

Advanced Metal Oxide meso-porous Nanostructured Electrode Materials for Lithium-ion Batteries

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The objective in this study was to design the architecture of highly meso-porous CMO hollow spheres with the double-shelled structure as an anode material for lithium ion batteries with different calcination conditions. The CMO was prepared via the following processes: the synthesis of hydrophilic glucose-based carbon spheres as a template by a hydrothermal process, the formation of the carbon sphere@hydrated CMO via polyol reaction of ethylene glycol by a solvothermal process, along with subsequent calcination conditions to synthesize the double-shelled CMO hollow spheres. The CMO hollow spheres with different calcination temperatures were differently synthesized via the combined mechanism of both inward and outward Ostwald ripening, which consist of their outer shell, inner shell, void space between outer shell and inner one, and inner hollow core.