

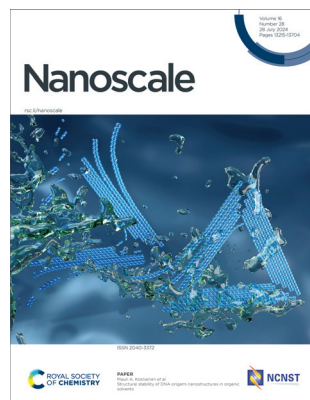
# Nanoscale

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## IN THIS ISSUE

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### Cover

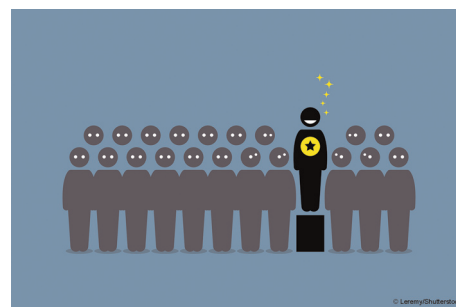
See Mauri A. Kostianen *et al.*,  
pp. 13407–13415.

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## EDITORIAL

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### Outstanding Reviewers for *Nanoscale* in 2023



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### Bio-gel nanoarchitectonics in tissue engineering

Jingwen Song,\* Wenyan Lyu, Kohsaku Kawakami and  
Katsuhiko Ariga\*



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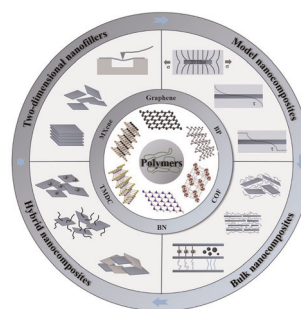


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### Mechanical reinforcement from two-dimensional nanofillers: model, bulk and hybrid polymer nanocomposites

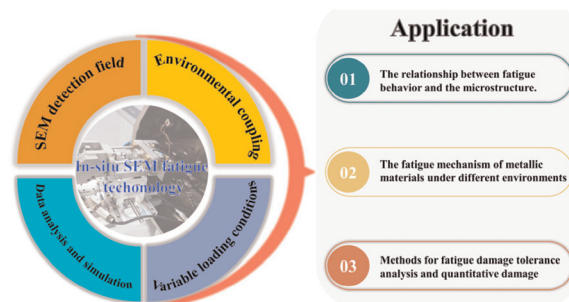
Ming Dong, Yiwei Sun, David J. Dunstan, Robert J. Young\* and Dimitrios G. Papageorgiou\*



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### In situ SEM fatigue testing technology for metallic materials: a review

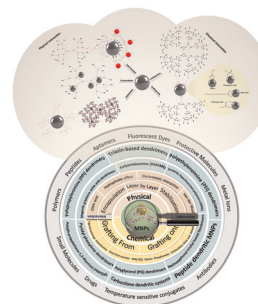
Bin Zhang, Longyu Li, Xuecheng Zhang, Xiangcheng Sun, Xinbao Zhao,\* Yuefei Zhang\* and Ze Zhang



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### Advances in functionalization and conjugation mechanisms of dendrimers with iron oxide nanoparticles

Salma Habib, Mohammed Talhami, Amani Hassanein, Elsadig Mahdi, Maryam AL-Ejji, Mohammad K. Hassan, Ali Altaee, Probir Das and Alaa H. Hawari\*

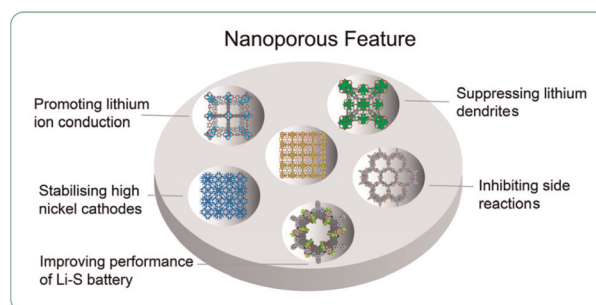


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### Advances in nanoporous materials for next-generation battery applications

Li Sheng, Xiangming He and Hong Xu\*



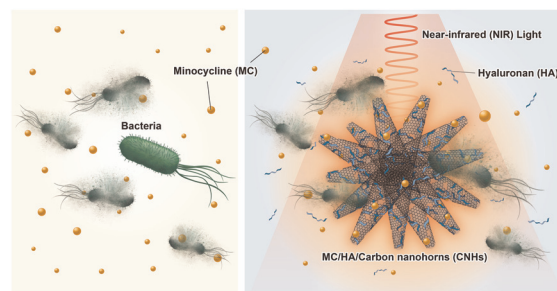


## PAPERS

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### Near-infrared light-boosted antimicrobial activity of minocycline/hyaluronan/carbon nanohorn composite toward peri-implantitis treatments

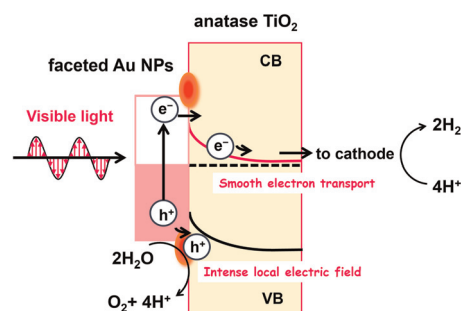
Daisuke Konishi, Eri Hirata,\* Yuta Takano,\* Yukari Maeda, Natsumi Ushijima, Masako Yudasaka and Atsuro Yokoyama



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### Efficient plasmonic water splitting by heteroepitaxial junction-induced faceting of gold nanoparticles on an anatase titanium(IV) oxide nanoplate array electrode

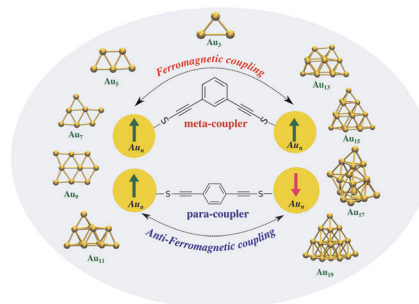
Shin-ichi Naya, Yoko Morita, Hisashi Sugime, Tetsuro Soejima, Musashi Fujishima and Hiroaki Tada\*



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### Orchestration of ferro- and anti-ferromagnetic ordering in gold nanoclusters

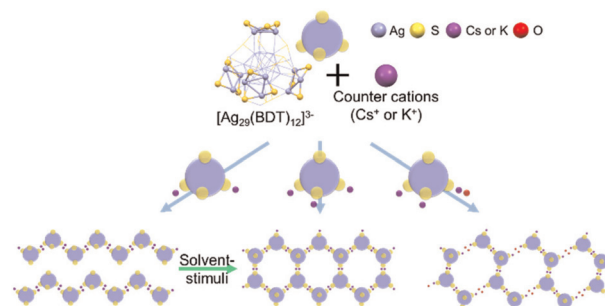
Nisha Mehla, Aritra Mukhopadhyaya, Shahjad Ali and Md. Ehesan Ali\*



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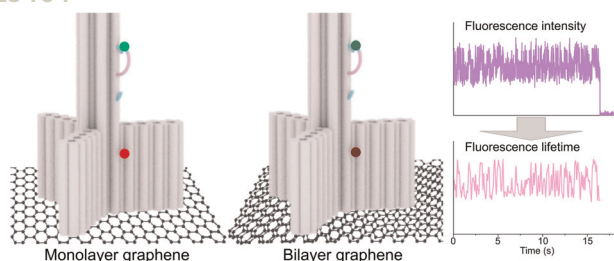
### Assembly of anionic silver nanoclusters with controlled packing structures through site-specific ionic bridges

Wataru Ishii, Rika Tanaka and Takuya Nakashima\*



## PAPERS

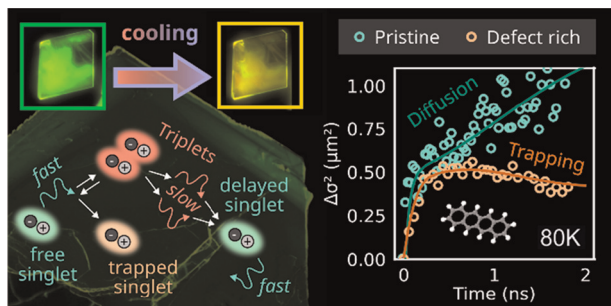
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### Expanding the range of graphene energy transfer with multilayer graphene

Karolina Gronkiewicz, Lars Richter, Fabian Knechtel, Patryk Pyrcz, Paul Leidinger, Sebastian Günther, Evelyn Ploetz, Philip Tinnefeld\* and Izabela Kamińska\*

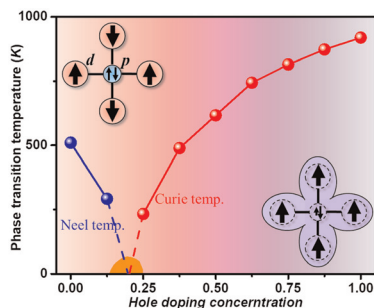
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### Transport, trapping, triplet fusion: thermally retarded exciton migration in tetracene single crystals

Dominik Muth, Sebastian Anhäuser, Daniel Bischof, Anton Krüger, Gregor Witte\* and Marina Gerhard\*

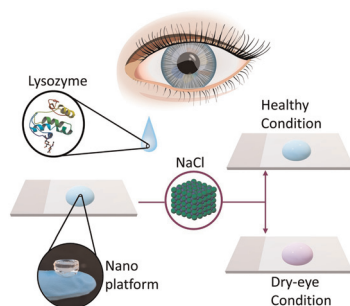
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### Exploring unconventional ferromagnetism in hole-doped LaCrAsO: insights into charge-transfer and magnetic interactions

Zhao Liu\* and Nikhil V. Medhekar\*

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### Lysozyme-sensitive plasmonic hydrogel nanocomposite for colorimetric dry-eye inflammation biosensing

Yasamin Ziai, Chiara Rinoldi, Francesca Petronella, Anna Zakrzewska, Luciano De Sio and Filippo Pierini\*

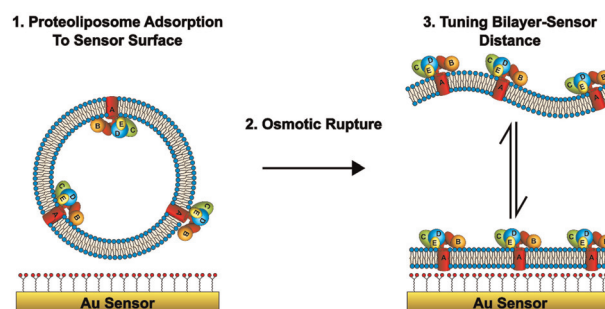


## PAPERS

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### Distance tuneable integral membrane protein containing floating bilayers *via in situ* directed self-assembly

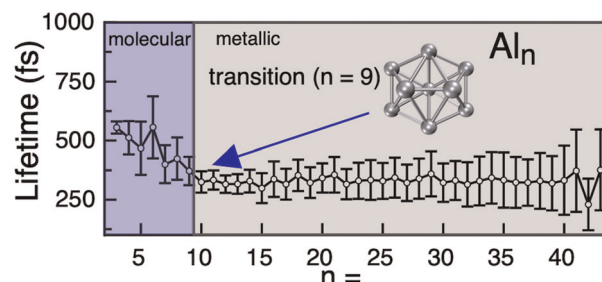
Stephen C. L. Hall, David J. Hardy, Éilís C. Bragginton, Hannah Johnston, Tudor Onose, Rachel Holyfield, Pooja Sridhar, Timothy J. Knowles and Luke A. Clifton\*



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### Size onset of metallic behavior in neutral aluminum clusters

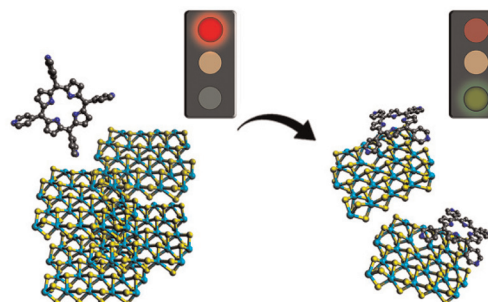
Chase H. Rotteger, Carter K. Jarman, Shaun F. Sutton and Scott G. Sayres\*



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### Simultaneous exfoliation and functionalization of MoS<sub>2</sub> with tetrapyrrolyl porphyrin

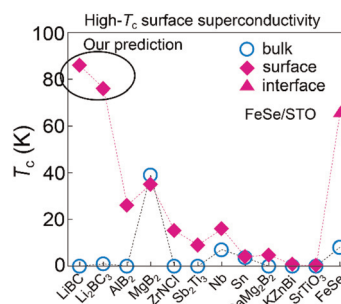
Marina Garrido,\* Alejandro Criado\* and Maurizio Prato\*



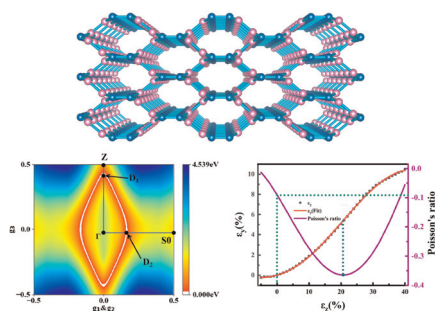
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### Surface inducing high-temperature superconductivity in layered metal carbides Li<sub>2</sub>BC<sub>3</sub> and LiBC by metallizing $\sigma$ electrons

Muyao Wang, Xiaohan Liu, Xiaowei Huang\* and Liangliang Liu\*



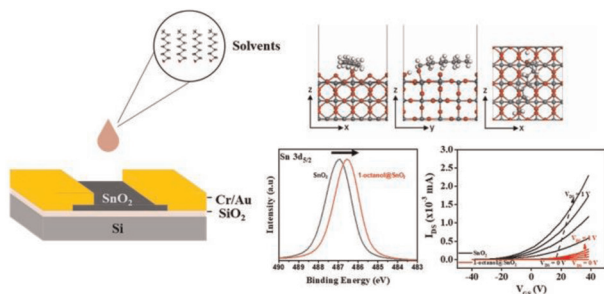
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### A topological nodal line semi-metal with a negative Poisson's ratio in a three-dimensional carbon network with $sp^2$ hybridization

Wen Jiang, Jun Jiang, Zhixun Zhang, Wenjie Wu, Li-Chuan Zhang,\* Yuee Xie\* and Yuanping Chen\*

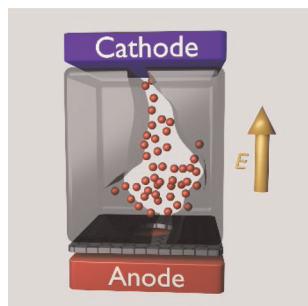
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### Surface chemistry altering electronic behaviour of liquid metal-derived tin oxide nanosheets

Xiaotian Wei, Chung Kim Nguyen, Patrick D. Taylor, Vaishnavi Krishnamurthi, Nitu Syed, Phuong Y. Le, Michelle J. S. Spencer, Torben Daeneke\* and Lei Bao\*

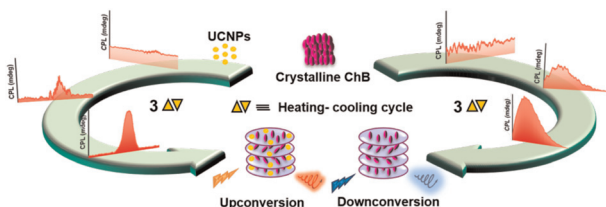
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### Kinetic Monte Carlo simulations on electroforming in nanomanipulated conductive bridge random access memory devices

Yu-Chen Li, Ping Xu, Yang-Yang Lv, Wei Fa and Shuang Chen\*

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### Clustering triggered emissive liquid crystalline template for dual mode upconverted and downconverted circularly polarized luminescence

Sreelakshmi Theeyanchery Nalavadath, Sonia Maniappan, Anannya Mandal and Jatish Kumar\*

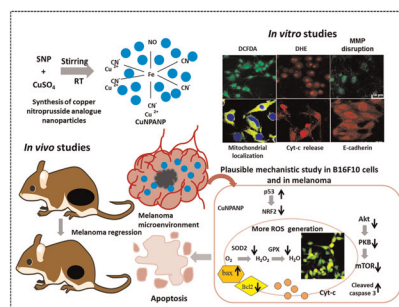




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### Copper nitroprusside analogue nanoparticles against melanoma: detailed *in vitro* and *in vivo* investigation

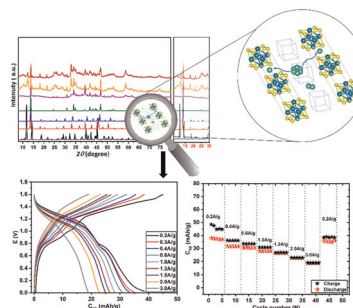
Sanchita Tripathy, Swapnali Londhe, Arti Patel, Sudipta Saha, Yogesh Chandra and Chitta Ranjan Patra\*



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### Nanosized Chevrel phases for dendrite-free zinc-ion based energy storage: unraveling the phase transformations

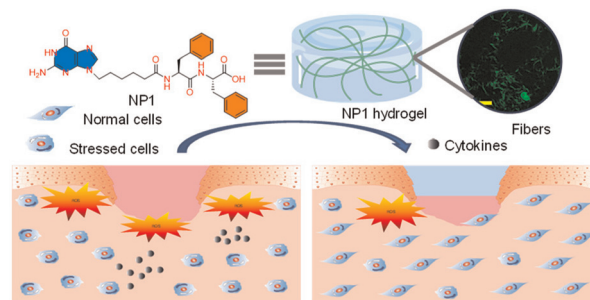
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### Design and synthesis of a nucleobase functionalized peptide hydrogel: *in vitro* assessment of anti-inflammatory and wound healing effects

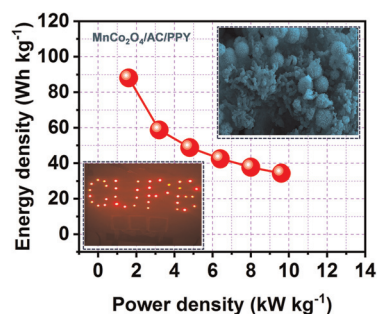
Sourav Bhowmik, Budhadev Baral, Tanmay Rit, Hem Chandra Jha and Apurba K. Das\*



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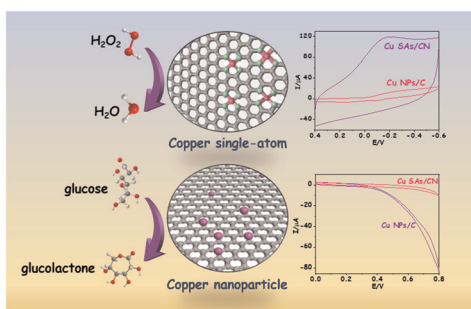
### Polypyrrole and activated carbon enriched MnCo<sub>2</sub>O<sub>4</sub> ternary composite as efficient electrode material for hybrid supercapacitors

Simran Kour, Pawanpreet Kour and A. L. Sharma\*



## PAPERS

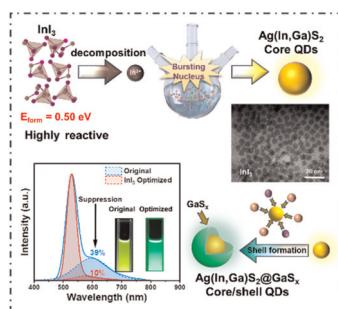
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### Selecting effective electrocatalyst from Cu single-atoms and nanoparticles for realizing highly sensitive electrochemical sensing of glucose and H<sub>2</sub>O<sub>2</sub>

Ziyin Yang,\* Chongchao Zhang and Chengcheng Qi\*

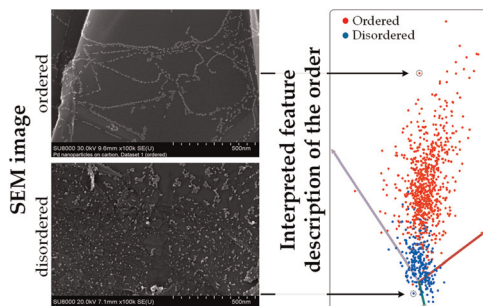
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### Reactivity-matched synthesis of monodisperse Ag(In,Ga)S<sub>2</sub> QDs with efficient luminescence

Naiwei Wei, Hong Zhu, Danni Yan, Shuai Yang, Lili Xu, Shengli Zhang, Yuhui Dong,\* Yousheng Zou\* and Haibo Zeng\*

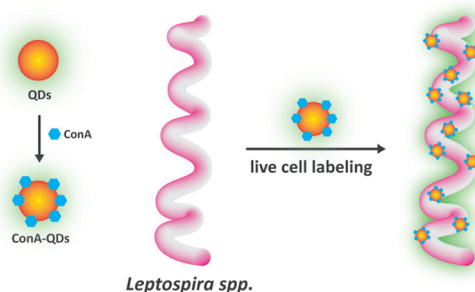
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### Determining the orderliness of carbon materials with nanoparticle imaging and explainable machine learning

Mikhail Yu. Kurbakov, Valentina V. Sulimova, Andrei V. Kopylov, Oleg S. Seredin, Daniil A. Boiko, Alexey S. Galushko, Vera A. Cherepanova and Valentine P. Ananikov\*

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### Quantum dots as a fluorescent labeling tool for live-cell imaging of *Leptospira*

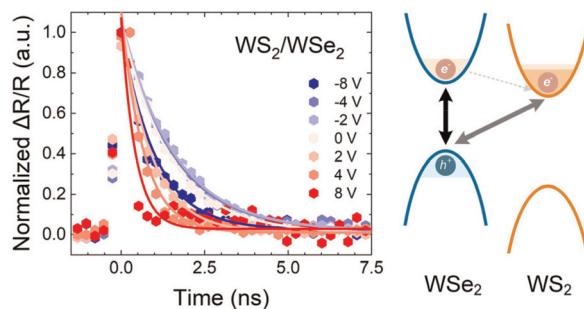
Yotsakorn Tantiapibalkun, Sopon Nuchpun, Wid Mekseriwattana, Sukhonta Limsampan, Galayanee DOUNGCHAWEE, Kulachart Jangpatarapongsa, Toemsak Srihirin and Kanlaya Prapainop Katewongsa\*



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### Electrically tunable non-radiative lifetime in $WS_2/WSe_2$ heterostructures

Anran Wang, Xingguang Wu, Siwen Zhao, Zheng Vitto Han, Yi Shi, Giulio Cerullo and Fengqiu Wang\*



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### Dual-site OER mechanism exploration through regulating asymmetric multi-site NiOOH

Fei Wu, Biao Wu, Liang Chen, Yunan Wang,\* Jiejie Li\* and Qiuju Zhang\*

