Porous Carbon doped by different nitrogen sources and its Electrochemical Properties

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Nitrogen doped porous carbons (NPCs) were synthesized by using a self-sacrificing template method. The obtained NPCs exhibit large amount of mesopores and high pyrrolic N and pyridine N content. Because the pyrrolic N and pyridine N facilitate the formation of defects and vacancies, the electrochemical properties of NPCs are significantly improved. The NPCs delivers a high reversible capacity of 621 mAh g⁻¹ at 0.1 C after 50 cycles and excellent rate capacity of 456 mAh g⁻¹ at 1 C, showing great potentials as anode materials for Li-ion batteries (LIBs).

Keywords: N-doped porous carbon; Lithium battery; Anode material; Self-sacrifice template

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