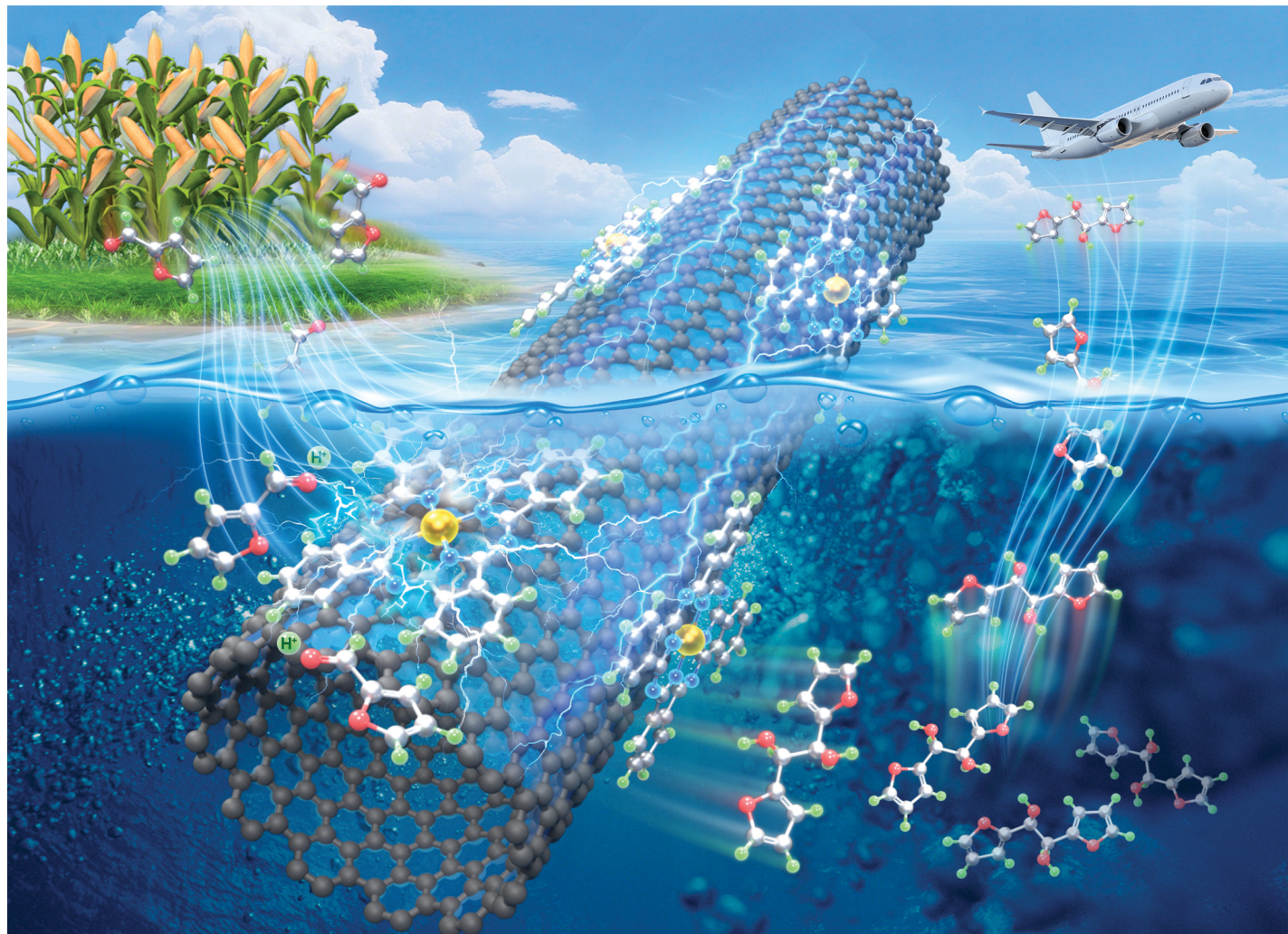




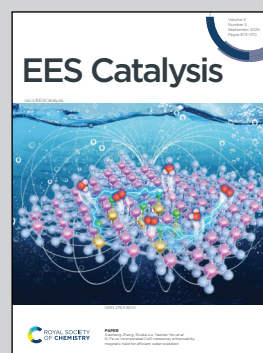
**Showcasing research from the laboratory of
Dr Hao Li at Tohoku University, Japan and
Dr Li Wei at The University of Sydney, Australia.**

**Furfural electrovalorisation to hydrofuroin with near-unity
faradaic efficiency on a single-atom zinc catalyst**

Electrochemical valorisation of biomass-derived furfural into sustainable aviation-fuel precursor could advance carbon neutrality and reduce fossil fuel dependence. In this work, by depositing zinc phthalocyanine on purified carbon nanotubes, we demonstrated a single-atom Zn catalyst for valorising C5 furfural to C10 hydrofuroin at a near unity Faradaic efficiency over a wide potential range. An integrated two-electrode flow electrolyser was further proved to enable direct hydrofuroin production and recovery from the aqueous electrolyte.

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As featured in:



See Hao Li, Li Wei *et al.*,
EES Catal., 2025, **3**, 1062.