

Materials Advances

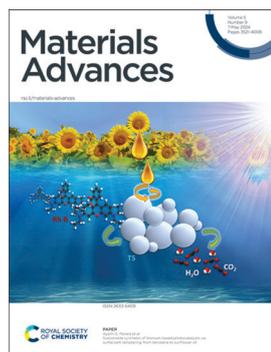
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ISSN 2633-5409 CODEN MAADC9 5(9) 3521-4008 (2024)



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See Ayomi S. Perera *et al.*, pp. 3649–3661. Image reproduced by permission of Ayomi S. Perera from *Mater. Adv.*, 2024, 5, 3649.



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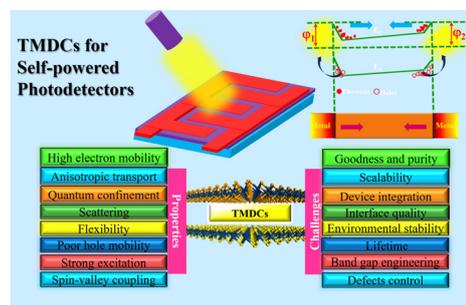
See Alisa Piekny, Rafik Naccache *et al.*, pp. 3662–3674. Image reproduced by permission of Alisa Piekny from *Mater. Adv.*, 2024, 5, 3662.

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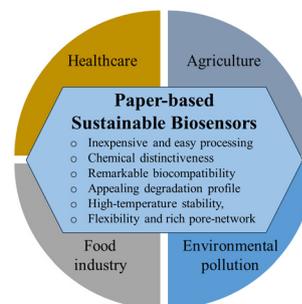
Alka Rani, Arpit Verma and Bal Chandra Yadav*



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Paper-based sustainable biosensors

Anuj Kumar* and Pralay Maiti



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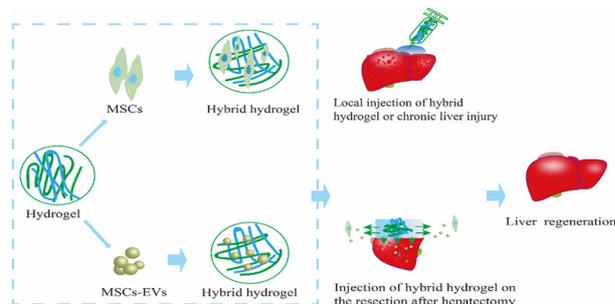
Fundamental questions
Elemental answers

REVIEWS

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Hydrogels as carriers deliver stem cells/exosomes for liver injury

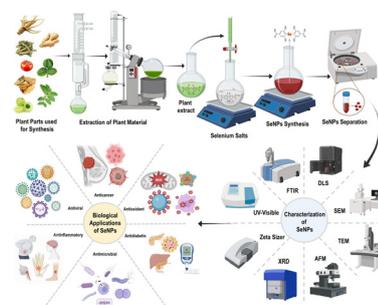
Qiuxia Zheng, Jia Yao, Zongbin Sun, Yongcui Mao, Jiayun Wei, Ye Xie, Xue Kai Hu and Xun Li*



3602

Plant-derived selenium nanoparticles: investigating unique morphologies, enhancing therapeutic uses, and leading the way in tailored medical treatments

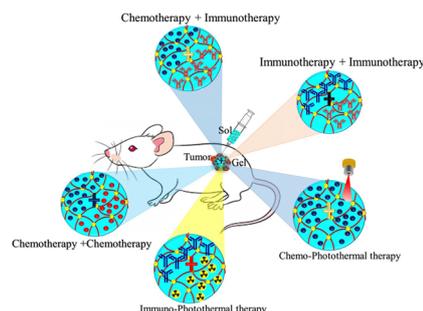
Abhijeet Puri,* Popat Mohite,* Yunus Ansari, Nobendu Mukerjee, Hanan M. Alharbi, Aman Upaganlawar and Nanasheeb Thorat*



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Hydrogels as local depots for on-demand therapeutic delivery: potential therapeutic approaches for tumor metastasis

Abegaz Tizazu Andrgie and Hsieh-Chih Tsai*

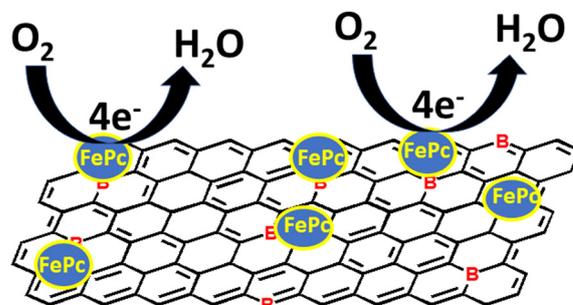


COMMUNICATION

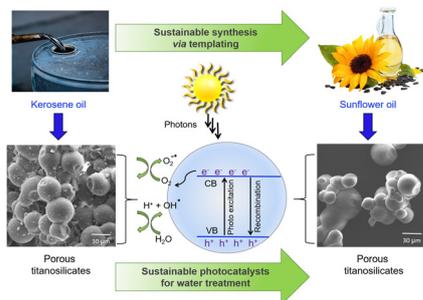
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Iron phthalocyanine integrated with boron-doped reduced graphene oxide for highly selective four-electron oxygen reduction: an experimental study

Vikram Rathour, Smita Singh, Varsha Singh, Devesh Kumar Singh, Mamta Yadav, Ananya Tiwari and Vellaichamy Ganesan*



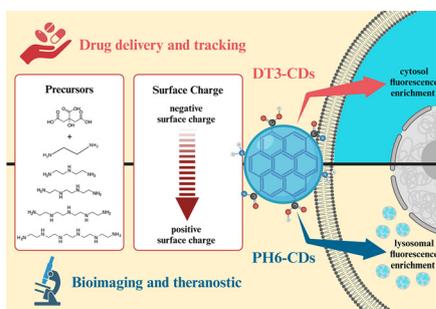
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Sustainable synthesis of titanium based photocatalysts *via* surfactant templating: from kerosene to sunflower oil

Reece M. D. Bristow, Peter J. S. Foot, James D. McGettrick, Joseph C. Bear and Ayomi S. Perera*

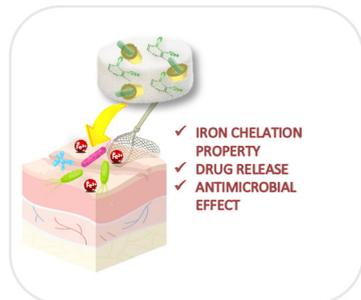
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Shining a light on cells: amine-passivated fluorescent carbon dots as bioimaging nanoprobes

Adryanne Clermont-Paquette, Kevin Larocque, Alisa Piekny* and Rafik Naccache*

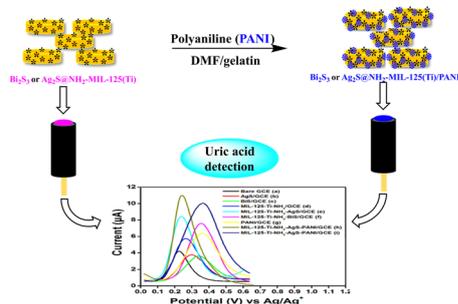
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Supramolecular biomaterials as drug nanocontainers with iron depletion properties for antimicrobial applications

Chiara Zagni, Vincenzo Patamia, Sandro Dattilo, Virginia Fuochi, Salvatore Furnari, Pio Maria Furneri, Sabrina Carola Carroccio, Giuseppe Floresta* and Antonio Rescifina

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Evaluation of two core-shell (Ag₂S@- and Bi₂S₃@-) sensors based on a metal-organic framework (NH₂-MIL-125-Ti)/polyaniline for the electroanalysis of uric acid in urine samples

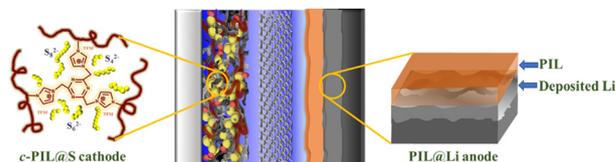
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One action, two benefits: improving the performance of lithium–sulfur batteries with a poly(ionic liquid)

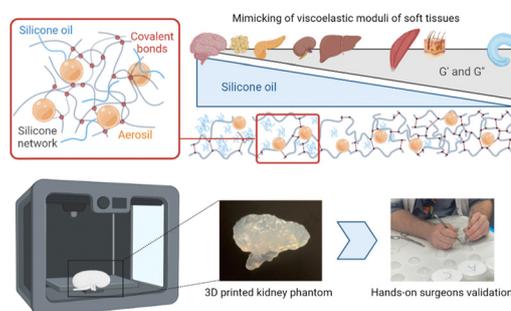
Sixin Jia, Rui Wang, Fengquan Liu,* Hong Huo, Jianjun Zhou* and Lin Li*



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Developing tuneable viscoelastic silicone gel-based inks for precise 3D printing of clinical phantoms

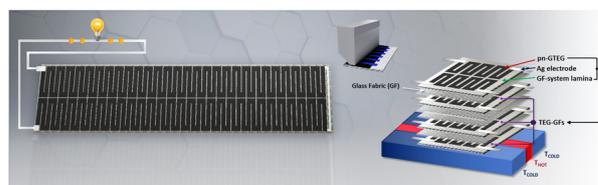
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A hierarchically modified fibre-reinforced polymer composite laminate with graphene nanotube coatings operating as an efficient thermoelectric generator

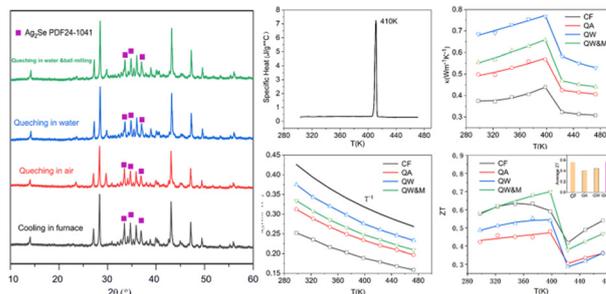
Christos K. Mytafides,* Lazaros Tzounis,* Kyriaki Tsirka, George Karalis, Marco Liebscher, Eleftherios Lambrou, Leonidas N. Gergidis and Alkiviadis S. Paipetis*



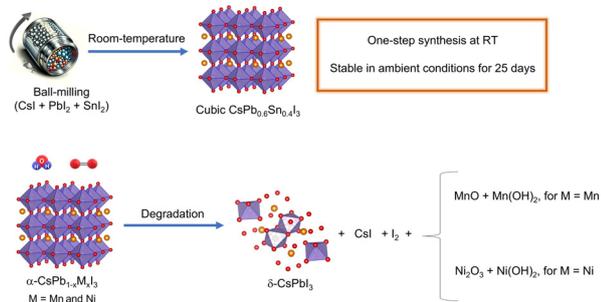
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A new thermoelectric Ag_8SiSe_6 argyrodite for room temperature application: sensitivity of thermoelectric performance to cooling conditions

Bo Wang, Suwei Li, Yubo Luo, Junyou Yang, Haitao Ye,* Yong Liu* and Qinghui Jiang*



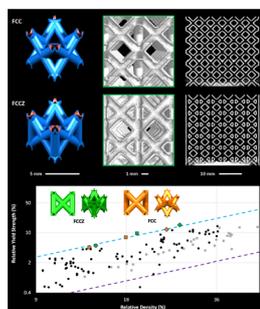
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Stability of CsPbI₃ with divalent cations incorporated *via* mechanochemical alloying

Mahsa Shekarnoush, Francisco S. Aguirre-Tostado and Manuel Quevedo López*

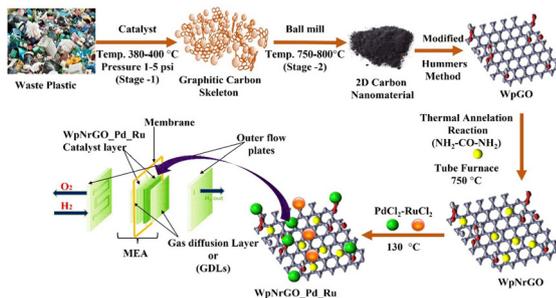
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AlSi10Mg hollow-strut lattice metamaterials by laser powder bed fusion

Jordan Noronha, Martin Leary, Milan Brandt and Ma Qian*

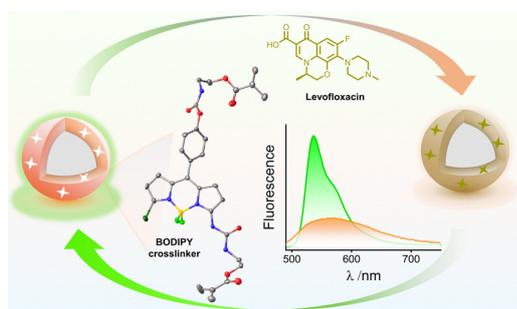
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Waste plastic derived nitrogen-doped reduced graphene oxide decorated core-shell nano-structured metal catalyst (WpNRGO-Pd-Ru) for a proton exchange membrane fuel cell

Sunil Dhali, Manoj Karakoti, Gaurav Tatrari, Sandeep Pandey, Kundan Singh Rawat, Chetna Tewari, Boddepalli Santhi Bhushan, Yong Chae Jung, Anurag Srivastava and Nanda Gopal Sahoo*

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Polymerizable BODIPY probe crosslinker for the molecularly imprinted polymer-based detection of organic carboxylates *via* fluorescence

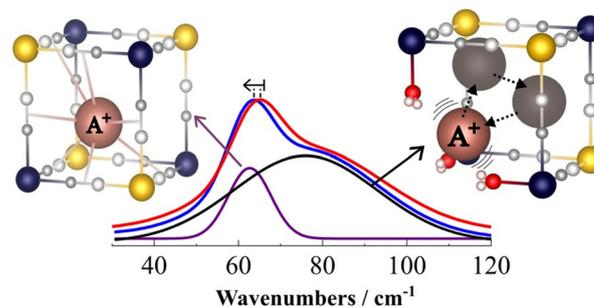
Yijuan Sun, Kornelia Gawlitza, Virginia Valderrey, Jérémy Bell and Knut Rurack*



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Interactions between alkali cations and cyanide-bridged network in $A_2Co_4[Fe(CN)_6]_{3.3}$ Prussian blue analogues revealed by far-infrared spectroscopy

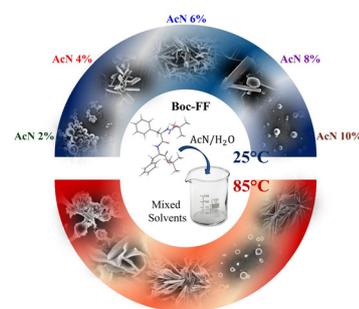
Maria Dronova, Laura Altenschmidt, Amélie Bordage, Jean-Blaise Brubach, Marine Verseils, Gregory Balthazar, Pascale Roy and Anne Bleuzen*



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Multiple length-scale control of Boc-protected diphenylalanine aggregates through solvent composition

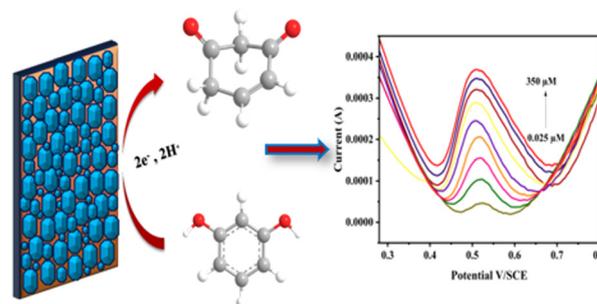
Sara Catalini,* Francesco Bagni, Stefano Cicchi, Mariangela Di Donato, Alessandro Iagatti, Andrea Lapini, Paolo Foggi, Caterina Petrillo, Alessandro Di Michele, Marco Paolantoni, Giorgio Schirò, Lucia Comez* and Alessandro Paciaroni*



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Tweaking the electrocatalytic ability of Cu-MOF by the inclusion of PTA: a selective electrochemical sensor for resorcinol

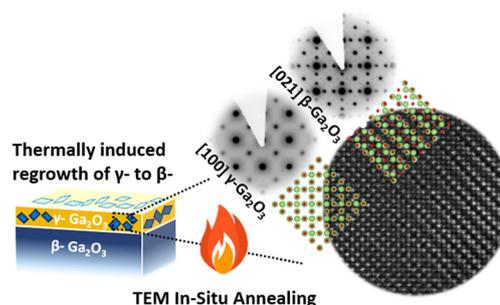
Sandra Jose, Munmun Ghosh and Anitha Varghese*



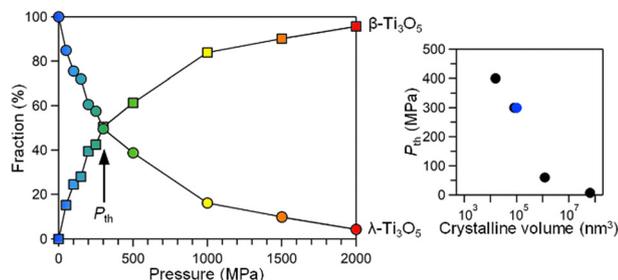
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In situ atomic-resolution study of transformations in double polymorph γ/β -Ga₂O₃ structures

J. García-Fernández,* S. B. Kjeldby, L. J. Zeng, A. Azarov, A. Pokle, P. D. Nguyen, E. Olsson, L. Vines, A. Kuznetsov* and Ø. Prytz*



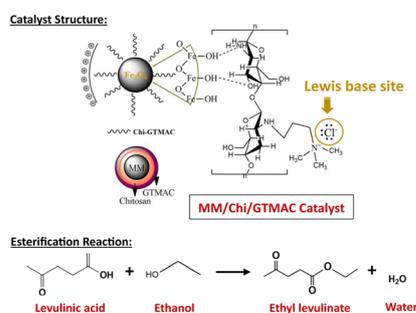
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Synthesis of heat storage ceramic λ - Ti_3O_5 using titanium chloride as the starting material

Tomoko Kubota, Riku Seiki, Akito Fujisawa, Akhmad Fadel Fadilla, Fangda Jia, Shin-ichi Ohkoshi* and Hiroko Tokoro*

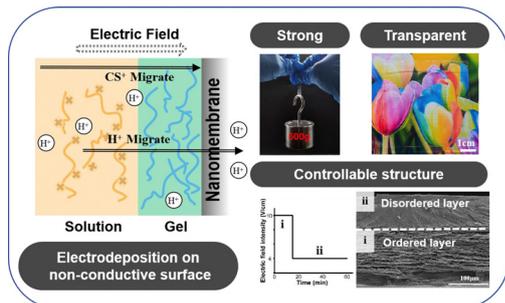
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Modification of chitosan-coated magnetic material with glycidyltrimethylammonium chloride and its application as heterogeneous base catalyst for levulinic acid esterification

Feri Mukhayani, Yuichi Kamiya,* Ryoichi Otomo, Eko Sri Kunarti and Nuryono Nuryono*

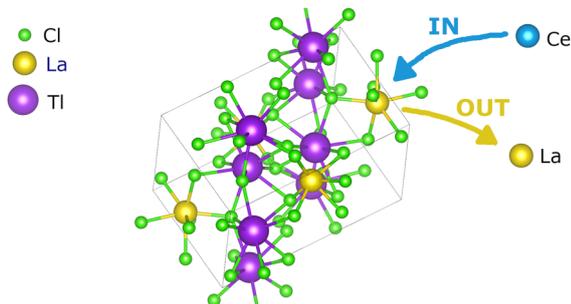
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Continuous electro-growth of a hierarchically structured hydrogel on a non-conductive surface

Yuncheng Xu, Jun Tong, Jingxian Zhang, Yuting Li, Xiaowen Shi,* Hongbing Deng and Yumin Du

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Full Ce substitution on La in Tl_2LaCl_5 : impact and performance

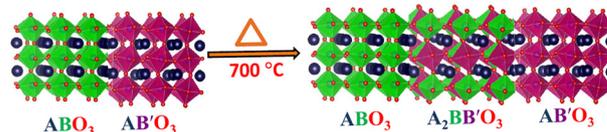
Federico Moretti,* Didier Perrodin, Joanna Szornel and Edith D. Bourret



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Entanglement of cation ordering and manipulation of the magnetic properties through a temperature-controlled topotactic interface reaction in nanocomposite perovskite oxides

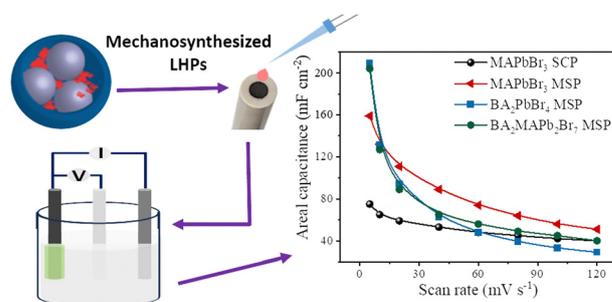
Sudipa Bhattacharya, Radhamadhab Das, Shreyashi Chowdhury, K. K. Supin, M. Vasundhara,* Jyoti Ranjan Sahu, Trilochan Bhunia, Arup Gayen, Oleg I. Lebedev and Md. Motin Seikh*



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Mechanochemically-assisted synthesis of 3D, 2D and quasi 2D lead halide perovskites for supercapacitor applications

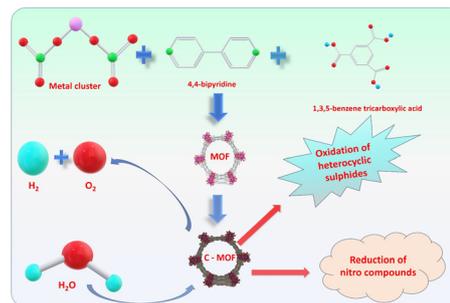
Apurba Mahapatra,* Manoranjan Mandal, Ayon Das Mahapatra, Vishnu Anilkumar, Jan Nawrocki, Rohit D. Chavan, Pankaj Yadav* and Daniel Prochowicz*



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Synthesis of diverse stable MOFs and their electro catalytic capabilities towards desulfurization, water splitting and various nitrophenol reduction reactions

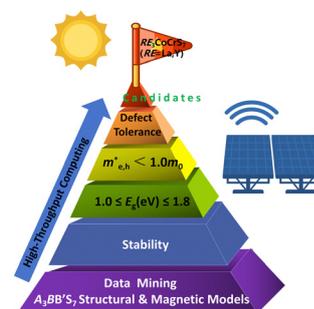
Manivannan Mahendran, Yazhmozhi Mariappan, Rahul Thamizhselvan* and Suryanarayanan Vembu*



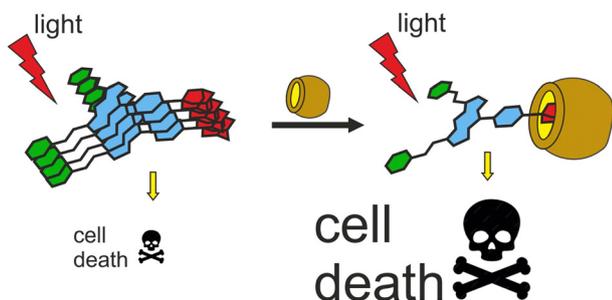
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High-throughput screening of stable sulfide semiconductors for solar cell conversion

Jinjin Yang, Zhongxiong Sun, Dao-Xin Yao and Man-Rong Li*



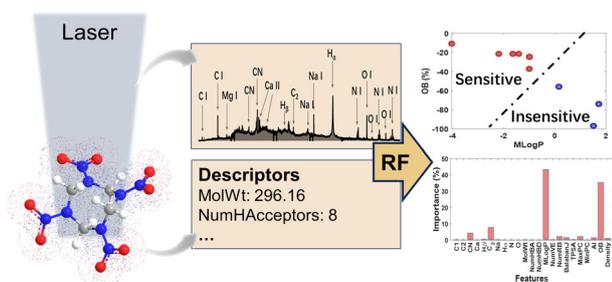
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BODIPY-cucurbituril complexes: supramolecular approach toward improvement of photodynamic activity

Jiri Demuth, Rahul Kaushik, Magdalena Kozlikova, Carola Rando, Miloslav Machacek, Veronika Novakova, Vladimír Šindelář* and Petr Zimcik*

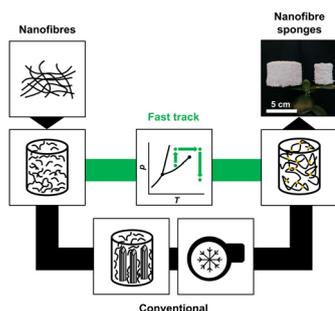
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Interpretable-machine-learning-guided discovery of dominant intrinsic factors of sensitivity of high explosives

Xianshuang Wang, Yage He, Xinyu Zhang, Maoxin Hu, Wanzhu Zhao, Haohan Sun, Xiaoning Yang, Xiaodong Liu and Ruibin Liu*

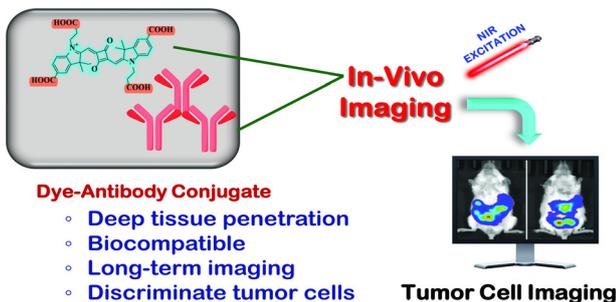
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Rapid preparation of electrospun nanofibre sponges through supercritical CO₂ drying

Gioele Mol, Christina Fialová and Christian Adlhart*

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A biocompatible NIR squaraine dye and dye-antibody conjugates for versatile long-term *in vivo* fluorescence bioimaging

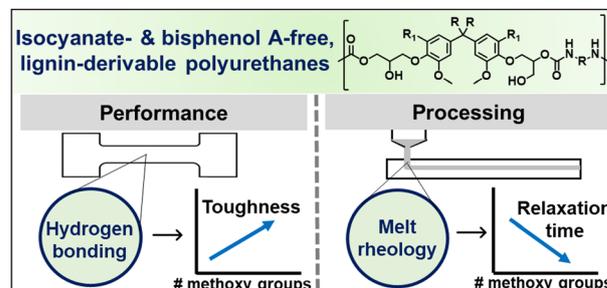
Priyanka, Galyna Bila, Sai Kiran Mavileti, Evgenia Bila, Nazar Negrych, Shekhar Gupta, Linjun Tang, Rostyslav Bilyy,* Shyam S. Pandey* and Tamaki Kato*



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Lignin-derivable, thermoplastic, non-isocyanate polyurethanes with increased hydrogen-bonding content and toughness vs. petroleum-derived analogues

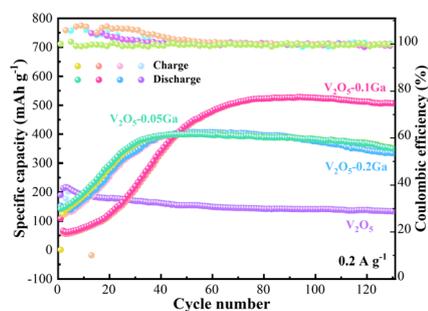
Jignesh S. Mahajan, Zachary R. Hinton, Eduardo Nombera Bueno, Thomas H. Epps, III* and LaShanda T. J. Korley*



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The introduction of gallium ions into V_2O_5 interlayers for highly reversible Zn ion batteries

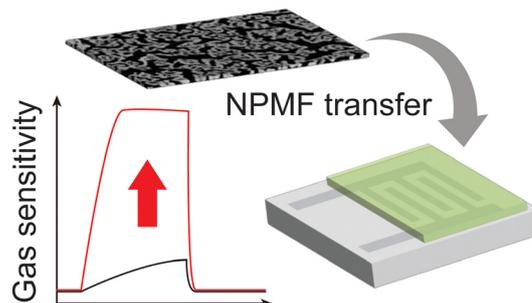
Ming Zhao, Shilong Li, Xiang Wu* and Abdukayum Abdukader*



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Ultrathin nanoporous metallic films and their integration in sensors

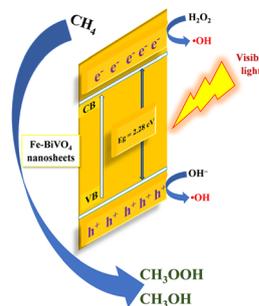
Hyunah Kwon,* Mariana Alarcón-Correa, Izar Schärf and Peer Fischer



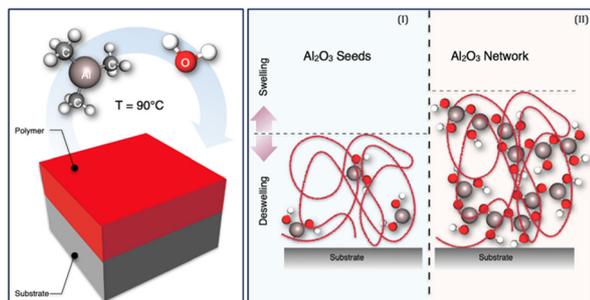
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New Fe-doped two-dimensional BiVO₄ nanosheets for direct methane conversion to methyl oxygenates

Catherine Afriyie* and Xingwang Zhang



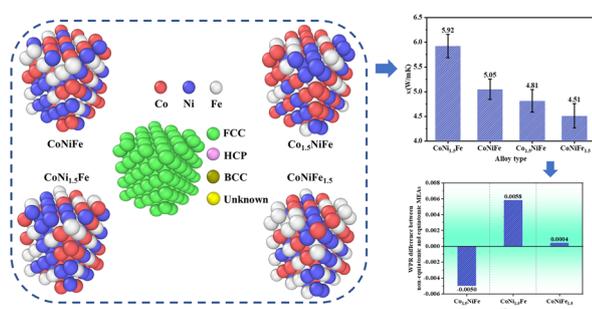
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Al₂O₃ growth in PMMA thin films by sequential infiltration synthesis: *in situ* thickness evolution and mass uptake investigation

Michele Perego,* Gabriele Seguni,* Claudia Wiemer, Federica E. Caligiore and Elena Cianci

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Theoretical insights into the lattice thermal conductivity and thermal expansion of CoNiFe medium-entropy alloys

Jian Zhang, Haochun Zhang,* Jie Xiong, Shuai Chen* and Gang Zhang*

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Retraction: Recent developments in energy storage systems for marine environment

Jaya Verma* and Deepak Kumar

