

## IN THIS ISSUE

ISSN 2040-3372 CODEN NANOHL 15(35) 14271–14684 (2023)



### Cover

See Giuseppe Bardi,  
Luca Boselli,  
Pier Paolo Pompa,  
pp. 14284–14300.

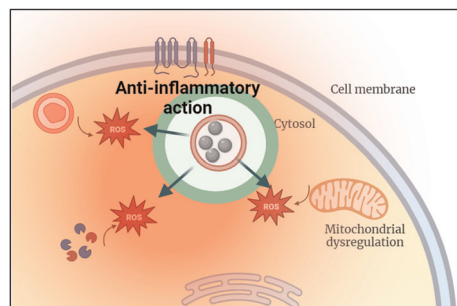
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## REVIEWS

14284

### Anti-inflammatory potential of platinum nanozymes: mechanisms and perspectives

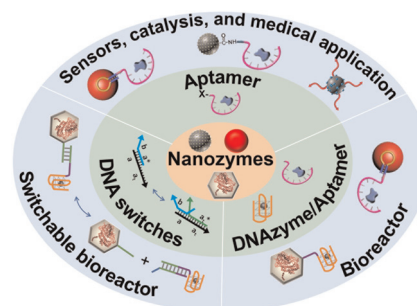
Giuseppe Bardi,\* Luca Boselli\* and Pier Paolo Pompa\*



14301

### Nucleic acid-functionalized nanozymes and their applications

Yunlong Qin, Yu Ouyang and Itamar Willner\*



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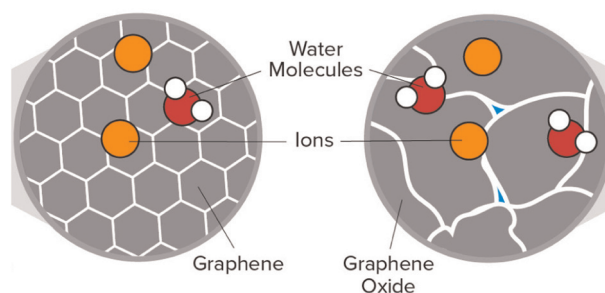


## MINIREVIEW

14319

## Ion and water adsorption to graphene and graphene oxide surfaces

Amanda J. Carr,\* Seung Eun Lee and Ahmet Uysal

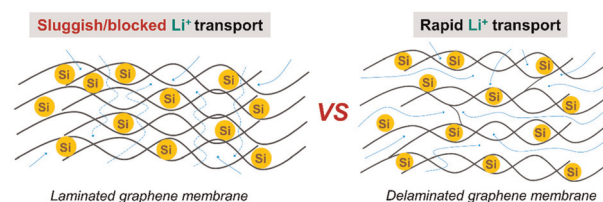


## COMMUNICATION

14338

## Scalable engineering of hierarchical layered micro-sized silicon/graphene hybrids via direct foaming for lithium storage

Mathar Hamza, Siyuan Zhang, Wenqiang Xu, Denghui Wang, Yingjie Ma\* and Xianglong Li\*

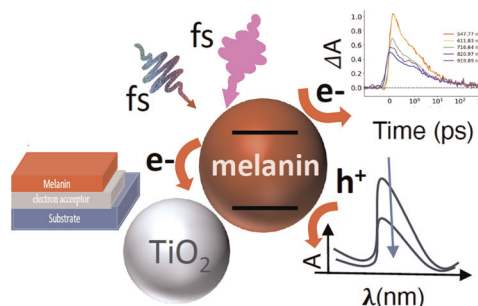


## PAPERS

14346

## Enhanced photochemical activity and ultrafast photocarrier dynamics in sustainable synthetic melanin nanoparticle-based donor-acceptor inkjet-printed molecular junctions

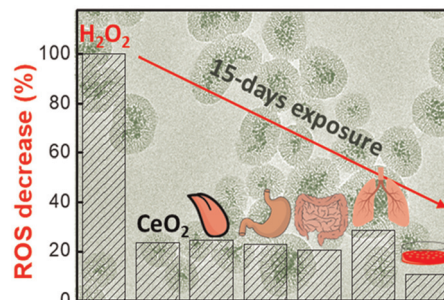
Max DeMarco, Matthew Ballard, Elinor Grage, Farnoush Nourigheimasi, Lillian Getter, Ashkan Shafiee and Elham Ghadiri\*



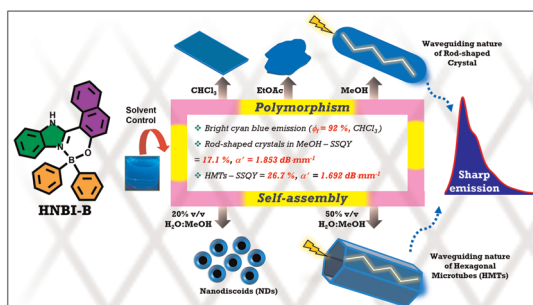
14365

Conservation of the enzyme-like activity and biocompatibility of CeO<sub>2</sub> nanozymes in simulated body fluids

Muling Zeng, Xu Zhang, Jie Tang, Xingfei Liu, Yichao Lin, Dongdong Guo, Yuping Zhang, Shijie Ju, Guillermo Fernández-Varo, Ya-Chao Wang,\* Xiangyu Zhou,\* Gregori Casals\* and Eudald Casals\*



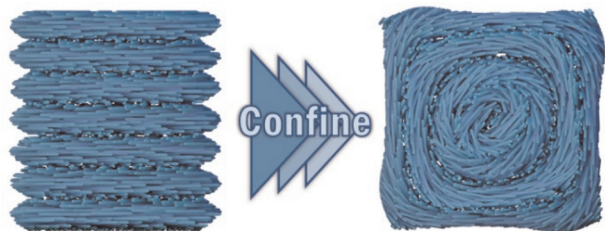
14380



## Luminescent hexagonal microtubes prepared through water-induced self-assembly of a polymorphic organoboron compound: formation mechanism and waveguide behaviour

Pradip A. Gaikwad, Prodipta Samadder, Shubham Som, Deepak Chopra,\* Prakash P. Neelakandan\* and Aasheesh Srivastava\*

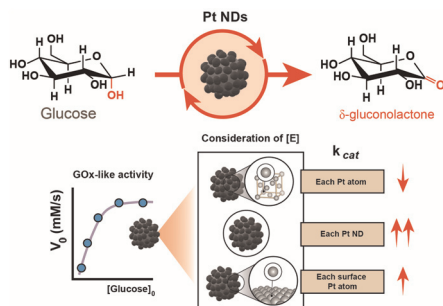
14388



## Self-assembly of cellulose nanocrystals confined to square capillaries

Amanda J. Ackroyd, Adam De Paolis, Yi-Tao Xu, Arash Momeni, Wadood Y. Hamad and Mark J. MacLachlan\*

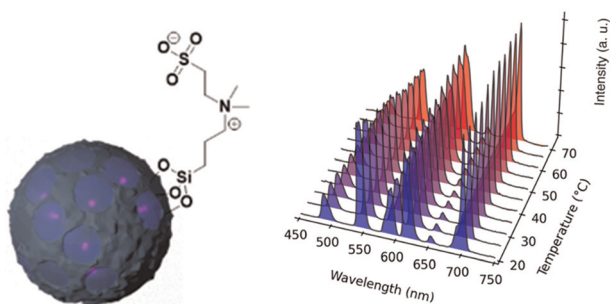
14399



## Platinum-based nanodendrites as glucose oxidase-mimicking surrogates

Jose I. Garcia-Peiro, Javier Bonet-Aleta, Maria L. Tamayo-Fraile, Jose L. Hueso\* and Jesus Santamaria\*

14409



## Hybrid multifunctionalized mesostructured stellate silica nanoparticles loaded with $\beta$ -diketonate $\text{Tb}^{3+}/\text{Eu}^{3+}$ complexes as efficient ratiometric emissive thermometers working in water

Tristan Pelluau, Saad Sene, Lamiaa M. A. Ali, Gautier Félix, Faustine Manhes, Albano N. Carneiro Neto, Luis D. Carlos,\* Belén Albela, Laurent Bonneviot, Erwan Oliviero, Magali Gary-Bobo, Yannick Guari\* and Joulia Larionova\*

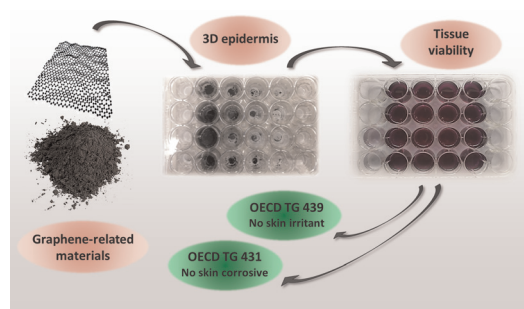


## PAPERS

14423

***In vitro* assessment of skin irritation and corrosion properties of graphene-related materials on a 3D epidermis**

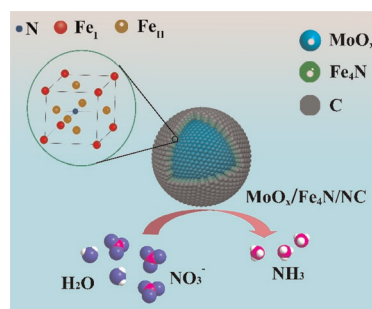
Michela Carlin, Marina Garrido, Silvio Sosa, Aurelia Tubaro, Maurizio Prato and Marco Pelin\*



14439

**Multi-layer core-shell metal oxide/nitride/carbon and its high-rate electroreduction of nitrate to ammonia**

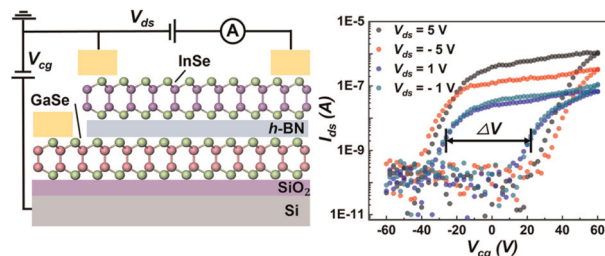
Xiaoyu Li, Ping Deng, Mengqiu Xu, Zhenbo Peng, Yuhu Zhou, Gan Jia, Wei Ye,\* Peng Gao\* and Wei Wang\*



14448

**Tunable non-volatile memories based on 2D InSe/*h*-BN/GaSe heterostructures towards potential multifunctionality**

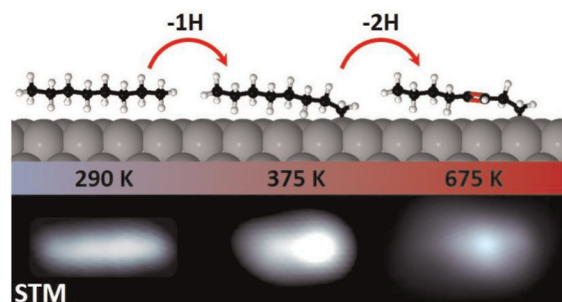
Xiang Gong, Yueying Zhou, Jiangnan Xia, Li Zhang, Lijie Zhang, Long-Jing Yin, Yuanyuan Hu,\* Zhihui Qin\* and Yuan Tian\*



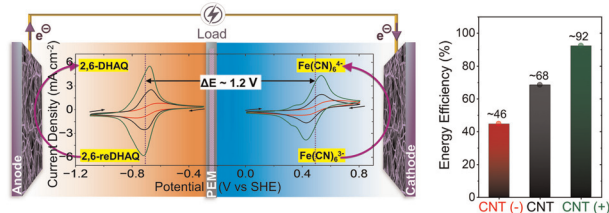
14458

***In situ* observation of the on-surface thermal dehydrogenation of *n*-octane on Pt(111)**

Daniel Arribas, Victor Villalobos-Vilda, Ezequiel Tosi, Paolo Lacovig, Alessandro Baraldi, Luca Bignardi, Silvano Lizzit, José Ignacio Martínez, Pedro Luis de Andres, Alejandro Gutiérrez, José Ángel Martín-Gago and Pablo Merino\*



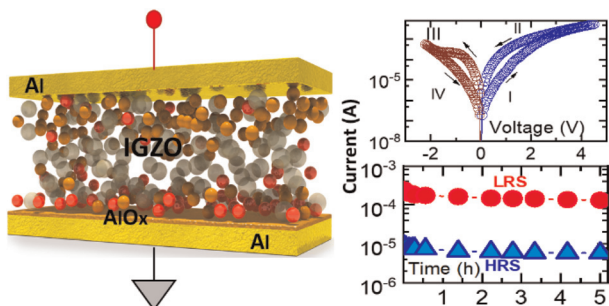
144468



### Electrostatically driven unidirectional molecular flux for high performance alkaline flow batteries

Bhojkumar Nayak, Ritwik Mondal and Musthafa Ottakam Thotiyil\*

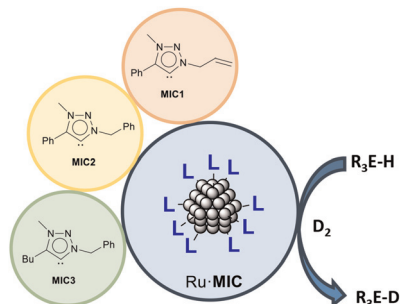
144476



### Interface roughness effects and relaxation dynamics of an amorphous semiconductor oxide-based analog resistance switching memory

G. R. Haripriya, Hee Yeon Noh, Chan-Kang Lee, June-Seo Kim, Myoung-Jae Lee and Hyeon-Jun Lee\*

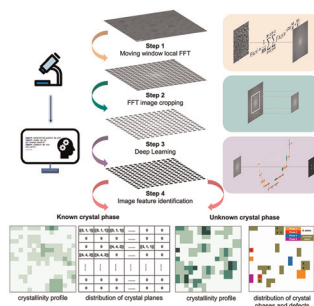
144488



### Ruthenium nanoparticles stabilized by 1,2,3-triazolylidene ligands in the hydrogen isotope exchange of E-H bonds (E = B, Si, Ge, Sn) using deuterium gas

Pablo Molinillo, Maxime Puyo, Florencia Vattier, Bertrand Lacroix, Nuria Rendón,\* Patricia Lara\* and Andrés Suárez\*

144496



### Deep learning-assisted analysis of HRTEM images of crystalline nanoparticles

Xiaoyang Zhu, Yu Mao, Jizi Liu, Yi Chen, Chuan Chen, Yan Li, Xiao Huang\* and Ning Gu\*

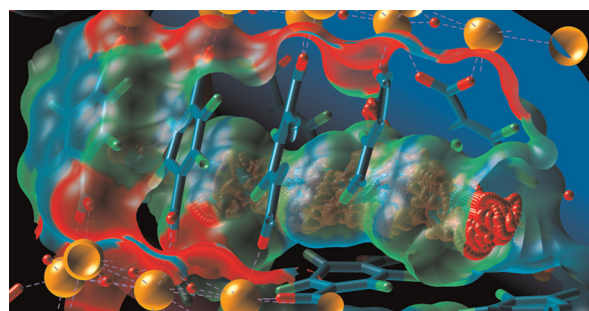


## PAPERS

14505

### Disclosing gate-opening/closing events inside a flexible metal–organic framework loaded with CO<sub>2</sub> by reactive and essential dynamics

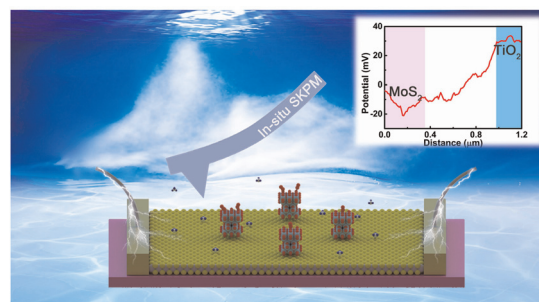
Susanna Monti,\* Cheherazade Trouki and Giovanni Barcaro



14514

### TiO<sub>2</sub>-modified MoS<sub>2</sub> monolayer films enable sensitive NH<sub>3</sub> sensing at room temperature

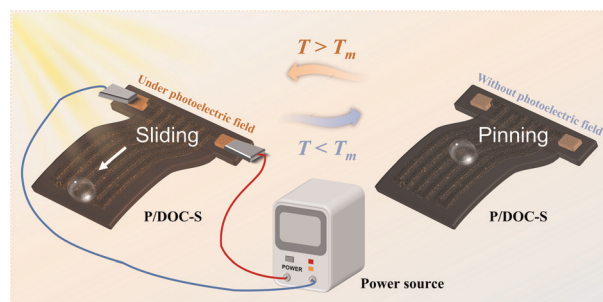
Lun Tan, Xianzhen Liu, Peng Wu, Liwei Cao, Wei Li, Ang Li,\* Zhao Wang\* and Haoshuang Gu\*



14523

### Photoelectric synergistic anisotropic slippery interface for directional droplets manipulation

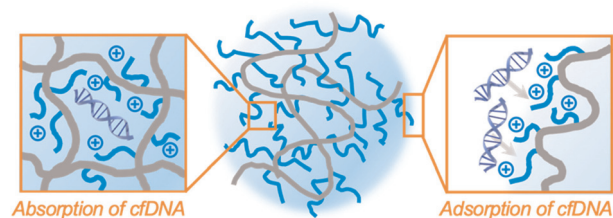
Xu Sun, Xuan Wang, Pu Guo, Lei Jiang and Liping Heng\*



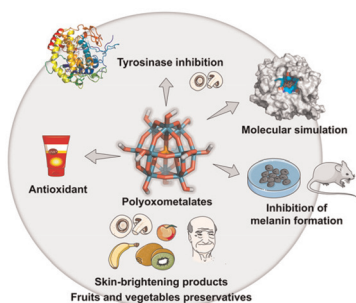
14531

### Nanogels designed for cell-free nucleic acid sequestration

Yuhang Huang, Shangyu Li, Logan W. C. Zettle, Yingshan Ma, Hani E. Naguib and Eugenia Kumacheva\*



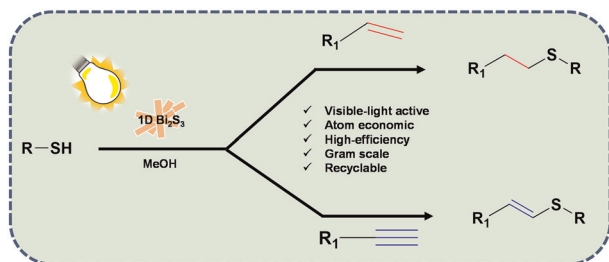
14543



### Mechanism of melanogenesis inhibition by Keggin-type polyoxometalates

Guoxiang Chi, Die Shuai, Jiaxin Li, Xiangsong Chen, Han Yang, Meijuan Zhao, Zedong Jiang, Li Wang\* and Bingnian Chen\*

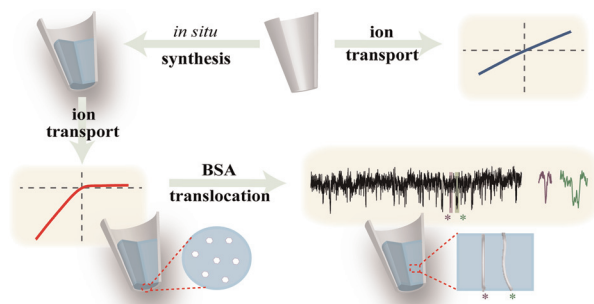
14551



### Visible light-driven photocatalytic thiol-ene/yne reactions using anisotropic 1D Bi<sub>2</sub>S<sub>3</sub> nanorods: a green synthetic approach

Haider Ali, Bhagirath Mahto, Ashok Barhoi and Sahid Hussain\*

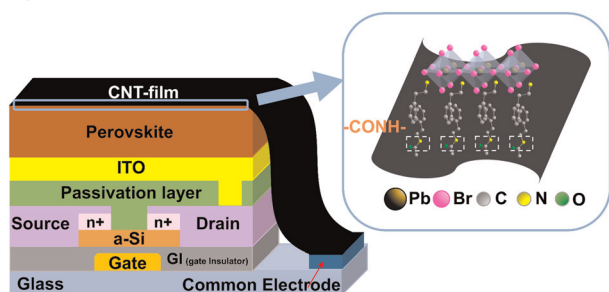
14564



### Ion transport based structural description for *in situ* synthesized SBA-15 nanochannels in a sub-micropipette

Rui Zhang, Qiang Zeng,\* Xuye Liu and Lishi Wang\*

14574



### An interfacial toughening strategy for high stability 2D/3D perovskite X-ray detectors with a carbon nanotube thin film electrode

Liwen Qiu, Mingqiang Wang, Tian Sun, Qiang Lou, Tong Chen, Guoshen Yang, Wei Qian, Zixuan Zhang, Shihe Yang, Min Zhang, Yufeng Jin and Hang Zhou\*

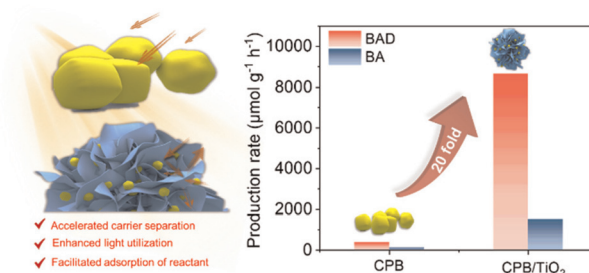


## PAPERS

14584

### High-efficiency visible-light-driven oxidation of primary C–H bonds in toluene over a CsPbBr<sub>3</sub> perovskite supported by hierarchical TiO<sub>2</sub> nanoflakes

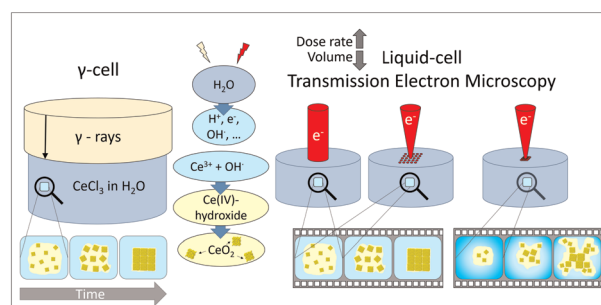
Jiayu Yi, Sunzai Ke, Suwei Lu, Bo Weng, Lijuan Shen, Xuhui Yang, Hun Xue, Min-Quan Yang\* and Qingrong Qian\*



14595

### Non-classical crystallization of CeO<sub>2</sub> by means of *in situ* electron microscopy

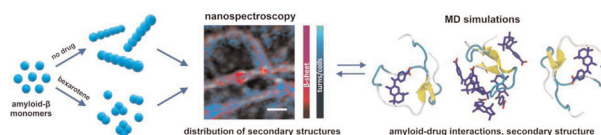
Hannes Zschiesche,\* Inna L. Soroka, Mats Jonsson and Nadezda V. Tarakina\*



14606

### Nanoscale insights into the local structural rearrangements of amyloid-β induced by bexarotene

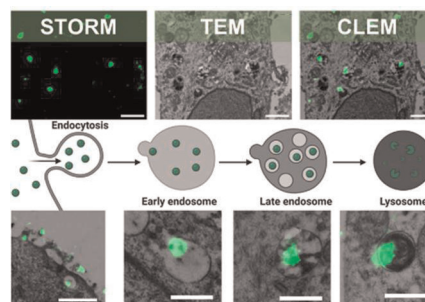
Kamila Sofińska, Piotr Batys, Adrian Cernescu, Dhiman Ghosh, Katarzyna Skirlińska-Nosek, Jakub Barbasz, Sara Seweryn, Natalia Wilkosz, Roland Riek, Marek Szymoński and Ewelina Lipiec\*



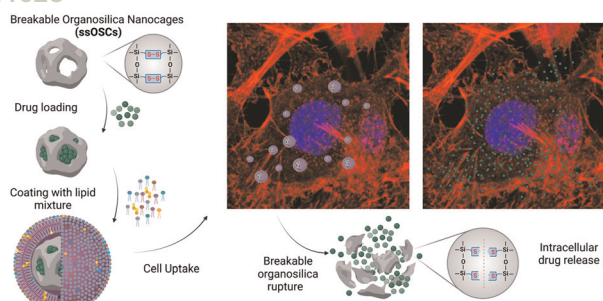
14615

### A super-resolution and transmission electron microscopy correlative approach to study intracellular trafficking of nanoparticles

Teodora Andrian, Yolanda Muela, Lidia Delgado, Lorenzo Albertazzi\* and Silvia Pujals\*



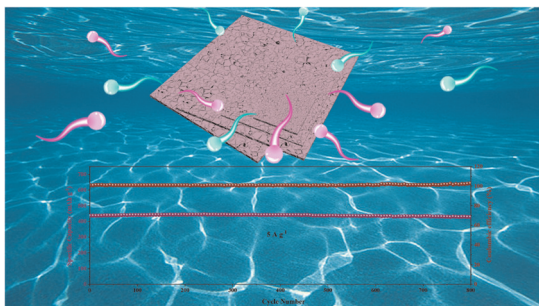
14628



### Cargo-loaded lipid-shielded breakable organosilica nanocages for enhanced drug delivery

María Sancho-Albero, Giada Rosso, Luisa De Cola\* and Valentina Cauda\*

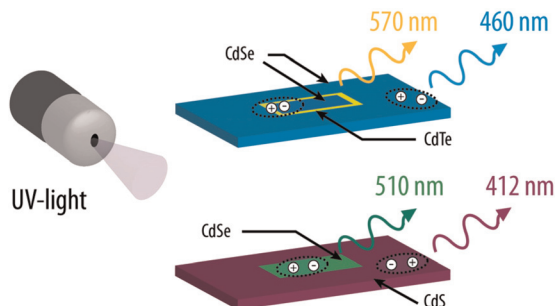
14641



### *In situ* Cu doping of ultralarge CoSe nanosheets with accelerated electronic migration for superior sodium-ion storage

Jitao Geng, Huilong Dong, Jing Liu, Chengkui Lv, Huaixin Wei, Yafei Cheng,\* Jun Yang\* and Hongbo Geng\*

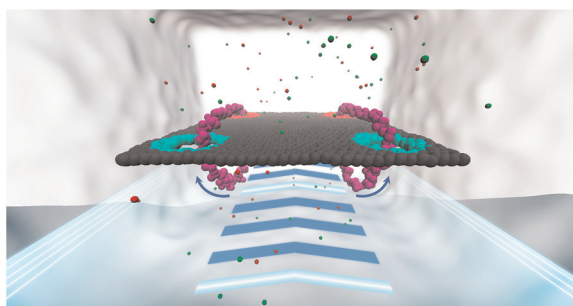
14651



### Expanding the color palette of bicolor-emitting nanocrystals

Corentin Dabard, Hong Po, Ningyuan Fu, Lina Makke, Henri Lehouelleur, Leonardo Curti, Xiang Zhen Xu, Emmanuel Lhuillier, Benjamin T. Diroll and Sandrine Ithurria\*

14659



### Nanopore actuation of a DNA-tracked nanovehicle

Wei Si,\* Xiaojing Lin, Liwei Wang, Gensheng Wu, Yin Zhang, Yunfei Chen and Jingjie Sha\*

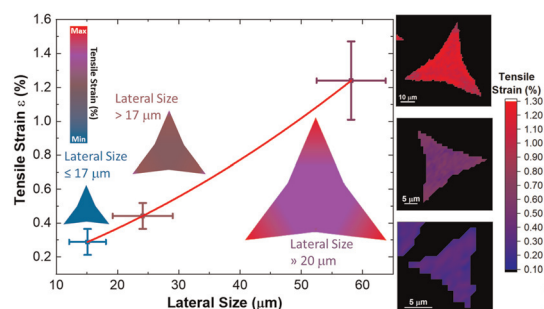


## PAPERS

14669

**Built-in tensile strain dependence on the lateral size of monolayer MoS<sub>2</sub> synthesized by liquid precursor chemical vapor deposition**

L. Seravalli, F. Esposito, M. Bosi, L. Aversa, G. Trevisi, R. Verucchi, L. Lazzarini, F. Rossi and F. Fabbri\*



## CORRECTIONS

14679

**Correction: Ion and water adsorption to graphene and graphene oxide surfaces**

Amanda J. Carr,\* Seung Eun Lee and Ahmet Uysal

14680

**Correction: *In situ* observation of the on-surface thermal dehydrogenation of *n*-octane on Pt(111)**

Daniel Arribas, Víctor Villalobos-Vilda, Ezequiel Tosi, Paolo Lacovig, Alessandro Baraldi, Luca Bignardi, Silvano Lizzit, José Ignacio Martínez, Pedro Luis de Andres, Alejandro Gutiérrez, José Ángel Martín-Gago and Pablo Merino\*

14681

**Correction: Probing antiferromagnetism in exfoliated Fe<sub>3</sub>GeTe<sub>2</sub> using magneto-transport measurements**

Stasiu T. Chyczewski,\* Ji Shi, Hanwool Lee, Paolo F. Ferrari, Kai Xu, Arend M. van der Zande and Wenjuan Zhu\*

