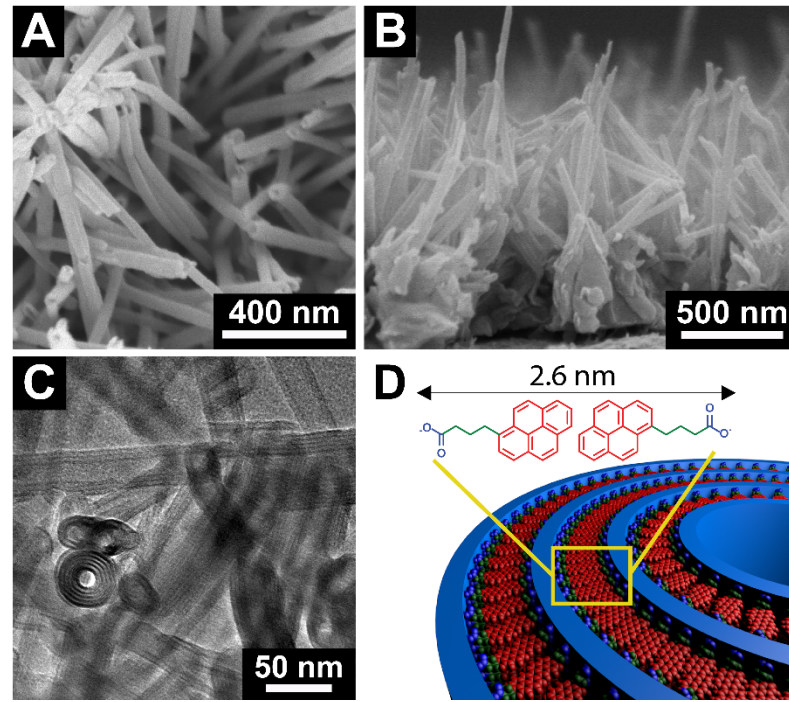


Oriented Lamellar $\text{Co}(\text{OH})_2$ Nanotubes for Supercapacitors

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Faradaic supercapacitors are a promising energy storage solution due to their rapid rates of charging and discharging. Using electrodeposition, concentric lamellar cobalt hydroxide nanotubes have been grown perpendicularly from a flat substrate. The organic-inorganic lamellar structure is templated by the surfactant pyrenebutyric acid (PyBA) that induces curvature to the traditionally flat $\text{Co}(\text{OH})_2$ sheets. The oriented, high surface area nanostructure enhances the energy storage properties over other similar surfactants that do not form tubular nanostructures.



Scanning electron microscope images (A and B) and transmission electron microscope image (C) of hybrid nanotubes. (D) Tube schematic with PyBA structure.

