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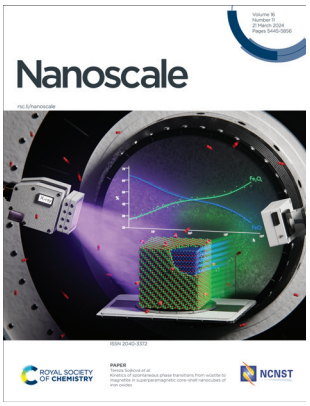
ISSN 2040-3372 CODEN NANOHL 16(11) 5445–5856 (2024)



Cover
See Tereza Sojková *et al.*, pp. 5551–5560.

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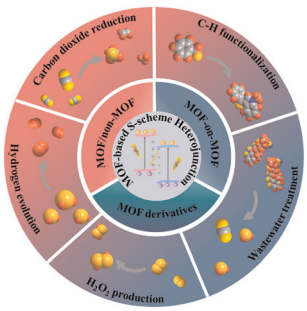
Metal–organic framework-based S-scheme heterojunction photocatalysts

Ling Yuan, Peiyang Du, Luli Yin, Jiamin Yao, Jing Wang* and Chao Liu*



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REVIEWS

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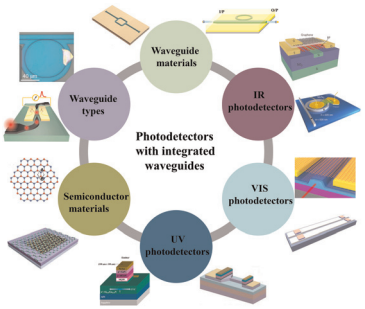
Photodetectors integrating waveguides and semiconductor materials

Xin-Xue Wang, Guang Zeng, Qiu-Jun Yu, Lei Shen, Cai-Yu Shi and Hong-Liang Lu*



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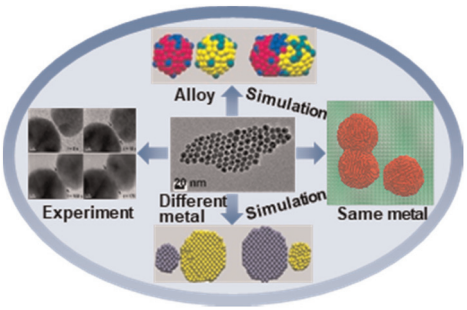
Computational understanding of the coalescence of metallic nanoparticles: a mini review

Liang Jiang, Yongxin Guo, Zhihui Liu and Shuai Chen*



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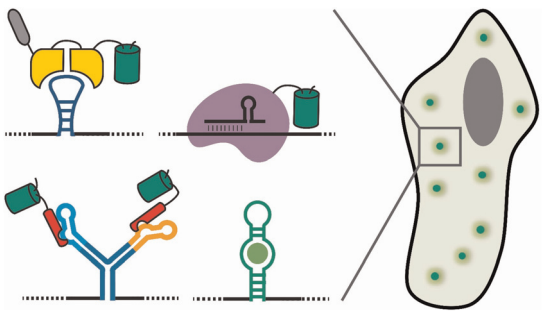
Recent advances in methods for live-cell RNA imaging

Tien G. Pham and Jiahui Wu*



COMMUNICATION

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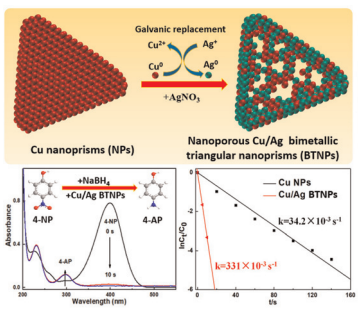
Fast synthesis of nanoporous Cu/Ag bimetallic triangular nanoprisms *via* galvanic replacement for efficient 4-nitrophenol reduction

Qiang Liu, Xuelian Lyu, Qiusui Chen, Yanmin Qin, Xing Wang, Chen Li, Zheng Fang* and Haifeng Bao*



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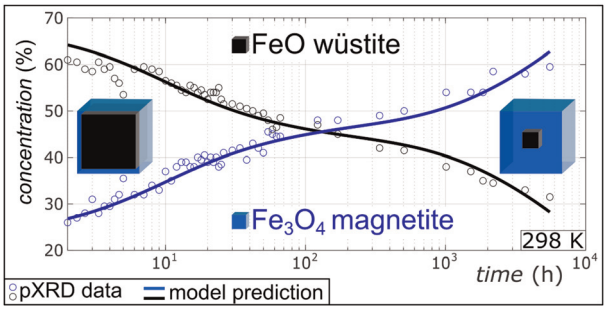

Kinetics of spontaneous phase transitions from wüstite to magnetite in superparamagnetic core–shell nanocubes of iron oxides

Tereza Sojková,* Roman Gröger, Jakub Poloprudský, Ivo Kuběna, Oldřich Schneeweiss, Martin Sojka, Zuzana Šiška, Jakub Pongrácz and Naděžda Pizúrová

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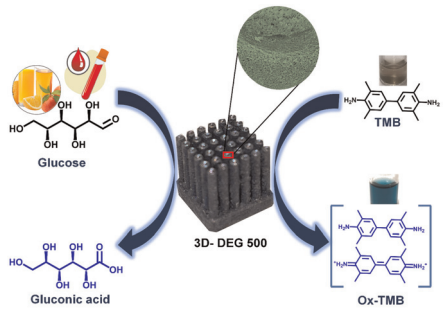

Immobilizing nanozymes on 3D-printed metal substrates for enhanced peroxidase-like activity and trace-level glucose detection

Paramita Koley, Ranjithkumar Jakku, Tayebeh Hosseinnejad, Selvakannan Periasamy and Suresh K. Bhargava*

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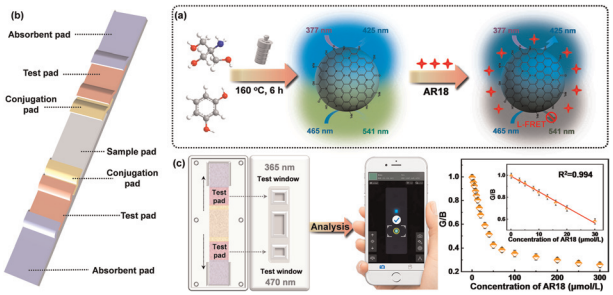

A sensitive lateral flow test strip sensor for visual detection of acid red 18 in food using bicentric-emission carbon dots

Houwen Hu, Zewei Chen, Tingting Li, Linfan Wang, Haoming Xing, Guoqiang Guo, Gang Wang* and Da Chen*

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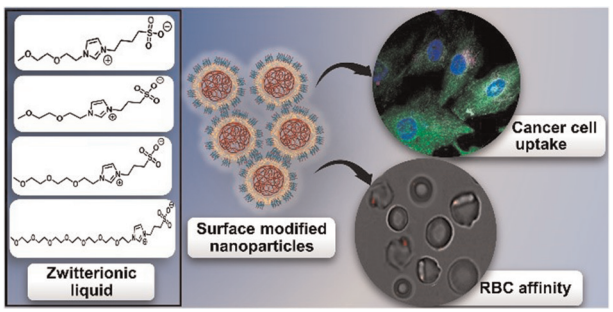

Imidazolium-based zwitterionic liquid-modified PEG–PLGA nanoparticles as a potential intravenous drug delivery carrier

Gaya S. Dasanayake, Christine M. Hamadani, Gagandeep Singh, Sandeep Kumar Misra, Priyavrat Vashisth, Joshua S. Sharp, Laxmi Adhikari, Gary A. Baker and Eden E. L. Tanner*

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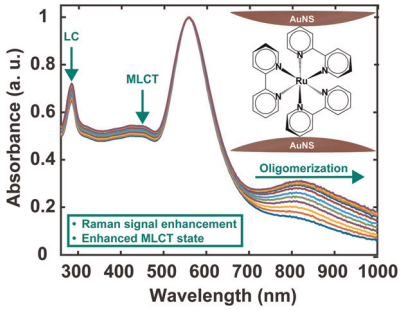
Plasmon resonance dynamics and enhancement effects in tris(2,2′-bipyridine)ruthenium(II) gold nanosphere oligomers

Umar Yunusa, Natalie Warren, David Schauer, Prasenjit Srivastava and Emily Sprague-Klein*



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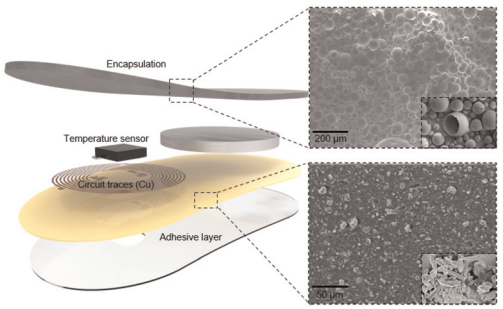
Optimal bilayer composites for temperature-tracking wireless electronics

Doyoung Kim, Wooseok Kim, Jihwan Kim, Hee Kyu Lee, Janghoon Joo, Bogeun Kim, Mark G. Allen, Dengyang Lu, Vishal Venkatesh, Yanghang Huang, Ki Jun Yu, Young-Jin Park, Mu Kyung Kim, Seungyong Han and Sang Min Won*



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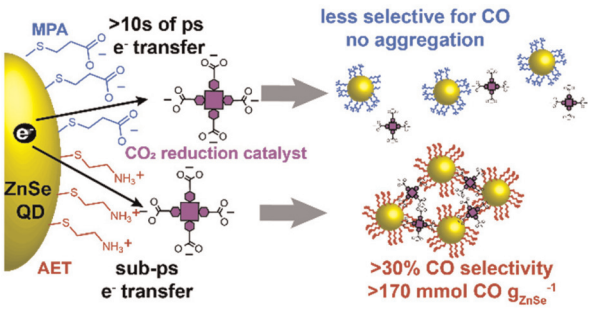
The role of surface functionalization in quantum dot-based photocatalytic CO_2 reduction: balancing efficiency and stability

Frida Hernandez, Maggie Yang, Nejc Nagelj, Autumn Y. Lee, Hasun Noh, Kyle P. Hur, Xinyu Fu, Caleb J. Savoie, Adam M. Schwartzberg and Jacob H. Olshansky*



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PSMA-targeted dendrimer as an efficient anticancer drug delivery vehicle for prostate cancer

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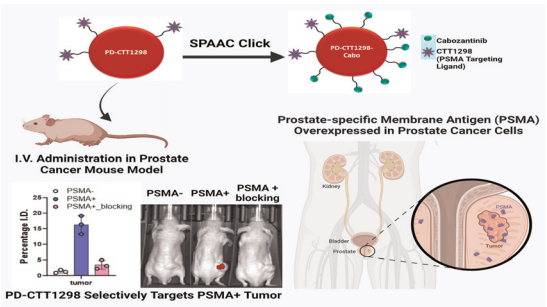

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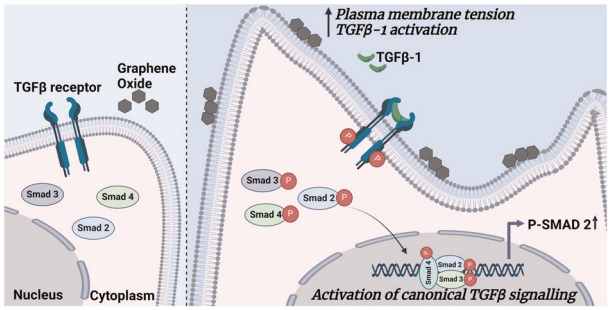

Graphene oxide activates canonical TGFβ signalling in a human chondrocyte cell line *via* increased plasma membrane tension

Leona Ogene, Steven Woods, Joseph Hetmanski, Neus Lozano, Angeliki Karakasidi, Patrick T. Caswell, Kostas Kostarelos, Marco A. N. Domingos, Sandra Vranic and Susan J. Kimber*

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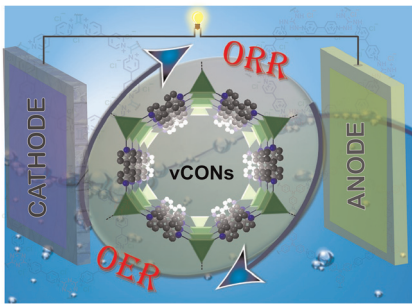

Reticular synthesis of two-dimensional ionic covalent organic networks as metal-free bifunctional electrocatalysts for oxygen reduction and evolution reactions

Pampa Jhariat, Arjun Warrier, Ananta Sasmal, Subhadip Das, Shafeeq Sarfudeen, Priyanka Kumari, Arpan Kumar Nayak and Tamas Panda*

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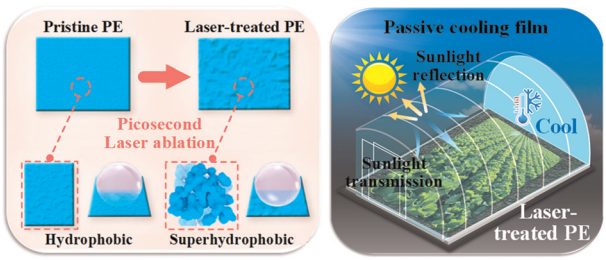

A porous micro/nano-structured polyethylene film prepared using a picosecond laser for agricultural passive cooling

Qingwei Wang, Dongkai Chu,* Qilin Wang, Xiangyue Xu, Kai Yin,* Shuoshuo Qu, Peng Yao* and Chuanzhen Huang

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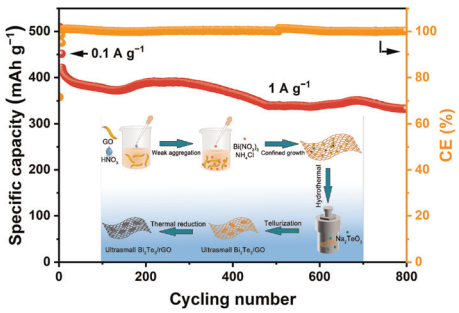

Nanoconfinement of ultra-small Bi_2Te_3 nanocrystals on reduced graphene oxide: a pathway to high-performance sodium-ion battery anodes

Zhuoying Cheng, Zhuo Li, Yuao Wang, Yiyang Mao, Jun Yan,* Dianxue Cao and Kai Zhu*

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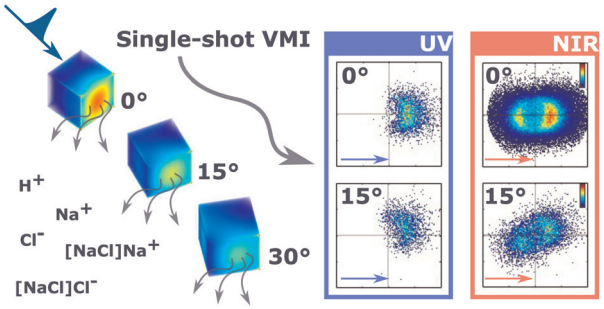
Ion imaging of spatially inhomogeneous nanoplasmas in NaCl particles

Loren Ban,* Hanchao Tang, Jonas Heitland, Christopher W. West, Bruce L. Yoder, Ioannis Thanopulos and Ruth Signorell*



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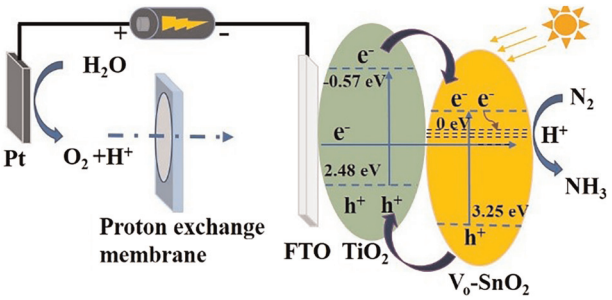
Photoelectrochemical-driven nitrogen reduction to ammonia by a V_o-SnO_2/TiO_2 composite electrode

Junbo Ma, Jiangjian Fu, Lan Sun,* Jun Cheng* and Jian-Feng Li*



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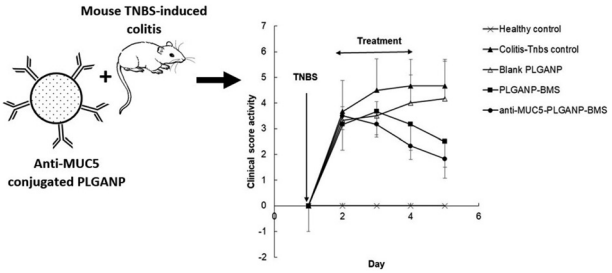
Active nanoparticle targeting of MUC5AC ameliorates therapeutic outcome in experimental colitis

Bernadette Riemann, Thomas Antoine, Arnaud Béduneau, Yann Pellequer, Alf Lamprecht and Brice Moulari*



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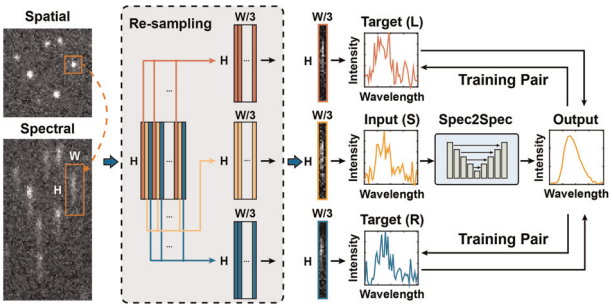
Deep-learning-assisted spectroscopic single-molecule localization microscopy based on spectrum-to-spectrum denoising

Dandan Xu, Yuanjie Gu, Jun Lu, Lei Xu, Wei Wang and Biqin Dong*



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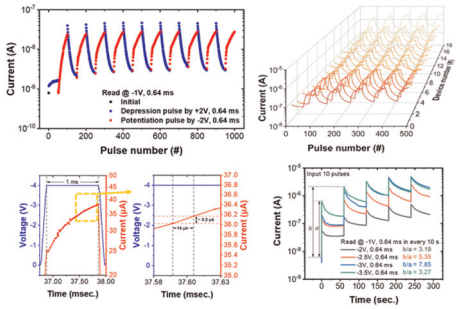

Enhanced linear and symmetric synaptic weight update characteristics in a Pt/p-LiCoO$_x$/p-NiO/Pt memristor through interface energy barrier modulation by Li ion redistribution

Boyoung Jeong, Peter Hayoung Chung, Jimin Han, Taeyun Noh and Tae-Sik Yoon*

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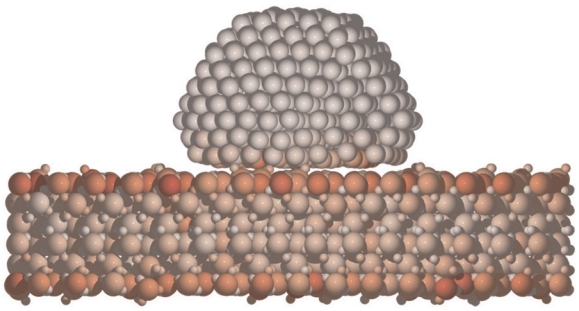

Beam induced heating in electron microscopy modeled with machine learning interatomic potentials

Cuauhtemoc Nuñez Valencia, William Bang Lomholdt, Matthew Helmi Leth Larsen, Thomas W. Hansen and Jakob Schiøtz*

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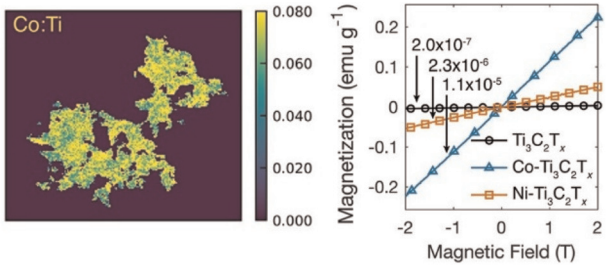

Enhanced magnetic susceptibility in $Ti_3C_2T_x$ MXene with Co and Ni incorporation

Yizhou Yang, Mark Anayee, Ajith Pattammattel, Mikhail Shekhirev, Ruocun (John) Wang, Xiaojing Huang, Yong S. Chu, Yury Gogotsi and Steven J. May*

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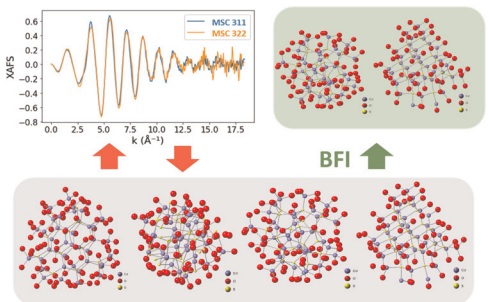

Quantifying intuition: Bayesian approach to figures of merit in EXAFS analysis of magic size clusters

Lucy Haddad,* Diego Gianolio, David J. Dunstan, Ying Liu, Conor Rankine and Andrei Sapelkin

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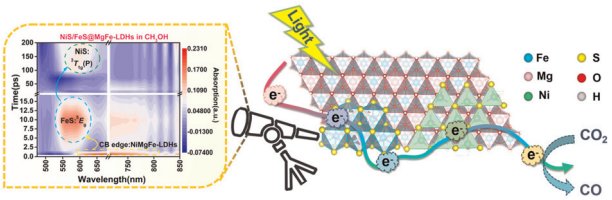
***In situ* topotactic formation of an inorganic intergrowth bulk NiS/FeS@MgFe-LDH heterojunction to simulate CODH for the photocatalytic reduction of CO_2**

Yuexian Li, Wenli Su, Xiaoyan Wang, Jun Lu,* Wenkai Zhang* and Shuo Wei*



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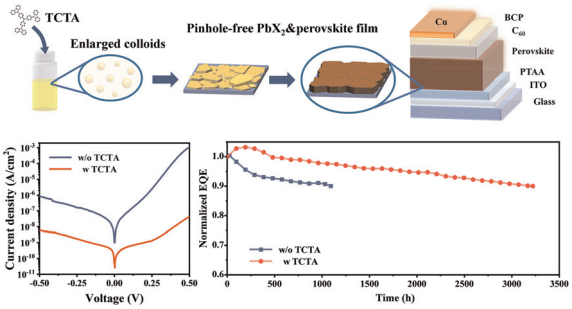
Synergistic nucleation regulation using 4,4′,4″-tris(carbazol-9-yl)-triphenylamine and moisture for stably air-processed high-performance perovskite photodetectors

Guo He, Dezhi Yang,* Sizhe Tao, Liqing Yang, Dechao Guo, Jingbo Zheng, Ji Li, Jiangshan Chen and Dongge Ma*



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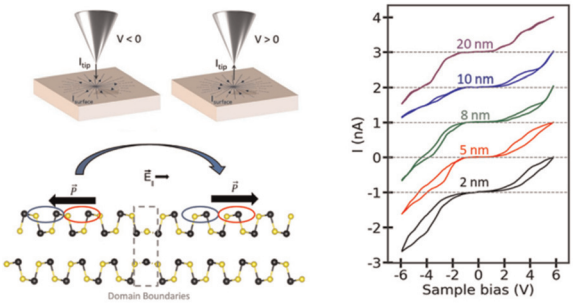
Evidence of thickness-dependent surface-induced ferroelectricity in few-layer germanium sulfide obtained *via* scanning tunneling spectroscopy

Rafael R. Barreto, Thiago C. Ribeiro, Gustavo H. R. Soares, Everton Pereira, Douglas R. Miquita, Gustavo A. M. Safar, Mario S. C. Mazzoni, Angelo Malachias and Rogerio Magalhaes-Paniago*



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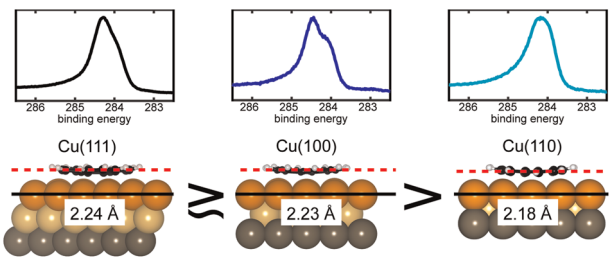
Probing the role of surface termination in the adsorption of azupyrene on copper

Benedikt P. Klein, Matthew A. Stoodley, Dylan B. Morgan, Luke A. Rochford, Leon B. S. Williams, Paul T. P. Ryan, Lars Sattler, Sebastian M. Weber, Gerhard Hilt, Thomas J. Liddy, Tien-Lin Lee, Reinhard J. Maurer* and David A. Duncan*



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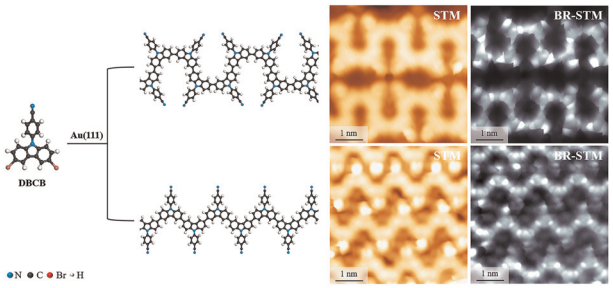

On-surface synthesis of two types of cyano-substituted polyfluorene derivatives *via* Ullmann coupling on Au(111)

Boyu Fu, Jianchen Lu,* Jianqun Geng, Yong Zhang, Shijie Sun, Wei Xiong, Yi Zhang, Gefei Niu, Lei Gao* and Jinming Cai*

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Hybrid quantum-classical polarizability model for single molecule biosensing

Ekaterina Zossimova,* Johannes Fiedler, Frank Vollmer and Michael Walter

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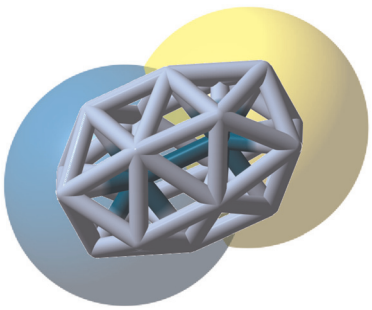

Ligand-free supermolecules: $[Pd_2@Ge_{18}]^{4-}$ and $[Pd_2@Sn_{18}]^{4-}$ as multiple-bonded Zintl-ion clusters based on $Pd@Ge_9$ and $Pd@Sn_9$ assembled units

Peter L. Rodríguez-Kessler and Alvaro Muñoz-Castro*

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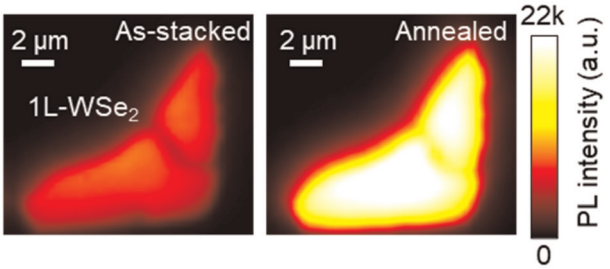

Optical grade transformation of monolayer transition metal dichalcogenides *via* encapsulation annealing

Huije Ryu, Seong Chul Hong, Kangwon Kim, Yeonjoon Jung, Yangjin Lee, Kihyun Lee, Youngbum Kim, Hyunjun Kim, Kenji Watanabe, Takashi Taniguchi, Jeongyong Kim, Kwanpyo Kim, Hyeonsik Cheong and Gwan-Hyoung Lee*

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A frogspawn inspired twin Mo_2C/Ni composite with a conductive fibrous network as a robust bifunctional catalyst for advanced anion exchange membrane electrolyzers

Zhongmin Wan, Linqing Wang, Yuheng Zhou, Siyuan Xu, Jing Zhang, Xi Chen, Shi Li, Changjie Ou* and Xiangzhong Kong*