

Materials Advances

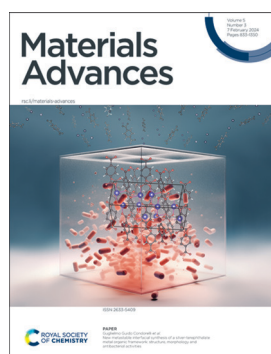
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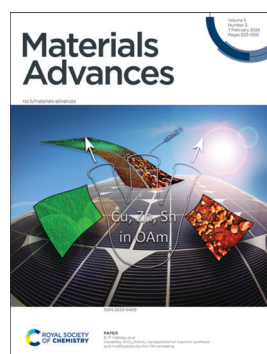
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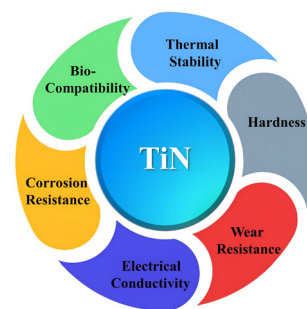
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Rational design of SiO_x based anode materials for next generation lithium-ion batteries

Yuanteng Yang, Yanxia Liu, Xiaoli Jiang, Lin Zhao, Penglei Wang* and Yagang Zhang*



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Fundamental questions
Elemental answers

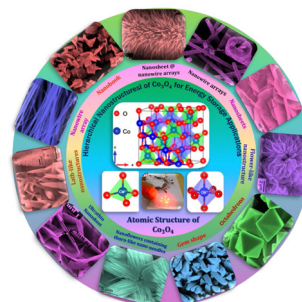


REVIEWS

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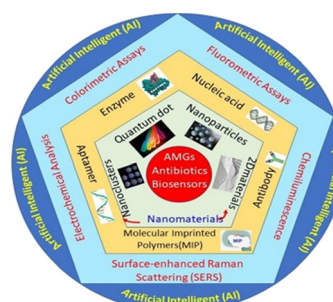
Radhika S. Desai, Vinayak S Jadhav, Pramod S. Patil* and Dhanaji S. Dalavi*



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Current advancement in nanomaterial-based emerging techniques for the determination of aminoglycosides antibiotics for antibiotic resistance surveillances

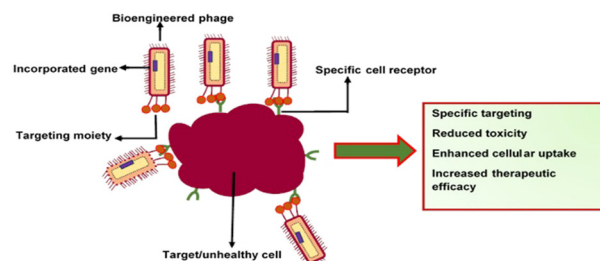
Reena K. Sajwan, S. Z. H. Hashmi, Jayendra Kumar Himanshu, Anjali Kumari and Pratima R. Solanki*



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Stephen C. Emencheta, Adaye L. Onugwu,* Chisom F. Kalu, Patience N. Ezinkwo, Osita C. Eze,* Marta M. D. C. Vila, Victor M. Balcão, Anthony A. Attama and Ebele B. Onuigbo

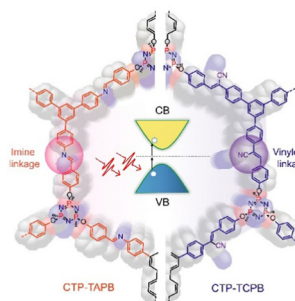


COMMUNICATIONS

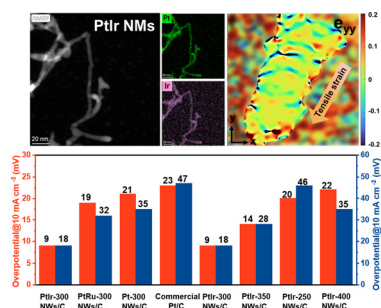
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Cyclotriphosphazene-based organic frameworks as third-order nonlinear optical materials

Suresh Bommakanti, Satyapriya Nath, Rudrashish Panda, Ritwick Das* and Bishnu P. Biswal*



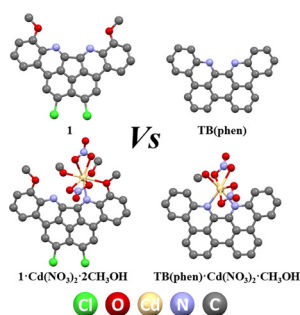
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Alloy/strain engineering of Pt-based nanowires with controllable electronic structures towards boosted water electrolysis catalysis

Jiakang Tian, Senmin Lin, Zhongmin Tang, Runhua Li, Xiaomei Cheng, Zhen Fang, Bin Wang, Jiaheng Peng,* Lang Xiao, Benwei Fu, Tao Deng* and Jianbo Wu*

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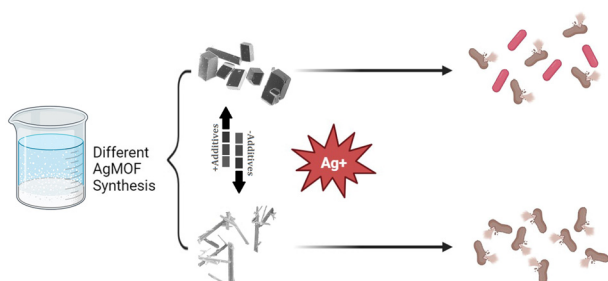


Pentatomic carbon ring conjugated nitrogen-doped nanographene

Jinku Bai, Xiao Xu, Xin-Yue Wang, Xin Sun, Jiaqi Liang, Tongling Liang and Han-Yuan Gong*

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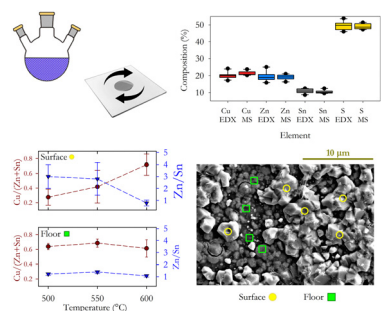
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New metastable interfacial synthesis of a silver-terephthalate metal organic framework: structure, morphology and antibacterial activities

Vincenzo Paratore, Domenico Franco, Salvatore Guglielmino, Francesca Lo Presti, Francesco Traina, Sabrina Conoci and Guglielmo Guido Condorelli*

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Variability of Cu₂ZnSnS₄ nanoparticle hot injection synthesis and modifications by thin film annealing

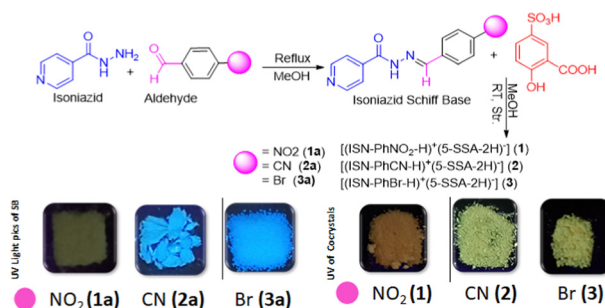
K. P. Stroh, M. Szablewski and D. P. Halliday*



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Engineering the solid-state luminescence of organic crystals and cocrystals

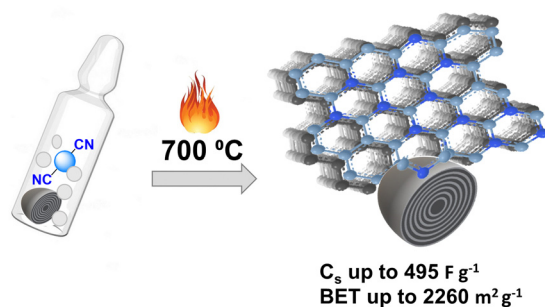
Aijaz A. Dar,* Shaista H. Lone, Ishtiyag Ahmad, Aadil A. Ahangar, Arshid A. Ganie and Cherumannil Femina



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Rational design of carbon nanocomposites with hierarchical porosity: a strategy to improve capacitive energy storage performance

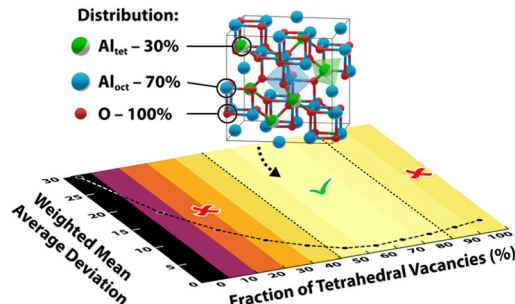
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Determination of the vacancy distribution over Al cation sites in γ -Al₂O₃

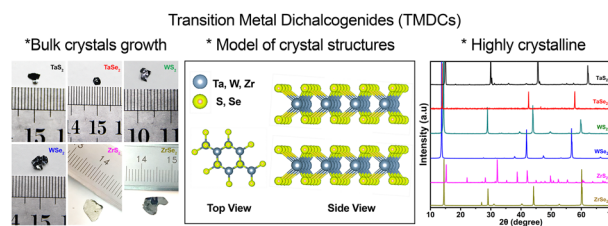
Henry O. Ayoola, Cheng-Han Li, Stephen D. House, Matthew P. McCann, Joshua J. Kas, Joerg R. Jinschek, John J. Rehr, Wissam A. Saidi* and Judith C. Yang*



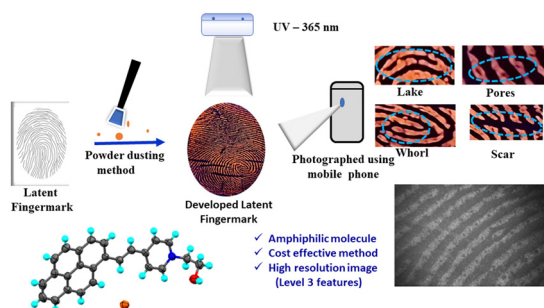
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Bridging the gap: an in-depth comparison of CVT-grown layered transition metal dichalcogenides for supercapacitor applications

Muhammad Habib,* Zahir Muhammad, Yasir A. Haleem,* Sajid Farooq, Raziq Nawaz, Adnan Khalil, Fozia Shaheen, Hamza Naeem, Sami Ullah and Rashid Khan*



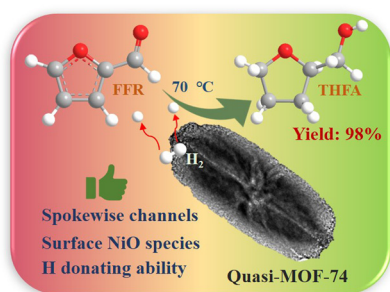
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Real-time visualization of latent fingerprints with level 3 details based on a solid state emissive organic fluorophore using the powder dusting method

Arivalagan Shabashini, Sathiaraj Richard, Manas K. Panda,* Sumit K. Panja* and Ganesh Chandra Nandi*

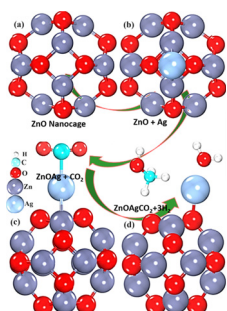
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Synthesis of Quasi-MOFs featuring special hub-and-spoke channels and surface NiO species for enhanced total hydrogenation of furfural

Qiuju Fu, Liting Yan, Lingzhi Yang,* Dandan Liu, Shuo Zhang, Huimin Jiang, Wenpeng Xie, Haiyan Wang* and Xuebo Zhao*

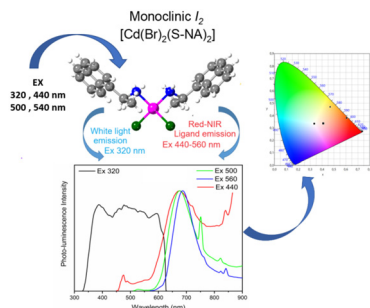
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Sensing and conversion of carbon dioxide to methanol using Ag-decorated zinc oxide nanocatalyst

Sheraz Ahmad, Akbar Hussain, Shabeer Ahmad Mian,* Gul Rahman, Shaukat Ali and Joonkyung Jang*

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Assembly of a cadmium(II)-based chiral complex: crystal structure and optical properties for solid state white-light emission applications

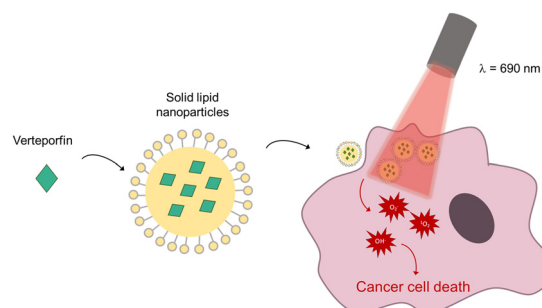
Mahdi Gassara, Xinghui Liu,* Ahlem Guesmi, Ammar Houas, Naoufel Ben Hamadi and Houcine Naili*



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Lipid nanoparticles as efficient verteporfin nanocarriers for photodynamic therapy of cancer

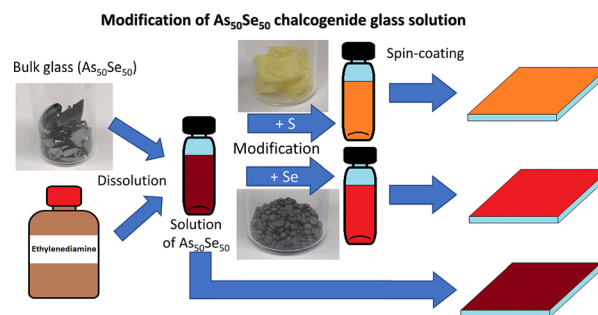
Tomás Mendes, Andreia Granja* and Salette Reis



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Optical and chemical properties of As–Se and As–S–Se solution processed thin films prepared via $As_{50}Se_{50}$ source solution modification

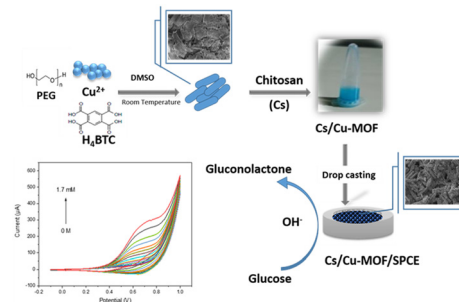
Jiri Jemelka, Michal Kurka, Stanislav Slang, Jiri Jancalek, Karel Palka* and Miroslav Vlcek



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Non-enzymatic amperometric glucose sensing by novel Cu-MOF synthesized at room temperature

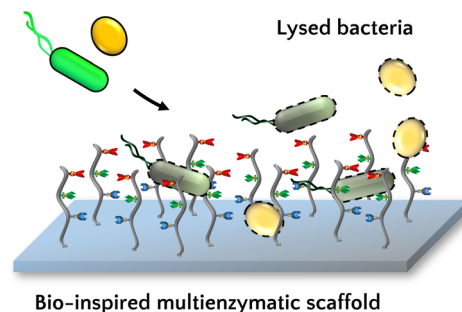
Sondes Guesmi, Kaveh Moulaei, Viviana Bressi, Hamza Kahri, Amani Khaskhoussi, Claudia Espro, Houcine Barhouni and Giovanni Neri*



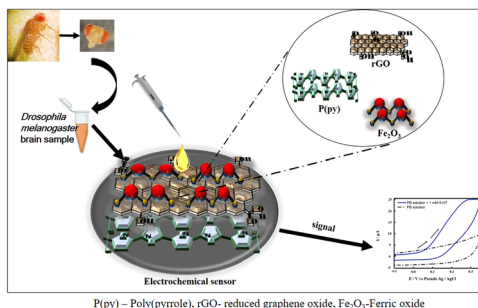
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Simultaneous enzyme grafting on bio-inspired scaffolds for antibacterial protection

Baptiste Arbez, Chloé Retourney, Fabienne Quilès, Gregory Francius, Henri-Pierre Fierobe and Sofiane El-Kirat-Chatel*



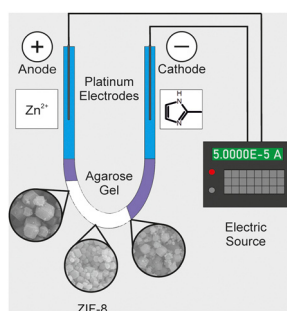
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An iron(III) oxide-anchored conductive polymer–graphene ternary nanocomposite decorated disposable paper electrode for non-enzymatic detection of serotonin

Sharmila Prashanth, Raifa Abdul Aziz, Shamprasad Varija Raghu, Yoon-Bo Shim, K. Sudhakara Prasad* and Airody Vasudeva Adhikari*

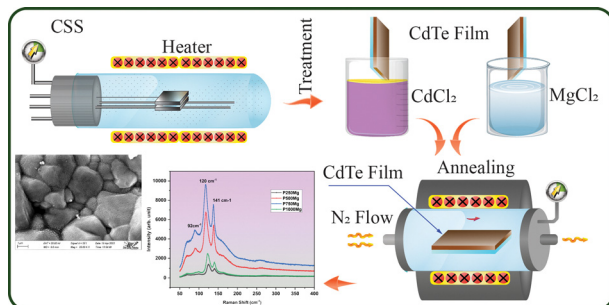
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Synthesis of zeolitic imidazolate framework-8 using an electric field in a gelled medium

Norbert Németh, Gábor Holló, Nadia Valletti, Szabolcs Farkas, Brigitta Dúzs, Ákos Kukovecz, Gábor Schusztér, István Szalai, Federico Rossi and István Lagzi*

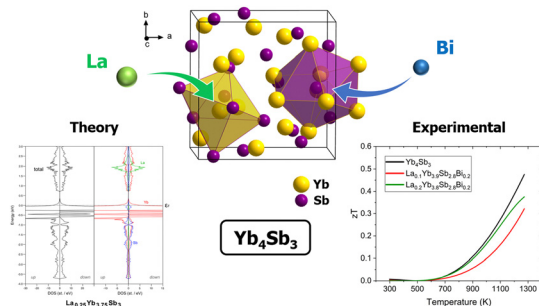
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Property enhancement of a close-spaced sublimated CdTe thin film by a post-growth activation step with CdCl₂ and MgCl₂

Afrina Sharmin, Syed Shafquat Mahmood, Munira Sultana, Md Aftab Ali Shaikh and Muhammad Shahriar Bashar*

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Advancing very high temperature thermoelectric performance of Yb₄Sb₃ through dual-substitutions: a combined experimental and theoretical study

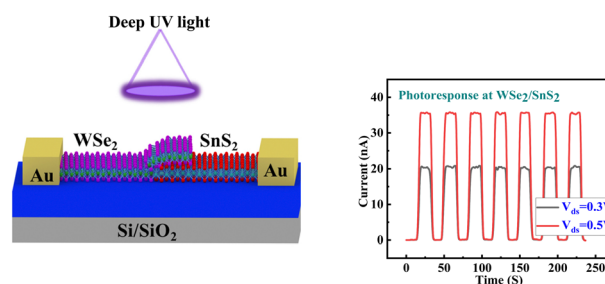
Hugo Bouteiller,* Vincent Pelletier, Sylvain Le Tonquesse, Bruno Fontaine, Takao Mori, Jean-François Halet, Régis Gautier,* David Berthebaud* and Franck Gascoin



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Gate-controlled rectification and broadband photodetection in a P–N diode based on TMDC heterostructures

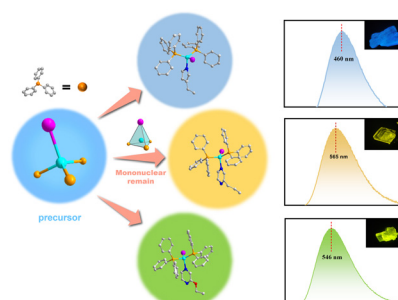
Ehsan Elahi,* Sobia Nisar, Muhammad Rabeel, Malik Abdul Rehman, Mohamed Ouladsamne, Ahmad Irfan, Muhammad Abubakr, Jamal Aziz, Muhammad Asim and Ghulam Dastgeer*



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Molecular design towards efficient light-emitting copper(i) halide mononuclear hybrids

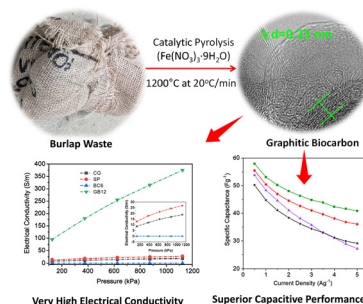
Yi Lv, Jing Yang, Haibo Li, Wei Liu* and Gangfeng Ouyang*



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Highly conductive biocarbon nanostructures from burlap waste as sustainable additives for supercapacitor electrodes

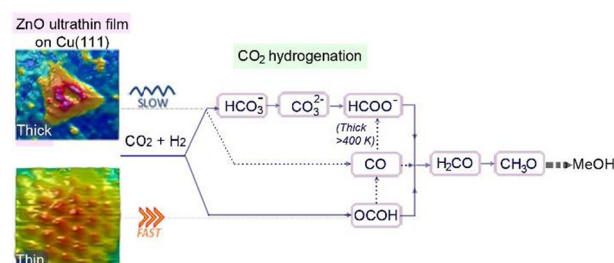
Haftom Weldekidan, Singaravelu Vivekanandhan, Neelima Tripathi, Amar Mohanty* and Manjusri Misra



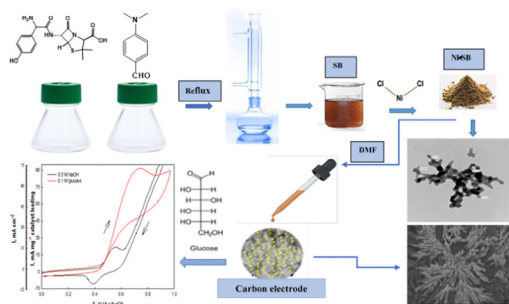
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Zinc oxide–copper model nanocatalysts for CO₂ hydrogenation: morphology and interface effects

Sonia Hadaoui, Hang Liu, Zhang Lei, Sébastien Lebègue, Rabah Benbalagh, Alexa Courty* and Ahmed Naitabdi*



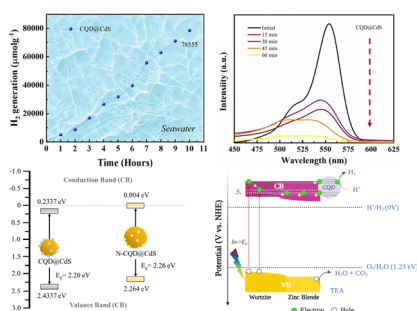
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A novel Ni–Schiff base complex for motivating glucose electrooxidation in alkaline solutions

M. A. Sultan,* Safaa S. Hassan, K. A. Omran and H. B. Hassan

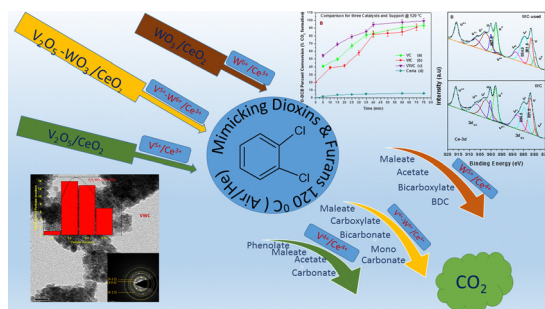
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Synergistic enhancement of seawater hydrogen generation *via* sulfur vacancy enriched and phases engineered CQD loaded CdS photocatalyst

Bishal Kumar Nahak and Fan Gang Tseng*

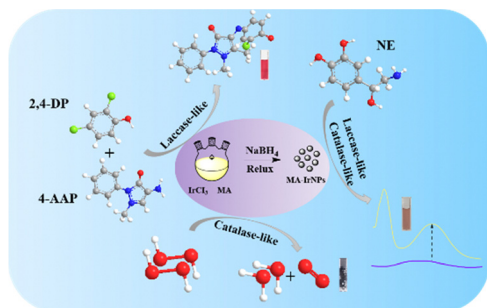
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Thermal catalytic mineralization of *ortho*-dichlorobenzene at low temperature: an *in situ* FT-IR and XPS mechanistic investigation

Adarsh Kumar, Deepak Tyagi, Salil Varma, Hushan Chand, V. Krishnan, K. Bhattacharyya* and A. K. Tyagi*

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Malic acid-coated iridium nanoparticle-induced cascade enzymatic reactions for norepinephrine detection

Xuan Chen, Lin Zhou, Zhanghong Guo and Qijun Song*



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Unlocking OER catalytic potential and chiral Fe_3O_4 film as a game-changer for electrochemical water oxidation pathway and by-product control

Wenyan Zhang,* Chaoqun Jiang, Hangmin Guan, Yuanyuan Wang, Yingfei Hu, Wei Wang, Wenjie Tian and Lingyun Hao

