

Sustainable Energy & Fuels

Interdisciplinary research for the development of sustainable energy technologies

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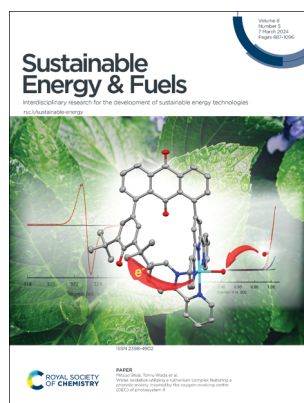
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See Unho Jung, Ki Bong Lee, Kee Young Koo *et al.*, pp. 896–904. Image reproduced by permission of Younghee Lee.



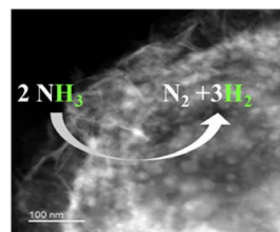
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See Mitsuo Shoji, Tohru Wada *et al.*, pp. 905–913. Image reproduced by permission of Tohru Wada from *Sustainable Energy Fuels*, 2024, 8, 905.

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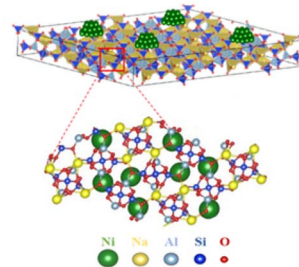
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Clean hydrogen production from ammonia decomposition over zeolite 13X-supported Ni catalysts

Jiyu Kim, Kyoung Deok Kim, Unho Jung,* Yongha Park, Ki Bong Lee* and Kee Young Koo*



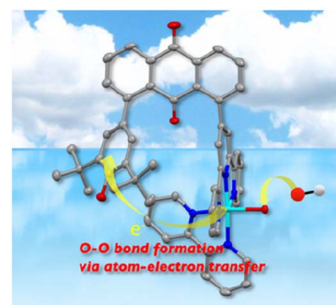
Ni/Zelolite 13X(DP)



905

Water oxidation utilizing a ruthenium complex featuring a phenolic moiety inspired by the oxygen-evolving centre (OEC) of photosystem II

Yugo Kumagai, Risa Takabe, Takashi Nakazono, Mitsuo Shoji,* Hiroshi Isobe, Kizashi Yamaguchi, Tomoyo Misawa-Suzuki, Hirotaka Nagao and Tohru Wada*



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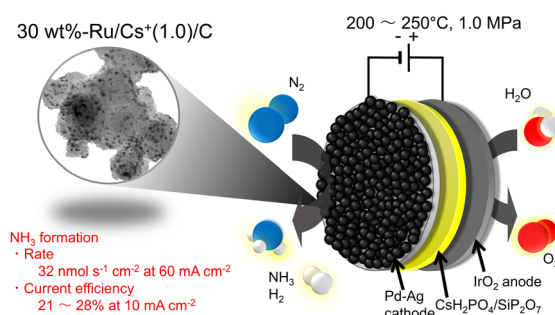
Fundamental questions
Elemental answers



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Ammonia synthesis from nitrogen and steam using electrochemical cells with a hydrogen-permeable membrane and Ru/Cs⁺/C catalysts

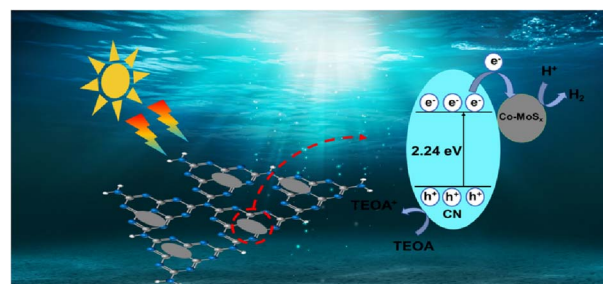
Shintaroh Nagaishi, Rika Hayashi, Aika Hirata, Raisei Sagara and Jun Kubota*



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In situ photodeposition of loaded Co–MoS_x for promoting visible-light g-C₃N₄ photocatalytic hydrogen production performance

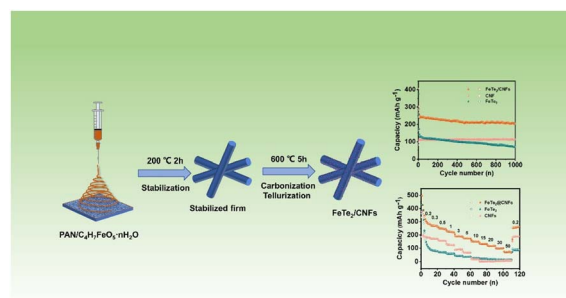
Yonggang Lei, Kim Hoong Ng, Chenyu Zou, Lejun Chen, Yuekun Lai* and Jianying Huang*



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Constructing FeTe₂ nanoparticles embedded in N-doped carbon nanofiber composites as a long-life and high-rate anode material for sodium-ion batteries

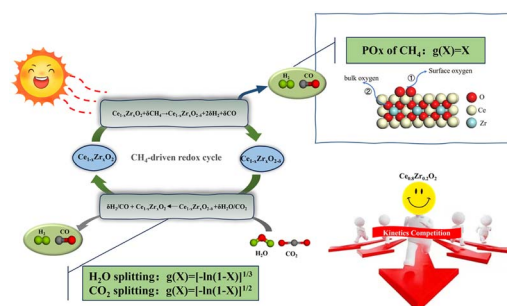
Zihua Lin, Haiyan Zhang,* Changsheng Yang, Zhenjiang Liu, Daofeng Wen, Xiang Peng, Shengkai Li and Xia Wu



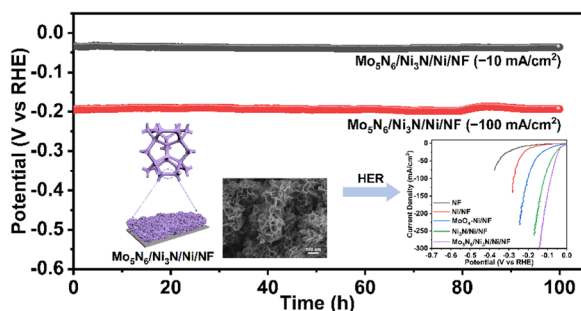
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Yanxin Liu, Shuting Cen, Changsheng Bu,* Daoyin Liu and Guilin Piao



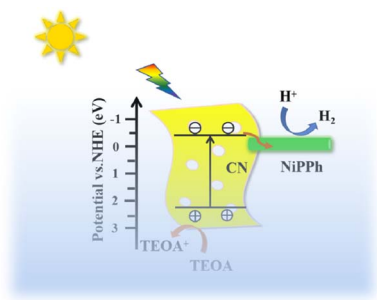
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Constructing interfacial structure of $\text{Mo}_5\text{N}_6/\text{Ni}_3\text{N}/\text{Ni}/\text{NF}$ for efficient and stable electrocatalytic hydrogen evolution under alkaline conditions

Yang Zhou, Jing Zhou, Muzaffar Ahmad Boda, Kunfeng Zhao, Haojie Ma, Chenhao Shi, Dingwang Yuan* and Zhiguo Yi*

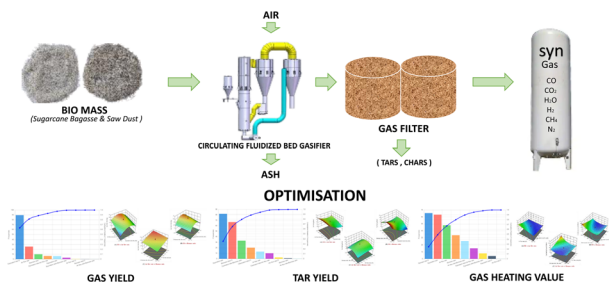
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Construction of novel 1D nickel phosphonate nanorod modified 2D $\text{g-C}_3\text{N}_4$ nanosheets for enhanced photocatalytic hydrogen evolution performance

Xin-Lian Song, Sixiang Zhai, Jin-Tao Ren, Lijiao Gao and Zhong-Yong Yuan*

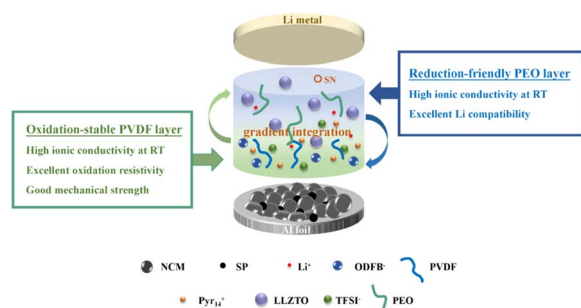
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An experimental and response-surface-based optimization approach towards production of producer gas in a circulating fluidized bed gasifier using blends of renewable fibre-based biomass mixtures

Chokkalingam Viswakethu,* Ramanathan Pichappan, Prakash Perumal and Natrayan Lakshmaiya

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Gradient-integrated bilayer solid polymer electrolyte enabling enhanced room-temperature cyclability for rechargeable lithium metal batteries

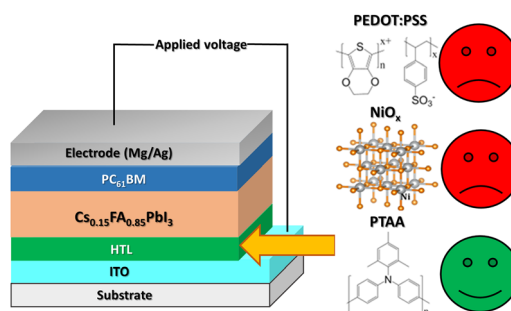
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Impact of hole-transport layer materials on the field-induced degradation of p-i-n perovskite solar cells

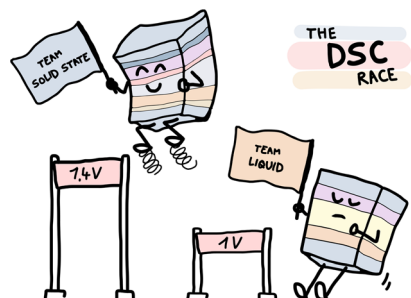
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A solid-state p-n tandem dye-sensitized solar cell

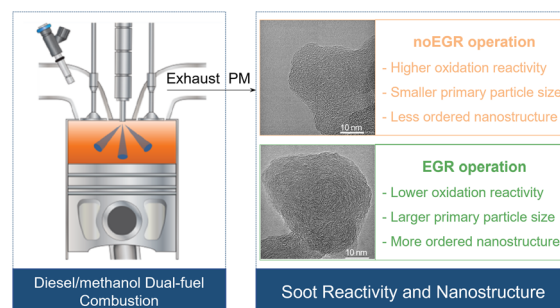
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Investigation of the nanostructure and reactivity of soot particulates from diesel/methanol dual-fuel combustion with and without EGR

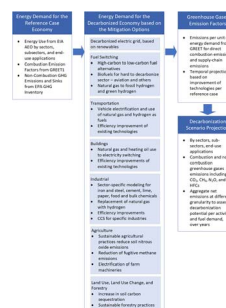
Hao Chen, Zhenhua Ji, Xiaochen Wang,* Mingzhang Pan, Chengshan Yi and Peng Zhang



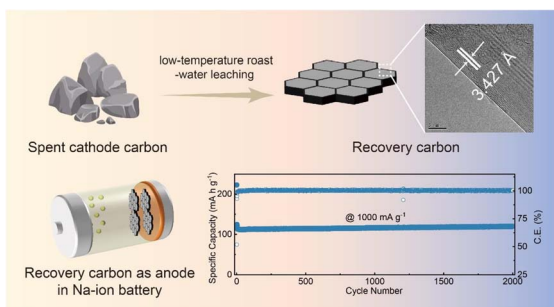
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A deep decarbonization framework for the United States economy – a sector, sub-sector, and end-use based approach

Saurajyoti Kar, Troy R. Hawkins,* George G. Zaimes, Doris Oke, Udayan Singh, Xinyi Wu, Hoyoung Kwon, Shannon Zhang, Guiyan Zang, Yan Zhou, Amgad Elgowainy, Michael Wang and Ookie Ma



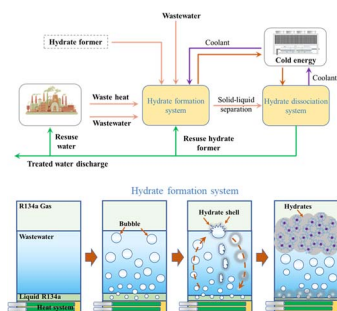
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Stable and fast Na-ion storage of recovered carbon from the spent carbon cathode of aluminum electrolysis

Yao Lu, Zhifan Hua, Chao Chen, Zibo Chen, Xinyi Li, Hailin Yu, Ke Peng* and Zhongliang Tian*

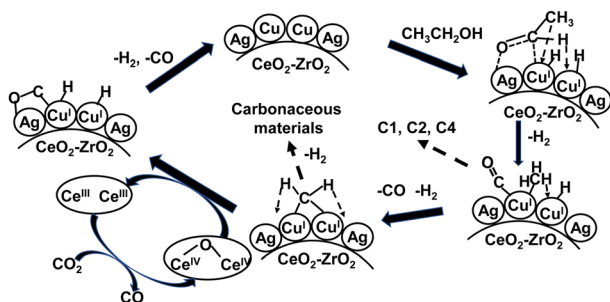
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Low-grade waste heat recovery for wastewater treatment using clathrate hydrate based technology

Lingjie Sun, Aliakbar Hassanpouryouzband,* Tian Wang, Fan Wang, Lunxiang Zhang,* Chuanxiao Cheng, Jiafei Zhao and Yongchen Song*

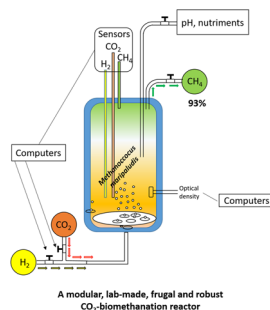
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Reforming of ethanol with carbon dioxide catalysed by silver-promoted copper-ceria-zirconia composites

Naoya Inoue, Yuuki Hatooka, Chihiro Okada, Shiori Shimidzu, Tadanori Hashimoto and Atsushi Ishihara*

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Development of a CO₂-biomethanation reactor for producing methane from green H₂

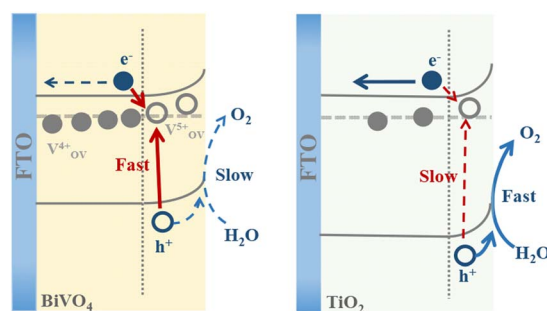
Grégory Cwicklinski,* Roger Miras, Julien Pérard, Clara Rinaldi, Elisabeth Darrouzet and Christine Cavazza*



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Charge carrier dynamics of surface back electron/hole recombination in BiVO₄ and TiO₂ photoanodes

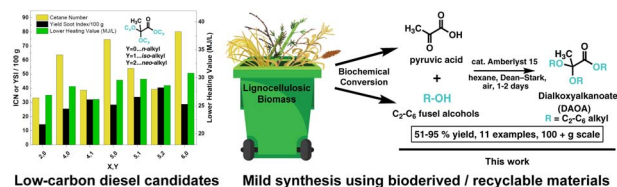
Wenjun Zhu, Yuling Yuan and Yimeng Ma*



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High performance alkyl dialkoxyalkanoate bioderived transportation fuels accessed using a mild and scalable synthetic protocol

Nicholas R. Myllenbeck,* Eric Monroe, Mysha Sarwar, Teresa Alleman, Cameron Hays, Jon Luecke, Junqing Zhu, Charles McEnally, Lisa Pfefferle, Anthe George and Ryan W. Davis



Low-carbon diesel candidates

Mild synthesis using bioderived / recyclable materials

