

## Product Datasheet

### Graphenea Monolayer Graphene film on Cu

#### Graphene Film

Growth Method	CVD synthesis
Transfer Method	Clean transfer method
Quality Control	Optical Microscopy & Raman checked
Appearance (Color)	Transparent
Transparency	>97%
Appearance (Form)	Film
Coverage	>95%
Number of graphene layers	1
Thickness (theoretical)	0.345 nm
AFM Thickness (air @RT)	<1nm
Electron Mobility on SiO <sub>2</sub> /Si	≈1500 cm <sup>2</sup> /V·s
Sheet Resistance on SiO <sub>2</sub> /Si (Van der Pauw)	450±40 Ohms/sq. (1cm x 1cm)
Sheet Resistance PEN (Van der Pauw)	750±50 Ohms/sq. (1cm x 1cm)
Sheet Resistance Quartz (Van der Pauw)	360±50 Ohms/sq. (1cm x 1cm)
Grain size	Up to 20 μm

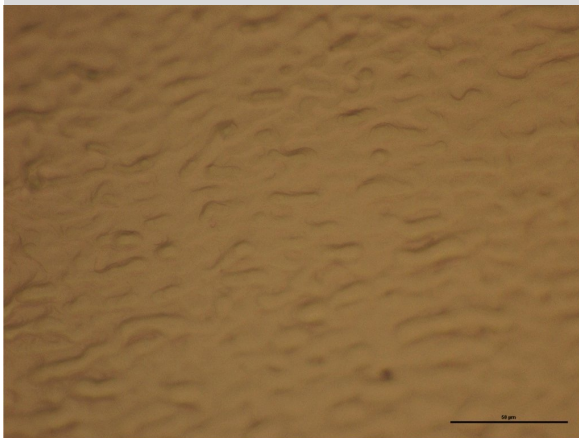
#### Substrates

##### **Cu foil**

Thickness	18 μm
Roughness	80 nm

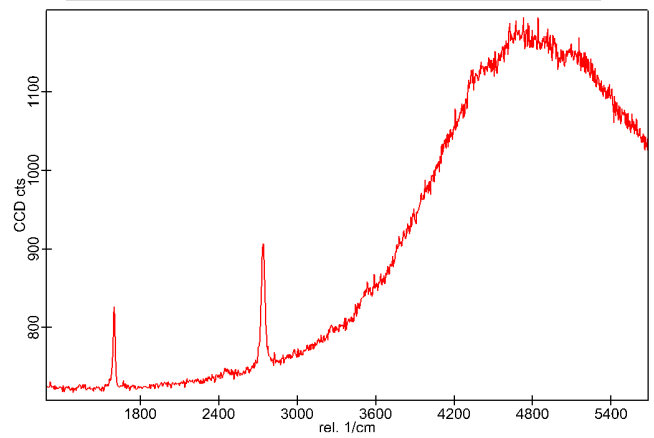
Note: Pretreated for easier bottom layer removal

**Optical Microscopy**



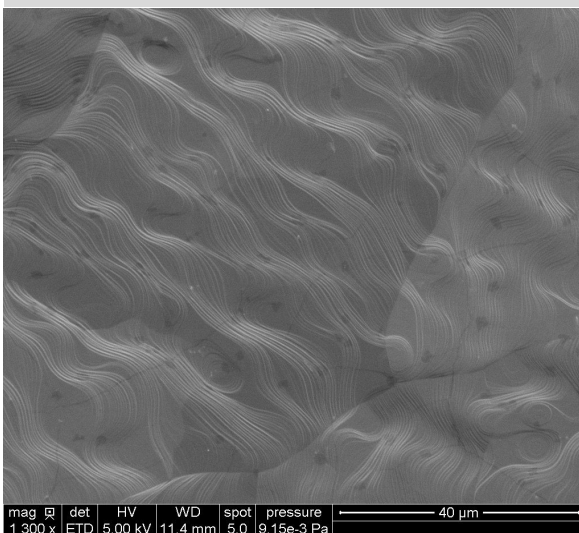
Monolayer Graphene on Cu

**Raman Spectrum**



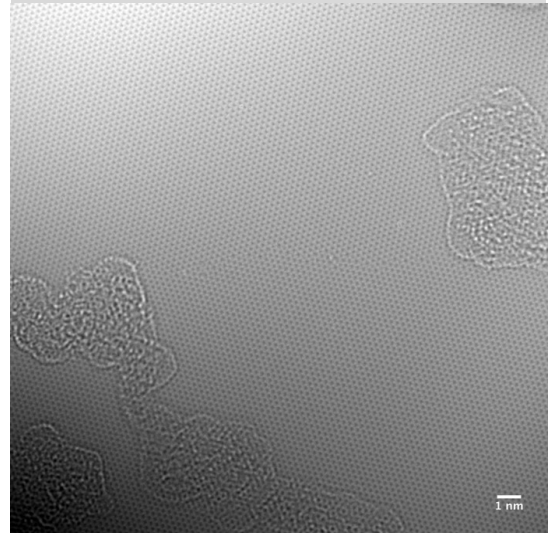
Monolayer Graphene on Cu  
Laser wavelength: 457 nm

**SEM image**



Monolayer Graphene on Cu

**HRTEM image**



Suspended graphene on TEM grids