Supplementary Information

Transparent conductive PEDOT–graphene films from large-flake graphite

Figure S1. Control XRD of the PEDOT film

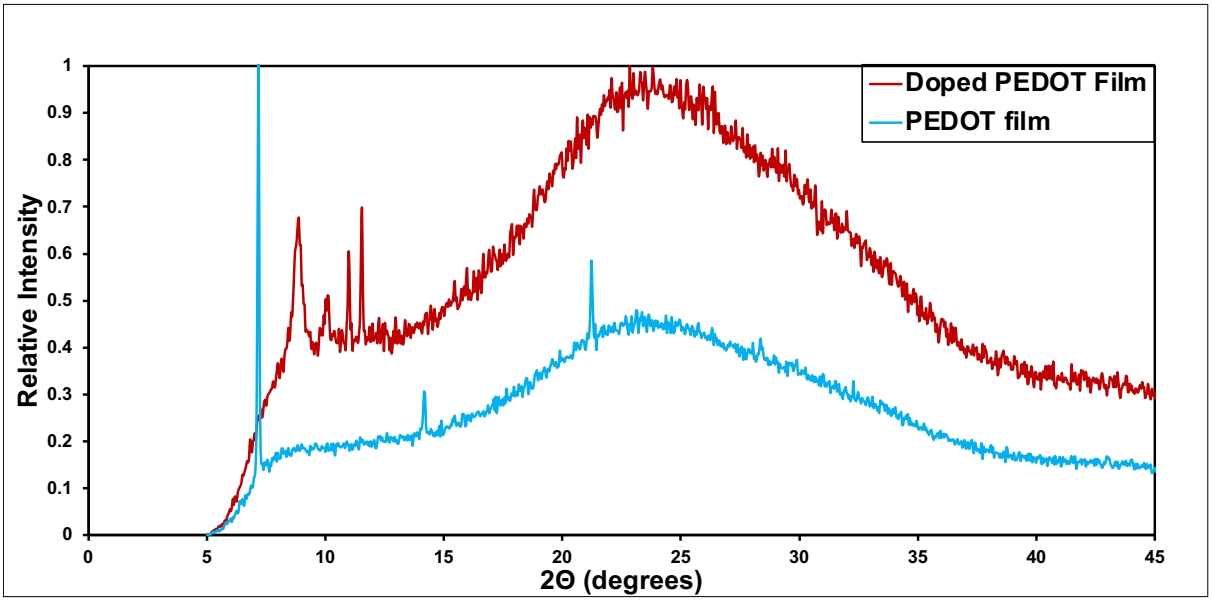
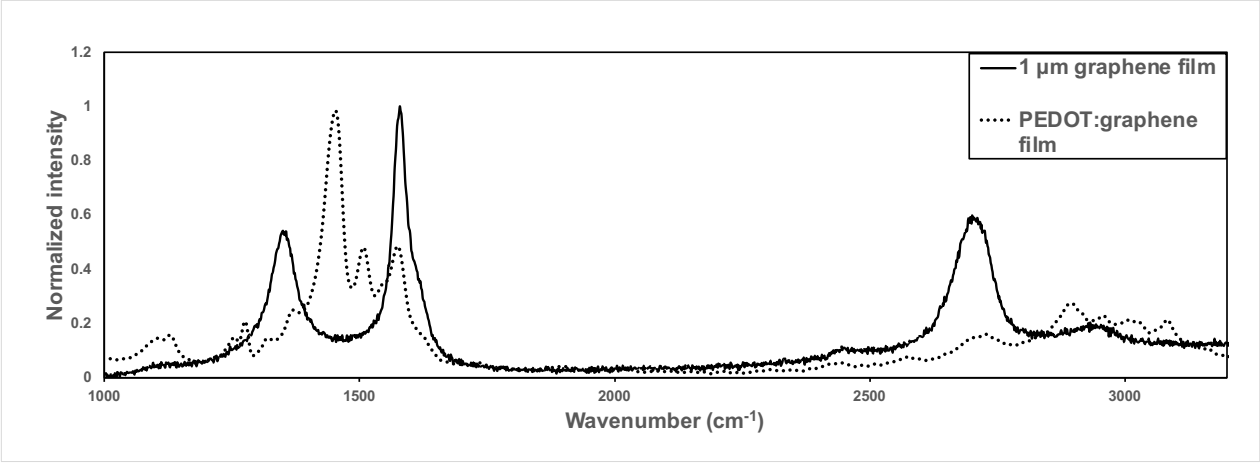


Figure S2. Raman spectra of PEDOT:graphene films

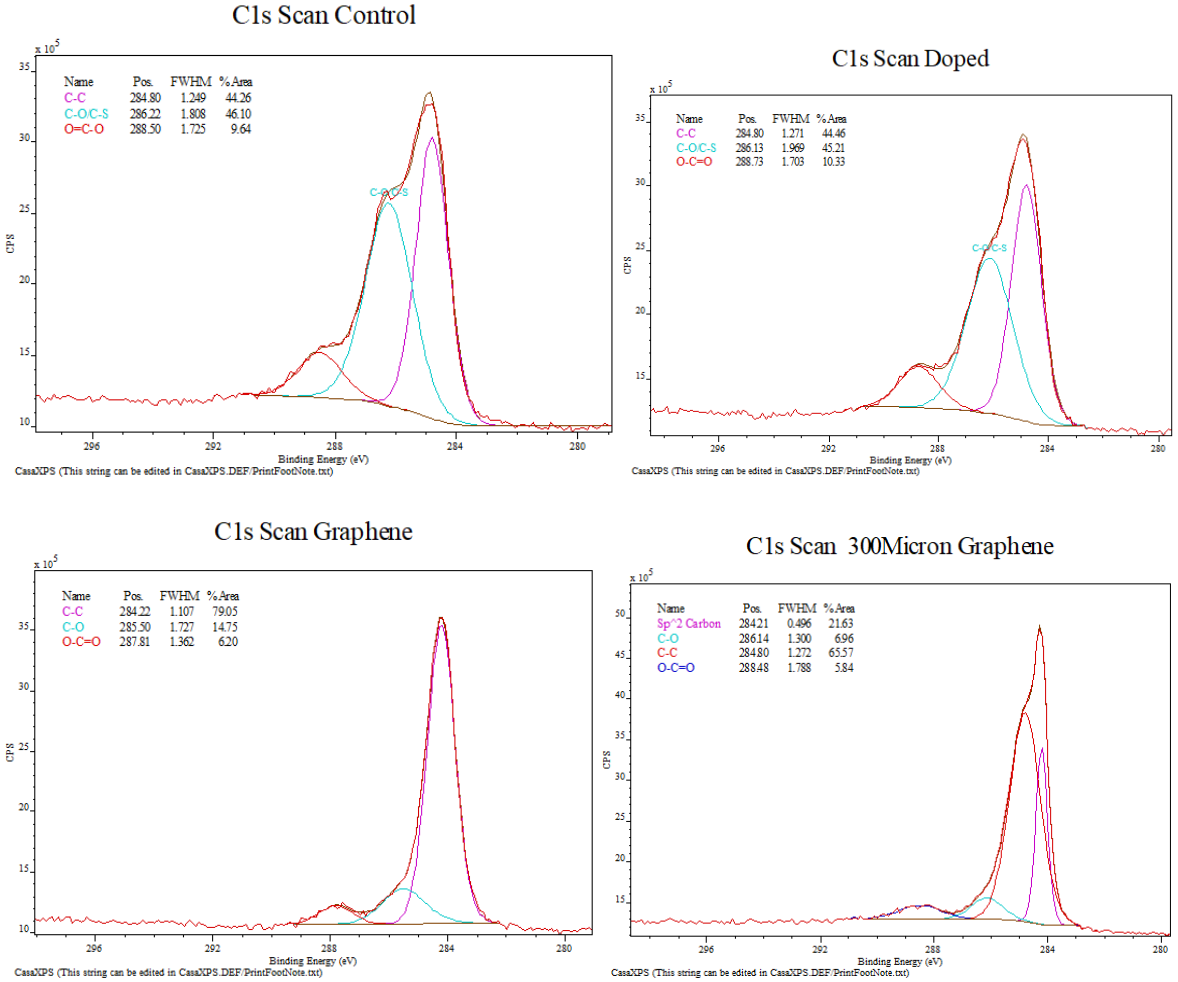


A 1 µm graphene film (solid) compared to the PEDOT: graphene film (dotted). A peak shift is observed at 2,600 cm^{-1}. This is indicative of π-π stacking between PEDOT and graphene.

Figure S3. XPS analysis

Instrument Specs and Info
Instrument Name: K-Alpha Thermofisher Scientific XPS
Pass Energy: 25.00eV (All high resolution spectra)
Step Size: 0.1 eV (All high resolution spectra)
Beam Diameter: 50 micron
Vacuum Pressure: 1.0X10^-9 torr (minimum)
Software used for deconvolution: CasaXPS
Scans:
Valence: 50
S2p: 75
C1s: 50
O1s: 50
CKLL: 50

Figure S3A. C1s XPS Spectra



C1s Scan Graphene Doped

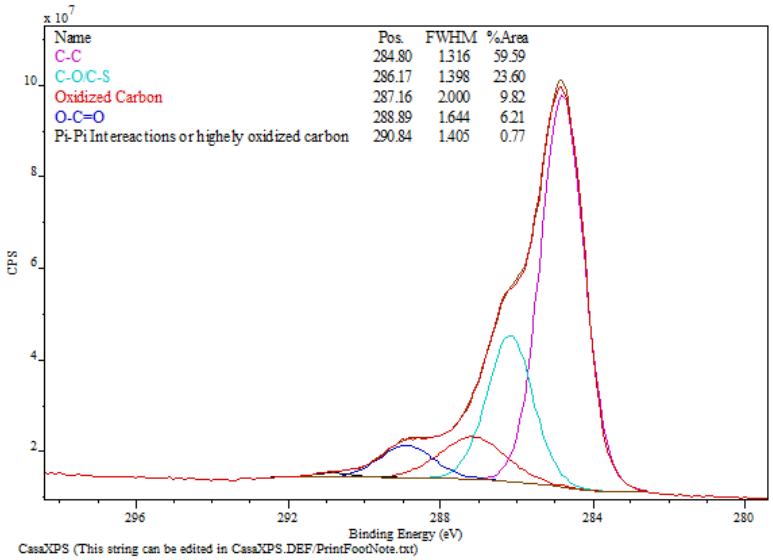
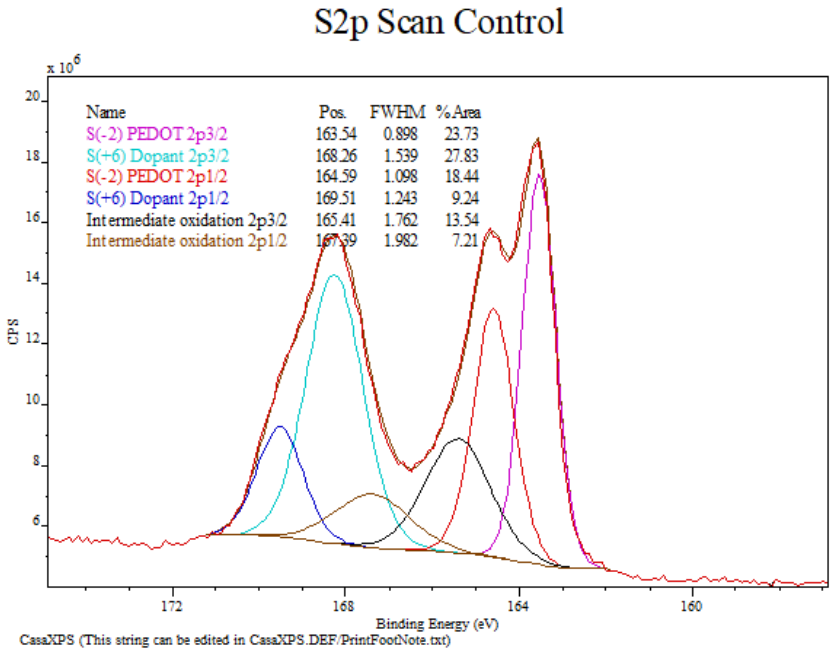
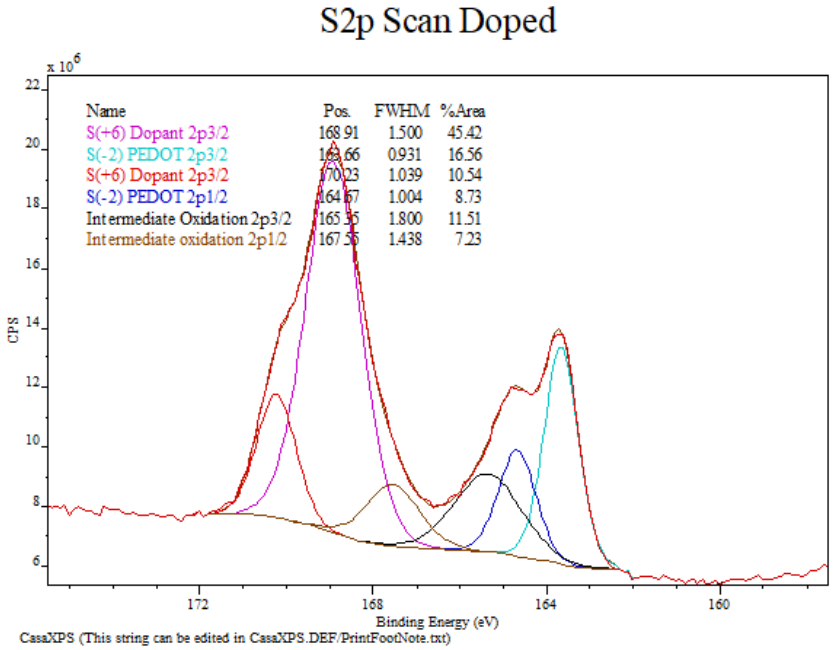


Figure S3B. S2p Scan XPS





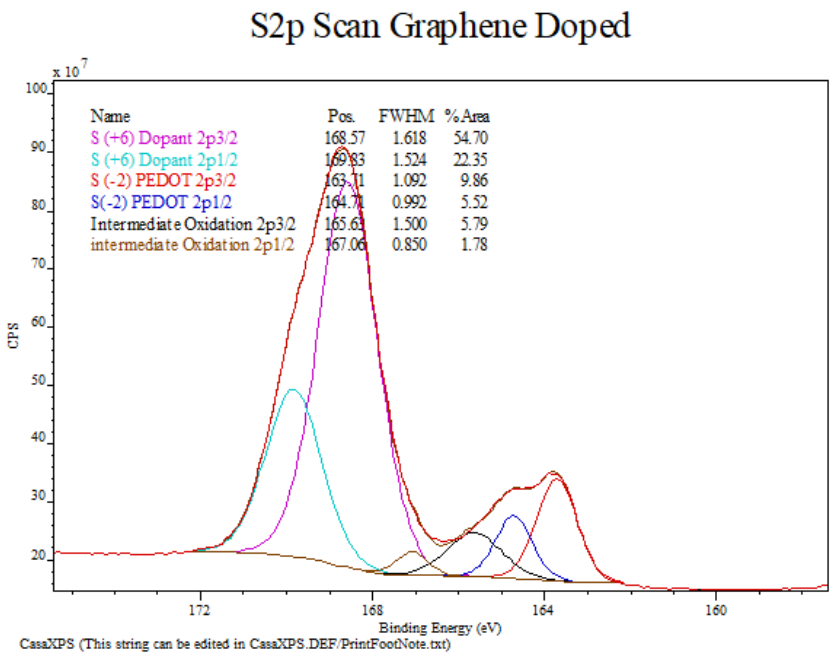


Figure S3C. Si2p

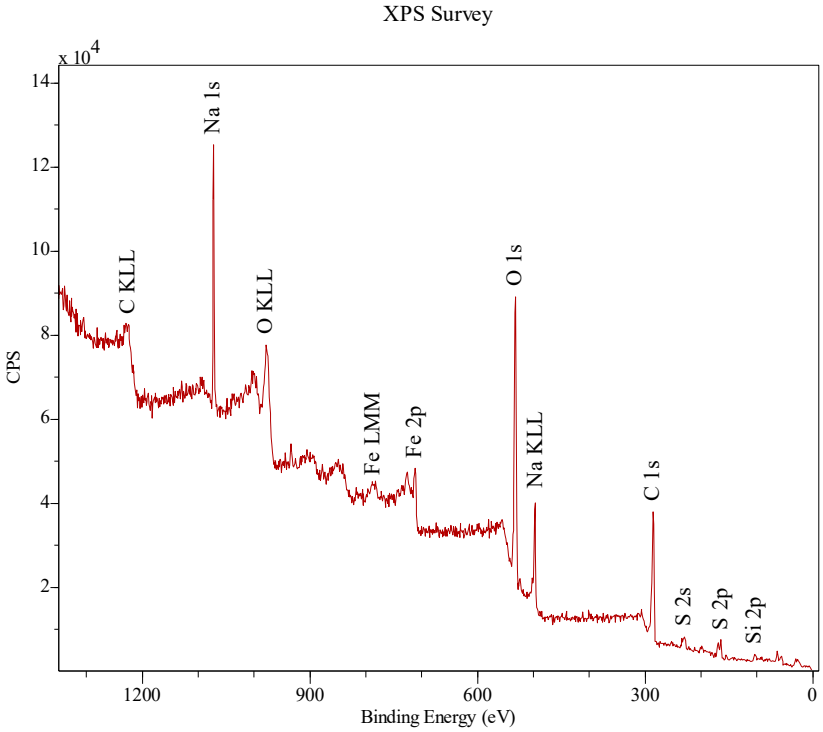


Figure S4. Flake size effect on resistance

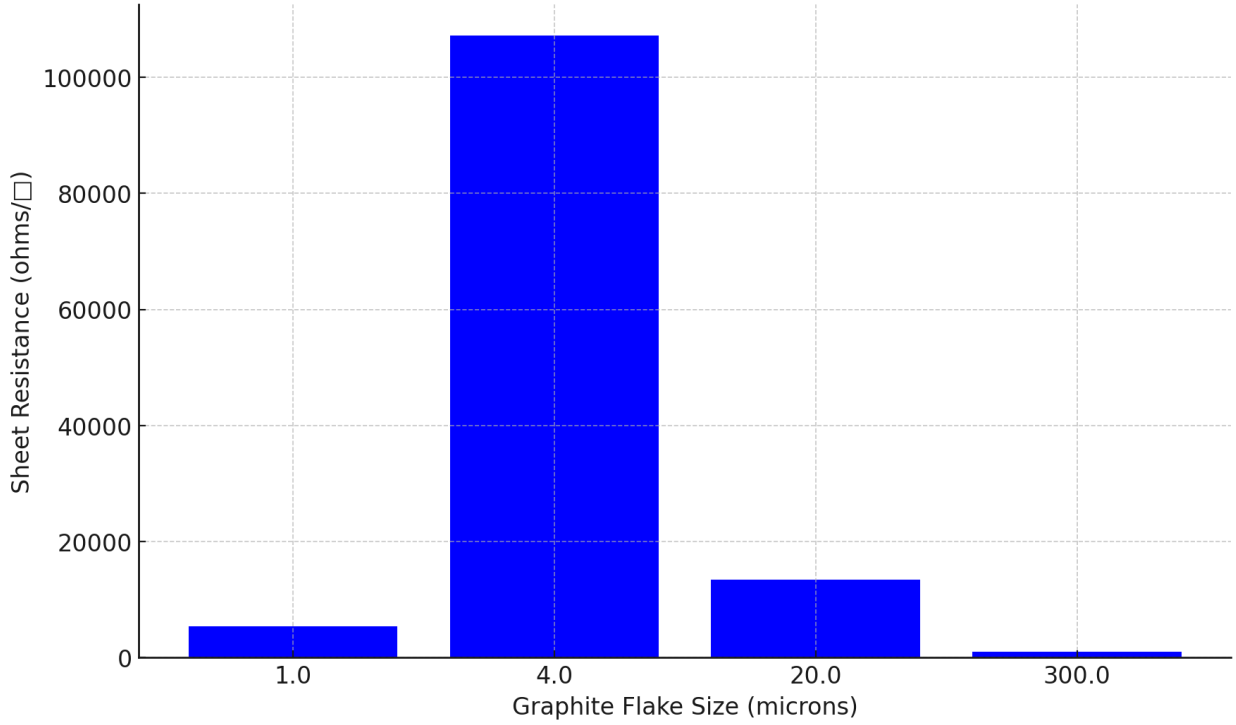


Figure S5. Sensitivity to various stimuli