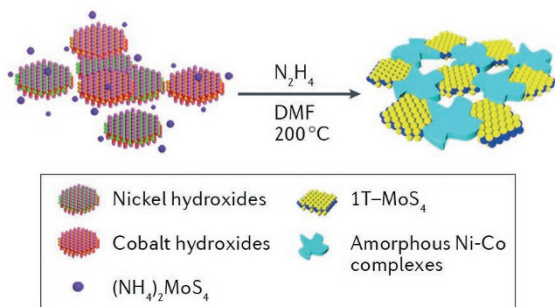


## IN BRIEF

## HETEROGENEOUS CATALYSIS

## No metal is an island



There have been considerable efforts to develop electrocatalysts based on cheap, earth-abundant elements, which can replace noble metal materials for overall water splitting into hydrogen and oxygen. Low-dimensional materials such as molybdenum disulfide are promising hydrogen evolution catalysts, whereas transition metal chalcogenides and oxides have proved to be effective catalysts for oxygen evolution. However, it would be desirable to find a material that can catalyse both processes simultaneously.

To this end, Xun Wang and colleagues make use of a new bifunctional water-splitting catalyst in the form of molybdenum disulfide decorated with nickel–cobalt nanoparticles.

As described in *Nature Communications*, this material features molybdenum disulfide in a metallic-like phase, which acts as a conductive connection between the nickel–cobalt islands. The islands act as active sites for both hydrogen and oxygen evolution, thus serving as both the cathode and anode in an efficient all-in-one water-splitting device.

Adam West, Associate Editor, *Nature Communications*

**ORIGINAL ARTICLE** Li, H. et al. Amorphous nickel–cobalt complexes hybridized with 1T-phase molybdenum disulfide via hydrazine-induced phase transformation for water splitting. *Nat. Commun.* **8**, 15377 (2017)