



## Technical Data Sheet

# ACS Material Purified Carboxylic Single-Walled Carbon Nanotubes (SWNTs-COOH)

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Revision: 092617

## 1. Preparation Method

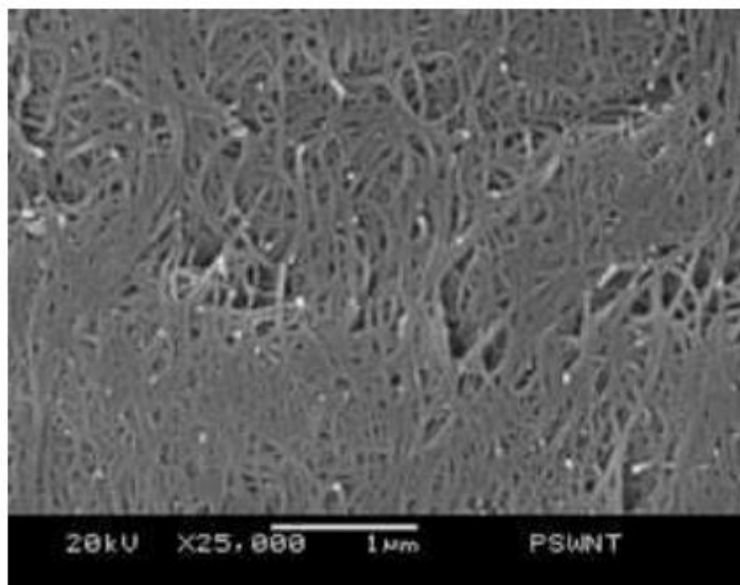
Chemical Vapor Deposition (CVD) Method

## 2. Characterizations

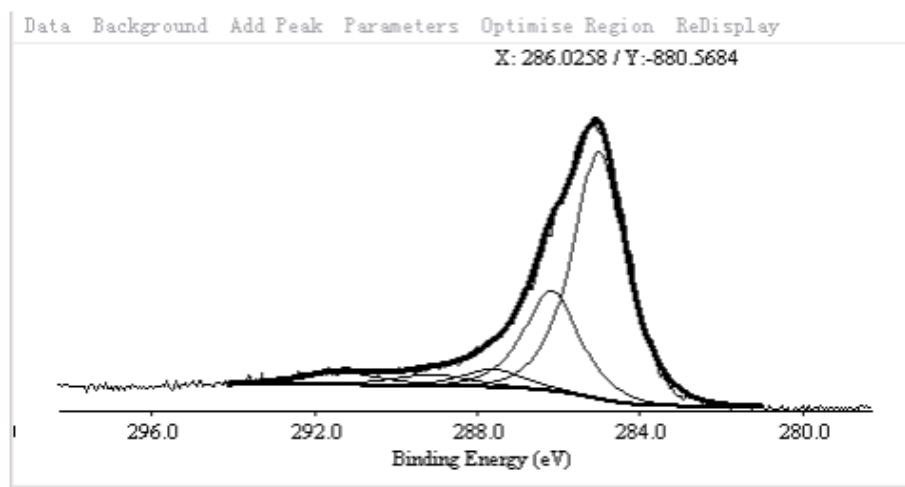
<b>Purity:</b>	>90%
<b>-COOH Content:</b>	2.73 wt%
<b>Color:</b>	Black
<b>Outer Diameter:</b>	1-2 nm
<b>Inner Diameter:</b>	0.8-1.6 nm
<b>Length:</b>	1-3 $\mu\text{m}$ 5-30 $\mu\text{m}$
<b>SSA:</b>	>380m <sup>2</sup> /g
<b>Tap density:</b>	0.14g/cm <sup>3</sup>
<b>Apparent density:</b>	~2.1g/cm <sup>3</sup>
<b>EC:</b>	>100 S/cm



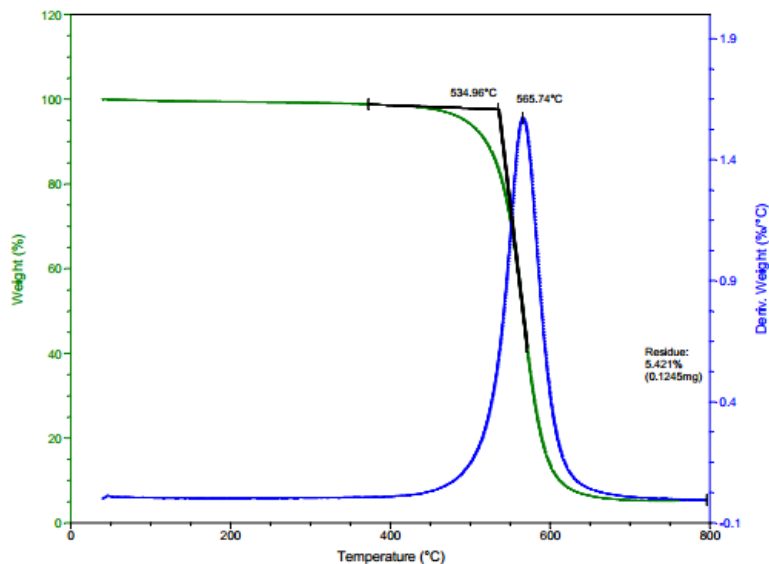
TEM Image of ACS Material Purified SWCNTs-COOH (Length = 5-30  $\mu\text{m}$ )



SEM Image of ACS Material Purified SWCNTs-COOH (Length = 5-30 μm)



XPS Spectrum of ACS Material Purified SWCNTs-COOH (Length = 5-30 μm)



TG Analysis of ACS Material Purified SWCNTs-COOH (Length = 5-30  $\mu\text{m}$ )

### 3. Application Fields

Catalysts, additives in polymers, nanoelectrodes, drug delivery, sensors, electromagnetic-wave absorption and shielding, electron field emitters for cathode ray lighting elements, flat panel display, gas-discharge tubes in telecom networks, energy conversion, lithium-battery anodes, hydrogen storage, supercapacitors, nanotube composites (by filling or coating), nanoprobes for STM, AFM, and EFM tips, nanolithography, reinforcements in composites, *etc.*

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