

Sustainable Energy & Fuels

Interdisciplinary research for the development of sustainable energy technologies

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EDITORIAL

1812

Sustainable Energy & Fuels 2025 Outstanding Papers

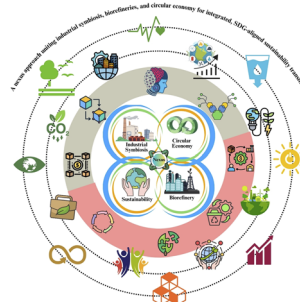


REVIEWS

1816

Toward sustainable industry: integrating industrial symbiosis, biorefineries, and circular economy for SDG alignment

Arun Barathi, Debajyoti Kundu,* Kumari Pooja, Madhava Surya, Samuel Jacob, Palas Samanta, Vineet Kumar and Arindam Kuila



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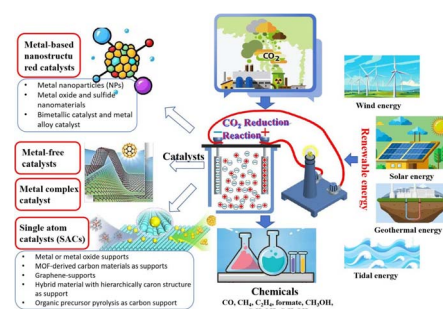
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REVIEWS

1845

The role of single-atom catalysts in CO₂ electroreduction: insights into performance, design, and future perspectives

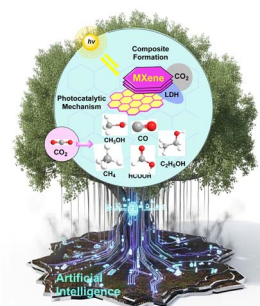
Yudong Liu, Yongchao Niu, Weinan Wang, Yani Hua,*
Yue Huang, Ao Wang and Zhan Gao*



1868

Advances in interfacial engineering of MXene-based photocatalysts for solar CO₂ conversion

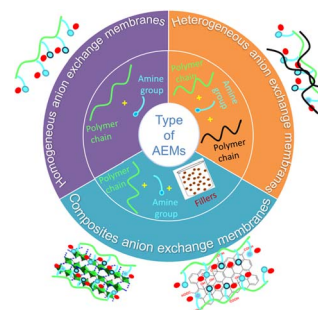
Lucky Panwar, Sahil Kohli,* Indrani Jha and Garima Rathee*



1906

Unveiling the recent progress in anion exchange membranes and their composites for fuel cells and water electrolyzer applications

Valerie Giscard Seyep Nguengang and Singaram Vengatesan*

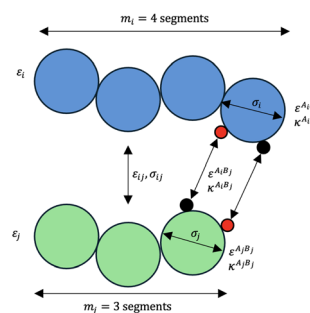


PAPERS

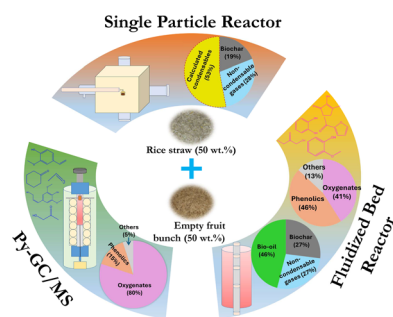
1947

Thermophysical characterization of a new potential bio-oxygenate fuel formed by hexane, ethanol and diethyl carbonate

Ariel. Hernández, Marcela. Cartes and Andrés. Mejía*



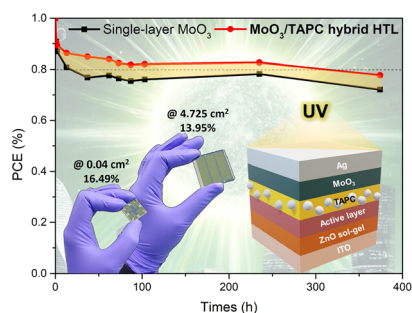
1959



Co-pyrolysis of rice straw and empty fruit bunch: effects of blending on product yields and bio-oil composition

Mahendra Tiwari, Meheretu Jaleta Dirbeba,*
Alessandro Ruoizzi, Juho Lehmusto, Patrik Yrjas and
Ravikrishnan Vinu*

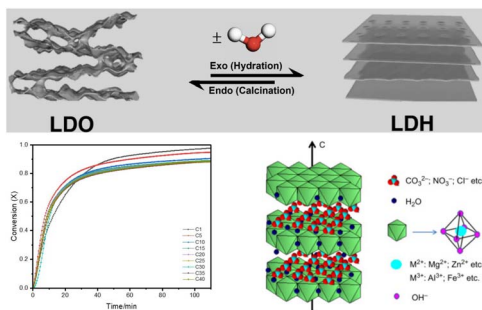
1973



Stability-oriented design of a MoO₃/TAPC hybrid bilayer hole transport layer for scalable organic solar cells

Ji Youn Kim, Ye Chan Kim and Doo Kyung Moon*

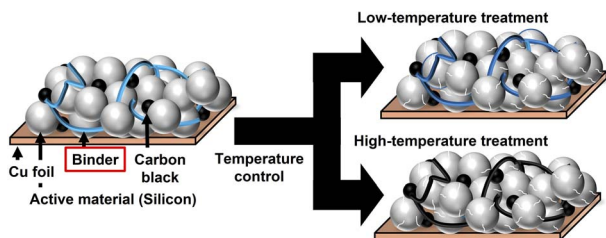
1981



Temperature controlled reversible hydration/dehydration reactions in MgAl-layered double hydroxides for thermochemical energy storage

Hmida Slimani,* Abdechafik El Harrak, Ayoub El Karch,
Saad Rmail, Hanane Ait Ousaleh and Abdessamad Faik

1997



Thermally controlled dual stabilization mechanisms of modified kenaf-derived lignin-based aqueous binders for silicon electrodes used in lithium-ion batteries

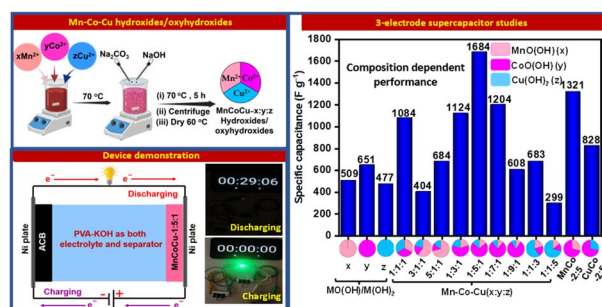
Tatsuki Hozumi, Reiichi Chiba, Masanori Ikeda,
Daisuke Tashima, Yusuke Abe, Seiji Kumagai* and
Takuya Eguchi*



2005

Engineering Mn–Co–Cu hydroxide/oxyhydroxide electrode materials: rational composition optimization for enhanced supercapacitor performance

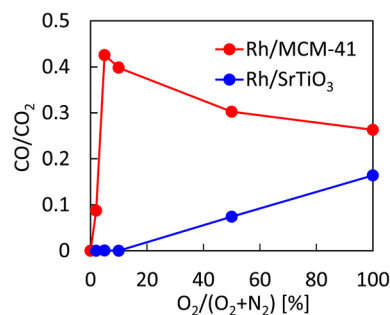
Venkatesan Gowsalya, Sankar Sarathkumar, Raji Yuvaraja, Sorna Pandian Anitha Juliet, Selvakumar Veeralakshmi and Selvan Nehru*



2021

Selective oxidation of polyolefins to carbon monoxide by photo-assisted catalysts

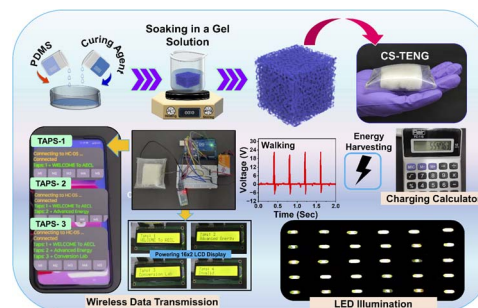
Hiroki Nagai, Hiroaki Kaneko, Yohei Cho, Akira Yamaguchi and Masahiro Miyauchi*



2028

Robust conductive gel-infused sponge-based triboelectric nanogenerator for reliable self-powered electronics and wireless monitoring

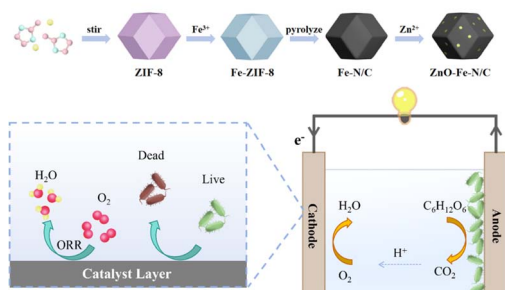
Sakshi Dhiman, Bables Gupta, Aayush Dabrey and Ranbir Singh*



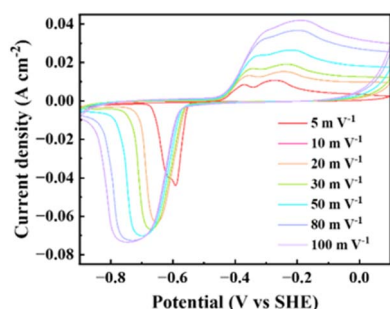
2040

ZnO-Fe-N/C bimetallic electrocatalysts with antibacterial activity for durable oxygen reduction in microbial fuel cells

Dong-Ni Ou, Fan-li Xiao, Qi-Wen Zhu, Hao-Peng Ye and Nan Li*



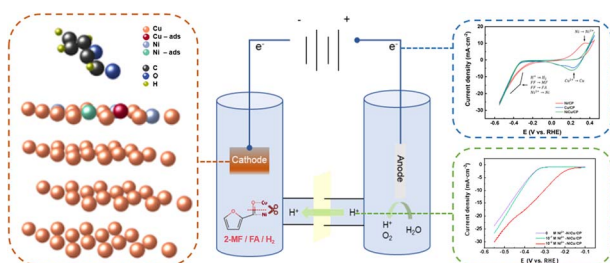
2051



Hybrid iodobismuthates formed by mechanochemical synthesis as pseudocapacitor electrode materials

Yishan Lu, Caroline Kirk* and Neil Robertson*

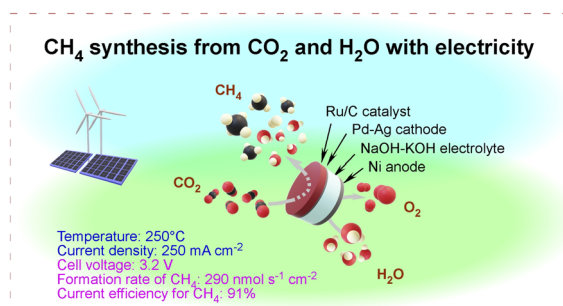
2059



Discussion on the mechanism of the electrocatalytic reduction of furfural using thermodynamic, voltammetry, and simulation methods

Yiming Cui, Ze Wang,* Jie Hao, Xiaoxia Li and Songgeng Li

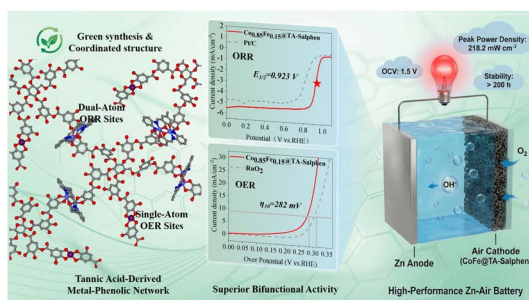
2070



Methane synthesis from CO₂ and H₂O with concentrated NaOH–KOH electrolyte at 200–250 °C using electrochemical Pd–Ag membrane reactor

Wakana Seki, Raisei Sagara, Aika Hirata and Jun Kubota*

2081



Tannic acid-derived metal–phenolic networks with dual-atom ORR and single-atom OER sites for bifunctional oxygen electrocatalysts

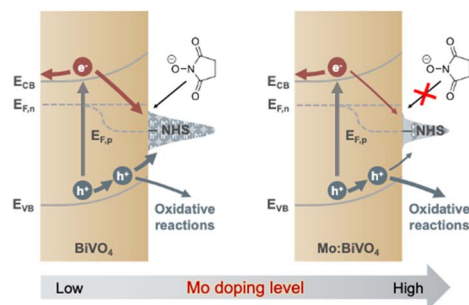
Shilong Wen, Zhen Zhang and Xikui Liu*



2090

Mitigating redox mediator-induced surface recombination for efficient photoelectrocatalytic benzyl alcohol oxidation on Mo-doped bismuth vanadate

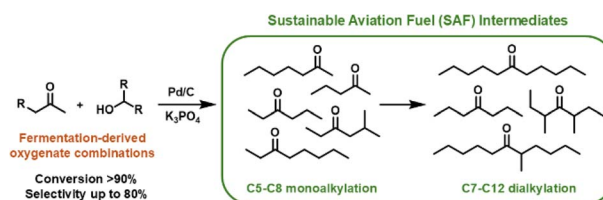
Chun-Chung Kuang, Yi-Wen Chen, Guan-Zhu Tu, Hong-Lin Chen, Jun-Lin Fong, Yi-Sheng Wang, Chia-Wei Chang, Jing-Yan Wu, Ting-Ting Chang, Chao-Hsien Chang, Hong-Kang Tian and Chang-Ming Jiang*



2101

Production of sustainable aviation fuel intermediates by Pd/C catalysed alkylation of combinations of fermentation-derived oxygenates

Pablo Doménech, Dimitra Iltsiou, Mateusz Zbigniew Zalewski, Betsy Kurisingal Joseph, Alex Toftgaard Nielsen, Søren Kegsnæs and Anders Riisager*



2110

A corrosion study of lithium-ion batteries during NaCl electrochemical discharge: mechanistic origins and Zn-based mitigation strategies

Hanna Sahivirta, Annukka Santasalo-Aarnio and Rodrigo Serna-Guerrero*

