# Environmental Science Processes & Impacts

# rsc.li/espi

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

### IN THIS ISSUE

ISSN 2050-7887 CODEN ESPICZ 25(8) 1255-1420 (2023)

Cover



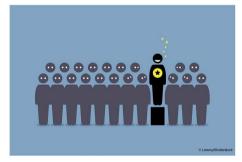
See Marion Revel *et al.*, pp. 1288–1297. Image reproduced by permission of Marion Revel from *Environ*. *Sci.: Processes Impacts*, 2023, **25**, 1288.

### EDITORIAL

C ROYAL SOCIETY Marco Tar

#### 1262

Outstanding Reviewers for Environmental Science: Processes & Impacts in 2022

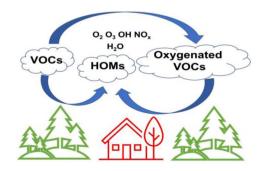


#### **CRITICAL REVIEW**

#### 1263

# Analytical methodologies for oxidized organic compounds in the atmosphere

Aleksi Tiusanen, Jose Ruiz-Jimenez, Kari Hartonen and Susanne K. Wiedmer\*



#### **Editorial Staff**

Executive Editor Neil Scriven

**Deputy Editor** Grace Thoburn

Development Editor Nour Tanbouza

Editorial Production Manager Claire Darby

#### **Publishing Editors**

Emma Carlisle, Hannah Hamilton, Ephraim Otumudia, Irene Sanchez Molina Santos, Michael Spencelayh, Callum Woof, Lauren Yarrow-Wright

Editorial Assistant Kate Bandoo

Publishing Assistant Linda Warncke

#### Publisher

Sam Keltie

This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

Article. Published on 16 August 2023. Downloaded on 7/31/2025 6:22:59 AM.

Dpen Access

For queries about submitted papers please contact Claire Darby, Editorial Production Manager, in the first instance. E-mail: espi@rsc.org

For pre-submission queries please contact Neil Scriven, Executive Editor. E-mail: espi-rsc@rsc.org

Environmental Science: Processes & Impacts

(electronic: ISSN 2050-7895) is published 12 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road Cambridge, CB4 0WF, UK

Tel +44 (0)1223 432398; E-mail orders@rsc.org

2023 Annual electronic subscription price: £1839 US\$3301. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

#### Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017; E-mail advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

# **Environmental Science Processes & Impacts**

#### rsc.li/espi

Environmental Science: Processes & Impacts is a multidisciplinary journal for the environmental chemical sciences, publishing high quality papers in areas including the chemistry of the air, water, soil and sediment.

#### **Editorial Board**

Advisory Board

Switzerland

CAS China

Switzerland

China

Technology, USA

Institution, USA

UK

Urs Baltensperger, Paul Scherrer Institute,

Alexandria Boehm, Stanford University, USA

Richard Brown, National Physical Laboratory,

Junji Cao, Institute of Earth Environment,

Kathrin Fenner, Swiss Federal Institute of

Aquatic Science and Technology, Eawag,

Tamara Galloway, University of Exeter, UK

Liang-Hong Guo, China Jiliang University,

Colleen Hansel, Woods Hole Oceanographic

Hans Christian Bruun Hansen, University of

Information for Authors

Philip Gschwend, Massachusetts Institute of

#### Editor-in-Chief Kristopher McNeill, ETH Zürich, Switzerland Members Associate Editors Africa Marianne Glasius, Aarhus University, Denmark Oian Liu, Research Center for Eco-USA Environmental Sciences, Chinese Academy of Sciences, China Matthew MacLeod, Stockholm University, Sweden Jasquelin Peña, University of California, Davis, USA Paul Tratnyek, Oregon Health & Science University, USA

Katye Altieri, University of Cape Town, South Ludmilla Aristilde, Northwestern University, Amila de Silva, Environment and Climate Change Canada, Canada Beate Escher, Helmholtz Centre for Environmental Research, Germany Mingliang Fang, Fudan University, China Delphine Farmer. Colorado State University, USA

# Weihua Song, Fudan University, China

Lenny Winkel Swiss Federal Institute of Aquatic Science and Technology, Eawag, Switzerland Cora Young, York University, Canada

Copenhagen, Denmark Stuart Harrad, University of Birmingham, UK Heileen Hsu-Kim, Duke University, USA Jianying Hu, Peking University, China Young-Shin Jun, Washington University in St. Louis, USA Andreas Kappler, University of Tübingen, Germany Karen Kidd, McMaster University, Canada Edward Kolodziej, University of Washington, Ruben Kretzschmar, ETH Zürich, Switzerland Linsey Marr, Virginia Polytechnic Institute and State University, USA

Derek Muir, Environment & Climate Change Canada, Canada Kara Nelson, University of California, Berkeley

USA

Jasquelin Peña, University of California, Davis, USA Noelle Selin, Massachusetts Institute of Technology, USA Susan Solomon, Massachusetts Institute of Technology, USA Elsie Sunderland Harvard University USA Sachchida Nand Tripathi, Indian Institute of Technology Kanpur, India David Waite, University of New South Wales, Australia Frank Wania, University of Toronto at Scarborough, Canada Guang-Guo Ying, South China Normal University, China

Full details on how to submit material for publication in Environmental Science: Processes & Impacts are given in the Instructions for Authors (available from http://www.rsc.org/authors). Submissions should be made via the journal's homepage: rsc.li/espi

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)-Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023. Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

Registered charity number: 207890

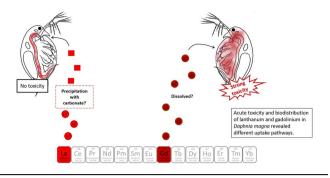
#### ROYAL SOCIETY OF CHEMISTRY

### PAPERS

#### 1288

### Determination of the distribution of rare earth elements La and Gd in *Daphnia magna via* micro and nano-SXRF imaging

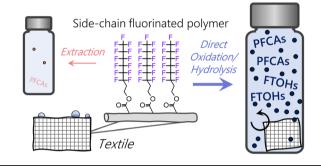
Marion Revel,\* Kadda Medjoubi, Camille Rivard, Delphine Vantelon, Andrew Hursthouse and Susanne Heise



## 1298

### Non-extractable PFAS in functional textiles – characterization by complementary methods: oxidation, hydrolysis, and fluorine sum parameters

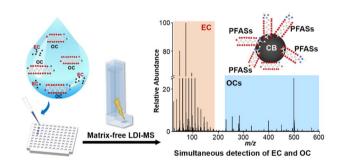
Jonathan Zweigle, Catharina Capitain, Fabian Simon, Philipp Roesch, Boris Bugsel and Christian Zwiener\*



## 1311

Monitoring the adsorption of per- and polyfluoroalkyl substances on carbon black by LDI-MS capable of simultaneous analysis of elemental and organic carbon

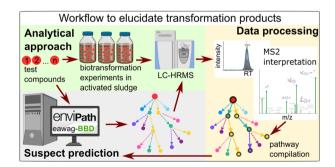
Ke Min, Shenxi Deng, Zhao Shu, Yong Li, Bo Chen, Ming Ma, Qian Liu<sup>\*</sup> and Guibin Jiang



#### 1322

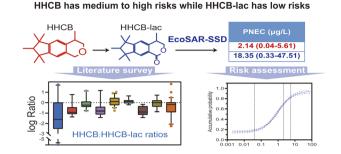
# Combining predictive and analytical methods to elucidate pharmaceutical biotransformation in activated sludge

Leo Trostel, Claudia Coll, Kathrin Fenner\* and Jasmin Hafner



#### 1337

1347



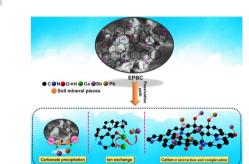
Ecological risk of galaxolide and its transformation product galaxolidone: evidence from the literature and a case study in Guangzhou waterways

Yanrong Su, Faxu Li, Xiangxiang Xiao, Huizhen Li, Dali Wang<sup>\*</sup> and Jing You

# Microplastic-sorbed persistent organic pollutants in coastal Mediterranean Sea areas of Tunisia

Badreddine Barhoumi,\* Marc Metian, Hatem Zaghden, Abdelkader Derouiche, Walid Ben Ameur, Sihem Ben Hassine, François Oberhaensli, Janeth Mora, Nikolaos Mourgkogiannis, Abdulla M. Al-Rawabdeh, Lassaad Chouba, Carlos M. Alonso-Hernández, Hrissi K. Karapanagioti, Mohamed Ridha Driss, Ahmed Mliki and Soufiane Touil

#### 1365



Length (µm)

Number of particles subsampled

# Biological calcium carbonate enhanced the ability of biochar to passivate antimony and lead in soil

Can Wu,\* Yi Yang, Yaping Zhong, Yan Guan, Qingqing Chen, Wenping Du and Guo Liu



# Urban stormwater microplastic size distribution and impact of subsampling on polymer diversity

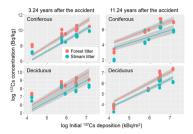
Swaraj Parmar, Georgia Arbuckle-Keil, G. Kumi and N. L. Fahrenfeld\*

#### PAPERS

### 1385

Spatiotemporal patterns in differences between the <sup>137</sup>Cs concentrations of forest and stream litters: effect of leaching

Masaru Sakai,\* Mitsuru Ohira and Takashi Gomi

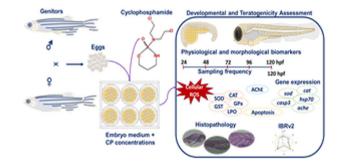


While the <sup>137</sup>Cs concentrations in both forest and stream litters decreased with time, the absolute differences in <sup>137</sup>Cs concentrations in litter between forest and stream ecosystems were similarly greater in more contaminated siles both 3.24 and 11.24 years after the Fukushima accident.

## 1391

# Developmental toxicity of the emerging contaminant cyclophosphamide and the integrated biomarker response (IBRv2) in zebrafish

Tamilselvan Hema, Rama-Krishnan Poopal, Mathan Ramesh,\* Zongming Ren and Bin Li\*



### 1407

### Occurrence, distribution and environmental risk of 19 anthelmintic drugs in river water and sediment from the Jinjiang River, China

Sheng Yang, Mengxi Liao, Shijun Su, Sanglan Ding, Yiwen Li\* and Zhiwei Gan\*

