Carla Divieto, Paola Tiberto, Alessandra Manzin and Adriano Troia

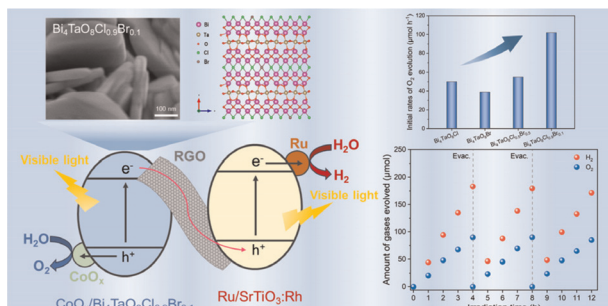
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Structural distortion-induced monoclinic sodium iron hexacyanoferrate as a high-performance electrode for rocking-chair desalination batteries

Yuliang Wu, Junkun Huang, Chaolin Li and Wenhui Wang*

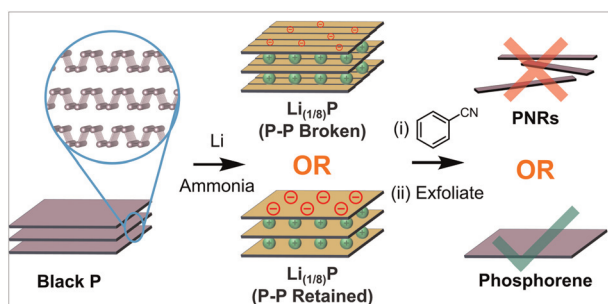
1733



Modification of an oxyhalide solid-solution photocatalyst with an efficient O₂-evolving cocatalyst and electron mediator for two-step photoexcitation overall water splitting

Wenzheng Sun, Ying Luo, Jun Xu, Qiaoqi Guo, Lidan Deng, Zheng Wang* and Hong He*

1742



Investigating the mechanism of phosphorene nanoribbon synthesis by discharging black phosphorus intercalation compounds

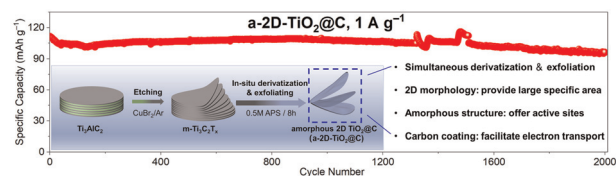
Rebecca R. C. Shutt, Eva S. Y. Aw, Qili Liu, Jasper Berry-Gair, Hector J. Lancaster, Samia Said, Thomas S. Miller, Furio Corà, Christopher A. Howard* and Adam J. Clancy*



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Simultaneous derivatization and exfoliation of a multilayered $\text{Ti}_3\text{C}_2\text{T}_x$ MXene into amorphous TiO_2 nanosheets for stable K-ion storage

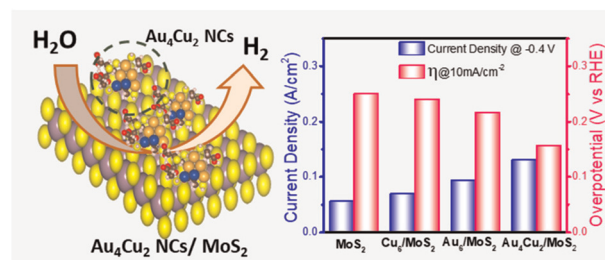
Yuan Zhang, Zhuoheng Bao, Rui Wang, Yifan Su, Yaping Wang,* Xin Cao, Rongxiang Hu, Dawei Sha, Long Pan* and ZhengMing Sun*



1758

Insights of the efficient hydrogen evolution reaction performance in bimetallic Au_4Cu_2 nanoclusters

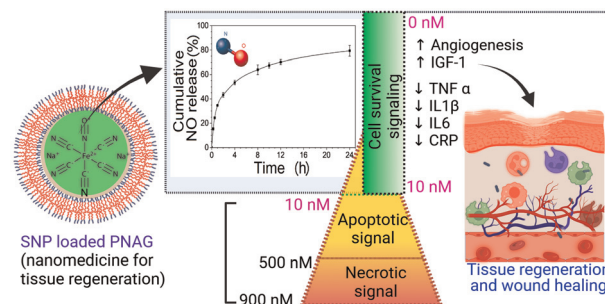
Aarti Devi, Harpriya Minhas, Lipipuspa Sahoo, Rashi, Saniya Gratiou, Amitabha Das, Sukhendu Mandal, Biswarup Pathak* and Amitava Patra*



1770

Nitric oxide releasing novel amino acid-derived polymeric nanotherapeutic with anti-inflammatory properties for rapid wound tissue regeneration

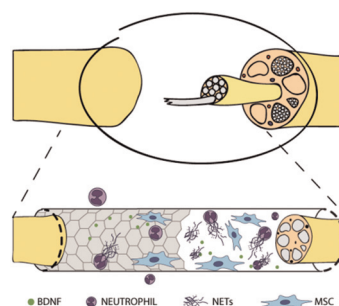
Prem Shankar Gupta, Kirti Wasnik, Sukanya Patra, Divya Pareek, Gurmeet Singh, Desh Deepak Yadav, Somedutta Maity and Pradip Paik*



1792

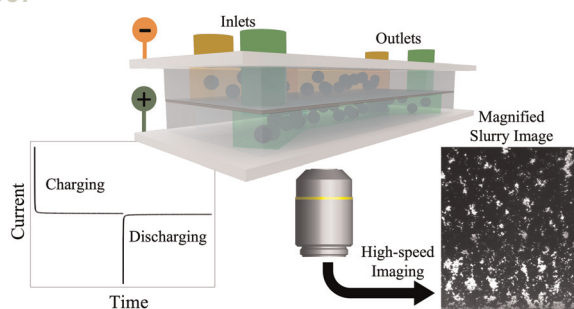
Interaction of graphene and WS_2 with neutrophils and mesenchymal stem cells: implications for peripheral nerve regeneration

Domenica Convertino,* Martina Nencioni, Lara Russo, Neeraj Mishra, Vesa-Matti Hiltunen, Maria Sofia Bertilacchi, Laura Marchetti, Chiara Giacomelli,* Maria Letizia Trincavelli and Camilla Coletti*



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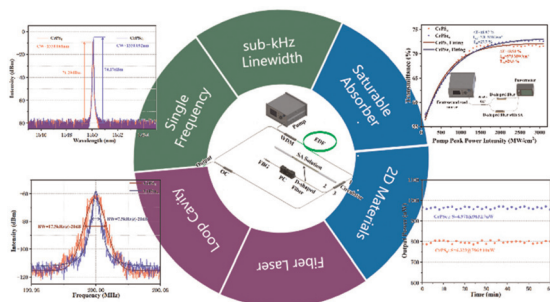
1807



Direct observation of carbon slurry flow behavior and its effect on electrochemical performance in a microfluidic electrochemical flow capacitor

Brandon Stacks, Alberto Esteban-Linares, Matthew Galazzo, Haoxiang Luo* and Deyu Li*

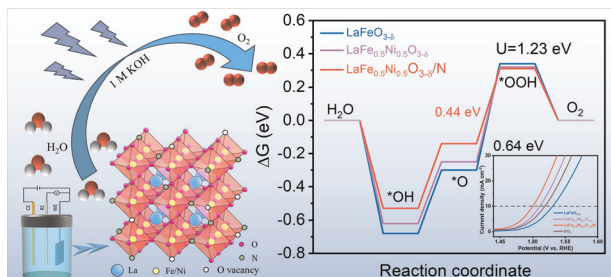
1817



Single-frequency fiber lasers based on metal thiophosphites with sub-kHz linewidths

Yiyu Gan, Wenyao Zhang and Qiao Wen*

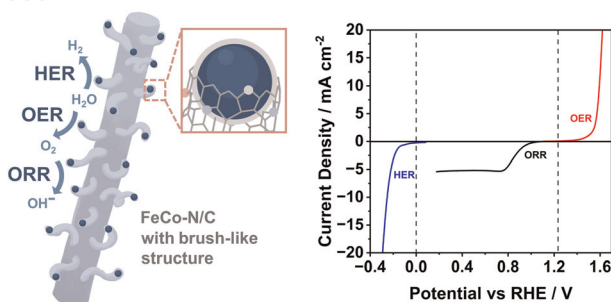
1823



A motif for B/O-site modulation in LaFeO₃ towards boosted oxygen evolution

Wenli Kang, Zhishan Li,* Jinsong Wang, Shaopeng Wu, Yiguang Gai, Guanghao Wang, Zhouhang Li, Xing Zhu, Tao Zhu, Hua Wang, Kongzhai Li* and Chundong Wang

1833



Trifunctional electrocatalysts based on a bimetallic nanoalloy and nitrogen-doped carbon with brush-like heterostructure

Yuyun Irmawati, Davin Adinata Tan, Faliyah Balqis, Ferry Iskandar and Afriyanti Sumboja*

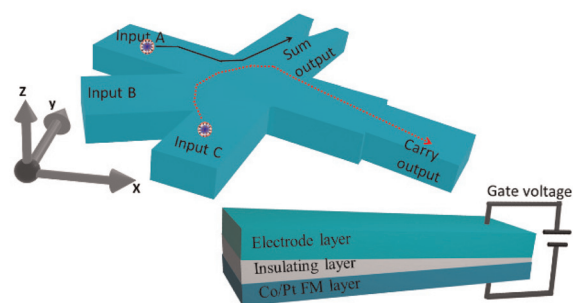


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Voltage-controlled magnetic anisotropy gradient-driven skyrmion-based half-adder and full-adder

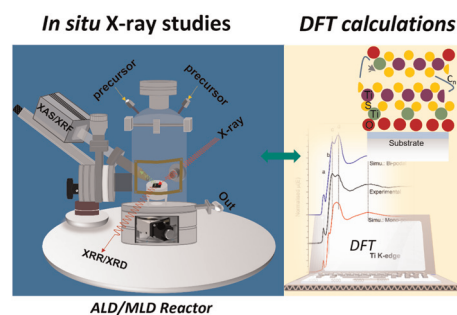
Sarwath Sara, Chandrasekhar Murapaka and Arabinda Haldar*



1853

Quantitative *in situ* synchrotron X-ray analysis of the ALD/MLD growth of transition metal dichalcogenide TiS_2 ultrathin films

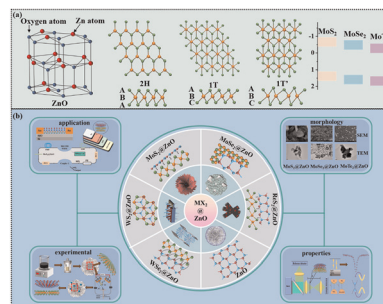
Ashok-Kumar Yadav,* Weiliang Ma, Petros Abi Younes, Gianluca Ciatto,* Nicolas Gauthier, Evgeniy Skopin, Elsie Alessandra Quadrelli, Nathanaelle Schneider and Hubert Renevier



1865

Defect and interface/surface engineering synergistically modulated electron transfer and nonlinear absorption properties in MoX_2 ($X = \text{Se}, \text{S}, \text{Te}$)@ ZnO heterojunction

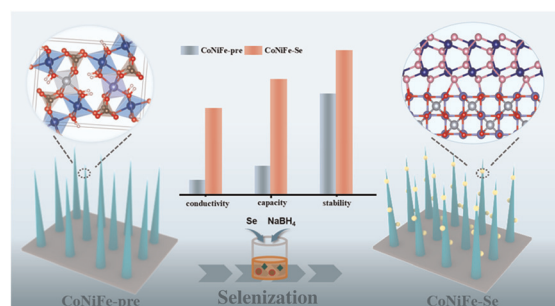
Yu Liu, Hong-Yu Li, Hong-Xu Cao, Xin-Yu Zheng, Bing-Yin Shi and Hai-Tao Yin*



1880

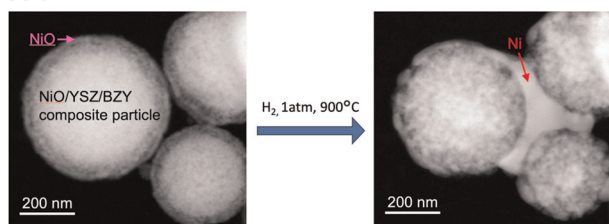
A Se-induced heterostructure electrode with polymetallic-CoNiFe towards high performance supercapacitors

Liyun Zhao, Haoran Guo, Yanyan Li, Zhengyuan Liu and Rui Song*



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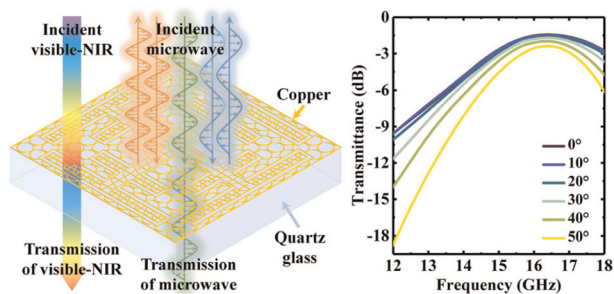
1890



Visualization of the structural transformation of NiO/YSZ/BZY nanocomposite particles using *in situ* gas environmental transmission electron microscopy

Zheng Liu* and Hiroyuki Shimada

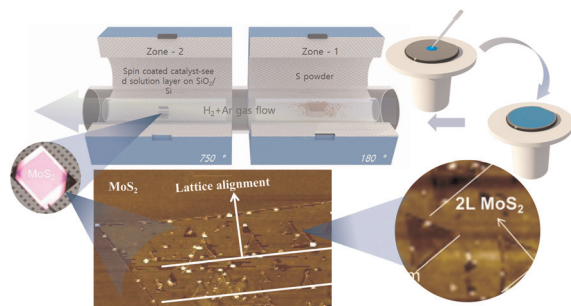
1897



A visible-near-infrared transparent miniaturized frequency-selective metasurface with a microwave transmission window

Yilei Zhang, Bowen Zhang, Zhengang Lu,* Heyan Wang, Lin Han and Jiubin Tan

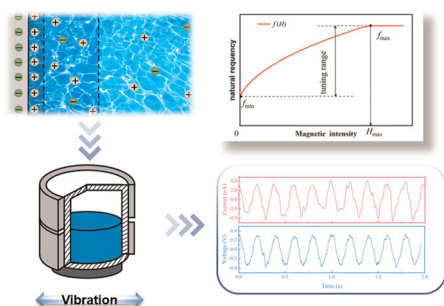
1906



Liquid-phase catalyst pre-seeding for controlled growth of layered MoS₂ films over a large area *via* chemical vapor deposition

Zhiyi Lyu, Yongteng Qian, Qianwen Zhang, Zhenxing Fang and Dae Joon Kang*

1915



A tuned triboelectric nanogenerator using a magnetic liquid for low-frequency vibration energy harvesting

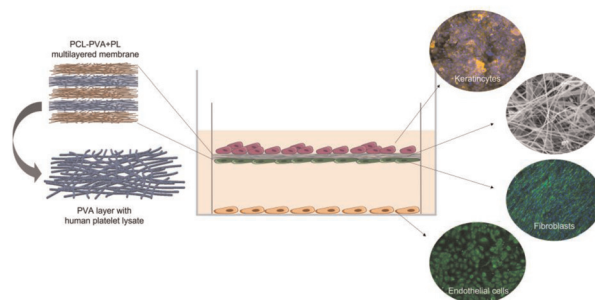
Xiaorui Yang,* Hao Zheng, Haobo Ren, Guoqing An, Yumeng Zhang and Wenrong Yang



1924

A novel bifunctional multilayered nanofibrous membrane combining polycaprolactone and poly (vinyl alcohol) enriched with platelet lysate for skin wound healing

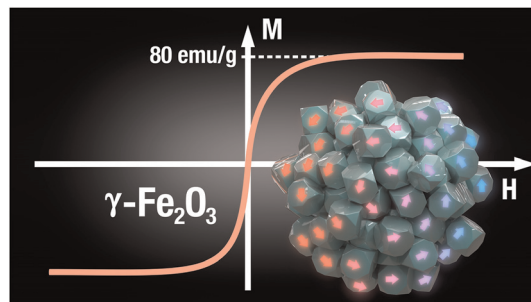
Andreu Blanquer,* Eva Kuzelova Kostakova, Elena Filova, Maxim Lisnenko, Antonin Broz, Jana Mullerova, Vit Novotny, Kristyna Havlickova, Sarka Jakubkova, Sarka Hauzerova, Bohdana Heczko, Renata Prochazkova, Lucie Bacakova and Vera Jencova



1942

Unveiling the crystal and magnetic texture of iron oxide nanoflowers

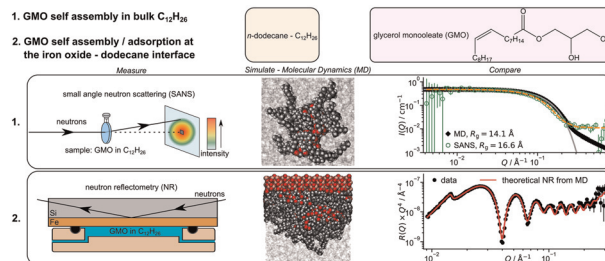
Carlos Moya,* Mariona Escoda-Torroella, Javier Rodríguez-Álvarez, Adriana I. Figueroa, Íker García, Inés Batalla Ferrer-Vidal, A. Gallo-Cordova, M. Puerto Morales, Lucía Aballe, Arantxa Fraile Rodríguez, Amílcar Labarta and Xavier Batlle*



1952

Experimental and simulation study of self-assembly and adsorption of glycerol monooleate in *n*-dodecane with varying water content onto iron oxide

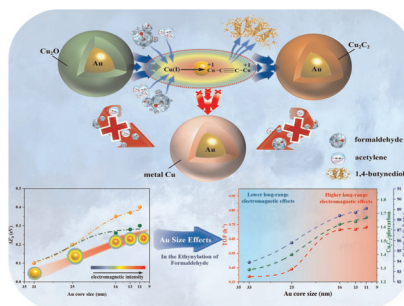
Alexander J. Armstrong, Rui F. G. Apóstolo, Thomas M. McCoy, Finian J. Allen, James Douch, Beatrice N. Cattoz, Peter J. Dowding, Rebecca J. L. Welbourn, Alexander F. Routh and Philip J. Camp*



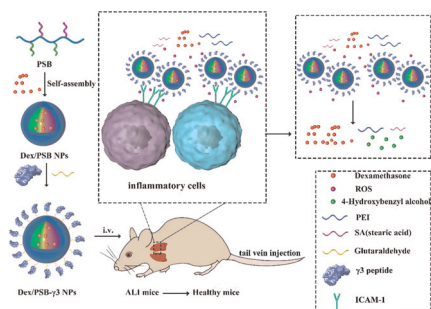
1971

Dependence of copper(I) stability on long-range electromagnetic effects of Au under reducing atmospheres: the size effect of Au cores

Xin Huang, Haitao Li,* Bin Zhang, Yin Zhang, Hao Wang, Lijun Ban, Yixuan Xu and Yongxiang Zhao*



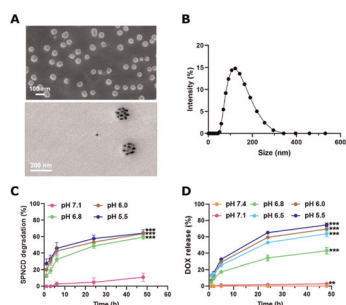
1983



ICAM-1 targeted and ROS-responsive nanoparticles for the treatment of acute lung injury

Yu Ran, Shanmei Yin, Pei Xie, Yaxue Liu, Ying Wang and Zongning Yin*

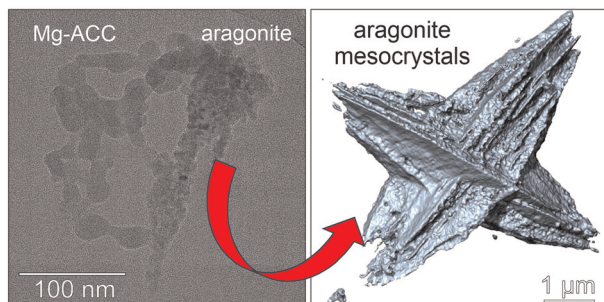
1999



Anti-tumor effect of pH-sensitive drug-loaded nanoparticles optimized via an integrated computational/experimental approach

Hunter A. Miller, Yapei Zhang, Bryan Ronain Smith* and Hermann B. Frieboes*

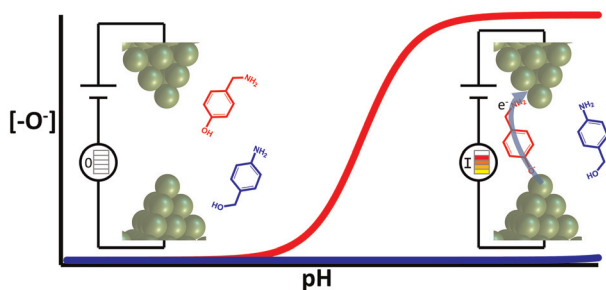
2012



Formation and properties of spindle-shaped aragonite mesocrystals from Mg-bearing solutions

Zsombor Molnár,* Péter Pekker, Aleksander Rečnik and Mihály Pósfai

2022



Phenol is a pH-activated linker to gold: a single molecule conductance study

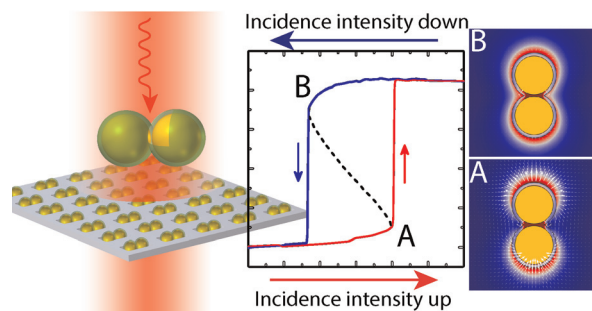
Brent Lawson, Hannah E. Skipper and Maria Kamenetska*



2030

Gap-enhanced optical bistability in plasmonic core–nonlinear shell dimers

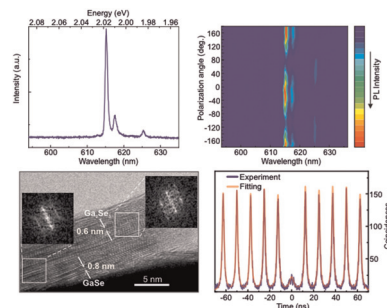
Artyom Movsisyan and Henrik Parsamyan*



2039

Allotropic Ga₂Se₃/GaSe nanostructures grown by van der Waals epitaxy: narrow exciton lines and single-photon emission

Maxim Rakhlin, Sergey Sorokin, Aidar Galimov, Ilya Eliseyev, Valery Davydov, Demid Kirilenko, Alexey Toropov and Tatiana Shubina*



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Automated statistical analysis of raman spectra of nanomaterials

Natalia Martín Sabanés,* Matthew D. Eaton, Sara Moreno-Da Silva, Alicia Naranjo and Emilio M. Pérez*

