Journal of Materials Chemistry A

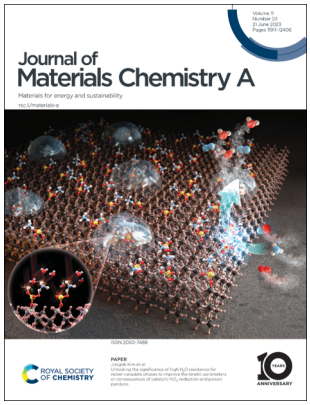
Materials for energy and sustainability

rsc.li/materials-a

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.

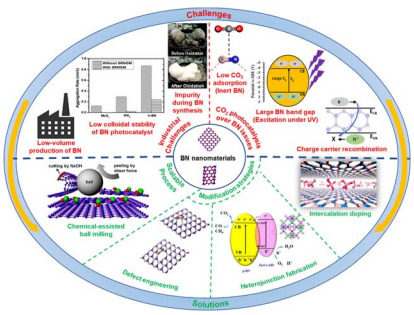
IN THIS ISSUE

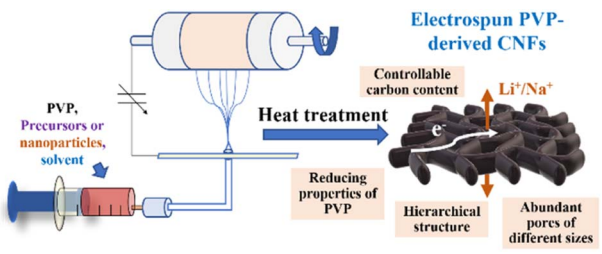
ISSN 2050-7488 CODEN JMCAET 11(23) 11911–12406 (2023)



Cover
See Jongsik Kim *et al.*, pp. 12062–12079. Image reproduced by permission of Jongsik Kim from *J. Mater. Chem. A*, 2023, **11**, 12062.

REVIEWS





Journal of Materials Chemistry A (electronic: ISSN 2050-7496) is published 48 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK
Tel +44 (0)1223 432398; E-mail **orders@rsc.org**

2023 Annual (electronic) subscription price: £1968, $4085. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

ROYAL SOCIETY OF CHEMISTRY

Journal of Materials Chemistry A

rsc.li/materials-a

Journal of Materials Chemistry A, B & C cover high quality studies across all fields of materials chemistry. The journals focus on those theoretical or experimental studies that report new understanding, applications, properties and synthesis of materials. *Journal of Materials Chemistry A* covers materials with applications in energy & sustainability.

Information for Authors

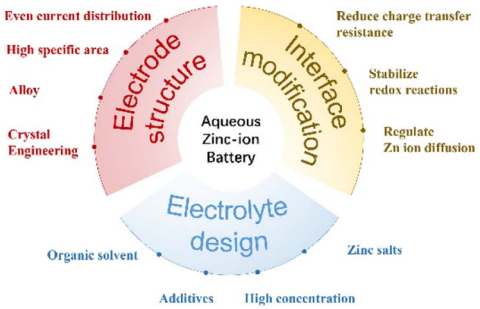
Full details on how to submit material for publication in Journal of Materials Chemistry A are given in the Instructions for Authors (available from **http://www.rsc.org/authors**). Submissions should be made via the journal's homepage: **rsc.li/materials-a**. Submissions: The journal welcomes submissions of manuscripts for publication as Full Papers, Communications, Reviews, Highlights and Applications. Full Papers and Communications should describe original work of high quality and impact which must highlight the novel properties or applications (or potential properties/applications) of the materials studied.

Additional details are available from the Editorial Office or **http://www.rsc.org/authors**

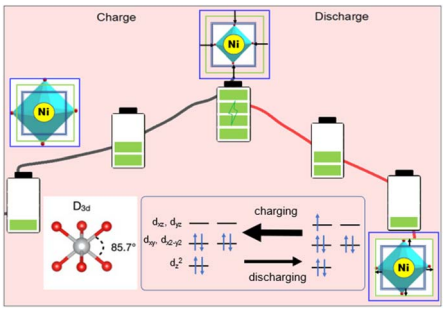
Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)–Reproduced by permission of the Royal Society of Chemistry.

Registered charity number: 207890

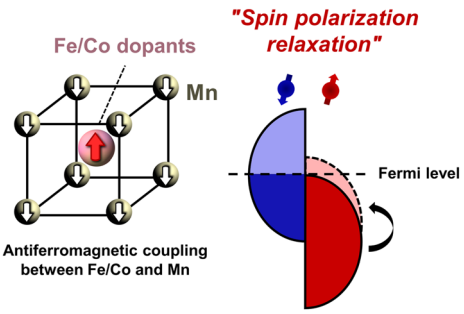
REVIEWS

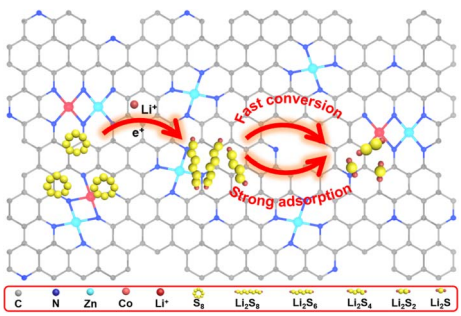


COMMUNICATION



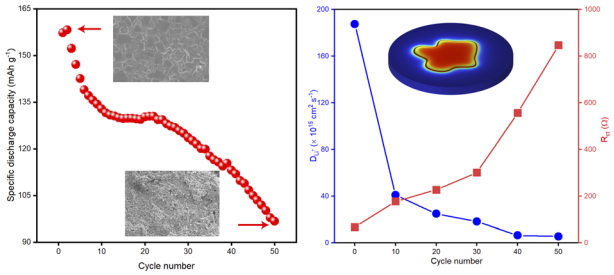
PAPERS





PAPERS

12034



The electrochemical failure mechanism investigation of $Li_{1+x}Al_xTi_{2-x}(PO_4)_3$ solid-state electrolytes

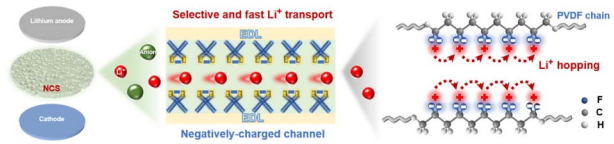
Can Huang, Fang Wang, Shuo Huang, Jianhe Hong, Shuoguo Yuan, Shuen Hou and Hongyun Jin*

12043

Construction of *p*-nitropyrazole-1,3,4-triazole framework energetic compounds: towards a series of high-performance heat-resistant explosives

Chengchuang Li, Teng Zhu, Caijin Lei, Guangbin Cheng,* Chuan Xiao* and Hongwei Yang*

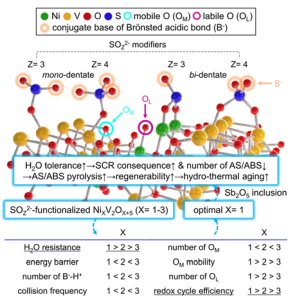
12052



Negatively charged separators facilitating lithium-ion conduction to stabilize lithium metal anodes

Yating Hu, Chengjie Wang, Yue Wu, Qing Zhao, Ang Li, Qianqian Zhang,* Jingbing Liu, Yuhong Jin* and Hao Wang*

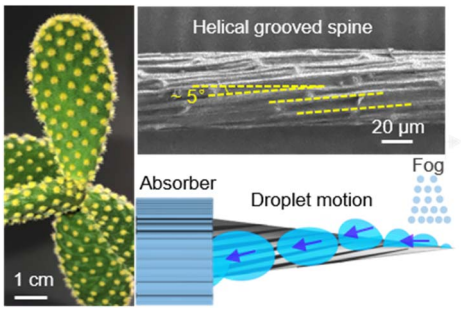
12062

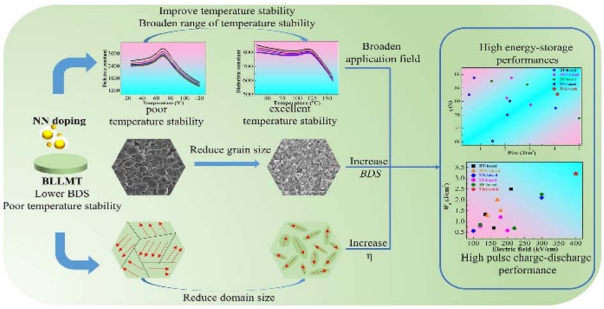


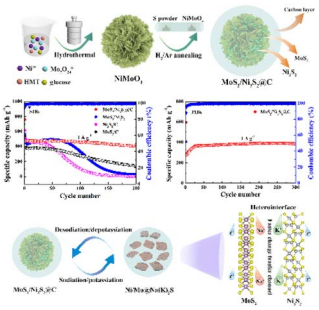
Unlocking the significance of high H_2O resistance for nickel vanadate phases to improve the kinetic parameters or consequences of catalytic NO_X reduction and poison pyrolysis

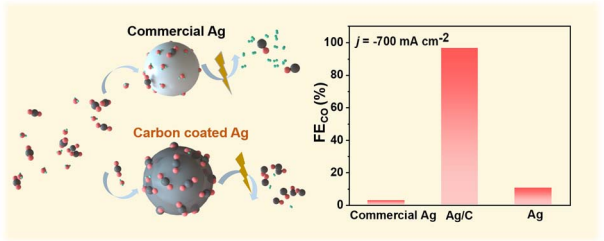
Seokhyun Lee, Heon Phil Ha, Jung-Hyun Lee and Jongsik Kim*

PAPERS



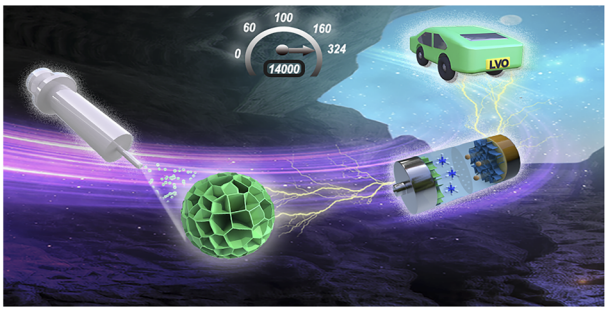


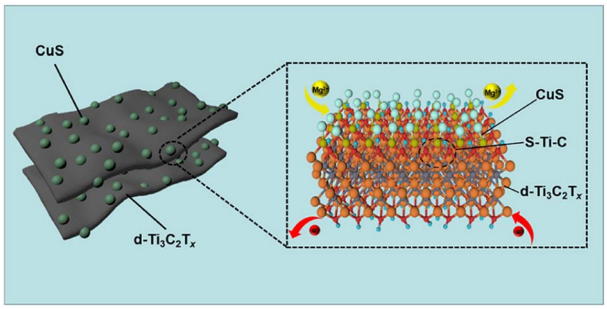


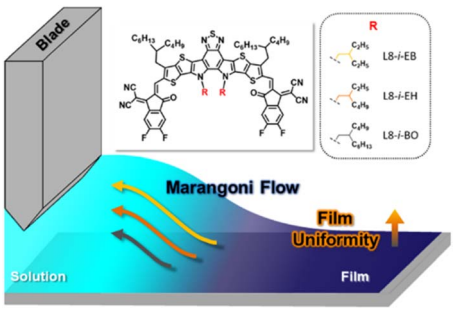


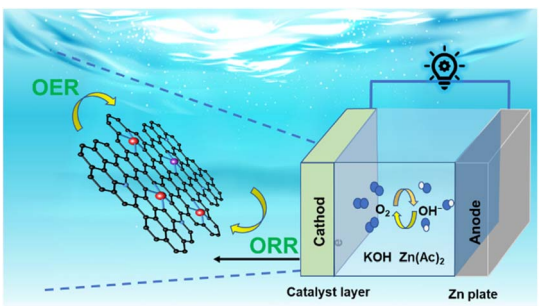
PAPERS

PAPERS









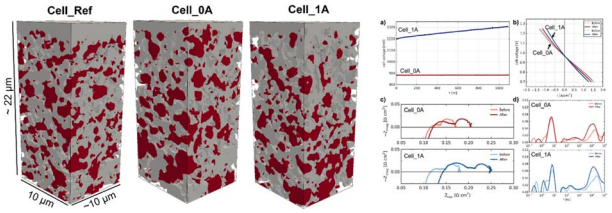
PAPERS

PAPERS

12245

3D microstructural characterization of Ni/yttria-stabilized zirconia electrodes during long-term CO_2 electrolysis

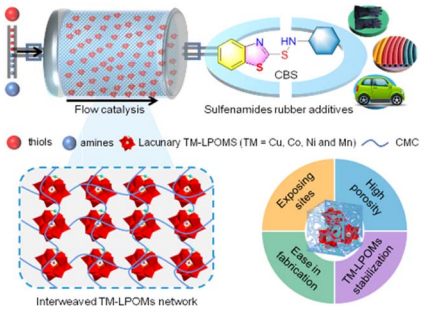
Yijing Shang, Anne Lyck Smitshuysen, Miao Yu, Yuliang Liu, Xiaofeng Tong, Peter Stanley Jørgensen, Léa Rorato, Jérôme Laurencin and Ming Chen*



12258

Flowing scalable production of sulfenamides by active site-tuned lacunary polyoxometalate foams

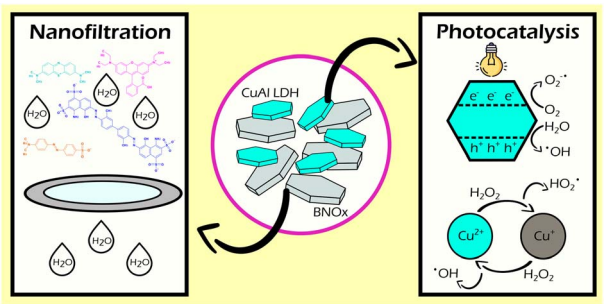
Gang Liu, Yuquan Qi, Jiashuai Li, Yifa Chen,* Yilan Chen, Zhen Li, Guodong Shen, Delong Ma, Yunfeng Li and Xianqiang Huang*



12266

Layered double hydroxide/boron nitride nanocomposite membranes for efficient separation and photodegradation of water-soluble dyes

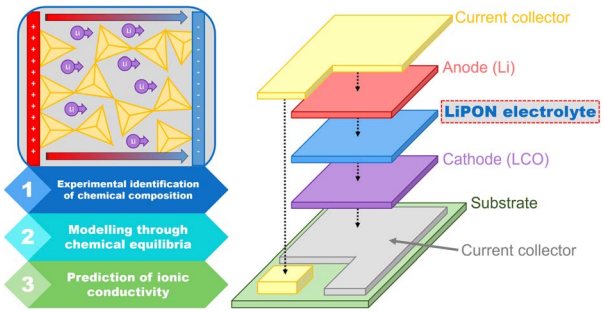
Áine Coogan, Natalia García Doménech, Donagh Mc Ginley, Tigran Simonian, Aran Rafferty, Quentin Fedix, Amy Donlon, Valeria Nicolosi and Yurii K. Gun'ko*



12282

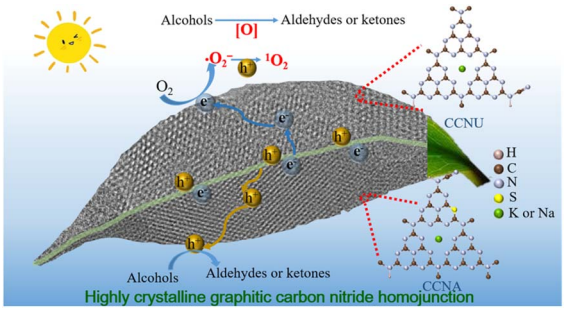
Thermodynamic calculation of the ionic conductivity of LiPON glasses and solid electrolytes

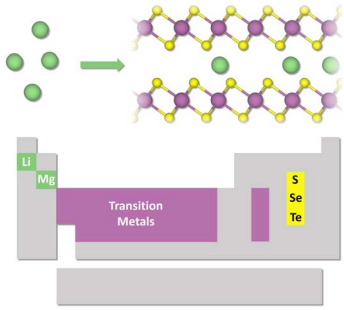
Alberto López-Grande, Glenn C. Mather and Francisco Muñoz*

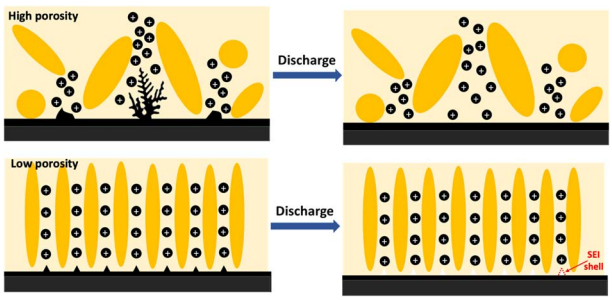


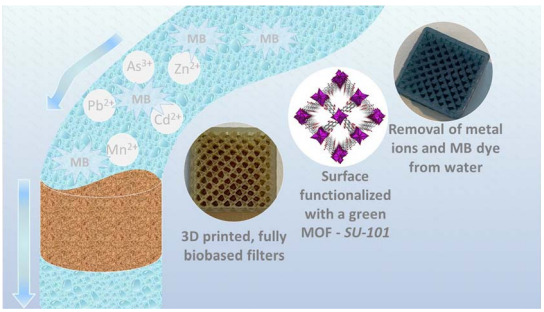
PAPERS

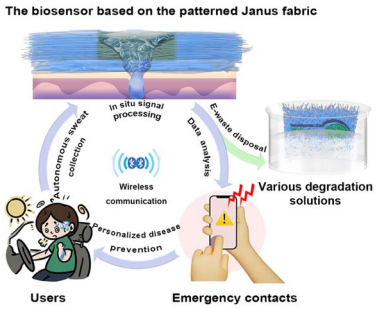
PAPERS











High-performance sensing, breathable, and biodegradable integrated wearable sweat biosensors for a wireless glucose early warning system

He Zhao, Ling Zhang,* Tianbo Deng and Chunzhong Li*