RSC Sustainability

rsc.li/rscsus

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.

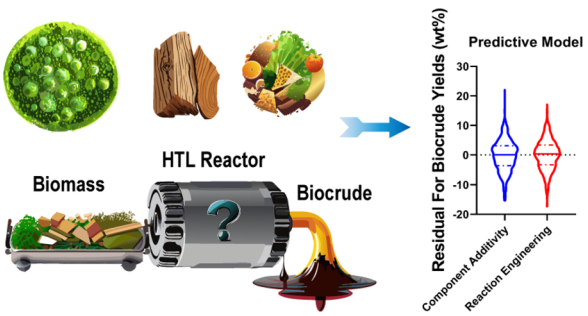
IN THIS ISSUE

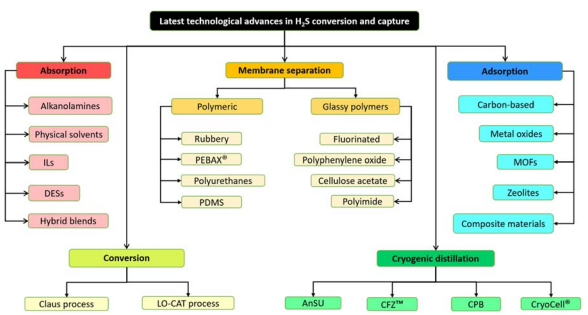
ISSN 2753-8125 CODEN RSSUAN 2(4) 725–1166 (2024)

Cover
See Gyorgy Szekely, pp. 871–880. Image reproduced by permission of KAUST from *RSC. Sustainability.*, 2024, **2**, 871. Designed and illustrated by Ana Bigio.

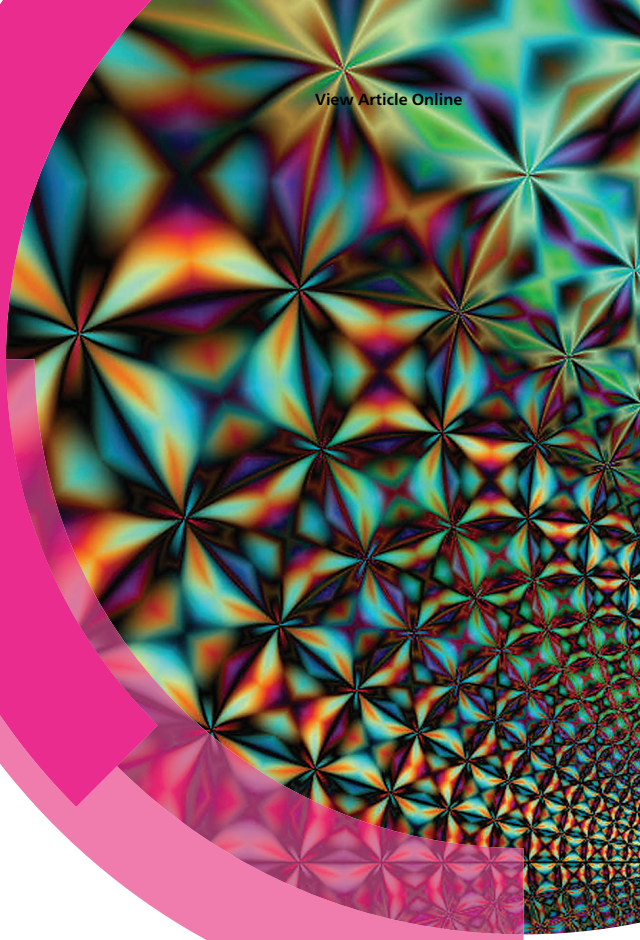
Inside cover
See Jason Y. C. Lim, Vinicius Rosa *et al.*, pp. 881–902. Image reproduced by permission of Vinicius Rosa from *RSC. Sustainability.*, 2024, **2**, 881.

CRITICAL REVIEWS





ROYAL SOCIETY OF CHEMISTRY



RSC Advances

At the heart of open access for the global chemistry community

Editor-in-chief

Russell J Cox
Leibniz Universität Hannover, Germany

We stand for:

Breadth We publish work in all areas of chemistry and reach a global readership

Affordability Low APCs, discounts and waivers make publishing open access achievable and sustainable

Quality Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal

Community Led by active researchers, we publish quality work from scientists at every career stage, and all countries

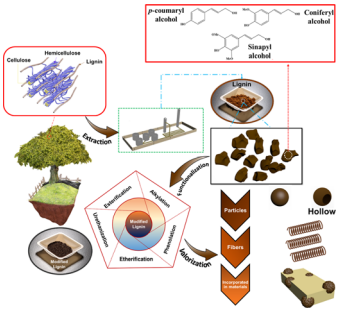
Submit your work now

rsc.li/rsc-advances

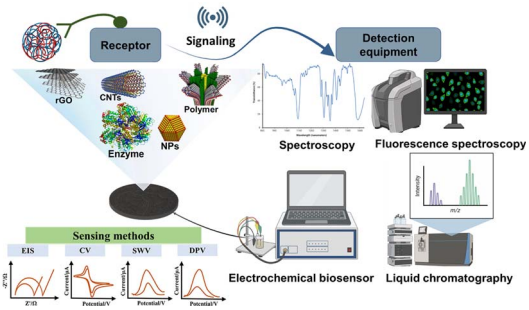
@RSC_Adv

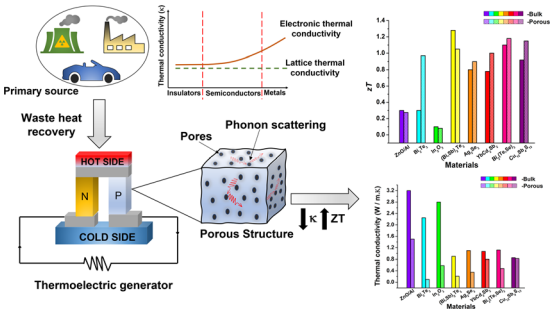
Registered charity number: 207890

CRITICAL REVIEWS



TUTORIAL REVIEWS



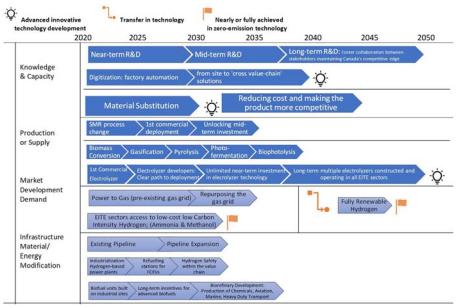


PERSPECTIVES

PERSPECTIVES

The global burden of plastics in oral health: prospects for circularity, sustainable materials development and practice

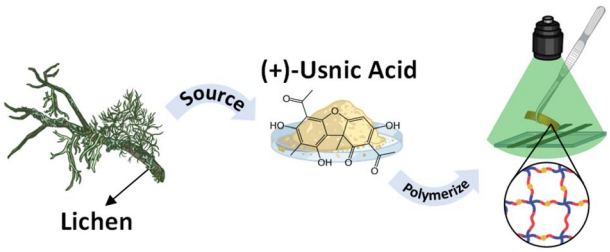
Albert Ong, Jerald Y. Q. Teo, David C. Watts, Nikolaos Silikas, Jason Y. C. Lim* and Vinicius Rosa*



Emissions-intensive and trade-exposed industries: technological innovation and climate policy solutions to achieve net-zero emissions by 2050

Anahita Mani, Thomas Budd and Elicia Maine

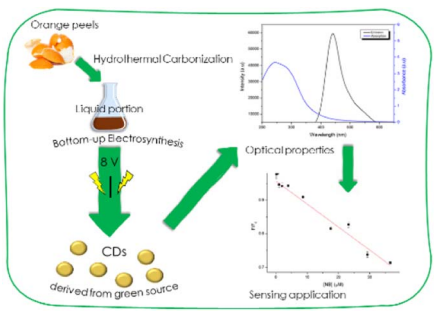
COMMUNICATION



Photopolymerization of lichen derived usnic acid

Ruby R. Zhou, Jack L. Vargo, Bella G. Andjelkovic, Maya G. Vermeer, Spencer J. Goyette and Bassil M. El-Zaatari*

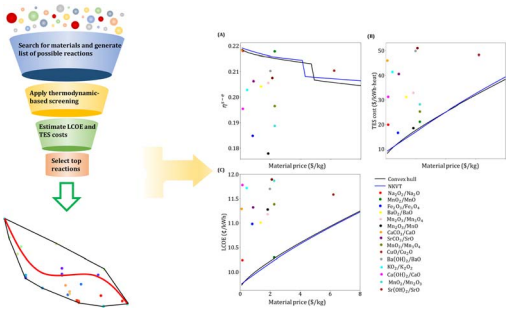
PAPERS

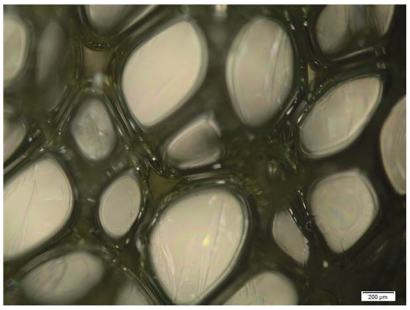


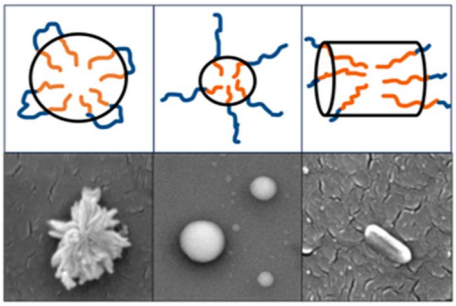
Carbon nanodots from orange peel waste as fluorescent probes for detecting nitrobenzene

Cinzia Michenzi,* Anacleto Proietti, Marco Rossi, Claudia Espro, Viviana Bressi, Fabrizio Vetica, Beatrice Simonis and Isabella Chiarotto*

PAPERS

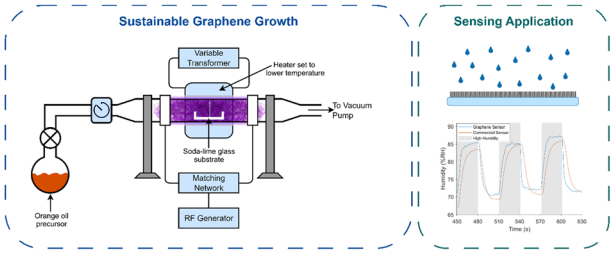






PAPERS

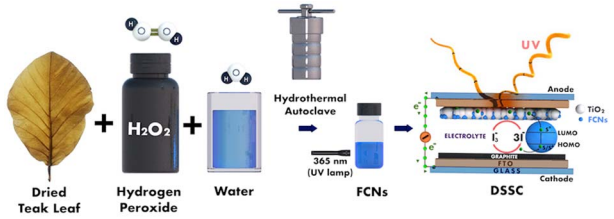
995



Sustainable low temperature carrier gas-free growth of graphene on non-catalytic substrates

Laurance Papale, Bronson Philippa,* Boris Makarenko, Oomman K. Varghese and Mohan V. Jacob*

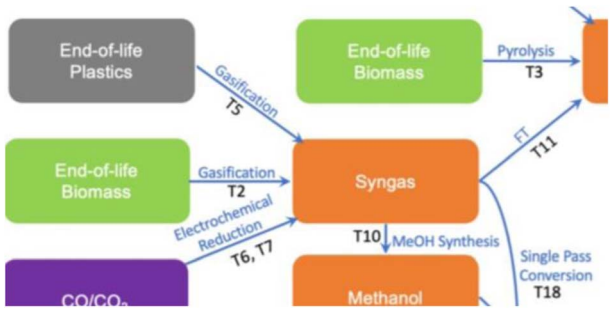
1003



Hydrogen peroxide assisted synthesis of fluorescent carbon nanoparticles from teak leaves for dye-sensitized solar cells

Arup Kumer Roy,* William Ghann, Saswata Rabi, Jackson Barua, Sumit Majumder, Ruhul Amin, M. K. Mohammad Ziaul Hyder and Jamal Uddin*

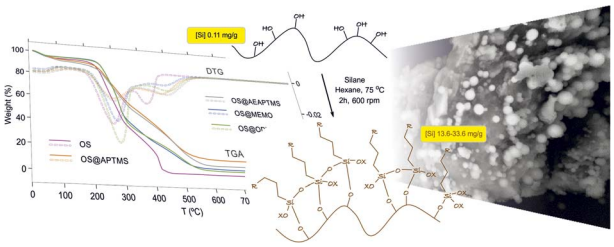
1014



Counterfactual sustainability screening – the definition and undertaking of a sustainability screening method for the assessment of defossilised supply chains

Edward G. Platt and Peter Styring*

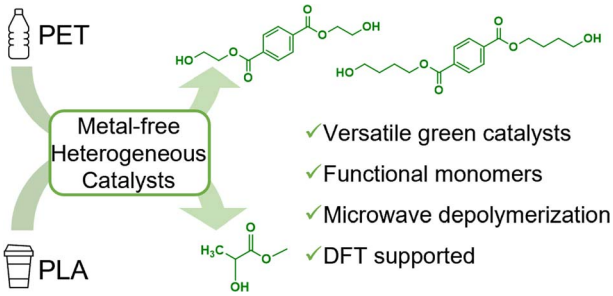
1030

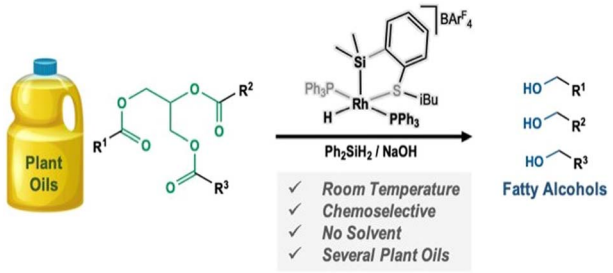


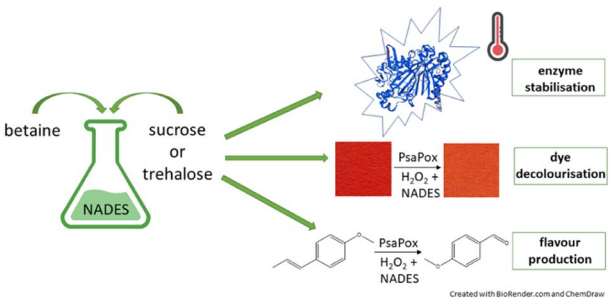
High degree of silanization of olive wood shell stone and its use in polyester biocomposites

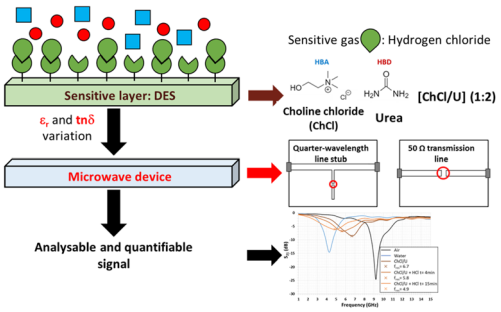
Melissa Olmedo-Navarro, Juana M. Pérez,* Natalia Gutiérrez-Segura, Bernardo Sánchez-Sevilla, Yolanda Soriano-Jerez, Diego A. Alonso, Mari Carmen Cerón and Ignacio Fernández*

PAPERS









PAPERS

PAPERS