



## Technical Data Sheet

### ACS Material Graphene on Silicon Substrate

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Revision: 070117

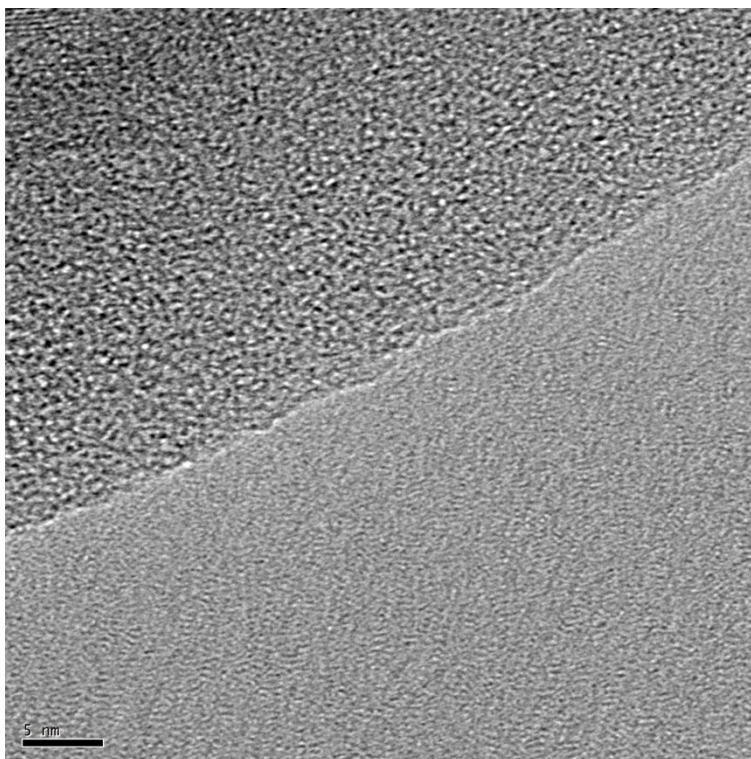
## 1. Preparation Method

Graphene on Si substrate was prepared by the following steps:

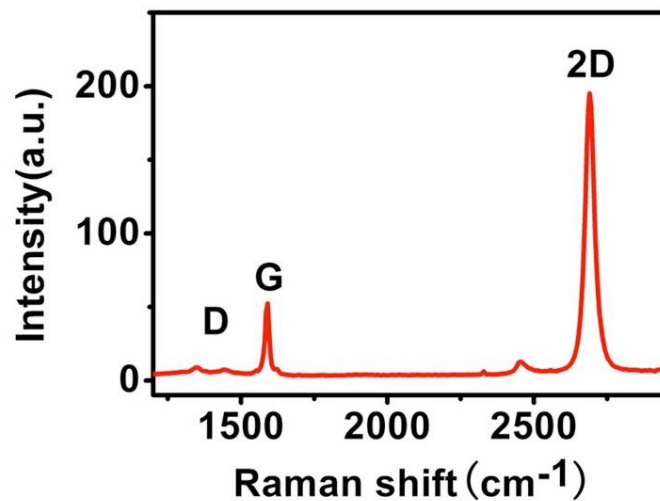
- 1) Monolayer graphene grown on copper foil
- 2) Deposit PMMA and cure
- 3) Remove Cu by etching process
- 4) Wash PMMA/Graphene in DI water
- 5) Redeposit PMMA/Graphene onto Si substrate and cure
- 6) Remove PMMA with acetone

## 2. Characterizations

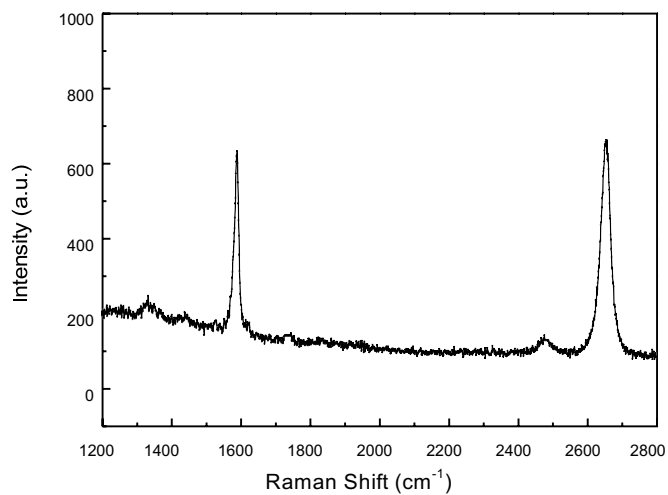
<b>Layers:</b>	Predominantly single-layer graphene
<b>Sheet Resistance (<math>\Omega/\text{sq}</math>):</b>	<600
<b>Custom Order (<math>\Omega/\text{sq}</math>):</b>	<300
<b>Transparency (%):</b>	>95



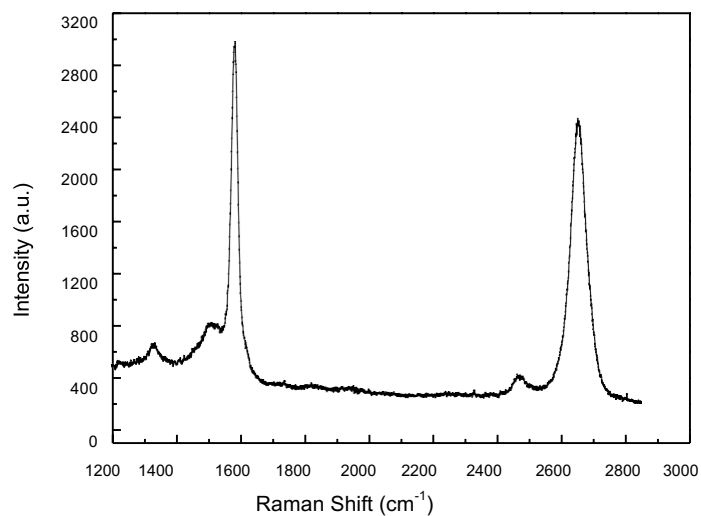
Typical TEM Image of ACS Material Single Layer Graphene Film



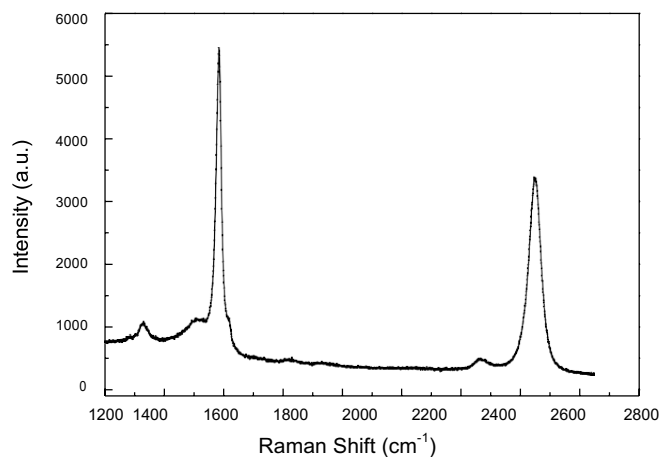
Typical Raman Spectrum of ACS Material Single Layer Graphene Film



Typical Raman Spectra of ACS Material 2 Layer Graphene Film (Prepared by CVD Method)



Raman Spectra of ACS Material 3~5 Layer Graphene Film (Prepared by CVD Method)



Raman Spectra of ACS Material 6~8 Layer Graphene Film (Prepared by CVD Method)

### 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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