



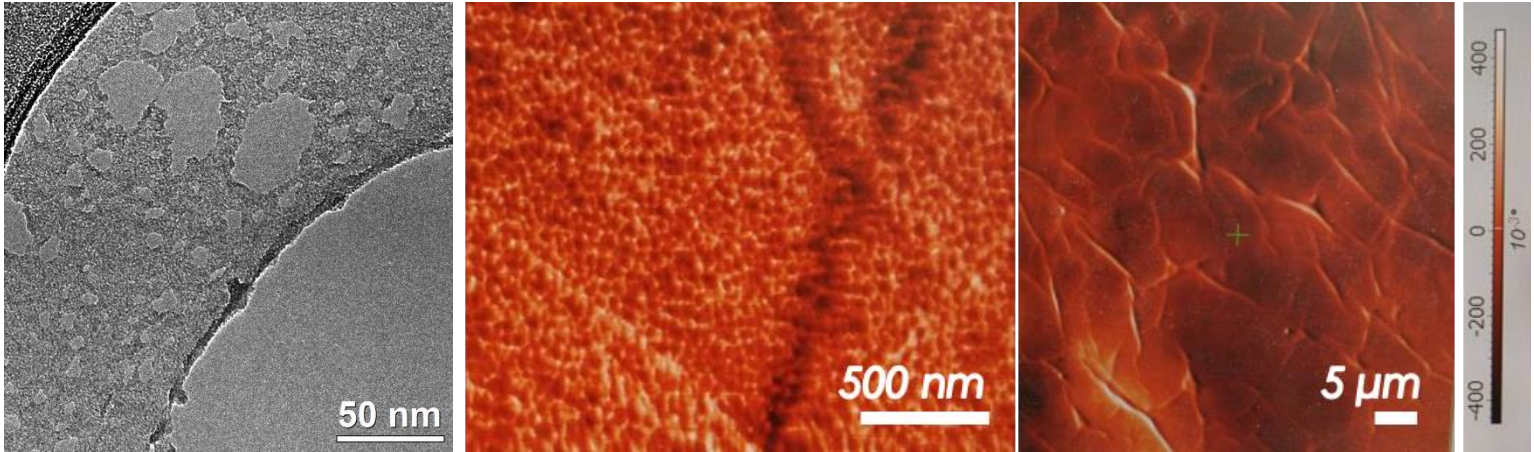
Product Datasheet
Carboxylated Graphene
(C-xy Graphene, thin film)

Properties

Wafers:	Si, SiO ₂ , Quartz, Sapphire, etc.
Lateral size:	From 5x5 mm to 1 inch x 1 inch
Thickness (AFM):	Min thickness 10 nm Max thickness 1 μm
Structural quality (AFM & TEM):	Uniform film formed by monolayer C-xy Graphene platelets with a holey structure. Nanoscale holes 20-50 nm in diameter
Conductivity:	≈ 300 S/m
Absorption * - nm refers to the film thickness	λ(650 nm): 1.8 x 10 ⁻³ Abs/nm*
	λ(532 nm): 2.2 x 10 ⁻³ Abs/nm*
	λ(405 nm): 2.8 x 10 ⁻³ Abs/nm*
	λ _{max} (260 nm): 4.2 x 10 ⁻³ Abs/nm*
	* - nm refers to the film thickness

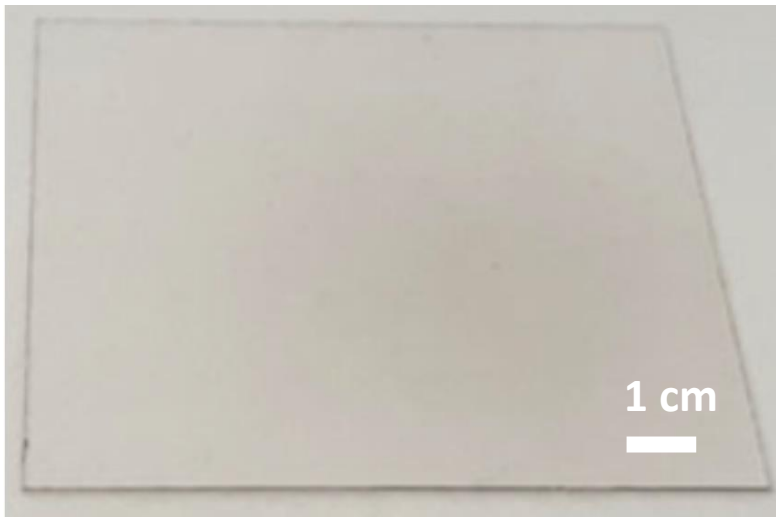
Chemical Composition

Elemental composition: (Elemental analysis & XPS)	C: _____ 83.3-85.4 at.%
	O: _____ 13.1-16.7 at.%
	N: _____ <0.5 at.%
	S: _____ <0.5 at.%
	Other Impurities: _____ <0.5 at.%
C/O ratio: (XPS)	4.7-5.8
Functional composition: (XPS & FTIR)	C(sp ²): _____ 78.8-82.7 at.%
	C-OH&C-O-C: _____ 7.3-8.5 at.%
	C=O: _____ 1.8-2.9 at.%
	COOH: _____ 7.7-9.3 at.%

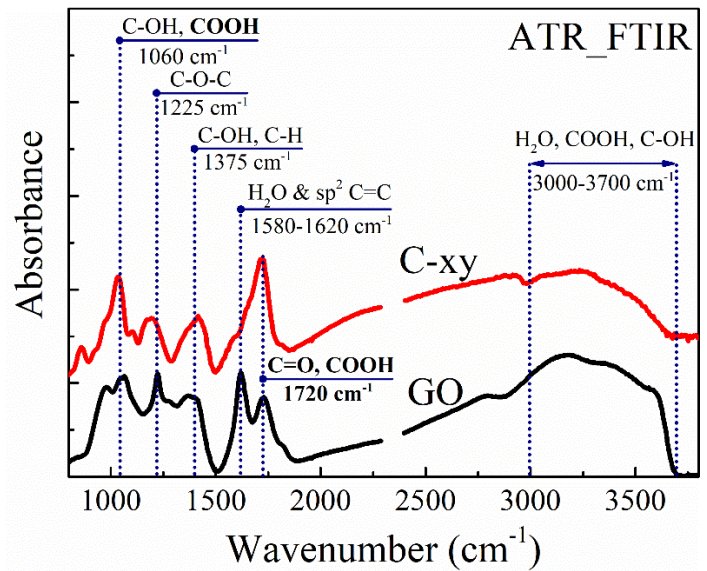


TEM Image

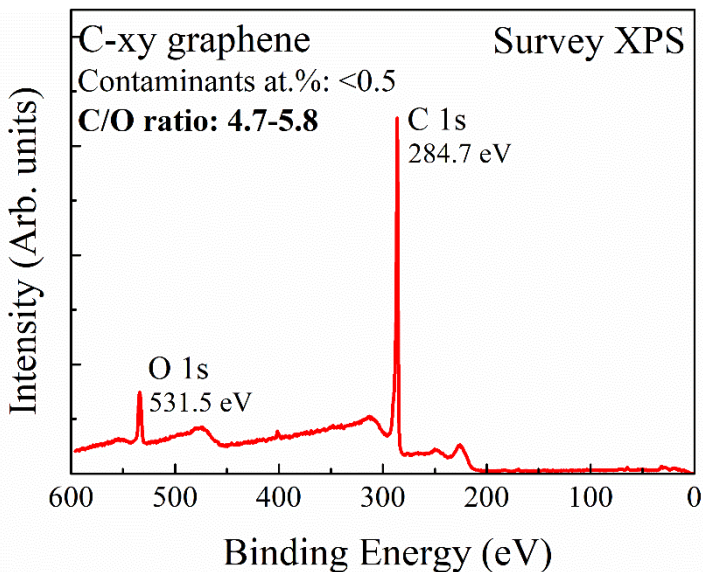
AFM Images



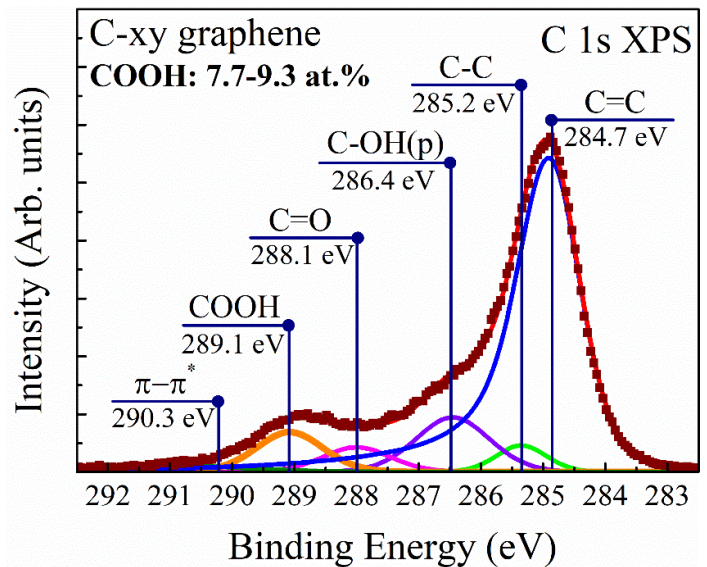
Optical Photo (40 nm thickness)



FTIR



Survey XPS



C 1s XPS