

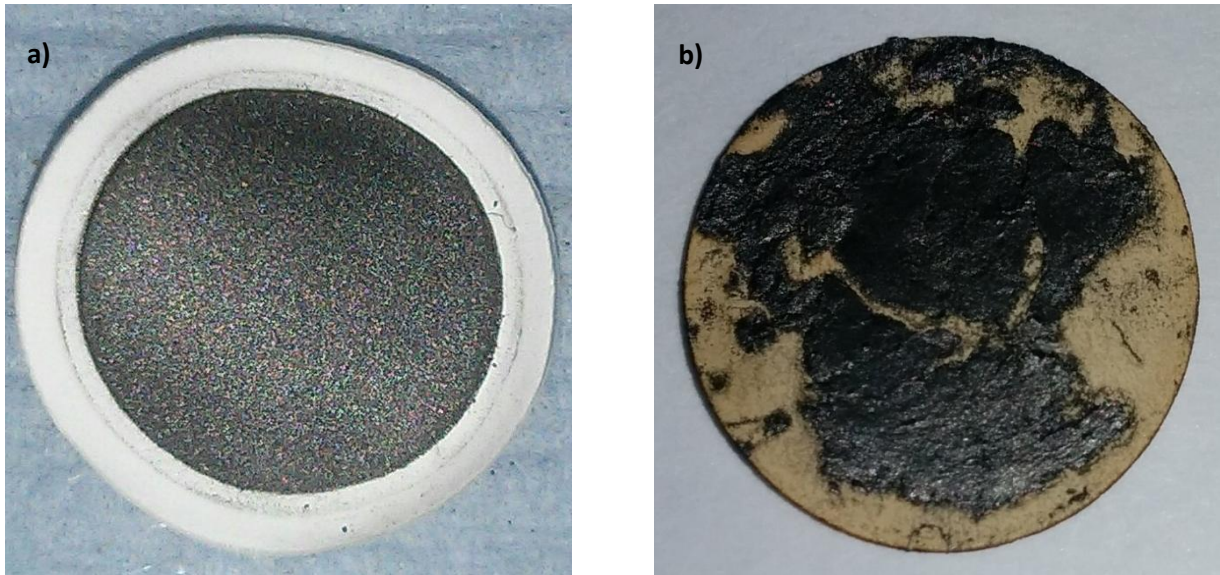
Supporting Information

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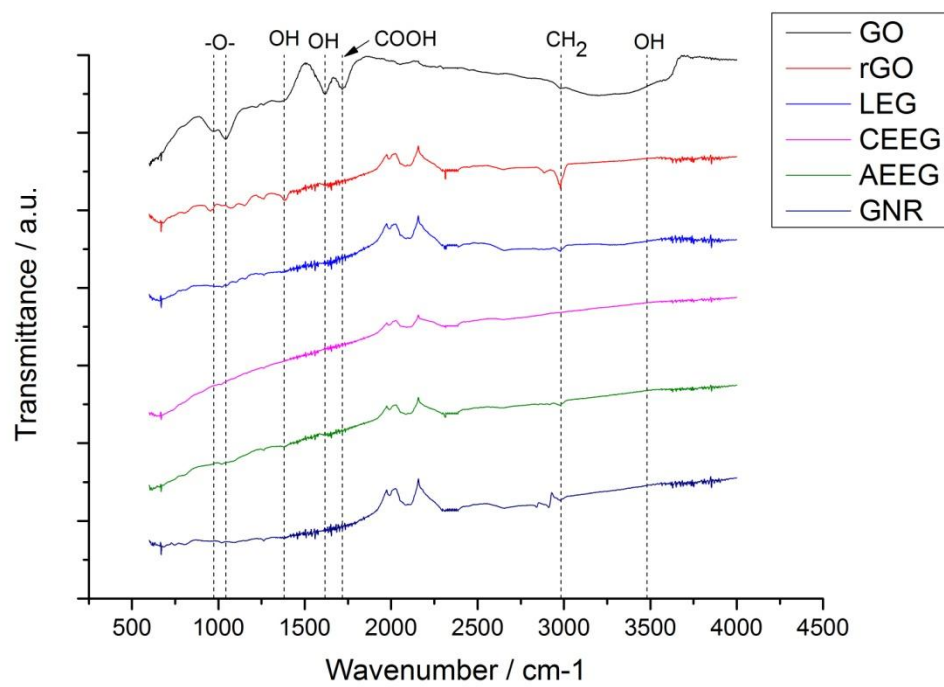
Systematic Comparison of Graphene Materials for Supercapacitor Electrodes

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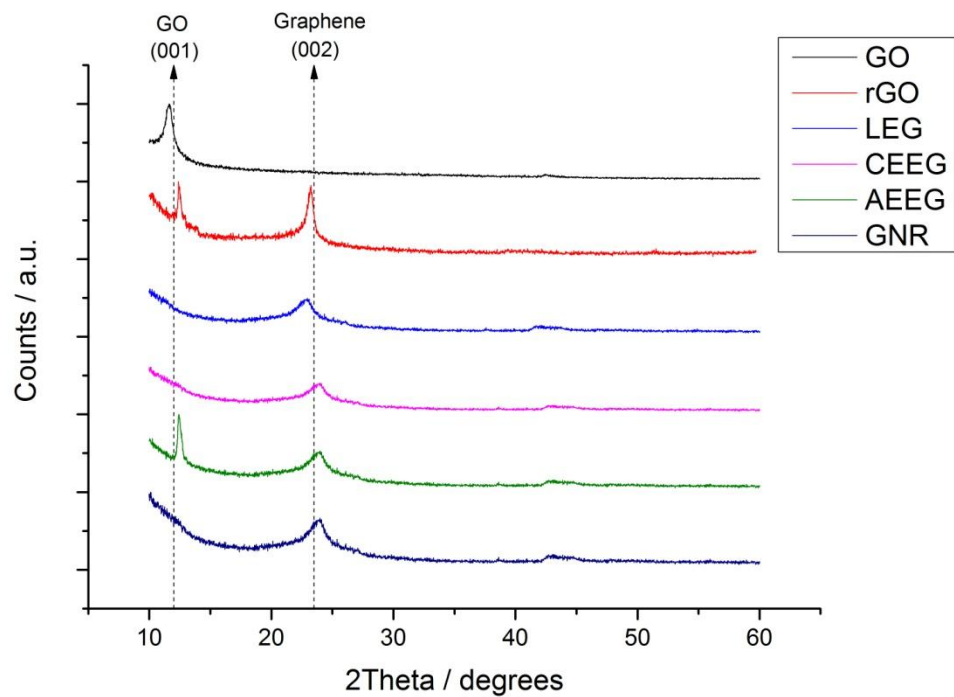
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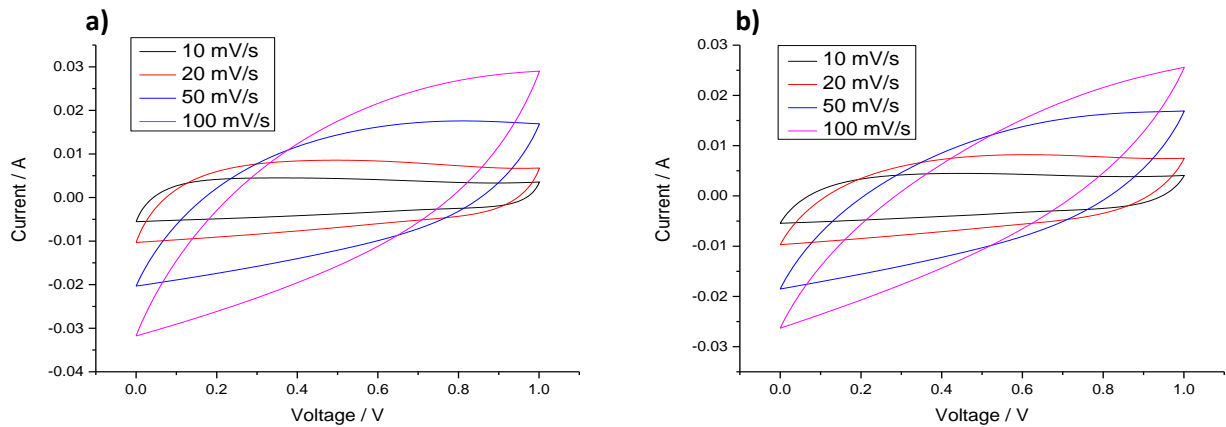
S1: Photographs showing the PVDF supported rGO membrane **a)** before and **b)** after cycling for 10,000 cycles at 1 Ag^{-1} .



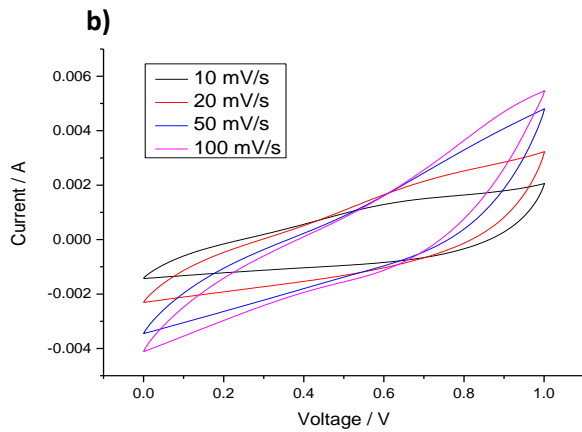
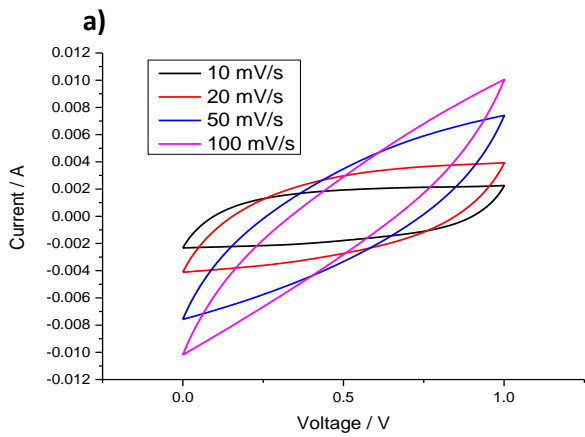
S2: Fourier Transform infra red spectra for the produced graphene materials. The black dashed lines represent the peak positions of the corresponding functional groups present within the spectra.



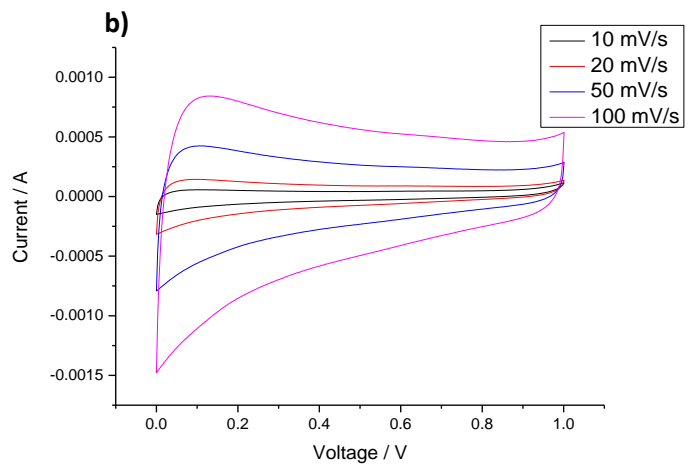
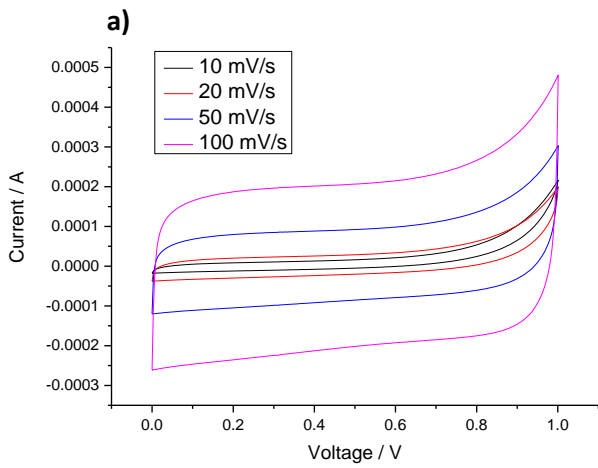
S3: X-ray diffraction spectra for each graphene material membrane produced. The peaks present within the spectra have been labelled with the associated material and miller plane.



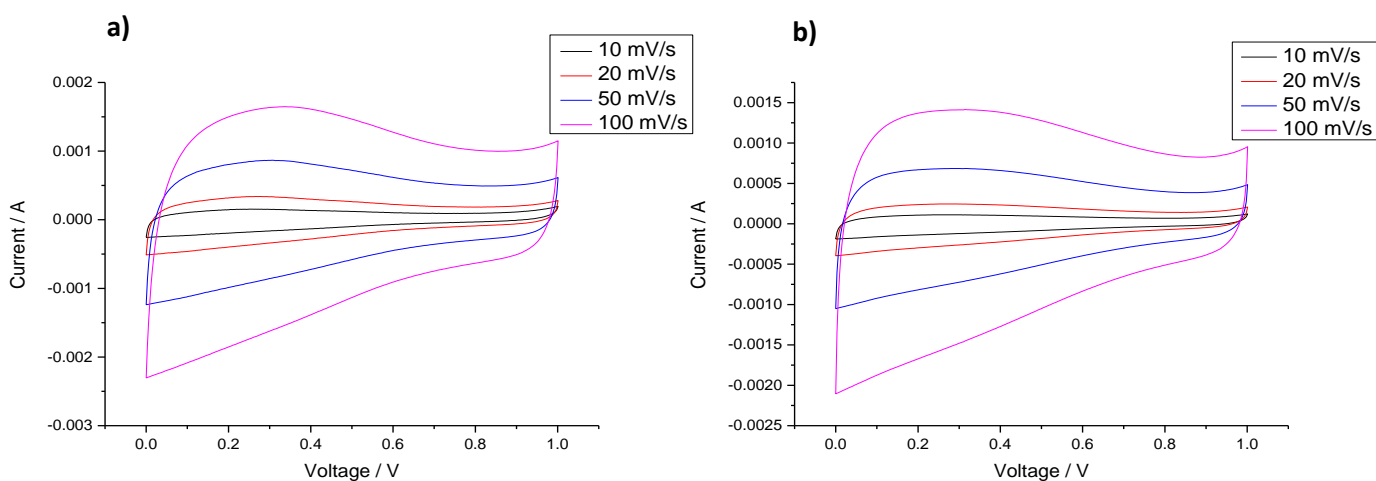
S4: Plots of the CVs with varying scan rate for the GO electrodes **a)** before and **b)** after 10,000 CD cycles at 1 Ag^{-1} .



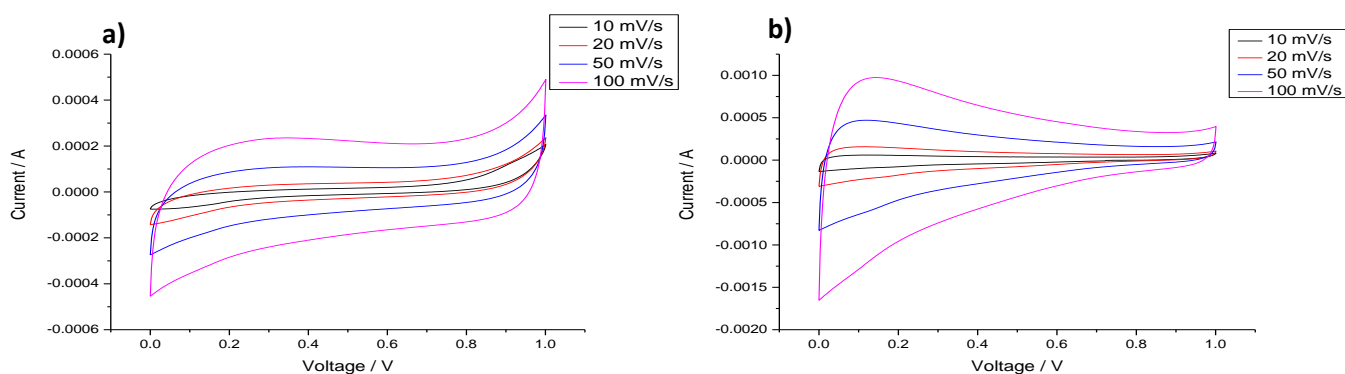
S5: Plots of the CVs with varying scan rate for the rGO electrodes **a)** before and **b)** after 10,000 CDs cycles at 1 Ag^{-1} .



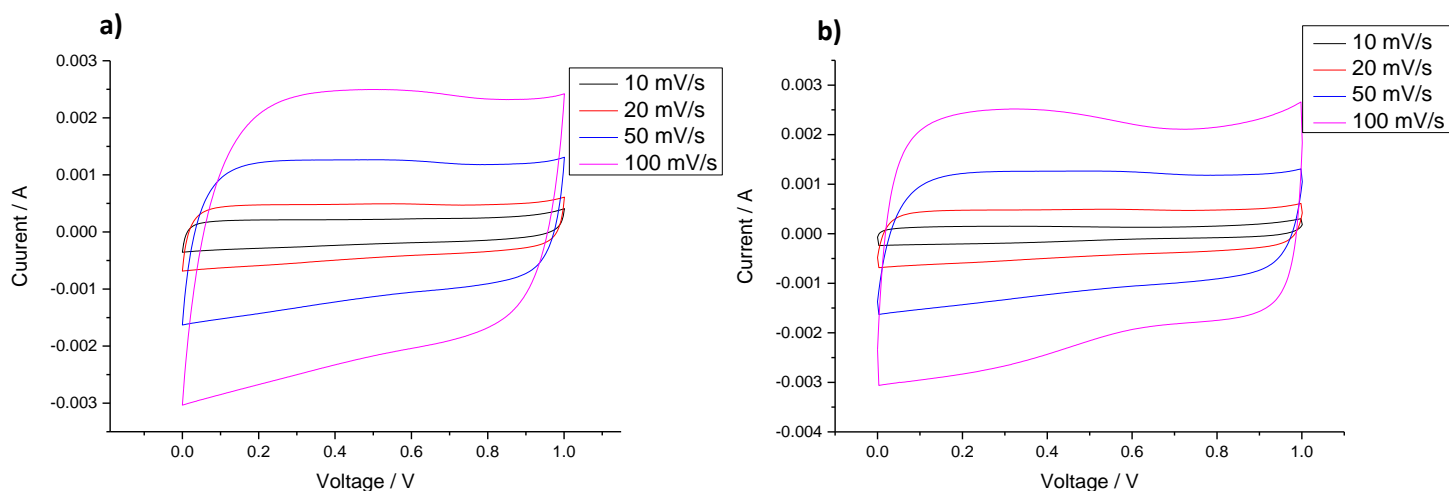
S6: Plots of the CVs with varying scan rate for the LEG electrodes **a)** before and **b)** after 10,000 CDs cycles at 1 Ag^{-1} .



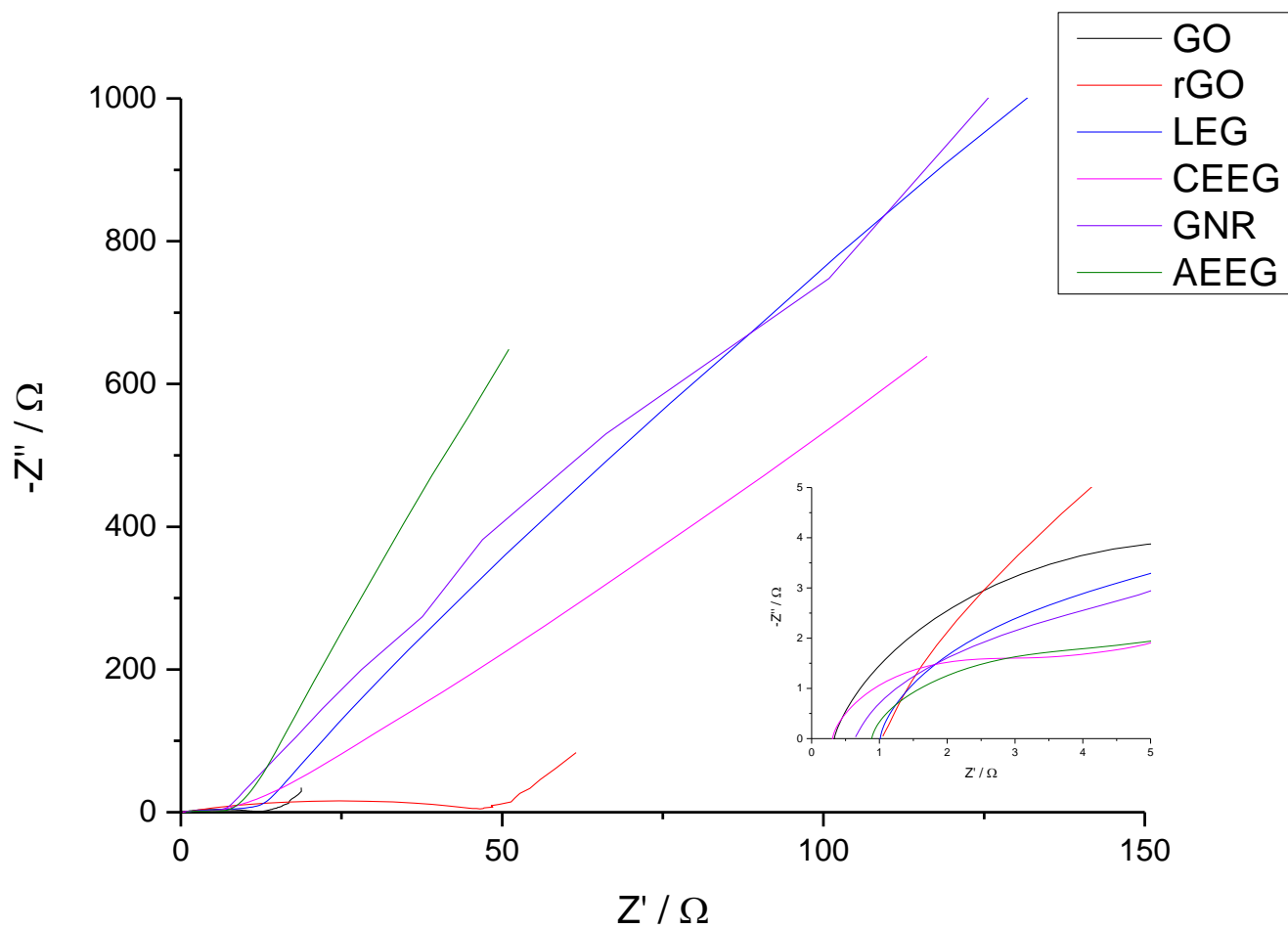
S7: Plots of the CVs with varying scan rate for the CEEG electrodes **a)** before and **b)** after 10,000 CDs cycles at 1 Ag^{-1} .



S8: Plots of the CVs with varying scan rate for the GNR electrodes **a)** before and **b)** after 10,000 CDs cycles at 1 Ag^{-1} .



S9: Plots of the CVs with varying scan rate for the AEEG electrodes **a)** before and **b)** after 10,000 CDs cycles at 1 Ag^{-1} .



S10: Nyquist plots for all the graphene materials tested. The inset is a magnification of x intercepts for the materials before cycling.