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Environmental Science Processes & Impacts

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IN THIS ISSUE

ISSN 2050-7887 CODEN ESPICZ 27(7) 1733–2200 (2025)

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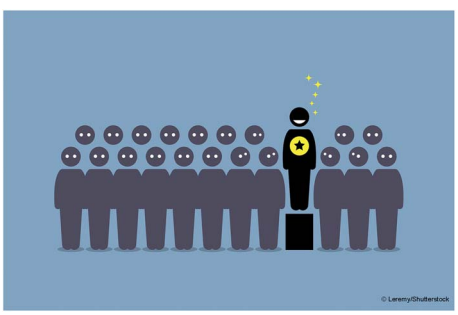
Elad Zabinsky.

EDITORIAL

1746

Outstanding Reviewers for *Environmental Science: Processes & Impacts* in 2024

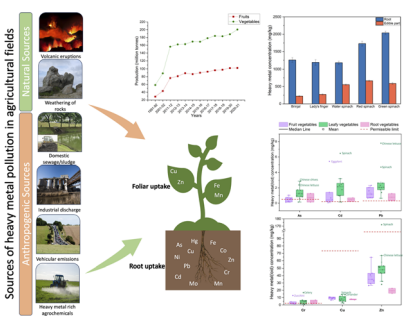


CRITICAL REVIEWS

1747

Heavy metal contamination in wastewater-irrigated vegetables: assessing food safety challenges in developing Asian countries

Navneet Kaur, Jagdev Singh, Neeta Raj Sharma, Simranpreet Kaur Natt, Anand Mohan, Tabarak Malik* and Madhuri Girdhar*



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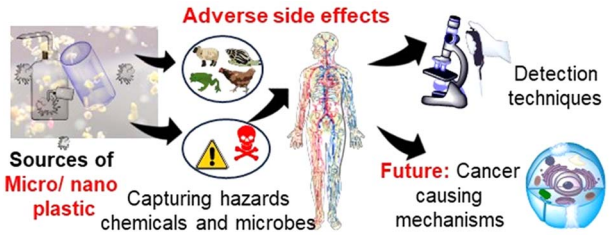
CRITICAL REVIEWS

1768

Microscopic menace: exploring the link between microplastics and cancer pathogenesis

Manu M. Joseph,* Jyothi B. Nair and Anu Mary Joseph

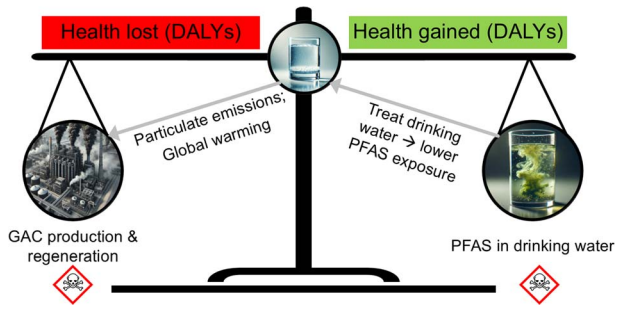


PAPERS

1796

PFAS drinking water treatment trade-offs: comparing the health burden of GAC treatment to the health benefits of reduced PFAS exposure

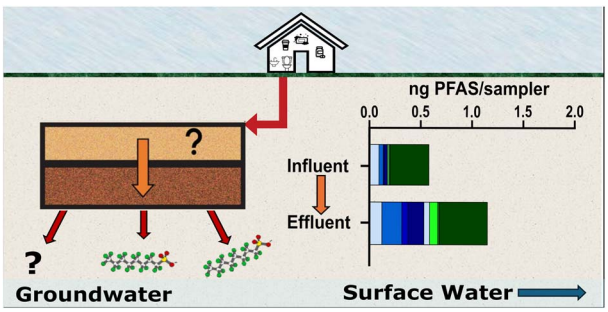
Sanne J. Smith,* Émile Sylvestre, Anne Marieke Motelica-Wagenaar, Beatrice Cantoni, Parvathi Suresh Nair and Mar Palmeros Parada



1810

Emerging investigator series: identification and transformation of per/polyfluoroalkyl substances (PFASs) in residential wastewater and effluent from alternative treatment systems

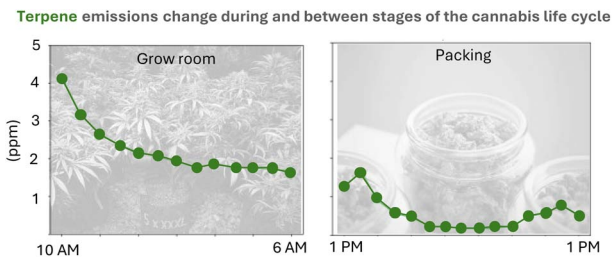
Rachel Smolinski, Meghan Oates, Arjun K. Venkatesan, Christopher J. Gobler and Carrie A. McDonough*



1823

Following the smell: terpene emission profiles through the cannabis life-cycle

Davi de Ferreyro Monticelli, Cynthia Pham, Sahil Bhandari, Amanda Giang, Nadine Borduas-Dedekind and Naomi Zimmerman*



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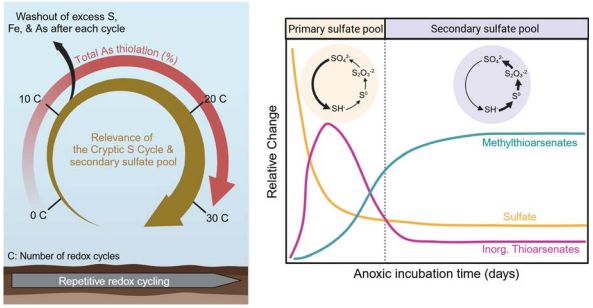
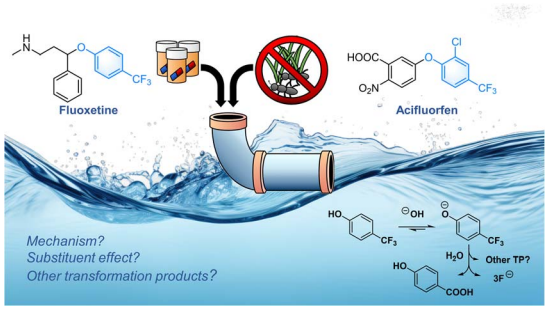


Sulfur depletion through repetitive redox cycling unmasks the role of the cryptic sulfur cycle for (methyl)thioarsenate formation in paddy soils

José M. León Ninin,* Carolin Lisbeth Dreher, Andreas Kappler and Britta Planer-Friedrich

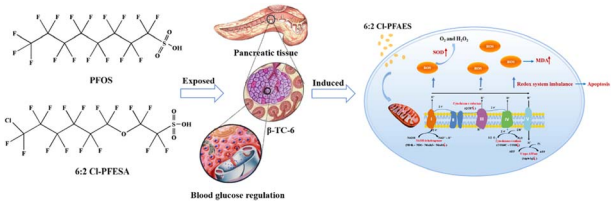
1852



Spontaneous aqueous defluorination of trifluoromethylphenols: substituent effects and revisiting the mechanism

Zhefei Guo, Geneviève W. Tremblay, Jingdan Chen and Shira Joudan*

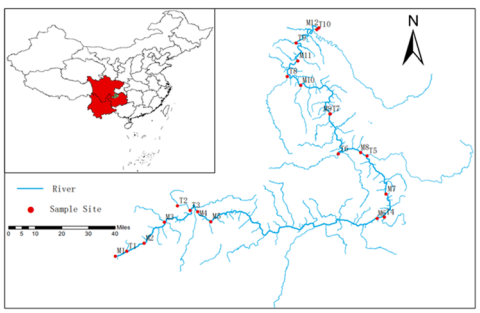
1864



Comparative cytotoxicity and toxicological mechanisms of 6:2 Cl-PFAES and PFOS in pancreatic β cells: implications for glucose metabolism disruption

Xiao-Min Ren, Jianying Wang, Fenqing Zhao, Pingping Zhang, Huan He, Zhixiang Xu, Bin Huang and Xuejun Pan*

1877



Co-occurrence of microbial source tracking markers and antibiotic resistance genes in Chishui River, China

Qianxing Zheng, Renren Wu, Xinnuo Chen, Pengxia Liu, Kaiming Li, Changdong Ke, Yongjie Wu, Yang Zhang,* Shijie Xiao and Jianhong Huang*

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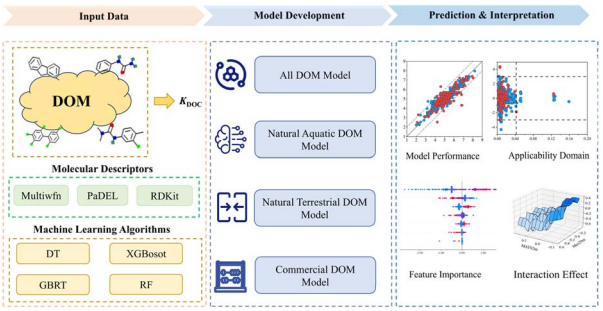
1889

Machine learning prediction of DOC–water partitioning coefficients for organic pollutants from diverse DOM origins

Ruyue Jin, Yuzhen Liang* and Zhenqing Shi



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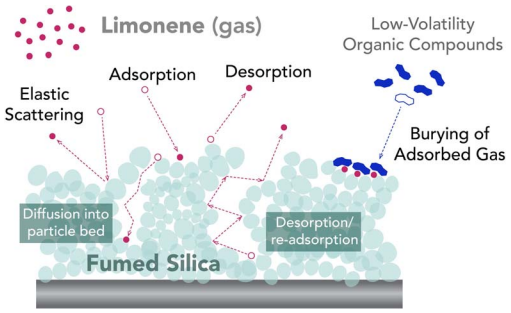
Surfaces, silica and semivolatile organics—limonene uptake and desorption indoors and outdoors

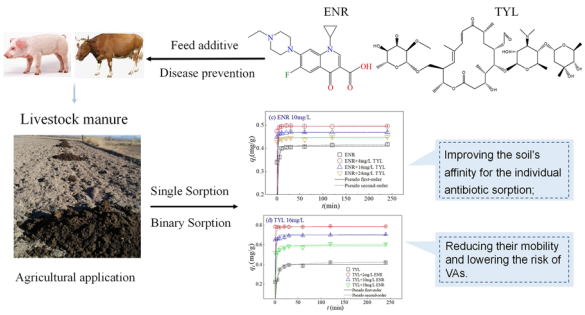
Ryan S. Reynolds, Kristen N. Johnson, Katelyn Pacaud, Michael Ezell, Pascale S. J. Lakey, Manabu Shiraiwa and Barbara J. Finlayson-Pitts*



1914

Collaborative sorption behavior of tylosin and enrofloxacin in loess soil: implications for veterinary antibiotic fate

Zhanrong Jia, Yufeng Jiang,* Yanni Sun, Kui Huang and Yingqin Wu



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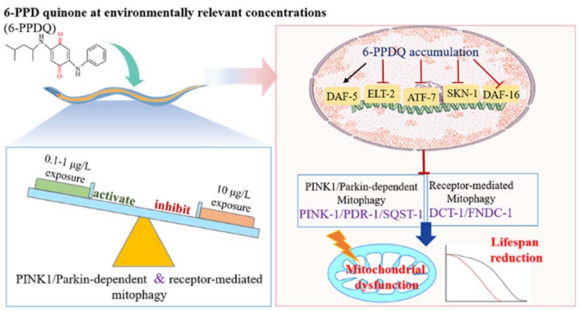
An environmentally relevant concentration of 6-PPD quinone inhibits two types of mitophagy to cause mitochondrial dysfunction and lifespan reduction in *Caenorhabditis elegans*

Xin Hua and Dayong Wang*



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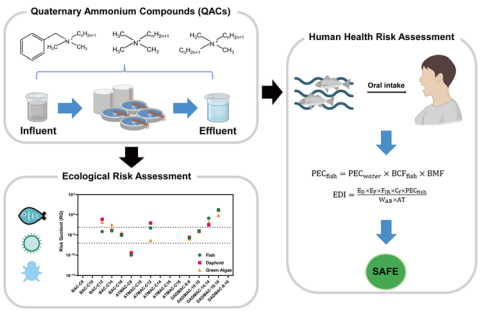
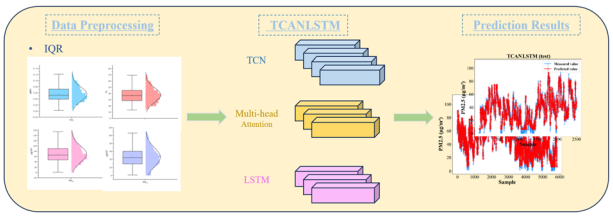


Quaternary ammonium compounds in wastewater during the COVID-19 pandemic: occurrence, exposure evaluation and risk assessment

Jingjing Li, Yongfeng Lin, Lihua Yu, Wei Gao, Bing Wang* and Yuxin Zheng

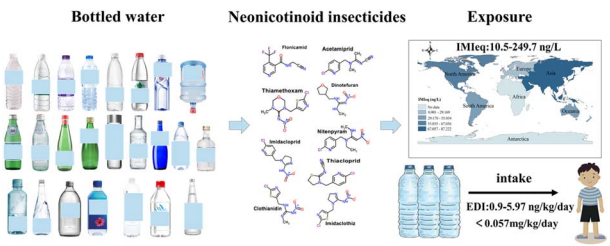
1951



An optimized TCN–LSTM model for predicting $PM_{2.5}$ in metro systems

Canyun Yang, Zhang Kai, Xinyuan Wang, Tong Hu and Hongbin Liu*

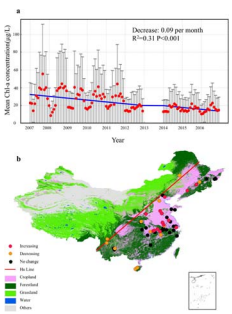
1960



Neonicotinoid pesticide residues in bottled water: a worldwide assessment of distribution and human exposure risks

Yuanchen Chen, Ruirui Meng, Gege Liu, Wenfei Yu and Hangbiao Jin*

1971



Spatiotemporal changes in chlorophyll-a concentration in China's lakes and its driving factors

Liwei Gao, Xin Huang, Xueqiang Lu, Yindong Tong, Jianfeng Feng, Yingying Xu and Yan Lin*

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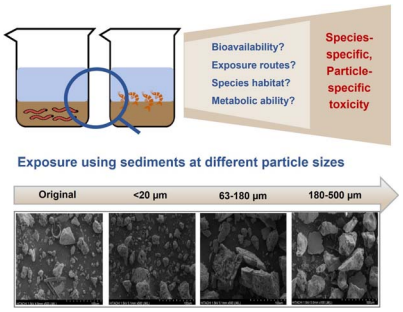
PAPERS

1988

Role of sediment particle size in cypermethrin toxicity to *Chironomus dilutus* and *Hyalella azteca*: insights from bioavailability and exposure pathways

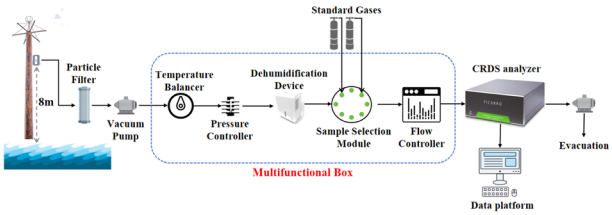
Hang Su, Jie Zhang, Huizhen Li* and Jing You



1998

Evaluation of emissions and spatial distribution of methane from offshore oil and gas platforms in the Liaodong Bay of China based on shipboard measurement

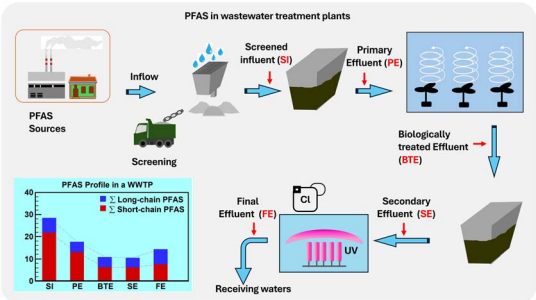
Yue Yu, Zongcai He, Qing Su, Xuemei Xu, Jiayi Cheng, Yue Ming, Xiaomeng Wang,* Hong Chen and Jianbo Han



2008

Distribution and variability of per- and polyfluoroalkyl substances (PFASs) across three categories of wastewater treatment plants in Kaohsiung, the industrial hub of Taiwan

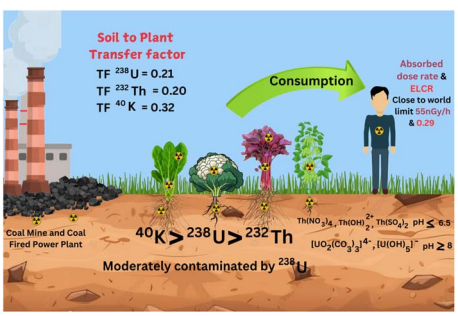
Chien-Hsing Wu, Li-Man Lin, Shu-fen Lin, Chih-Lung Wang, Bo-Wun Huang, Justus Kavita Mutuku* and Guo-Ping Chang-Chien*



2022

Spatial distribution and soil-to-plant transfer factors of radionuclides in agricultural soil around the Barapukuria coal mining site, Bangladesh

Tonima Parvin, Saiful Islam,* Jannatul Ferdous, Saurav Dey Shuvo and Pradip K. Bakshi



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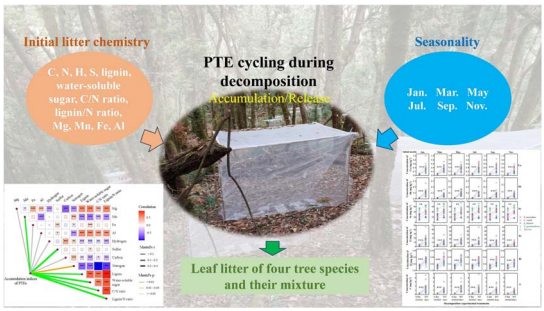
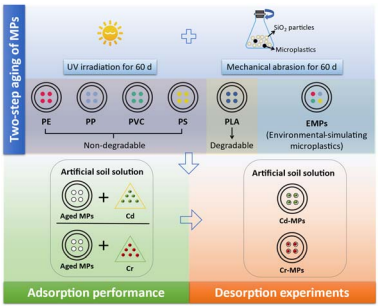


Initial litter chemistry and seasonality drive potentially toxic element cycling during decomposition in a subtropical forest: insights from monospecific and mixed litter

Juan Li, Yuntong Liu,* Chuansheng Wu and Xun Liu*

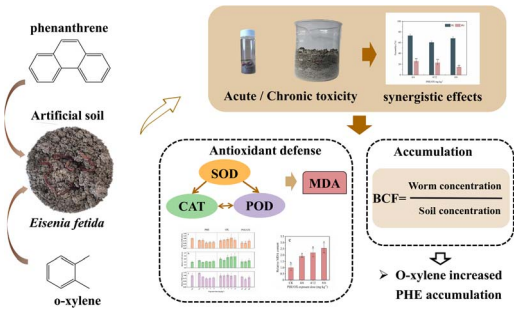
2049



Insight into the interactions between microplastics and heavy metals in agricultural soil solution: adsorption performance influenced by microplastic types

Yu-liang Liao, Chun-dan Gan, Xue Zhao, Xin-yue Du and Jin-yan Yang*

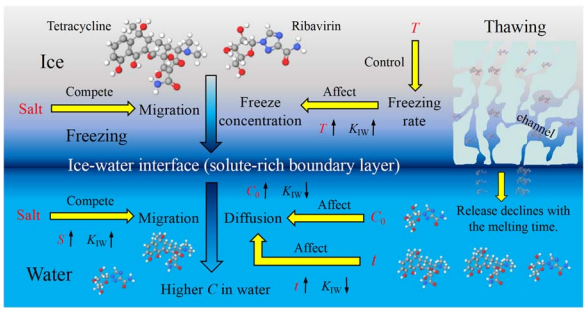
2063



Increased phenanthrene toxicity to *Eisenia fetida* upon co-exposure to *o*-xylene

Guofeng Li, Zhongran Wu, Haifeng Chi, Shanna Lin and Chao Cai*

2074



Ice-water distribution of antibiotics and antiviral drugs during the freezing–thawing process: influencing factors and related mechanisms

Wenbin Wei, Linke Ge,* Siyuan Wang, Xuanyan Li, Peng Zhang and Jiahong Wang

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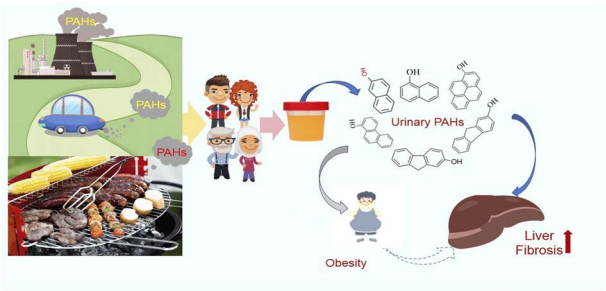
2082

Obesity as a mediator in the association between urinary polycyclic aromatic hydrocarbon exposure and liver fibrosis risk in US adults

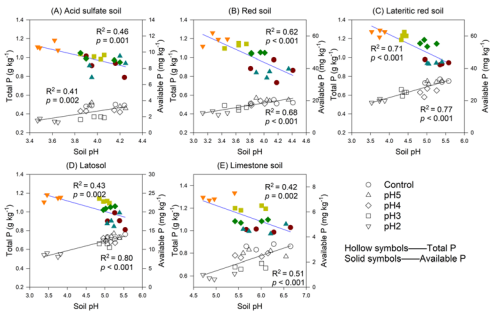
Wang Guo, Beizhu Ye, Xiaoli Ma, Jinying Liu, Yanqin Yue, Xingyuan Yang, Jian Hou,* Xiuling Li* and Xiaoying Luo*



2094

Soil acidification alters C : N : P stoichiometry in the soil due to higher acid sensitivity of phosphorus

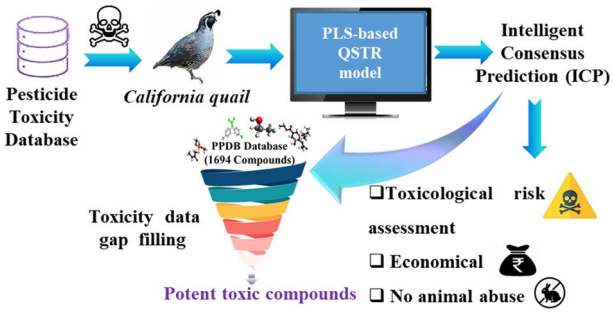
Hui Wei, Hongru Li, Qi Wang, Huimin Xiang, Ziqiang Liu and Jiaen Zhang*



2104

Intelligent consensus prediction for addressing ecotoxicological effects of diverse pesticides on California quail

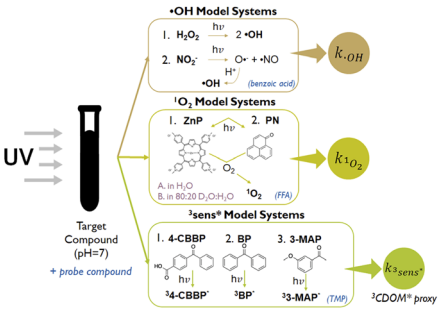
Abhisek Samal, Shubha Das and Probir Kumar Ojha*



2116

Comparing photodegradation model systems: measuring bimolecular rate constants between photochemically produced reactive intermediates and organic contaminants

Luana de Brito Anton, Andrea I. Silverman and Jennifer N. Apell*



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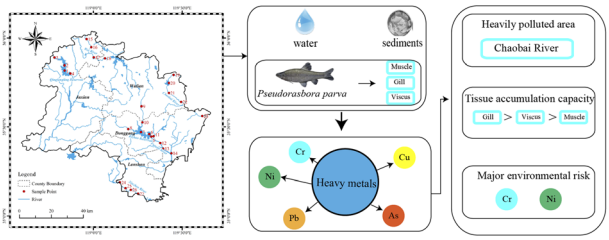
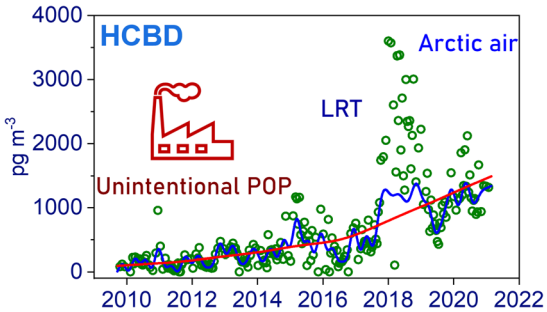


Distribution and potential ecological risks of heavy metals in water, sediments, and fish in the main rivers and reservoirs in Rizhao, China

Guoao Xie, Wenxia Wang, Yekai Sun, Chen Chen, Lijuan Cai, Yanqing Guo, Shah Saud, Haitao Chen, Xiuling Li* and Changwei Hu*

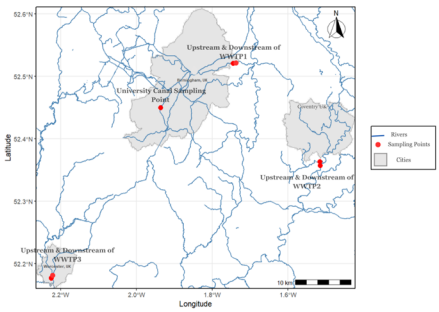
2147



Improved sampling efficiency of volatile halomethoxybenzenes and persistent organic pollutants reveals increasing concentrations in Canadian air

Yu-Mei Hsu, Fiona Wong, Hayley Hung,* Chubashini Shunthirasingham, Wenlong Li, Nick Alexandrou, Helena Dryfhout-Clark, Cecilia Shin, Richard Park, Jared Chisamore, Artur Pajda, Ronald Noronha, Enzo Barresi, Phil Fellin and Henrik Li

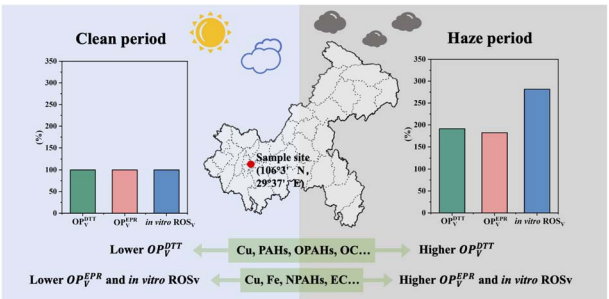
2159



Microplastics in surficial sediments from some UK rivers and canals: seasonal and spatial variation and relationship with concentrations of organophosphate esters

Simeon Onoja,* Mohamed Abou-Elwafa Abdallah and Stuart Harrad

2173



Health implications of wintertime fine particulate matter from southwestern China

Jinyitao Wang, Fang Zhou, Wei Zhang, Xinquan Zhao, Steven J. Campbell, Li Zhou, Jialiang Feng, Qingyan Fu, Arthur W. H. Chan, Fumo Yang, Mi Tian* and Shunyao Wang*

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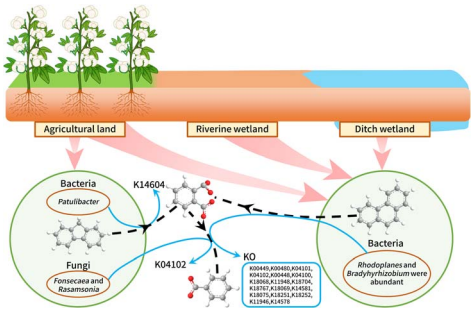
2188

Metagenomics research on PAH biodegradation in the lower reaches of the Shiwuli River in Chaohu, China

Huanling Wu, Binghua Sun and Jinhua Li*



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