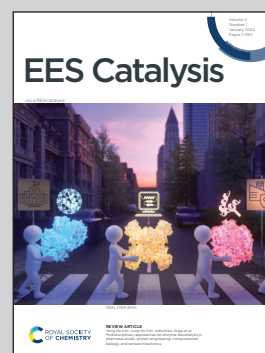


Showcasing research from Professor Jinwoo Lee's laboratory, Korea Advanced Institute of Science and Technology (KAIST), 291 Daehak-Ro, Yuseong-Gu, Daejeon 34141, Republic of Korea.

Activating iodine redox by enabling single-atom coordination to dormant nitrogen sites to realize durable zinc-iodine batteries

The prevalence of inactive pyridinic N sites in the N-doped carbon matrix hinders redox kinetics and iodine utilization. To address this, we incorporated single Ni atoms into an electrochemically inactive N-doped carbon matrix by carbonizing a zeolitic imidazolate framework and thermally activating the adsorbed Ni ions. These single Ni atoms modified the electronic structure of the surrounding N-doped carbon matrix, improving its polyiodide adsorption capability and enabling bifunctional catalytic activity for iodine reduction and oxidation reactions.

As featured in:



See Seoin Back, Jinwoo Lee *et al.*, *EES. Catal.*, 2024, 2, 276.