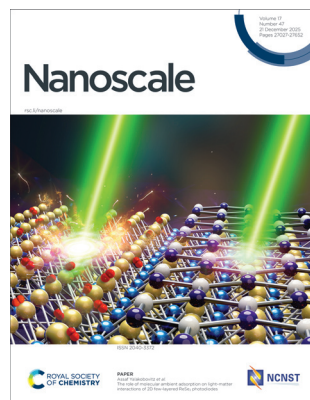


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Cover

See Assaf Ya'akovovitz et al., pp. 27216–27224.

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Inside cover

See Fangzhou Li et al., pp. 27042–27065.

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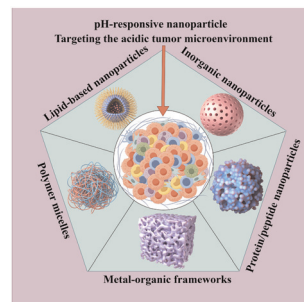
The nanomaterial components were created via Blender Foundation (www.blender.org).

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Design and application of proton gradient-based pH-responsive nanomaterials in the tumor microenvironment

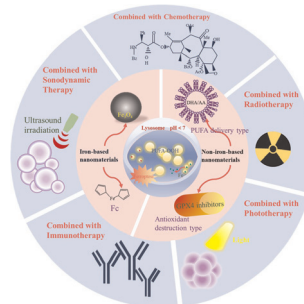
Jianjun Jiang, Limin Jin, Zengkai Zhao, Pengli Gao, Mingmei Li, Xiang Zheng and Fangzhou Li*



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Nanomaterial-mediated ferroptosis as a promising strategy for cancer therapy

Yuqing Tang, Qingqing Zhou, Yiyang Fan, Tzu-Ming Liu,* Luying Zhu* and Mingxian Liu*



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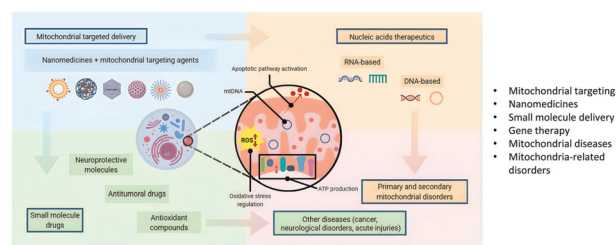
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REVIEWS

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Drug delivery systems for mitochondrial targeting

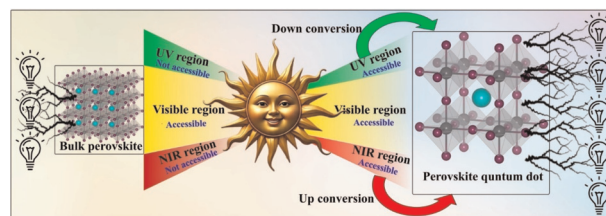
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Spectral accessibility tuning through perovskite quantum dots for up-/down-converting photovoltaic applications: a review

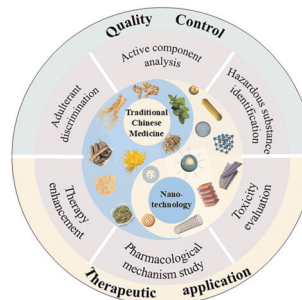
Anushka Singh, Abhishek Srivastava, Jena Akash Kumar Satrughna, Shraddha M. Rajore, Archana R. Kanwade and Parasharam M. Shirage*



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Nanotechnologies for traditional Chinese medicine research: quality control and therapeutic applications

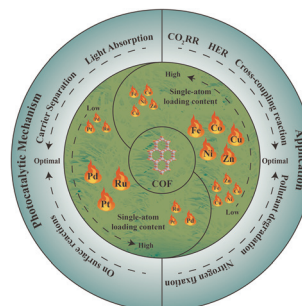
Wenjiao Fan, Xing Lu, Jianman Wang and Yao He*



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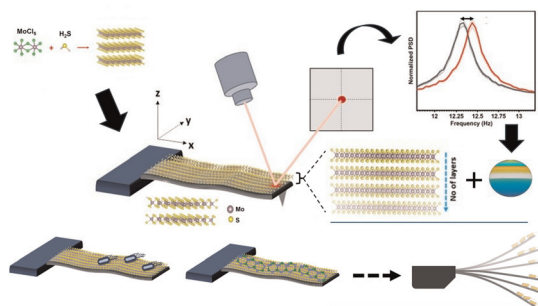
Atomically dispersed metal sites on covalent organic frameworks for photocatalysis

Shiyang Yu, Xu Gao, Junxia Wang, Wenbin Sun* and Yuxin Li*



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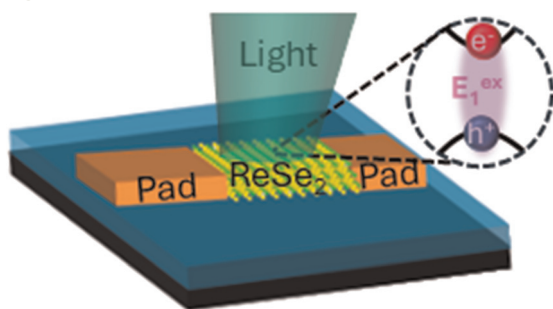


Two dimensional-material-coated microcantilevers for enhanced mass sensing and material characterization

Gourav Bhattacharya, Indrianita Lionadi, Stuart McMichael, Mike P. C. Taverne, James McLaughlin, Pilar Fernandez-Ibanez, Chung-Che Huang,* Ying-Lung Daniel Ho* and Amir Farokh Payam*

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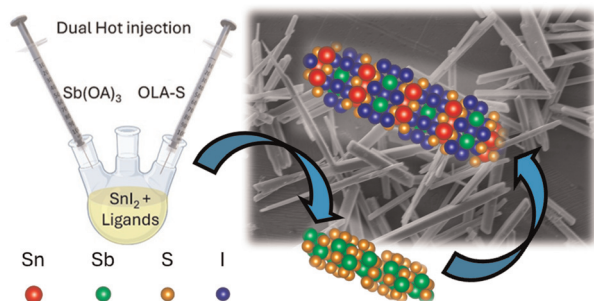
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The role of molecular ambient adsorption on light-matter interactions of 2D few-layered ReSe2 photodiodes

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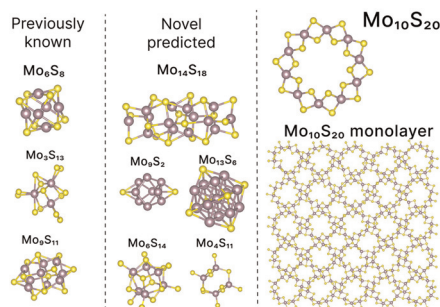
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Controlled colloidal synthesis of anisotropic mixed-metal chalcogenides: insights into morphology and phase evolution

Davide Pratolongo, Ankita Bora, Suvodeep Sen, Niraj Nitish Patil, Stefano Alberti, Manoj Palabathuni, Federico Locardi and Shalini Singh*

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Computational roadmap of stable Mo-S nanoclusters: atomic structures and magic compositions

Georgii Bychkov,* Konstantin Kravtsov and Ivan Kruglov*

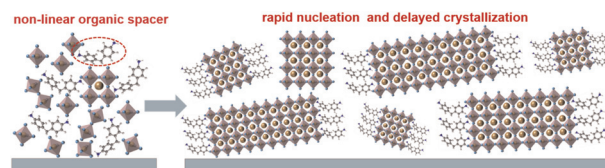


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Regulating the crystallization behavior of quasi-2D Dion–Jacobson tin perovskites with a non-linear organic spacer

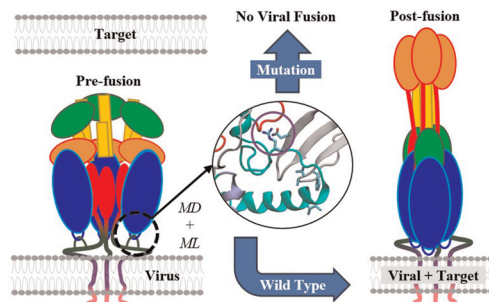
Mingyu Yin, Yong Guo, Pengyu Yan, Liming Ding, Yuanhang Cheng* and Feng Hao*



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Modulation of specific interactions within a viral fusion protein predicted from machine learning blocks membrane fusion

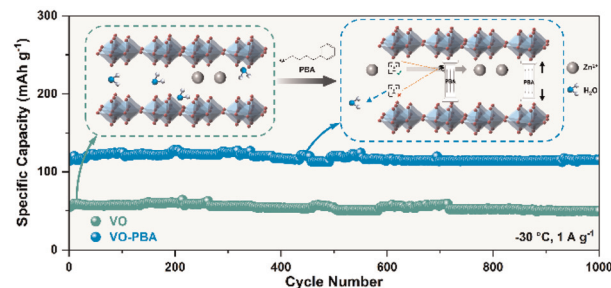
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Synergistic Zn²⁺ desolvation and diffusion acceleration for high-performance aqueous zinc batteries at low temperature

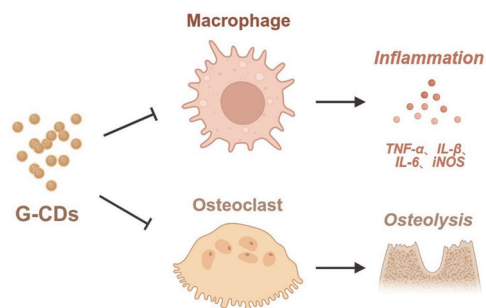
Yiwen Xiao, Hao Ruan, Chaoqiong Zhu, Jiaqi Li, Yue Zou, Benhe Zhong, Fang Wan* and Xiaodong Guo



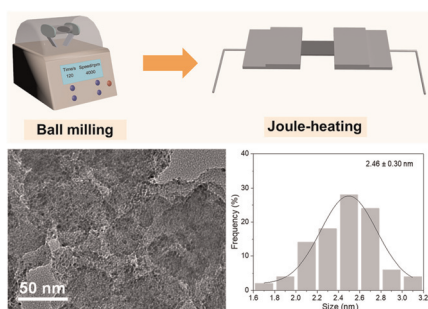
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Carbon dots derived from ginger for inhibiting inflammatory osteolysis

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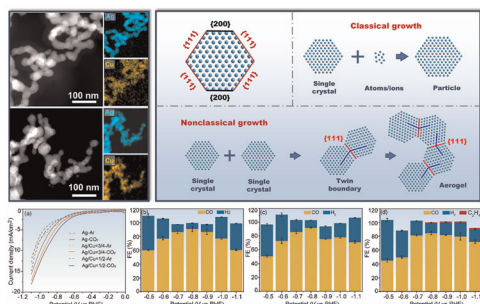
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Joule-heating synthesis of Pd/C catalysts with excellent electrocatalytic performance

Shaonan Tian, Zhenya Hu, Mengyuan Ma, Hui Liu* and Jun Yang*

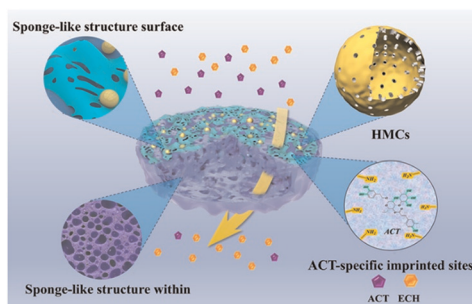
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Tuning the configuration of Ag–Cu aerogels for electrocatalytic applications

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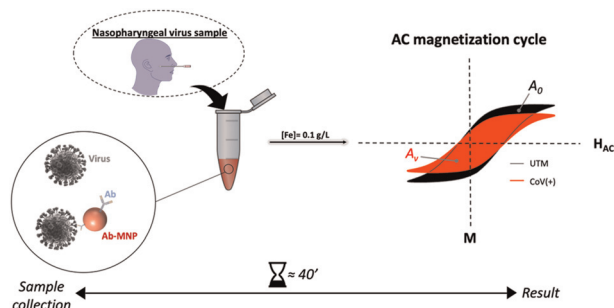
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Constructing sponge-like structured molecularly imprinted composite membranes for acteoside separation

Yuchen Ma, Chen Chen, Qingxin Wu, Guoqing Yang and Haojie Li*

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Magnetic nanoparticles as transducers for quick and direct virus detection in clinical samples

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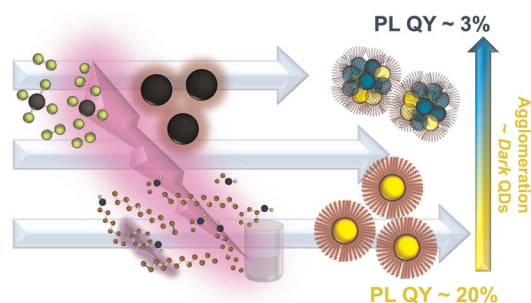


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Scalable and bright: unlocking functional silicon quantum dots with near-unity internal quantum yield through universal plasma-driven engineering

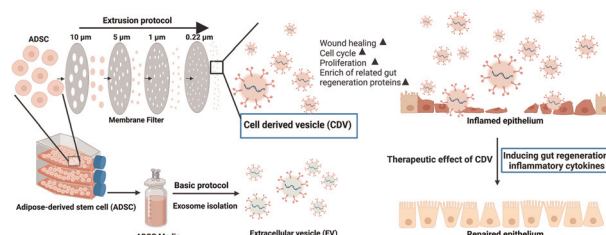
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Cell-derived vesicles extruded from adipose mesenchymal stem cells attenuate intestinal inflammation and augment epithelial regeneration in a colitis model

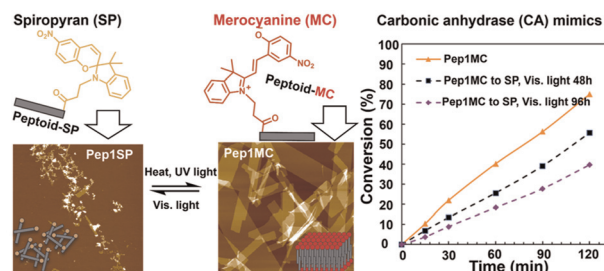
Min Kyoung Jo, Hyeon-Jeong Jeon, So Hui Kim, Hye Sun Lee, Seong-Eun Kim, Sung-Ae Jung, Hui-Chong Lau, Sung-Soo Park, Seung Wook Oh and Chang Mo Moon*



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Multi-stimuli responsive nanomaterials assembled from spiropyran-containing peptoids

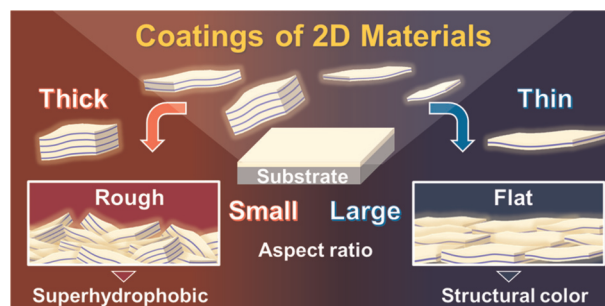
Progyateg Chakma, Bradley S. Harris, Chenyang Shi, Botao Hao, Kyle Whitaker, Marcel D. Baer and Chun-Long Chen*



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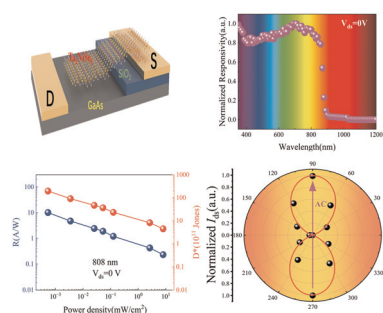
2D nanoarchitectonics for exfoliated nanosheets: tailoring surface roughness of thin-film coatings

Hisafumi Sudo, Yuta Nishina, Hiroaki Imai and Yuya Oaki*



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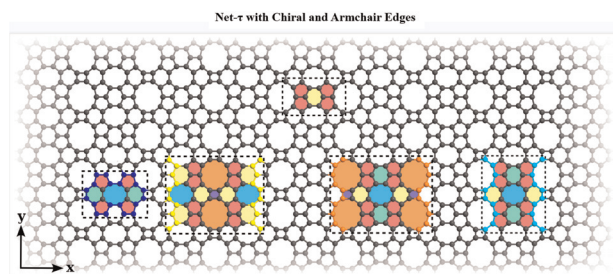
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Self-powered, broadband Ta₂NiSe₅/p-GaAs van der Waals heterojunction photodetector with high polarization sensitivity

Bing Wang, Zuocheng Pu, Guoxin Liu, Wanglong Wu, Chaoyang Liu, Xiaozhou Wang, Zhen Wang, Zhaoqiang Zheng,* Huaimin Gu* and Jingbo Li*

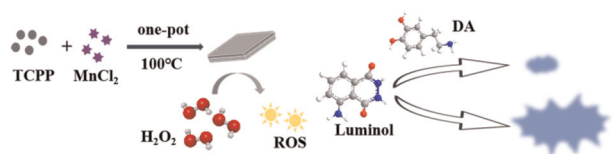
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2D chiral and armchair edges carbon allotrope nanoribbons: robust metallicity and tunable negative differential resistance in net- τ

Jonas Marinho Duarte, Denner Felipe Silva Ferreira, Carlos Alberto Brito da Silva, Jr* and Jordan Del Nero

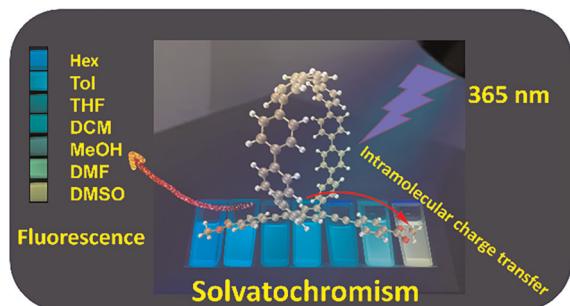
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Remarkably enhanced luminol chemiluminescence with a manganese porphyrin-based metal–organic framework for the sensitive detection of dopamine

Jiyang Liu, Hongzhan Liu, Yutong Liu, Hao Jiang, Morteza Hosseini, Cunqi Wu* and Guobao Xu*

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Design, synthesis, and fluorescence property tuning of methyl *p*-ethynylbenzoate-based [10]cycloparaphenylenes

Wanchun Duan,* Dang Zheng, Dongming Chen, Sishi Huang, Yang Yang, Lvyan Hao and Xin Xu

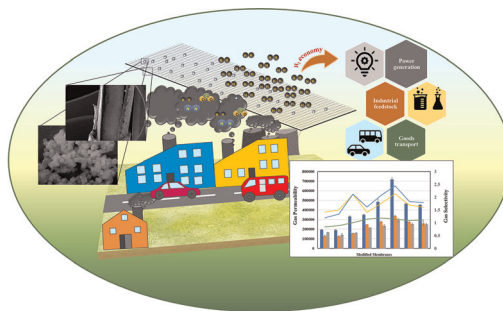


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Enhancing hydrogen separation performance through ZIF-8-incorporated PMMA–PC blend-based mixed matrix membranes

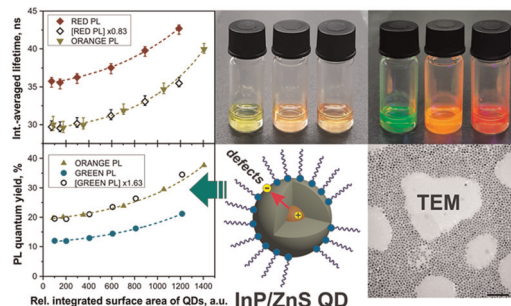
Ankit Sharma, Nishel Saini, Devandar Chauhan, Kamlendra Awasthi, Harsh Pandey* and Kamakshi Pandey*



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Concentration-dependent photophysics of InP/ZnS quantum dots: surface still matters despite thick shells

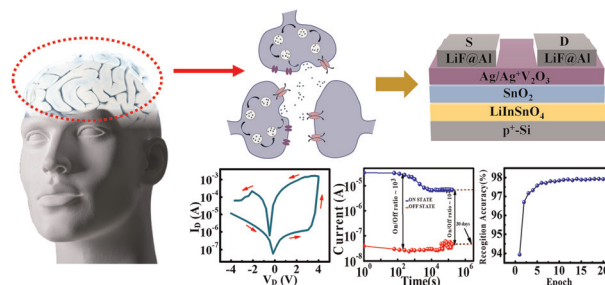
Michael Greben,* Dmytro Vorontsov, Petro Khoroshyy, Michal Gulka and Jan Valenta



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Optically/electrically controlled Ag^+ metallization in solution-processed oxide memtransistors for neuromorphic computing

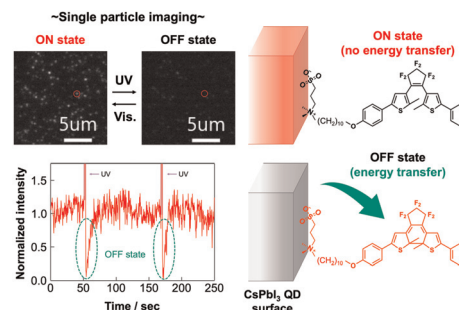
Rajarshi Chakraborty, Himanshu Singodia, Subarna Pramanik, Akhilesh Kumar Yadav, Utkarsh Pandey, Ranajit Ghosh and Bhola Nath Pal*



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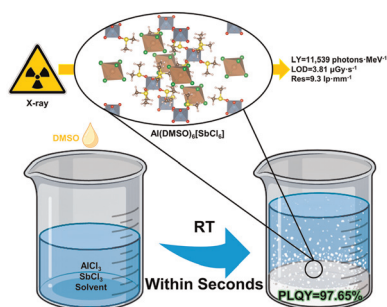
Photoswitching of luminescence from red emitting CsPbI_3 quantum dots at the single-particle level using a zwitterionic diarylethene ligand

Ashkan Mokhtar, Yuki Suenari, Daisuke Kosumi, Yuji Akaishi,* Tetsuya Kida* and Tsuyoshi Fukaminato*



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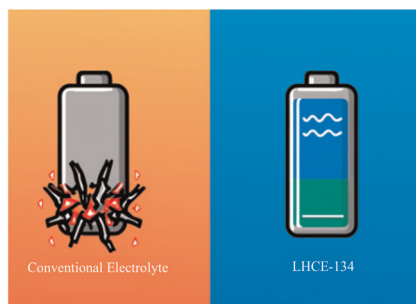
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Ultrafast preparation of amine-free 0D metal halides with near-unity emission for X-ray scintillators

Hao Li, Zhaoyu Wang, Junhong Wu, Tianyong Zhang, Guankui Long* and Shuang Jiang*

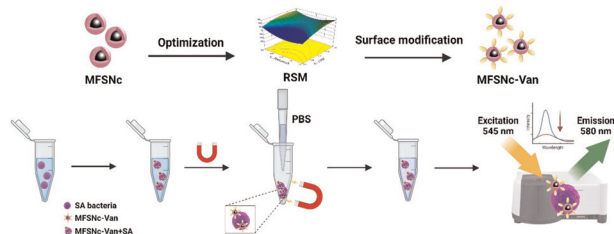
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A flame-retardant local high-concentration electrolyte for high-voltage lithium-ion batteries

Luo Zhang, Haodong Zhao, Donglai Xiao, Haibo Tian, Haibo Zhang, Xinghua Zhu* and Dingyu Yang*

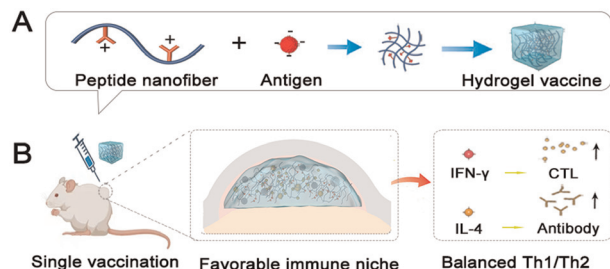
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Cationic amino acid-engineered peptide hydrogels for sustained and potent antigen delivery enabling single-administration vaccination

Jingjing Zhou, Jiayi Yu, Shengying Zhang, Zhidong Teng, Haoyue Zang, Mingyang Zhang, Shiqi Sun* and Huichen Guo*

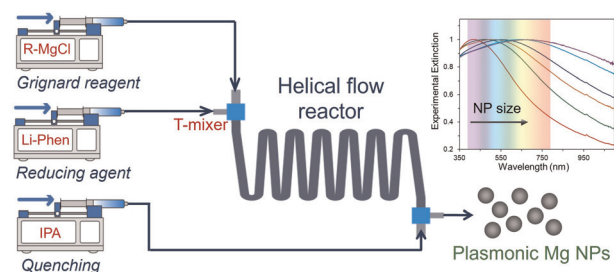


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Continuous flow synthesis of plasmonic magnesium nanoparticles with tunable optical properties from grignard precursors

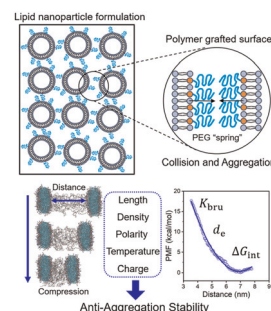
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Unraveling the role of PEGylation in the anti-aggregation stability of lipid nanoparticles

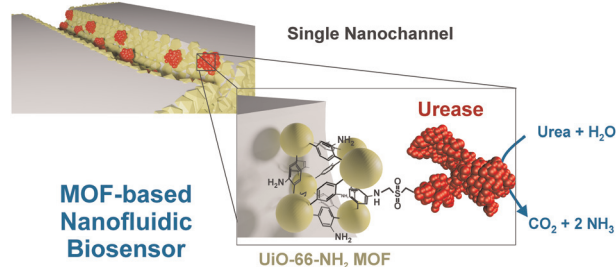
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Expanding the synergy between MOFs and solid-state nanochannels: robust anchoring of enzymes for iontronic biosensing

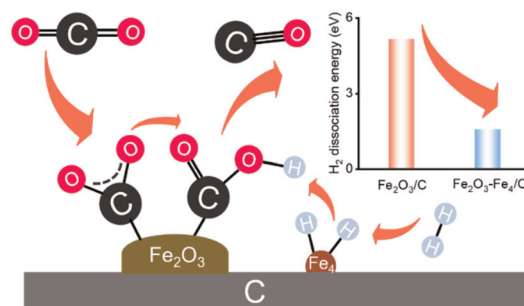
Angel L. Huamani, Gregorio Laucirica, Maria Eugenia Toimil-Molares, Michael F. Wagner, Matias Rafti, Waldemar Marmisollé* and Omar Azzaroni*



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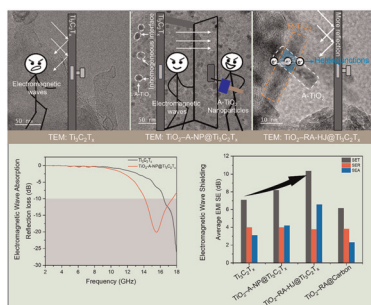
Integration of H₂-activating metal clusters with metal oxides for boosting the low-temperature reverse water–gas shift reaction

Shenglong Wu, Lixiong Du, Yajing Wang,* Kui Shen, Liyu Chen* and Yingwei Li*



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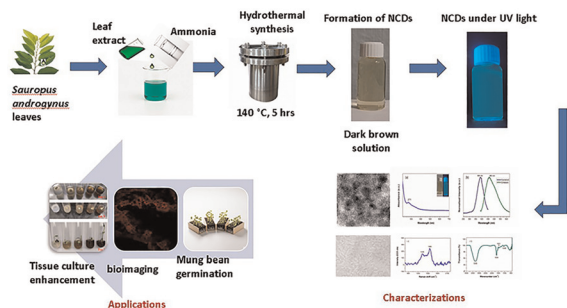
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High-temperature annealing enables the dielectric modulation of MXene for enhanced electromagnetic wave absorption and shielding

Qingtao Lv, Lei Ding, Yawen Liu, Zhiyong Su, Teng Zhang, Yudan Wang, Tao Wu,* Xiaolong Wang* and Chunhong Zhang*

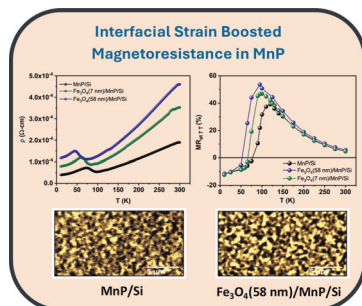
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Eco-friendly nitrogen-doped carbon dots from *Sauropus androgynus* leaf extract: a sustainable tool for mung bean germination, bioimaging and tissue culture enhancement

Bitty Joseph, C. Annmary, T. R. Anju, N. J. Simi, S. Bharathi Bernadsha and V. V. Ison*

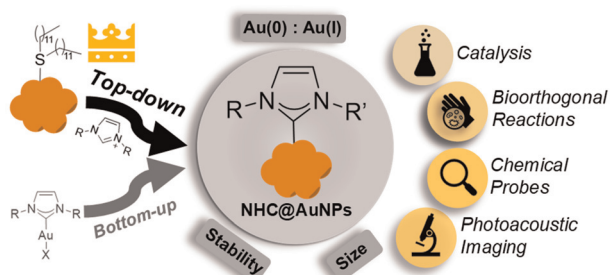
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Boosting magnetoresistance in manganese phosphide helimagnets through iron oxide interface strain engineering

Nivarthana W. Y. A. Y. Mudiyansele,* Derick DeTellem, Yasinthara M. Wadumesthri, Amit Chanda, Anh Tuan Duong, Emmanuel Olawale, Humberto Rodriguez Gutierrez, Xiaomei Jiang, Sarath Witanachchi and Manh-Huong Phan*

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Water-soluble N-heterocyclic carbene stabilized gold nanoparticles by top-down synthesis: performance in catalysis and photoacoustic imaging

Sophie R. Thomas,* Ana Luiza de Andrade Querino, Guillermo Moreno-Alcántar, Thanh Tran, Tamara Rodríguez-Prieto, Simon Qian, Davide Di Giuseppe, Pia Anzenhofer, Vasilis Ntziachristos, Heveline Silva, Veronika Somoza, Roland A. Fischer and Angela Casini*

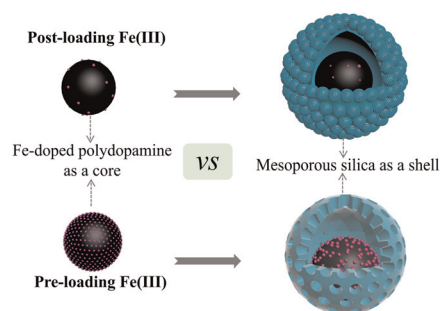


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Asymmetric yolk@shell structured Fe-doped polydopamine or carbon@mesoporous silica composite particles

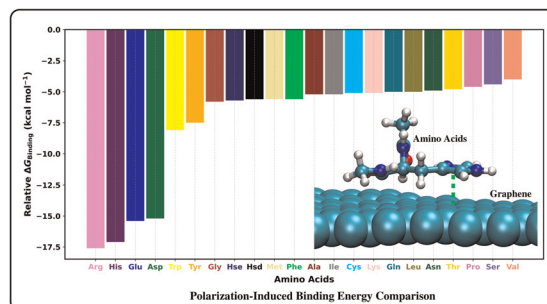
Baorui Liang, Ruonan Ouyang, Wenchao Li, Haodong Guo, Junjie Liu and Xin Du*



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Unravelling amino acid–graphene interactions: insights from polarizable force field simulations

Sahil Soni, Ripan Halder, Mayank Luniwal and Sairam S. Mallajosyula*



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Enhanced magnetic and optical properties of Y₃Fe₅O₁₂ (YIG) films with Au nano-inclusions

Lizabeth Quigley, Katrina Evancho, Claire A. Mihalko, Yizhi Zhang, Chang Liu, Max Chhabra, Bharat Giri, Jialong Huang, Abhijeet Choudhury, Jeremy Gan, Zhengliang Lin, Xiaoshan Xu, Ping Lu, Raktim Sarma, Aleem Siddiqui and Haiyan Wang*

