

Preparing Semiconducting randomly networked single-walled carbon nanotubes films

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Semiconducting randomly networked single-walled carbon nanotube(SWNT) film has been synthesized by plasma enhanced chemical vapor deposition (PECVD). Fe particles has been used as catalyst particles prepared by e-beam evaporation, ferrocene and photorisist mixture. By Raman spectroscopy and UV-Vis-Near IR, semiconducting tube fraction is unconventionally higher than other commercially available SWNT material. The transistors prepared by semiconducting tube file exhibited very high on/off ratio($>10^5$)