

# 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.

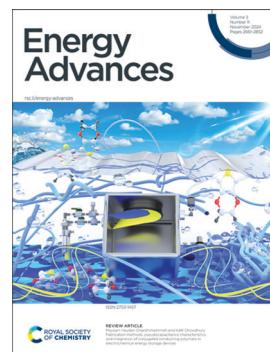
## IN THIS ISSUE

ISSN 2753-1457 CODEN EANDBJ 3(11) 2661–2852 (2024)



### Cover

See Hiroyuki Itoi et al.,  
pp. 2764–2777.  
Image reproduced  
by permission of  
Hiroyuki Itoi from  
*Energy Adv.*,  
2024, 3, 2764.



### Inside cover

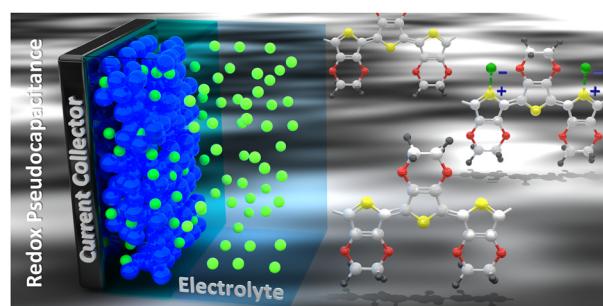
See Meysam Heydari  
Gharahcheshmeh and  
Kafil Chowdhury,  
pp. 2668–2703.  
Image reproduced  
by permission of  
Meysam Heydari  
Gharahcheshmeh  
and Andres de Casas  
from *Energy Adv.*,  
2024, 3, 2668.

## REVIEWS

2668

### Fabrication methods, pseudocapacitance characteristics, and integration of conjugated conducting polymers in electrochemical energy storage devices

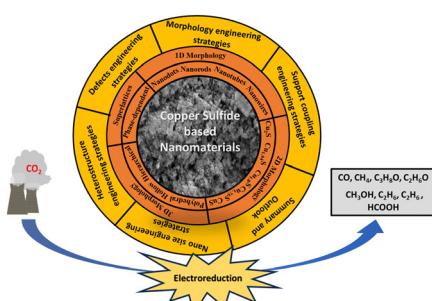
Meysam Heydari Gharahcheshmeh\* and  
Kafil Chowdhury



2704

### Controlled synthesis of copper sulfide-based catalysts for electrochemical reduction of CO<sub>2</sub> to formic acid and beyond: a review

Anirban Mukherjee, Maryam Abdinejad,\*  
Susanta Sinha Mahapatra and Bidhan Chandra Ruidas\*



GOLD  
OPEN  
ACCESS

# EES Batteries

Exceptional research on  
batteries and energy storage

Part of the EES family

Join  
in | Publish with us  
[rsc.li/EESBatteries](http://rsc.li/EESBatteries)



## PERSPECTIVE

2738

**Efficiency in photocatalytic production of hydrogen: energetic and sustainability implications**

Rocío Sayago-Carro, Luis José Jiménez-Chavarriga, Esperanza Fernández-García, Anna Kubacka\* and Marcos Fernández-García\*

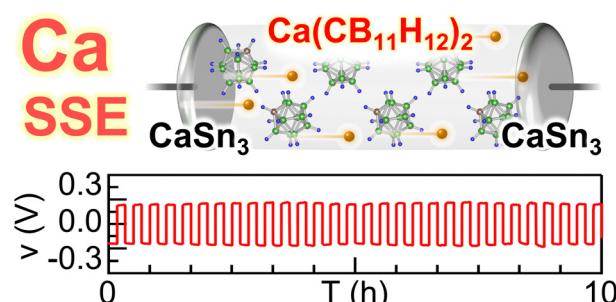


## COMMUNICATION

2758

**Investigating the ion conductivity and synthesis conditions of calcium monocarbaborane solid-state electrolytes**

Takara Shinohara, Kazuaki Kisu,\* Shigeyuki Takagi and Shin-ichi Orimo\*

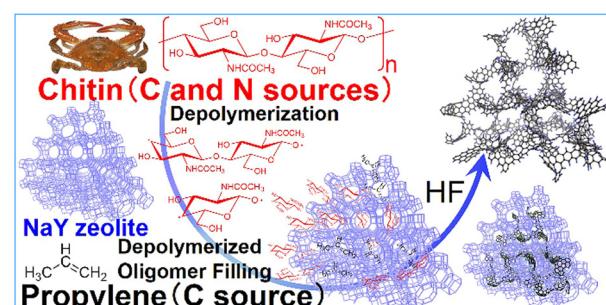


## PAPERS

2764

**Synthesis of N-doped zeolite-templated carbons via depolymerized oligomer filling: applications in EDLC electrodes**

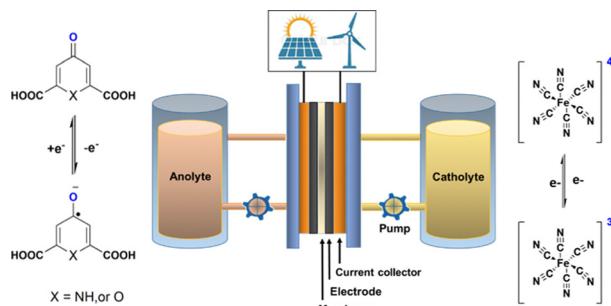
Hiroyuki Itoi,\* Chika Matsuoka, Ginga Saeki, Hiroyuki Iwata, Shinichiroh Iwamura, Keigo Wakabayashi, Takeharu Yoshii, Hirotomo Nishihara and Yoshimi Ohzawa



2778

**Tautomerism and nucleophilic addition influence the performance of aqueous organic redox flow batteries of chelidamic acid and chelidonic acid**

Surya Prakash, Alagar Ramar, Fu-Ming Wang,\* Kefyalew Wagari Guji, Citra Deliana Dewi Sundari and Laurien Merinda



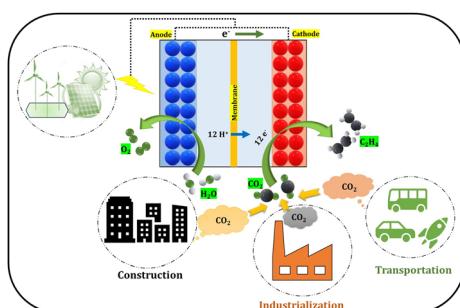
## PAPERS

2790

**Ag–NiP deposited green carbon channel embedded NiP panels for sustainable water splitting**

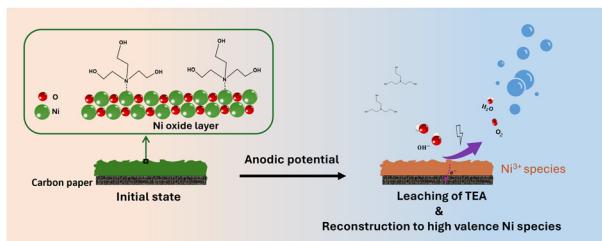
Revathy B. Nair, A. Anantha Krishnan, Aneesh Kumar M. A., Sivaraj Rajendran, Sreehari Harikumar, Vidhya C., M. Ameen Sha, Thomas Mathew, Sajith Kurian\* and P. S. Arun\*

2801

**Boosting ethylene yield via a synergistic 2D/0D nanostructured VCu layered double hydroxide/TiO<sub>2</sub> catalyst in electrochemical CO<sub>2</sub> reduction**

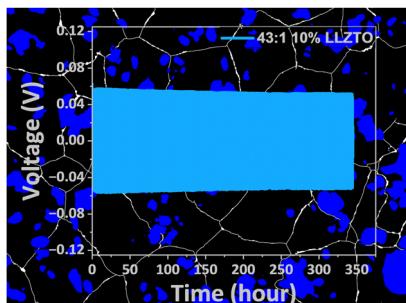
Sneha S. Lavate and Rohit Srivastava\*

2812

**Triethanolamine-assisted surface reconstruction of nickel oxide for efficient oxygen evolution reaction**

Jiayun Zhang, Ruth Knibbe\* and Ian Gentle\*

2820

**Competing effects of low salt ratio on electrochemical performance and compressive modulus of PEO-LiTFSI/LLZTO composite electrolytes**

Jiaxin Zhang, Valeria Perez, ThomasJae Garcia, Dan-il Yoon, David Wagner, Yanika Schneider, Min Hwan Lee, Sang-Joon John Lee\* and Dahun Oh\*

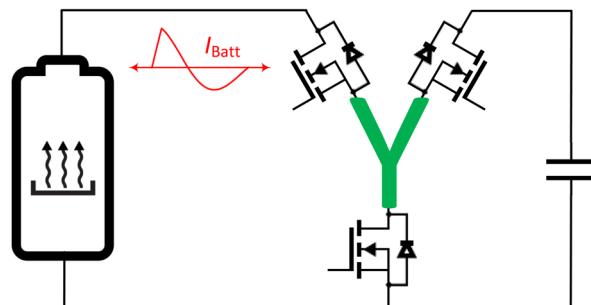


## PAPERS

2828

**A high frequency alternating current heater using the advantages of a damped oscillation circuit for low voltage Li-ion batteries**

Joachim Oehl,\* Andreas Gleiter, Daniel Manka, Alexander Fill and Kai Peter Birke



2842

**Effective electrochemical water oxidation to  $\text{H}_2\text{O}_2$  based on a bimetallic Fe/Co metal–organic framework**

Kunpeng Liu, Xu Wang, Nan Wang,\* Ruiyong Zhang,\* Meinan Yang, Baorong Hou and Wolfgang Sand

