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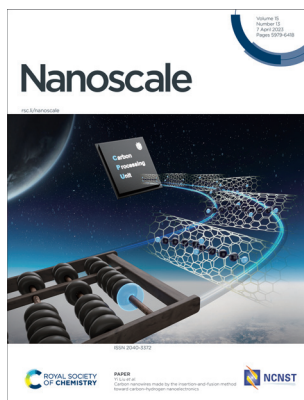
ISSN 2040-3372 CODEN NANOHL 15(13) 5979–6418 (2023)



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See Natalie P. Holmes *et al.*, pp. 6126–6142.

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### Inside cover

See Yi Liu *et al.*, pp. 6143–6155.

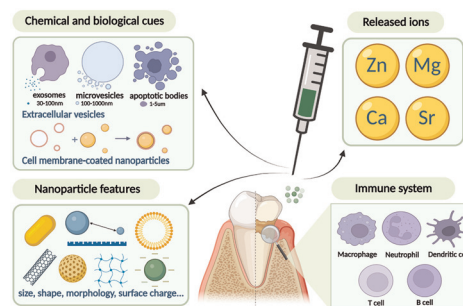
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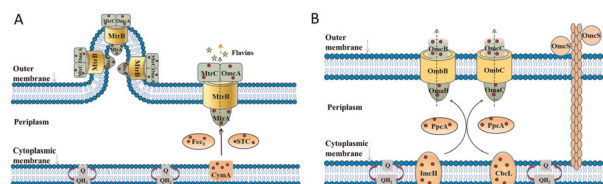
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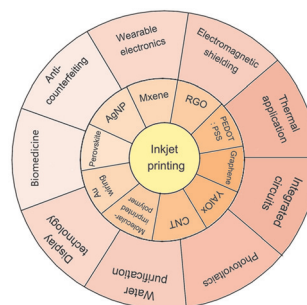


## REVIEWS

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**Recent advances in inkjet-printing technologies for flexible/wearable electronics**

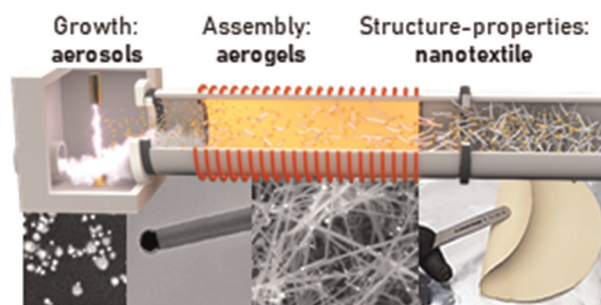
Yu Liu, Hongze Zhu, Lei Xing, Qingkai Bu, Dayong Ren\* and Bin Sun\*



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**Gas-to-nanotextile: high-performance materials from floating 1D nanoparticles**

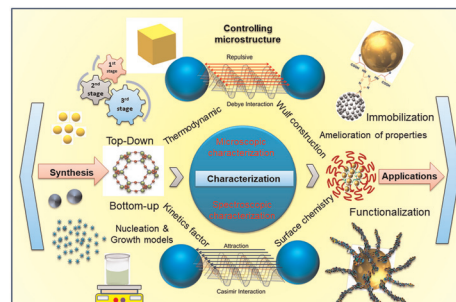
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**Functionalized nanoparticles: Tailoring properties through surface energetics and coordination chemistry for advanced biomedical applications**

Yogendra Kumar, A. S. K. Sinha, K. D. P. Nigam, Deepak Dwivedi\* and Jitendra S. Sangwai\*

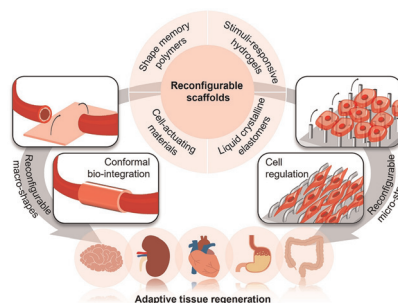


## MINIREVIEW

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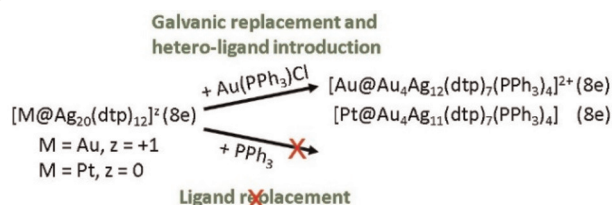
**Reconfigurable scaffolds for adaptive tissue regeneration**

Mingxing Peng, Qilong Zhao,\* Min Wang and Xuemin Du\*



## COMMUNICATION

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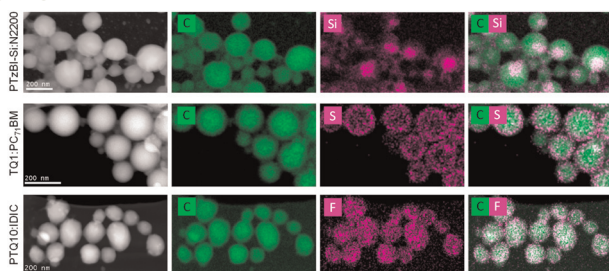


### Galvanic replacement-induced introduction of a heteroligand into bimetallic and trimetallic nanoclusters

Jian-Hong Liao, Tzu-Hao Chiu, Hao Liang, Samia Kahlal, Jean-Yves Saillard\* and C. W. Liu\*

## PAPERS

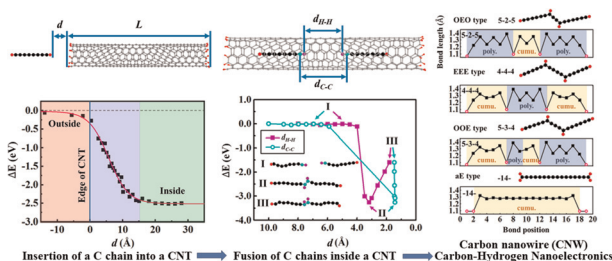
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### Sub-4 nm mapping of donor-acceptor organic semiconductor nanoparticle composition

Ingemar Persson, Hugo Laval, Sylvain Chambon, Gwenael Bonfante, Kazuhiko Hirakawa, Guillaume Wantz, Benjamin Watts, Matthew A. Marcus, Xiaoxue Xu, Lei Ying, Girish Lakhwani, Mats R. Andersson, Julie M. Cairney and Natalie P. Holmes\*

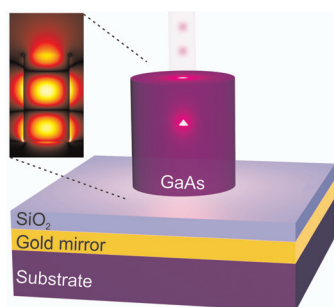
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### Carbon nanowires made by the insertion-and-fusion method toward carbon-hydrogen nanoelectronics

Fu Liu, Qingqing Wang, Yuchao Tang, Wan Du, Weiwei Chang, Zewei Fu, Xinluo Zhao and Yi Liu\*

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### Performance of the nanopost single-photon source: beyond the single-mode model

Martin Arentoft Jacobsen, Yujing Wang, Luca Vannucci, Julien Claudon, Jean-Michel Gérard and Niels Gregersen\*



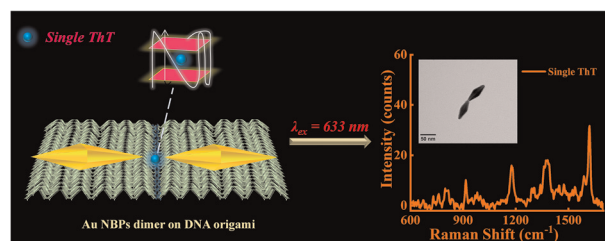


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### Selective recognition of the amyloid marker single thioflavin T using DNA origami-based gold nanobipyramid nanoantennas

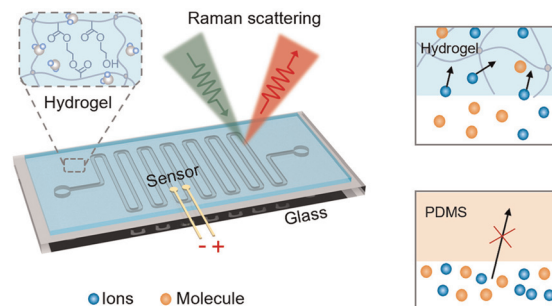
Charanleen Kaur, Vishaldeep Kaur, Shikha Rai, Mridu Sharma and Tapasi Sen\*



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### Non-invasive monitoring of biochemicals in hydrogel-assisted microfluidic chips

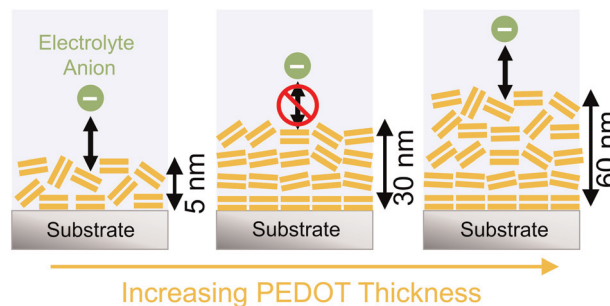
Na Zhao, Zehua Yu, Jun Huang,\* Yuxi Liu, Yifan Zhao, Xiangqian Fu,\* Peihua Yang and Kang Liu\*



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### Effects of film thickness on electrochemical properties of nanoscale polyethylenedioxythiophene (PEDOT) thin films grown by oxidative molecular layer deposition (oMLD)

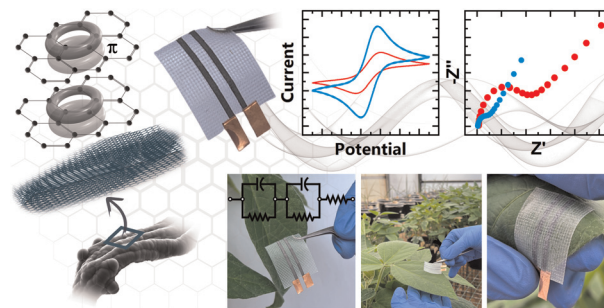
Katrina G. Brathwaite, Quinton K. Wyatt, Amalie Atassi, Shawn A. Gregory, Eric Throm, David Stalla, Shannon K. Yee, Mark D. Losego and Matthias J. Young\*



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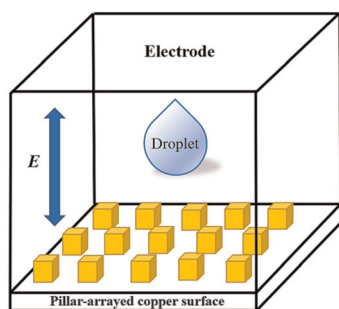
### Scalable and green formation of graphitic nanolayers produces highly conductive pyrolyzed paper toward sensitive electrochemical sensors

Marcos V. de Lima Tinoco, Lucas R. Fujii, Caroline Y. N. Nicoliche, Gabriela F. Giordano, Julia A. Barbosa, Jaqueline F. da Rocha, Gabriel T. dos Santos, Jefferson Bettini, Murilo Santhiago, Mathias Strauss\* and Renato S. Lima\*



## PAPERS

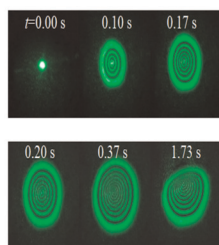
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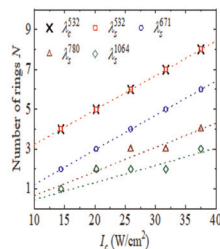
### Dynamical behaviors of nanodroplets impinging on solid surfaces in the presence of electric fields

Ling Pan,\* Yunhui Chen, Zhi Li and Xuqing Xie

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Formation dynamics process of VP Ns.

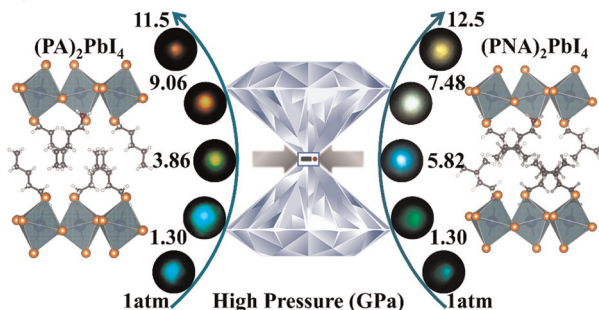


Experimental results of all-optical switch.

### Degenerate and non-degenerate all-optical switches using violet phosphorus nanosheets

Yang Gao, Yueqiu Hu, Cheng Ling, Guanghao Rui, Jun He and Bing Gu\*

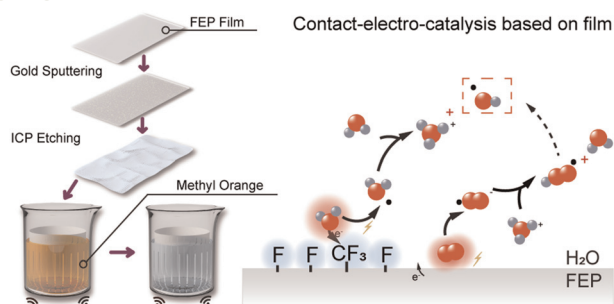
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### Pressure-induced distinct excitonic properties of 2D perovskites with isomeric organic molecules for spacer cations

Qingya Wang, Huafeng Ding, Tieshan Yang, Qinfeng Xu,\* Haifeng Mu, Taiping Lu, Mengmeng Jiao, Jie Zhang, Kunjian Cao, Zhigang Li, Honggang Wang, Shufang Zhang, Kai Wang\* and Chuanlu Yang\*

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### Degradation of methyl orange by dielectric films based on contact-electro-catalysis

Xin Zhao, Yusen Su, Andy Berbille, Zhong Lin Wang\* and Wei Tang\*

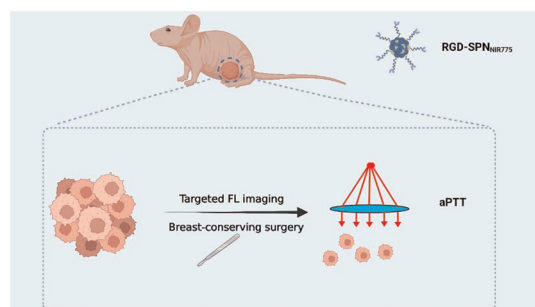


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### Tumor-targeting semiconducting polymer nanoparticles: efficient adjuvant photothermal therapy using ultra-low laser power inhibits recurrences after breast-conserving surgery

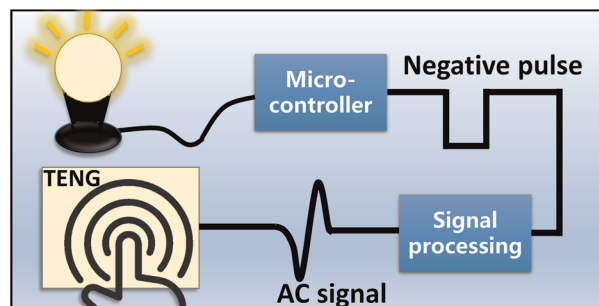
Doudou He, Haoze Li, Yang Li, Ziqing Xu, Chuanbin Wang, Yuxia Tang, Feiyun Wu,\* Xu Zhen\* and Shouju Wang\*



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### Low-cost composite film triboelectric nanogenerators for a self-powered touch sensor

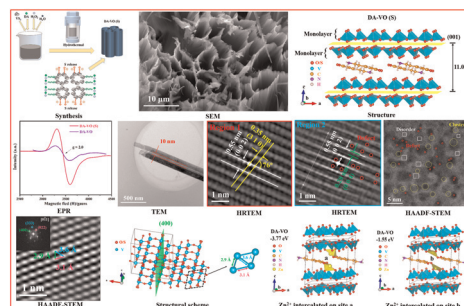
Jie-Cheng Fan, Xin-Gui Tang,\* Qi-Jun Sun, Yan-Ping Jiang, Wen-Hua Li and Qiu-Xiang Liu



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### Dopamine-intercalated vanadate hollow microtube arrays with S-doping for high-performance zinc-ion batteries: disorder/defect-induced clusters and a reversible phase transition

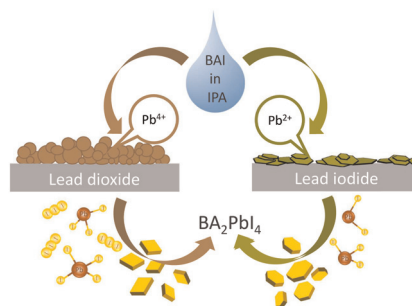
Yang Liu and Yun Gong\*



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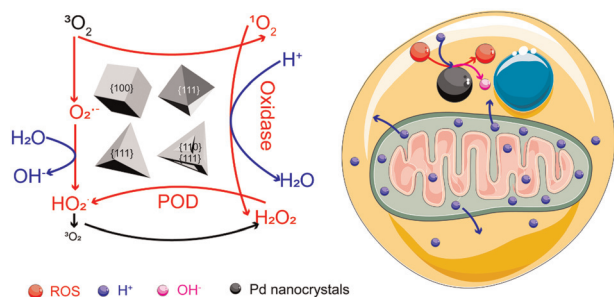
### The role of Pb oxidation state of the precursor in the formation of 2D perovskite microplates

Leo Sahaya Daphne Antony, Sjoerd van Dongen, Gianluca Grimaldi, Simon Mathew, Lukas Helmbrecht, Arno van der Weijden, Juliane Borchert, Imme Schuringa, Bruno Ehrler, Willem L. Noorduin and Esther Alarcon-Llado\*



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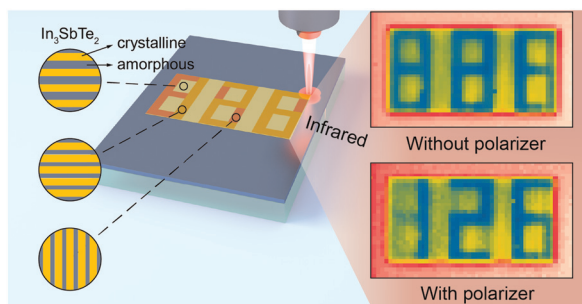
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### The role of crystallinity of palladium nanocrystals in ROS generation and cytotoxicity induction

Yanxin Wu, Rongtao Liu, Jian Liu, Jianbo Jia, Hongyu Zhou\* and Bing Yan

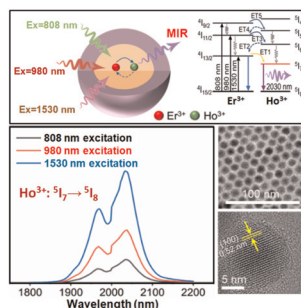
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### Broadband hyperbolic thermal metasurfaces based on the plasmonic phase-change material In<sub>3</sub>SbTe<sub>2</sub>

Chong Meng, Ying Zeng, Dunzhu Lu, Hongyuan Zou, Junqin Wang, Qiang He, Xiaosheng Yang,\* Ming Xu, Xiangshui Miao, Xinliang Zhang and Peining Li\*

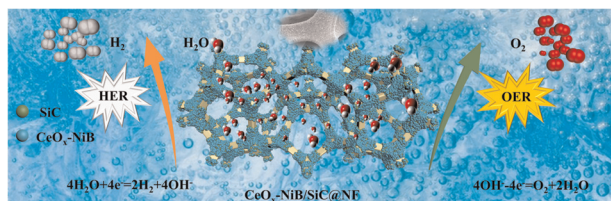
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### Multi-wavelength excitable mid-infrared luminescence and energy transfer in core-shell nanoparticles for nanophotonics

Wang Sheng, Jinshu Huang, Zhiyuan Cai, Li He and Bo Zhou\*

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### Quantum dot-doped CeO<sub>x</sub>-NiB with modulated electron density as a highly efficient bifunctional electrocatalyst for water splitting

Huimin Wang, Tao Feng, Lincai Wang\* and Weiju Hao\*



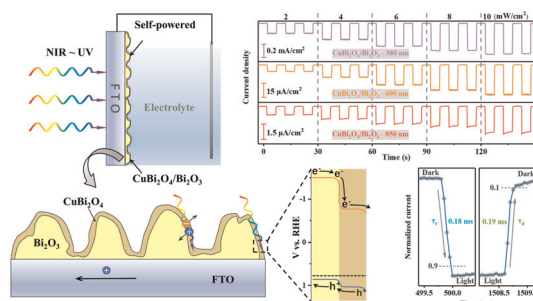


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# Ultrathin $\text{CuBi}_2\text{O}_4$ on a bipolar $\text{Bi}_2\text{O}_3$ nano-scaffold: a self-powered broadband photo-electrochemical photodetector with improved responsivity and response speed

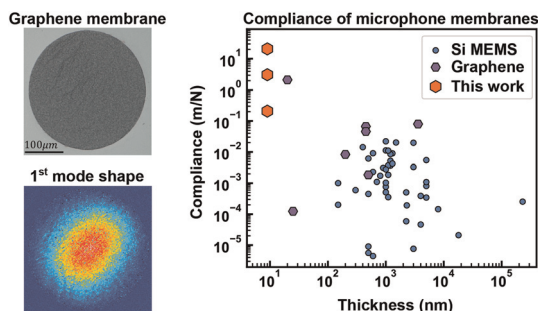
Boheng Dong, Xinya Zhang, Hui Cheng, Xiang Jiang\* and Fuxian Wang\*



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# Ultra-sensitive graphene membranes for microphone applications

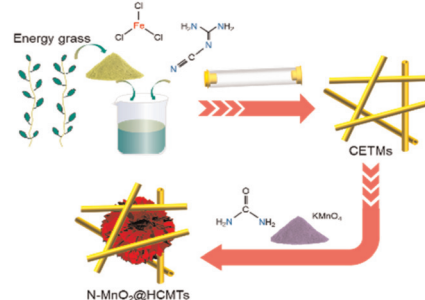
Gabriele Baglioni,\* Roberto Pezone, Sten Vollebregt, Katarina Cvetanović Zobenica, Marko Spasenović, Dejan Todorović, Hanqing Liu, Gerard J. Verbiest, Herre S. J. van der Zant and Peter G. Steeneken\*



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# Electron transmission matrix and anion regulation strategy-derived oxygen-deficient $\delta\text{-MnO}_2$ for a high-rate and long-life aqueous zinc-ion battery

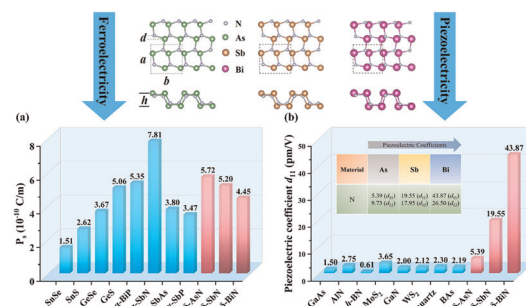
Junyi Yin, Hui Yang, Zihan Gan, Yuan Gao, Xiang Feng, Minghui Wang, Gaixiu Yang, Yonghong Cheng\* and Xin Xu\*



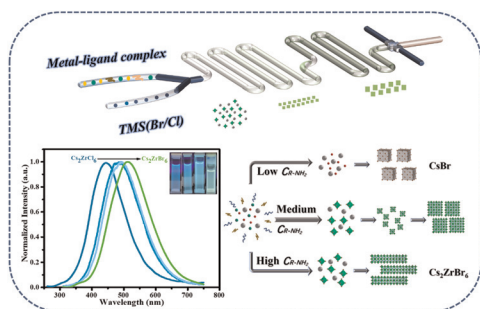
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# Extremely promising monolayer materials with robust ferroelectricity and extraordinary piezoelectricity: $\delta\text{-AsN}$ , $\delta\text{-SbN}$ , and $\delta\text{-BiN}$

Yuwen Zhang, Tao Ouyang,\* Chaoyu He,\* Jin Li and Chao Tang\*



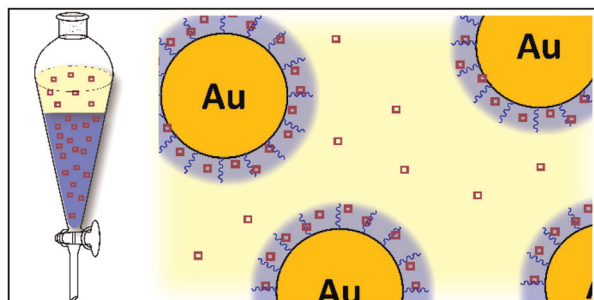
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### Controlled growth of lead-free cesium zirconium halide double perovskite nanocrystals through a microfluidic reactor

Yimin Geng, Hao Lv, Shu Xu and Chong Geng\*

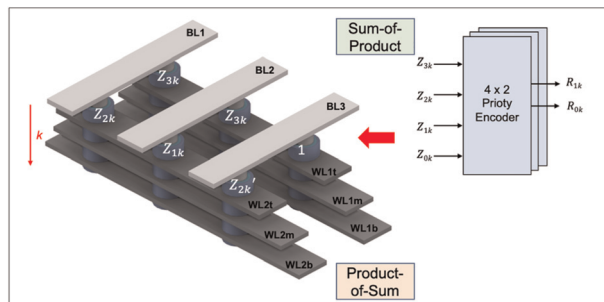
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### On-nanoparticle monolayers as a solute-specific, solvent-like phase

Juan C. Ahumada, Guillermo Ahumada, Yaroslav Sobolev, Minju Kim and Bartosz A. Grzybowski\*

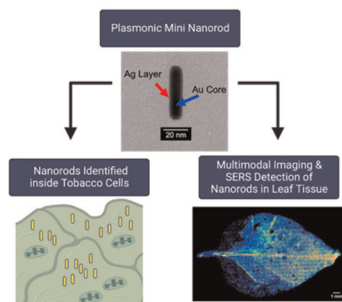
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### Highly parallel stateful Boolean logic gates based on aluminum-doped self-rectifying memristors in a vertical crossbar array structure

Taegyun Park, Seung Soo Kim, Byeol Jun Lee, Tae Won Park, Hae Jin Kim\* and Cheol Seong Hwang\*

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### Plasmonic nanorod probes' journey inside plant cells for *in vivo* SERS sensing and multimodal imaging

Vanessa Cupil-Garcia, Joy Q. Li, Stephen J. Norton, Ren A. Odion, Pietro Strobba, Luca Menozzi, Chenshuo Ma, Jianhong Hu, Rodolfo Zentella, Maxim I. Boyanov, Y. Zou Finrock, Doga Gursoy, Deirdre Sholto Douglas, Junjie Yao, Tai-Ping Sun, Kenneth M. Kemner and Tuan Vo-Dinh\*



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## On the switching mechanism and optimisation of ion irradiation enabled 2D MoS<sub>2</sub> memristors

Samuel Aldana,\* Jakub Jadwiszczak and Hongzhou Zhang

