

Sustainable Energy & Fuels

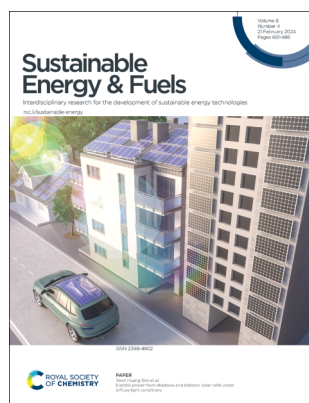
Interdisciplinary research for the development of sustainable energy technologies

rsc.li/sustainable-energy

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 2398-4902 CODEN SEFUA7 8(4) 661–886 (2024)



Cover
See Yeon Hyang Sim *et al.*, pp. 700–716. Image reproduced by permission of Seung I. Cha from *Sustainable Energy Fuels*, 2024, 8, 700.



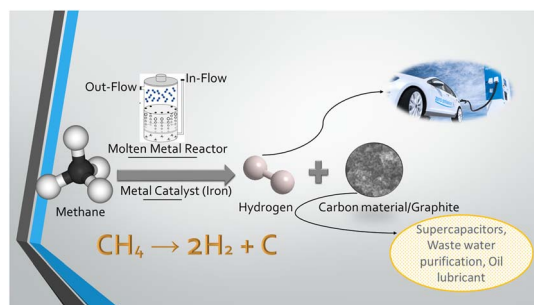
Inside cover
See Yuepeng Guan, Baoning Zhu, Yaqin Huang *et al.*, pp. 717–728. Image reproduced by permission of Yuepeng Guan, Baoning Zhu and Yaqin Huang from *Sustainable Energy Fuels*, 2024, 8, 717.

REVIEW

670

Methane conversion for hydrogen production: technologies for a sustainable future

Safia Hameed and Elisabetta Comini*

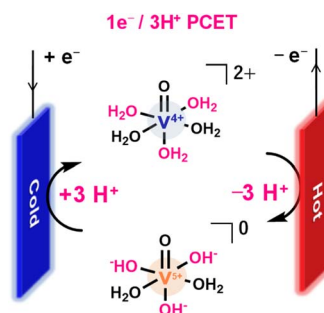


COMMUNICATIONS

684

An aqueous vanadium complex for the superior electrolyte of a thermo-electrochemical cell

Tepei Yamada,* Takashi Kobayashi, Yusuke Wakayama, Fumitoshi Matoba, Koichi Yatsuzuka, Nobuo Kimizuka and Hongyao Zhou



RSC Sustainability

GOLD
OPEN
ACCESS

Dedicated to sustainable
chemistry and new solutions

For an open, green and inclusive future

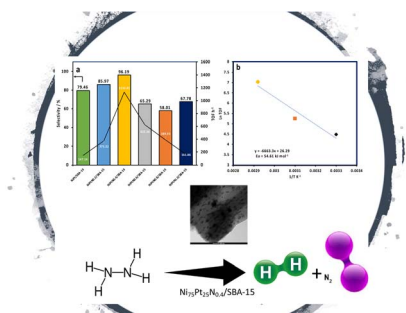
rsc.li/RSCSus

Fundamental questions
Elemental answers

689

Synthesis of an SBA-15 supported NiPtN catalyst for dehydrogenation of hydrazine hydrate

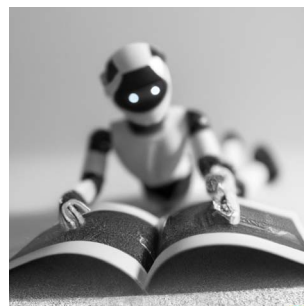
Muhammad Ridwan,* Risdha Maulida Afifah, Indri Yati and Rika Tri Yunarti



697

ChatGPT integration in perovskite research: unveiling pros and cons of AI integration for scientific advancements

Luigi Angelo Castriotta*

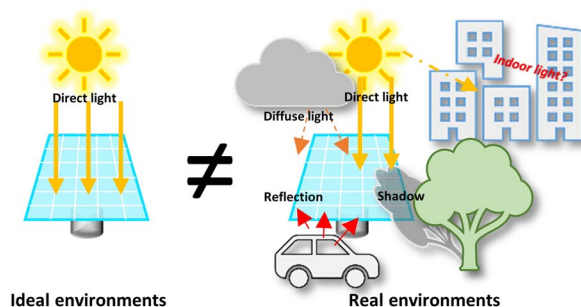


PAPERS

700

Electric power from shadows and indoors: solar cells under diffuse light conditions

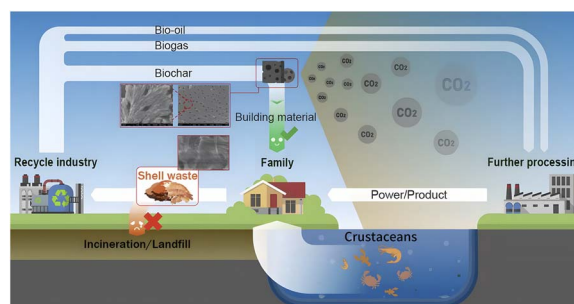
Yeon Hyang Sim, Min Ju Yun, Luthfan Fauzan, Hyekyoung Choi, Dong Yoon Lee and Seung I. Cha*



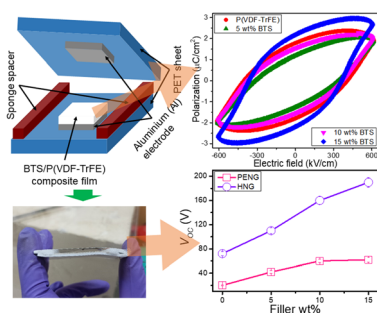
717

Management of waste crustacean shells for the construction of a carbon-negative circulation model

Xiaogang Sun, Zhen Du, Yimeng Wang, Yuepeng Guan,* Baoning Zhu* and Yaqin Huang*



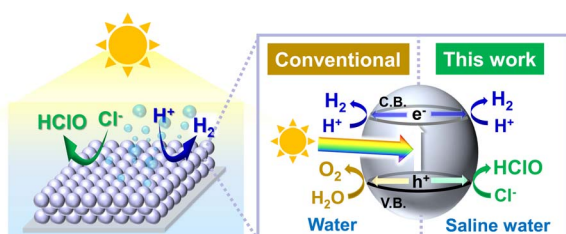
729



Morphotropic phase boundary-based BaTi_{0.89}Sn_{0.11}O₃ filler induced polarization tuned P(VDF-TrFE) composites as efficient piezo-tribo hybrid nanogenerators

Payel Maiti,^{*} Abhishek Sasmal, A. Arockiarajan and Rahul Mitra

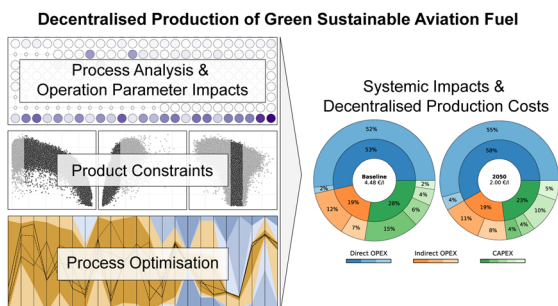
745



Solar-driven simultaneous production of hypochlorous acid and hydrogen from saline water over RhCrO_x-loaded SrTiO₃ photocatalyst systems

Sayuri Okunaka,^{*} Toshio Nakamura, Takeshi Ikeda, Kohei Tsuruda and Hiromasa Tokudome^{*}

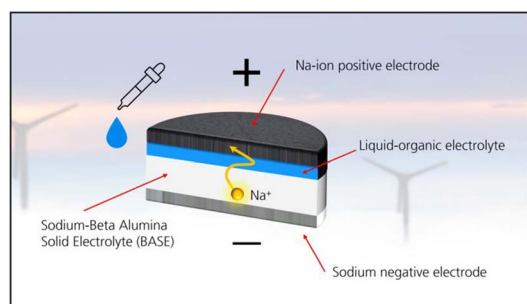
752



Decentralised production of e-fuels for aviation: implications and trade-offs of a targeted small-scale production of sustainable aviation fuel based on Fischer–Tropsch synthesis

Andreas Meurer,^{*} Patrick Jochem and Jürgen Kern

766



Modulating the cathode interface in sodium-beta alumina-based semi-solid-state sodium cells using liquid-organic electrolytes

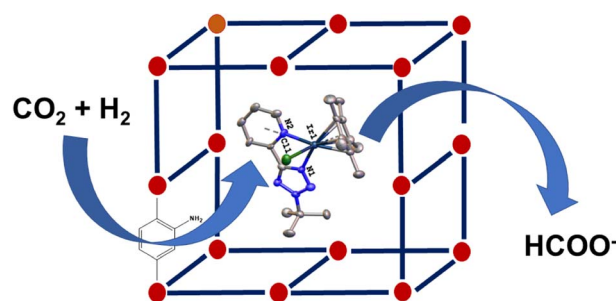
Micha P. Fertig,^{*} Christof Neumann, Matthias Schulz, Andrey Turchanin and Michael Stelter



777

A single site catalyst supported in mesoporous UiO-66 for catalytic conversion of carbon dioxide to formate

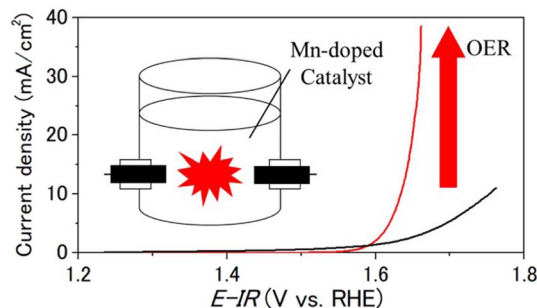
Maureen Gumbo, Edward Ocansey, Banothile C. E. Makhubela, Françoise M. Amombo Noa, Lars Öhrström, Obieda S. Mudraj and Gift Mehlana*



789

Solution plasma assisted Mn-doping: a novel strategy for developing highly durable and active oxygen evolution catalysts

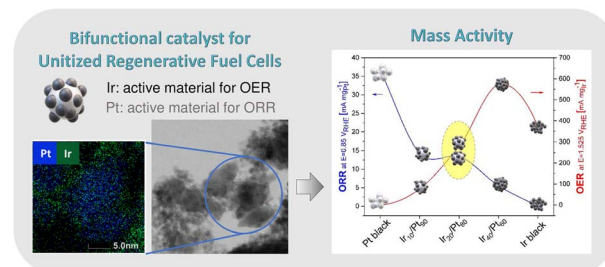
Hao He, Takeshi Matsuda, Akira Miura, Masanori Nagao, Jeevan Kumar Padarti, Tomoya Ohno and Shigeto Hirai*



797

Bifunctional Pt–Ir nanoparticle catalysts for oxygen reduction and evolution reactions: investigating the influence of surface composition on the catalytic properties

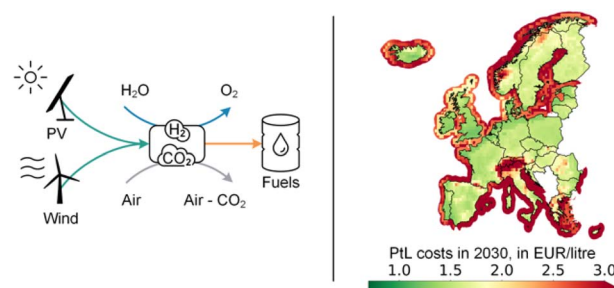
Lucinda Blanco-Redondo, Yevheniia Lobko,* Kateřina Veltruská, Jaroslava Nováková, Michal Mazur, Alina Madalina Darabut, Tomáš Hrbek, Milan Dopita, Jakub Hraníček, Yuriy Yakovlev, Iva Matolinová and Vladimír Matolín



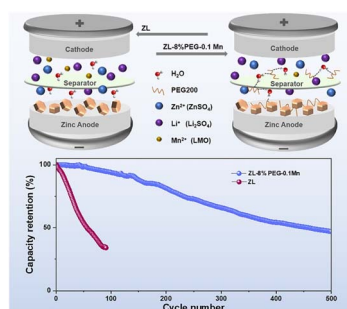
811

Future costs of power-to-liquid sustainable aviation fuels produced from hybrid solar PV-wind plants in Europe

Kyle Seymour,* Maximilian Held, Boris Stolz, Gil Georges and Konstantinos Boulouchos



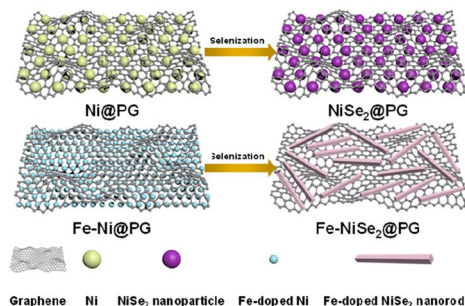
826



Highly improved aqueous Zn||LiMn₂O₄ hybrid-ion batteries using poly(ethylene glycol) and manganese sulfate as electrolyte additives

Jingyi Kong, Hanling Guo, Yuan Li, Min Gong, Xiang Lin, Liang Zhang and Dongrui Wang*

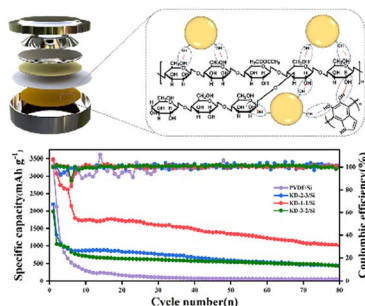
837



Flexible electrode of Fe-doped NiSe₂@porous graphene as binder-free anode for lithium-ion batteries

Caiyun Guo, Bo Zhang, Mengru Xiao, Mingming Hao, Liting Zhao, Xiaoting Zhang,* Hongyan Zhang* and Rui Wang*

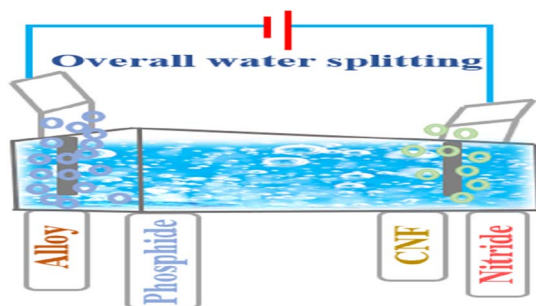
843



Nanoarchitectonics of 3D-networked bio-based binders for silicon anodes in lithium-ion batteries based on dynamic hydrogen bonding

Liang Yu, Meng Chang, Miaolan Zhang, Yuting Yang, Ken Chen, Tao Jiang, Dean Shi, Qunchao Zhang* and Jou You*

852



Electrospinning construction of a Fe–Ni-based multicomponent hybrid as synergistic electrocatalyst for water electrolysis

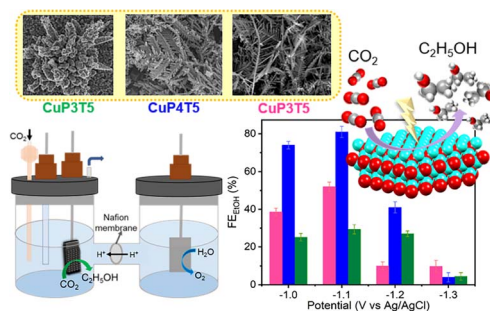
Jinping Wang, Xiaochao Ji, Lili Bo,* Liucheng Xia, Jiayao Fang, Xiaolin Guan, Haidong Yang and Jinhui Tong*



863

Fractal growth of a fern-like nanostructured Cu_2O film electrode for electrochemical reduction of CO_2 to ethanol

Deep Lata Singh, Ramasamy Shanmugam, Vineet Mishra and G. Ranga Rao*



873

Boosting sugarcane trash decomposition: synergistic action and proximity effect of xylanase and feruloyl esterase co-displayed on the cell surface of *Pichia pastoris* (*Komagataella phaffi*)

Apisan Phienluphon, Keiko Kondo, Hiroyuki Okano, Takashi Watanabe, Takashi Nagata* and Masato Katahira*

