

# Chem Soc Rev

Chemical Society Reviews

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## IN THIS ISSUE

ISSN 0306-0012 CODEN CSRVBR 53(14) 7301-7634 (2024)



### Cover

See Yi Lu, Siqi Huan, Long Bai, Orlando J. Rojas *et al.*, pp. 7363–7391. Image reproduced by permission of Ayako Takagi from *Chem. Soc. Rev.*, 2024, 53, 7363. Image credit: Ayako Takagi.



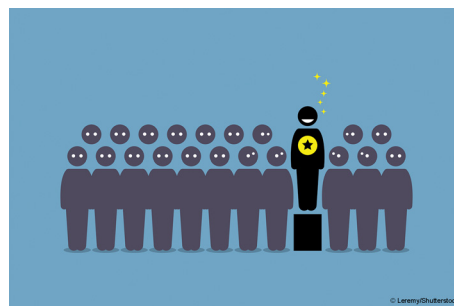
### Inside cover

See Hong Liu, Xiaowen Yu *et al.*, pp. 7392–7425. Image reproduced by permission of Hong Liu and Xiaowen Yu from *Chem. Soc. Rev.*, 2024, 53, 7392.

## EDITORIAL

7308

### Outstanding Reviewers for *Chemical Society Reviews* in 2023

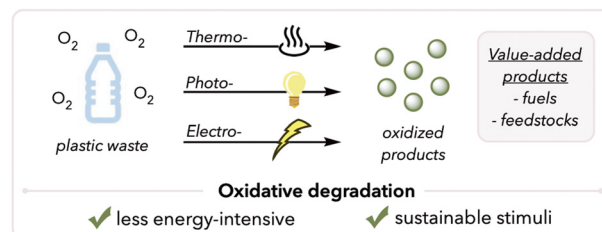


## TUTORIAL REVIEWS

7309

### Recent advances in oxidative degradation of plastics

Sewon Oh and Erin E. Stache\*



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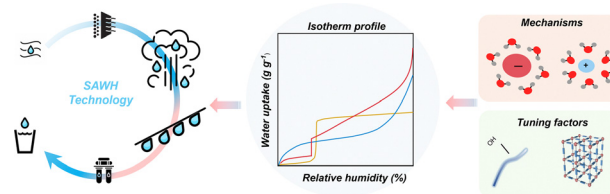


## TUTORIAL REVIEWS

7328

## Chemistries and materials for atmospheric water harvesting

Chuxin Lei, Weixin Guan, Yaxuan Zhao and Guihua Yu\*

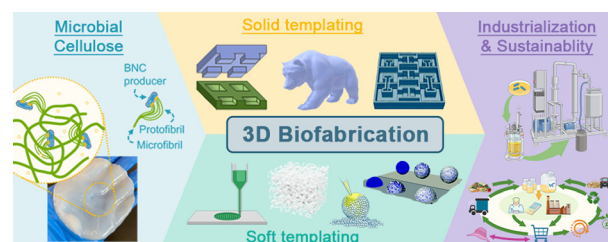


## REVIEW ARTICLES

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## Biofabrication with microbial cellulose: from bioadaptive designs to living materials

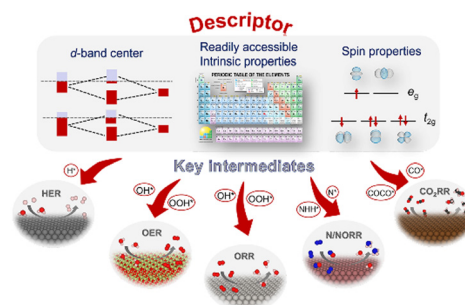
Yi Lu,\* Marina Mehling, Siqi Huan,\* Long Bai\* and Orlando J. Rojas\*



7392

## Advancing electrocatalytic reactions through mapping key intermediates to active sites via descriptors

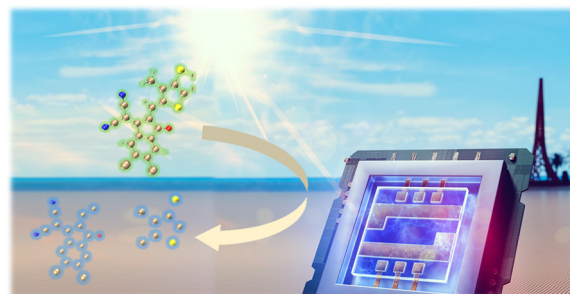
Xiaowen Sun, Rafael B. Araujo, Egon Campos dos Santos, Yuanhua Sang, Hong Liu\* and Xiaowen Yu\*



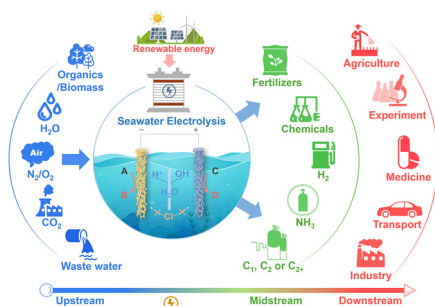
7426

## Understanding photochemical degradation mechanisms in photoactive layer materials for organic solar cells

Jianhua Han,\* Han Xu, Sri Harish Kumar Paleti, Anirudh Sharma and Derya Baran\*



7455



## Seawater electrolysis for fuels and chemicals production: fundamentals, achievements, and perspectives

Lin Chen, Chang Yu,\* Junting Dong, Yingnan Han, Hongling Huang, Wenbin Li, Yafang Zhang, Xinyi Tan and Jieshan Qiu\*

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## Renewable biomass-based aerogels: from structural design to functional regulation

Linfeng Chen, Xiaoxiao Yu, Mengyue Gao, Chengjian Xu, Junyan Zhang, Xinhai Zhang,\* Meifang Zhu and Yanhua Cheng\*

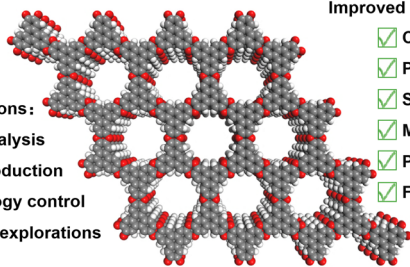
7531

### Catalyst and auxiliaries development in the synthesis of COFs

Improved properties:

- Crystallinity
- Porosity
- Stability
- Morphology
- Processability
- Functionality

Applications:  
Photocatalysis  
Scale production  
Morphology control  
Methods explorations

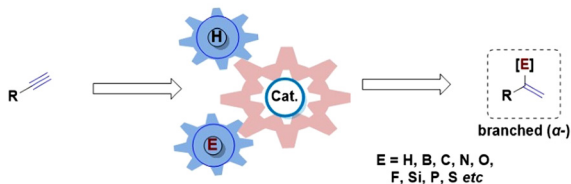


## The development of catalysts and auxiliaries for the synthesis of covalent organic frameworks

Wei Zhao, Qiang Zhu, Xiaofeng Wu and Dan Zhao\*

7566

Metal-catalyzed Markovnikov-type selective hydrofunctionalization of terminal alkynes:



## Metal-catalyzed Markovnikov-type selective hydrofunctionalization of terminal alkynes

Jieping Chen, Wen-Ting Wei, Zhuocheng Li and Zhan Lu\*



7590

## Fluorescent probes for targeting the Golgi apparatus: design strategies and applications

Silin Xu, Kai-Cheng Yan, Zhi-Hong Xu,\* Yuan Wang\* and Tony D. James\*

