

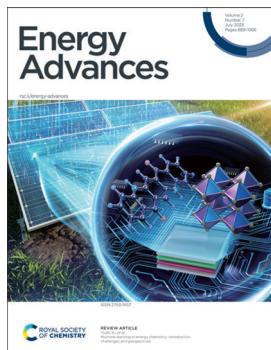
Energy Advances

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Cover

See Yuzhi Xu *et al.*, pp. 896–921.
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Inside cover

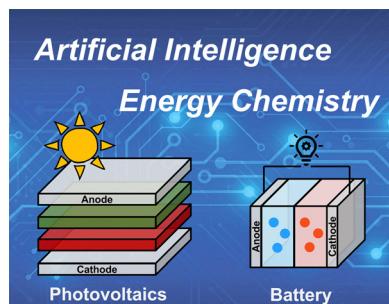
See Philip Marmet *et al.*, pp. 980–1013.
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A special thanks is dedicated to Steffen Schwichow for the artwork design.

REVIEWS

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Machine learning in energy chemistry: introduction, challenges and perspectives

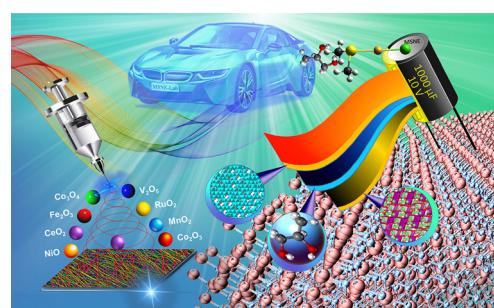
Yuzhi Xu, Jiankai Ge* and Cheng-Wei Ju*



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Recent advances in electrospun fibers based on transition metal oxides for supercapacitor applications: a review

Abhilash Pullanchiyodan, Roshny Joy, Pranav Sreeram, Leya Rose Raphael, Akhila Das, Neethu T. M. Balakrishnan, Jou-Hyon Ahn, Alexandru Vlad, Sivaramapanneri Sreejith* and Prasanth Raghavan*



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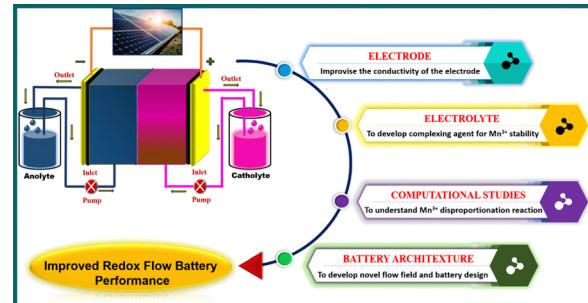


REVIEWS

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Energy storage mechanism, advancement, challenges, and perspectives on vivid manganese redox couples

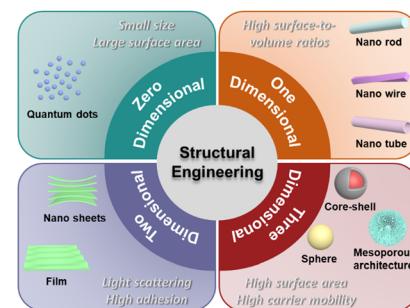
R. Naresh, Vilas G. Pol* and P. Ragupathy*



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Nanostructured TiO_2 for improving the solar-to-hydrogen conversion efficiency

Cong Wang and Mohamed Nawfal Ghazzal*



PAPERS

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Standardized microstructure characterization of SOC electrodes as a key element for Digital Materials Design

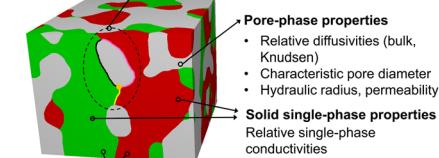
Philip Marmet,* Lorenz Holzer, Thomas Hocker, Gernot K. Boiger, Holger Bausinger, Andreas Mai, Mathias Fingerle, Sarah Reeb, Dominik Michel and Joseph M. Brader

SOC microstructure characterization

Morphological analysis for all three phases

- Contiguous and original volume fractions
- mean radii of bulges and bottlenecks
- Constrictivity
- Tortuosity analysis
- Covariance function
- Predicted M-factor

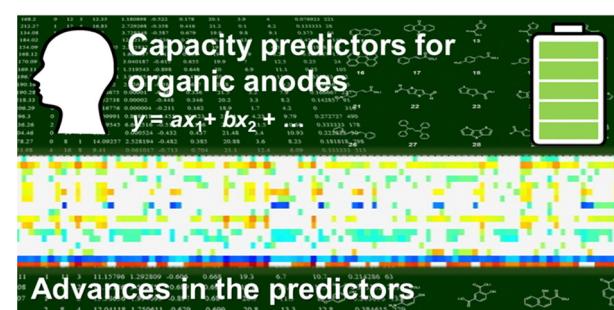
Interface properties
Volume specific interface area and three-phase boundary length



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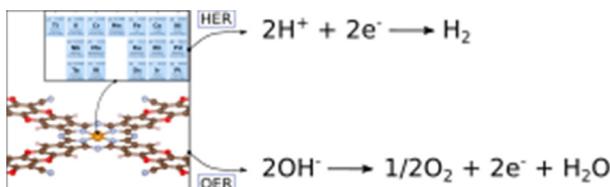
Capacity-prediction models for organic anode-active materials of lithium-ion batteries: advances in predictors using small data

Haruka Tobita, Yuki Namiuchi, Takumi Komura, Hiroaki Imai, Koki Obinata, Masato Okada, Yasuhiko Igarashi* and Yuya Oaki*



PAPERS

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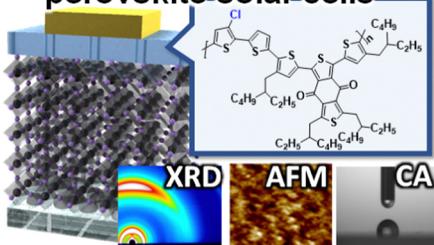


Hydrogen and oxygen evolution reactions on single atom catalysts stabilized by a covalent organic framework

Ilaria Barlocco, Giovanni Di Liberto* and Gianfranco Pacchioni

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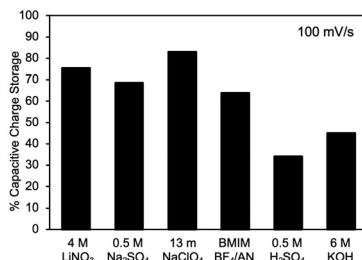
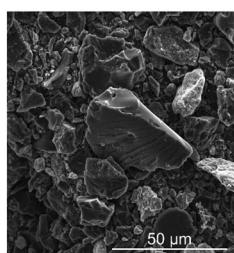
Dopant-free HTM of perovskite-solar-cells



A chlorinated polythiophene-based polymer as a dopant-free hole transport material in perovskite solar cells

Kakaraparthi Kranthiraja, Ryosuke Nishikubo and Akinori Saeki*

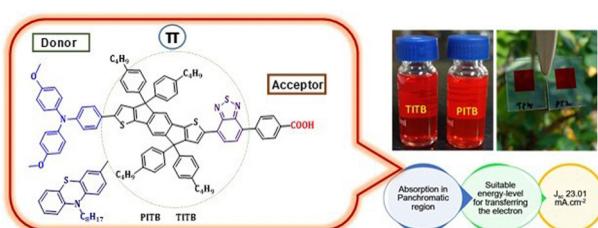
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Ultra-low cost supercapacitors from coal char: effect of electrolyte on double layer capacitance

Zahra Karimi, Jaron Moon, Joshua Malzahn, Eric Eddings and Roseanne Warren*

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D-π-A organic dyes derived from the indacenodithiophene core moiety for efficient dye-sensitized solar cells

Afzal Siddiqui, Nanaji Islavath, T. Swetha and Surya Prakash Singh*



PAPERS

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Photocatalytic activity and pH-induced morphological changes of ZnO/CuO nanocomposites prepared by chemical bath precipitation

Nargol Jalali, Amirhossein Rakhsha, Mohammad Nami, Fereshteh Rashchi* and Valmor Roberto Mastelaro

