

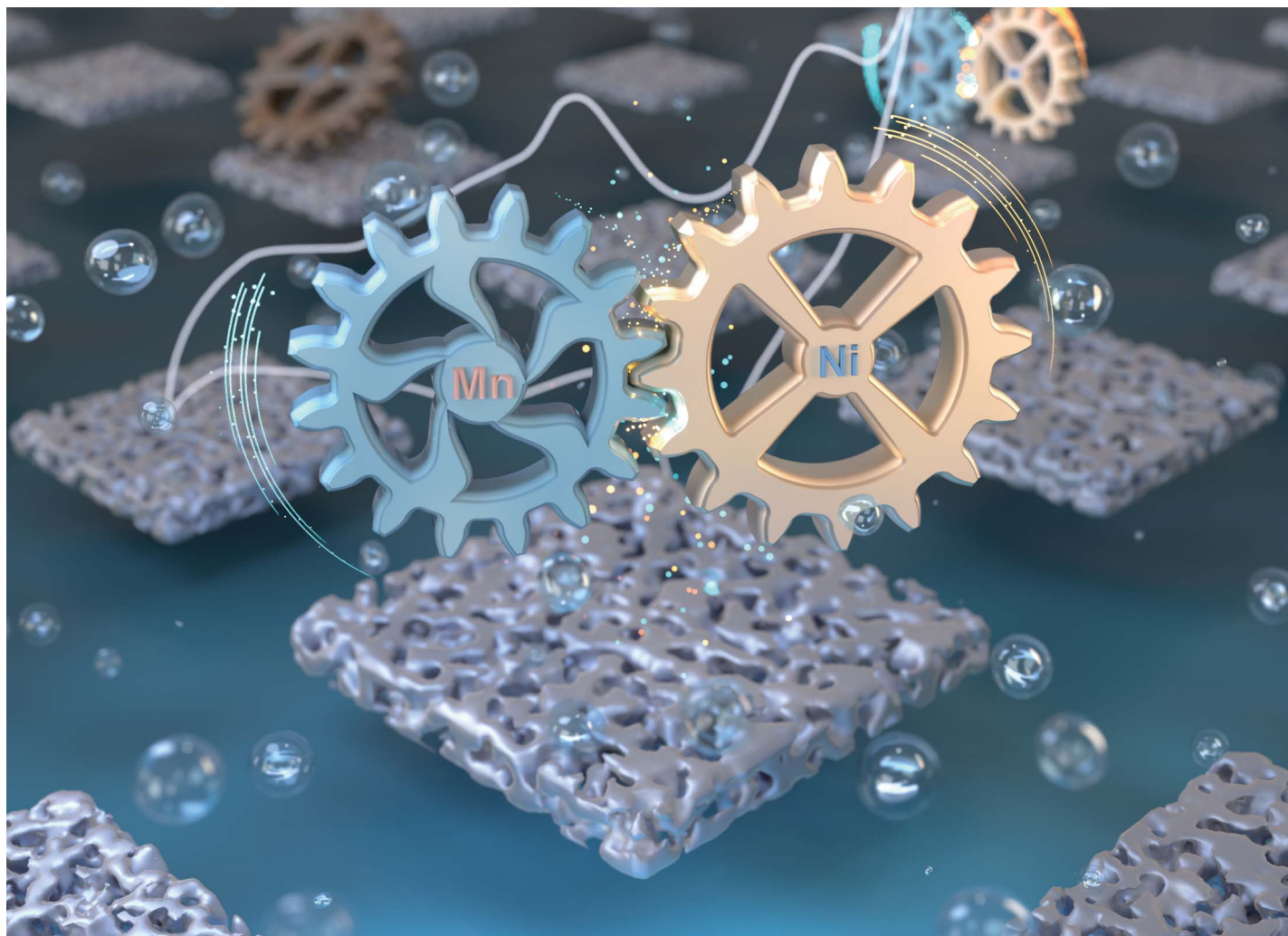
RSC Applied Polymers

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

Interdisciplinary and open access

rsc.li/RSCApplPolym

**Fundamental questions
Elemental answers**

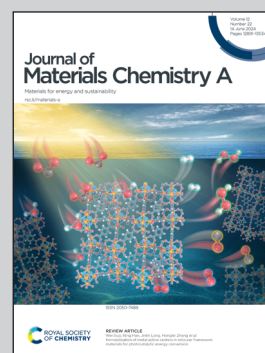


Highlighting a study on the energy storage mechanism in a composite electrode derived from nanoporous solid solution alloy with wide effective potential window by a group of researchers led by Prof. Jianli Kang from School of Materials Science and Engineering, Tianjin University.

The role of Mn in widening the potential window of solid solution derived electrodes for aqueous supercapacitors

A composite electrode derived from nanoporous solid solution alloy exhibits an extended working potential window of 1.5 V in aqueous environment with the synergetic effect of NiO-MnO_x . After dealloying and electrochemical oxidation steps, this electrode obtains successive redox reactions and strongly promotes the capacitance extension without water decomposition. We also demonstrate a quasi-solid-state supercapacitor made of PVA-KOH gel, which achieves a remarkable lifespan of 5000 cycles and high energy density ($37.67 \text{ mW h cm}^{-3}$ at 0.2 A cm^{-3}).

As featured in:



See Jianli Kang *et al.*,
J. Mater. Chem. A, 2024, **12**, 13106.