A Molecular Mediator for Reductive Concerted Proton-Electron Transfers via Electrocatalysis


Scientific Achievement
- We develop a molecular mediator to deliver a proton and electron to a substrate in a concerted fashion.

Significance and Impact
- Concerted delivery of proton and electrons, as opposed to stepwise delivery, requires significantly less energy input.

Technical Details
- Process is electrocatalytic
- Concerted proton-electron transfer is rate limiting
- Approach involves synthetic integration of a redox mediator and a Brønsted acid