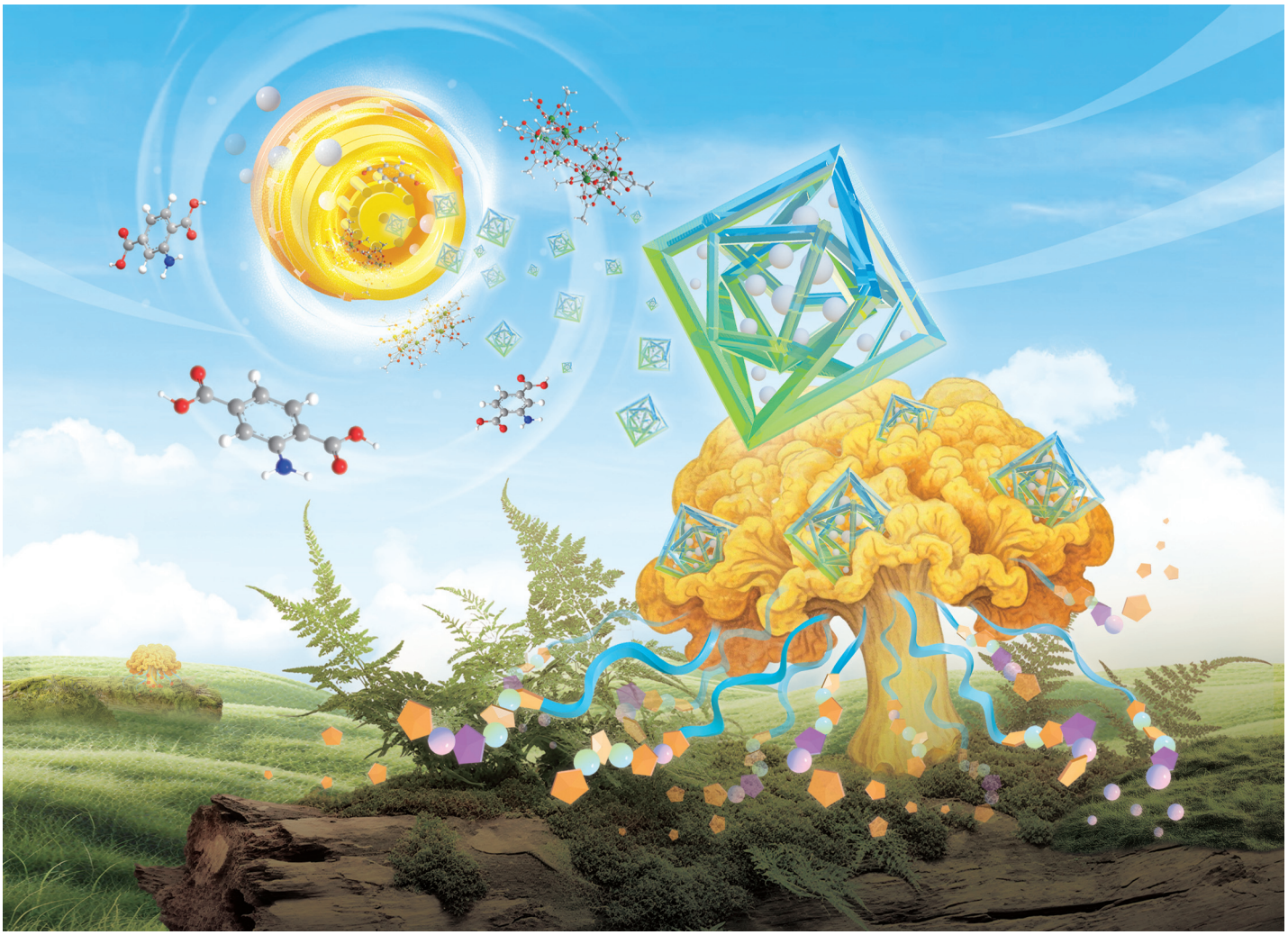

Showcasing research from Professor Chongjiang Cao, Dr Xiaoyang Sun's laboratory, School of Engineering, China Pharmaceutical University, Nanjing, China.

Mechanochemical biomimetic mineralization of UiO-66-NH_2-immobilized cellulase for enhanced catalytic stability and efficiency

To fully exploit medicinal-food resources and advance cellulase-driven biomass conversion, we developed a mechanochemically triggered biomimetic mineralization for enzyme immobilization. This low-solvent, rapid, and efficient strategy accelerates the formation of cellulase@UiO-66-NH_2 optimizing the metal precursor and fine-tuning the MOF's structural units. The resulting composite maintains high catalytic activity under elevated temperatures and extreme pH. These findings highlight mechanochemical biomimetic mineralization as a robust, scalable route for enzyme immobilization and offer new design principles for next-generation biocatalyst supports.

Image reproduced by permission of Chongjiang Cao from *Green Chem.*, 2025, **27**, 8832.

As featured in:

See Chongjiang Cao *et al.*, *Green Chem.*, 2025, **27**, 8832.

ROYAL SOCIETY OF CHEMISTRY

rsc.li/greenchem

Registered charity number: 207890