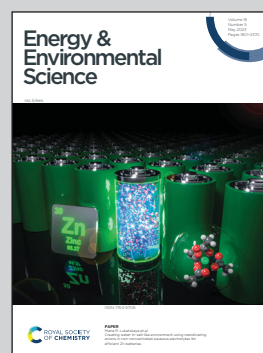


Showcasing research from Professor Youngkook Kwon's laboratory, School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan, Republic of Korea.

Copper with an atomic-scale spacing for efficient electrocatalytic co-reduction of carbon dioxide and nitrate to urea

In this work, we show that copper (Cu) with atomic-scale spacings (d_s) enables highly efficient urea synthesis from the electrochemical co-reduction of carbon dioxide (CO_2) and nitrate (NO_3^-) under mild conditions. The lithiation and de-lithiation approach was used to introduce d_s between the Cu facets. The urea synthesis was highly dependent on the d_s and the Cu with d_s close to 6 Å (6 Å-Cu) exhibits a remarkably high urea yield rate and partial current density.

As featured in:



See Hyun-Kon Song,
Hyun-Wook Lee, Mu-Jeng Cheng,
Youngkook Kwon *et al.*,
Energy Environ. Sci., 2023, **16**, 2003.