

The Study of Plasma Surface Modification of Carbon Nanotubes

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Abstract

Aligned carbon nanotubes were produced by chemical vapor deposition process, which exhibit superhydrophobic properties (wetting angle $\sim 146^\circ$) due to their structure stability and with needle-like morphology. Different surface treatment methods were employed to improve hydrophilic properties of carbon nanotubes including oxygen plasma treatment and the deposition of Poly-l-lysine film on the surface of carbon nanotubes. The results show that the wetting or hydrophilic properties can be significantly improved by these surface modification process (wetting angle $< 35^\circ$).

Keyword : Plasma 、Carbon