

Environmental Science Nano

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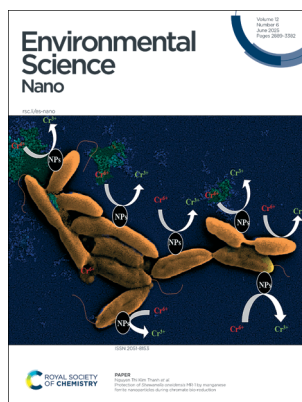
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Cover

See Simona Lencova *et al.*, pp. 3018–3034.
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Environmental Science: Atmospheres

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and inspiring new ideas

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Fundamental questions
Elemental answers



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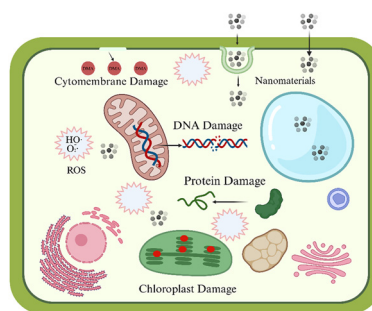


CRITICAL REVIEWS

2965

The impact of nanomaterials on plant health: a review of exposure, toxicity, and control

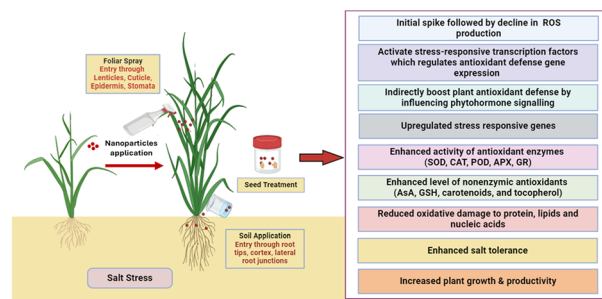
Taiming Zhang, Quanlong Wang and Yukui Rui*



2983

Nanoparticle-mediated mitigation of salt stress-induced oxidative damage in plants: insights into signaling, gene expression, and antioxidant mechanisms

Km Madhuri Singh, Ambuj Bhushan Jha, Rama Shanker Dubey and Pallavi Sharma*

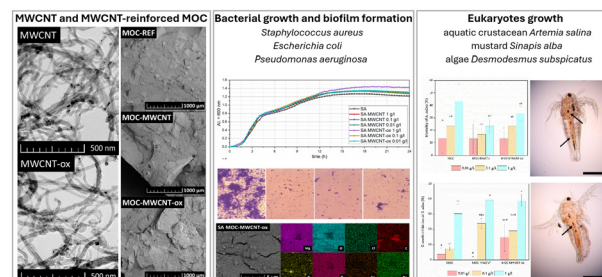


PAPERS

3018

Ecotoxicological assessment of MWCNT-reinforced MOC composites: impacts on model bacteria and eukaryotes with environmental relevance

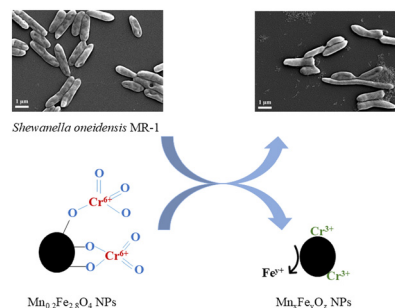
Simona Lencova,* Jana Kofronova, Vaclav Peroutka, Anna-Marie Lauermannova, Adela Jirickova, Michal Lojka, Ondrej Jankovsky and Radek Vurm



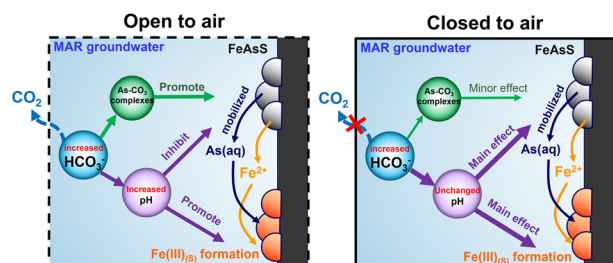
3035

Protection of *Shewanella oneidensis* MR-1 by manganese ferrite nanoparticles during chromate bio-reduction

Diana S. Raie, Ioannis Tsonas, Stefanos Mourdikoudis, Evangelia Delli, Antonios Makridis, Lena Ciric and Nguyen Thi Kim Thanh*



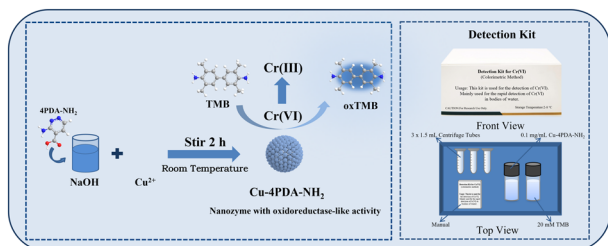
3047



Bicarbonate concentrations affect arsenic release from arsenopyrite and nanoscale iron(III) (hydr)oxide formation: importance of unconfined aquifer carbonate chemistry

Ping-I Chou, Xuanhao Wu, Zhenwei Gao, Yaguang Zhu and Young-Shin Jun*

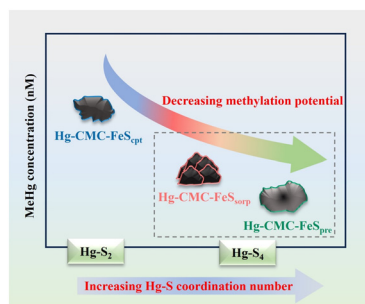
3061



A convenient colorimetric assay for Cr(VI) detection based on the nanozyme Cu-4PDA-NH₂ with oxidoreductase-like activity

Xixingchi Chen, Jiakang Hu, Xuesong Wang, Qing Han, Chen Chen, Haozhe Xu, Chenyu Liao, Yalin Wang and Yongxin Li*

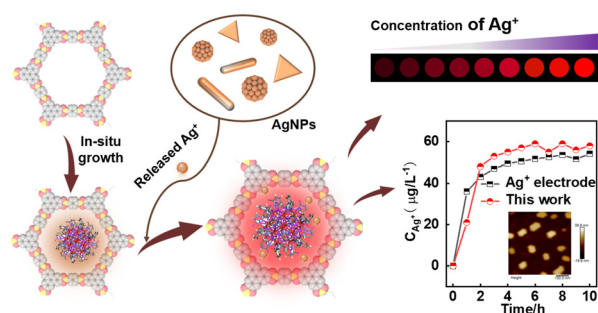
3072



Structure-dependent mercury sequestration and microbial methylation mediated by FeS nanoparticles in contaminated groundwater

Xiaoyu Huang, Luyao Sun, Xianjin Tang and Yanyan Gong*

3082



Covalent organic framework-encapsulated europium clusters for convenient detection of Ag⁺ released by nanosilver

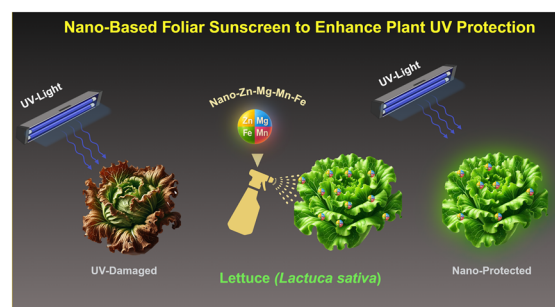
Lu-Dan Yu, Xinying Gong, Yu-Xin Ye, Dongmei Wang, Yuan-Jun Tong,* Jianqiao Xu, Zhengjun Gong and Gangfeng Ouyang



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A multi-nutrient nanocomposite enhances UV stress tolerance and modulates nutrient accumulation in lettuce

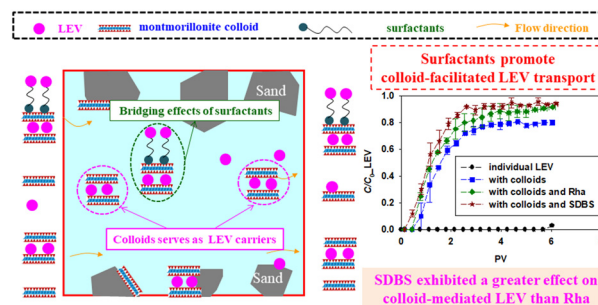
Raja muthuramalingam Thangavelu,*
Washington da Silva, Jose A. Hernandez-Viezcas,
Vinka Oyanedel-Craver, Jorge L. Gardea-Torresdey,
Christian O. Dimkpa, Jason C. White
and Nubia Zuverza Mena*



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Comparison of the effects of chemical surfactant and bio-surfactant on montmorillonite colloid-mediated transport of levofloxacin through saturated porous media

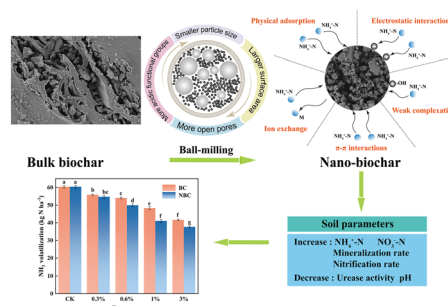
Bin Wang, Zhiwei Chen, Kunyu Wen, Qiang Zhang,
Taotao Lu, Usman Farooq* and Zhichong Qi*



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Fabrication of rice straw nano-biochar by ball milling for efficient adsorption of ammonium nitrogen and reduction of ammonia volatilization: effects and mechanisms

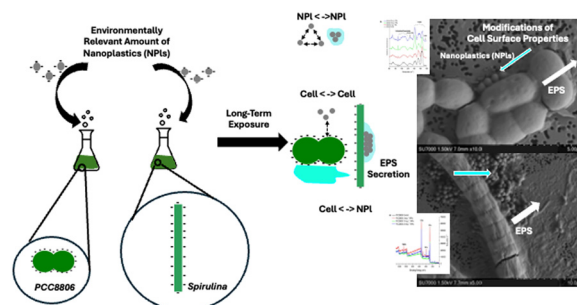
Yidi Sun,* Tao Zong, Qi Wu, Xuetao Wang, Huijing Hou,
Xiaoping Xin, Jigan Xie, Yuhao Zhou
and Jianchang Yang*



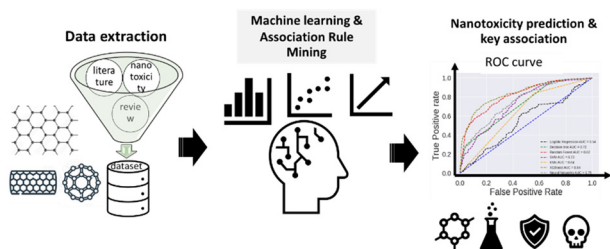
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Polystyrene nanoplastics trigger changes in cell surface properties of freshwater and marine cyanobacteria

Nigarsan Kokilathanan, Basirath Raoof and Maria Dittrich*



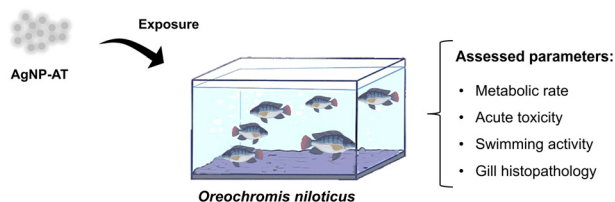
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Investigating nanotoxicity: uncovering associations and predictive factors through machine learning analysis of published literature

Monrudee Liangruksa,* Phurinat Udomsopagit, Khattaman Sriratanopast, Phawat Charoenwong, Purin Kanjanakumnerd, Teeraphan Laomettacht and Surat Teerapittayanon

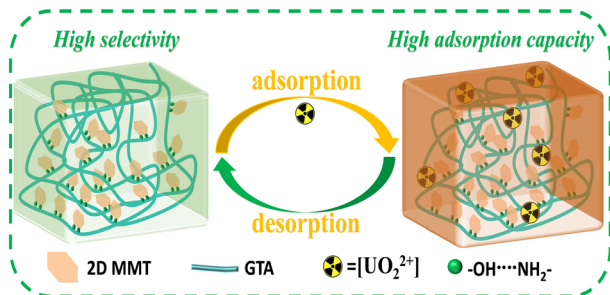
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Assessment of the toxicity of bio-synthesized silver nanoparticles on *Oreochromis niloticus* (Nile tilapia)

L. G. Ribeiro, E. Barbieri* and A. O. de Souza*

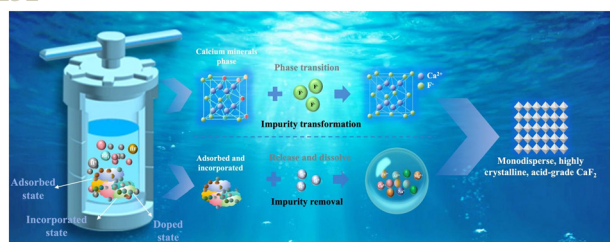
3182



Sustainable self-assembled gum tragacanth hydrogel for eco-efficient uranium recovery from contaminated water

Lan Lei, Rui Zhang, Rui-Xiang Bi, Zhi-Hai Peng, Xin Liu, Tie-Ying Shi, Li Zhang, Ru-Ping Liang* and Jian-Ding Qiu*

3191



Conversion of hazardous fluorine-containing sludge into monodisperse, highly crystalline, and acid-grade CaF_2 nanomaterials via digestive ripening under acid-enhanced hydrothermal treatment

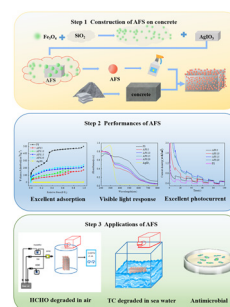
Guangxin Liao, Li Li, Zeyu Kang, Xibing Zhou, Jie Li, Zhulin Xue, Huiqin Gao, Zhang Lin and Weizhen Liu*



3203

Investigation of depolluting and antimicrobial properties of magnetic AgIO₃/Fe₃O₄@SiO₂ photocatalytic marine concrete

Guoliang Lin, Mengchen Huang, Kun Han, Xueping Liu, Ruijing Liu, Hao Liu, Ruping Deng, Yu Fang, Qing Li and Minyi Liu*



3217

Comparative study of the elemental composition of metal(loid)-bearing nanomaterials in wildland-urban interface fire ashes using icp-TOF-MS

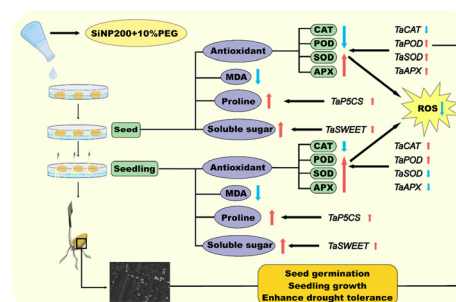
Mahbub Alam,* Sheryl A. Singerling, Mahdi Erfani, Charles N. Alpers and Mohammed Baalousha*



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Silica nanoparticles enhanced seed germination and seedling growth of drought-stressed wheat by modulating antioxidant enzymes and mitigating lipid peroxidation

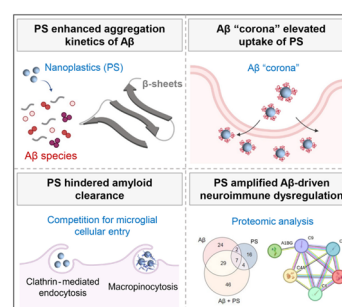
Li Keke, Li Yiting, Yin Xiaohui, Yuan Yi, Yin Junliang,* Chen Yunfeng* and Zhu Yongxing*



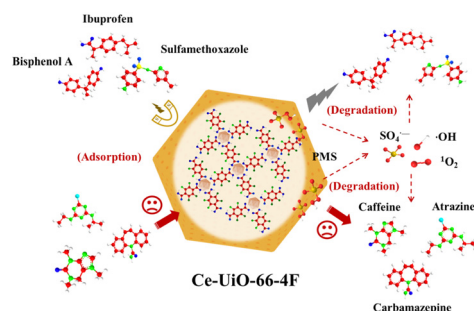
3247

Microglial clearance of Alzheimer's amyloid-beta obstructed by nanoplastics

Yue Wang, Gangtong Huang, Xiufang Liang, Nicholas Andrikopoulos, Huayuan Tang, Feng Ding,* Pu Chun Ke* and Yuhuan Li*



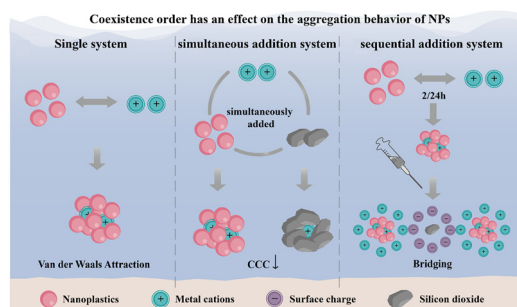
3261



Insights into the adsorption-assisted PMS activation of Ce-Uio-66-4F in an *in situ* chemical oxidation process for efficient pollutant removal

Dong Wang, Soliu O. Ganiyu, Xuefen Wang* and Mohamed Gamal El-Din*

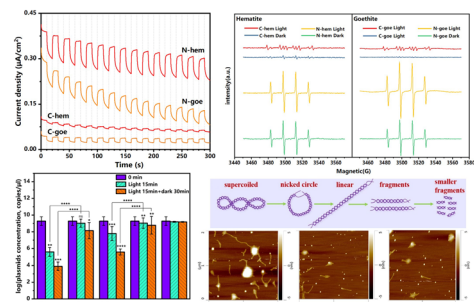
3277



Critical role of coexistence order and interfacial forces in the aggregation of polystyrene nanoplastics induced by nano-SiO₂ and metal cations

Pengju Ren, Yihan Chi, Lijuan Wang and Yuanyuan Tang*

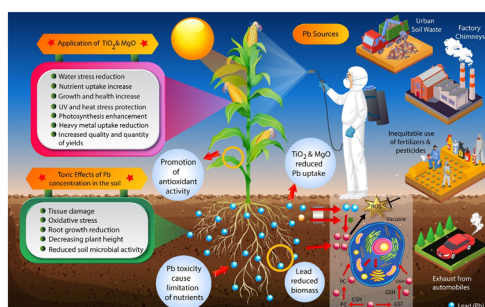
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Unparalleled photocurrent and dark radical conversions of natural nano-iron oxides *versus* synthetic ones: thousand-fold enhanced degradation of extra antibiotic resistant genes

Yutong Meng, Daiye Fu, Jundie Ying and Xiangliang Pan*

3301



Human risk assessment of lead toxicity in maize: a novel approach using TiO₂- and MgO-nanoparticles

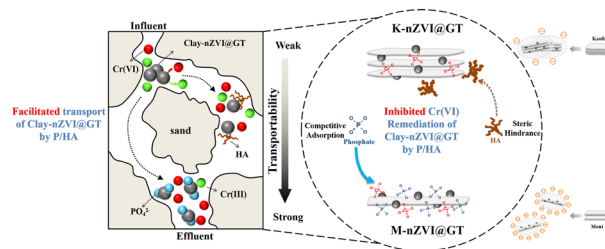
Fu Chen,* Yi Xia, Hosam O. Elansary and Leobardo Manuel Gómez Oliván*



3317

Construction of clay-mediated nZVI composites to alleviate the decline in Cr(VI) removal during co-transport with humic acid and phosphate

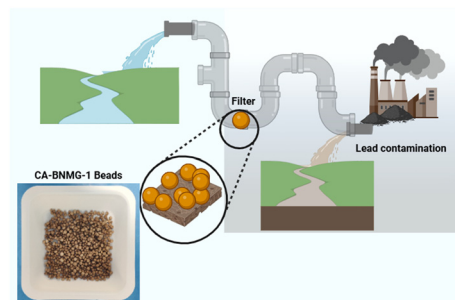
Wenxin Jiang, Nan Xu,* Wu Sun and Feng Du



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Cellulose acetate-nanoMOF beads: a safe, sustainable and scalable solution for Pb remediation in complex water systems

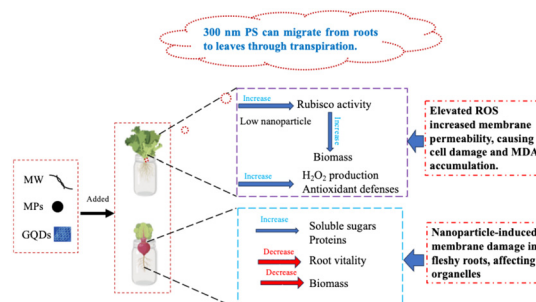
Prathmesh Bhadane and Swaroop Chakraborty*



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Stress impacts of different types of micro- and nanomaterials on vegetable crops

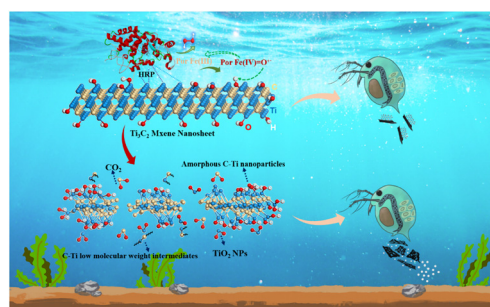
Weiwen Qiu, Minling Gao, Xue Meng, Youming Dong, Qinghai Liu, Chen Qiu and Zhengguo Song*



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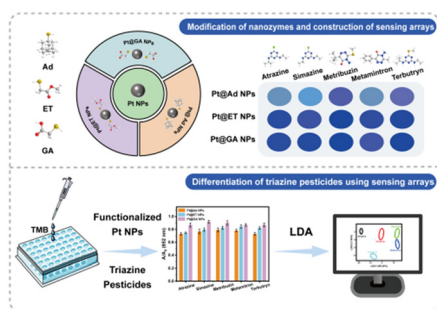
Enzyme-driven biodegradation of Ti₃C₂ MXene: unveiling peroxidase-mediated pathways and enhanced bioaccumulation risks in aquatic systems

Weibiao Ye, Wenhao Lao, Lan Wu, Dong-Xing Guan, Chao Zhang, Yiping Feng* and Liang Mao*



PAPERS

3370



Colorimetric nanozyme sensing array based on the interface interaction of platinum nanoparticles for discriminating structurally similar triazine pesticides in water

Bingqian Jing, Yuanyuan Li, Xiaofeng Liu,* Zihang Zeng, Zan Long, Bingni Jia, Bo Feng, Peng Zhang and Taiping Qing*

CORRECTION

3379

Correction: Ionic liquid-assisted synthesis of a novel PANI/ZnWO₄/WO₃ ternary nanocomposite: a facile double electron transfer photocatalyst for efficient degradation of a herbicide

Bapun Barik, Monalisa Mishra and Priyabrat Dash*

RETRACTION

3380

Retraction: Cation substitution effects (Mn, Ni, and Zn) on ZIF-67 derived spinel modified with 3DGO for the detection of NO₂ gas with high sensitivity and selectivity

Banalata Maji, Adyasha Das, Bapun Barik and Priyabrat Dash*

