

# Nanoscale Advances

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### Inside cover

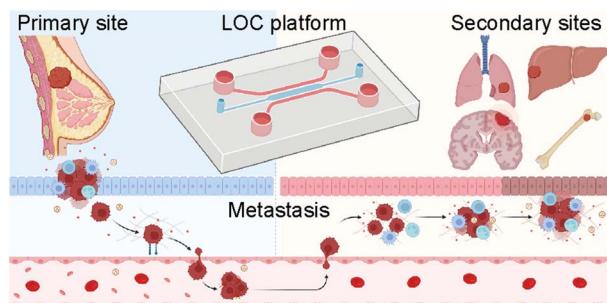
See Kyra Sedransk Campbell *et al.*, pp. 2437–2452. Image reproduced by permission of Dr Kyra Sedransk Campbell from *Nanoscale Adv.*, 2023, 5, 2437.

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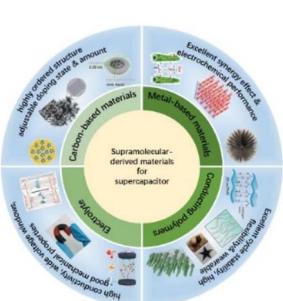
Burcu Firatgil-Yildirir,\* Ozden Yalcin-Ozuyosal and Nonappa\*



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Honghong Cheng,\* Ruliang Liu, Ruyi Zhang, Lan Huang and Qiaoyi Yuan



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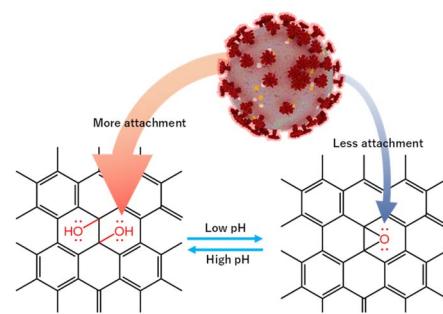


## COMMUNICATIONS

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**SARS-CoV-2 suppression depending on the pH of graphene oxide nanosheets**

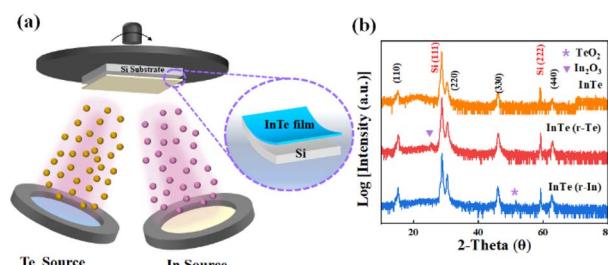
Md. Saidul Islam, Masahiro Fukuda, Md. Jakir Hossain, Nurun Nahar Rabin, Ryuta Tagawa, Mami Nagashima, Kenji Sadamasu, Kazuhisa Yoshimura, Yoshihiro Sekine, Terumasa Ikeda\* and Shinya Hayami\*



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**Controlling the terminal layer atom of InTe for enhanced electrochemical oxygen evolution reaction and hydrogen evolution reaction performance**

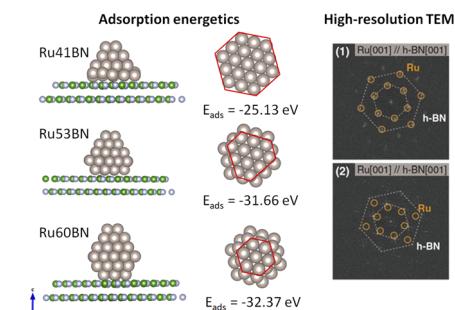
Jie Wu, Zhiyu Shao, Beining Zheng, Yuan Zhang, Xiangdong Yao, Keke Huang and Shouhua Feng\*



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**Morphology-dependent adsorption energetics of Ru nanoparticles on hcp-boron nitride (001) surface – a first-principles study**

Thillai Govindaraja Senthamarai Kannan, Chang Won Yoon\* and Dong-Hee Lim\*

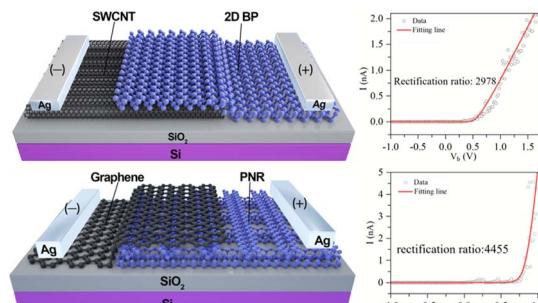


## PAPERS

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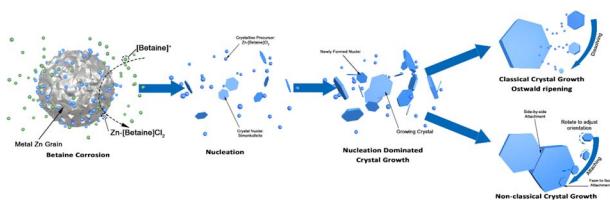
**High-performance diodes based on black phosphorus/carbon nanomaterial heterostructures**

Xiaowo Ye, Yanming Zhang, Shengguang Gao, Xiuzhi Zhao, Ke Xu, Long Wang, Shenghao Jiang, Fangyuan Shi, Jingyun Yang, Zhe Cao and Changxin Chen\*



## PAPERS

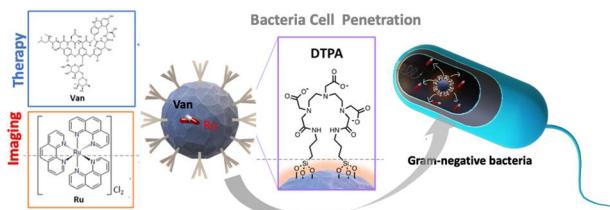
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## Controlling simonkolleite crystallisation via metallic Zn oxidation in a betaine hydrochloride solution

Shaoqing Qu, Eftychios Hadjitosifis, Francisco Malaret, Jason Hallett, Rachel Smith and Kyra Sedransk Campbell\*

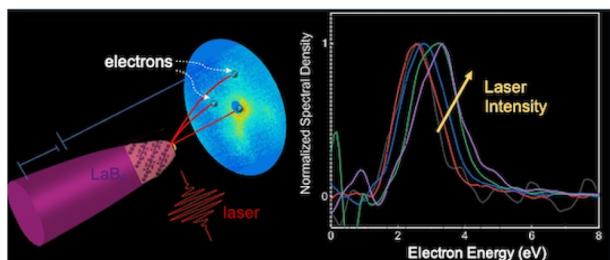
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## Chelating silica nanoparticles for efficient antibiotic delivery and particle imaging in Gram-negative bacteria

Asier R. Muguruza, Alessandro di Maio, Nikolas J. Hodges, Jessica M. A. Blair\* and Zoe Pikramenou\*

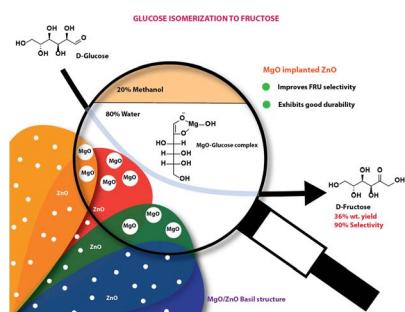
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## Bright and ultrafast electron point source made of LaB6 nanotip

O. Bhorade, B. Deconihout, I. Blum, S. Moldovan, J. Houard, A. Normand, K. Jagtap, M. More and A. Vella\*

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## Tuning of MgO's base characteristics by blending it with amphoteric ZnO facilitating the selective glucose isomerization to fructose for bioenergy development

Sangeeta Mahala, Senthil M. Arumugam, Sandeep Kumar, Bhawana Devi and Sasikumar Elumalai\*

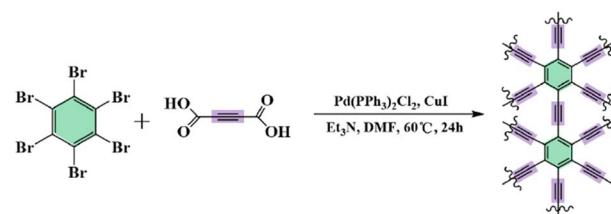


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**One-pot synthesis of gamma-graphyne supported Pd nanoparticles with high catalytic activity**

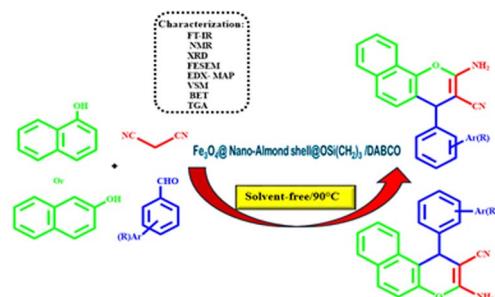
Shan He, Bin Wu,\* Ziwei Xia, Panxiang Guo, Yao Li and Shiqiang Song\*



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**Fe<sub>3</sub>O<sub>4</sub>@nano-almond shell@OSi(CH<sub>2</sub>)<sub>3</sub>/DABCO: a novel magnetic nanocatalyst for the synthesis of chromenes**

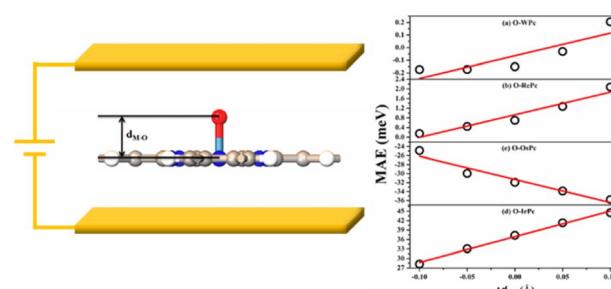
Mina Keihanfar, Bi Bi Fatemeh Mirjalili\* and Abdolhamid Bamoniri



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**Tuning magnetocrystalline anisotropy by controlling the orbital electronic configuration of two-dimensional magnetic materials**

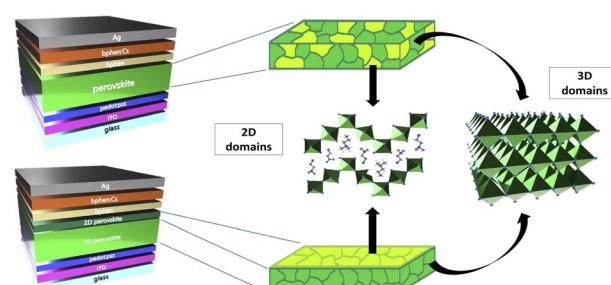
Xiaoxiao Guan, Yun Zhang, Xia Long, Guo-Jun Zhu\* and Juexian Cao\*



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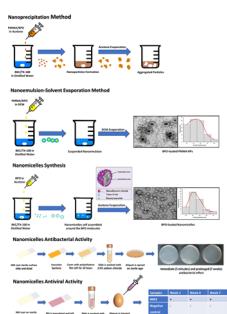
**Role of a corrugated Dion–Jacobson 2D perovskite as an additive in 3D MAPbBr<sub>3</sub> perovskite-based light emitting diodes**

C. T. Prontera,\* D. Taurino, A. Coriolano, A. Maggiore, M. Pugliese, R. Giannuzzi, F. Mariano, S. Carallo, A. Rizzo, G. Gigli, L. De Marco\* and V. Maiorano



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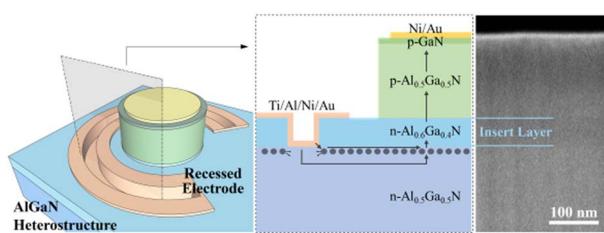
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## A novel long-acting antimicrobial nanomicelle spray

Mousa El-Sayed, Saif El-Din Al-Mofty, Noha Khalil Mahdy, Wessam Awad Sarhan\* and Hassan Mohamed El-Said Azzazy\*

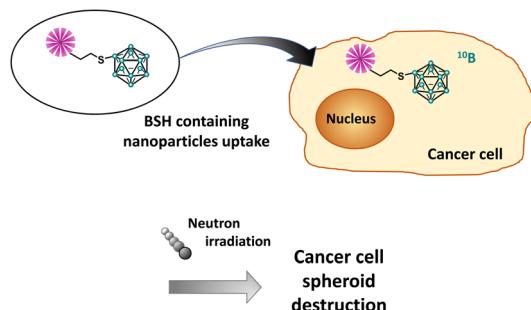
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## Optimizing metal/n-AlGaN contact by recessed AlGaN heterostructure with a polarization effect

Yuxuan Chen, Ke Jiang,\* Xiaojuan Sun, Zi-Hui Zhang, Shanli Zhang, Jianwei Ben, Bingxiang Wang, Long Guo and Dabing Li\*

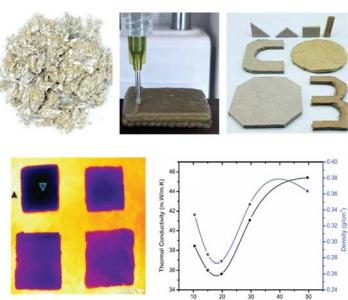
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## Organosilica nanoparticles containing sodium borocaptate (BSH) provide new prospects for boron neutron capture therapy (BNCT): efficient cellular uptake and enhanced BNCT efficacy

Mathilde Laird, Kotaro Matsumoto, Yuya Higashi, Aoi Komatsu, Art Raitano, Kendall Morrison, Minoru Suzuki and Fuyuhiko Tamanoi\*

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## Additive manufacturing of eco-friendly building insulation materials by recycling pulp and paper

Meng-Lun Lee, Arpita Sarkar, Zipeng Guo, Chi Zhou, Jason N. Armstrong and Shenqiang Ren\*

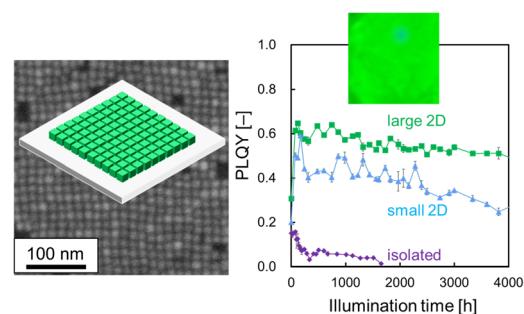


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## Enhanced and stabilized photoluminescence of perovskite cesium lead bromide nanocubes through ordered assemblies

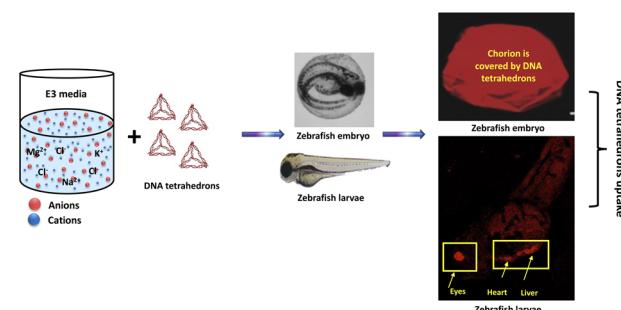
Moeka Sasaki, Shota Hashimoto, Yoshiki Iso, Yuya Oaki, Tetsuhiko Isobe and Hiroaki Imai\*



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## Spatiotemporal dynamics of DNA nanocage uptake in zebrafish embryos for targeted tissue bioimaging applications

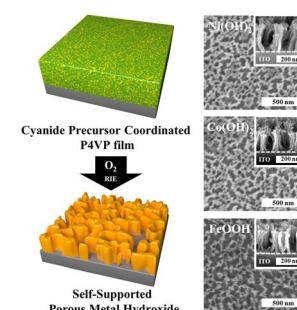
Krupa Kansara, Abdulkhalik Mansuri, Anjali Rajwar, Payal Vaswani, Ramesh Singh, Ashutosh Kumar and Dhiraj Bhatia\*



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## Facile synthesis of porous transition metal hydroxides from a poly(4-vinyl pyridine) film by controlling pH

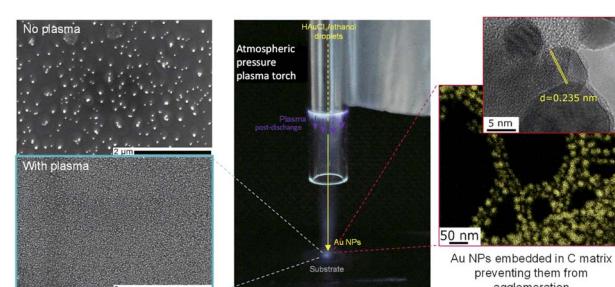
Gyeongwon Ha, Jaeyong Lee, Keon-Woo Kim, Chungryong Choi and Jin Kon Kim\*



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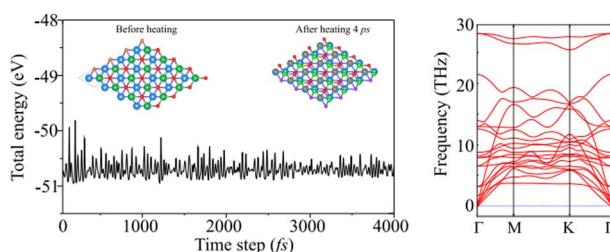
## Gold nanoparticles synthesis and immobilization by atmospheric pressure DBD plasma torch method

Andjelika Bjelajac,\* Adrian-Marie Phillippe, Jérôme Guillot, Yves Fleming, Jean-Baptiste Chemin, Patrick Choquet and Simon Bulou



## PAPERS

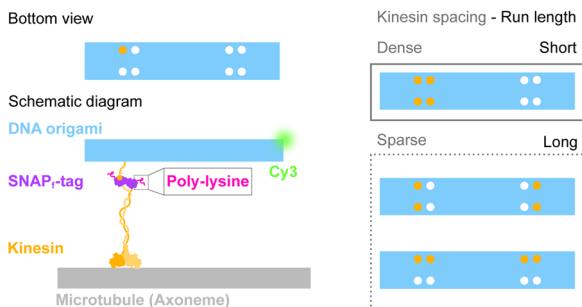
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### First-principles investigation of a type-II BP/Sc<sub>2</sub>CF<sub>2</sub> van der Waals heterostructure for photovoltaic solar cells

Nguyen Dang Khang, Cuong Q. Nguyen,\* Le M. Duc and Chuong V. Nguyen\*

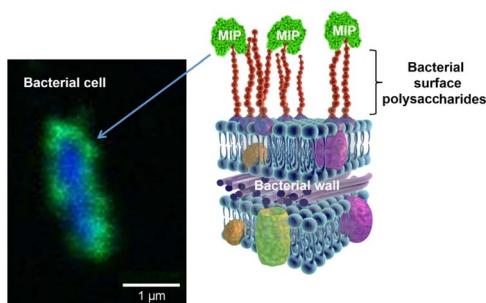
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### Evaluating the effect of two-dimensional molecular layout on DNA origami-based transporters

Kodai Fukumoto, Yuya Miyazono, Takuya Ueda, Yoshie Harada\* and Hisashi Tadakuma\*

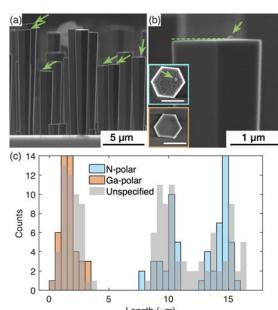
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### Molecularly imprinted nanoparticles for pathogen visualisation

Jaroslava Bezdekova, Francesco Canfarotta,\* Fabiana Grillo,\* Hasan Yesilkaya, Marketa Vaculovicova and Sergey Piletsky

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### Complications in silane-assisted GaN nanowire growth

Nian Jiang,\* Saptarsi Ghosh, Martin Frentrup, Simon M. Fairclough, Kagiso Loeto, Gunnar Kusch, Rachel A. Oliver and Hannah J. Joyce

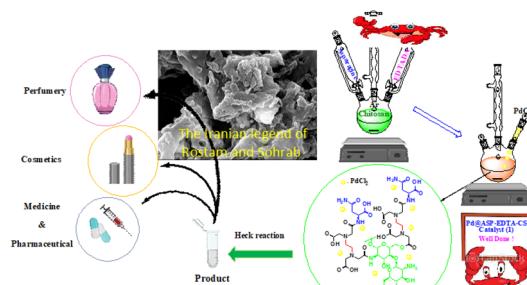


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**Pd@L-asparagine–EDTA–chitosan: a highly effective and reusable bio-based and biodegradable catalyst for the Heck cross-coupling reaction under mild conditions**

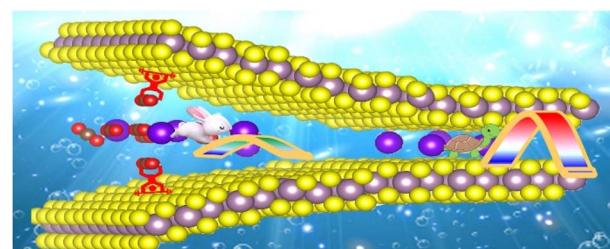
Mohammad Dohendou, Mohammad G. Dekamin\* and Danial Namaki



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**Molecular engineering on a MoS<sub>2</sub> interlayer for high-capacity and rapid-charging aqueous ion batteries**

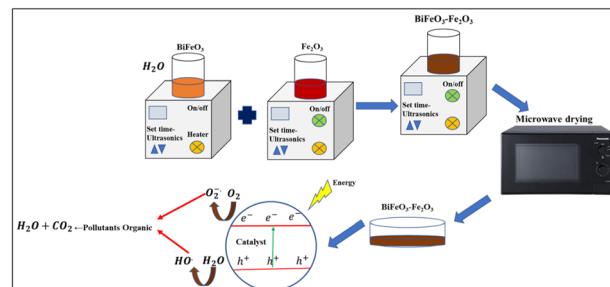
Xuefei Han, Jing Yang, Yong-Wei Zhang\* and Zhi Gen Yu\*



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**Single-phase BiFeO<sub>3</sub> and BiFeO<sub>3</sub>–Fe<sub>2</sub>O<sub>3</sub> nanocomposite photocatalysts for photodegradation of organic dye pollutants**

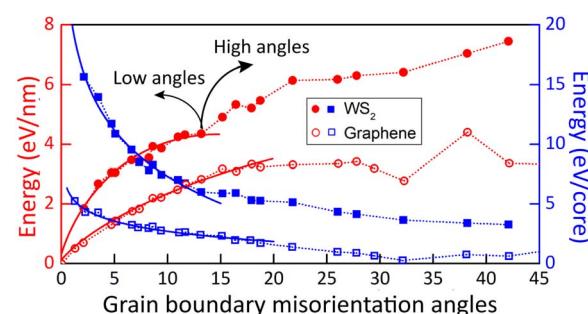
Pravallika Banoth, Boya Palajonnala Narsaiah, Luis De Los Santos Valladares,\* Jumat Kargin and Pratap Kollu\*



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**Tilt grain boundaries in WS<sub>2</sub> from low to high misorientation angles**

Da Ke, Jinquan Hong and Yubo Zhang\*



## CORRECTION

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**Correction: Tuning the morphology of sulfur–few layer graphene composites *via* liquid phase evaporation for battery application**

Eleonora Venezia, Lorenzo Carbone,\* Francesco Bonaccorso and Vittorio Pellegrini

