

Ultra-long carbon nanotube forest via in situ supplements of iron and aluminum vapor sources

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A carbon nanotube forest with a length of 14 cm grew with an average growth rate of $1.5 \mu\text{m s}^{-1}$ and a growth lifetime of 26 h. Several key factors to realize this unprecedented long growth such as catalyst conditions, growth conditions in chemical vapor deposition, and reactor system were clarified. The long carbon nanotube forest enabled macroscopic measurements of the tensile and electrical properties of the carbon nanotube wires.

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