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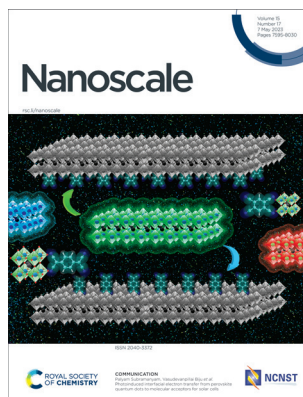
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Cover

See Munho Kim,
Guo-En Chang *et al.*,
pp. 7745–7754.

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pp. 7695–7702.

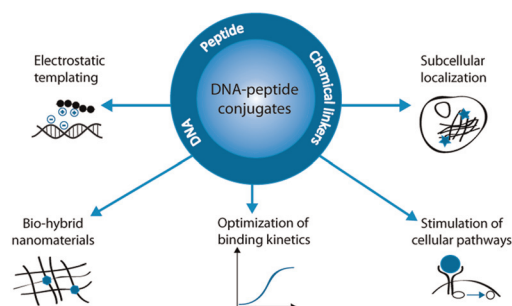
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REVIEWS

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Integration of functional peptides into nucleic acid-based nanostructures

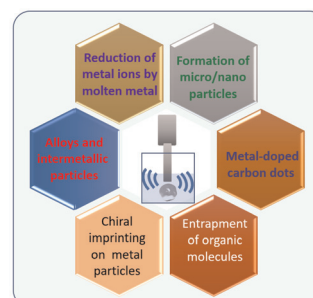
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Basma Altattan, Nico Grasse, Bhanu Kiran Pothineni,
Jörg Schnauß and David M. Smith*



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Sonochemistry of molten metals

Vijay Bhooshan Kumar, Aharon Gedanken and
Ze'ev Porat*



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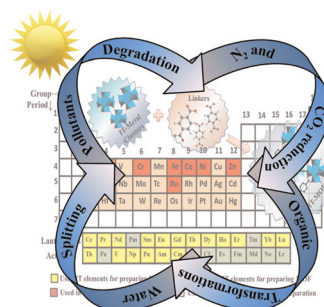


REVIEWS

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Inner transition metal-modulated metal organic frameworks (IT-MOFs) and their derived nanomaterials: a strategic approach towards stupendous photocatalysis

Jayashree Panda, Suraj Prakash Tripathy, Srabani Dash, Asheli Ray, Pragyandeepti Behera, Satyabrata Subudhi and Kulamani Parida*

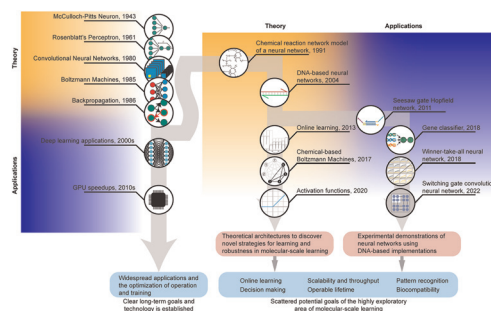


MINIREVIEW

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A survey on molecular-scale learning systems with relevance to DNA computing

Rajiv Teja Nagipogu,* Daniel Fu* and John H. Reif

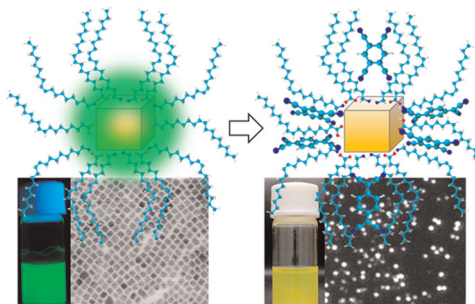


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Photoinduced interfacial electron transfer from perovskite quantum dots to molecular acceptors for solar cells

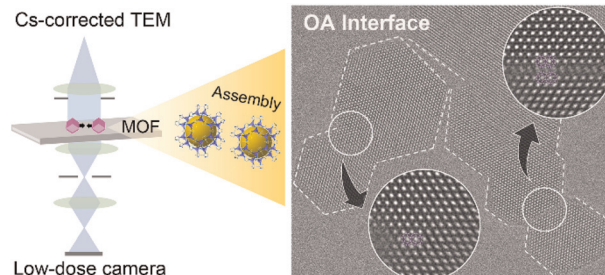
Bhagyashree Mahesha Sachith, Zhijing Zhang, Palyam Subramanyam,* Challapalli Subrahmanyam, Akihiro Furube, Naoto Tamai, Takuya Okamoto, Hiroaki Misawa and Vasudevanpillai Biju*



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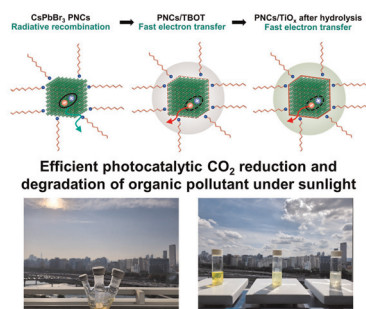
Oriented attachment interfaces of zeolitic imidazolate framework nanocrystals

Xiaocang Han, Rui Su, Wenqian Chen, Qi Han, Yuan Tian, Jiahui Han, Xiaodong Wang, Shuangxi Song, Kolan Madhav Reddy, Hexiang Deng, Pan Liu* and Mingwei Chen*



COMMUNICATIONS

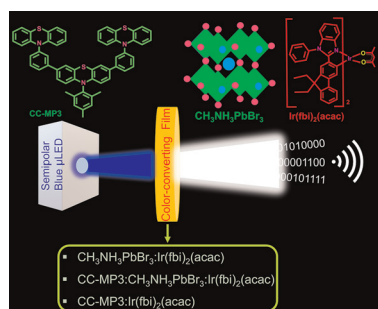
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Investigating the interfacial properties of halide perovskite/ TiO_x heterostructures for versatile photocatalytic reactions under sunlight

Tae Hyung Kim, Inho Park, Kyeong Ho Lee, Jin-Han Sim, Min-Ho Park, Tae-Hee Han, Ungyu Paik, Jaeyoung Jang,* Ho Bum Park* and Young-Hoon Kim*

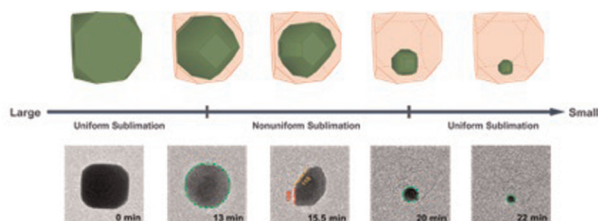
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High bandwidth semipolar (20–21) micro-LED-based white light-emitting diodes utilizing perovskite quantum dots and organic emitters in color-conversion layers for visible light communication and solid-state lighting applications

Annada Sankar Sadhu, Yi-Hua Pai, Li-Yin Chen,* Chung-An Hsieh, Hao-Wu Lin and Hao-Chung Kuo*

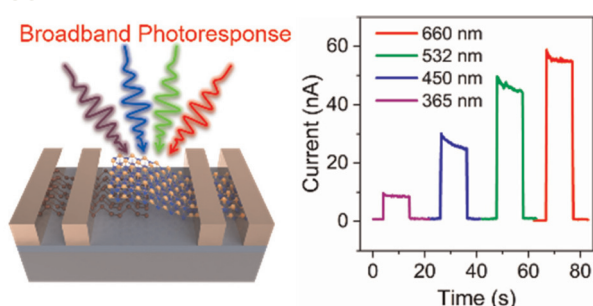
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Probing the sublimation kinetics of Ag, Ag@TiO₂, and Ag@C nanoparticles

Hao-Chin Huang, Kai-Yuan Hsiao, Yu-Han Tseng, Yan-De Chen and Ming-Yen Lu*

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A two-dimensional Te/ReS₂ van der Waals heterostructure photodetector with high photoresponsivity and fast photoresponse

Yafei Yan, Minxin Li, Kai Xia, Kemeng Yang, Dun Wu, Liang Li, Guangtao Fei* and Wei Gan*

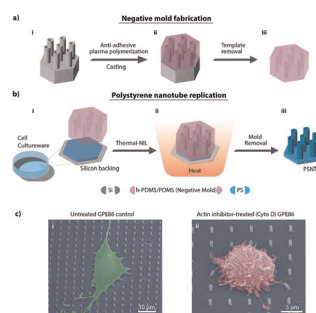


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The influence of dysfunctional actin on polystyrene-nanotube-mediated mRNA nanoinjection into mammalian cells

Hao Zhe Yoh, Yaping Chen,* Ali-Reza Shokouhi, Helmut Thissen, Nicolas H. Voelcker* and Roey Elnathan*

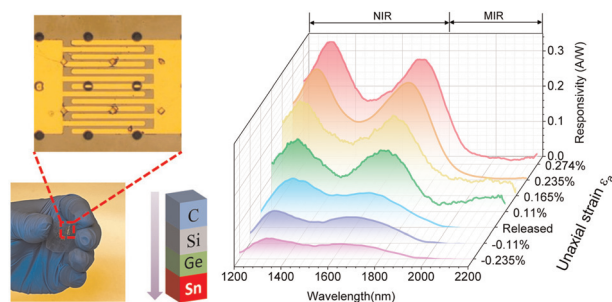


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Transfer-printing-enabled GeSn flexible resonant-cavity-enhanced photodetectors with strain-amplified mid-infrared optical responses

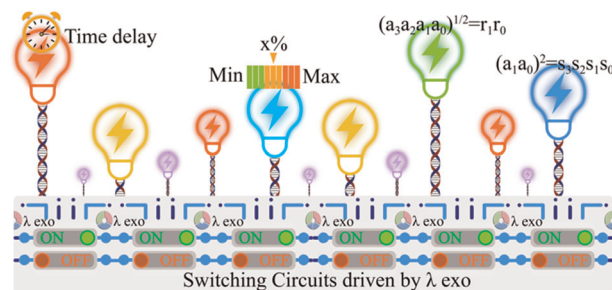
Yeh-Chen Tai, Shu An, Po-Rei Huang, Yue-Tong Jheng, Kuo-Chih Lee, Hung-Hsiang Cheng, Munho Kim* and Guo-En Chang*



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Construction of DNA-based molecular circuits using normally open and normally closed switches driven by lambda exonuclease

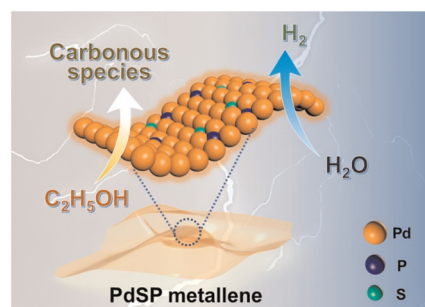
Xin Liu, Xun Zhang, Yao Yao, Peijun Shi, Chenyi Zeng and Qiang Zhang*



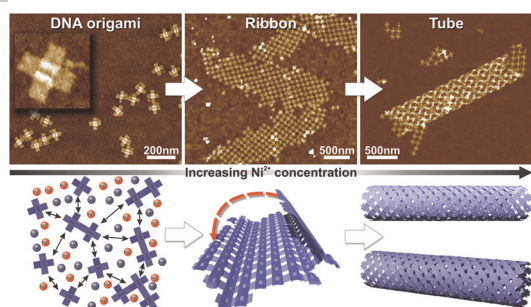
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Sulfur and phosphorus co-doping optimized electronic structure and modulated intermediate affinity on PdSP metallene for ethanol-assisted energy-saving H₂ production

Hongjing Wang, Yanan Guo, Qiqi Mao, Hongjie Yu, Kai Deng, Ziqiang Wang, Xiaonian Li, You Xu* and Liang Wang*



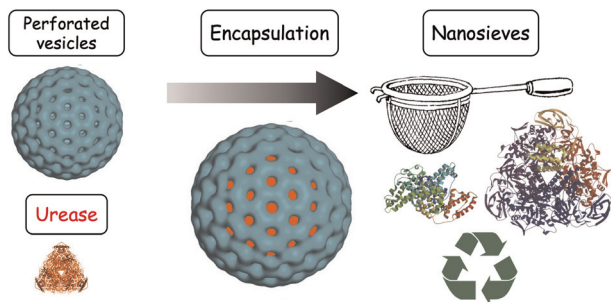
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Creation of ordered 3D tubes out of DNA origami lattices

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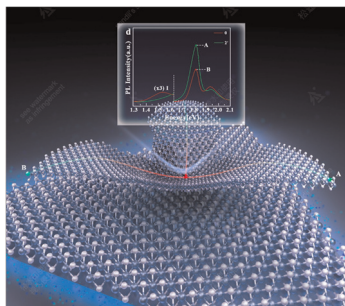
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Fluorinated dendritic amphiphiles, their stomatosome aggregates and application in enzyme encapsulation

Tiffany Guitton-Spassky, Florian Junge, Abhishek Kumar Singh, Boris Schade, Katharina Achazi, Marta Maglione, Stephan Sigrıst, Rashmi Rashmi and Rainer Haag*

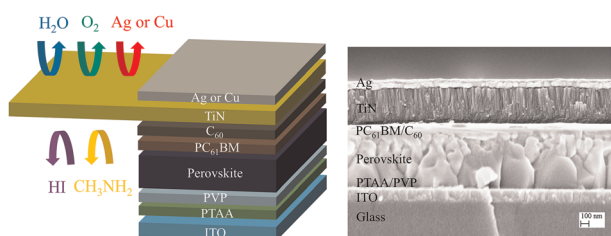
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A natural indirect-to-direct band gap transition in artificially fabricated MoS₂ and MoSe₂ flowers

Jun Zhou, Juan Cui, Shuo Du, Zihan Zhao, Jianfeng Guo, Songyang Li, Weifeng Zhang, Nan Liu, Xiaotian Li, Qinghu Bai, Yang Guo, Shuo Mi, Zhihai Cheng, Lin He, J. C. Nie, Yu Yang* and Ruifen Dou*

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High-performance p–i–n perovskite photodetectors and image sensors with long-term operational stability enabled by a corrosion-resistant titanium nitride back electrode

Tian Sun, Tong Chen, Jiahao Chen, Qiang Lou, Zihao Liang, Guijun Li,* Xiaoyun Lin, Guoshen Yang and Hang Zhou*

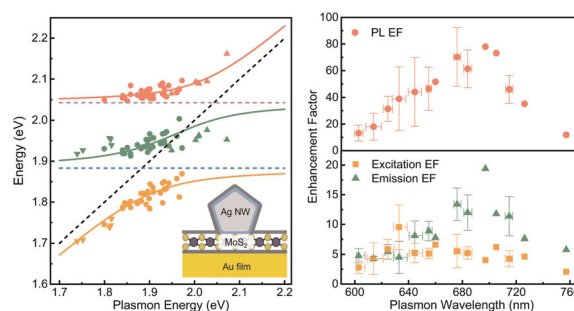


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Excitation and emission distinguished photoluminescence enhancement in a plasmon–exciton intermediate coupling system

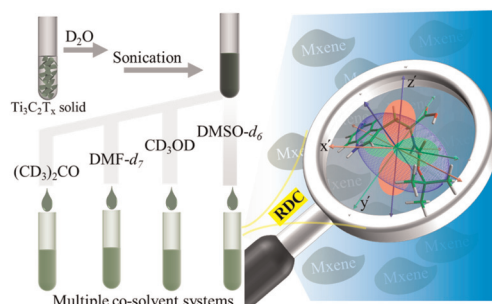
Wenjun Zhang, Long Gao, Xiaohong Yan, Hongxing Xu* and Hong Wei*



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Weakly aligned Ti₃C₂T_x MXene liquid crystals: measuring residual dipolar coupling in multiple co-solvent systems

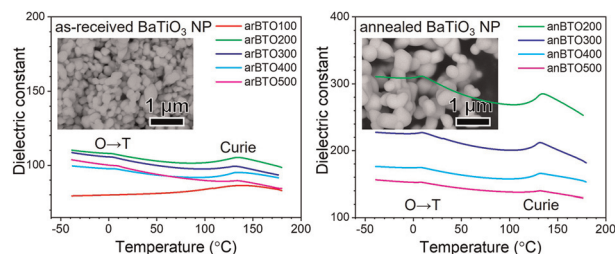
You Zhao, Huan Qin, Yan-Ling Yang, Jia-Qian Li, Si-Yong Qin,* Ai-Qing Zhang* and Xinxiang Lei*



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Investigation into the crystal structure–dielectric property correlation in barium titanate nanocrystals of different sizes

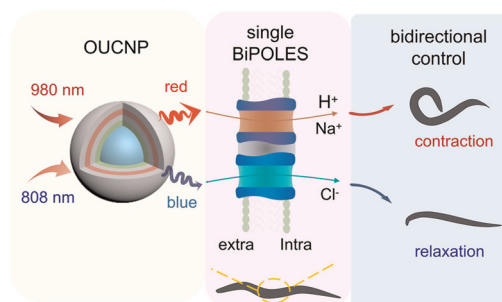
Qiong Li, Tianxiong Ju, Ruipeng Li, Shuang Wang, Yongfang Yang, Hatsuo Ishida, Yeu-Wei Harn, Jihua Chen, Benjamin Hirt, Alp Sehirliglu, Zhiqun Lin* and Lei Zhu*



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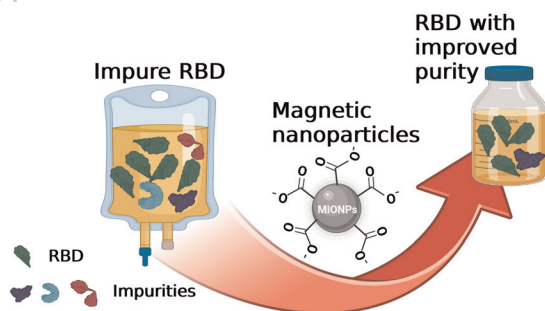
Bidirectional near-infrared regulation of motor behavior using orthogonal emissive upconversion nanoparticles

Jingxuan Guo, Lili Chen, Feihong Xiong, Yongning Zhang, Ruipeng Wang, Xuefei Zhang, Quan Wen, Shangbang Gao* and Yan Zhang*



PAPERS

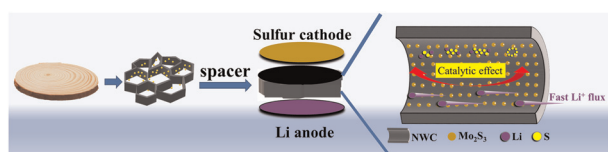
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Efficient capture of recombinant SARS-CoV-2 receptor-binding domain (RBD) with citrate-coated magnetic iron oxide nanoparticles

D. A. González-Martínez,* G. González Ruíz,* C. Escalante-Bermúdez, J. A. García Artalejo, T. Gómez Peña, J. A. Gómez, E. González-Martínez, Y. Cazañas Quintana, T. Fundora Barrios, T. Hernández, R. C. Varela Pérez, D. Díaz Goire, D. Castro López, I. Ruíz Ramírez, C. R. Díaz-Águila and J. M. Moran-Mirabal

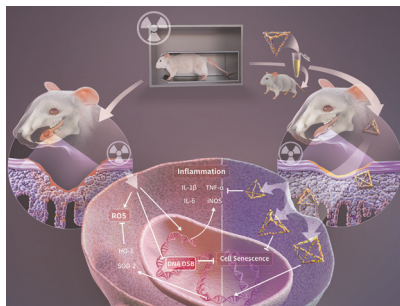
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Defect-rich Mo₂S₃ loaded wood-derived carbon acts as a spacer in lithium-sulfur batteries: forming a polysulfide capture net and promoting fast lithium flux

Xin Huang, Wanli Sha, Songchun He, Lijie Zhao, Shaobin Li, Chunmei Lv, Chunhua Lou, Xintong Xu, Jianxin Wang* and Hong Pan*

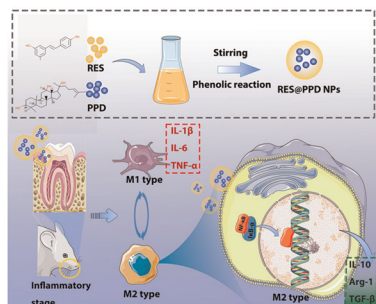
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Nano shield: a new tetrahedral framework nucleic acids-based solution to radiation-induced mucositis

Geru Zhang, Liwei Huang, Maogeng Feng, Tianxu Zhang, Yang Gao, Yangxue Yao, Songhang Li, Xiaobing Li* and Yunfeng Lin*

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Facile engineering of resveratrol nanoparticles loaded with 20(S)-protopanaxadiol for the treatment of periodontitis by regulating the macrophage phenotype

Huimin Huangfu, Shulin Du, Hao Zhang, Hanchi Wang, Yi Zhang, Zhen Yang, Xinwei Zhang, Sicong Ren, Siyu Chen, Cuizhu Wang,* Yidi Zhang* and Yanmin Zhou*



Metadynamics simulations for the investigation of drug loading on functionalized inorganic nanoparticles

The diagram illustrates a metadynamics simulation workflow for the loading and unloading of DOX (doxorubicin) from a TiO_2/TETT hybrid. The process is shown as a cycle:

- DOX**: The chemical structure of doxorubicin is shown on the left.
- Neutral pH**: The initial state of the system.
- Loading**: Indicated by a green arrow pointing from the DOX structure towards the hybrid.
- Metadynamics simulations**: The central stage of the simulation.
- Unloading**: Indicated by an orange arrow pointing from the hybrid back towards the DOX structure.
- Acidic pH**: The final state of the system after unloading.
- TiO_2/TETT** : The hybrid material structure is shown on the right.

Lipid peroxidation in diamond supported bilayers

Ferulic acid-loaded polymeric nanoparticles prepared from nano-emulsion templates facilitate internalisation across the blood–brain barrier in model membranes

NANO-EMULSION TEMPLATING

Ferulic acid-loaded polymeric nanoparticles

BBB-on-a-chip

Endothelial fluidic channel

Endothelial syringe channel

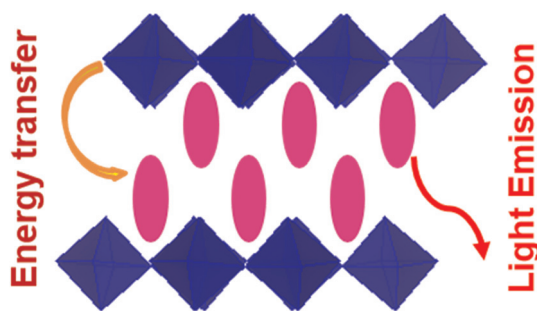
$t = 1 \text{ min}$

$t = 60 \text{ min}$

Engineering 3D structure Mn/YTiO_x nanotube catalyst with an efficient H₂O and SO₂ tolerance for low-temperature selective catalytic reduction of NO with NH₃

The diagram illustrates the catalytic cycle for the selective catalytic reduction (SCR) of NO_x over Mn₃%YTiO_x. The cycle is divided into two main regions: L-H (Lewis acid sites) and E-R (oxygen vacancies). In the L-H region, NO and NH₃ are adsorbed, leading to the formation of coordinated NH₃ (L-H) and monodentate nitrates. In the E-R region, O₂ is adsorbed, leading to the formation of chemisorbed oxygen (E-R) and oxygen vacancies. The cycle involves the reduction of NO_x to N₂ and H₂O, and the re-oxidation of the catalyst by O₂. The legend identifies the symbols for -NH₂, NO, free nitrate ions, monodentate nitrates, oxygen vacancies, chemisorbed oxygen, coordinated NH₃, and Lewis acid sites.

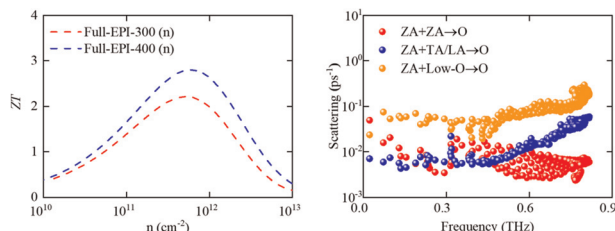
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Energy level alignments between organic and inorganic layers in 2D layered perovskites: conjugation vs. substituent

Eti Mahal, Shyama Charan Mandal, Diptendu Roy and Biswarup Pathak*

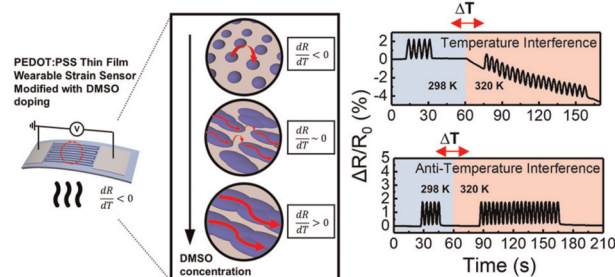
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Excellent thermoelectric properties of the Tl_2S_3 monolayer for medium-temperature applications

Lang Zhou, Qi Wang, Mei Xu, Chengwei Hu, Xue Deng, Yumin Li, Bing Lv* and Wenzhong Wang*

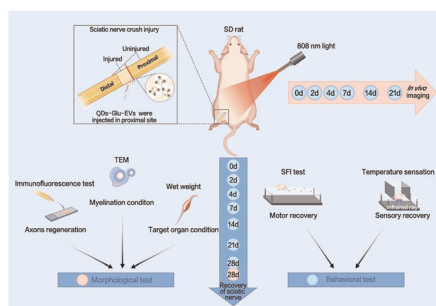
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Charge transport transition of PEDOT:PSS thin films for temperature-insensitive wearable strain sensors

Young Kyun Choi, Tae Hyuk Kim, Jeong Han Song, Byung Ku Jung, Woosik Kim, Jung Ho Bae, Hyung Jin Choi, Jeonghun Kwak,* Jae Won Shim* and Soong Ju Oh*

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Spatio-temporally deciphering peripheral nerve regeneration *in vivo* after extracellular vesicle therapy under NIR-II fluorescence imaging

Yueming Wang, Huaixuan Sheng, Meng Cong, Wenjin Wang, Qianru He, Huizhu Li, Shun Yao Li, Jian Zhang, Yuzhou Chen, Shuaicheng Guo, Lu Fang, Stefano Pluchino, Ewelina Biskup, Mikhail Artemyev, Fuchun Chen, Yunxia Li, Jun Chen,* Sijia Feng* and Yan Wo*

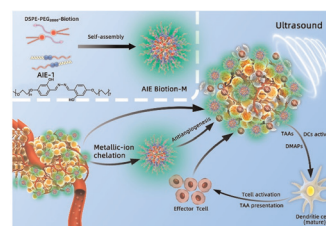


PAPERS

8006

Tumor-targeted AIE polymeric micelles mediated immunogenic sonodynamic therapy inhibits cancer growth and metastasis

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Schematic illustration of AIE/Biotin-M mediated sonodynamic therapy and metal ion chelation for inhibiting breast cancer growth and metastasis.

8019

Orientation order of a nonpolar molecular fluid compressed into a nanosmall space

Dan Wang, Milena Lippmann, Johannes Gäding, Anita Ehnes, Dmitri Novikov, Robert Meißner and Oliver H. Seeck

