Short Communication

Catalytic Graphitization Strategy for the Synthesis of Graphitic Carbon Nanocages and Electrochemical Performance

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An exquisite structure of graphitic carbon nanocages (GCNCs) with high surface area was fabricated by catalytic graphitization route at low temperature (650 °C). Bio-renewable lignin was used as the carbon precursor. X-ray diffraction XRD pattern and Raman spectrum indicated that the GCNCs had a high degree of graphitization crystallinity. TEM and nitrogen adsorption-desorption isotherms showed that the GCNCs possessed mesoporous and micropore structure with high surface area. The higher graphitization carbon nanocage may promote charge transfer, giving potential wide application in electrode material.

Keywords: Carbon materials; Graphitic carbon nanocages; Catalytic graphitization; Hierarchical pore; Lignin.

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