

EES Solar

rsc.li/EESSolar

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 3033-4063 CODEN ESEOU 2(1) 1–258 (2026)



Cover
Image reproduced by permission of Uthpala Saroshan Deshapriya.

EDITORIAL

9

EES Solar: one year on

Michael Saliba

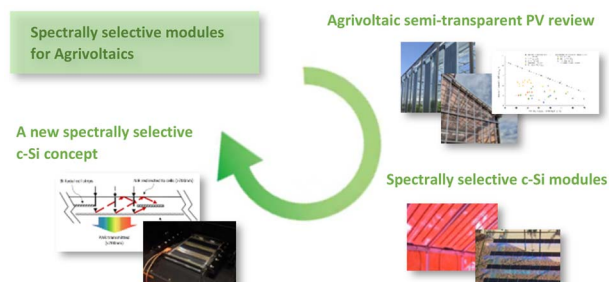


REVIEWS

10

Spectrally selective modules for agrivoltaics

Ian L. Thomas,* Ned J. Ekins-Daukes and Timothy W. Schmidt



EES Catalysis

GOLD
OPEN
ACCESS

Exceptional research on energy
and environmental catalysis

Open to everyone. Impactful for all

rsc.li/EESCatalysis

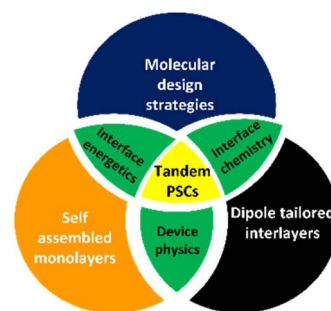
Fundamental questions
Elemental answers

REVIEWS

28

Tailoring interfacial energetics in perovskite/silicon tandem solar cells: the converging roles of self-assembled monolayers and dipolar interlayers

Vidya Sudhakaran Menon
and Ananthanarayanan Krishnamoorthy*

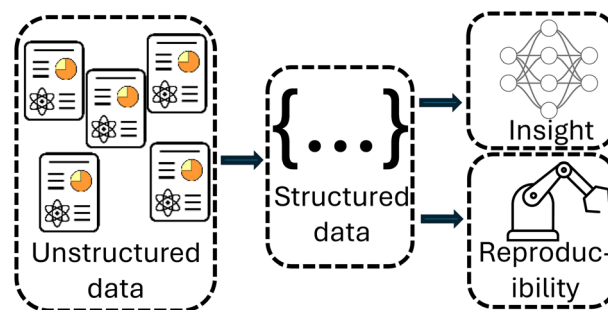


PERSPECTIVE

88

Tackling the reproducibility gap in perovskite research: a vision for FAIR data and standardised protocols

Eva Unger and T. Jesper Jacobsson*

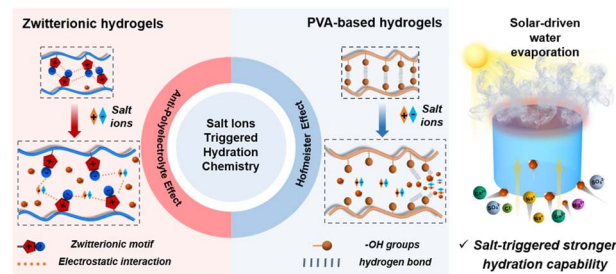


MINIREVIEWS

92

Salt ion triggered hydration chemistry for salt-rejecting solar-driven water evaporation

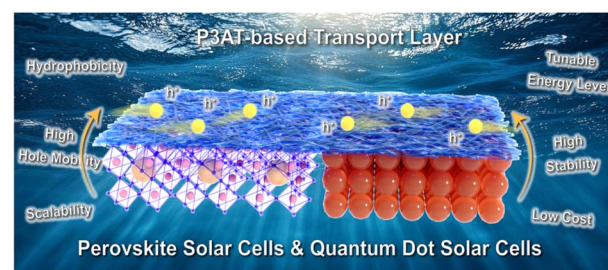
Jiahui Zhou, Si Yu Zheng* and Jintao Yang*



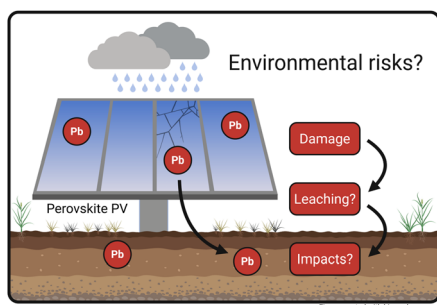
108

Beyond organic photovoltaics: unlocking the potential of P3HT and its derivatives in perovskite and quantum dot solar cells

Kai Zhang, Wenchao Zhao,* Biao Xiao* and Long Ye*



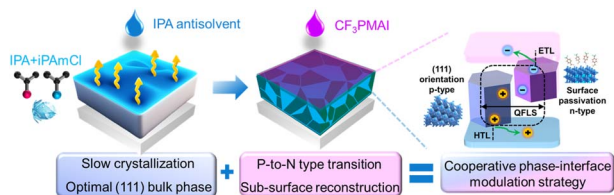
118



Assessment of soil impacts from lead release by lead-halide perovskite solar cells based on outdoor leaching tests

Anika Sidler, Felix Schmidt, Bastien Vallat, Fionnuala Grifoni, Severin N. Habisreutinger, Riikka Suhonen, Henry J. Snaith, Andreas Schäffer and Markus Lenz*

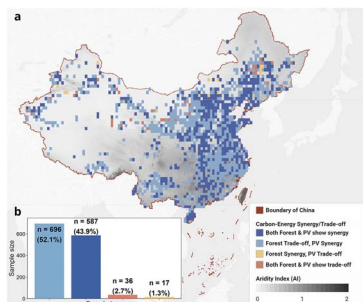
127



Cooperative phase–interface modulation enabling ultralow voltage loss in bromide-containing perovskite solar cells with isopropanol as an antisolvent

Bo Zhou, Minh Anh Truong, Junxue Guo, Qian Li, Wei Yu, Xin Guo, Atsushi Wakamiya* and Jiewei Liu*

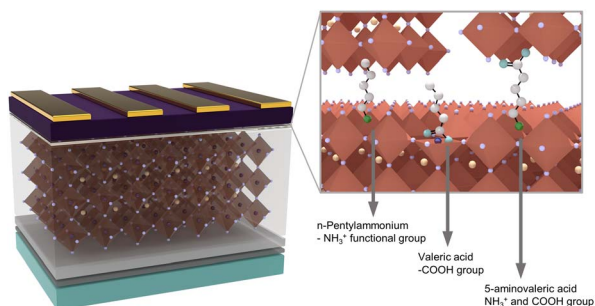
138



Photovoltaic drives 100× carbon reduction and albedo-driven cooling exceeding forestation in climate mitigation

Qi Yuan, Bin Zhao* and Hai-Qiang Guo

149



The role of terminal functional groups in molecular passivation of the perovskite/hole-selective layer interface

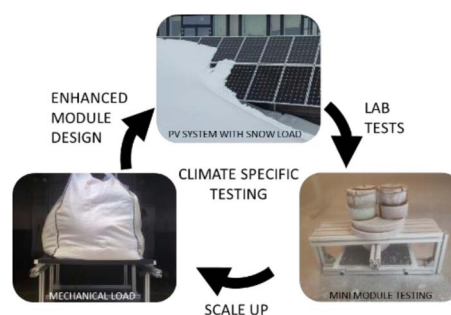
Mahboubeh Hadadian,* Thomas W. Gries, G. Krishnamurthy Grandhi, Emil Rosqvist, Rustem Nizamov, Sari Granroth, Paola Vivo, Ronald Österbacka, Jan-Henrik Smätt, Antonio Abate and Kati Miettunen



161

Enhanced mechanical load testing of photovoltaic modules for cold and snowy climates

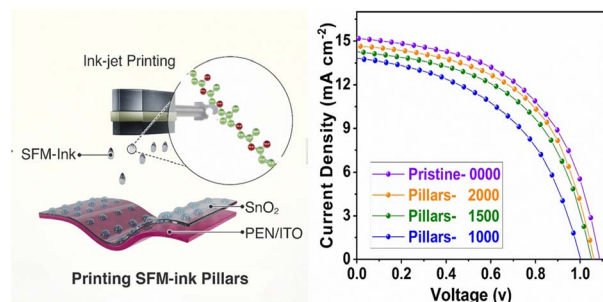
Anika Gassner,* Gabriele C. Eder, Ebrar Özkalay, Gabi Friesen, Markus Feichtner and Vasiliki-Maria Archodoulaki



174

Semitransparent color tunable perovskite solar cells with 3D pillar structure

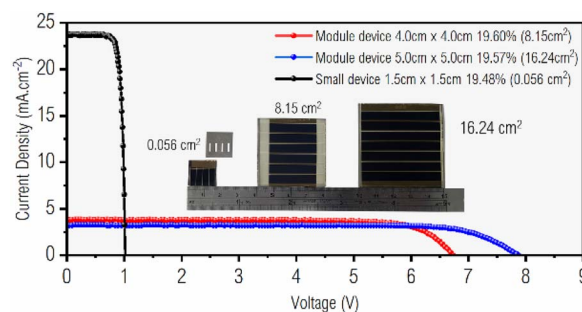
Vikas Sharma, Ouriel Bliah, Tal Binyamin, Shlomo Magdassi* and Lioz Etgar*



183

In-depth investigation of methylamine gas post-treatment for MAPbI₃ films and its potential for upscaling perovskite solar cells

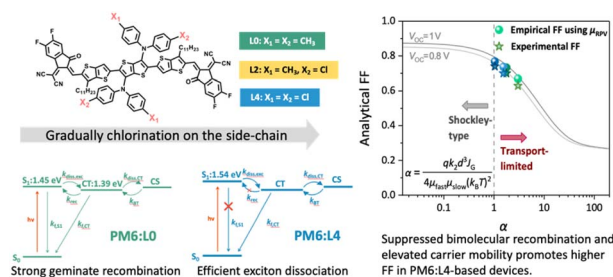
Duc-Anh Le and Tzu-Chien Wei*



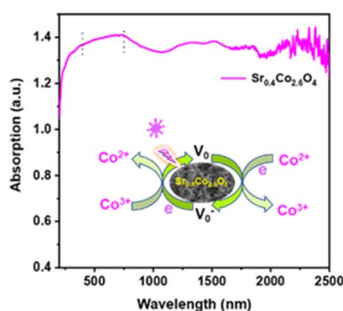
198

Balancing driving force, charge transport, and non-radiative recombination in organic solar cells with non-fused ring acceptors

Qian-Qian Zhang, Manasi Pranav, De-Li Ma, Bernhard Siegmund, Yuyao Xu, Yuming Wang, Melissa Van Landeghem, Hongzheng Chen, Chang-Zhi Li,* Dieter Neher* and Koen Vandewal*



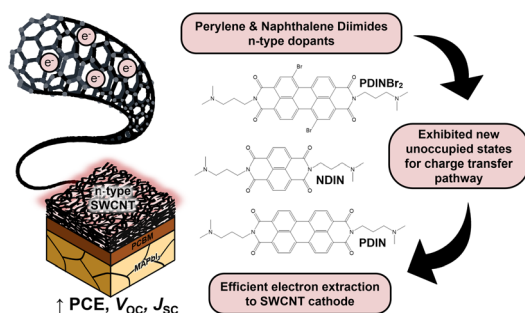
211



Oxygen vacancy engineering and redox coupling-driven enhancement of extended wavelength light absorption and energy storage in $\text{Ca}(\text{OH})_2\text{-Sr}_{0.4}\text{Co}_{2.6}\text{O}_4$ via photothermal dehydration

Lin Zhu, Rui-Min Hao, Ti-Jian Du, Cheng-Hui Liu, Zhi-Bin Xu and Qin-Pei Wu*

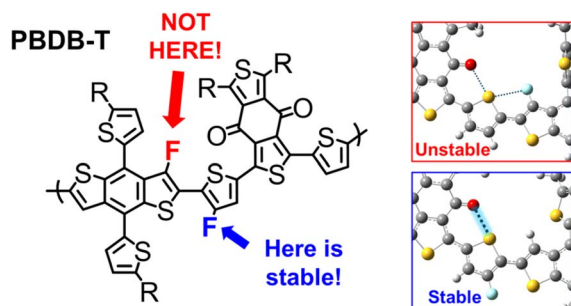
226



Exploiting perylene- and naphthalene-based planar aromatic n-type dopants for SWCNT cathodes in inverted perovskite solar cells

Achmad Syarif Hidayat, Naoki Ueoka, Hisayoshi Oshima, Yoshimasa Hijikata and Yutaka Matsuo*

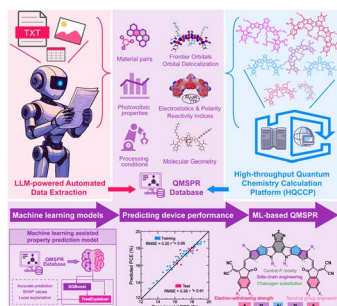
235



Don't fluorinate there! The impact of fluorination position on polymer photostability and its effect on photovoltaic device stability

Joel Luke, Shiyu Chen, Qiao He, Martina Rimmele, Adam V. Marsh, Alexander J. Gillett, Panagiota Kafourou, Zhuping Fei, Martin Heeney* and Ji-Seon Kim*

246



Developing an intelligent data-driven framework for organic photovoltaic research

Yu Cui, Wei Ma and Han Yan*

