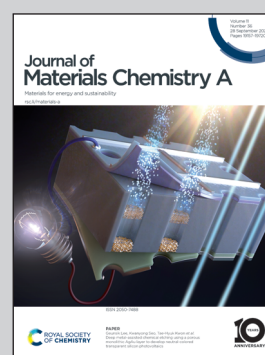


Showcasing research from Unité de Catalyse et Chimie du Solide (UCCS) and Institut d'électronique de microélectronique et de nanotechnologie (IEMN), Université de Lille, Lille, France.

Covalent organic framework derived synthesis of Ru embedded in carbon nitride for hydrogen and oxygen evolution reactions

We present an innovative approach for the synthesis of highly dispersed low-valence Ru oxide nanoparticles in the form of nanowires between carbon nitride layers using pyrolysis of 2D CIN-1 covalent organic framework (COF) material with embedded Ru(II) complexes. The resulting electrocatalyst demonstrates exceptional efficiency in water electrolysis with lower overpotentials for both hydrogen and oxygen production in comparison with Pt and RuO₂ reference catalysts, respectively.

As featured in:



See S. Paul, R. Boukherroub, V. Ordonsky *et al.*, *J. Mater. Chem. A*, 2023, 11, 19338.