Figure S1. CO$_2$ 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\textsuperscript{st} and 2\textsuperscript{nd} order Raman spectra of CNT-O, RGO and RGO+nanodiamond hybrid with several nanodiamond contents.
Figure S4. Fitting of 1st 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