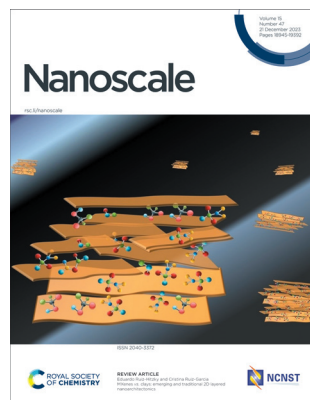


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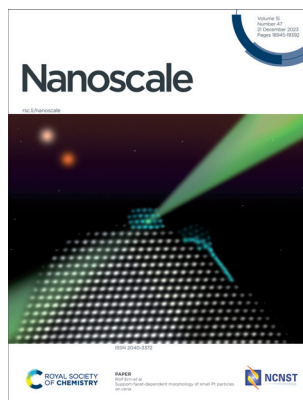
ISSN 2040-3372 CODEN NANOHL 15(47) 18945–19392 (2023)



Cover

See Eduardo Ruiz-Hitzky and Cristina Ruiz-Garcia, pp. 18959–18979.

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Inside cover

See Rolf Erni *et al.*, pp. 19091–19098.

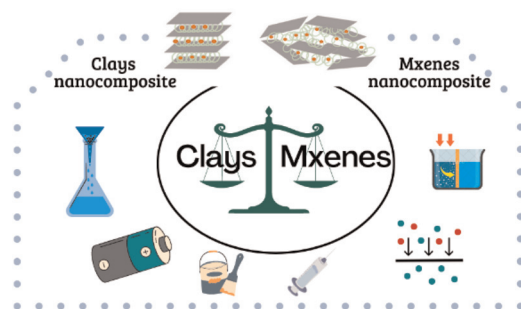
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REVIEWS

18959

MXenes vs. clays: emerging and traditional 2D layered nanoarchitectonics

Eduardo Ruiz-Hitzky* and Cristina Ruiz-Garcia

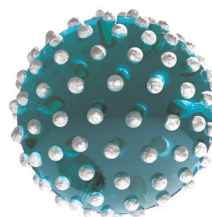


18980

Liquid marbles: review of recent progress in physical properties, formation techniques, and lab-in-a-marble applications in microreactors and biosensors

Mizuki Tenjimbayashi,* Timothée Mouterde,* Pritam Kumar Roy and Koichiro Uto

Liquid Marble: Comprehensive Review of Recent Progress



- ✓ Physical Properties
 - Droplet vs Liquid marble
 - Mechanical stability
 - Adhesion and friction
 - Shape evolution
 - Evaporation-induced effects
- ✓ Formation techniques
 - Formation processes
 - Conceptual variations
 - Liquid marble-templated material design
- ✓ Lab-in-a-Marble Applications
 - Microreactors
 - Biosensors



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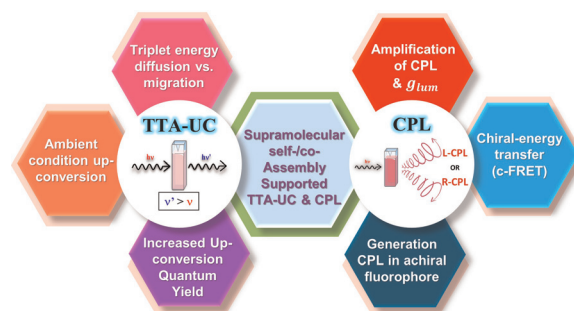


REVIEWS

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A supramolecular assembly-based strategy towards the generation and amplification of photon up-conversion and circularly polarized luminescence

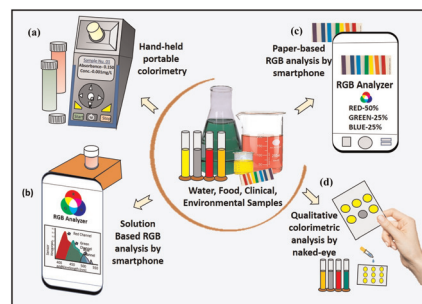
Alisha Sengupta, Gargee Roy, Aakash Ravikant Likhar and Deepak Asthana*



19016

Progress in the design of portable colorimetric chemical sensing devices

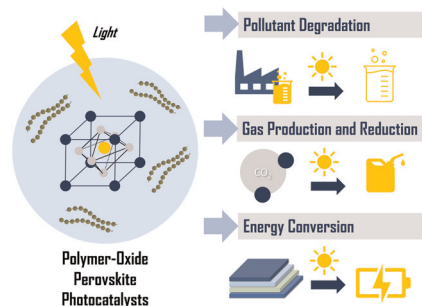
Tushar Kant,* Kamlesh Shrivastava,* Ankita Tejwani, Khushali Tandey, Anuradha Sharma and Shashi Gupta



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Polymer-enhanced perovskite oxide-based photocatalysts: a review

Gregory Soon How Thien, Kah-Yoong Chan,* Ab Rahman Marlinda and Boon Kar Yap

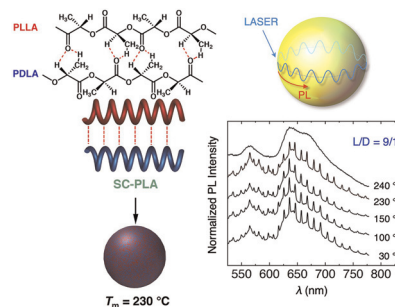


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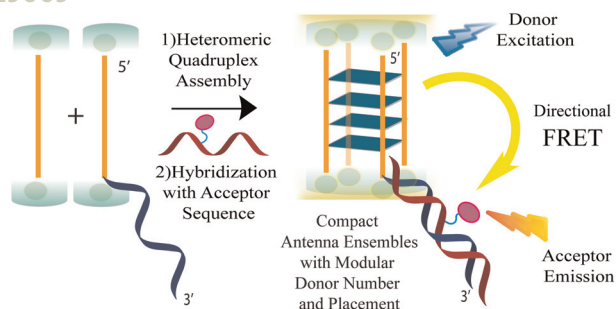
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Poly(lactic acid) stereocomplex microspheres as thermally tolerant optical resonators

Suhaman, Wey Yih Heah, Hiroshi Yamagishi and Yohei Yamamoto*



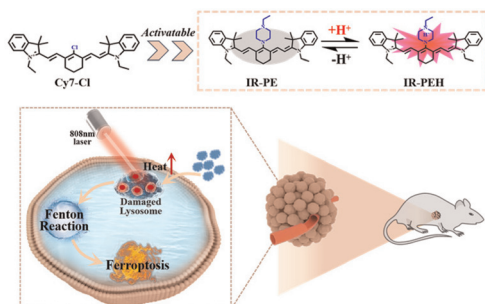
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Heteromeric guanosine (G)-quadruplex derived antenna modules with directional energy transfer

Mohammad Amin Zarandi, Pravin Pathak, Noah Beltrami, Jada N. Walker, Fengqi Zhang, Jennifer S. Brodbelt, Russell Schmehl and Janarthanan Jayawickramarajah*

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Inducing tumor ferroptosis via a pH-responsive NIR-II photothermal agent initiating lysosomal dysfunction

Zhiwei Zhang, Jingjing Xiang, Lijiao Guan, Pu Chen, Changzhong Li, Chunlei Guo, Yan Hu,* Saipeng Huang,* Lintao Cai* and Ping Gong*

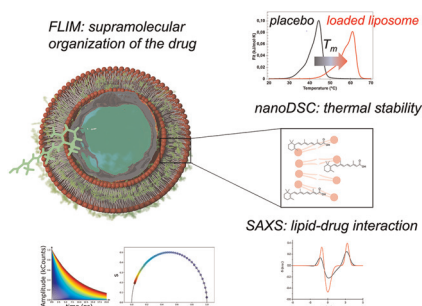
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Photochemical synthesis of group 10 metal nanoclusters for electrocatalysis

Ji-Qiang Fan, Kehui Cen, Hua-Jun Xu, Hai-Yang Wang, Ying Yang, Ze-Min Zhu, Hao Liu, Dengyu Chen, Weigang Fan* and Man-Bo Li*

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Phasor-FLIM-guided unraveling of ATRA supramolecular organization in liposomal nanoformulations

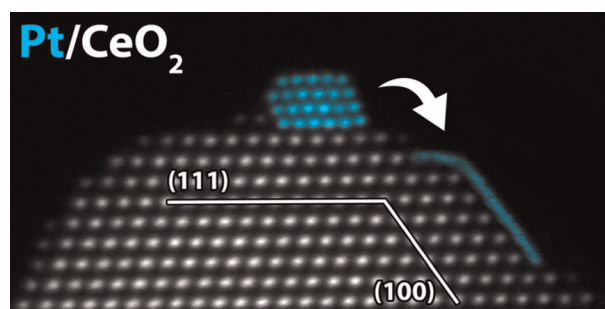
Mario Bernardi, Michael Vernizzi, Laura Baraldi, Sandor Balog, Irene Bassanetti, Elisa Sgarbi, Luca Fornasari, Chiara Arrigoni and Francesco Cardarelli*



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Support-facet-dependent morphology of small Pt particles on ceria

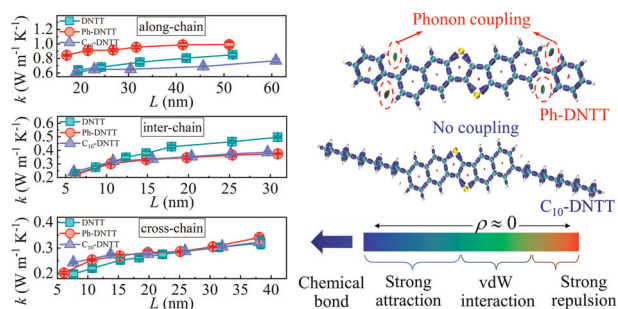
Henrik Eliasson, Yubiao Niu, Richard E. Palmer, Henrik Grönbeck and Rolf Erni*



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Insight into the effect of side chains on thermal transport of organic semiconductors

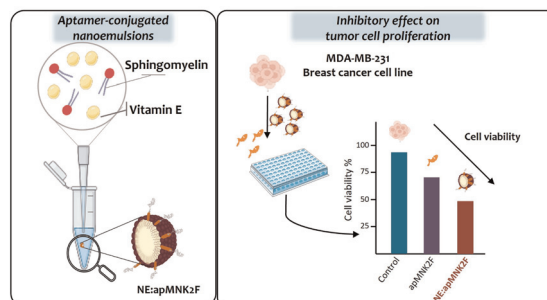
Chao Yang, Weitao Wang, Boyu Peng, Wanxiang Ji and Xinyu Wang*



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Chemical conjugation of aptamer–sphingomyelin nanosystems and their potential as inhibitors of tumour cell proliferation in breast cancer cells

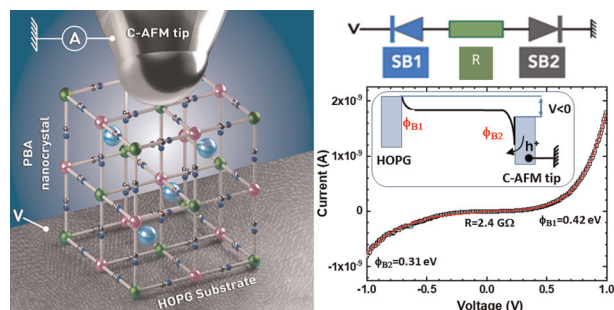
Jenifer García-Fernández, Laura Rivadulla Costa, Celia Pinto-Díez, M. Elena Martín, Víctor M. González and María de la Fuente Freire*



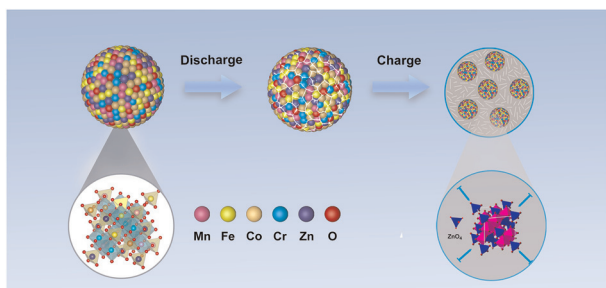
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Electronic properties of single Prussian Blue Analog nanocrystals determined by conductive-AFM

Hugo Therssen, Laure Catala, Sandra Mazérat, Talal Mallah, Dominique Vuillaume, Thierry Mélin and Stéphane Lenfant*



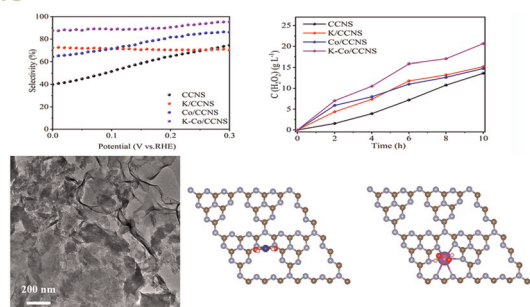
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The elemental pegging effect in locally ordered nanocrystallites of high-entropy oxide enables superior lithium storage

Huitao Leng, Panpan Zhang, Jiansheng Wu, Taiding Xu, Hong Deng, Pan Yang, Shouyue Wang, Jingxia Qiu,* Zhenzhen Wu* and Sheng Li*

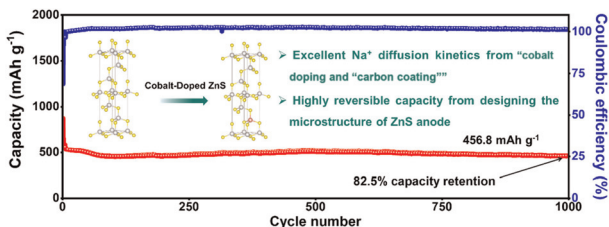
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Electrochemical production of hydrogen peroxide by non-noble metal-doped g-C₃N₄ under a neutral electrolyte

Ying Wang, Hongcen Yang, Niandi Lu, Di Wang, Kun Zhu, Zhixia Wang, Lianshan Mou, Yan Zhang, Yawei Zhao, Kun Tao, Fei Ma* and Shanglong Peng*

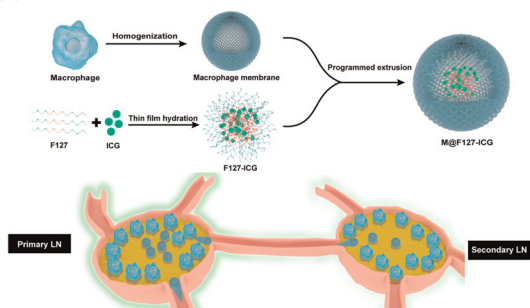
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A cobalt-doped hollow ZnS polyhedra@porous carbon shell composite anode for high-rate sodium-ion batteries

Miaoxin Di, Zhenqi Song, Suhua Chen* and Ying Bai*

19168



Biomimetic nanoplatform with selectively positioned indocyanine green for accurate sentinel lymph node imaging

Wenjing Cheng, Xiangbai Wu, Shi Yu, Chengwei Zhang, Yinhong Song, Xinzhi Li and Xiang Yu*

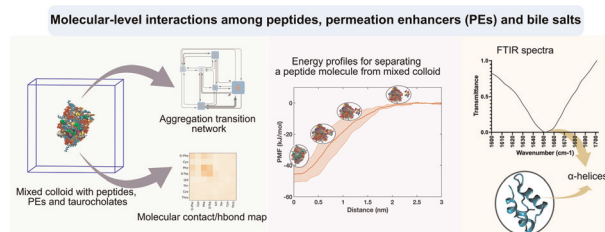


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Revealing the interaction between peptide drugs and permeation enhancers in the presence of intestinal bile salts

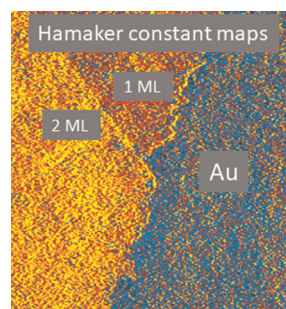
Shakhawath Hossain, Rosita Kneiszl and Per Larsson*



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Fast and high-resolution mapping of van der Waals forces of 2D materials interfaces with bimodal AFM

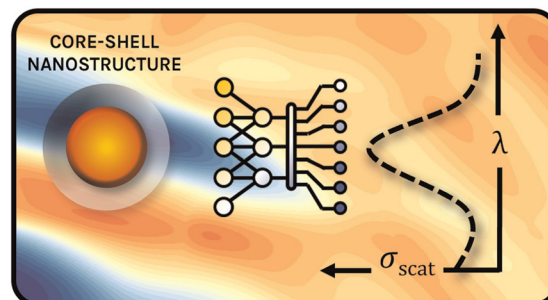
Victor G. Gisbert and Ricardo Garcia*



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Machine learning of all-dielectric core-shell nanostructures: the critical role of the objective function in inverse design

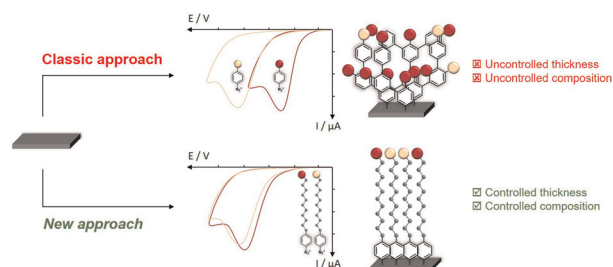
David J. Hoxie,* Purushotham V. Bangalore and Kannatassen Appavoo



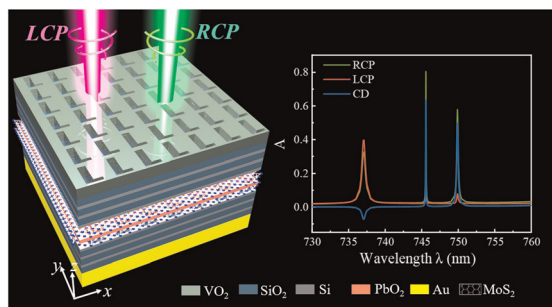
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An innovative method for controlled synthesis of bicomponent monolayer films obtained by reduction of diazonium

Julien Billon, Anna Omelchuk, Viacheslav Shkirskiy, Sylvie Dabos-Seignon, Olivier Alévêque, Eric Levillain, Tony Breton and Christelle Gautier*



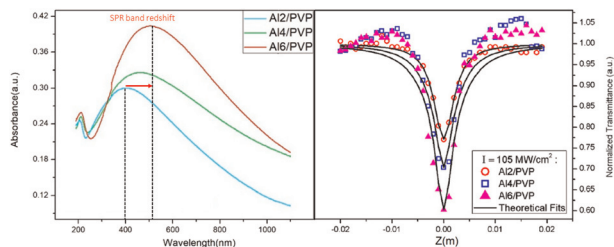
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Enhancement and sensing applications of ultra-narrow band circular dichroism of the chiral nanopore films based on Bragg reflector

Yongkai Wang,* Jialin Sun, Zhiduo Li, Qingyan Han, Wei Gao, Lipeng Zhu, Jun Dong and Zhongyue Zhang*

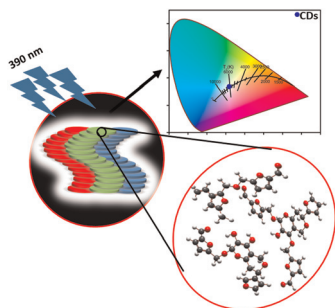
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Controlled plasmon-induced nonlinear absorption and optical limiting in Al/PVP composite nanofibers

Bekir Asilcan Ünlü, Serife Akkoyun,* Ahmet Karatay,* Aytunc Ates and Ayhan Elmali

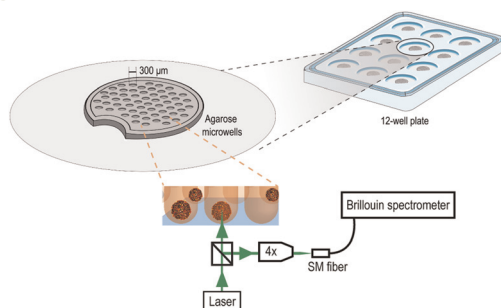
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White light emission from helically stacked humin-mimic based H-aggregates in heteroatom free carbon dots

Md. Abdus Salam Shaik, Dipanjan Samanta, Ankit Kumar Sharma, Manisha Shaw, Sayan Prodhan, Rajarshi Basu, Imran Mondal, Shailab Singh, Prasanta Kumar Dutta and Amita Pathak*

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Predicting nanocarriers' efficacy in 3D models with Brillouin microscopy

Giulia Guerriero, Alexis Viel, Veronica Feltri, Alice Balboni, Guqi Yan, Sylvain Monnier, Giovanna Lollo* and Thomas Dehoux*



PAPERS

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Water-soluble ionic carbon nitride as unconventional stabilizer for highly catalytically active ultrafine gold nanoparticles

Mohamed M. Elnagar, Johannes Liessem, Changbin Im, Dariusz Mitoraj, Ludwig A. Kibler, Christof Neumann, Andrey Turchanin, Robert Leiter, Ute Kaiser, Timo Jacob,* Igor Krivtsov* and Radim Beranek*



- ✓ Ultrafine Au nanoparticles (< 3 nm)
- ✓ Long-term stability (~months)
- ✓ Stable in solutions of high ionic strength
- ✓ High catalytic activity

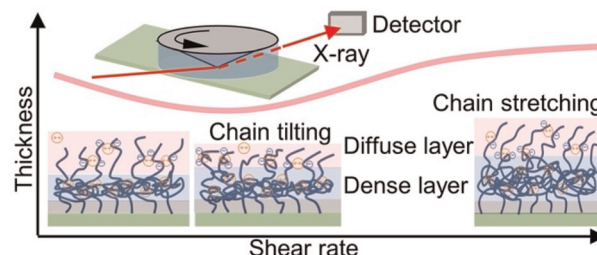
TOF ~ 6150 h⁻¹ atom_{Au}⁻¹

TOF ~ 3888 h⁻¹ atom_{Au}⁻¹ benchmark

19282

Stretching of immersed polyelectrolyte brushes in shear flow

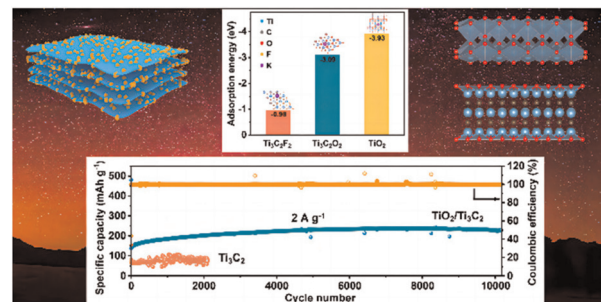
Yijun Qiao, Qiming He, Hsin-Hsiang Huang, Dean Mastropietro, Zhang Jiang, Hua Zhou, Yuhong Liu,* Matthew V. Tirrell* and Wei Chen*



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In situ construction of a hierarchical TiO₂/Ti₃C₂ hybrid via water steam etching for high-performance potassium-ion batteries

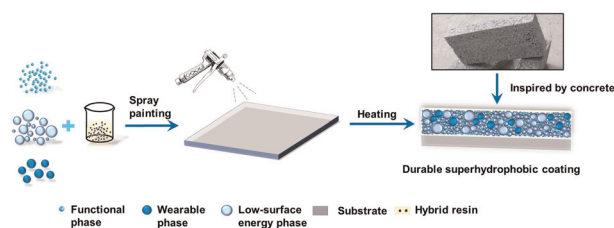
Tengfei Li, Lu Wang,* Junwen Duan, Zifeng Liu, Dan Zhou, Chang Xue* and Zhubing Xiao*



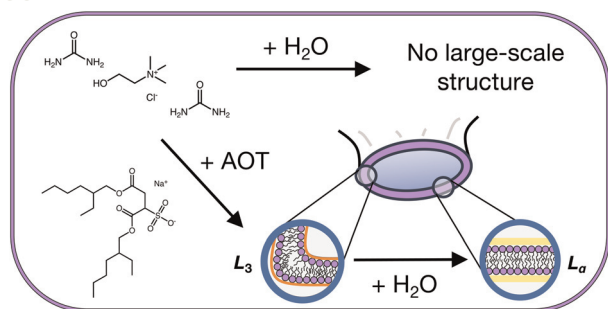
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A highly robust, concrete-inspired superhydrophobic nanocomposite coating

Wu Binrui, Qin Qiong, Jiao Xuan, Xu Dong, Ke li, Sheng Liping,* Cui Xin, Zhao Qizhi, Fu Feiyan* and Yi Xian*



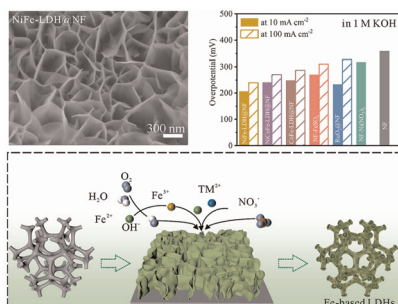
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Evidence for an L_3 phase in ternary deep eutectics: composition-induced L_3 -to- L_α transition of AOT

Oliver S. Hammond,* Naomi S. Elstone, James Douch, Peixun Li and Karen J. Edler

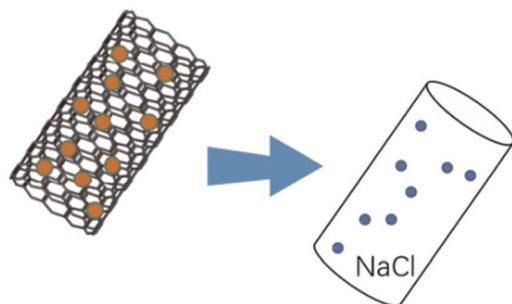
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A moderate method for *in situ* growing Fe-based LDHs on Ni foam for catalyzing the oxygen evolution reaction

Yanqi Liu, Chenghao Zhang, Qingsong Cai, Jianmin Zhang* and Zongmin Zheng*

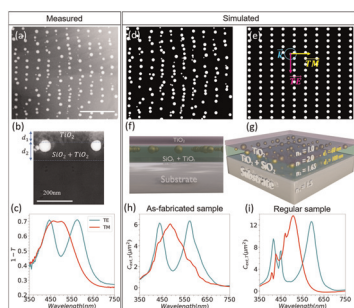
19330



Switchable NaCl cages via a MWCNTs/Ni[Fe(CN)₆]₂ nanocomposite for high performance desalination

Ze-Qin Yang, Wei-Bin Zhang,* Kang Yang, Bi Chen, Yi Yin, Jia-Jun Li, Jing-Lei Yang, Yue Gao and Xue-Jing Ma*

19339



Hybridization between plasmonic and photonic modes in laser-induced self-organized quasi-random plasmonic metasurfaces

Van Doan Le, Yaya Lefkir and Nathalie Destouches*

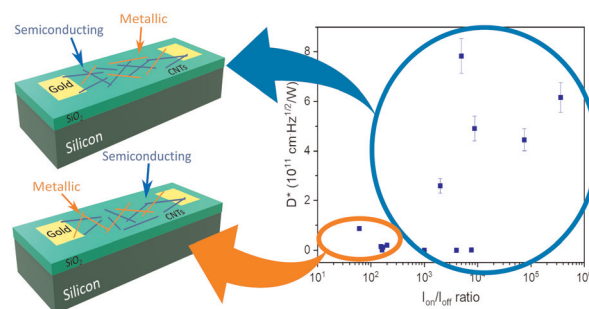


PAPERS

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Photogating interfacial effects in carbon nanotube-based transistors on a Si/SiO₂ substrate toward highly sensitive photodetection

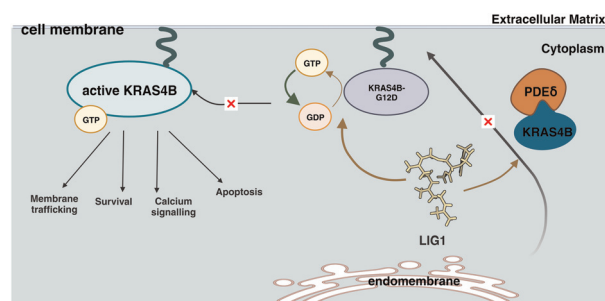
Svetlana I. Serebrennikova, Daria S. Kopylova, Yuriy G. Gladush, Dmitry V. Krasnikov, Sakellaris Mailis and Albert G. Nasibulin*



19359

In silico design of a lipid-like compound targeting KRAS4B-G12D through non-covalent bonds

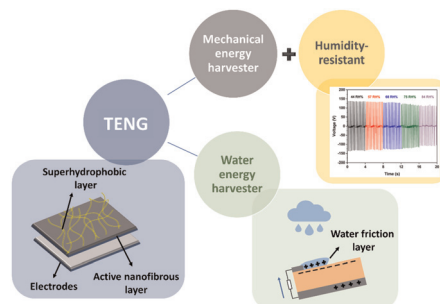
Huixia Lu,* Zheyao Hu, Jordi Faraudo and Jordi Martí*



19369

Flexible, humidity- and contamination-resistant superhydrophobic MXene-based electrospun triboelectric nanogenerators for distributed energy harvesting applications

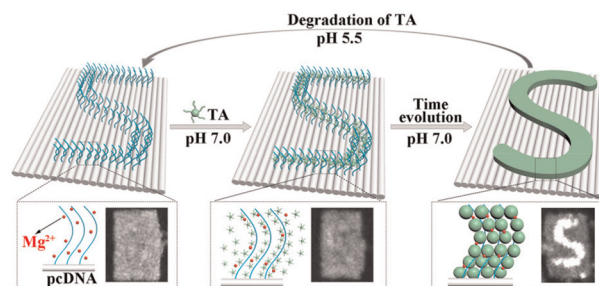
Sagar Sardana, Vaishali Sharma, Kevin Gurbani Beepat, Davinder Pal Sharma, Amit Kumar Chawla and Aman Mahajan*



19381

The controllable patterning of tannic acid on DNA origami

Yanyuan Luo, Liqiong Niu, Pengyan Hao, Xiaoya Sun, Yongxi Zhao and Na Wu*



CORRECTION

19389

Correction: Considerable slowdown of short DNA fragment translocation across a protein nanopore using pH-induced generation of enthalpic traps inside the permeation pathway

Loredana Mereuta, Alina Asandei, Ioan Andricioaei, Jonggwan Park, Yoonkyung Park* and Tudor Luchian*

