

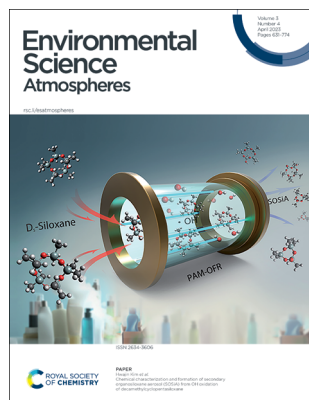
Environmental Science: Atmospheres

rsc.li/esatmospheres

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 2634-3606 CODEN ESANC9 3(4) 631–774 (2023)



Cover
See Hwajin Kim *et al.*, pp. 662–671. Image reproduced by permission of Hwajin Kim from *Environ. Sci.: Atmos.*, 2023, 3, 662.

EDITORIAL

638

Introduction to indoor air quality

Neil M. Donahue, Kristopher McNeill, Daniel S. Korbelt and Hannah G. Macdonald

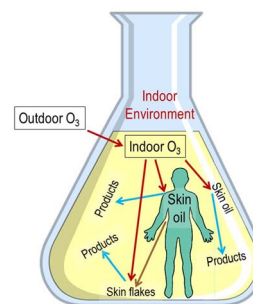


CRITICAL REVIEW

640

Human skin oil: a major ozone reactant indoors

Charles J. Weschler and William W Nazaroff



Managing Editor

Emma Eley

Editorial Production Manager

Sarah Whitbread

Deputy Editor

Jon Ferrier

Assistant Editors

Jamie Purcell, Aphra Murray, Alexander John, Emily Ellison, Jack Pitchers

Editorial Assistant

Alex Holiday

Publishing Assistant

Lee Colwill

Publisher

Neil Hammond

For queries about submitted papers, please contact Sarah Whitbread, Editorial Production Manager in the first instance. E-mail: esatmospheres@rsc.org

For pre-submission queries please contact

Emma Eley, Managing Editor.
Email: esatmospheres-rsc@rsc.org

Environmental Science: Atmospheres (electronic: ISSN 2634-3606) is published 12 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF. Environmental Science: Atmospheres is a Gold Open Access journal and all articles are free to read.

Please email orders@rsc.org to register your interest or contact 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

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: Atmospheres

Interdisciplinary open access journal advancing the understanding of atmospheric science and related challenges.

rsc.li/esatmospheres

Led by Neil Donahue (Carnegie Mellon University), *Environmental Science: Atmospheres* is a gold open access journal committed to bringing the wider environmental science and climate change communities together in a fresh, open approach.

Editorial Board

Editor-in-Chief

Neil Donahue, Carnegie Mellon University, USA

Associate Editors

Claudia Mohr, Stockholm University, Sweden
Nonne Prisle, University of Oulu, Finland

Lin Wang, Fudan University, China
Stephen Klippenstein, Argonne National Laboratory, USA

Tzung-May Fu, Southern University of Science and Technology, China

Members

Joel Thornton, University of Washington, USA

Dwayne Heard, University of Leeds, UK

Advisory Board

Katye Altieri, University of Cape Town, South Africa

Federico Bianchi, University of Helsinki, Finland

Muhammad Bilal, Nanjing University of Information Science & Technology, China
William Bloss, University of Birmingham, UK

Ann Marie Carlton, University of California Irvine, USA

Peter DeCarlo, Johns Hopkins University, USA

Aijun Ding, Nanjing University, China
Delphine Farmer, Colorado State University, USA

Barbara Finlayson-Pitts, University of California, Irvine, USA

Christian George, CNRS, University Claude Bernard Lyon 1, France

Marianne Glasius, Aarhus University, Denmark

Mattias Hallquist, University of Gothenburg, Sweden

Thomas Hanisco, NASA Goddard Space Flight Center, USA

Lucy Hutyla, Boston University, USA

Maria Kanakidou, University of Crete, Greece

Prashant Kumar, University of Surrey, UK

Tuhin Kumar Mandal, National Physical Laboratory, India

Linsey Marr, Virginia Tech, USA

Randall Martin, Washington University in St Louis, USA

Ottmar Möhler, Karlsruhe Institute of Technology, Germany

Yujing Mu, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China

Patricia K. Quinn, National Oceanic and Atmospheric Administration, Pacific Marine Environment Laboratory, USA

Andrew Rickard, University of York, UK

Iiona Riipinen, Stockholm University, Sweden

Alfonso Saiz-Lopez, CSIC, Spain

Sachchida Nand Tripathi, Indian Institute of Technology, Kanpur, India

Ying I. Tsai, Chia Nan University of Pharmacy and Science, Taiwan

Marina Vance, University of Colorado Boulder, USA

Hanna Vehkamäki, University of Helsinki, Finland

Bingbing Wang, Xiamen University, China

Shuxiao Wang, Tsinghua University, China

Information for Authors

Full details on how to submit material for publication in Environmental Science: Atmospheres 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/esatmospheres

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.

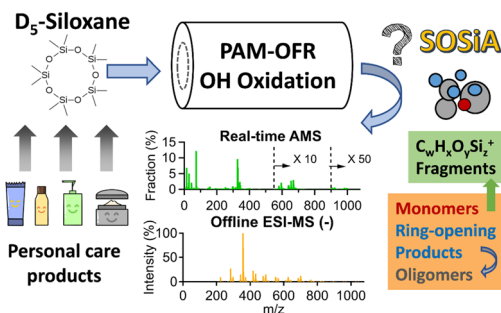
Registered charity number: 207890



662

Chemical characterization and formation of secondary organosiloxane aerosol (SOSiA) from OH oxidation of decamethylcyclopentasiloxane

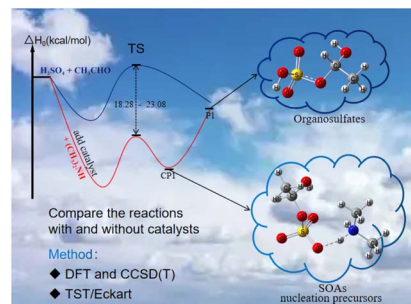
Yanfeng Chen, Yoojin Park, Hyun Gu Kang, Jiwoo Jeong and Hwajin Kim*



672

An unexpected feasible route for the formation of organosulfates by the gas phase reaction of sulfuric acid with acetaldehyde catalyzed by dimethylamine in the atmosphere

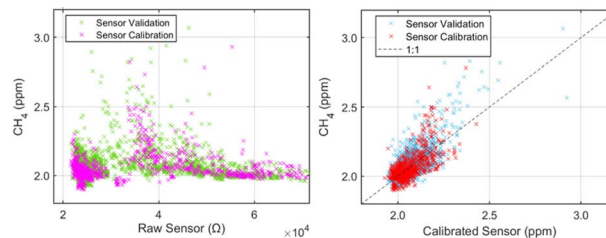
Ju-Rui Yang, Ai Liu and Bo Long*



683

Laboratory and field evaluation of a low-cost methane sensor and key environmental factors for sensor calibration

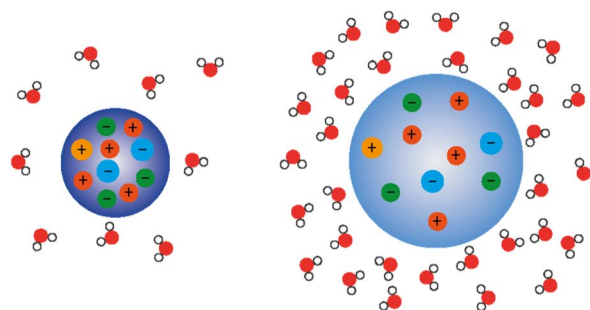
Joyce J. Y. Lin, Colby Buehler, Abhirup Datta, Drew R. Gentner, Kirsten Koehler and Misti Levy Zamora*



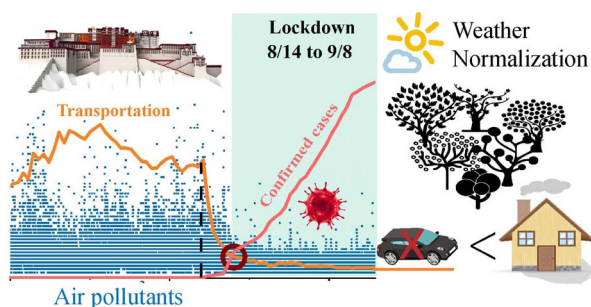
695

Hygroscopic growth of single atmospheric sea salt aerosol particles from mass measurement in an optical trap

Oliver Reich, Michael J. Gleichweit, Grégory David, Nicole Leemann and Ruth Signorell*



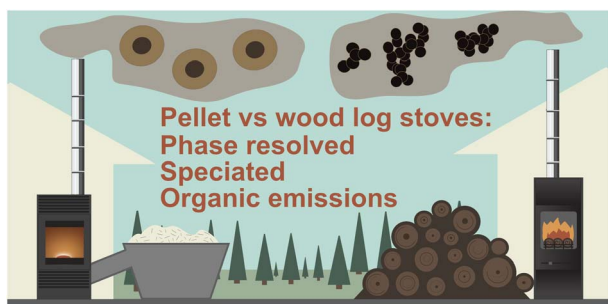
708



Variations of air pollutant response to COVID-19 lockdown in cities of the Tibetan Plateau

Xiyao Chen, Fan Zhang, Dianguo Zhang, Liang Xu, Rui Liu, Xiaomi Teng, Xin Zhang, Shuo Wang and Weijun Li*

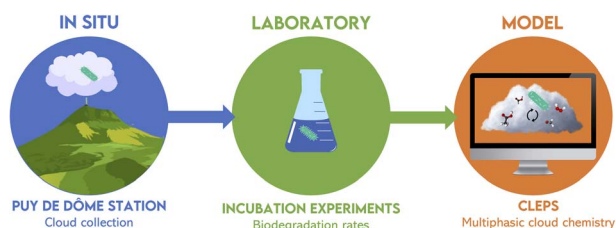
717



Pros and cons of wood and pellet stoves for residential heating from an emissions perspective

Michael Priestley, Xiangrui Kong, Xiangyu Pei, Julia Hammes, Daniel Bäckström, Ravi K. Pathak, Jan B. C. Pettersson and Mattias Hallquist*

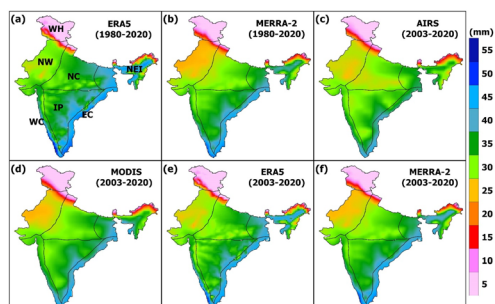
731



Assessing the efficiency of water-soluble organic compound biodegradation in clouds under various environmental conditions

Lucas Paillet,* Nolwenn Wirgot, Muriel Joly, Pascal Renard, Camille Mouchel-Vallon, Angelica Bianco, Maud Leriche, Martine Sancelme, Aurélie Job, Luc Patryl, Patrick Armand, Anne-Marie Delort, Nadine Chaumerliac and Laurent Deguillaume*

749



Long-term changes in precipitable water vapour over India derived from satellite and reanalysis data for the past four decades (1980–2020)

S. Sarkar, J. Kuttippurath* and V. K. Patel



760

Modeling the fate and involuntary exposure to tetrahydrocannabinol emitted from indoor cannabis smoking

Amirashkan Askari, Frank Wania and Arthur W. H. Chan

