

Supporting Information

Synthesis of Poly (Vinyl Alcohol)/Reduced Graphite Oxide Nanocomposites with improved Thermal and Electrical Properties

The graphite oxide obtained by the Hummer's method was partially oxidized in our case (Fig S1a). The XRD pattern shows that the (002) diffraction line of graphite (d-space 0.34 nm at 26.44 °) diminishes and a new band due to graphite oxide appears (d-space 0.75 nm at 11.98 °). Although some original graphite remain, GO is highly soluble in water, after ultrasound treatment during 15 min., giving brownish solutions stable for hours. The presence of oxygenated groups has been also proved by FTIR.

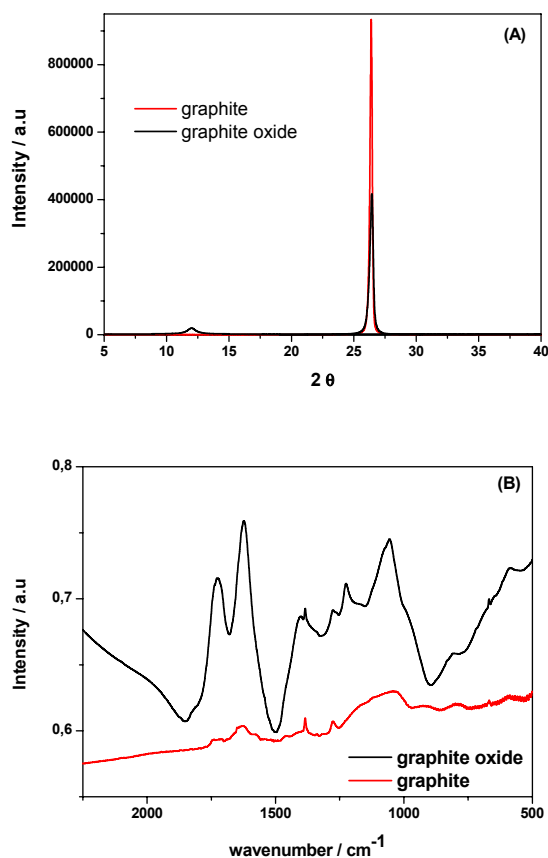


Fig S 1. X-ray diffraction patterns (a) and FTIR spectra (b) of graphite and graphite oxide.

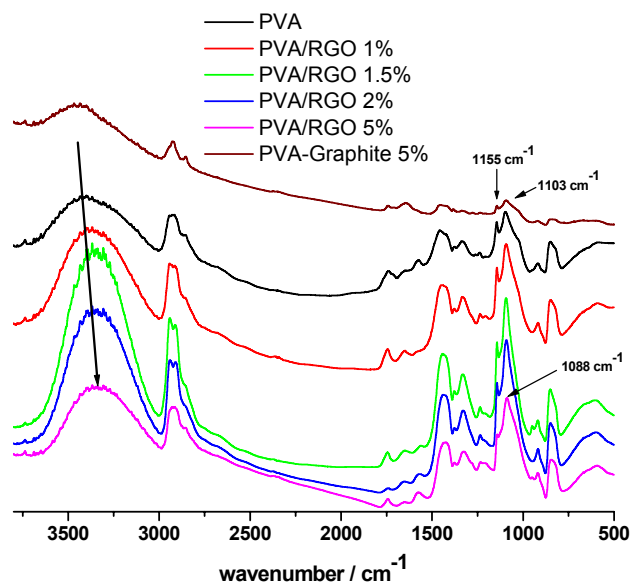


Fig S 2. FTIR spectra of PVA and PVA/RGO nanocomposites. The composite of PVA-graphite 5% is also shown for comparison

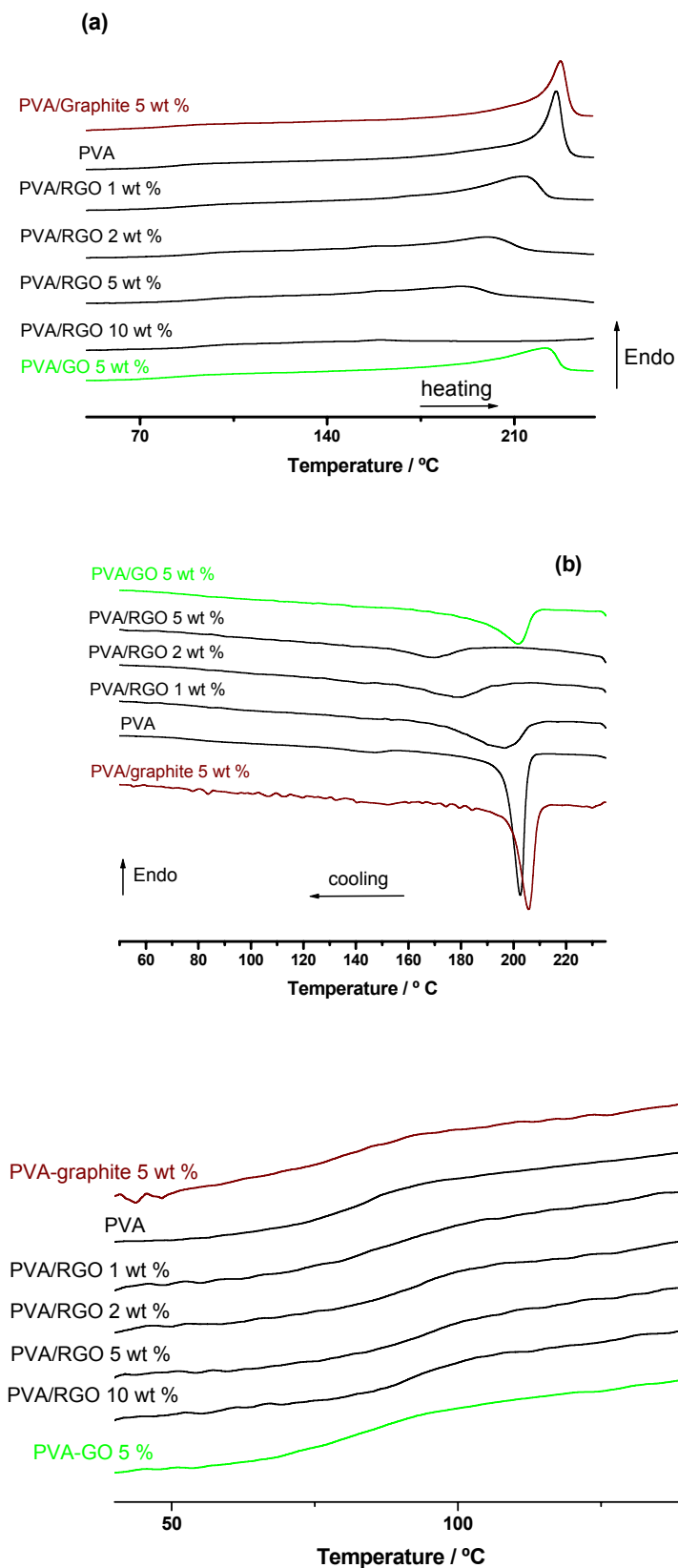


Fig S 3 DSC cooling (a) and heating scans (b) of PVA and PVA/RGO nanocomposites at $10\text{ }^{\circ}\text{C}\cdot\text{min}^{-1}$. c) Enlarged view of the glass transition region.