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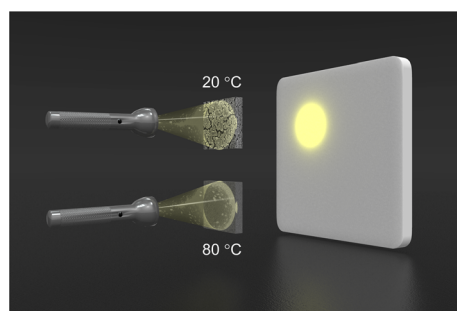


## COMMUNICATIONS

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### Spontaneous mesostructure formation produces optically transmissive Ni–P films that are catalytically active for the photoelectrochemical hydrogen evolution reaction

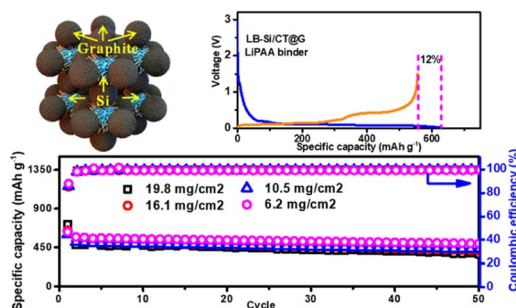
Zachary P. Ifkovits, Jillian T. Reed, Paul A. Kempler, Madeline C. Meier, Sean T. Byrne, Shaoyang Lin, Alexandre Z. Ye, Azhar I. Carim and Nathan S. Lewis\*



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### An ultrahigh mass-loading integrated high coulombic efficiency Si–graphite electrode for high-energy-density lithium ion batteries

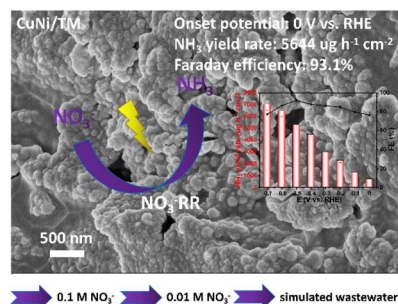
Shu Zhang, Yi Zhu, Xiandi Zhang, Fanglin Hu, Wengao Zhao,\* Jianxuan Du, Shuyue Xue, Peng Li\* and Yu-Jia Zeng\*



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### Electrodeposited copper–nickel nanoparticles as highly efficient electrocatalysts for nitrate reduction to ammonia

Ruizhi Li, Donglin Zhao, Longcheng Zhang, Kai Dong, Quan Li\* and Guangyin Fan\*

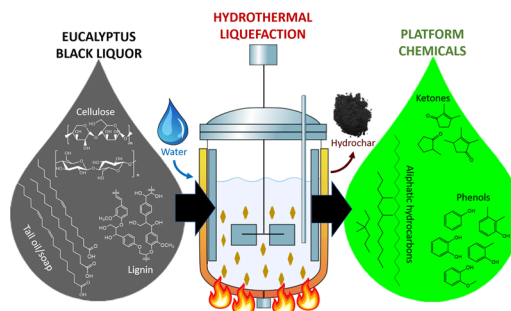


## PAPERS

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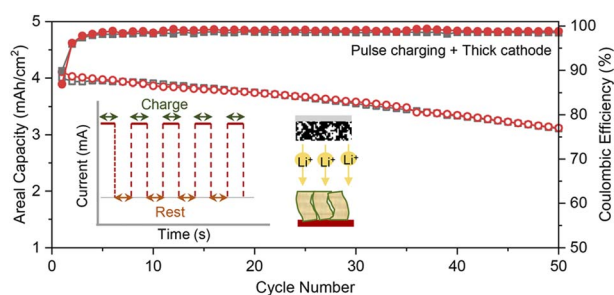
### Platform chemicals from hardwood black liquor via hydrothermal liquefaction: influence of process conditions on product yields and quality

S. Harisankar and Ravikrishnan Vinu\*



## PAPERS

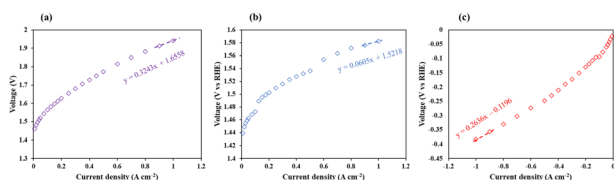
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### Energy-dense anode-free rechargeable lithium metal batteries based on thick cathodes and pulse charging strategies

Huaqing Yu, Xu Liu, Hua Ma and Qing Zhao\*

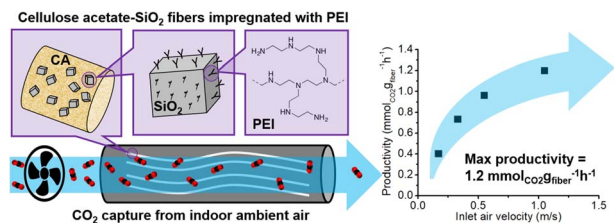
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### Bubble detection on the cathode and anode of a high-performing capillary-fed water electrolysis cell

Anh Linh Hoang, Rhodri E. Owen, George Tsekouras, Dan J. L. Brett\* and Gerhard F. Swiegers\*

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### Dynamic study of direct CO<sub>2</sub> capture from indoor air using poly(ethylenimine)-impregnated fiber sorbents

Fanhe Kong, Guanhe Rim, Pranjali Priyadarshini, MinGyu Song, Matthew J. Realff, Ryan P. Lively\* and Christopher W. Jones\*

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### Electrification of glucose valorization over NiO/Ni foam

Giancosimo Sanghez de Luna, Tommaso Tabanelli, Juan J. Velasco-Vélez, Eleonora Monti, Francesca Ospitali, Stefania Albonetti, Fabrizio Cavani, Giuseppe Fornasari and Patricia Benito\*





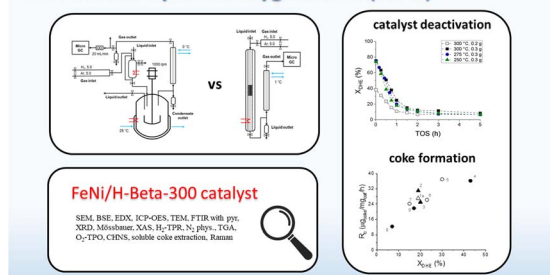
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Zuzana Vajglová, Olha Yevdokimova, Ananias Medina, Kari Eränen, Teija Tirri, Jarl Hemming, Johan Lindén, Ilari Angervo, Pia Damlin, Dmitry E. Doronkin, Päivi Mäki-Arvela and Dmitry Yu. Murzin\*

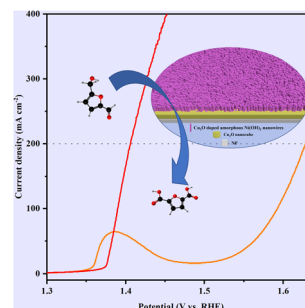
#### Solventless hydrodeoxygenation (HDO)



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### Construction of hierarchical NiCu-based bimetallic electrocatalysts for promoting the electrooxidation of biomass derivatives

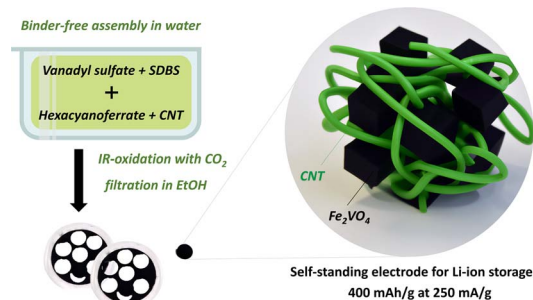
Yunliang Li, Yifang Fu, Yuqing Cao, Feifei Lei, Jun Zhao, Runwei Wang, Shilun Qiu and Zongtao Zhang\*



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### Surfactant stabilization of vanadium iron oxide derived from Prussian blue analog for lithium-ion battery electrodes

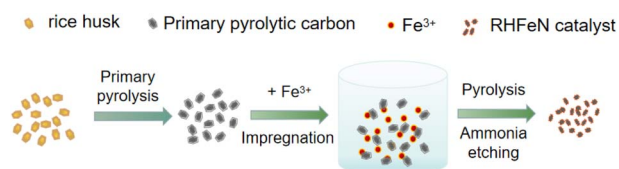
Behnoosh Bornamehr, Hiba El Gaidi, Stefanie Arnold, Emmanuel Pameté and Volker Presser\*



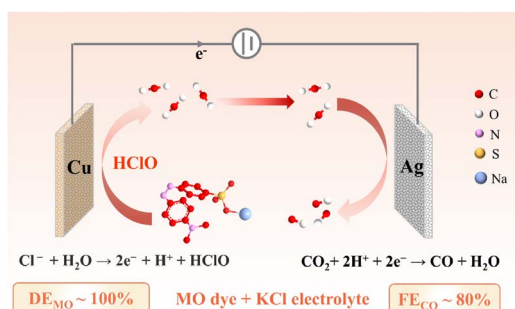
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### The simple construction of rice-husk-derived carbon catalyst for oxygen reduction reaction by the synergism of iron and nitrogen co-doping

Hong Jin,\* Laihong Zhou,\* Guojun Zha, Ping Huang, Fahui Wang, Shuigen Li, Minhua Jiang and Chen Liu



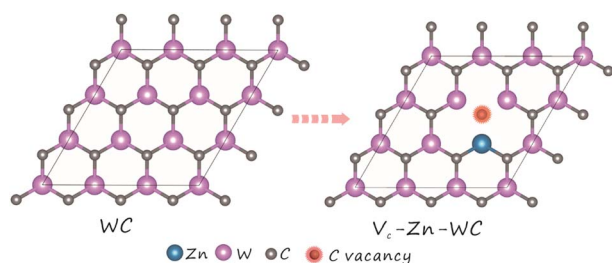
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### Coupling electrochemical CO<sub>2</sub> reduction to syngas with chloride-mediated dye degradation to CO<sub>2</sub> in a one-compartment cell

Honglei Chen, Jiahong Zeng, Yanming Li, Caitao Kang, Chenglong Ding, Yao Li, Changli Li\* and Jingfu He\*

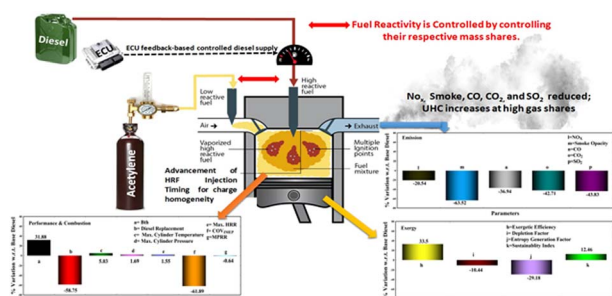
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### Synergistic tailoring of doping and vacancies in tungsten carbide for efficient hydrogen evolution

Chenfan Yang,\* Guoling Mao,\* Chuangen Zhu, Ning Ding, Bowen Pu, Lei Zhong and Bo Wu

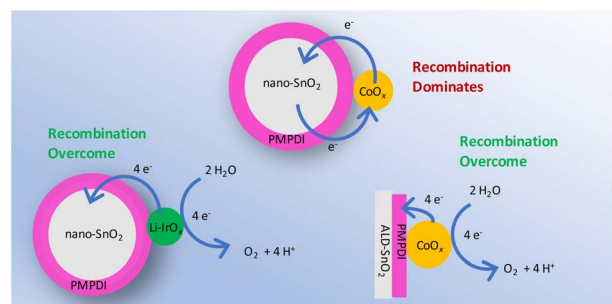
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Parthasarathi Deb and Abhishek Paul\*

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Carly F. Jewell, Ashwanth Subramanian, Won-Il Lee, Chang-Yong Nam\* and Richard G. Finke\*

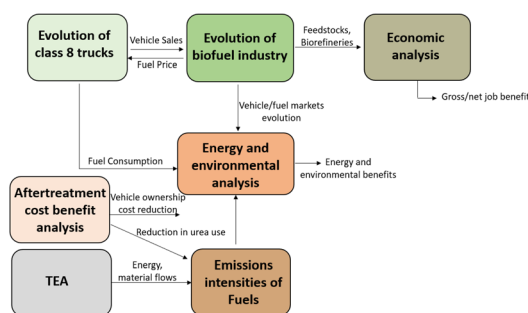


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## Energy, economic, and environmental impacts assessment of co-optimized on-road heavy-duty engines and bio-blendstocks

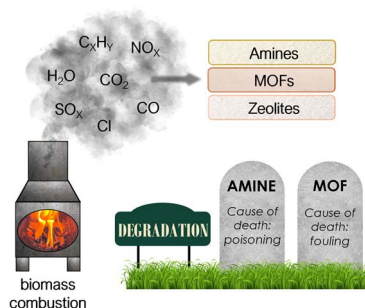
Doris Oke, Lauren Sittler, Hao Cai, Andre Avelino, Emily Newes, George G. Zaimes, Yimin Zhang, Longwen Ou, Avantika Singh, Jennifer B. Dunn and Troy R. Hawkins\*



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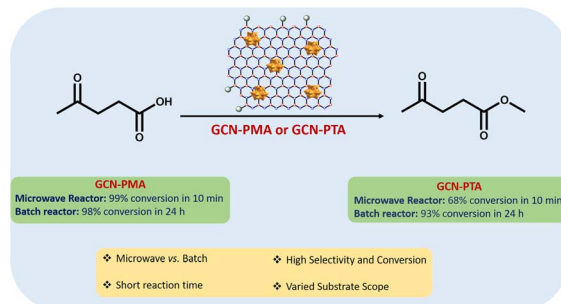
Hannah E. Holmes, Robert D. Schreck, Pavithra Narayanan, Shreya Ghosh, Wenting Sun, Matthew J. Realff and Ryan P. Lively\*



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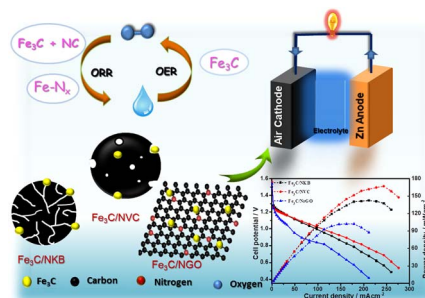
Daniele Polidoro, Alina M. Balu, Maurizio Selva, Rafael Luque,\* Sameh M. Osman and Tripti Chhabra\*



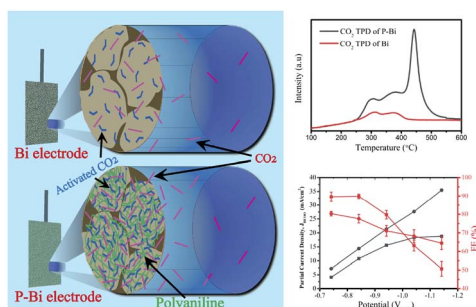
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## Unravelling the role of iron carbide in oxygen reduction catalysts for rechargeable zinc–air batteries: a comprehensive kinetics & mechanistic study

S. Arya Gopal, Anook Nazer Eledath and Azhagumuthu Muthukrishnan\*



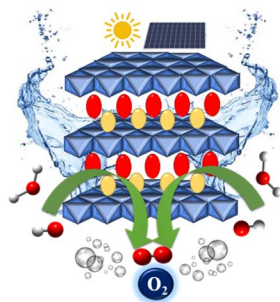
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### Strategic catalyst modification for boosting CO<sub>2</sub> concentration at electrode surface and easing selective CO<sub>2</sub> reduction at higher potential

Shuvojit Mandal and Praveen Kumar\*

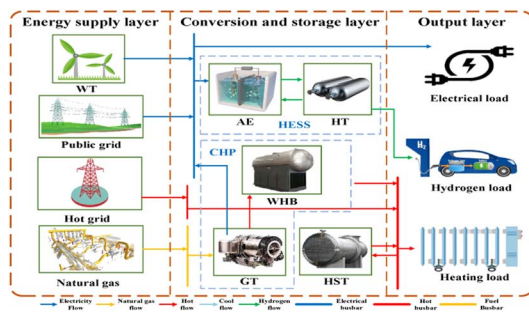
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Bakthavachalam Vishnu, Sundarraj Sriram and Jayaraman Jayabharathi\*

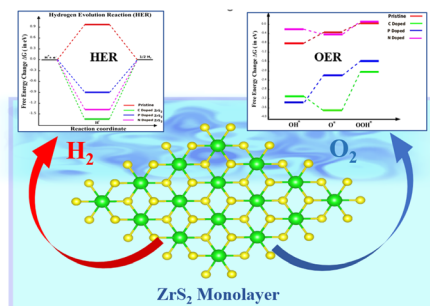
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Yongli Wang, Yumeng Qin,\* Yanan Wang, Ziben Ma, Zhonghua Zhao and Yinuo Wang

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### Chalcogen composition driven enhancement of catalytic efficiency in zirconium based monolayers: insight from reaction coordinate mapping

Shalini Tomar and Sudip Chakraborty\*

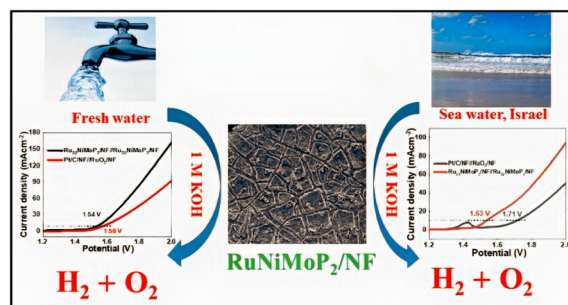




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## A bifunctional electrocatalyst for alkaline seawater splitting using ruthenium doped nickel molybdenum phosphide nanosheets

Hari Krishna Sadhanala,\* Akanksha Gupta and Aharon Gedanken\*



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## From crude glycerol and volatile fatty acids to biodiesel and other bioproducts using *Yarrowia lipolytica* NCYC 2904 as a cell factory

Ana S. Pereira, Marlene Lopes\* and Isabel Belo

