

Materials Advances

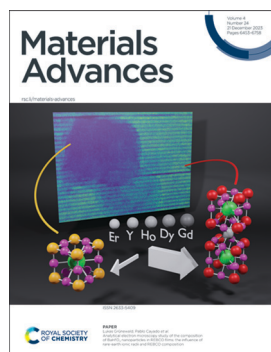
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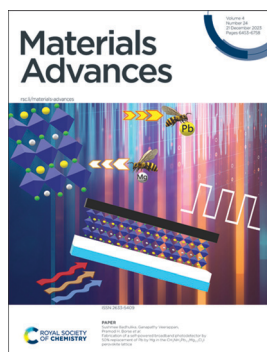
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ISSN 2633-5409 CODEN MAADC9 4(24) 6453–6758 (2023)



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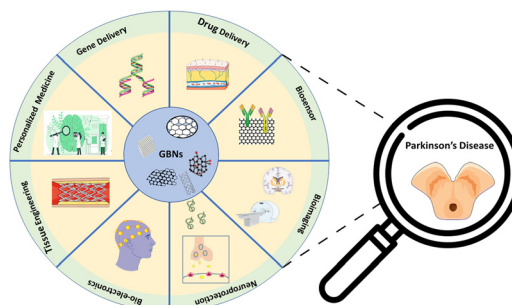
See Sushmee Badhulika, Ganapathy Veerappan, Pramod H. Borse *et al.*, pp. 6522–6534. Image reproduced by permission of Pramod H. Borse from *Mater. Adv.*, 2023, 4, 6522.

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Advances in graphene-based nanoplatforms and their application in Parkinson's disease

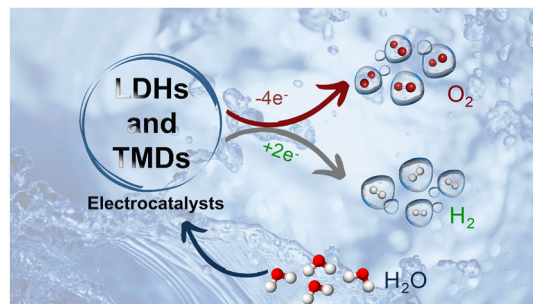
Tuba Oz, Ajeet Kumar Kaushik and Małgorzata Kujawska*



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2D layered double hydroxides and transition metal dichalcogenides for applications in the electrochemical production of renewable hydrogen

Daniele Alves, P. Rupa Kasturi, Gillian Collins, Tara N Barwa, Sukanya Ramaraj, Raj Karthik and Carmel B. Breslin*



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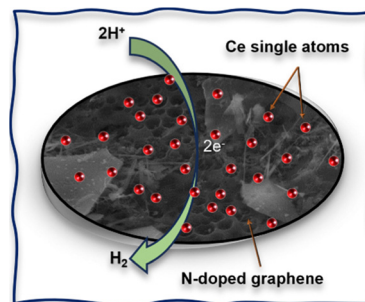


COMMUNICATION

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Promising Ce single-atom-dispersed nitrogen-doped graphene catalysts for the hydrogen evolution reaction

Sunny Yadav, Vandung Dao, Wenmeng Wang, Kai Chen, Chiyeop Kim, Gyu-Cheol Kim and In-Hwan Lee*

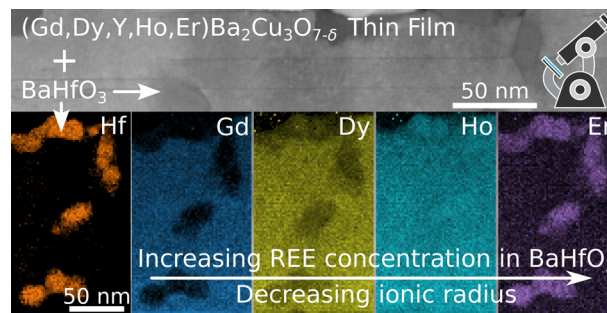


PAPERS

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Analytical electron microscopy study of the composition of BaHfO₃ nanoparticles in REBCO films: the influence of rare-earth ionic radii and REBCO composition

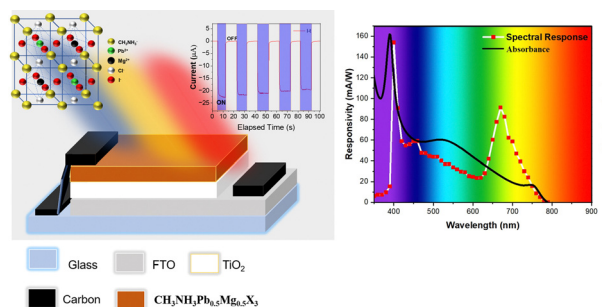
Lukas Grünewald, Pablo Cayado,* Manuela Erbe, Jens Hänisch,* Bernhard Holzapfel and Dagmar Gerthsen



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Fabrication of a self-powered broadband photodetector by 50% replacement of Pb by Mg in the CH₃NH₃Pb_{0.5}Mg_{0.5}Cl₂I perovskite lattice

Kumaar Swamy Reddy B., Smrutiranjana Panda, Easwaramoorthi Ramasamy, Sushmee Badhulika,* Ganapathy Veerappan* and Pramod H. Borse*

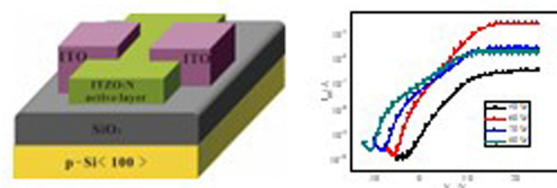


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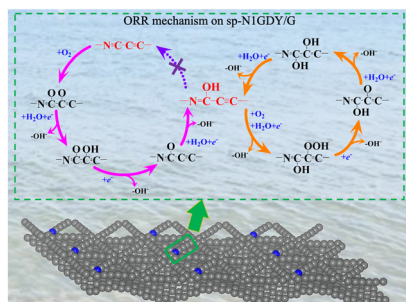
Amorphous N-doped InSnZnO thin films deposited by RF sputtering for thin-film transistor application

Zhi-Yue Li, Shu-Mei Song, Wanxia Wang,* Ming-Jiang Dai, Song-Sheng Lin, Ting-Yong Chen and Hui Sun*

- ◆ The influence of RF sputtering power on TFT's performance was studied
- ◆ ITZO:N film prepared with suitable sputtering power enhance the performance of TFT



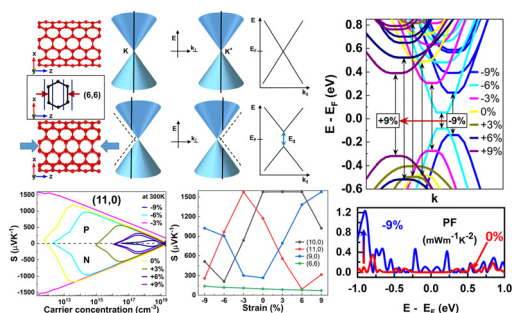
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DFT investigation of the oxygen reduction reaction over nitrogen (N) doped graphdiyne as an electrocatalyst: the importance of pre-adsorbed OH* and the solvation effect

Yuelin Wang, Thanh Ngoc Pham, Harry H. Halim, Likai Yan and Yoshitada Morikawa*

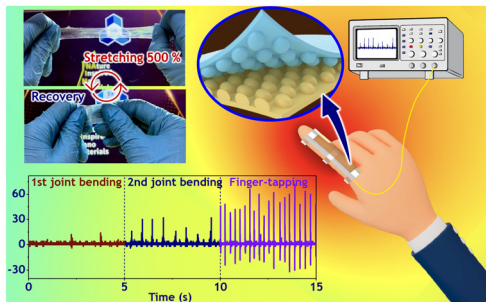
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Ab initio study of uniaxial strain-induced thermoelectric property tuning of individual single-wall carbon nanotubes

Md. Mafizul Islam and Ahmed Zubair*

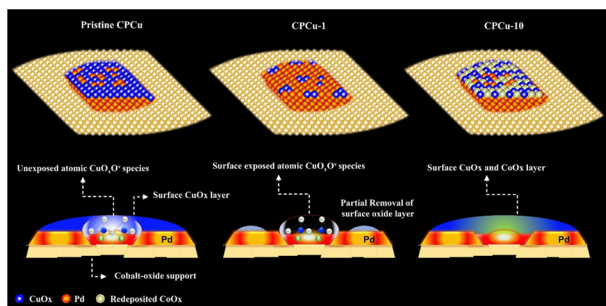
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Ultra-stretchable and shape-memorable ability of an output-boosted triboelectric nanogenerator utilizing highly ordered microdome-crowning thermoplastic polyurethane for a finger-motion detection sensor

Ngoc Mai Chau, Phuong Mai Tran, Thu Ha Le, Thi Thai Ha La* and Van-Tien Bui*

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Facile surface restructure by one-step sub-millisecond laser exposure promotes the CO₂ methanation performance of cobalt oxide supported Pd nanoparticles with copper-oxide cluster decoration

Dinesh Bhalothia, Amisha Beniwal, Praveen Kumar Saravanan, Guo-Heng Huang, Mingxing Cheng, Ming-Wei Lin, Po-Chun Chen* and Tsan-Yao Chen*

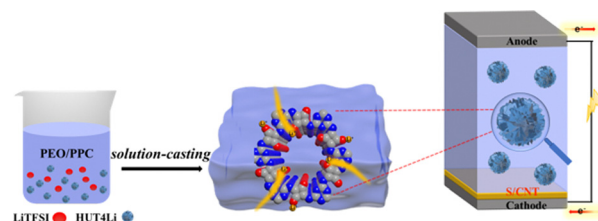


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Zwitterionic metal covalent organic frameworks constructed from lithium salts to reinforce poly(ethylene oxide)/poly(propylene carbonate) composite polymer electrolytes

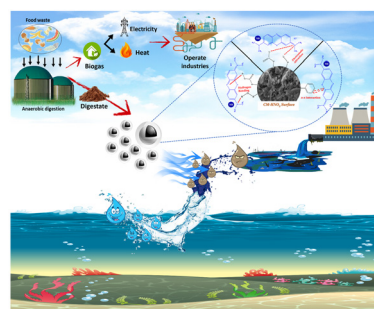
Hui Liu,* Li Jing, Juanjuan Liu, Hongxing Guo, Tao Li and Xiaojie Zhang*



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Harnessing a carbon-based material from food waste digestate for dye adsorption: the role of hydrogel beads in enhancing the material stability and regenerative capacity

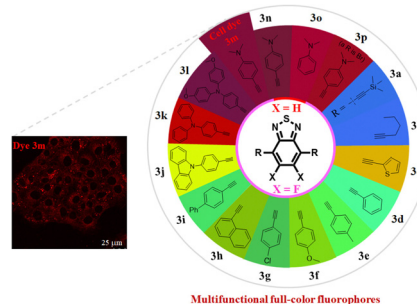
Salaheddine Farsad,* Asma Amjlef, Ayoub Chaoui, Aboubakr Ben Hamou, Chaima Hamma, Mohamed Benafqir, Amane Jada and Noureddine El Alem*



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Full-color emission of fluorinated benzothiadiazole-based D-A-D fluorophores and their bioimaging applications

Si-Hong Chen, Xi-Ying Cao, Peng-Tao Hu, Kai Jiang,* Yong-Tong Liang, Bing-Jia Xu, Zhong-Hao Li and Zhao-Yang Wang*

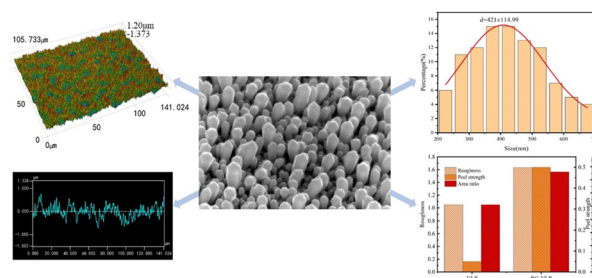


Multifunctional full-color fluorophores

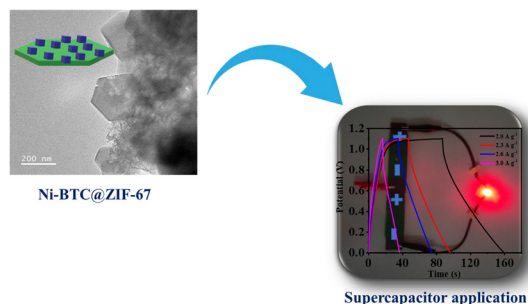
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Preparation of an ultra-low profile and high peel strength copper foil with rice-grain microstructures

Lijuan Wang, Xiaowei Fa, Yunzhi Tang,* Juan Liao, Yuhui Tan,* Ning Song, Jian Huang, Zhen Sun, Men Zhao, Weifei Liu and Man Zhao



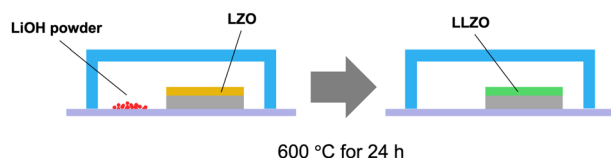
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Robust MOF-on-MOF heterostructures as efficient cathode candidates for next-generation supercapacitors

Rakesh Deka, Viresh Kumar and Shaikh M Mobin*

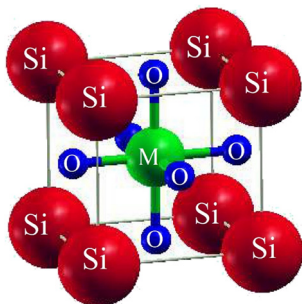
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Post-lithiation: a way to control the ionic conductivity of solid-state thin film electrolyte

Jixi Chen,* Alessandro Palliotto, Shinhee Yun, Dennis Valbjørn Christensen, Vincenzo Esposito and Nini Pryds*

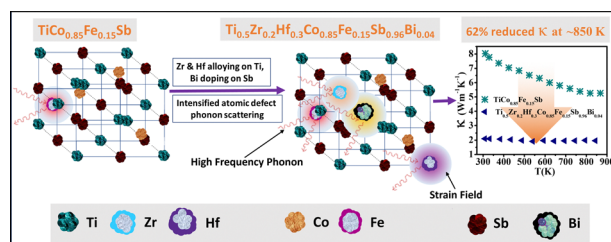
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Computational study of the physical characteristics of Si-based oxide perovskites for energy generation using DFT

Amjad Ali Pasha, Hukam Khan, Mohammad Sohail,* Nasir Rahman, Rajwali Khan, Omar H. Alsalmi, Dilsora Abduvalieva, Khamael M. Abualnaja, Atef El Jery and Mouataz Adrery

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Approaching the minimum lattice thermal conductivity in TiCoSb half-Heusler alloys by intensified point-defect phonon scattering

Ajay Kumar Verma, Shamma Jain, Kishor Kumar Johari, Christophe Candolfi, Bertrand Lenoir,* Sumeet Walia, S. R. Dhakate and Bhasker Gahtori*

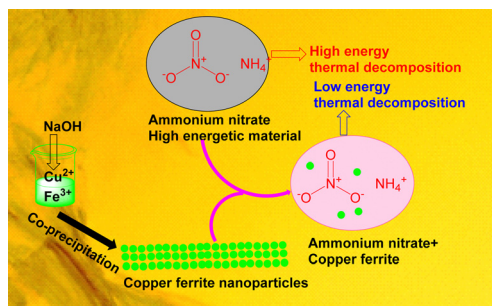


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Comparative study of the thermal decomposition of ammonium nitrate in the presence of nanocrystalline copper ferrite

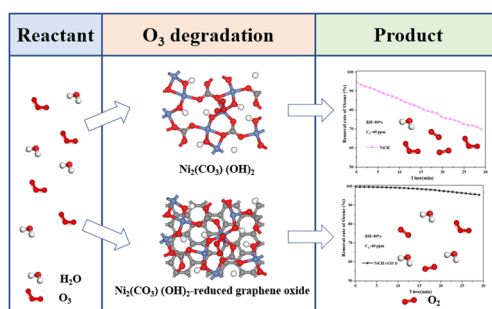
Pragnesh N. Dave* and Ruksana Sirach



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rGO nickel matrix composites with high ozone degradation efficiency under high humidity

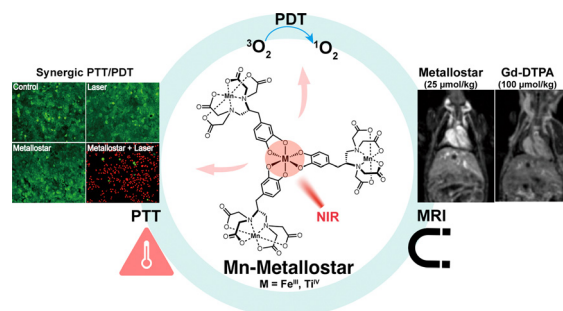
Qian Zhang,* Wenyan Xiao, Bangxin Li, Yu Lin, Lingyu Huang, Jifei Liao, Huiguo Han, Jie Zhu and Yan Fu



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Coordination-driven self-assembled Mn(II)-metallostar with high relaxivity and synergistic photothermal and photodynamic effects

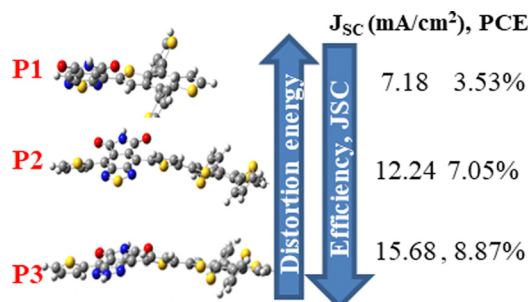
Huiyu Wu, Zhenghui Li, Yao Liu, Xingchi Shi, Yuan Xue, Zuhua Zeng, Fanglin Mi, Haiying Wang* and Jiang Zhu*



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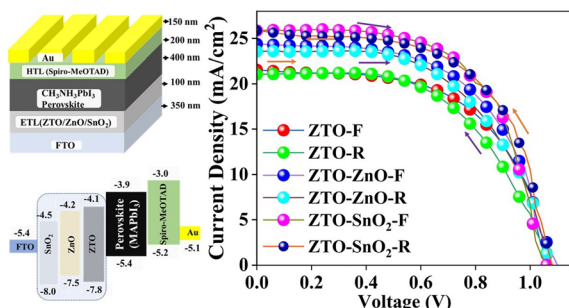
Tailoring intra-molecular coupling in BDT-based copolymers to enhance their performance in fullerene-free organic solar cells

Newayemedhin A. Tegegne,* Asfaw Negash,* Desalegn Yilma, Kidan G. Gebremariam, Zewdneh Genene, Wendimagegn Mammo and Neill J. Goosen



PAPERS

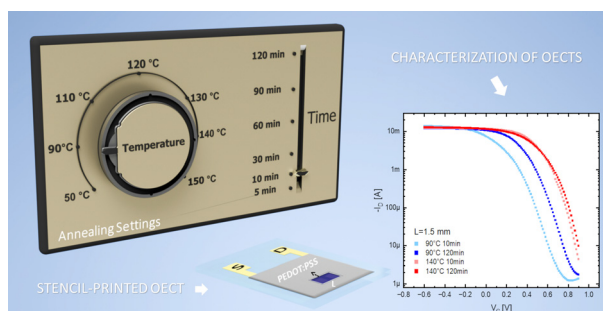
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Enhancing the perovskite solar cell performance by the interface modification of Zn–Sn–O compound heterostructures

Ranjith Kumar Poobalan, Ramarajan Ramanathan,*
Chellakumar R., K. Ravichandran and Michel Zinigrad

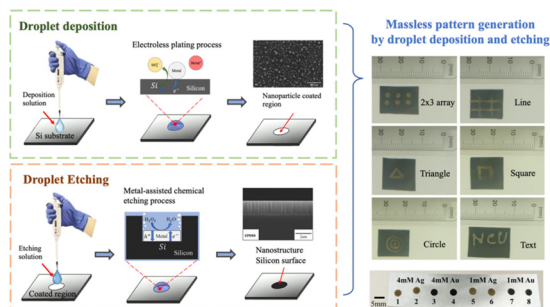
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Experimental design of stencil-printed high-performance organic electrochemical transistors

Amir Mohammad Ghafari, Michele Catacchio,
Emil Rosqvist, Axel Luukkonen, Anni Eklund,
Kim Björkström, Paolo Bollella, Luisa Torsi,
Eleonora Macchia* and Ronald Österbacka*

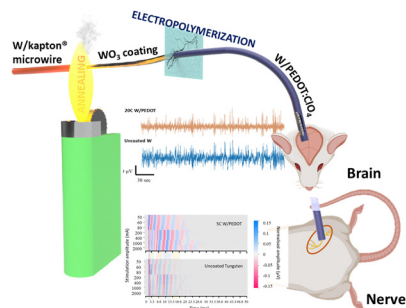
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Maskless patterning of metal nanoparticles and silicon nanostructures by a droplet deposition and etching process

Chia-Wen Tsao* and Ping-Chin Shen

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Electrodeposition of PEDOT:ClO₄ on non-noble tungsten microwire for nerve and brain recordings

Amparo Güemes, Antonio Dominguez-Alfaro,
Ryo Mizuta, Santiago Velasco-Bosom,
Alejandro Carnicer-Lombarte, Damiano G. Barone,
David Mecerreyes and George Malliaras*



CORRECTIONS

6754

Correction: The state of understanding of the electrochemical behaviours of a valve-regulated lead–acid battery comprising manganese dioxide-impregnated gel polymer electrolyte

Bipin S. Chikkatti, Ashok M. Sajjan* and Nagaraj R. Banapurmath

6755

Correction: Green pepper-derived hierarchical porous carbon for supercapacitors with high performance

Yicheng Zeng, Fuming Zhang, Jinggao Wu and Jing Huang*

