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ISSN 2516-0230 CODEN NAADAI 8(6) 1779–2126 (2026)



Cover

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EDITORIAL

1789

Introduction to Nanoscale Advances in Innovative Bioengineering

Zhen Gu, Zhicheng Le and Zheng Su

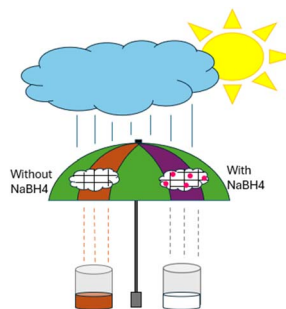


REVIEW

1791

Role of sodium borohydride as a co-catalyst for nanoparticle-induced degradation of toxic dyes in aquatic systems

Priyadarshni Nathawat, Mamta Sahu and Mainak Ganguly*



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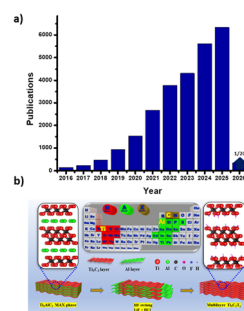


MINIREVIEW

1817

Recent advances in $Ti_3C_2T_x$ MXene-based composites for electrocatalytic applications

Minh-Hai Tran, Vo Thi Thuy Linh, Ly Tan Nhiem, Phan Khanh Thinh Nguyen* and Qui Thanh Hoai Ta*

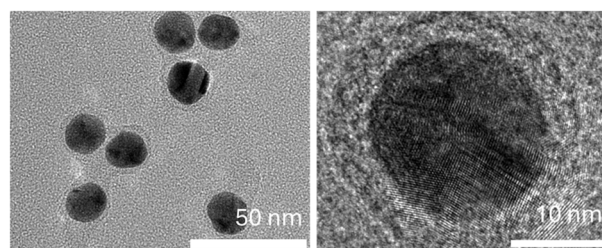


COMMUNICATIONS

1836

Green synthesis of bio-compatible carboxylate-functionalized carbon layers of 4 to 26 nm thickness on gold plasmonic nanoparticles

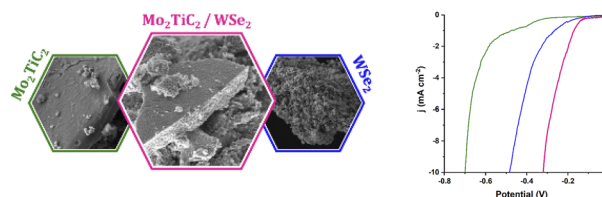
Mike Rozenberg, Avi Huri, Eli Varon, Anya Muzikansky, Orit Shefi, Eli Sloutskin and David Zitoun*



1844

 Mo_2TiC_2/WSe_2 nanoarchitectures: *in situ* grown nanoflowers for efficient hydrogen electrocatalysis

Antonia Kagkoura,* Sergii A. Sergiienko, Anastasios Papavasileiou, Jan Luxa, Zhongquan Liao and Zdeněk Sofer*

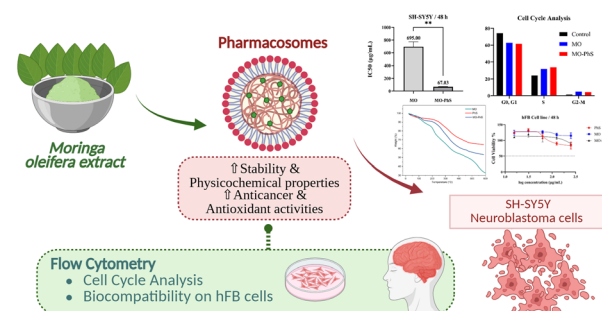


PAPERS

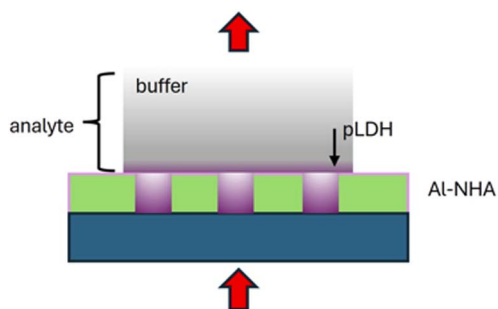
1851

Enhanced cytotoxic activity of *Moringa oleifera*-loaded pharmacosomes against neuroblastoma

Obaydah Abd Alkader Alabrahim, Ahmed Maher Abdeldayem and Hassan Mohamed El-Said Azzazy*



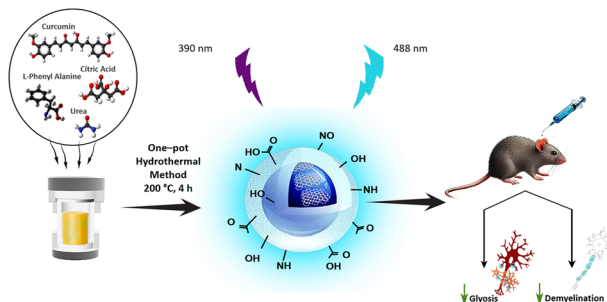
1871



Experimental plasmonic sensing of malaria using an aluminum metasurface

Amos Sospeter Kiyumbi* and Mark Simon Tame

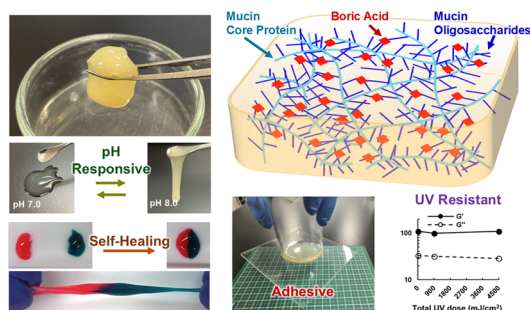
1888



Anti-inflammatory effects of curcumin carbon dots in an animal model of demyelination induced by lysolecithin

Ladan DaeiRezaei, Elham Parandavar, Mohammad Javan* and Maryam Nikkha*^{*}

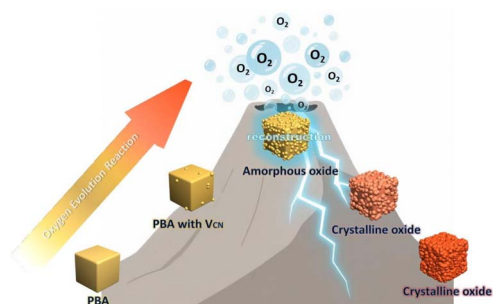
1899



Dynamic glycan network engineering of native mucin enables reversible, self-healing, and adhesive hydrogel interfaces

Yuki Nakamura, Kanta Numata, Momoka Hirosaki, Hiroki Miyajima and Satoshi Fujita*^{*}

1906



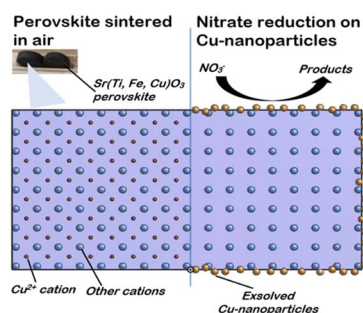
Amorphous NiFe oxide derived from an air-pyrolyzed Prussian blue analogue with rapid complete reconstruction for enhanced oxygen evolution reaction

Zhen Cao, Wenhui Yan, Haozhe Shi, Tingting Zhou,* Zhifei Sun, Yuhan Yang, Jiali Zhang, Wenbin Zhang and Kaili Wang*^{*}

1916

Copper nanoparticle exsolution from Sr(Ti, Fe)O₃ perovskites: material tuning and probing (electro) catalytic applicability

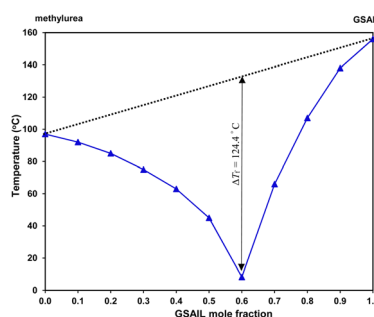
Ubong Akpan Essien, Swathi Patchaiammal Raju, Keyla Teixeira Santos, Rafael Alcides Vicente, Chinyere Adaora Ekperechukwu, Francisco R. García-García, Pablo Sebastián Fernández and Dragos Neagu*



1934

A novel molecularly engineered deep eutectic surfactant from a Gemini ionic liquid and methylurea for EOR utilization: a joint experimental and computational study

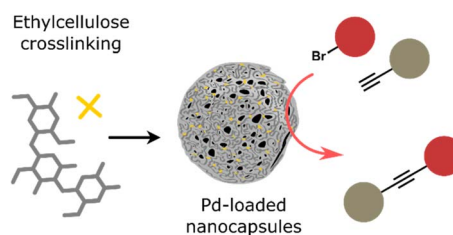
Shima Yaghoubi, Javad Saien,* Mona Kharazi, Ehsan Alavipour and Mehdi Bayat



1949

Crosslinked, organic solvent resistant ethylcellulose micro and nanocapsules for heterogeneous catalysis applications

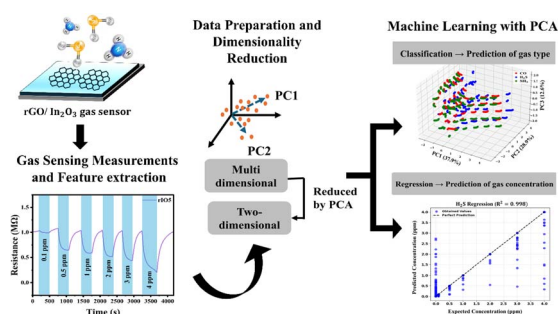
Erika Ghiglietti, Sara Mecca, Alice Fappani, Annapia Fratepietro, Sara Mattiello* and Luca Beverina*



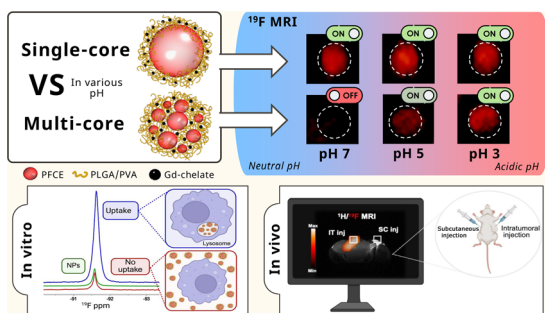
1958

Predictive mixed-gas detection using rGO/In₂O₃ nanocomposite sensors assisted by machine learning

Tanya Sood, Saikat Chattopadhyay and P. Poornesh*



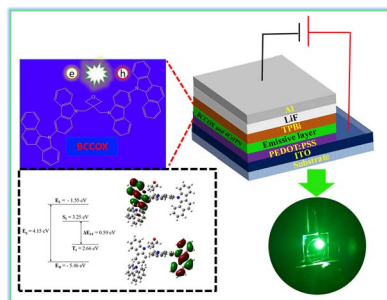
1975



Nanoparticle ultrastructure allows reversible pH sensitivity using ^{19}F NMR and *in vivo* ^{19}F MRI

Alvja Mali, Mariah Daal, Natalia Jirát-Ziótkowska, Nicolas Stumpe, Naiara Larreina Vicente, N. Koen van Riessen, Visakh V. S. Pillai, Francesco Simone Ruggeri, Cyril Cadiou, Françoise Chuburu, Daniel Jirak, Paul B. White and Mangala Srinivas*

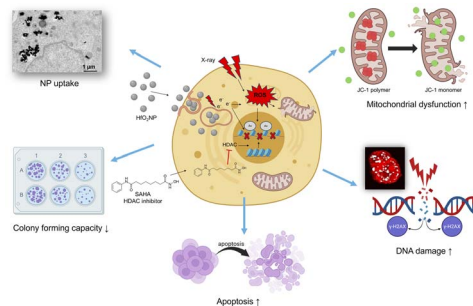
1992



Carbazole–benzocarbazole fragments having derivative as very efficient host material for TADF based OLEDs

Sushanta Lenka, Daiva Tavgeniene, Hsuan-Min Wang, Jayachandran Jayakumar, Dovydas Blazevicius, Gintare Krucaite, Yu-Lin Chi, Saulius Grigalevicius* and Jwo-Huei Jou*

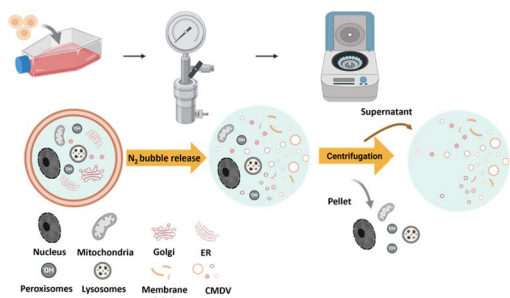
2003



Multimodal radiosensitization by hafnium oxide nanoparticles and HDAC inhibitors: mechanistic insights

Csenge Bocz, Dóra Izabella Adamecz, Krisztina Szóke, Bálint Péntek, Emília Rita Szabó, Róbert Polanek, Titanilla Szógi, Andrea Rónavári, Katalin Hideghéty, Zoltán Kónya, Nóra Igaz* and Mónika Kiricsi*

2021



Nitrogen cavitation enables rapid and high-yield preparation of functional cell-membrane-derived vesicles

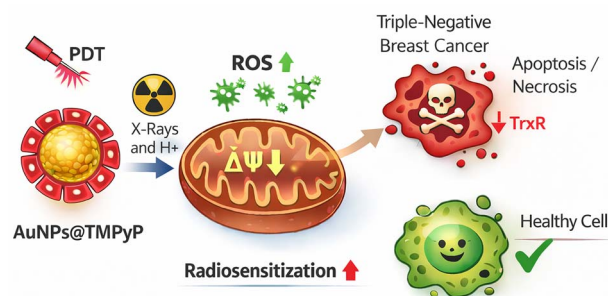
Changting Li,* Dehua Luo, Can Peng, Qun Luo, Wenjing Xu, Jincheng Zhou, Wen Su, Wei Wu and Yi-Feng Wang*



2031

Porphyrin-coated gold nanoparticles associated with X-rays and proton therapy in the treatment of triple-negative breast cancer

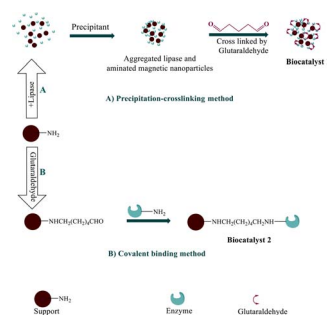
Camila Ramos Silva, Guillaume Berionni, Martha Simões Ribeiro and Anne-Catherine Heuskin*



2043

Synthesis and characterization of $ZrFe_2O_4$ and $ZrFe_2O_4@UiO-66-NH_2$ nanoparticles for efficient immobilization of *Humicola insolens* lipase: a comparative study of precipitation-crosslinking versus covalent binding methods

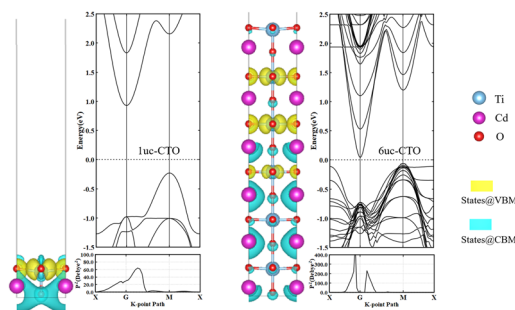
Kowsar Azizi, Saba Ghasemi* and Ahmad Nikseresht



2057

Thickness-dependent electronic and optical properties of two-dimensional perovskite oxide films: a first-principles study

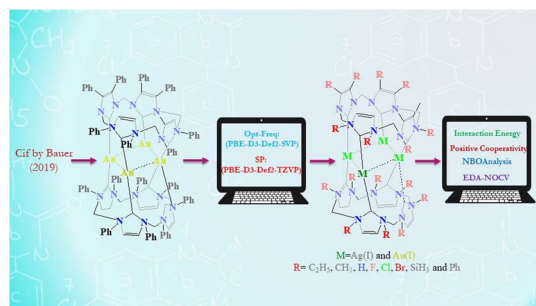
Huali Hao, Yuanbin Xue,* Cheng Huang and Xiaojing Bai



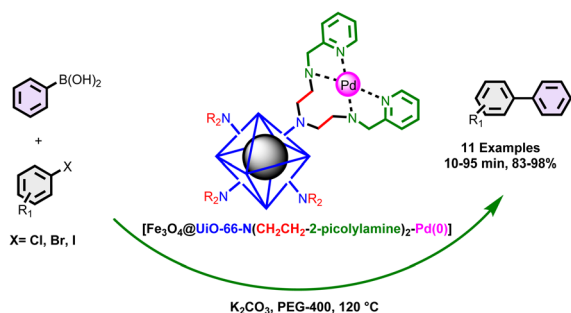
2065

Tetranuclear $Ag(I)$ and $Au(I)$ nano-sized $[L_2(R)]_8 \rightarrow M_4^{14+}$ ($M = Ag(I)$ and $Au(I)$); $R = C_2H_5, CH_3, H, F, Cl, Br, Ph$ and SiH_3) complexes: nature and cooperativity of metal–ligand bonds

Sepideh Goodarzi, Mehdi Bayat,* Sadeq Salehzadeh and Ehsan Alavipour



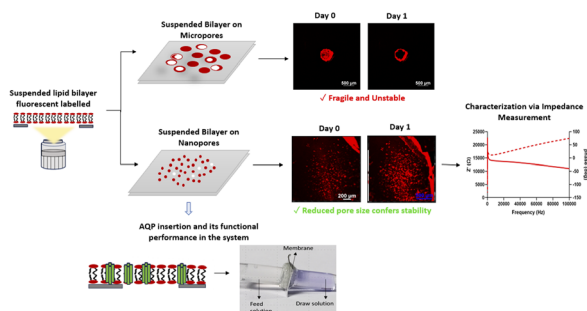
2079



A novel palladium-2-picolyamine complex grafted on magnetic UiO-66-NH₂ nanocomposites: as an efficient heterogeneous catalyst for fast Suzuki–Miyaura cross coupling

Parastoo Nasri and Masoomeh Norouzi*

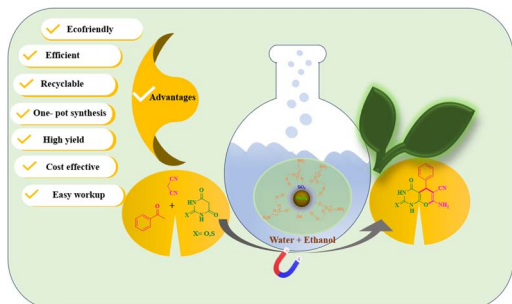
2096



Aquaporin embedded suspended lipid bilayer on anodized alumina nanoporous substrates for studying stability and functionality: towards the development of a miniaturized water purifier

Akanksha Kumari, Jaydeep Bhattacharya* and Ranjita Ghosh Moulick*

2107



$\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{taurine}$: a magnetically recoverable green nanocatalyst for efficient synthesis of pyrano [2,3-d]pyrimidine derivatives

Charul Paliwal, Aanchal, Dharmendra, P. S. Ranawat, K. L. Ameta and Chetna Ameta*

