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## Hierarchical Material of Carbon Nanotubes Grown on Carbon Nanofibers for High Performance Electrochemical Capacitor

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### Abstract:

The development of new advanced nanostructures based on the hybridization of different carbon nanomaterials to obtain enhanced performance of energy storage devices has attracted considerable attention. Herein, a hierarchical nanostructure of carbon nanotubes supported electrospun carbon nanofiber networks (CNTs@CNFs) was successfully fabricated by using two facile techniques: - electrospinning and chemical vapor deposition (CVD). Such CNTs@CNFs hybrid showed the uniform and high density of CNTs directly grown on the surface of carbon nanofiber networks, leading to the formation of a hierarchical nanostructure with a large surface area and highly porous characteristics. The enhanced interactions between the CNTs and the

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