

Sustainable Energy & Fuels

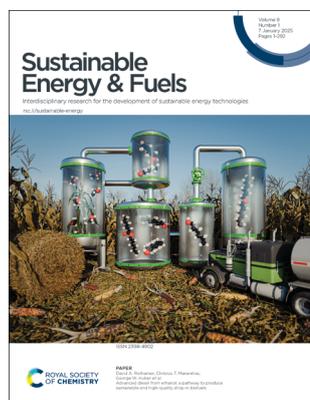
Interdisciplinary research for the development of sustainable energy technologies

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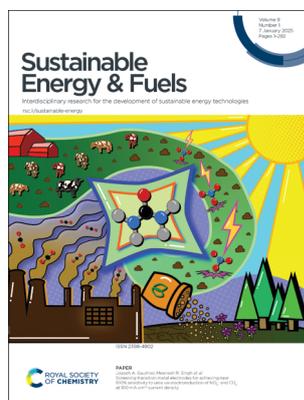
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Cover
See David A. Rothamer, Christos T. Maravelias, George W. Huber *et al.*, pp. 98–114.
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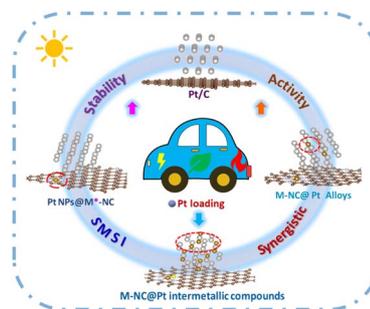
Inside cover
See Joseph A. Gauthier, Meenesh R. Singh *et al.*, pp. 115–128. Image reproduced by permission of Meenesh R. Singh, Crystal Price and Joseph Gauthier from *Sustainable Energy Fuels*, 2025, 9, 115.

REVIEWS

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

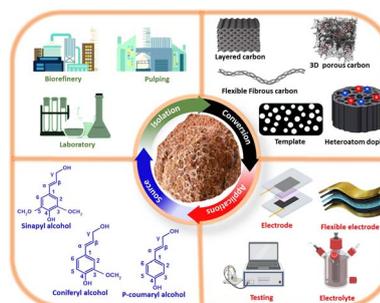
Zigang Zhao, Lezhi Zhan, Pan Guo, Yunkun Dai, Lixiao Shen,* Yunlong Zhang,* Guiling Wang,* Zhenbo Wang* and Lei Zhao*



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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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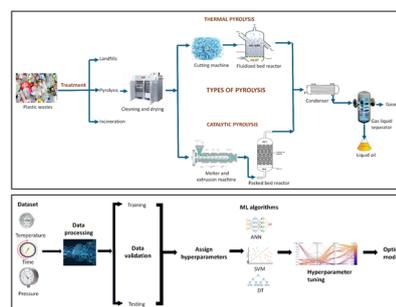
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REVIEWS

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Advances in plastic to fuel conversion: reactor design, operational optimization, and machine learning integration

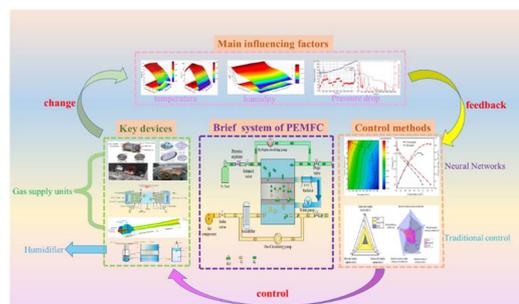
Karnatakam Paavani, Krutika Agarwal, Shah Saud Alam,*
Srikanta Dinda and Lyman Abrar*



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A review of water management in proton exchange membrane fuel cell systems

Peihan Qi, Zhenxing Wu,* Jiegang Mou, Denghao Wu,
Yunqing Gu, Maosen Xu, Zekai Li and Yang Luo

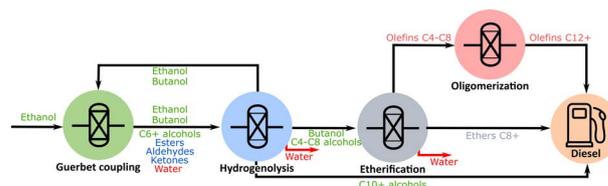


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Advanced diesel from ethanol: a pathway to produce sustainable and high-quality drop-in biofuels

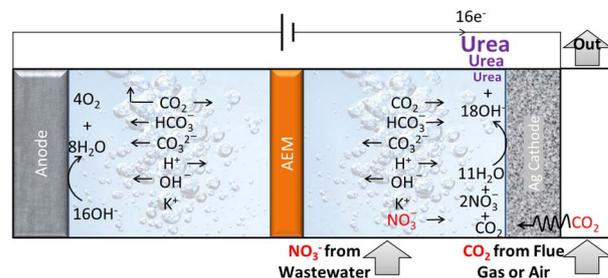
Juan-Manuel Restrepo-Flórez, Javier E. Chavarrio,
Emmanuel Canales, Dustin Witkowski,
Srinath Subramanian, Paolo Cuello-Peñaloza,
David A. Rothamer,* Christos T. Maravelias*
and George W. Huber*



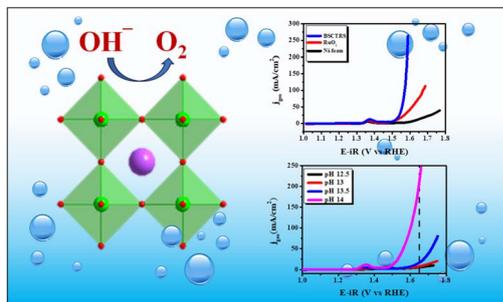
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Screening transition metal electrodes for achieving near 100% selectivity to urea via electroreduction of NO₃⁻ and CO₂ at 100 mA cm⁻² current density

Nishithan C. Kani, Ishita Goyal, Samuel A. Olusegun,
Sreenivasulu Chinnabattigalla, Rajan R. Bhawnani,
Ksenija D. Glusac, Joseph A. Gauthier*
and Meenesh R. Singh*



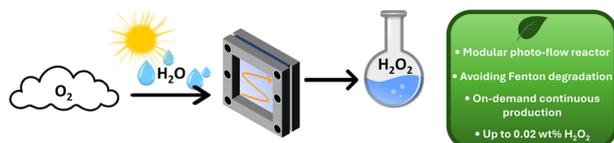
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Harnessing lattice oxygens in a high-entropy perovskite oxide for enhanced oxygen evolution reaction

Sujan Sen and Tapas Kumar Mandal*

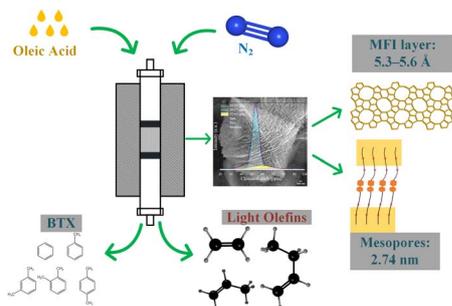
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Photochemical on-demand production of hydrogen peroxide in a modular flow reactor

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

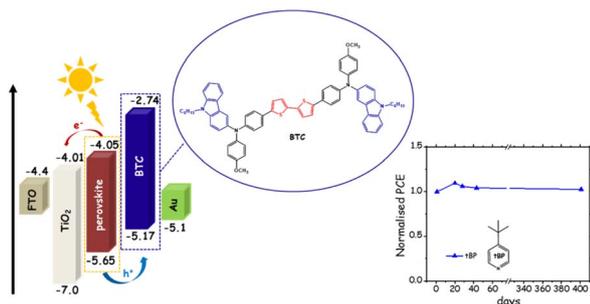
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Hierarchical ZSM-5 nanosheets for production of light olefins and aromatics by catalytic cracking of oleic acid

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

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

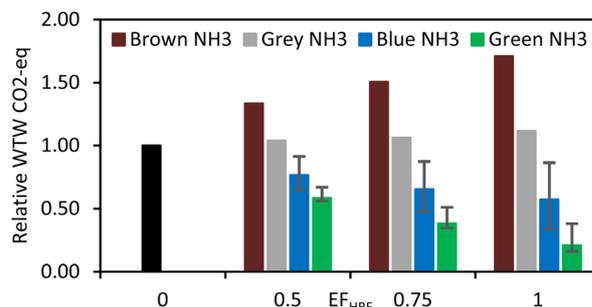
Paavo Mäkinen, Daniele Conelli, G. Krishnamurthy Grandhi, Gian Paolo Suranna, Paola Vivo* and Roberto Grisorio*



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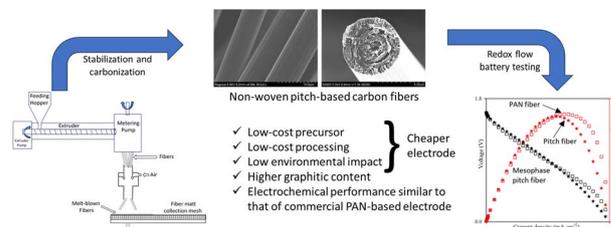
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Non-woven pitch-based carbon fiber electrodes for low-cost redox flow battery

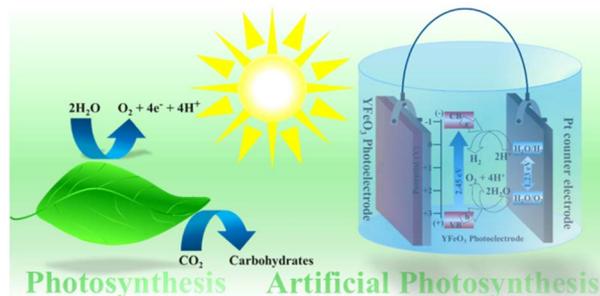
Abena A. Williams, Sagar V. Kanhere, Amod A. Ogale and Mark E. Roberts*



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

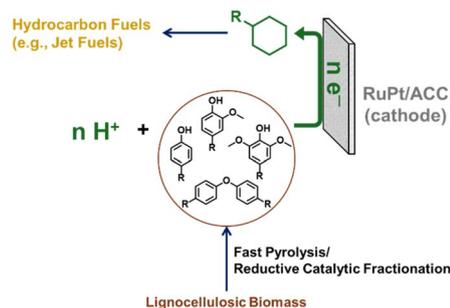
Bandar Y. Alfaifi, Hameed Ullah,* Xin Jiang* and Asif Ali Tahir*



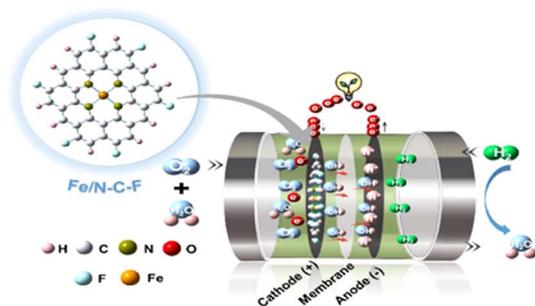
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Electrocatalytic conversion of biomass-derived oxygenated aromatics to cycloalkanes

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



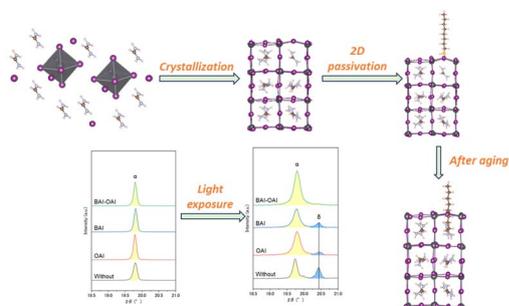
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Fluorine-rich Schiff base ligand derived Fe/N–C–F and Co/N–C–F catalysts for the oxygen reduction reaction: synthesis, experimental validation, and DFT insights

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

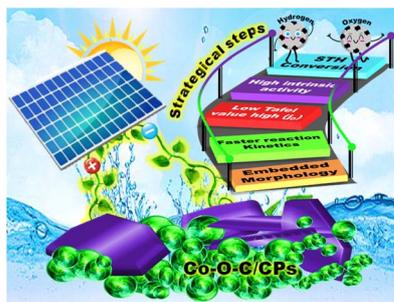
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Mixed 2D-cation passivation towards improved durability of perovskite solar cells and dynamics of 2D-perovskites under light irradiation and at high temperature

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

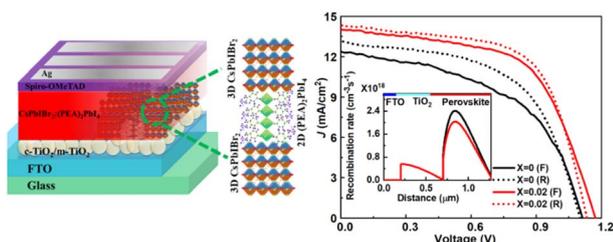
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Interfacial engineering of a bifunctional electrocatalyst with outstanding catalytic performance, high intrinsic activity and solar-to-hydrogen conversion efficiency

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

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



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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*

