

# RSC Sustainability

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## IN THIS ISSUE

ISSN 2753-8125 CODEN RSSUAN 2(8) 2045–2392 (2024)



**Cover**  
See Peter Thissen *et al.*, pp. 2092–2124. Image reproduced by permission of Peter Thissen from *RSC Sustainability.*, 2024, 2, 2092.

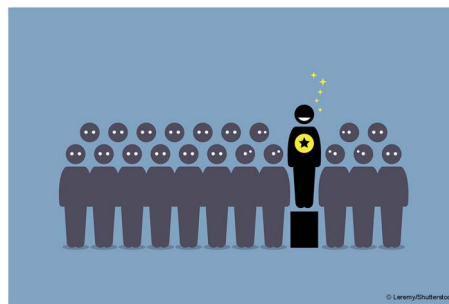


**Inside cover**  
See Karen Valadez-Villalobos and Matthew L. Davies, pp. 2057–2068. Image reproduced by permission of Karen Valadez-Villalobos and Matthew L. Davies from *RSC Sustainability.*, 2024, 2, 2057.

## EDITORIAL

2056

### Outstanding Reviewers for *RSC Sustainability* in 2023

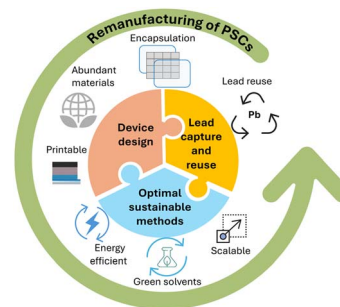


## CRITICAL REVIEWS

2057

### Remanufacturing of perovskite solar cells

Karen Valadez-Villalobos and Matthew L. Davies



# Environmental Science: Atmospheres

GOLD  
OPEN  
ACCESS

Connecting communities  
and inspiring new ideas

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Fundamental questions  
Elemental answers

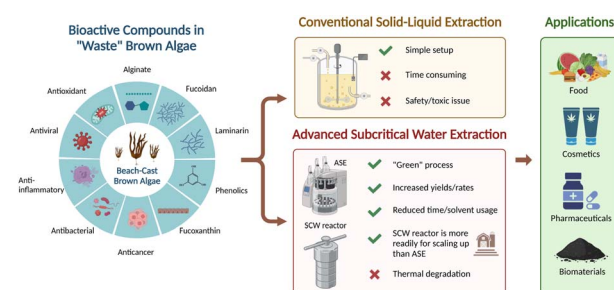


## CRITICAL REVIEWS

2069

### Extraction of bioactive compounds from beach-cast brown algae: a review on accelerated solvent extraction and subcritical water extraction

Yu Zhang,\* Kelly Hawboldt and Stephanie MacQuarrie

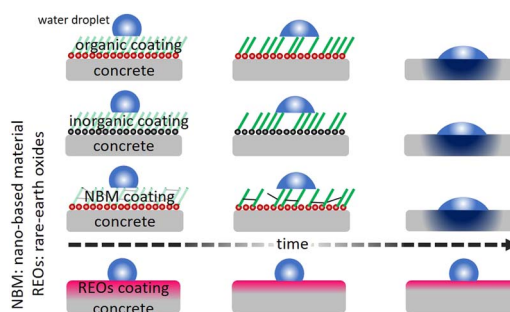


## TUTORIAL REVIEWS

2092

### Surface treatments on concrete: an overview on organic, inorganic and nano-based coatings and an outlook about surface modification by rare-earth oxides

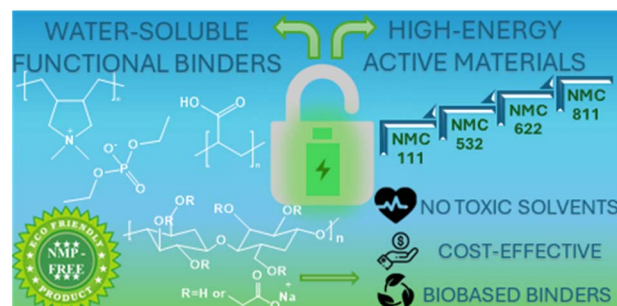
Peter Thissen,\* Andreas Bogner and Frank Dehn



2125

### Unlocking sustainable power: advances in aqueous processing and water-soluble binders for NMC cathodes in high-voltage Li-ion batteries

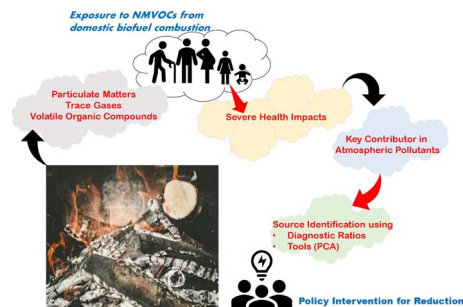
Ana Clara Rolandi, Iratxe de Meatza, Nerea Casado, Maria Forsyth, David Mecerreyes\* and Cristina Pozo-Gonzalo\*



2150

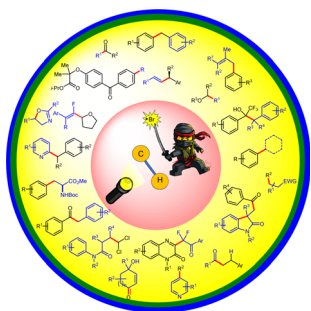
### Analyzing the interconnected dynamics of domestic biofuel burning in India: unravelling VOC emissions, surface-ozone formation, diagnostic ratios, and source identification

Arnab Mondal, Surajit Mondal,\* Paulami Ghosh and Papita Das



## TUTORIAL REVIEWS

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### Visible light-induced bromine radical enhanced hydrogen atom transfer (HAT) reactions in organic synthesis

Barakha Saxena, Roshan I. Patel and Anuj Sharma\*

## PERSPECTIVE

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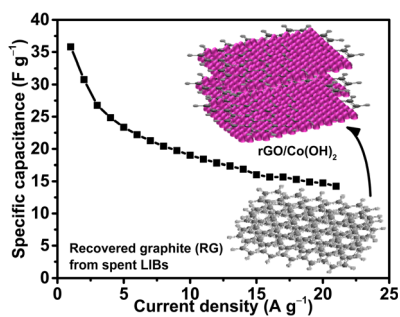


### A greener prescription: the power of natural organic materials in healthcare

João V. Paulin

## PAPERS

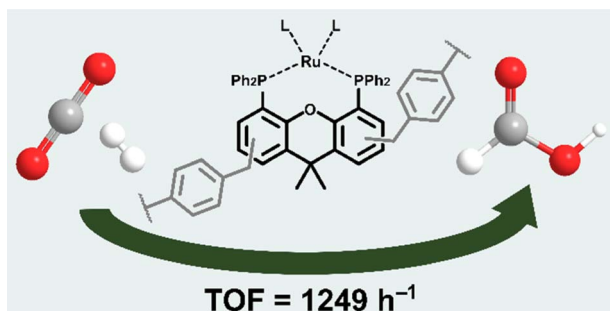
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### Reduced graphene oxide from dead Li-ion batteries with $\beta$ -Co(OH)<sub>2</sub> as a potential electrode for enhanced charge storage capabilities

Aranganathan Viswanathan\* and Vanchiappan Aravindan\*

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### A solid xantphos macroligand based on porous organic polymers for the catalytic hydrogenation of CO<sub>2</sub>

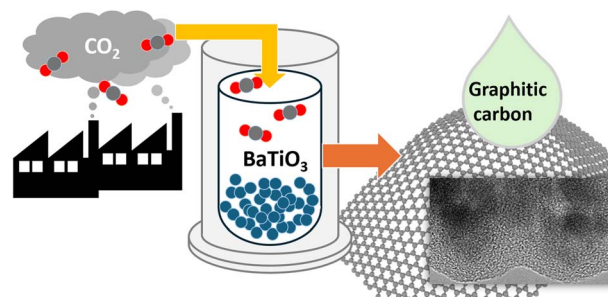
Arne Nisters, Torsten Gutmann, Sun-Myung Kim, Jan Philipp Hofmann and Marcus Rose\*



2218

### Pressure-dependent CO<sub>2</sub> thermolysis on barium titanate nanocatalysts

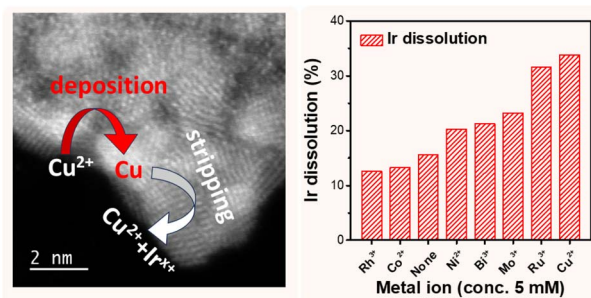
Smita Takawane, Masatoshi Miyamoto, Takumi Watanabe and Tomonori Ohba\*



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### Enhanced electrochemical dissolution of iridium oxide in acidic electrolytes through presence of metal ions: shortened lifetime and hope for recovery

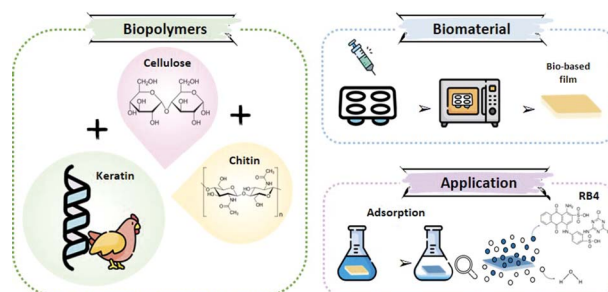
Raghunandan Sharma,\* Per Morgen, Darko Makovec, Saso Gyergyek and Shuang Ma Andersen\*



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### Ionic-liquid-processed keratin-based biocomposite films with cellulose and chitin for sustainable dye removal

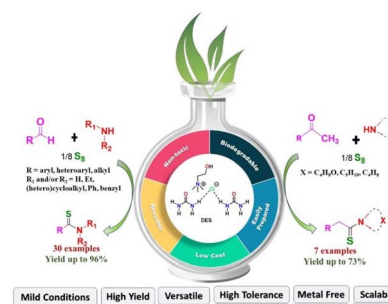
Cariny Polesca, Helena Passos, Pedro Y. S. Nakasu, João A. P. Coutinho, Mara G. Freire\* and Jason P. Hallett\*



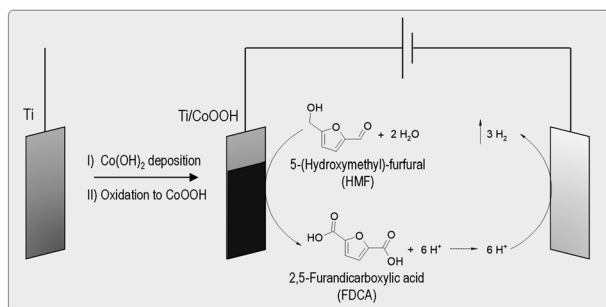
2249

### Green synthesis of thioamide derivatives in an environmentally benign deep eutectic solvent (DES)

Susmita Mandal, Archana Jain\* and Tarun K. Panda\*



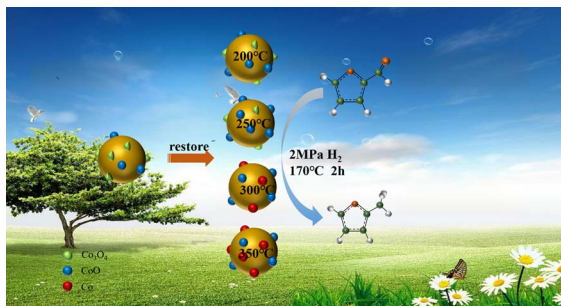
2256



### CoOOH-catalyzed anodic oxidation of 5-(hydroxymethyl)-furfural under non-alkaline conditions

Marten Niklas Gey and Uwe Schröder\*

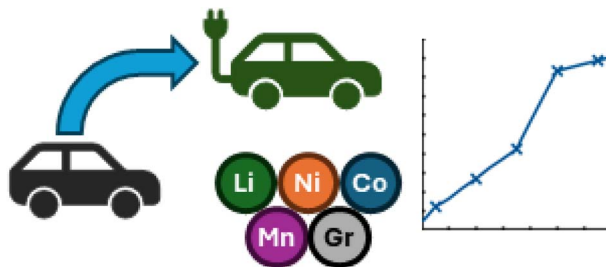
2267



### Catalytic synthesis of renewable 2-methylfuran from furfural

Yuanyuan Han, Xing Zhang, Wei Wang, Shaobo Guo, Xiaohui Ji\* and Guangyi Li\*

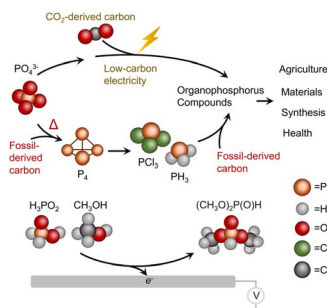
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### Future material demand and greenhouse gas emissions implications for electrification of the UK light-duty vehicle fleet

Ben Davies,\* Jorge A. Llamas-Orozco, Fanran Meng,\* I. Daniel Posen, Heather L. MacLean, Amir F. N. Abdul-Manan and Jon McKechnie

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### Dimethylphosphite electrosynthesis from inorganic phosphorus building blocks via oxidative coupling

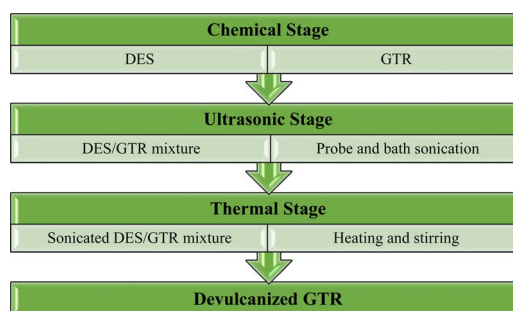
Junnan Li, Hossein Bemana and Nikolay Kornienko\*



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## Green and sustainable devulcanization of ground tire rubber using choline chloride–urea deep eutectic solvent

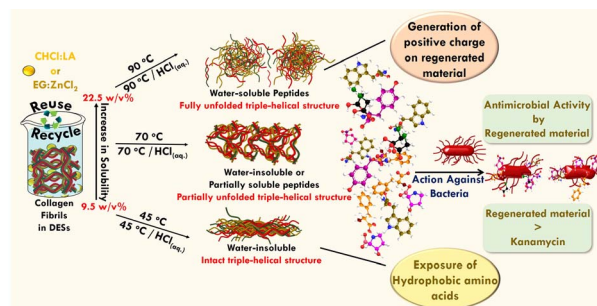
Hesam Ramezani,\* Fabrizio Scarpa, Qicheng Zhang, Wenfei Ji, Afifeh Khorramshokouh, Sebastien Rochat, Jean-Charles Eloi, Robert L. Harniman and Vijay K. Thakur



2312

## Sustainable dissolution of collagen and the formation of polypeptides in deep eutectic solvents for application as antibacterial agents

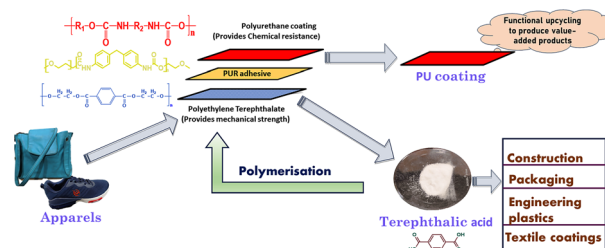
Harmandeep Kaur, Manpreet Singh, Navdeep Kaur, Pratap Kumar Pati, Monika Rani and Tejwant Singh Kang\*



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## A facile approach towards recycling of polyurethane coated PET fabrics

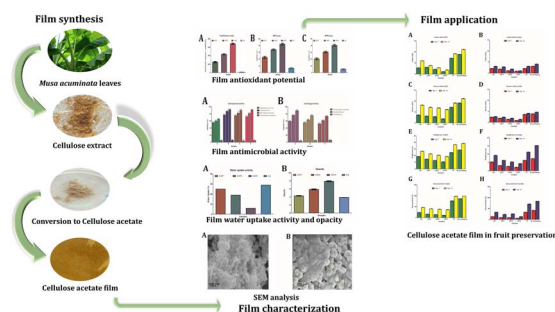
Meenakshisundaram Vaishali, Sathyaraj Gopal and Kalarical Janardhanan Sreeram\*



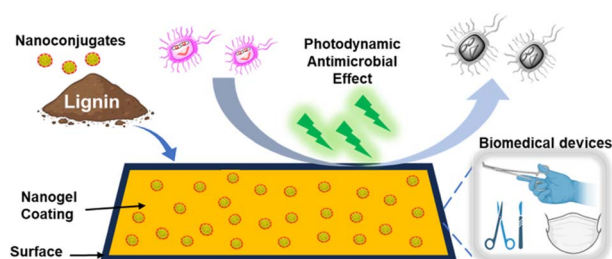
2335

## Preparation and evaluation of bioactive cellulose acetate films from *Musa acuminata*

Achuth Jayakrishnan,\* Shirin Shahana and Reshma Ayswaria



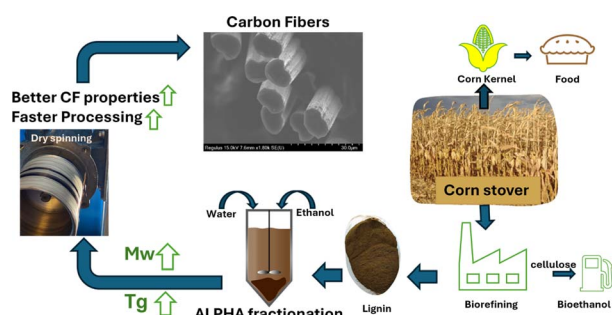
2348



### Lignin-based sustainable antifungal gel nanocoatings for disinfecting biomedical devices

Sanjam Chandna, Kunal Gogde, Shatabdi Paul and Jayeeta Bhaumik\*

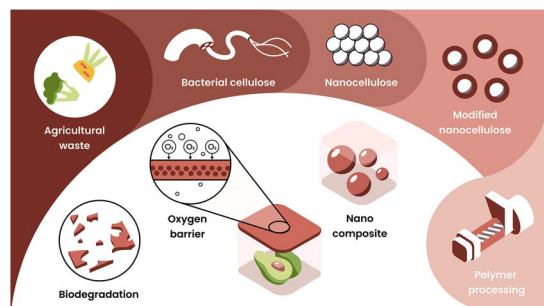
2357



### Carbon fibers derived from environmentally benign, ethanol-fractionated corn-stover lignin

Sagar V. Kanhere, Bronson Lynn, Mark C. Thies\* and Amod A. Ogale\*

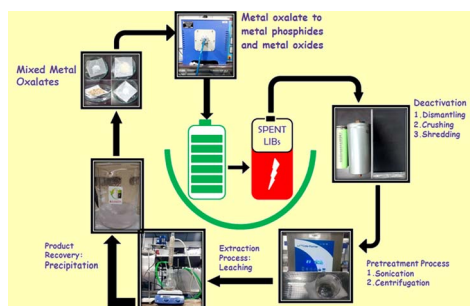
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### Sustainable food packaging using modified kombucha-derived bacterial cellulose nanofillers in biodegradable polymers

Mikhail Koreshkov,\* Yuuki Takatsuna, Alexander Bismarck, Ines Fritz, Erik Reimhult and Ronald Zirbs\*

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### Environment-friendly acids for leaching transition metals from spent-NMC532 cathode and sustainable conversion to potential anodes

Anjali V. Nair, Silpasree S. Jayasree, Dona Susan Baji, Shantikumar Nair and Dhamodaran Santhanagopalan\*





## CORRECTION

2389

**Correction: Cleaning steel by devulcanizing rubber from used automotive tires**

Yang Chen, Saleh Ibrahim, Sijia Zheng, Liam Wittenberg, Spencer Chapple, Griffin LaChapelle, Cheok Hang Iao, Adam Bourke and Michael A. Brook\*

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