

SUPPLEMENTARY INFORMATION

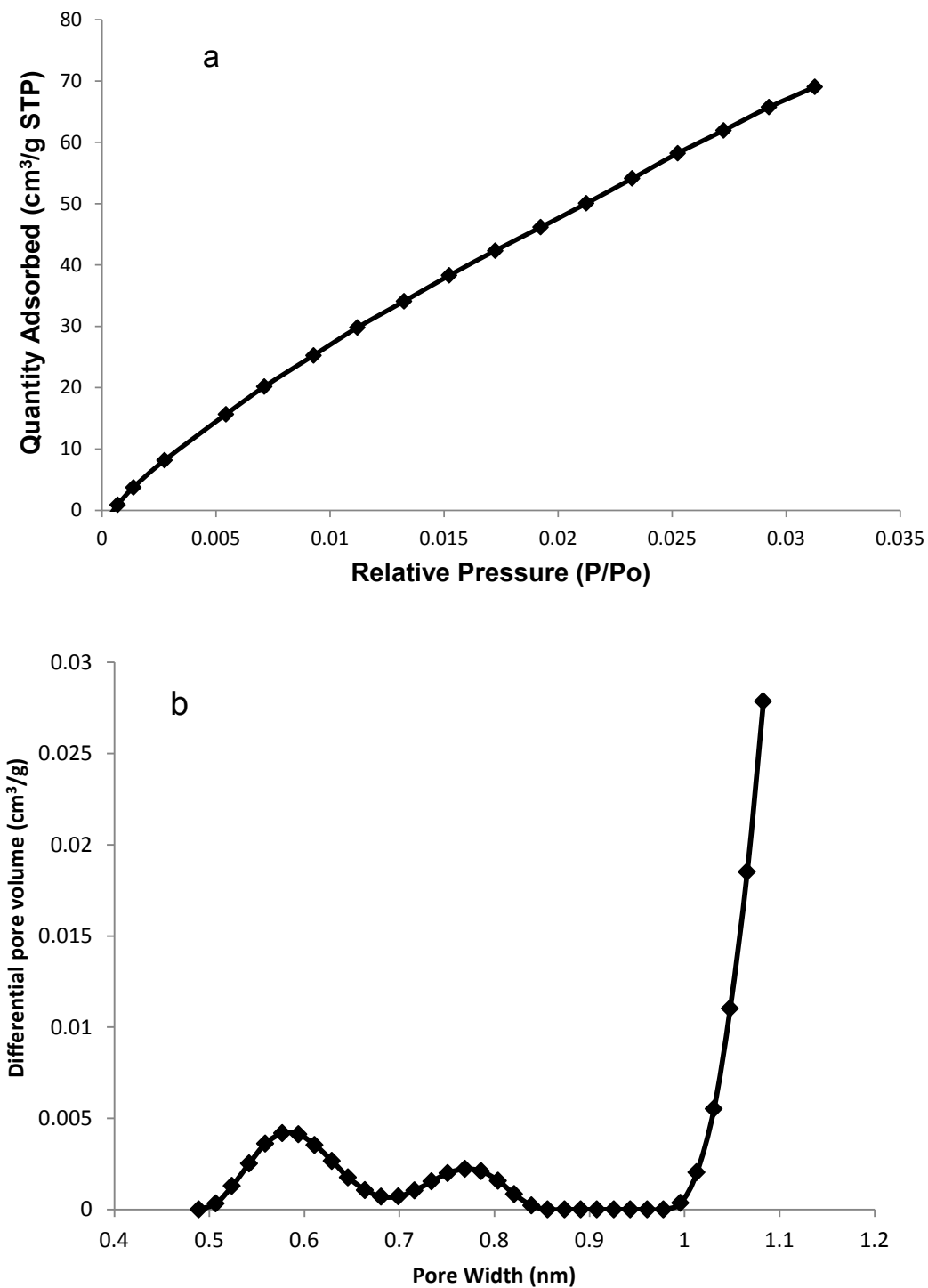


Figure S1. CO<sub>2</sub> isotherm (a) and DFT pore size distribution of RGO (b)

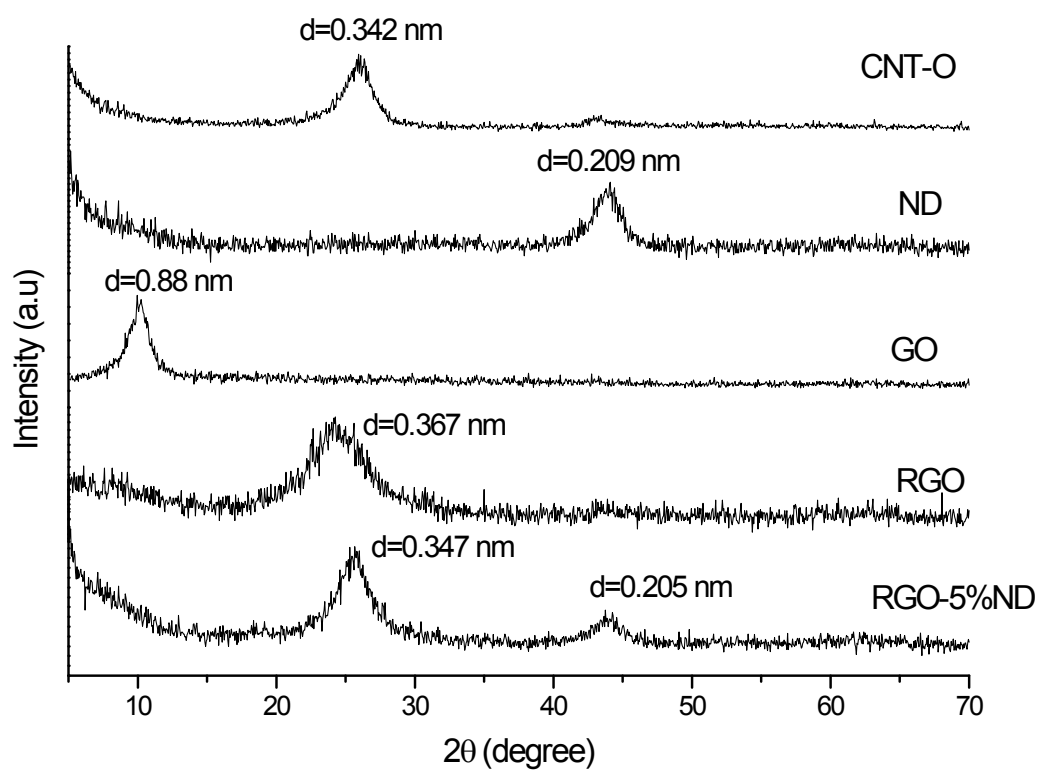


Figure S2. X-ray diffraction (XRD) pattern of several carbon materials used. The number above the peak is the interlayer distance.

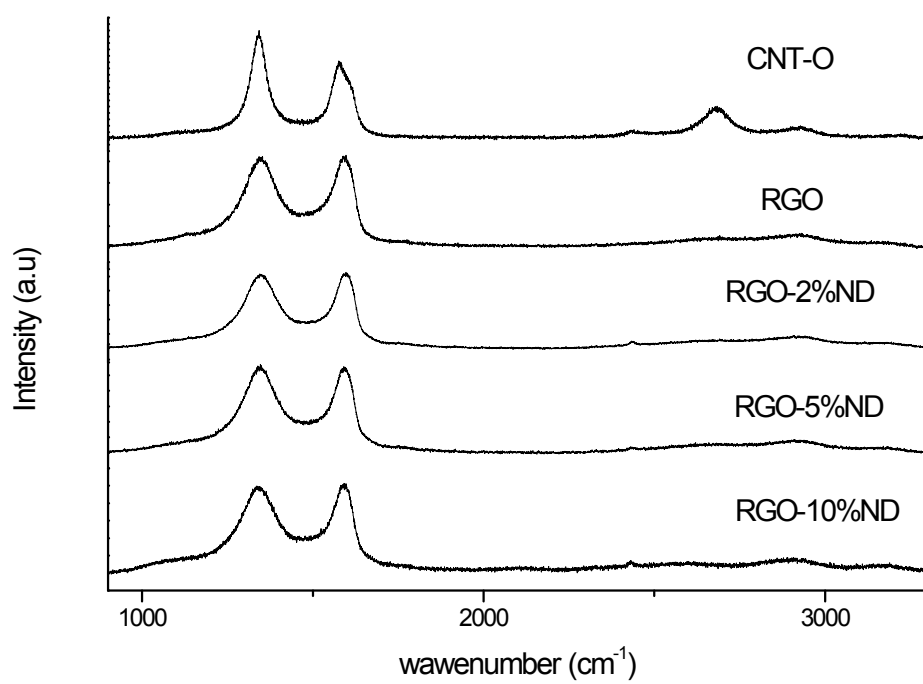


Figure S3. 1<sup>st</sup> and 2<sup>nd</sup> order Raman spectra of CNT-O, RGO and RGO+nanodiamond hybrid with several nanodiamond contents.

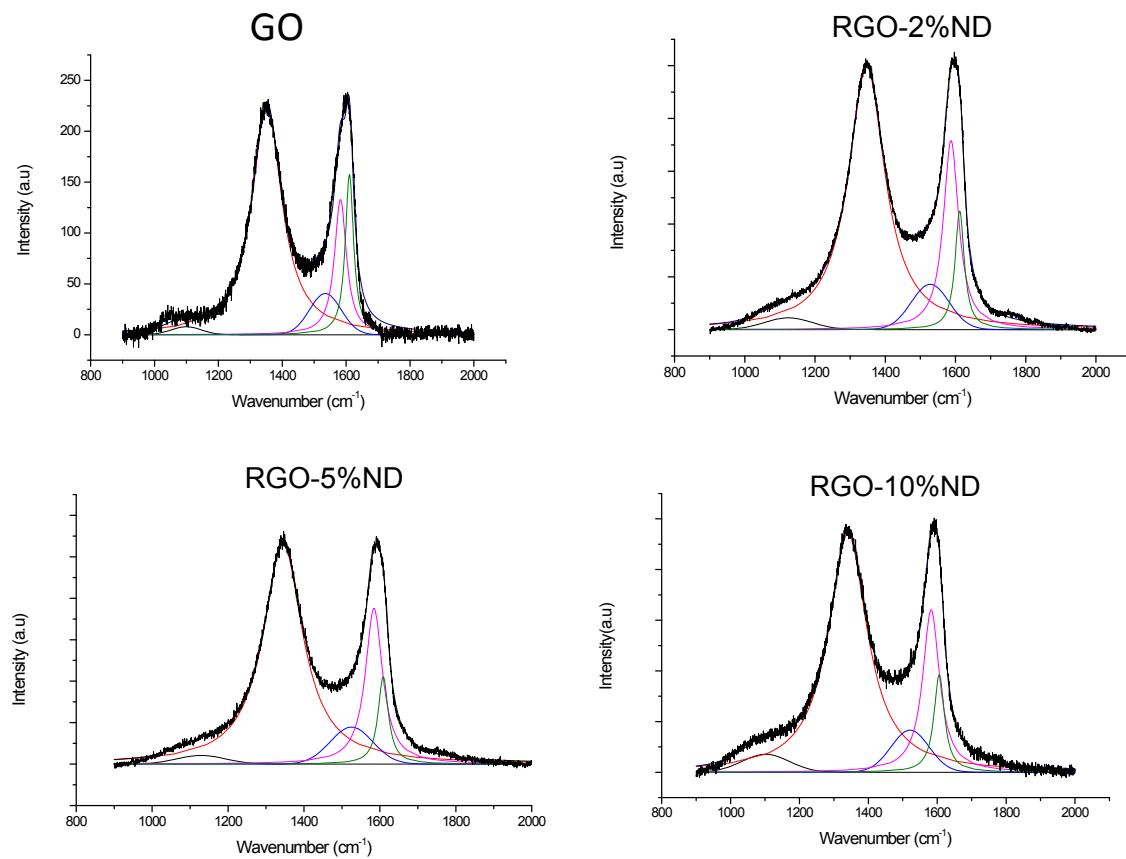


Figure S4. Fitting of 1<sup>st</sup> Raman spectra of all the samples: GO and RGO+nanodiamonds hybrids

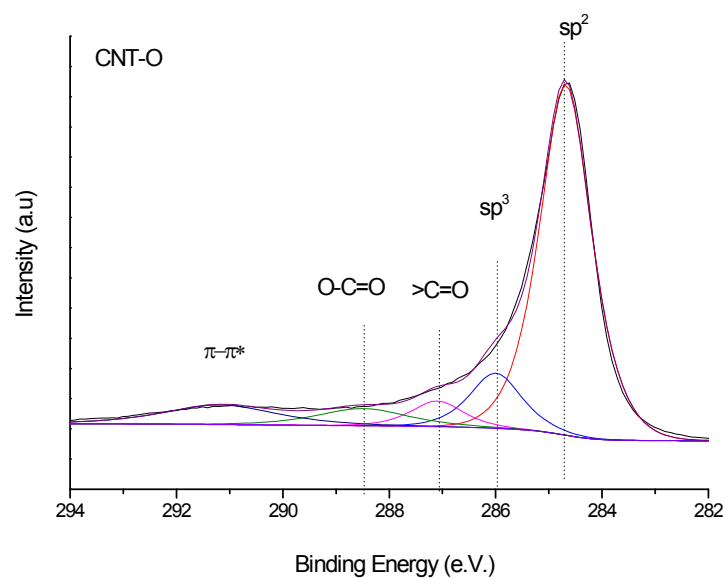


Figure S5. C 1s XPS spectra of CNT-O.

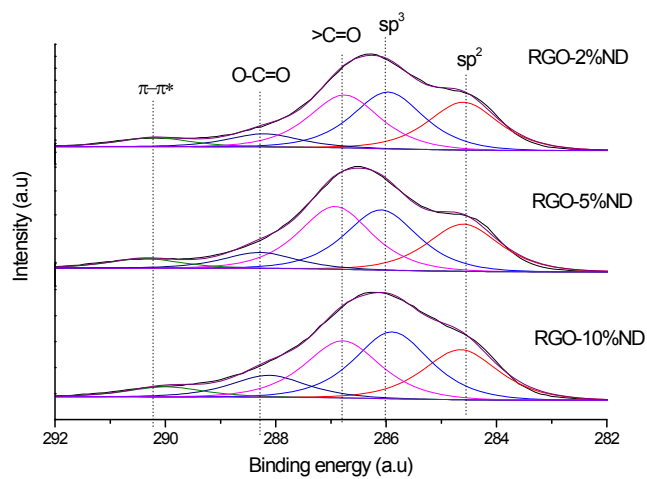


Figure S6. C 1s XPS spectra of RGO+ND hybrids with different ND contents

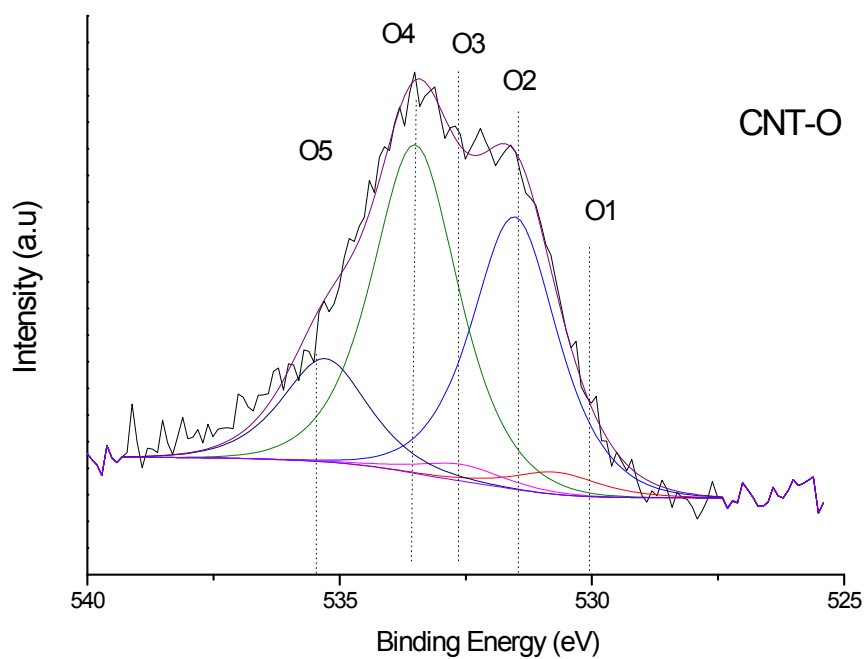


Figure S7. O 1s XPS spectra of CNT-O

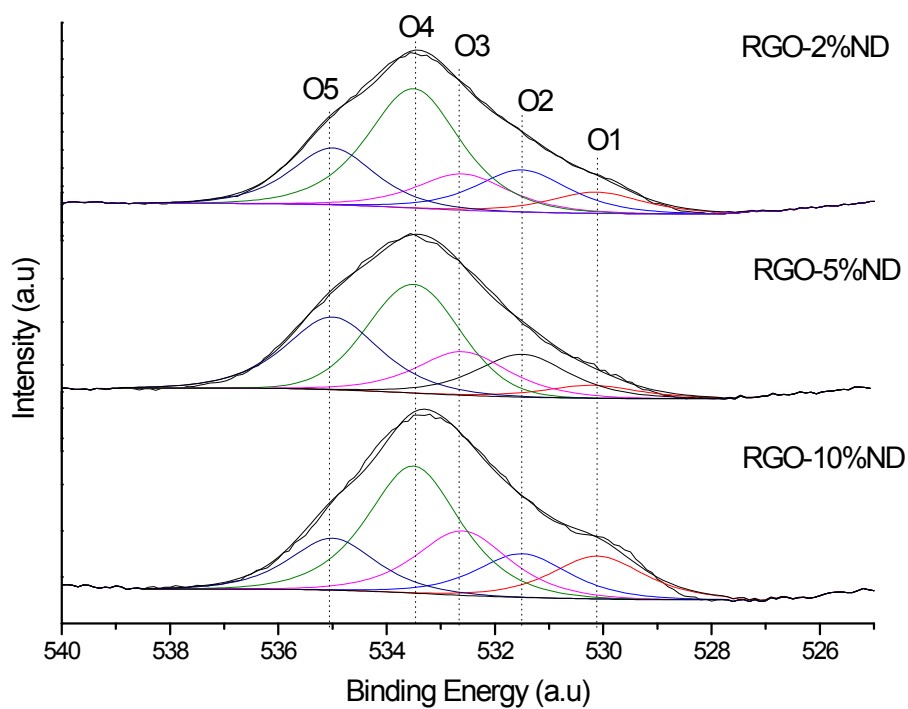


Figure S8. O 1s XPS spectra of RGO+ND hybrids with different ND content