

# RSC Applied Polymers

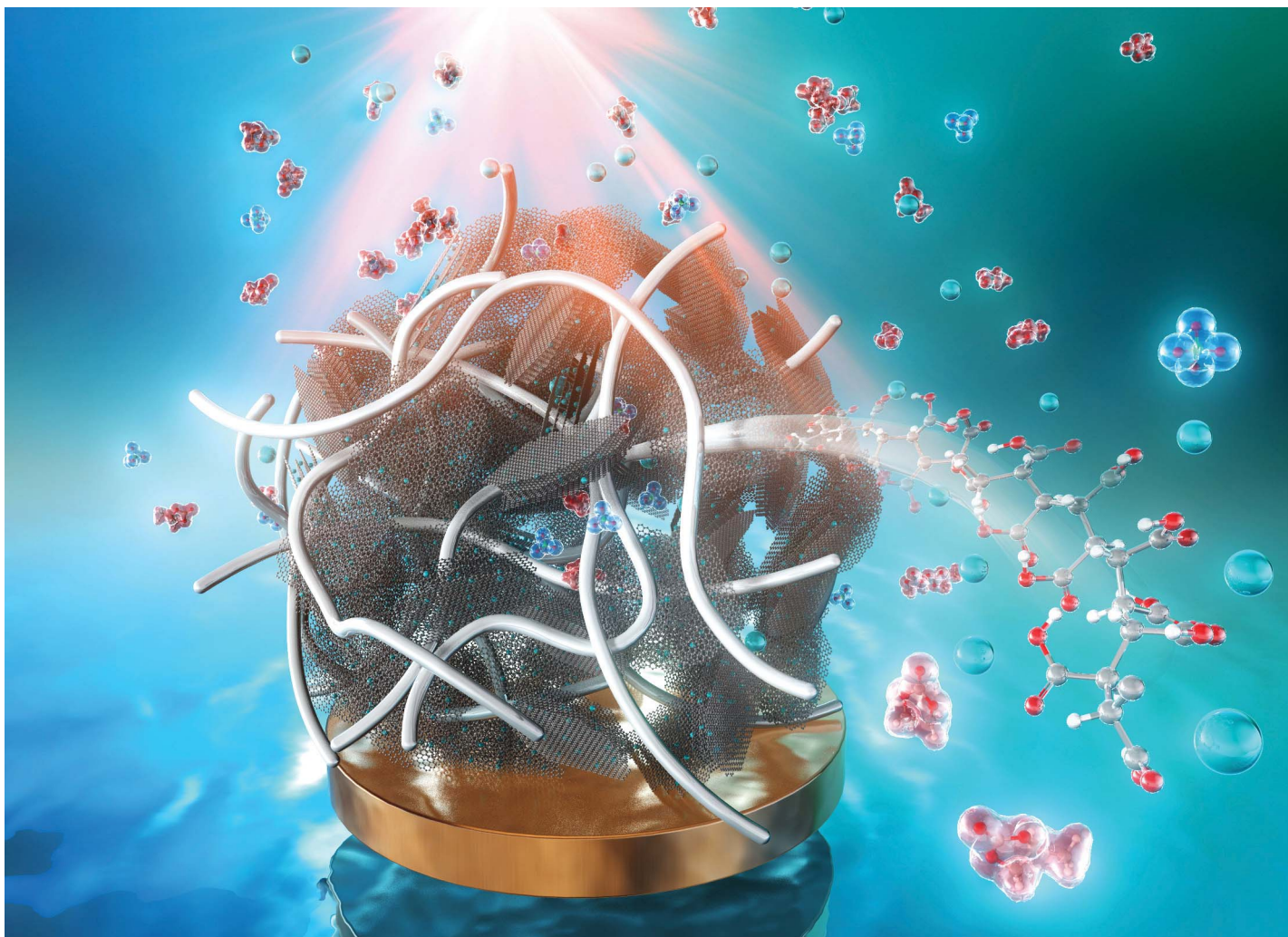
**The application of polymers,  
both natural and synthetic**

**Interdisciplinary and open access**

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

**Fundamental questions  
Elemental answers**



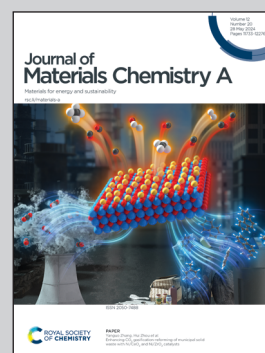


**Showcasing research from Professor Noriyoshi Matsumi's laboratory, Graduate School of Advanced Science and Technology, Japan Advanced Institute of Science and Technology, Ishikawa, Japan.**

Water soluble densely functionalized poly(hydroxycarbonylmethylene) binder for higher performance of hard carbon anode-based sodium-ion batteries

Herein, we utilised a dense functional groups polymer containing carboxylic acid at side chains as a binder that demonstrates ion transport, defect passivation and better mechanical stability. The consecutive polar functional groups provide ion transfer channels and enhanced adhesion to electrode components.

### As featured in:



See Amarshi Patra  
and Noriyoshi Matsumi,  
*J. Mater. Chem. A*, 2024, **12**, 11857.