

# EES Catalysis

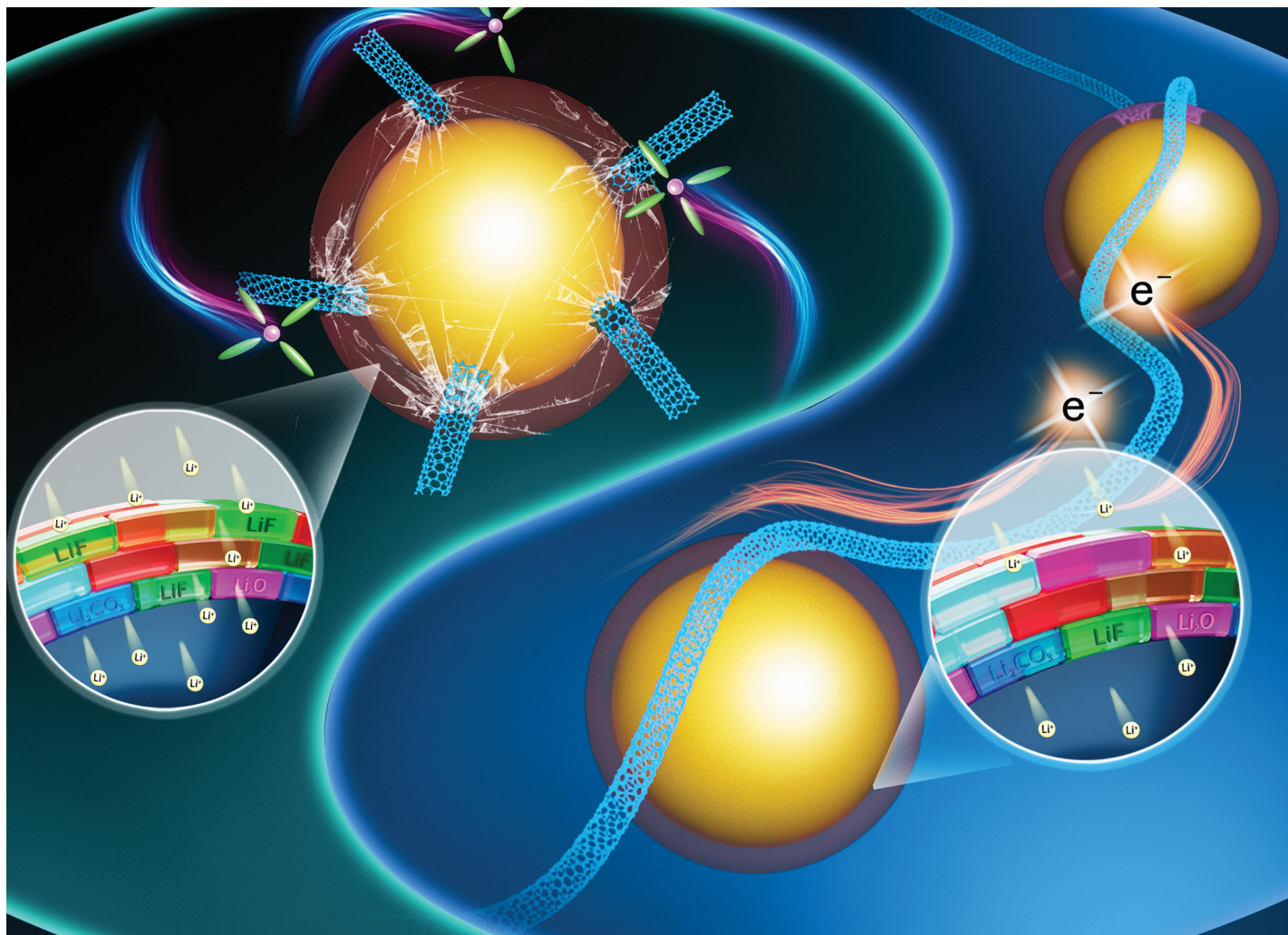
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**Fundamental questions  
Elemental answers**

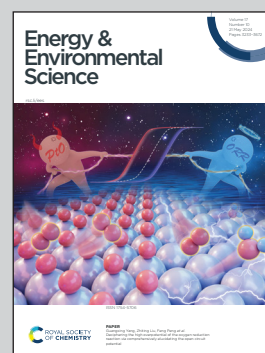


Showcasing research from Professor Fei Wei's laboratory, Beijing Key Laboratory of Green Chemical Reaction Engineering and Technology, Department of Chemical Engineering, Tsinghua University, Beijing, China and Ordos Laboratory, Ordos, Inner Mongolia, China.

The acupuncture effect of carbon nanotubes induced by the volume expansion of silicon-based anodes

The large volume expansion of Si-based anodes leads to the acupuncture effect of short CNTs. Both the SEI and carbon-coating are penetrated by short, thick CNTs with GPa-level compressive stress, thereby accelerating electrolyte decomposition and leading to a LiF-rich SEI and an increased  $\text{Li}^+$  diffusion barrier.

### As featured in:



See Fei Wei *et al.*,  
*Energy Environ. Sci.*, 2024, **17**, 3358.