

Chem Soc Rev

Chemical Society Reviews

rsc.li/chem-soc-rev

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 0306-0012 CODEN CSRVRB 53(4) 1695-2250 (2024)



Cover

See Yukihiro Ozaki, Yusuke Morisawa and Ichiro Tanabe, pp. 1730–1768. Image reproduced by permission of Yukihiro Ozaki from *Chem. Soc. Rev.*, 2024, 53, 1730.



Inside cover

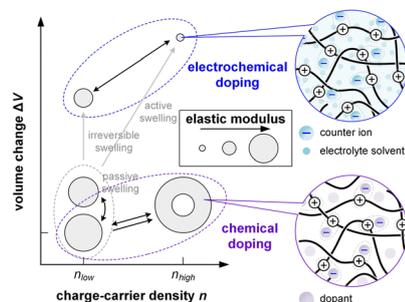
See Cuncun Wu, Bo Qu, Lixin Xiao *et al.*, pp. 1769–1788. Image reproduced by permission of Lixin Xiao from *Chem. Soc. Rev.*, 2024, 53, 1769.

TUTORIAL REVIEW

1702

Impact of doping on the mechanical properties of conjugated polymers

Sri Harish Kumar Paleti, Youngseok Kim, Joost Kimpel, Mariavittoria Craighero, Shuichi Haraguchi and Christian Müller*

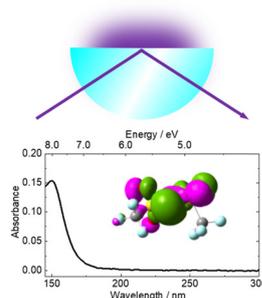


REVIEW ARTICLES

1730

ATR-far-ultraviolet spectroscopy: a challenge to new σ chemistry

Yukihiro Ozaki,* Yusuke Morisawa* and Ichiro Tanabe*



Advance your career in science

with professional recognition that showcases
your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment
to attaining excellence in
your field

Gain the recognition you deserve

Achieve a professional
qualification that inspires
confidence and trust

Unlock your career potential

Apply for our professional
registers (RSci, RSciTech)
or chartered status
(CChem, CSci, CEnv)

Apply now

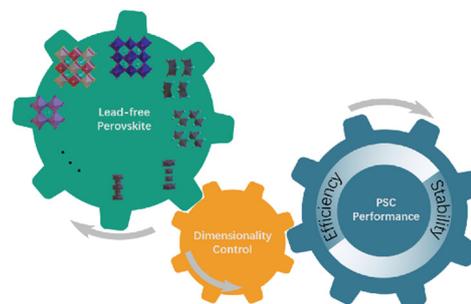
rsc.li/professional-development



1769

Breaking the bottleneck of lead-free perovskite solar cells through dimensionality modulation

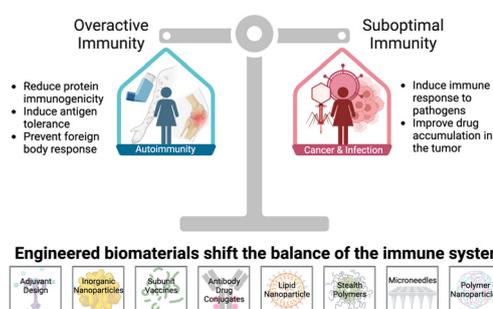
Wenjin Yu, Yu Zou, Hantao Wang, Siyuan Qi, Cuncun Wu,* Xinyu Guo, Yueli Liu, Zhijian Chen, Bo Qu* and Lixin Xiao*



1789

Therapeutic synthetic and natural materials for immunoengineering

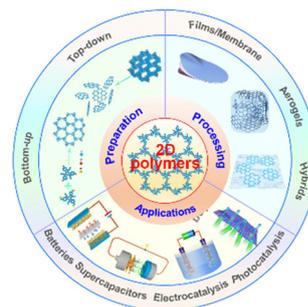
Anna Slezak, Kevin Chang, Samir Hossainy, Aslan Mansurov, Stuart J. Rowan, Jeffrey A. Hubbell* and Mustafa O. Guler*



1823

Recent advances in two-dimensional polymers: synthesis, assembly and energy-related applications

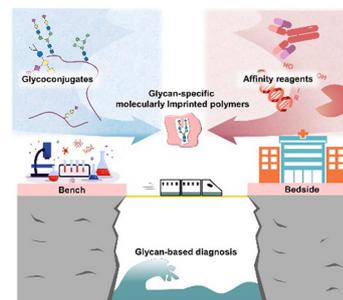
Yumei Ren and Yuxi Xu*



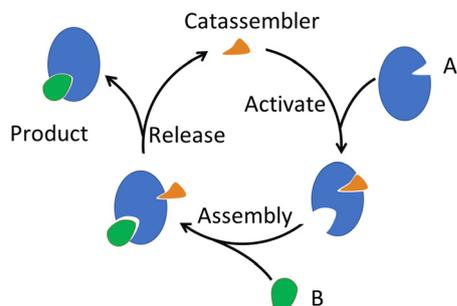
1870

Glycan-specific molecularly imprinted polymers towards cancer diagnostics: merits, applications, and future perspectives

Pengfei Li and Zhen Liu*



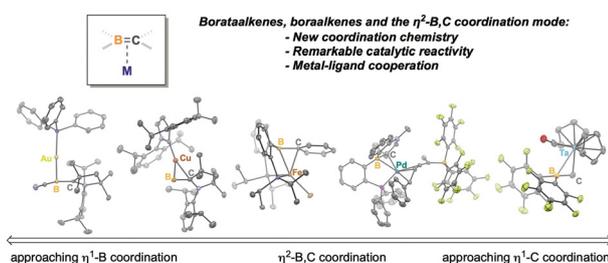
1892



What can molecular assembly learn from catalysed assembly in living organisms?

Zhi-Chao Lei, Xinchang Wang, Liulin Yang,* Hang Qu, Yibin Sun, Yang Yang, Wei Li, Wen-Bin Zhang, Xiao-Yu Cao, Chunhai Fan, Guohong Li, Jiarui Wu and Zhong-Qun Tian*

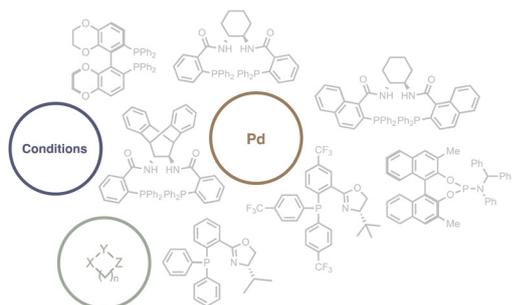
1915



Borataalkenes, boraalkenes, and the η^2 -B,C coordination mode in coordination chemistry and catalysis

Maxwell Eaton, Yuanzhe Zhang and Shih-Yuan Liu*

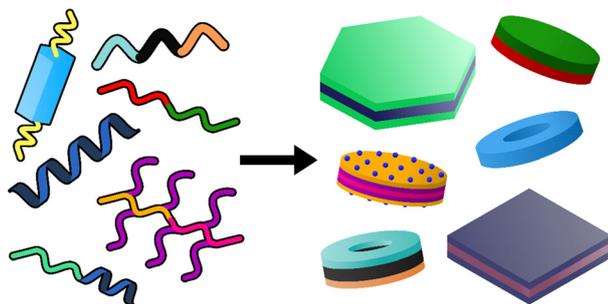
1936



Pd-Catalysed asymmetric allylic alkylation of heterocycles: a user's guide

François Richard, Paul Clark, Al Hannam, Thomas Keenan, Alexandre Jean and Stelios Arseniyadis*

1984



Nanoscale polymer discs, toroids and platelets: a survey of their syntheses and potential applications

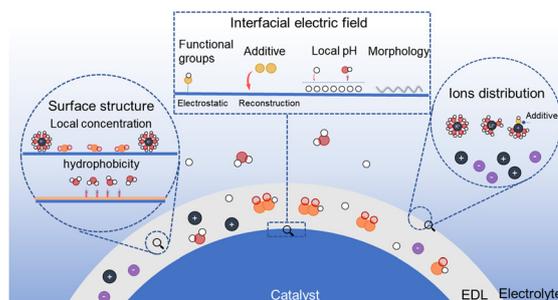
Emma R. L. Brisson, Max J. H. Worthington, Simran Kerai and Markus Müllner*



2022

Local reaction environment in electrocatalysis

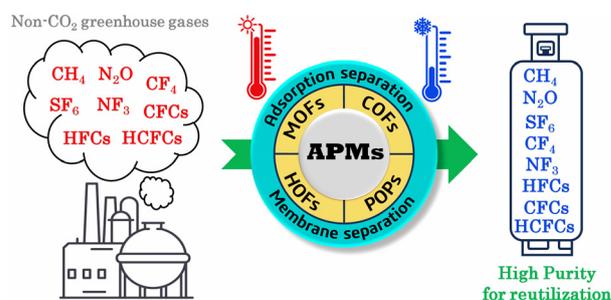
Chaojie Chen, Huanyu Jin, Pengtang Wang, Xiaogang Sun, Mietek Jaroniec, Yao Zheng* and Shi-Zhang Qiao*



2056

Non-CO₂ greenhouse gas separation using advanced porous materials

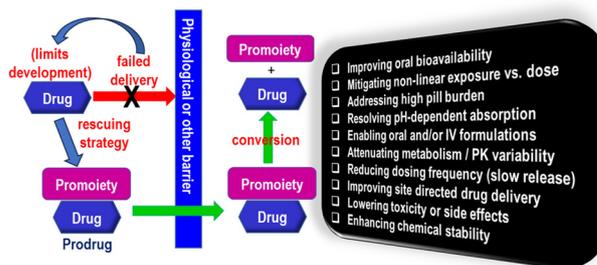
Yan-Long Zhao, Xin Zhang,* Mu-Zi Li and Jian-Rong Li*



2099

Prodrugs as empowering tools in drug discovery and development: recent strategic applications of drug delivery solutions to mitigate challenges associated with lead compounds and drug candidates

Murugaiah A. M. Subbaiah,* Jarkko Rautio and Nicholas A. Meanwell



2211

High-entropy rare earth materials: synthesis, application and outlook

Hao Fu, Yong Jiang, Mengzhen Zhang, Ziyun Zhong, Zhong Liang, Siyuan Wang, Yaping Du* and Chunhua Yan

