

材料工程专栏

Preparation of Isolated Single-walled Carbon Nanotubes with High Hydrogen Storage Capacity

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摘要 Isolated single-walled carbon nanotubes with high proportion of opening tips were synthesized by using alcohol as carbon source. The mechanism of cutting action of oxygen was proposed to explain its growth. Compared with carbon nanotubes synthesized with benzene as carbon source, their specific surface area was heightened by approximately 2.2 times (from 200.5 to 648 m²/g) and the hydrogen storage capacity was increased by approximately 6.5 times (from 0.95 to 7.17%, w) which had exceeded DOE energy standard of vehicular hydrogen storage.

关键词 [carbon nanotubes, synthesis, alcohol, benzene, mechanism](#)

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