

Energy Advances

rsc.li/energy-advances

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 2753-1457 CODEN EANDBJ 3(6) 1135-1460 (2024)



Cover

See Francisco J. Martin-Martinez *et al.*, pp. 1271–1282. Image reproduced by permission of Francisco J. Martin-Martinez from *Energy Adv.*, 2024, 3, 1271.



Inside cover

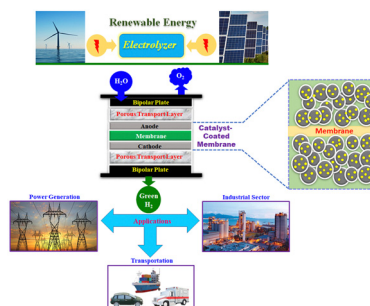
See Hsin-Yi Tiffany Chen, Tsan-Yao Chen *et al.*, pp. 1283–1292. Image reproduced by permission of Hsin-Yi Tiffany Chen from *Energy Adv.*, 2024, 3, 1283.

REVIEWS

1144

Recent advancements in catalyst coated membranes for water electrolysis: a critical review

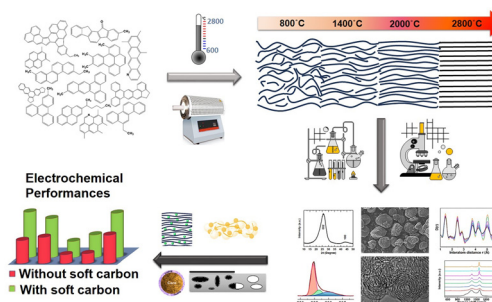
Rajangam Vinodh,* Tamilazhagan Palanivel, Shankara Sharanappa Kalanur and Bruno G. Pollet*



1167

Soft carbon in non-aqueous rechargeable batteries: a review of its synthesis, carbonization mechanism, characterization, and multifarious applications

Shuvajit Ghosh, Mohammad Zaid, Jyotirekha Dutta, Monira Parvin and Surendra K. Martha*



EES Catalysis

GOLD
OPEN
ACCESS

Exceptional research on energy and environmental catalysis

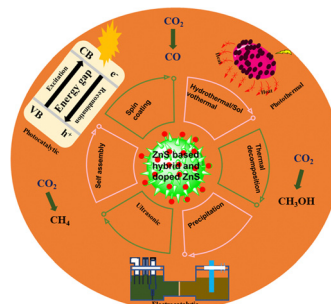
Open to everyone. Impactful for all

rsc.li/EESCatalysis

Fundamental questions
Elemental answers

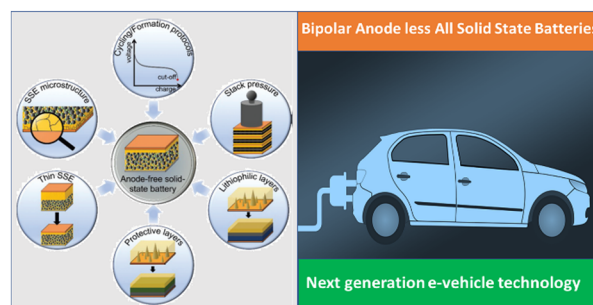


Onome Ejeromedoghene,* Khadijat Olabisi Abdulwahab,
Inemesit Asukwo Udofia, Moses Kumi and
Ayorinde Olufunke Nejo



A review on the transition from conventional to bipolar designs of anode-less all-solid-state batteries

Vikas Sharma,* Kushal Singh and Krishnamurthy Narayanan*



1238

The energy storage application of core-/yolk-shell structures in sodium batteries

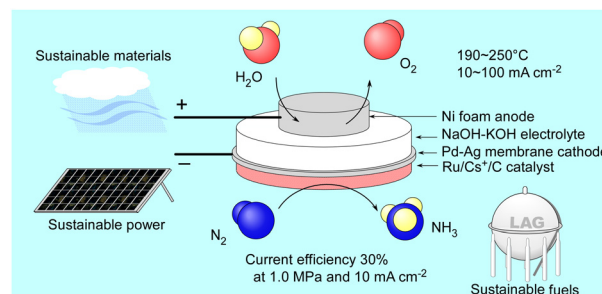
Anurupa Maiti,* Rasmita Biswal, Soumalya Debnath and Anup Bhunia*



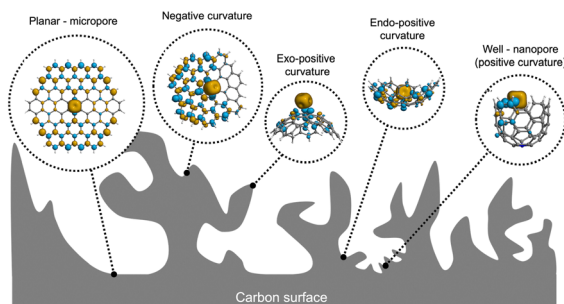
1265

Electrochemical-catalytic NH_3 synthesis from H_2O and N_2 using an electrochemical cell with a Ru catalyst, Pd–Ag membrane cathode, and NaOH–KOH molten salt electrolyte at 250 °C

Raisei Sagara, Rika Hayashi, Aika Hirata,
Shintaroh Nagaishi and Jun Kubota*



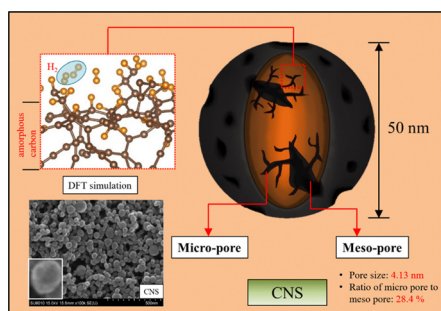
1271



Understanding the role of nitrogen-doping and surface topology in the binding of Fe(III)/Fe(II) to biobased carbon electrodes

Anna Bachs-Herrera, Isaac Vidal-Daza, Emre B. Boz, Antoni Forner-Cuenca and Francisco J. Martin-Martinez*

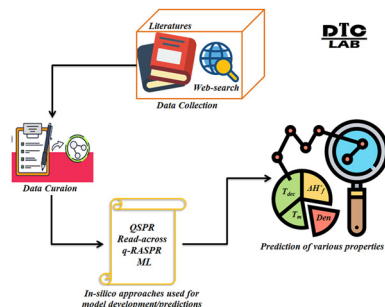
1283



Glucose-based highly-porous activated carbon nanospheres (g-ACNSs) for high capacity hydrogen storage

Fan-Gang Tseng, Dinesh Bhalothia, Kuan-Hou Lo, Cheng-Huei Syu, Ying-Cheng Chen, Amita Sihag, Che-Wen Wang, Hsin-Yi Tiffany Chen* and Tsan-Yao Chen*

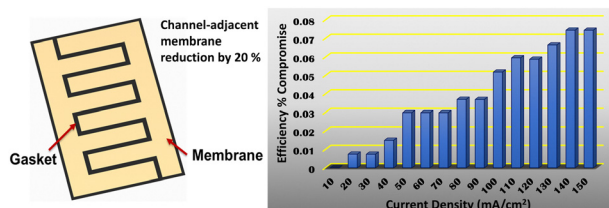
1293



Predicting the performance and stability parameters of energetic materials (EMs) using a machine learning-based q-RASPR approach

Shubham Kumar Pandey and Kunal Roy*

1307



Organized macro-scale membrane size reduction in vanadium redox flow batteries: part 2. Flow-field-informed membrane coverage distribution

Bronston P. Benetho, Abdulmonem Fetyan and Musbaudeen O. Bamgbopa*

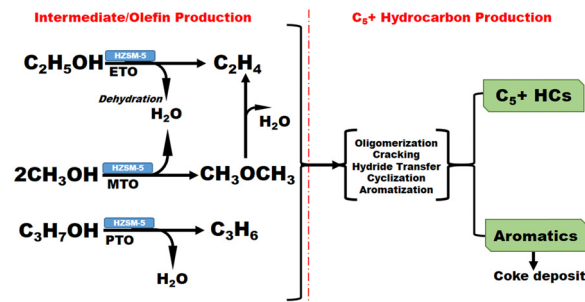


PAPERS

1314

Performance evaluation of a newly developed transition metal-doped HZSM-5 zeolite catalyst for single-step conversion of C_1 – C_3 alcohols to fuel-range hydrocarbons

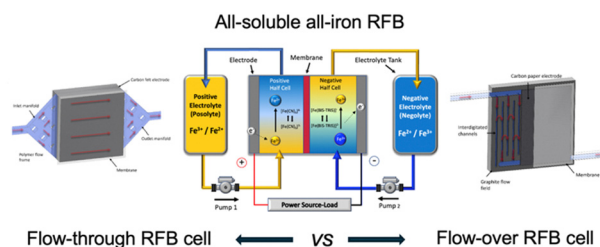
Ifeanyi Michael Smarte Anekwe,* Bilainu Oboirien and Yusuf Makarfi Isa



1329

All-iron redox flow battery in flow-through and flow-over set-ups: the critical role of cell configuration

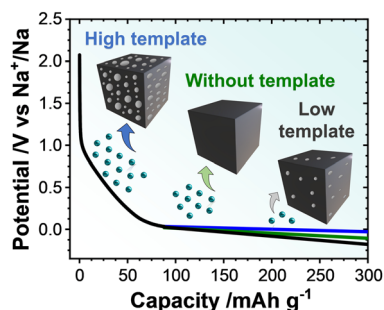
Josh J. Bailey, Maedeh Pahlevaninezhad, H. Q. Nimal Gunaratne, Hugh O'Connor, Kate Thompson, Pranav Sharda, Paul Kavanagh, Oana M. Istrate, Stephen Glover, Peter A. A. Klusener, Edward P. L. Roberts* and Peter Nockemann*



1342

The impact of templating and macropores in hard carbons on their properties as negative electrode materials in sodium-ion batteries

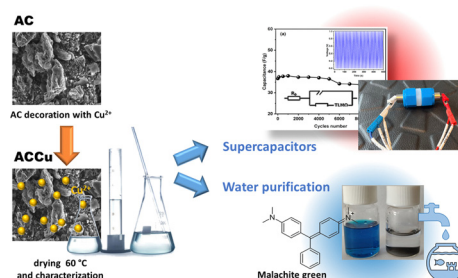
Sofiia Prykhodsk, Konstantin Schutjajew, Erik Troschke, Leonid Kabarov, Jonas Eichhorn, Felix H. Schacher, Francesco Walenzus, Daniel Werner and Martin Oschatz*



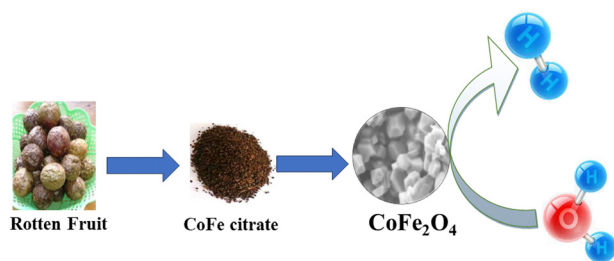
1354

Carbon framework modification; an interesting strategy to improve the energy storage and dye adsorption

Monika Michalska, Paulina Pietrzyk-Thel, Kamil Sobczak, Mathijs Janssen and Amrita Jain*



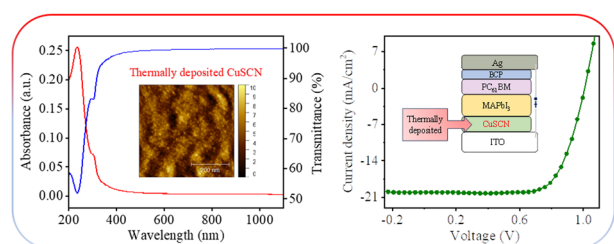
1367



Green synthesis of cobalt ferrite from rotten passion fruit juice and application as an electrocatalyst for the hydrogen evolution reaction

Rochelin Prosper Medang, Roussin Lontio Fomekong, Edwin Akongnwi Nforna, Hypolite Mathias Tedjiekeng Kamta, Cédrik Ngnintedem Yonti, Patrice Kenfack Tsobnang,* John Ngolui Lambi and Dieudonné Bitondo

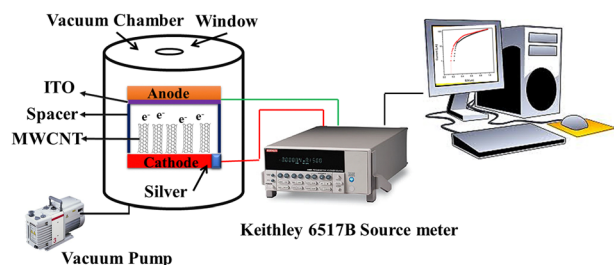
1375



Thermally deposited copper(I) thiocyanate thin film: an efficient and sustainable approach for the hole transport layer in perovskite solar cells

Rashi Kedia, Manisha Balkhandia, Manisha Khatak, Neeraj Chaudhary and Asit Patra*

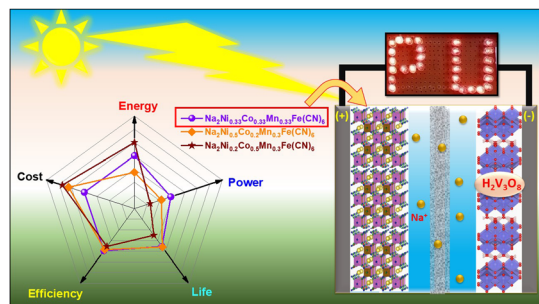
1389



Excellent field emission with enhanced photodetection behavior of multiwalled carbon nanotubes: experimental and theoretical study

Utkarsh Kumar, Arpit Verma, Ravi Kant Tripathi,* B. C. Yadav,* Toton Haldar, V. V. Tyagi, C. K. Dixit and Wen-Min Huang

1401



Prussian blue analogues with $\text{Na}_2\text{Ni}_x\text{Co}_y\text{Mn}_z\text{Fe}(\text{CN})_6$ -multimetallc structures as positive and hydrogen vanadate as negative electrodes in aqueous Na-ion batteries for solar energy storage applications

Pappu Naskar, Biplab Biswas, Sourav Laha* and Anjan Banerjee*

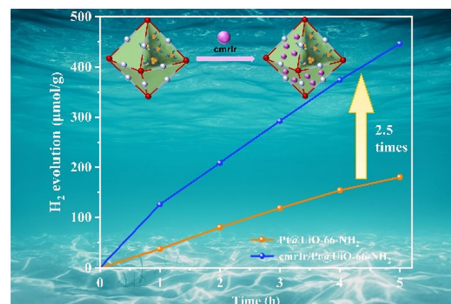


PAPERS

1414

Iridium complex modified MOFs for enhancing photocatalytic hydrogen evolution

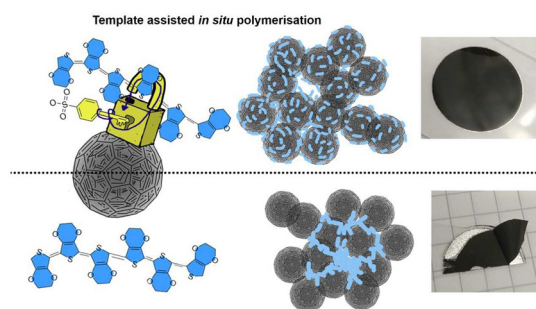
Yue Wang, Yifan Huang, Shihan Liu, Shuaichuan Cui, Yifan Zhang* and Pengyang Deng*



1422

In situ polymerization of EDOT onto sulfonated onion-like carbon for efficient pseudocapacitor electrodes

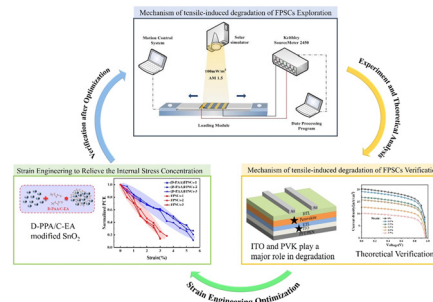
Christian Bauer, Maximilian Kirchner and Anke Krueger*



1431

Mechanism and regulation of tensile-induced degradation of flexible perovskite solar cells

Meihe Zhang, Yuzhao Qiang, Zhihao Li, Zhen Li and Chao Zhang*



1439

Steady states and kinetic modelling of the acid-catalysed ethanolysis of glucose, cellulose, and corn cob to ethyl levulinate

Conall McNamara,* Ailís O'Shea, Prajwal Rao, Andrew Ure, Leandro Ayarde-Henriquez, Mohammad Reza Ghaani, Andrew Ross and Stephen Dooley

