

Abstract Submitted  
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**Convenient growth of millimeter-long, few-walled carbon nanotube forests** RAQUEL OVALLE-ROBLES, XAVIER LEPRO, MARCIO LIMA, RAY BAUGHMAN, NanoTech Institute University of Texas at Dallas, NANOTECH INSTITUTE TEAM — We report the efficient growth of 3 mm long, few-walled carbon nanotube (FW-CNT) forests by chemical vapor deposition on Si substrates. High yields (nearly 90%) of FW-CNTs were grown in a continuous and controlled way in 3 hours without resorting to water-assisted growth. TEM and SEM images of 1 and 3 mm long FW-CNTs show that the forests are comprised of mostly carbon double walled nanotubes and single walled nanotubes having large diameters. The number of walls was controlled by the catalyst thickness (ranging from 0.2 to 0.6 nm) and nanotube length was controlled by adjustment of gas pressures (ethylene, hydrogen and argon), temperature and residence time. The Al<sub>2</sub>O<sub>3</sub> buffer layer was critically important for this controlled synthesis.

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