

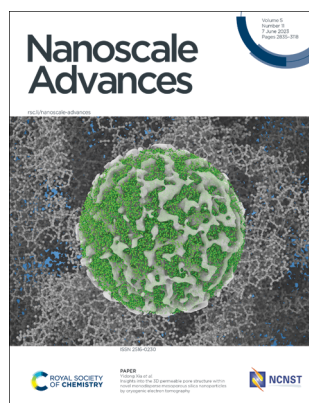
# Nanoscale Advances

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## IN THIS ISSUE

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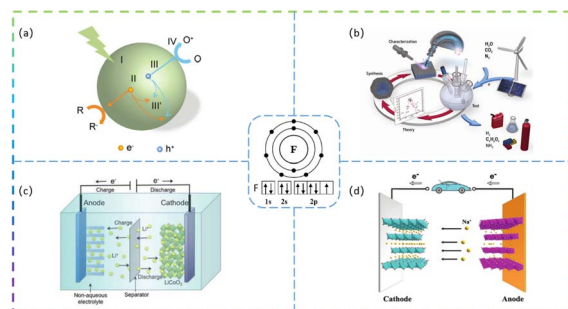
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## REVIEW

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### Synthesis of F-doped materials and applications in catalysis and rechargeable batteries

Jiale Huo, Yaofang Zhang,\* Weimin Kang, Yan Shen, Xiang Li, Zirui Yan, Yingwen Pan and Wei Sun

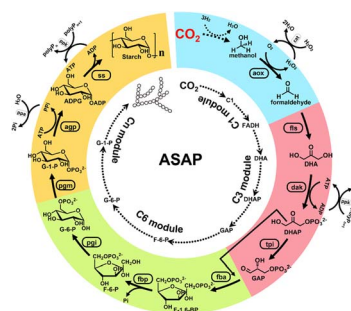


## MINIREVIEW

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### The potential of converting carbon dioxide to food compounds via asymmetric catalysis

Rui Gao, Xinxin Xu,\* Zhimeng Wu, Liguang Xu, Hua Kuang and Chuanlai Xu



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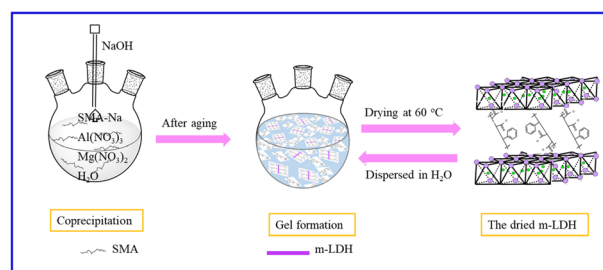
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### Preparation of water-dispersed monolayer LDH nanosheets by SMA intercalation to hinder the restacking upon redispersion in water

Qingqing Qin, Yingmo Hu,\* Junya Wang, Yuanyuan Yang, Ting Lei, Zhenyu Cui, Sufang Guo and Shuhao Qin\*

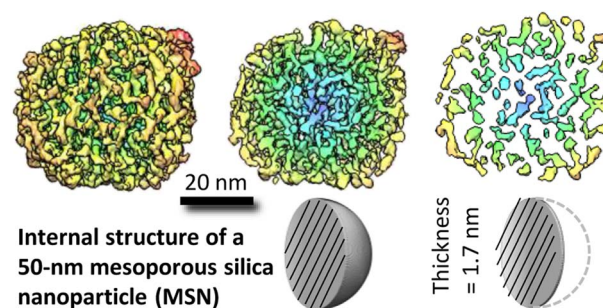


## PAPERS

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### Insights into the 3D permeable pore structure within novel monodisperse mesoporous silica nanoparticles by cryogenic electron tomography

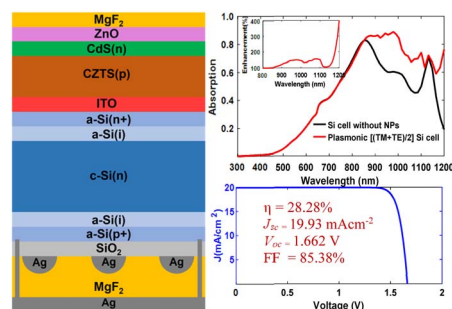
Yidong Xia,\* Jianfang Liu, Rahul Kancharla, Jiaoyan Li, Seyed M. Hatamlee, Gang Ren, Viktoriya Semeykina, Ahmed Hamed and Joshua J. Kane



2887

### Surface plasmon enhanced ultrathin Cu<sub>2</sub>ZnSnS<sub>4</sub>/crystalline-Si tandem solar cells

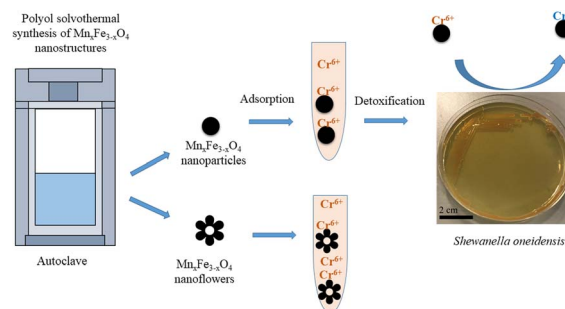
Shafayeth Jamil, Uday Saha and Md. Kawsar Alam\*



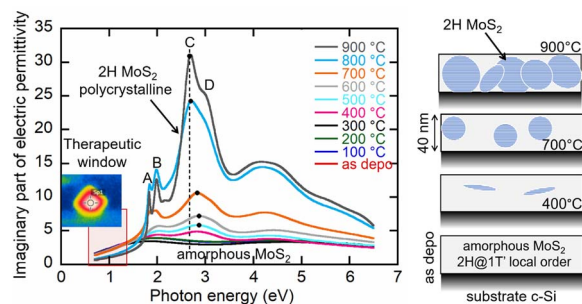
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### Enhanced detoxification of Cr<sup>6+</sup> by *Shewanella oneidensis* via adsorption on spherical and flower-like manganese ferrite nanostructures

Diana S. Raie, Ioannis Tsonas, Melisa Canales, Stefanos Mourdikoudis, Konstantinos Simeonidis, Antonis Makridis, Dimitrios Karfaridis, Shanom Ali, Georgios Vourlias, Peter Wilson, Laurent Bozec, Lena Ciric and Nguyen Thi Kim Thanh\*



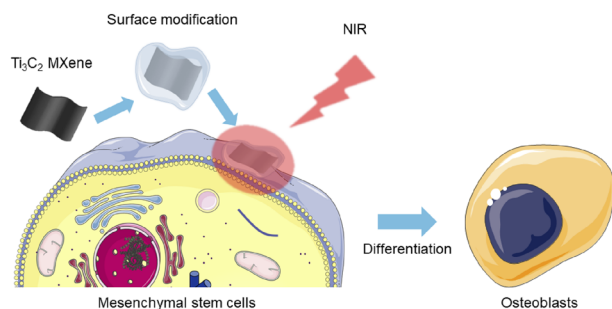
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### Giant change of MoS<sub>2</sub> optical properties along amorphous–crystalline transition: broadband spectroscopic study including the NIR therapeutic window

Jan Mistrik,<sup>\*</sup> Milos Krbal, Vit Prokop and Jan Prikryl

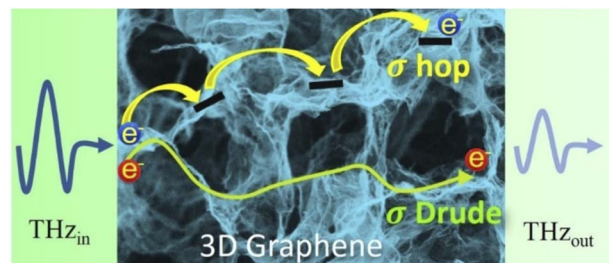
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### Surface-modified Ti<sub>3</sub>C<sub>2</sub> MXene nanosheets for mesenchymal stem cell osteogenic differentiation via photothermal conversion

Jiebing Zhang, Shuang Tang, Ning Ding, Ping Ma and Zutai Zhang<sup>\*</sup>

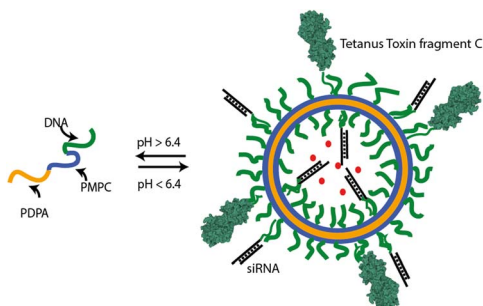
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### Terahertz charge transport dynamics in 3D graphene networks with localization and band regimes

Prabhat Kumar, Martin Šilhavík, Manas R. Parida, Hynek Němec, Jiří Červenka and Petr Kužel<sup>\*</sup>

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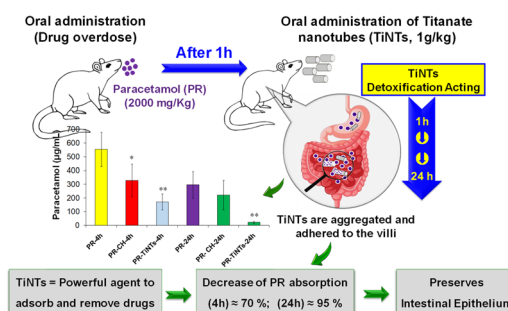
### A modular RNA delivery system comprising spherical nucleic acids built on endosome-escaping polymeric nanoparticles

Antonio Garcia-Guerra,<sup>\*</sup> Ruth Ellerington, Jens Gaitzsch, Jonathan Bath, Mahnseok Kye, Miguel A. Varela, Giuseppe Battaglia, Matthew J. A. Wood, Raquel Manzano, Carlo Rinaldi and Andrew J. Turberfield<sup>\*</sup>

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## Titanate nanotubes as an efficient oral detoxifying agent against drug overdose: application in rat acetaminophen poisoning

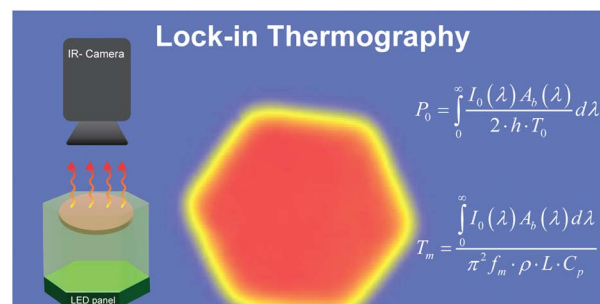
Abir Salek, Mouna Selmi, Leila Njim, Polona Umek, Philippe Mejanelle, Fathi Moussa, Wahiba Douki, Karim Hosni and Tarek Baati\*



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## Quantification of nanoparticles' concentration inside polymer films using lock-in thermography

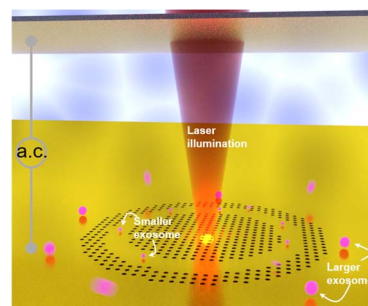
Giulia Mirabello, Lukas Steinmetz, Christoph Geers, Barbara Rothen-Ruthishauser, Mathias Bonmarin, Alke Petri-Fink and Marco Lattuada\*



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## Exosomes trapping, manipulation and size-based separation using opto-thermo-electrohydrodynamic tweezers

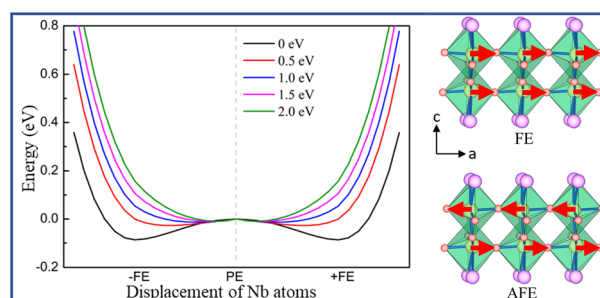
Chuchuan Hong, Sen Yang and Justus C. Ndukaife\*



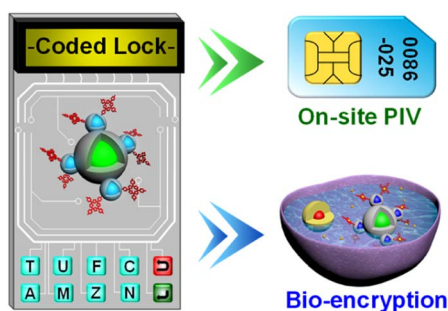
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## Second-order Jahn–Teller effect induced high-temperature ferroelectricity in two-dimensional NbO<sub>2</sub>X (X = I, Br)

Huasheng Sun, Kaiming Deng, Erjun Kan\* and Yongping Du\*



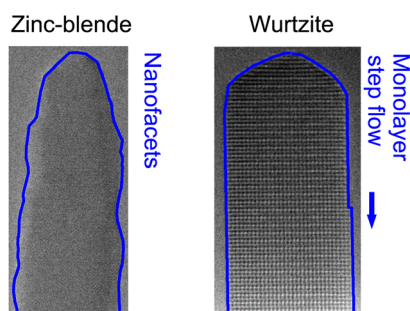
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### An optical keypad lock with high resettability based on a quantum dot–porphyrin FRET nanodevice

Peng Shen, Yuqian Liu, Xiaojun Qu, Mingsong Zhu, Ting Huang and Qingjiang Sun\*

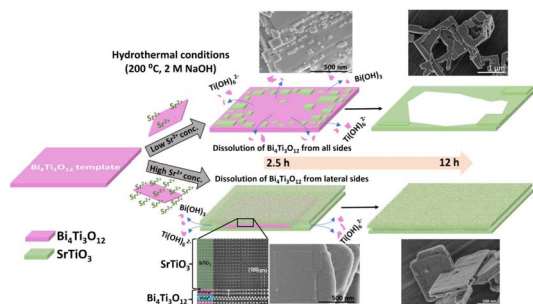
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### Real-time thermal decomposition kinetics of GaAs nanowires and their crystal polytypes on the atomic scale

Paul Schmiedeke, Federico Panciera, Jean-Christophe Harmand, Laurent Travers and Gregor Koblmüller\*

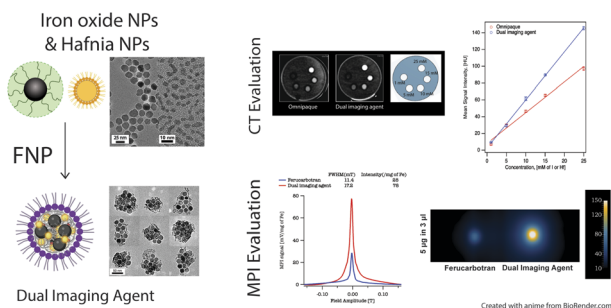
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### Hydrothermal topotactic epitaxy of SrTiO<sub>3</sub> on Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub> nanoplatelets: understanding the interplay of lattice mismatch and supersaturation

Alja Čontala, Nina Daneu, Suraj Gupta, Matjaž Spreitzer, Anton Meden and Marjeta Maček Kržmanc\*

3018



### Dual imaging agent for magnetic particle imaging and computed tomography

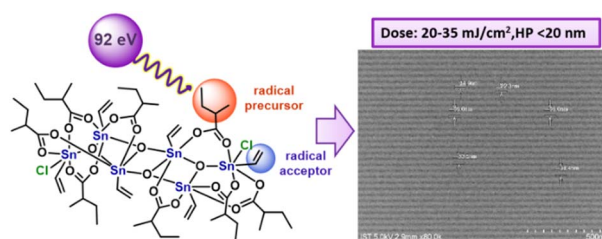
Sitong Liu, Anahita Heshmat, Jennifer Andrew, Izabella Barreto and Carlos M. Rinaldi-Ramos\*



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### Novel hexameric tin carboxylate clusters as efficient negative-tone EUV photoresists: high resolution with well-defined patterns under low energy doses

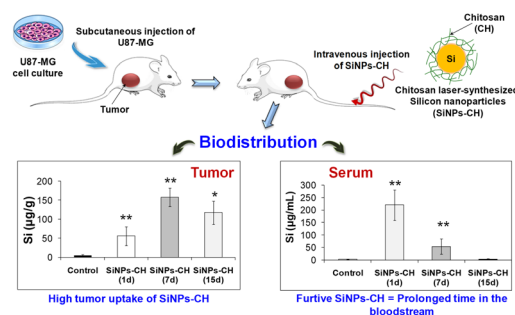
Jia-Rong Wu, Ting-An Lin, Yan-Ru Wu, Po-Hsiung Chen, Tsi-Sheng Gau, Burn-Jeng Lin, Po-Wen Chiu and Rai-Shung Liu\*



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### Chitosan-coated ultrapure silicon nanoparticles produced by laser ablation: biomedical potential in nano-oncology as a tumor-targeting nanosystem

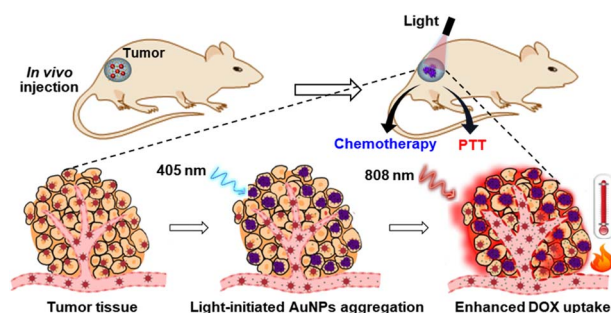
Tarek Baati,\* Imen Chaabani, Abir Salek, Leila Njim, Mouna Selmi, Ahmed Al-Kattan and Karim Hosni



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### Light-initiated aggregation of gold nanoparticles for synergistic chemo-photothermal tumor therapy

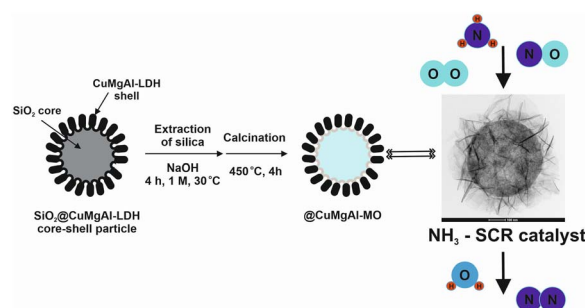
Huawei Xia, Jinfeng Zhu, Changhe Men, Anna Wang, Qiulian Mao, Yali Feng, Jiachen Li, Jingwei Xu, Xiaju Cheng\* and Haibin Shi\*



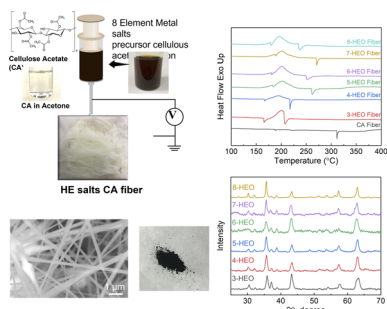
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### Hollow @CuMgAl double layered hydrotalcites and mixed oxides with tunable textural and structural properties, and thus enhanced NH<sub>3</sub>-NO<sub>x</sub>-SCR activity

Tomasz Kondratowicz,\* Ondřej Horký, Stanislav Slang, Lada Dubnová, Marta Gajewska, Lucjan Chmielarz and Libor Čapek\*



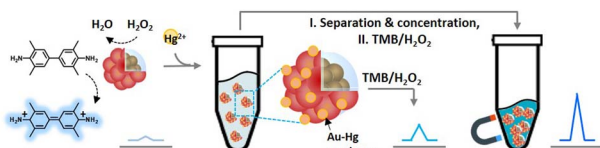
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### Electrospun single-phase spinel magnetic high entropy oxide nanoparticles via low-temperature ambient annealing

Xiao Han, Dian Li, Jingyi Zhou, Yufeng Zheng, Lingyan Kong, Lin Li and Feng Yan\*

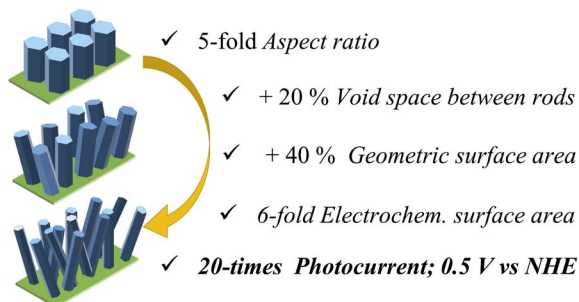
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### Colorimetric mercury detection with enhanced sensitivity using magnetic-Au hybrid nanoparticles

Miseon Jeong, Dahyun Bae and Jin-sil Choi\*

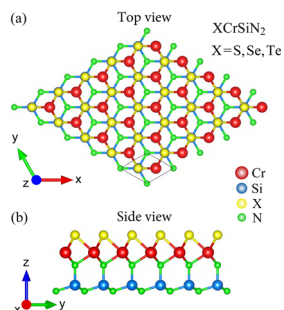
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### Comprehensive evaluation of photoelectrochemical performance dependence on geometric features of ZnO nanorod electrodes

Ali Can Guler, Jan Antos, Milan Masar, Michal Urbanek, Michal Machovsky and Ivo Kuritka\*

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### First-principles examination of two-dimensional Janus quintuple-layer atomic structures $XCrSiN_2$ ( $X = S, Se, \text{ and } Te$ )

P. T. Linh Tran, Nguyen V. Hieu, Hoi Bui D., Q. Nguyen Cuong and Nguyen N. Hieu\*



## CORRECTIONS

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**Correction: Enhanced detoxification of Cr<sup>6+</sup> by *Shewanella oneidensis* via adsorption on spherical and flower-like manganese ferrite nanostructures**

Diana S. Raie, Ioannis Tsonas, Melisa Canales, Stefanos Mourdikoudis, Konstantinos Simeonidis, Antonios Makridis, Dimitrios Karfaridis, Shanom Ali, Georgios Vourlias, Peter Wilson, Laurent Bozec, Lena Ciric and Nguyen Thi Kim Thanh\*

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**Correction: 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\*

