

# Polymer Chemistry

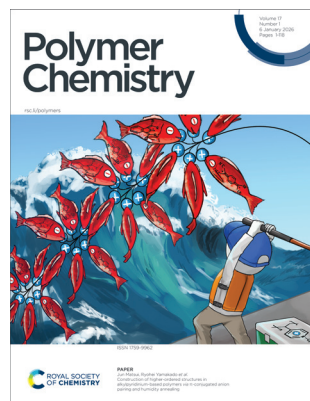
The home for the most innovative and exciting polymer chemistry, with an emphasis on polymer synthesis and applications thereof

[rsc.li/polymers](https://rsc.li/polymers)

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 1759-9962 CODEN PCOHC2 17(1) 1-118 (2026)



### Cover

See Jun Matsui,  
Ryohei Yamakado *et al.*,  
pp. 27–34.

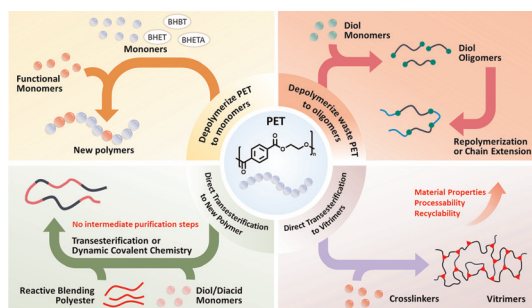
Image reproduced  
by permission of  
Ryohei Yamakado  
from *Polym. Chem.*,  
2026, **17**, 27.

## MINIREVIEW

7

### Upcycling of PET waste: from one polymer to another polymer

Te Yang, Zhenjie Yang,\* Yulu Zhang, Chenyang Hu, Zhenbiao Xie, Zhiqiang Sun, Xuan Pang\* and Xuesi Chen

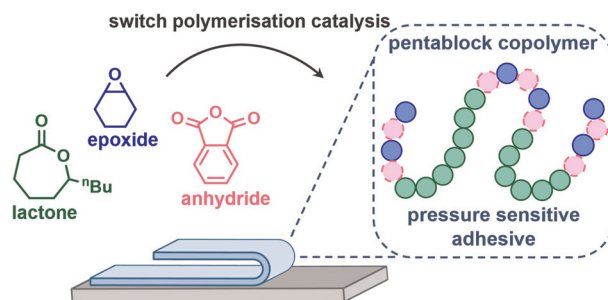


## COMMUNICATION

21

### Pressure-sensitive adhesives from polyester pentablock copolymers

Chang Gao, Kam C. Poon and Charlotte K. Williams\*



# RSC Applied Polymers

GOLD  
OPEN  
ACCESS

The application of polymers,  
both natural and synthetic

Interdisciplinary and open access

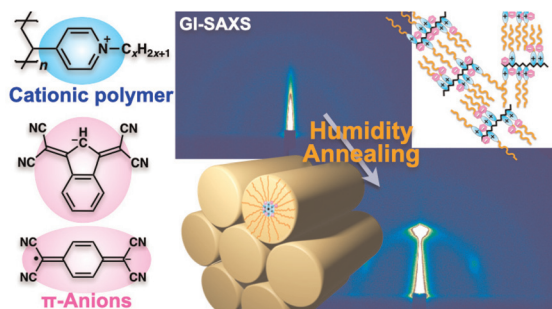
[rsc.li/RSCApplPolym](https://rsc.li/RSCApplPolym)

Fundamental questions  
Elemental answers

27

### Construction of higher-ordered structures in alkylpyridinium-based polymers via $\pi$ -conjugated anion pairing and humidity annealing

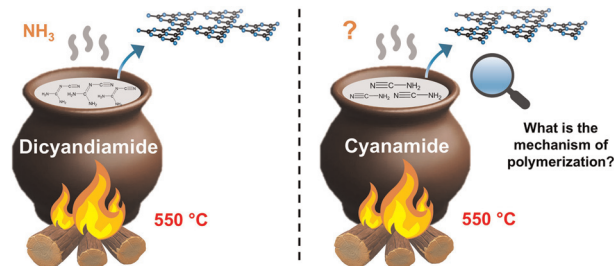
Erika Saito, Taeka Yonekura, Shuji Okada, Shotaro Nishitsuji, Jun Matsui\* and Ryohei Yamakado\*



35

### A precursor-dependent distinctive polymerization process controls the optoelectronic properties of graphitic carbon nitride photocatalyst

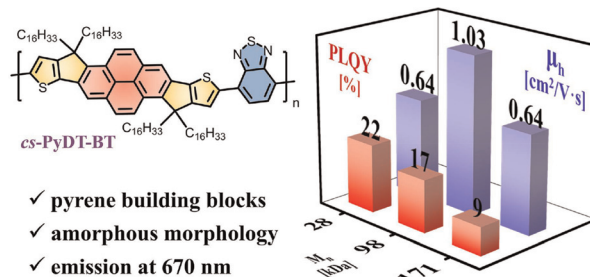
Simon Joyson Galbao, Sherlin Samantha Menezes, Syeda Reha Khadri and Dharmapura H. K. Murthy\*



45

### A new amorphous dithienocyclopentapyrene-benzothiadiazole (PyDT-BT) polymer with high-mobility and strong red light emission

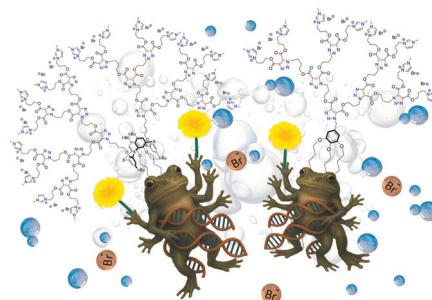
Tianrui Zhang, Honglei Li, Jichao Jiang, Jidong Zhang, Hongkun Tian\* and Lixiang Wang\*



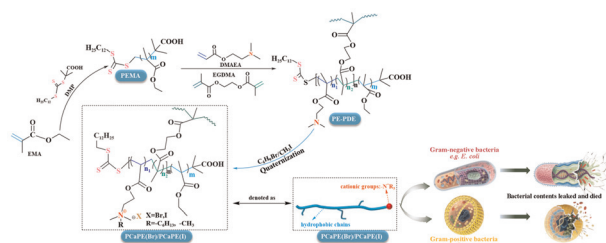
54

### Polyimidazolium amphiphilic dendrimers on thiacalix[4]arene and gallic acid platforms via copper-free click chemistry: synthesis, self-assembly and DNA binding

Ilshat M. Bogdanov, Angelina A. Fedoseeva, Anastasiya A. Glukhova, Elza D. Sultanova, Timur A. Mukhametzyanov, Vladimir G. Evtugyn, Svetlana E. Solovieva, Vladimir A. Burirov\* and Igor S. Antipin



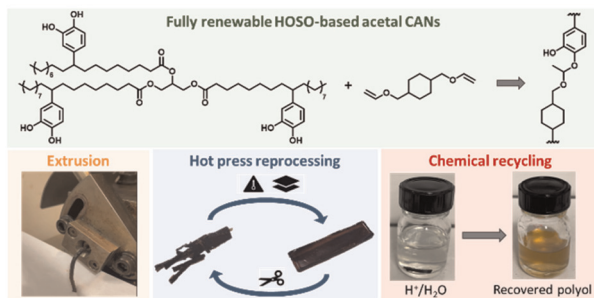
68



### Preparation and performance characterization of block cross-linked copolymers PCaPE(Br) and PCaPE(I) via RAFT polymerization and quaternization reaction

Chaoyue Shan,\* Haohao Zhang, Yan Gao, Hui Wang, Li Han, Yuanyuan Du, Wen He, Mingyuan Pang, Xing Gao and Yen Leng Pak\*

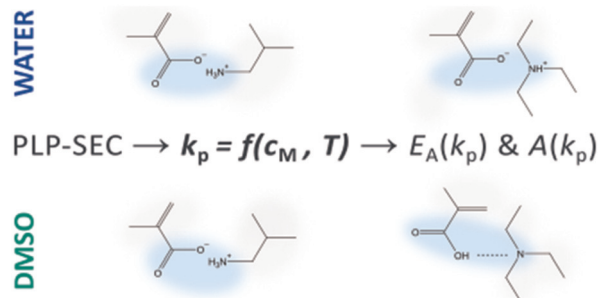
82



### Efficient catechol functionalization of high oleic sunflower oil for the preparation of fully biobased and extrudable acetal CANs

Timo Sehn, Mickaël Du Fraysseix, Cédric Le Coz, Emmanuel Ibarboure, Michael A. R. Meier\* and Audrey Llevot\*

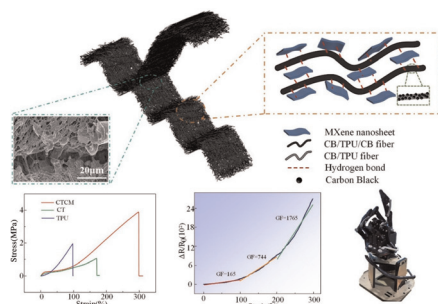
95



### Effect of ionization by proton transfer on propagation rate coefficients: a PLP-SEC study of methacrylic acid-amine monomers

Samuel Wierzbicki,\* Szczepan Bednarz\* and Igor Lacík\*

108



### A highly sensitive and stretchable double-layer conductive network structure CB/TPU/CB/MXene strain sensor for human-machine interaction

Renhan Li, Bokai Zhang, Ying Wang, Lingjie Kong, Chengbang Zhang, Jian Zhang and Yafei Qin\*

