

# Sustainable Energy & Fuels

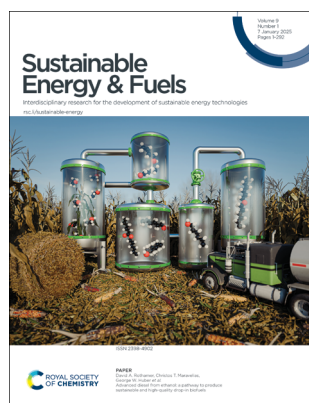
Interdisciplinary research for the development of sustainable energy technologies

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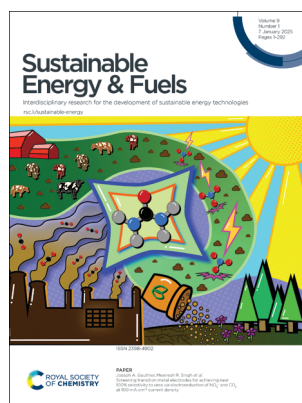
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## IN THIS ISSUE

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**Cover**  
See David A. Rothamer, Christos T. Maravelias, George W. Huber *et al.*, pp. 98–114.  
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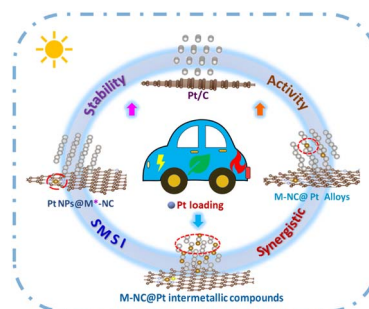
**Inside cover**  
See Joseph A. Gauthier, Meenesh R. Singh *et al.*, pp. 115–128. Image reproduced by permission of Meenesh R. Singh, Crystal Price and Joseph Gauthier from *Sustainable Energy Fuels*, 2025, 9, 115.

## REVIEWS

10

### Recent advances in atomically dispersed M–N–C coupled Pt-based oxygen reduction catalysts

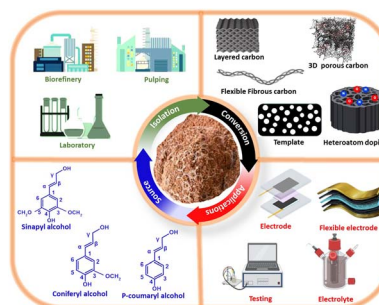
Zigang Zhao, Lezhi Zhan, Pan Guo, Yunkun Dai, Lixiao Shen,\* Yunlong Zhang,\* Guiling Wang,\* Zhenbo Wang\* and Lei Zhao\*



28

### Lignin as a sustainable precursor for electrodes and electrolytes of emerging supercapacitors

Ridwan T. Ayinla, Islam Elsayed and El Barbary Hassan\*



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# EES Batteries

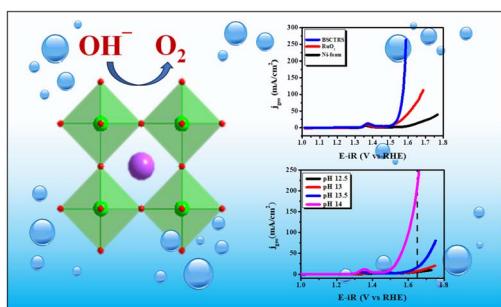
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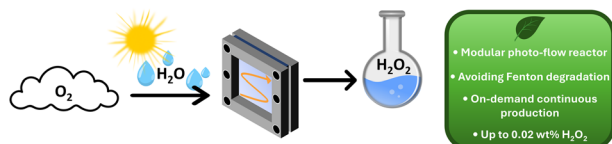
129



### Harnessing lattice oxygens in a high-entropy perovskite oxide for enhanced oxygen evolution reaction

Sujan Sen and Tapas Kumar Mandal\*

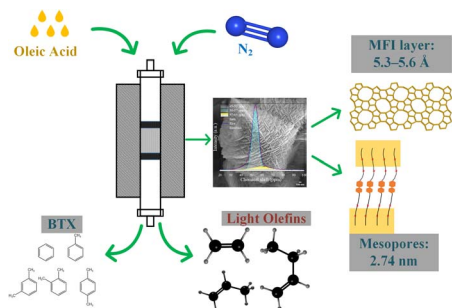
141



### Photochemical on-demand production of hydrogen peroxide in a modular flow reactor

Thomas Freese, Jelmer T. Meijer, Matteo Miola, Paolo P. Pescarmona and Ben L. Feringa\*

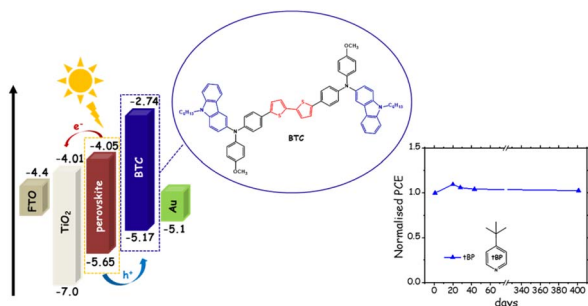
152



### Hierarchical ZSM-5 nanosheets for production of light olefins and aromatics by catalytic cracking of oleic acid

Haoyu Liu, Wenbo Luo, Ke Wang, Yanlin Wang and Hong Yuan\*

172



### Cooperating with additives: low-cost hole-transporting materials for improved stability of perovskite solar cells

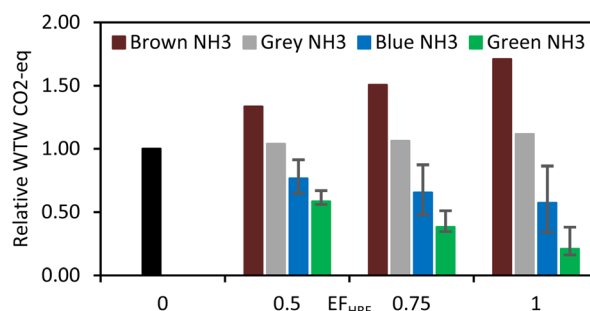
Paavo Mäkinen, Daniele Conelli, G. Krishnamurthy Grandhi, Gian Paolo Suranna, Paola Vivo\* and Roberto Grisorio\*



185

## Technical, environmental and economic analysis of utilizing hydrogen-rich fuel in decarbonized container ships

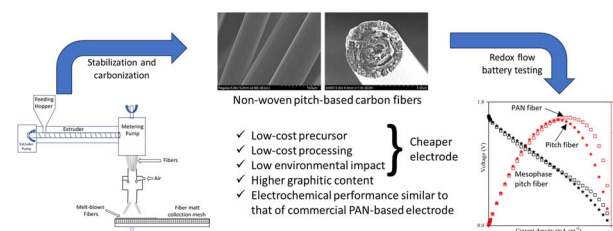
Payam Shafie,\* Alain DeChamplain and Julien Lepine



198

## Non-woven pitch-based carbon fiber electrodes for low-cost redox flow battery

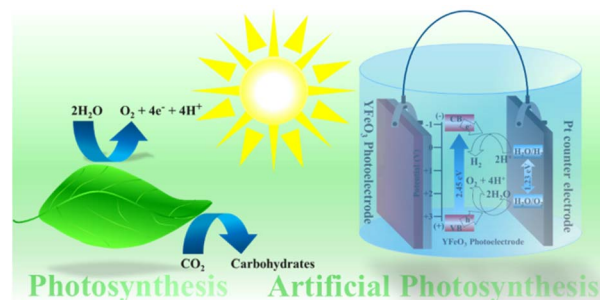
Abena A. Williams, Sagar V. Kanhere, Amod A. Ogale and Mark E. Roberts\*



208

## YFO photocathode fabricated via spray pyrolysis for unassisted solar water splitting for generation of hydrogen fuel

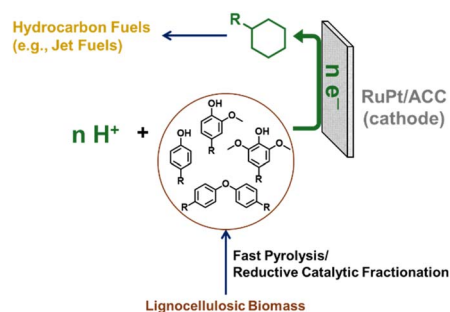
Bandar Y. Alfaifi, Hameed Ullah,\* Xin Jiang\* and Asif Ali Tahir\*



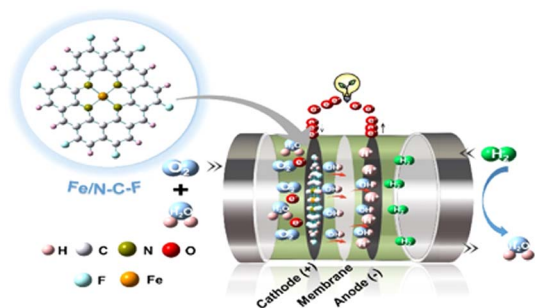
217

## Electrocatalytic conversion of biomass-derived oxygenated aromatics to cycloalkanes

Meheryar R. Kasad, James E. Jackson and Christopher M. Saffron\*



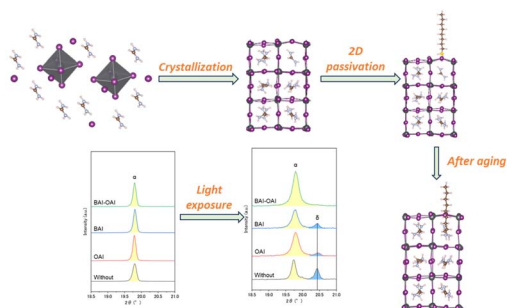
231



### Fluorine-rich Schiff base ligand derived Fe/N–C–F and Co/N–C–F catalysts for the oxygen reduction reaction: synthesis, experimental validation, and DFT insights

Sumanta Kumar Das, Shaik Gouse Peera, Aiswarya Kesh, Prabakaran Varathan and Akhila Kumar Sahu\*

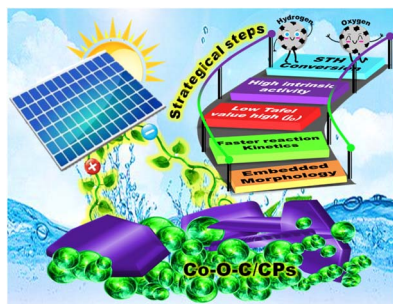
247



### Mixed 2D-cation passivation towards improved durability of perovskite solar cells and dynamics of 2D-perovskites under light irradiation and at high temperature

Santa Mondal, Naoto Eguchi, Naoyuki Nishimura, Yoyo Hinuma, Kohei Yamamoto, Atsushi Kogo, Takuro N. Murakami\* and Hiroyuki Kanda\*

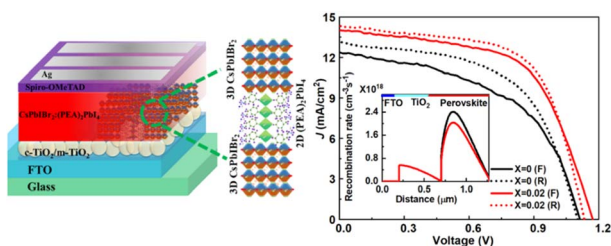
256



### Interfacial engineering of a bifunctional electrocatalyst with outstanding catalytic performance, high intrinsic activity and solar-to-hydrogen conversion efficiency

Muthukumar Sangamithirai, Murugan Vijayarangan, Murugan Muthamildevi, Venkatachalam Ashok and Jayaraman Jayabharathi\*

269



### Bulk passivation and suppressing non-radiative recombination loss in a 3D all-inorganic CsPbI<sub>2</sub>Br<sub>2</sub> perovskite solar cell via a 2D layered perovskite framework

Tapas Das, Faisal Farooq, Parul Garg, Sakal Singla, Asim Guchhait\* and Ashok Bera\*



280

## Cobalt-doped vanadium nitride composite carbon hollow spheres for enhanced lithium–sulfur battery performance: overcoming sulfur dissolution and the shuttle effect

Jiangnan Zhang, Yanshuang Meng\* and Fuliang Zhu\*

