



## Technical Data Sheet

# ACS Material Carboxyl Graphene (Powder and Dispersion)

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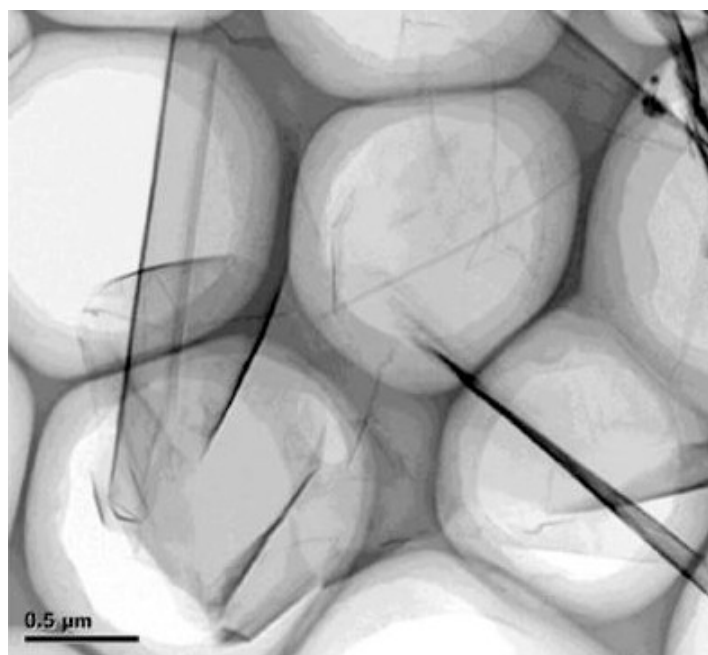
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Revision: 061517

## 1. Preparation Method

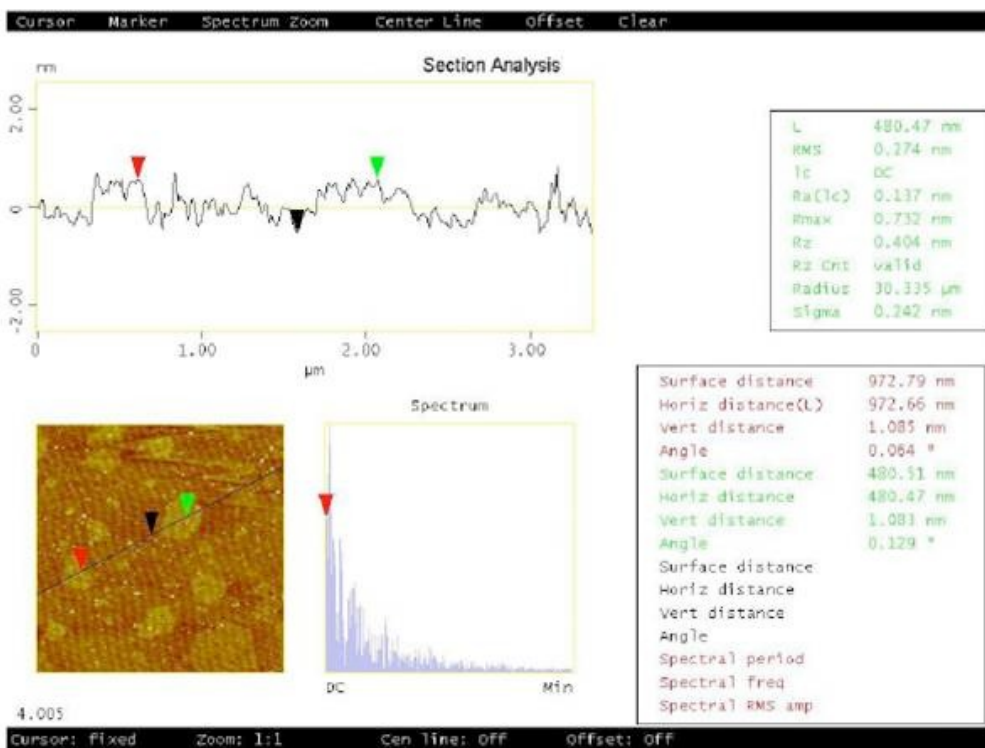
- 1) Modified Hummer's Method to make graphene oxide
- 2) Convert  $-OH$  and  $C-O-C$  into  $-COOH$ .

## 2. Characterizations

<b>Purity:</b>	>99%
<b>Size:</b>	1-5 $\mu\text{m}$
<b>Thickness:</b>	0.8-1.2 nm
<b>Carboxyl Ratio:</b>	5 wt.%

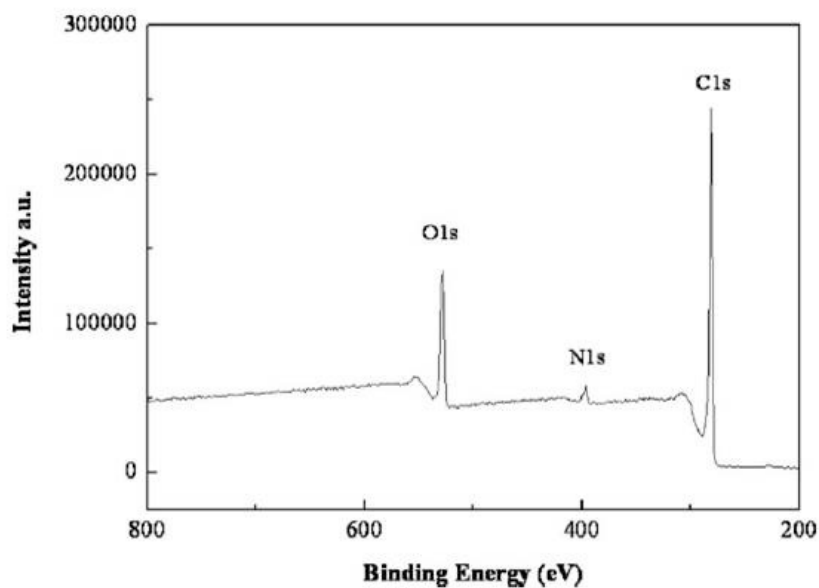


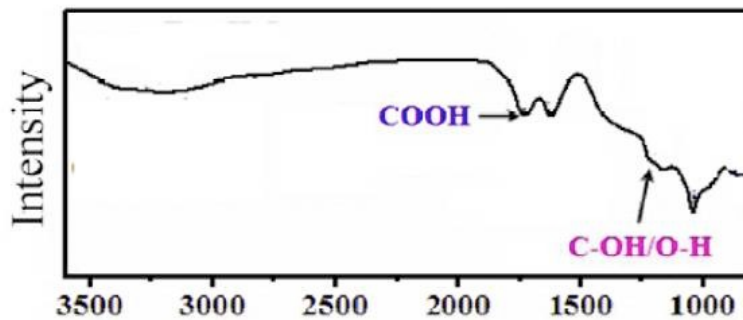
Typical TEM Image of ACS Material Carboxyl Graphene



### AFM Analysis

#### AFM Analysis of ACS Material Carboxyl Graphene





FT-IR of ACS Material Carboxyl Graphene

### 3. Application Fields

- 1) Catalyst
- 2) Supercapacitors
- 3) Solar energy
- 4) Graphene semiconductor chips
- 5) Conductive graphene film
- 6) Graphene computer memory
- 7) Biomaterials
- 8) Transparent conductive coatings

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