

Materials Advances

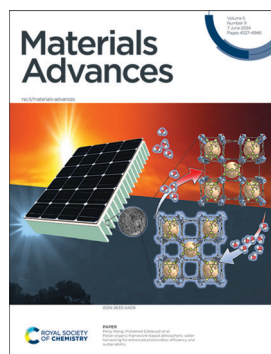
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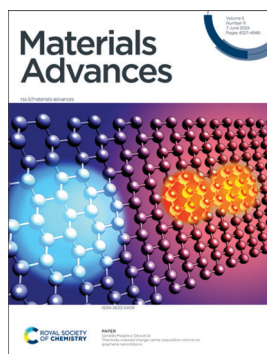
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See Geraldo Magela e Silva *et al.*, pp. 4668–4678. Image reproduced by permission of Geraldo Magela e Silva from *Mater. Adv.*, 2024, 5, 4668. The authors would like to thank Gabriela Hirata e Silva for the cover image.

EDITORIAL

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Introduction to Biomaterials in Innate Immunity

Erika Moore* and Shreya A. Raghavan*

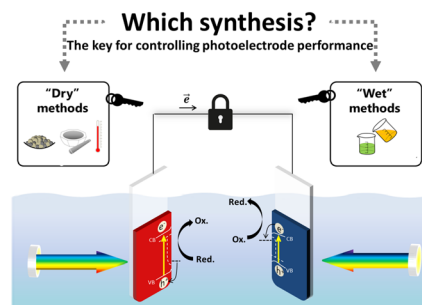


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Fundamental questions
Elemental answers

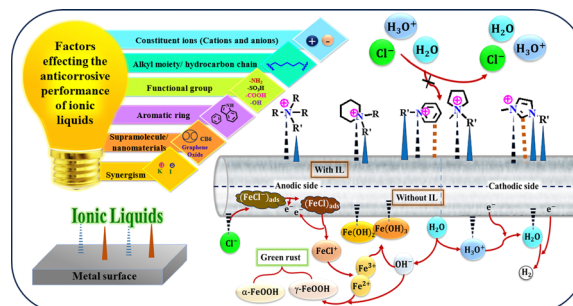


REVIEWS

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Unveiling the future of steel corrosion inhibition: a revolutionary sustainable odyssey with a special emphasis on N⁺-containing ionic liquids through cutting-edge innovations

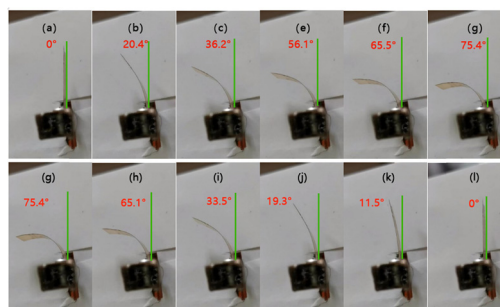
Sanjukta Zamindar, Sukdeb Mandal, Manilal Murmu and Priyabrata Banerjee*



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Current research status of ionic polymer–metal composites in applications of low-voltage actuators

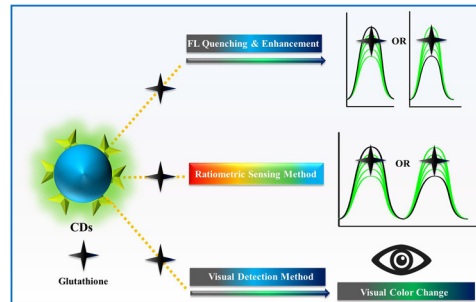
Jinguang Lai, Bo Zeng, Jiachen Liu,* Jianjun Zhang, Wenle Pei, Yi Zhou, Yueming Liu, Jungang Li and Yang Tong*



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Carbon dot as fluorescence sensor for glutathione in human serum samples: a review

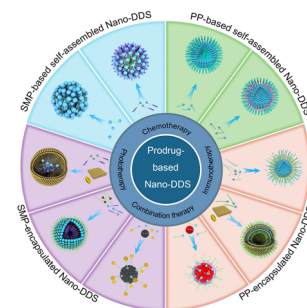
Kawan F. Kayani,* Sewara J. Mohammed, Dizar Ghafoor, Mohammed K. Rahim and Harez Rashid Ahmed



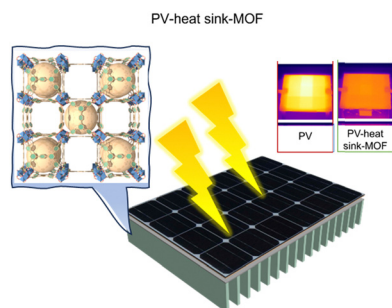
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Recent advances in engineering prodrug-based nanomedicines for cancer therapy

Linlin Shi,* Shanshan Lin, Fengping Zhou, Hao Jiang and Jin Zhang*



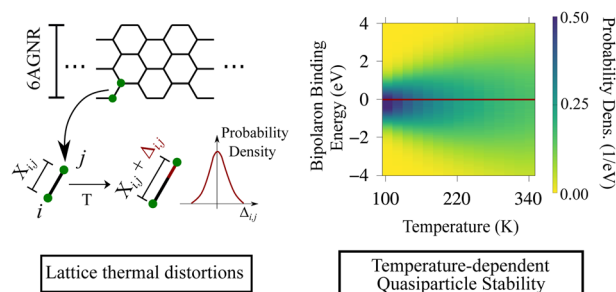
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Metal–organic framework-based atmospheric water harvesting for enhanced photovoltaic efficiency and sustainability

Dalal Alezi, Renyuan Li, Norah Alsadun, Arijit Malik, Osama Shekhah, Peng Wang* and Mohamed Eddaoudi*

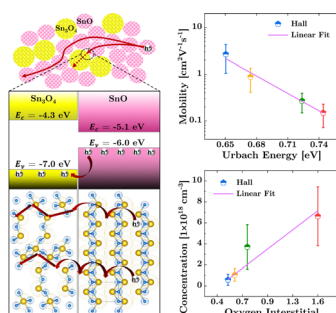
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Thermally-induced charge carrier population control on graphene nanoribbons

Tiago de Sousa Araújo Cassiano, Geraldo Magela e Silva* and Pedro Henrique de Oliveira Neto

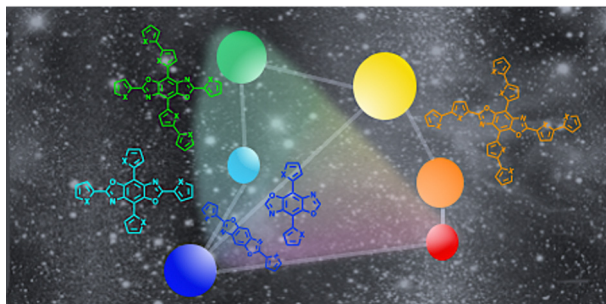
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Unveiling the nature of room-temperature-fabricated p-type SnO thin films: the critical role of intermediate phases, lattice disorder, and oxygen interstitials

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Exploring color space: an investigation of heteroaryl-substituted benzobis[1,2-d:4,5-d']oxazoles and their application in organic light-emitting diodes

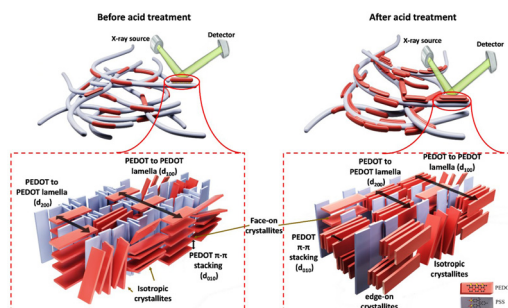
David L. Wheeler, Shambhavi Tannir, Hadar R. Yakir, Or Dishy, Ori Gidron and Malika Jeffries-EL*



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Beyond acid treatment of PEDOT:PSS: decoding mechanisms of electrical conductivity enhancement

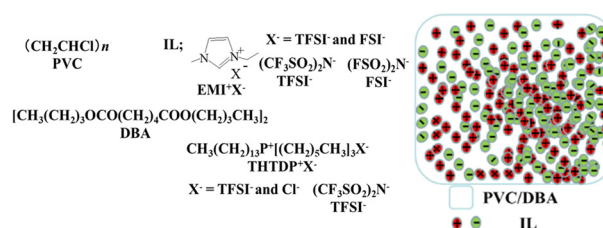
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High-performance transparent hybrid (ionic and dielectric) gel actuator system based on poly(vinyl chloride)/dibutyl adipate/ionic liquid gels operating at a low applied voltage

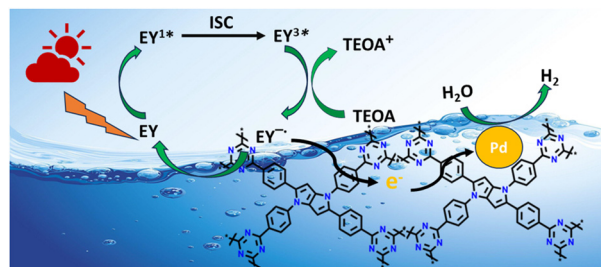
Naohiro Terasawa* and Hirosato Monobe



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A pyrrolo[3,2-*b*]pyrrole core containing a covalent triazine-based framework (CTF) for photocatalytic H₂ production

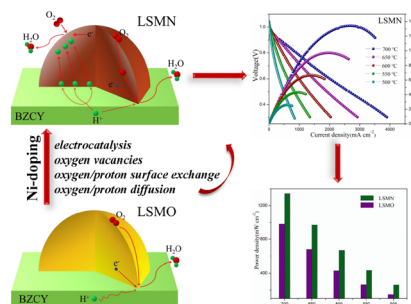
Osman Ali, Anupam Jana, Aruntima Das, Sandeep Kumar Dey and Asamanjoy Bhunia*



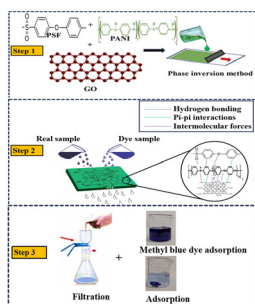
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Ameliorating La_{0.5}Sr_{1.5}MnO₄ with Ni-doping to enhance cathode electrocatalysis for proton-conducting solid oxide fuel cells

Jiapeng Xu, Junyi Gong, Kunpeng Du, Wei Liu and Jie Hou*



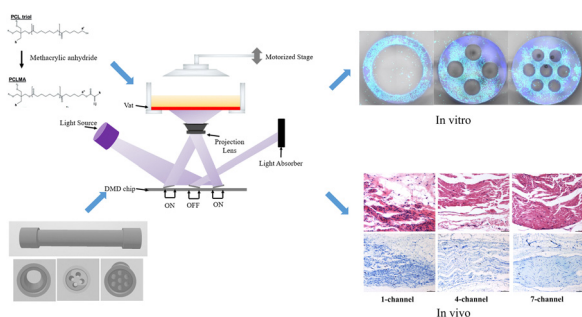
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Integrated synergy: PSF/PANI/GO membranes for dual-action textile dye detoxification

Anila Tabasum, Amna Siddique, Humaira Razzaq,*
Hafiza Hifza Nawaz, Shumaila Razzaque, Saba Tahir,
Shaista Taimur, Nusrat Jabeen and Samreen Shehzadi

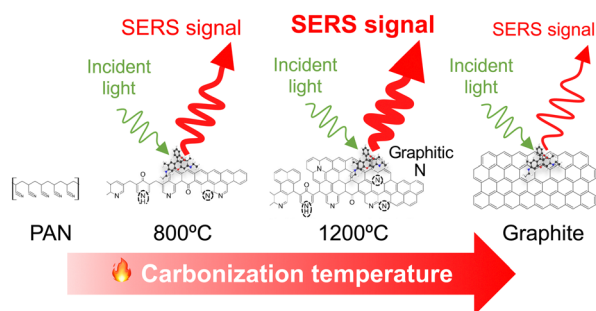
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Projection-based 3D printing of multichannel poly(caprolactone) methacrylate nerve guidance conduit for peripheral nerve regeneration

Haibing Li, Ke Yao, Yuewei Chen, Wensong Ye and
Qiang Shu*

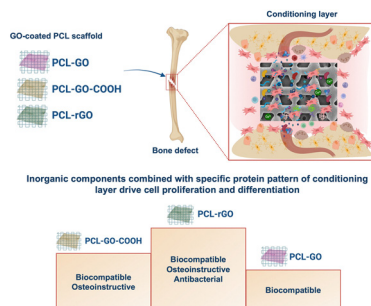
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A highly simple and controllable nitrogen-doping method for carbon-based surface-enhanced Raman spectroscopy substrates

Machiko Marumi, Xuke Tang, V. Kesava Rao,
Abdullah N. Alodhayb, Manish M. Kulkarni,
Prabhat K. Dwivedi, Fabio Lisi, Yasutaka Kitahama,*
Ting-Hui Xiao and Keisuke Goda*

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The osteoconductive properties of graphene-based material surfaces are finely tuned by the conditioning layer and surface chemistry

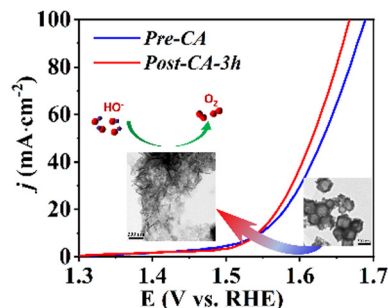
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In situ formation of robust nanostructured cobalt oxyhydroxide/cobalt oxide oxygen evolution reaction electrocatalysts

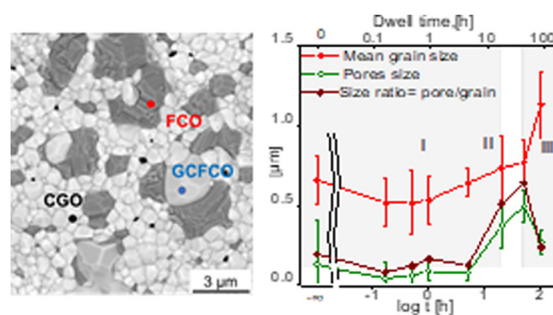
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Impact of the sintering parameters on the microstructural and transport properties of 60 wt% Ce_{0.8}Gd_{0.2}O_{2-δ}-40 wt% FeCo₂O₄ composites

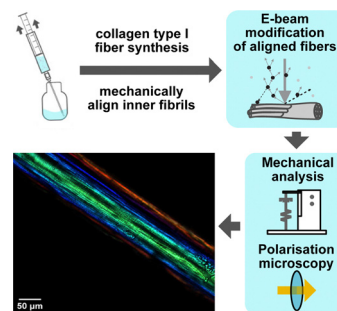
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Programming fibril alignment and mechanical response in reconstituted collagen fibers using reagent-free biomimetic energetic electron crosslinking

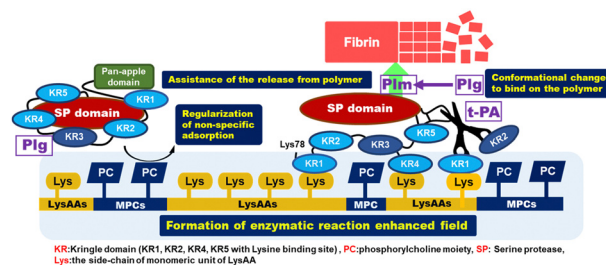
Anastassiya Bublikova, Friedrich Schütte* and Stefan G. Mayr*



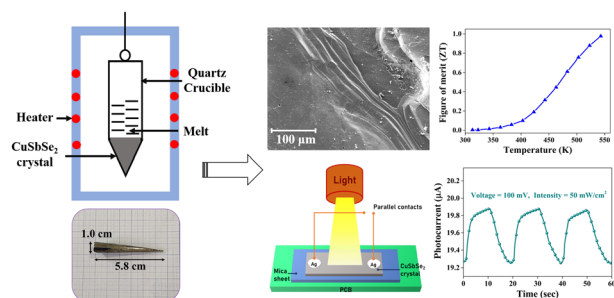
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Preparation of zwitterionic random and block poly(N-α-acrylamide-L-lysine-co-2-methacryloyloxyethyl phosphorylcholine) copolymers and their effect on fibrinolytic activity

Tomoya Nakago, Yuto Oki, Tatsuki Nousou, Tomohiro Ogawa and Kohei Shiraiishi*



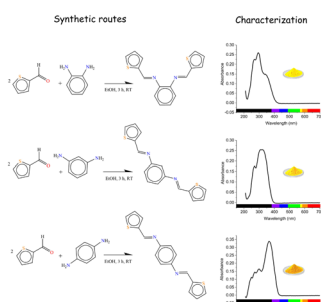
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Growth of a CuSbSe_2 single crystal by the Bridgman technique and its utility as a photodetector and thermoelectric material

Zubin R. Parekh,* M. P. Deshpande,* Sandip V. Bhatt, Rohitkumar M. Kannaujiya, Hiteshkumar R. Bhoi, Yash V. Joshi, S. H. Chaki and Swati J. Pandya

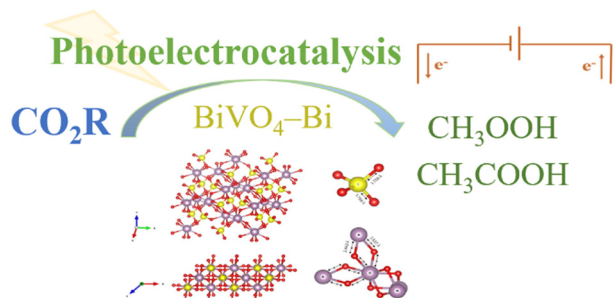
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Synthesis and characterization of N,N' -bis(2-thienylmethylene)-1, X -diaminobenzene isomers ($X = 2, 3, 4$) and their metal complexes

Parastoo Vahdatiyekta, Mohammed Zniber, Kostiantyn Nikiforow and Tan-Phat Huynh*

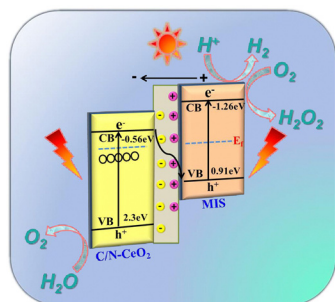
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Unveiling BiVO_4 photoelectrocatalytic potential for CO_2 reduction at ambient temperature

Ricardo Marques e Silva, Eduardo Henrique Dias, Florymar Escalona-Durán, Gelson Tiago dos Santos Tavares da Silva, Wajdi Alnough, Jessica Ariane de Oliveira, Drew Higgins and Caue Ribeiro*

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MgIn_2S_4 -decorated MOF-derived C/N- CeO_2 nanorod heterojunctions as efficient photocatalysts towards H_2O_2 production reactions and H_2 evolution reactions

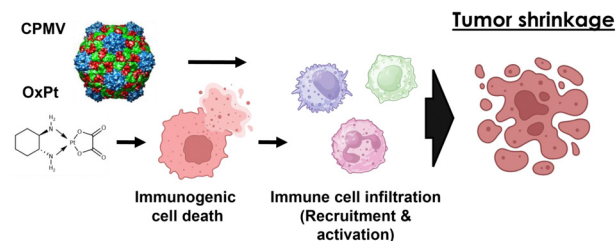
Jayashree Panda, Pragyandeepi Behera, Satyabrata Subudhi, Suraj Prakash Tripathy, Gayatri Swain, Srabani Dash and Kulamani Parida*



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Combination of cowpea mosaic virus (CPMV) intratumoral therapy and oxaliplatin chemotherapy

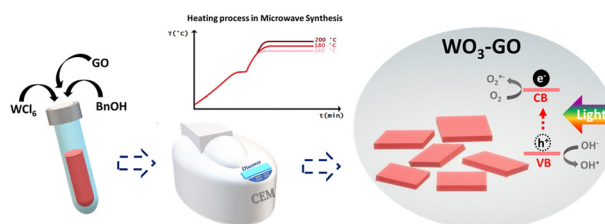
Miguel A. Moreno-Gonzalez, Zhongchao Zhao, Adam A. Caparco and Nicole F. Steinmetz*



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Exploring the effects of synthesis parameters on the properties and photoactivity of WO₃-graphene oxide synthesized via a microwave route

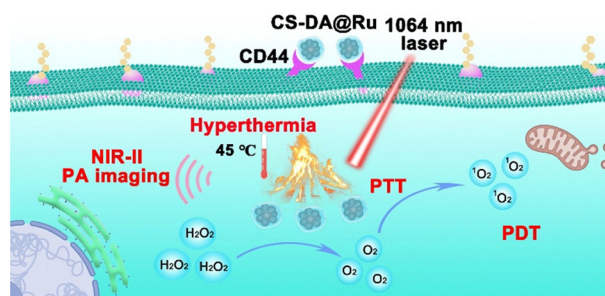
Bárbara S. Rodrigues, Markus Niederberger and Juliana S. Souza*



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A self-assembled Ru nanozyme with H₂O₂-activated oxygenation for NIR-II photoacoustic imaging-guided photothermal/photodynamic therapy

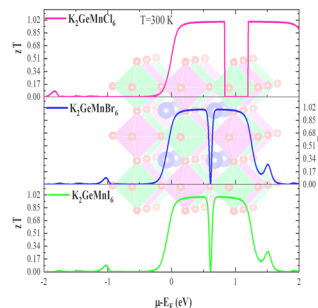
Guang Liu, Zhilang Li, Zirong Lv, Qiuping Zheng, Cunji Gao,* Jianniao Tian and Xing-Can Shen*

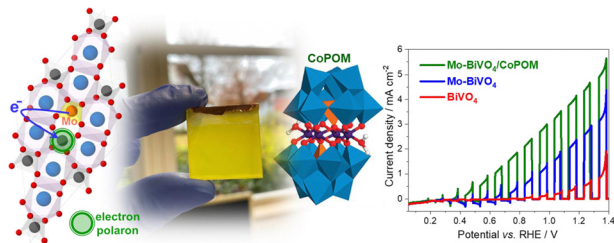


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Control of spin on ferromagnetism and thermoelectric properties of K₂GeMnX₆ (X = Cl, Br, I) halide perovskites: emerging candidates for semiconductor spintronics and thermoelectric applications

Mudasir Younis Sofi, Mohd Shahid Khan and M. Ajmal Khan*





High-performance BiVO₄ photoanodes: elucidating the combined effects of Mo-doping and modification with cobalt polyoxometalate

Fan Feng, Dariusz Mitoraj, Ruihao Gong, Dandan Gao, Mohamed M. Elnagar, Rongji Liu, Radim Beranek* and Carsten Streb*

