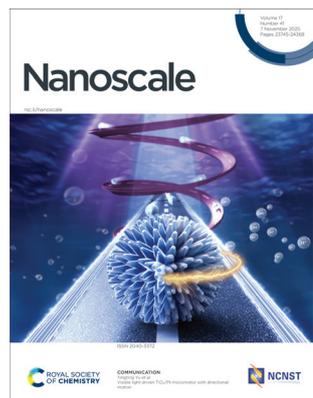


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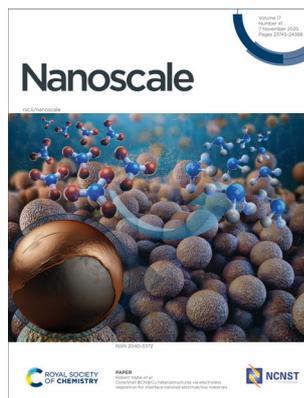
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EDITORIAL

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Introduction to nanomedicines for crossing biological barriers

Lucie Sancey, Ariane Boudier, Elise Lepeltier, Marie-Pierre Rols, Jeanne Leblond Chain and Nguyễn T. K. Thanh

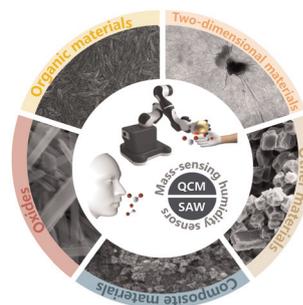


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Recent advances in mass-sensing humidity sensors: mechanisms, materials, and applications

Shanghai Lao, Zaihua Duan,* Qiuni Zhao,* Zhen Yuan, Yadong Jiang and Huiling Tai*



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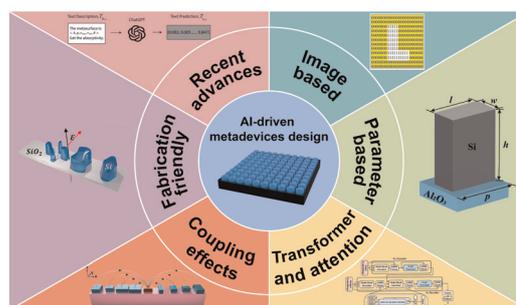
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Data driven approaches in nanophotonics: a review of AI-enabled metadevices

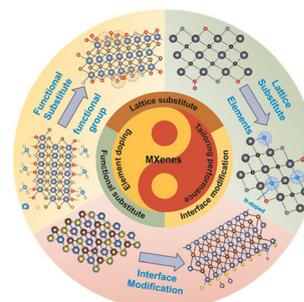
Huanshu Zhang, Lei Kang,* Sawyer D. Campbell, Jacob T. Young and Douglas H. Werner*



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Tailoring MXenes for energy storage: insights into element doping

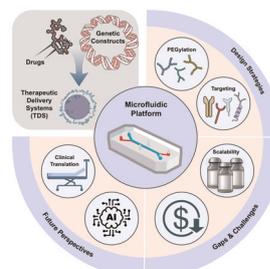
Kunhao Zhang, Yaoyu Wang, Hao Shen, Guozhao Zeng, Yangyang Zhang, Min Yang, Jun Liu, Jiale Li, Xiyang Shen, Miao Zhang, Dingyu Cui, Jingjie Xia, He Liu, Cong Guo, Feng Yu, Bin Quan, Weizhai Bao,* Kaiwen Sun and Jingfa Li



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Microfluidic-based nanocarriers for overcoming biological barriers in therapeutic delivery systems

Alireza Gharatape, Zahra Niasari-Naslaji, Jeanne Leblond Chain, Nasrollah Tabatabaei* and Reza Faridi-Majidi*

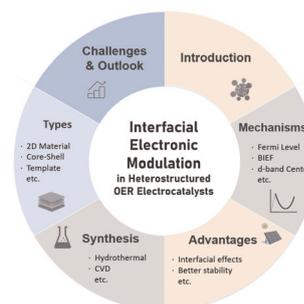


Engineering the Future: Microfluidic Design of Smart Nanocarriers for Overcoming Biological Barriers

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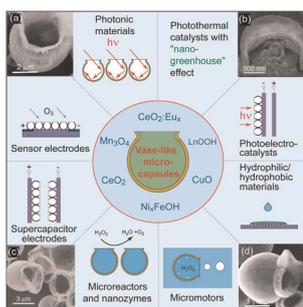
Interfacial electronic modulation in heterostructured OER electrocatalysts: a review

Xianglong Dai, Yechen Qian, Zijia Xu, Aini Xiong, Xiaoyang Zhang, Lichao Chen and Wenyaoyao Li*



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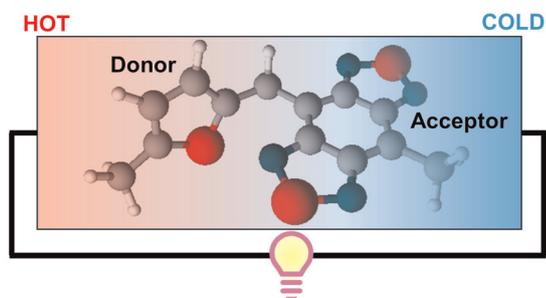
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Strategies for the synthesis of open vase-like microcapsule ordered arrays with transition metal oxyhydroxide walls and their possible practical applications

Valeri Tolstoy,* Anastasia Golubeva, Tatyana Moskvina, Xinge Hu, Manzar Sohail, Xingda An* and Le He

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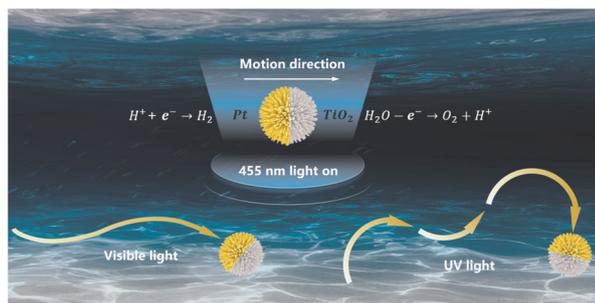


Donor–acceptor conjugated polymers as high-mobility semiconductors: prospects for organic thermoelectrics

Prithwish Biswas, Lingcheng Kong and Zhiting Tian*

COMMUNICATIONS

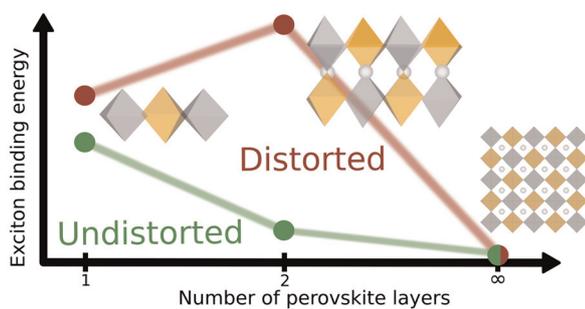
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Visible light driven TiO₂/Pt micromotor with directional motion

Xinwen Gao, Zhichao Wang, Yuyang Zhang and Tingting Yu*

23924



Structural distortions control scaling of exciton binding energies in two-dimensional Ag/Bi double perovskites

Pierre Lechiffart,* Raisa-Ioana Biega and Linn Leppert*

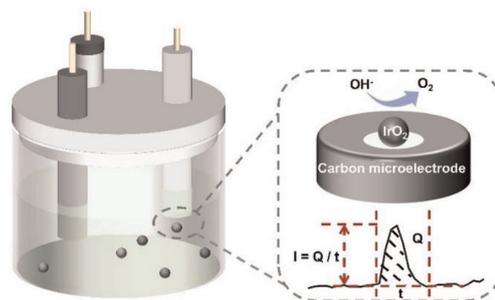


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An evaluation of the size-dependent electrocatalytic activity of single IrO₂ nanoparticles via nano-impact electrochemistry

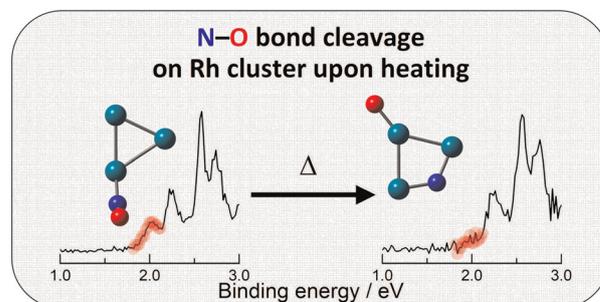
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Observation of NO molecules adsorbed on Rh cluster anions at different temperatures using photoelectron spectroscopy

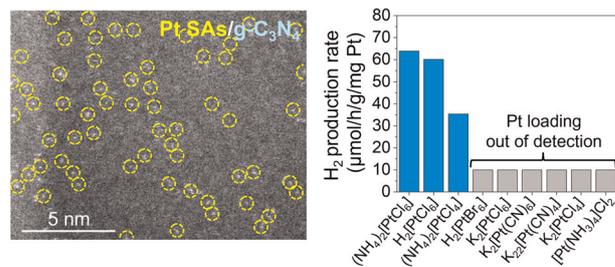
Masato Yamaguchi, Keitaro Tatsukawa and Fumitaka Mafuné



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Reactive deposition of Pt single-atoms on g-C₃N₄: effect of Pt-precursors

Nawres Lazaar, Shanshan Qin, Abdessalem Hamrouni, Hinda Lachheb, Jan Kolařík, Xuemei Zhou* and Patrik Schmuki*

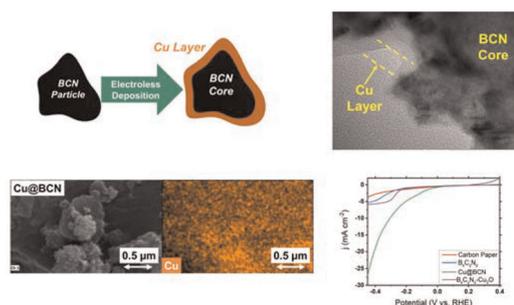


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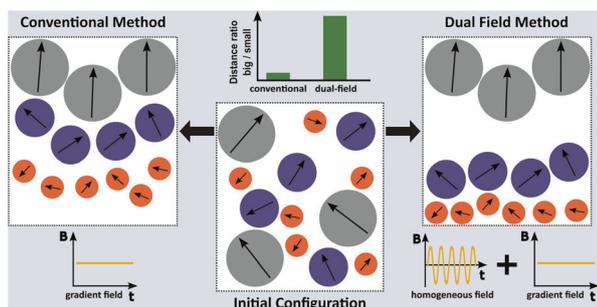
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Core/shell BCN@Cu heterostructures via electroless deposition for interface-tailored electroactive materials

Arvin Taghizadeh Tabrizi, Gergő Ballai, Anastasiia Efremova, Ákos Szamosvölgyi, Dorina Gabriella Dobó, Henrik Haspel, Robert Vajtai* and Zoltán Kónya



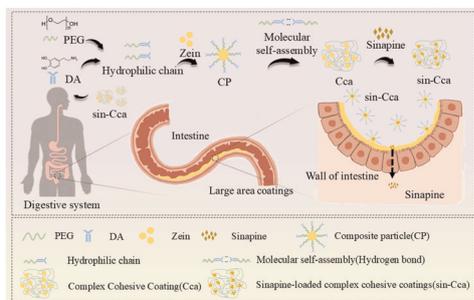
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Dual field magnetic separation for improved size fractionation of magnetic nanoparticles

Manuel Wolfschwenger,* Jonathan Leliaert, Aaron Jaufenthaler and Daniel Baumgarten

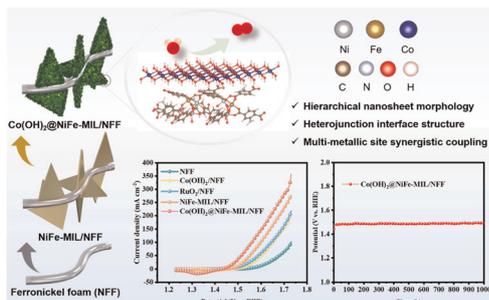
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Preparation and characterization of zein-based nano-assembled bioadhesive coatings for prolonged gastrointestinal retention of sinapine

Youdong Li, Yuanyuan Xu, Guoyan Liu, Li Liang, Xiaofang Liu, Jixian Zhang, Chaoting Wen and Xin Xu*

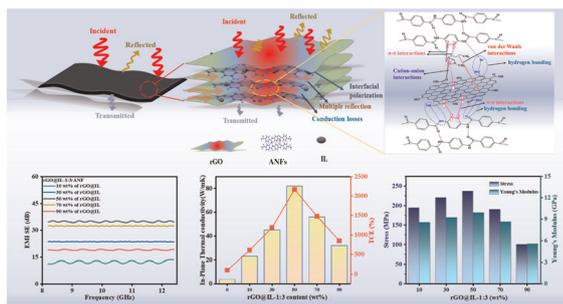
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The design and construction of a $\text{Co}(\text{OH})_2@ \text{NiFe-MIL/NFF}$ heterostructure catalyst for efficient and ultrastable water oxidation

Xianyu Chu, Li Jing, Yixuan Cheng, Yuhan He, Wei Jiang, Yuanyuan Wu, Yantao Sun, Chunbo Liu,* Keyu Cui* and Guangbo Che*

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Ionic liquid-functionalized reduced graphene oxide-aramid nanofiber composite films for enhanced thermal conductivity, electromagnetic interference shielding, and mechanical properties

Rimsha Qurratulain, Dineshkumar Mani and Sung-Ryong Kim*

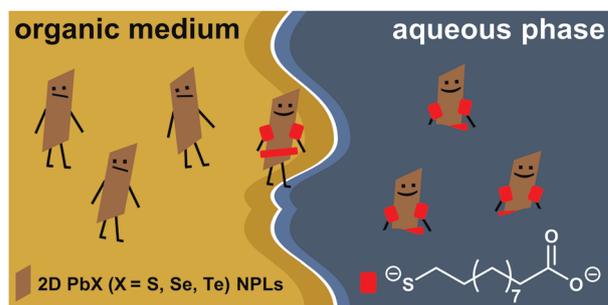


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Aqueous phase near-infrared emitters: water transfer of colloidal 2D PbS, PbSe and PbTe nanoplatelets

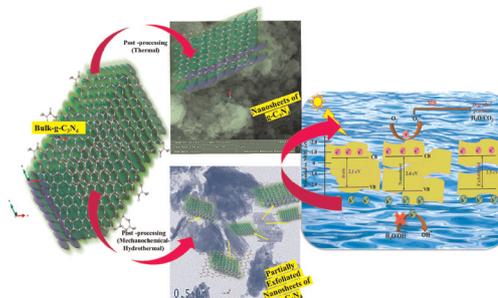
Leon Biesterfeld, Mattis T. Vochezer, Dominik A. Rudolph and Jannika Lauth*



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Engineering 2D g-C₃N₄ for enhanced photocatalytic water purification: the impact of post-processing on activity enhancement

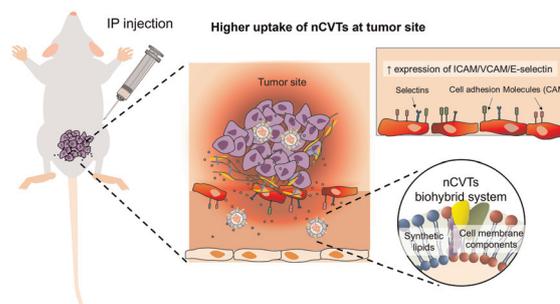
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Nano-biohybrid systems for the targeted delivery of chemotherapeutics

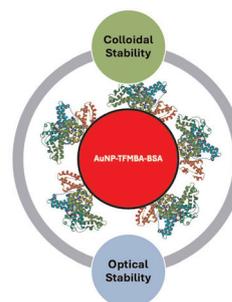
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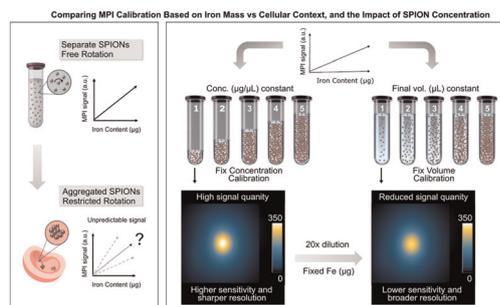
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Stabilization of SERS nanotags by BSA: insights into protein conformational dynamics across pH environments

Behnoosh Khodadadi and Mohammad Tavakkoli Yaraki*



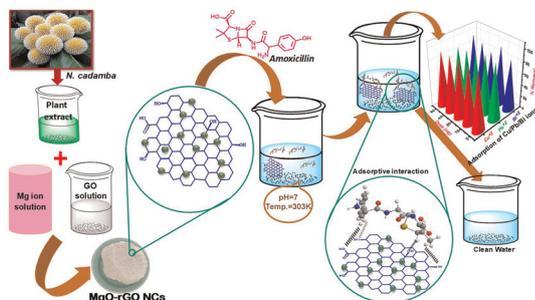
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Strategies towards standardizing calibration methods for magnetic particle imaging (MPI) signal quantification: solution vs. cellular environments

Elena Ureña Horno,* Mahon L. Maguire, Serbay Ozkan, Liam O'Brien, Patricia Murray, Harish Poptani and Marco Giardiello*

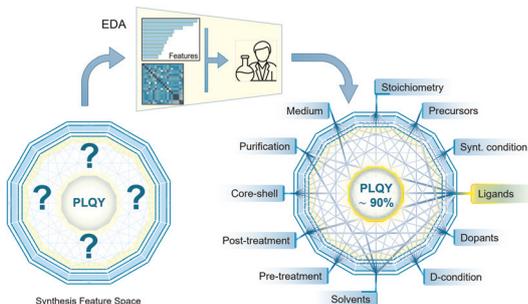
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A sustainable and economical approach for effective adsorption of antibiotics and heavy metal ions using *Neolamarckia cadamba*-mediated MgO-rGO nanocomposites

Ajay K. Potbhare, Rohit S. Madankar, Shubham S. Tripathy, Anirudhha Mondal,* Aniket S. Kahate, Pavan R. Bhilkar, Małgorzata Norek, Martin F. Desimone* and Ratiram G. Chaudhary*

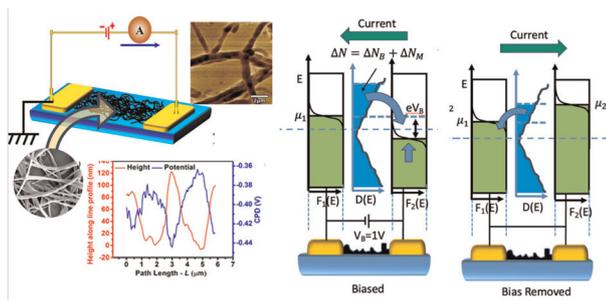
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High-performance perovskite quantum dot synthesis investigated through exploratory data analysis

Sabah Gaznaghi, Nick Dashti, Mengmeng Hao, Ardeshir Baktash and Lianzhou Wang*

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Unraveling packing-dependent surface potential contrast in a single-walled carbon nanotube bundle network

Sovanlal Mondal, Suman Mandal, Ajoy Mandal, Samik Mallik, Shiv Prakash Verma, Riya Sadhukhan, Subhamay Pramanik and Dipak K. Goswami*

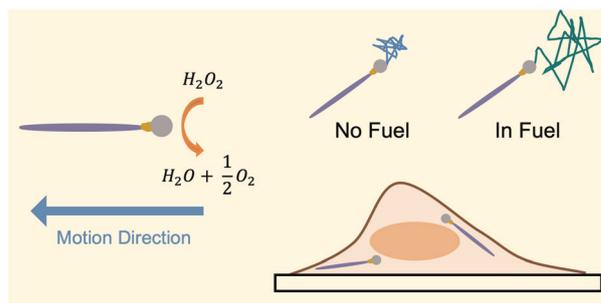


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Fuel-driven filamentous phage nanomotors

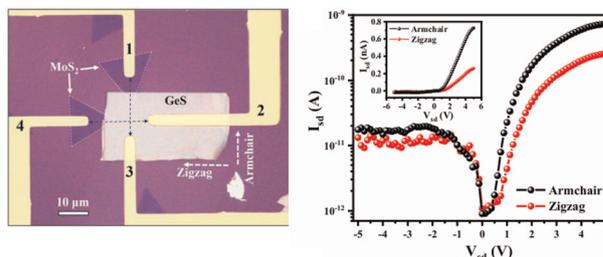
Xi Ding, Shamima Zaman, Emily P. Africa, Bahman Anvari and Elaine D. Haberer*



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In-plane anisotropy-driven directional charge transport in van der Waals p-n heterojunctions

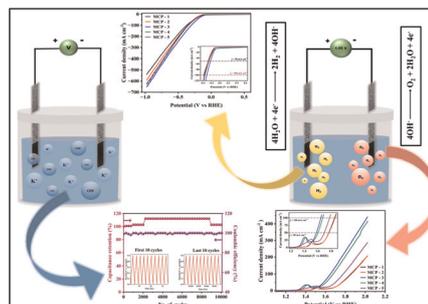
Rahul Paramanik, Tanima Kundu, Soumik Das, Alexey Barinov, Bikash Das, Bipul Karmakar, Sujan Maity, Mainak Palit, Kapildeb Dolui, Sanjoy Kr Mahatha* and Subhadeep Datta*



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Harnessing sonochemistry in MnCoP₂O₇ as trifunctional electrodes for symmetric supercapacitor and electrochemical water splitting applications

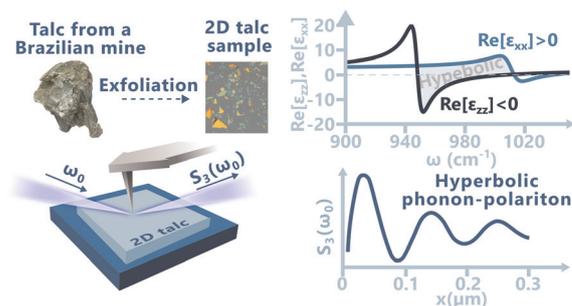
Pavithra Karthikesan, Jayachandran Madhavan and Alagiri Mani*



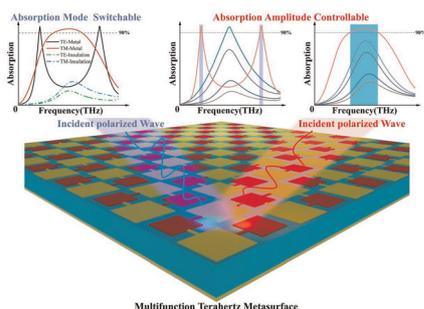
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Two-dimensional talc as a natural abundant ultra-broadband hyperbolic material

Flávio H. Feres,* Francisco C. B. Maia, Shu Chen, Victor Mazzotti, Rafael A. Mayer, Maximilian Obst, Osama Hatem, Lukas Wehmeier, Tobias Nörenberg, Matheus S. Queiroz, J. Michael Klopff, Susanne C. Kehr, Lukas M. Eng, Alisson R. Cadore, Rainer Hillenbrand, Raul O. Freitas and Ingrid D. Barcelos*



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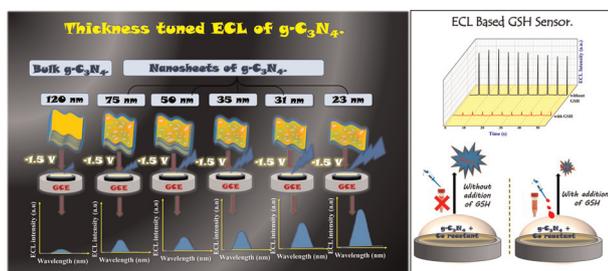


Multifunction Terahertz Metasurface

Bifunctional terahertz meta-device with switchable properties between dual-narrowband absorption and broadband absorption

Weijun Zhou, Xuefeng Qin, Youqi Zhang, Yuxuan Chen, Qian Zhao, Nianxi Xu and Ben-Xin Wang*

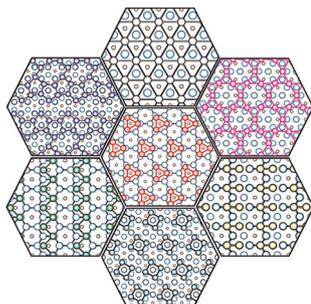
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Enhanced solid-state electrochemiluminescence platform for selective sensing of glutathione via finely tuned, thickness dependent graphitic carbon nitride nanosheets

Govindha Pandi Rajaram, Irudayasamy Arockia Nivetha and Shanmugam Senthil Kumar*

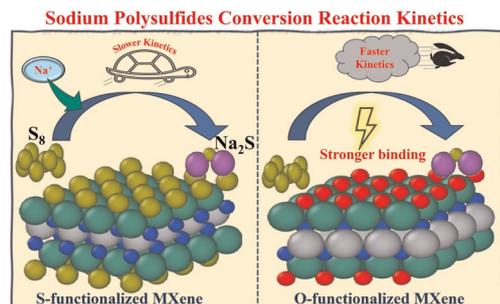
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Diverse surface reconstructions in MAX phases

Mohammad Khazaei,* Mohammad Bagheri, Ahmad Ranjbar,* Soungmin Bae,* Rasoul Khaledialidusti, Yasuhide Mochizuki, Thomas D. Kühne, Ken-ichi Shudo, Hannes Raebiger, Hannu-Pekka Komsa* and Hideo Hosono*

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Tuning polysulfide adsorption and catalytic activity via surface functionalization of Nb₂TiN₂ MXene in Na-S batteries

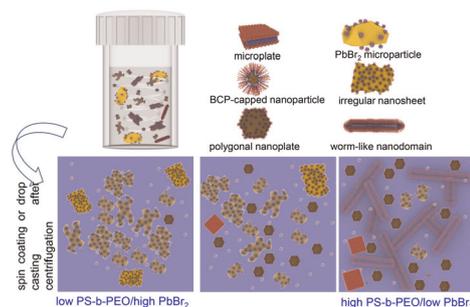
Satheesh Mani and Md Mahbulul Islam*



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Tunable formation of two-dimensional nanostructures and complex crystals *via* lead(ii) bromide complexation and inclusion crystallization with polystyrene-*block*-poly(ethylene oxide) in 1,3,5-trimethylbenzene

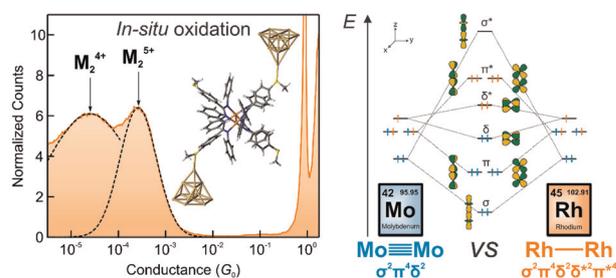
Ya-Sen Sun,* Bo-Cheng Zhao, Orion Shih, Chun-Yu Chen, Chun-Jen Su and Jhih-Min Lin



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Break-junction studies on paddle-wheel complexes with four lateral anchor groups: small influence of metal–metal bond order

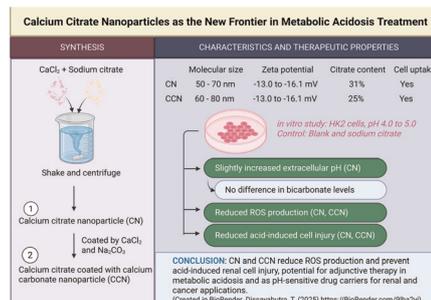
André Mang, Katawoura Beltako, Besa Kadriu, Michael Linseis, Fabian Pauly* and Rainer F. Winter*



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Calcium citrate nanoparticles as a new frontier in metabolic acidosis treatment

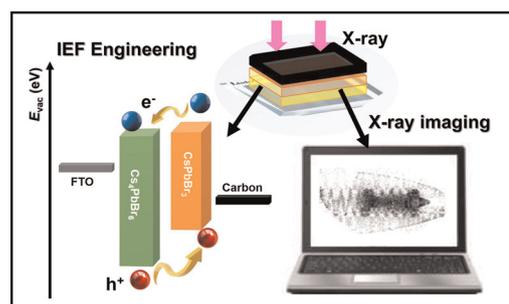
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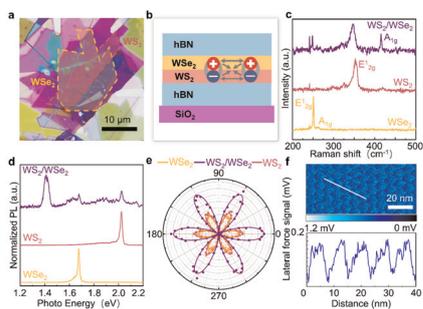
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Quantum-dots-based phase separation into a 3D/0D perovskite heterojunction for boosting X-ray detector performance

Han Li, Shanshan Yu, Handong Jin, Zikun Jin, Wei Qian, Wanshun Yang and Shihe Yang*



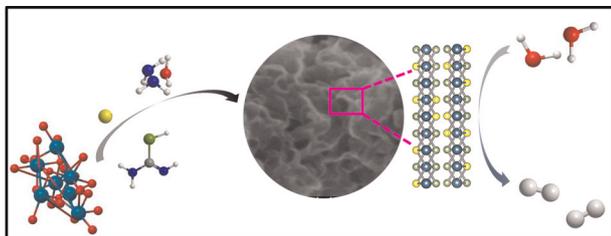
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Temperature dependence of excitonic Hubbard U interaction in WS₂/WSe₂ moiré superlattices

Zihao Wang, Haowen Xu, Shihong Chen, Yutang Wang, Rui Han, Zejun Sun, Xiushuo Zhang, Shuchun Huang, Wei Gao,* Huan Liu* and Dameng Liu*

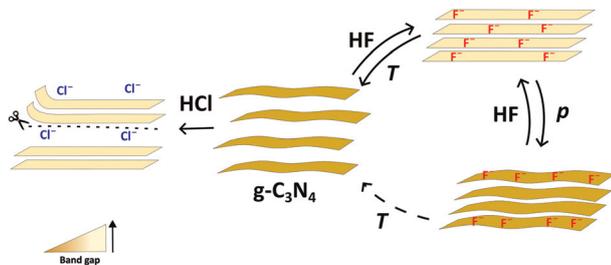
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Enhanced hydrogen evolution reaction performance of alloyed MoS_{1.34}Se_{0.78} with dominant 1T/T' phases

Qiulan Zhou, Zhen Liu, Xiaohu Luo, Xin Qin* and Weijian Xu*

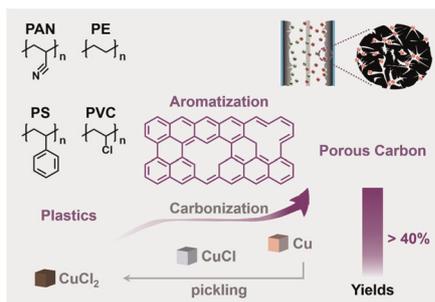
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Adaptive states of carbon nitride semiconductor materials treated with hydrofluoric acid

Oliver Stölting, Yaşar Krysiak and Sebastian Polarz*

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Upgrading commercial plastics for high-yield production of porous carbon electrode materials

Yanqin Zheng, Fuwang Wen, Hai Li, Fangbao Fu, Xihong Zu, Yanwei Wang, Almagul Mentbayeva and Wenli Zhang*

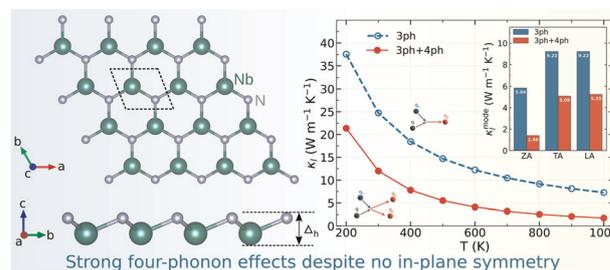


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Acoustic phonon-restricted four-phonon interactions: impact on thermal and thermoelectric transport in monolayer h-NbN

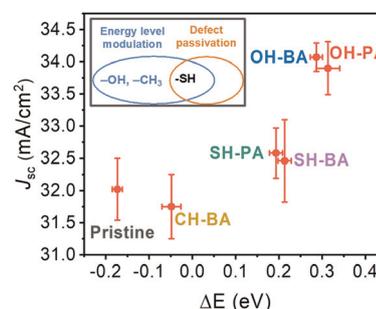
Himanshu Murari, Subhradip Ghosh, Mukul Kabir and Ashis Kundu*



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Small-molecule engineering of a PbS QD/ZnO nanowire interface and its impact on infrared PbS QD solar cell performance

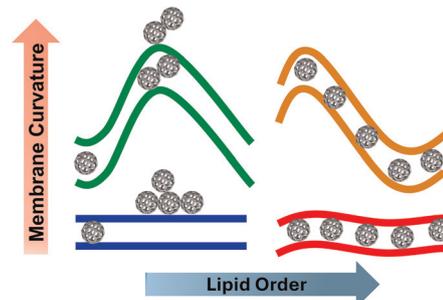
Xiaoxiao Mi, Koichi Tamaki, Naoyuki Shibayama, Haibin Wang, Takaya Kubo,* Ryota Jono, Jotaro Nakazaki and Hiroshi Segawa*



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The significance of lipid membrane curvature and lipid order for nano-C60 uptake

Ankush Singhal,* T. J. J. van Daalen and G. J. Agur Sevink*



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Electrochemical performance and characterization of a supercapacitor device using carbon nanotube/graphene nanoplatelet composites with biomass-derived carbon dots

Nitesh Choudhary, Dawid Janas, Ramesh Chandra and Pradip K. Maji*

