Electronic Supplementary Material (ESI) for RSC Advances.

Self-Standing polymer-functionalized reduced graphene oxide papers obtained by UV-process

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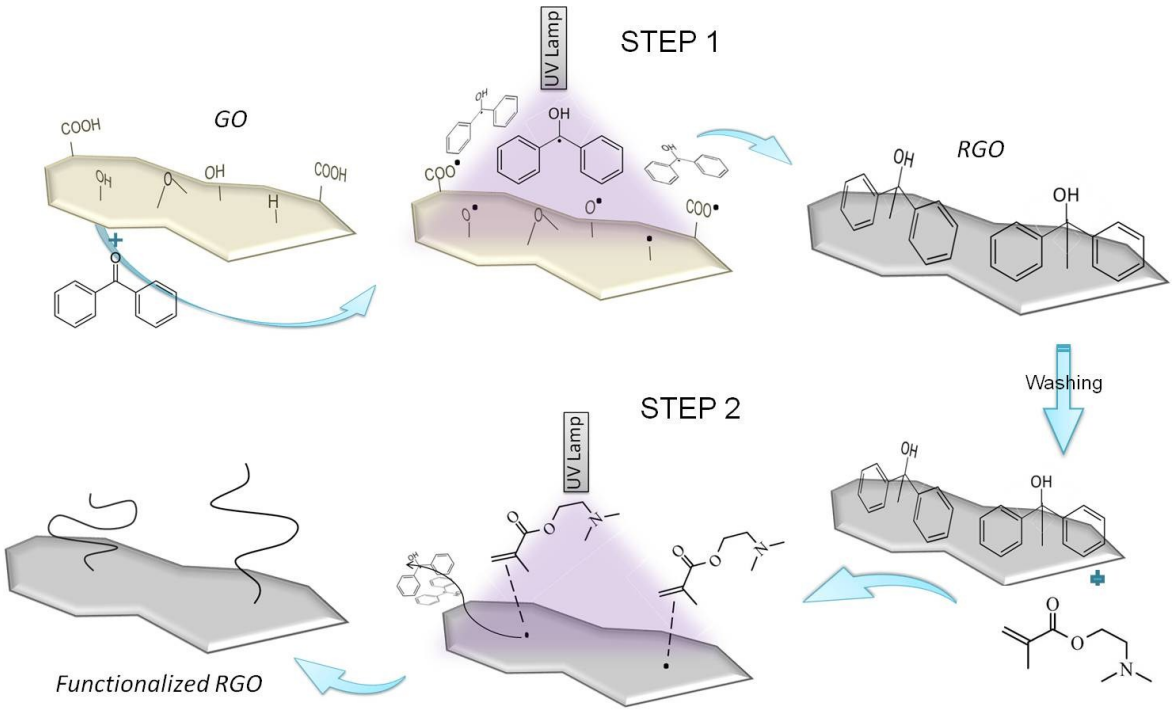

Figure S1 Scheme of the functionalization method utilized

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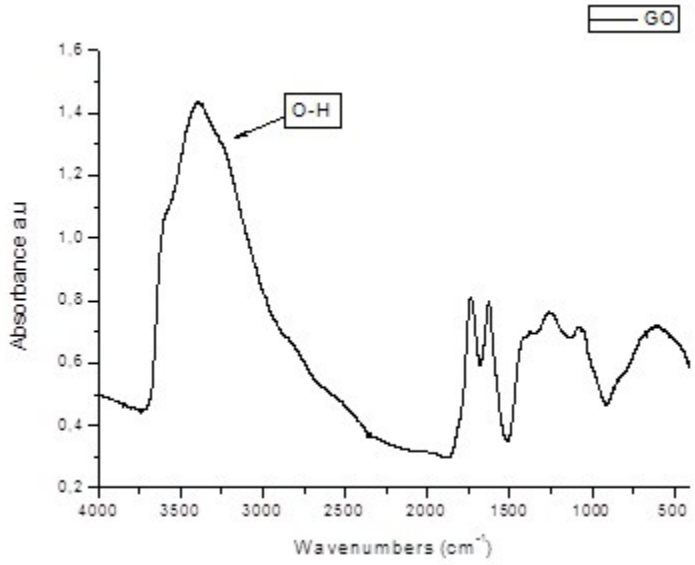

Figure S2 FT-IR spectrum of GO

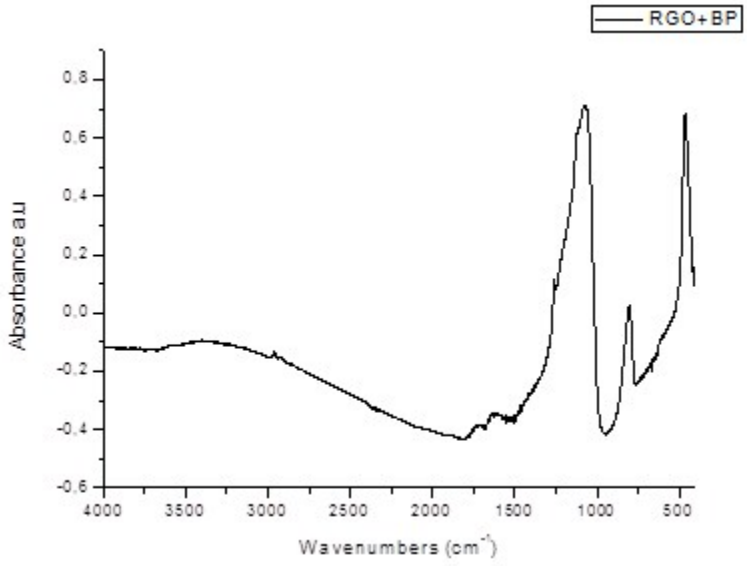

Figure S3 FT-IR spectrum of RGO+BP

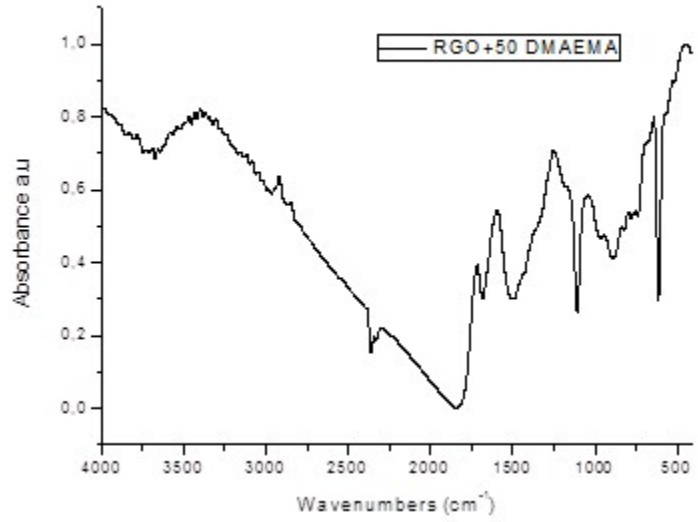

Figure S4 FT-IR spectrum of RGO+50DMAEM

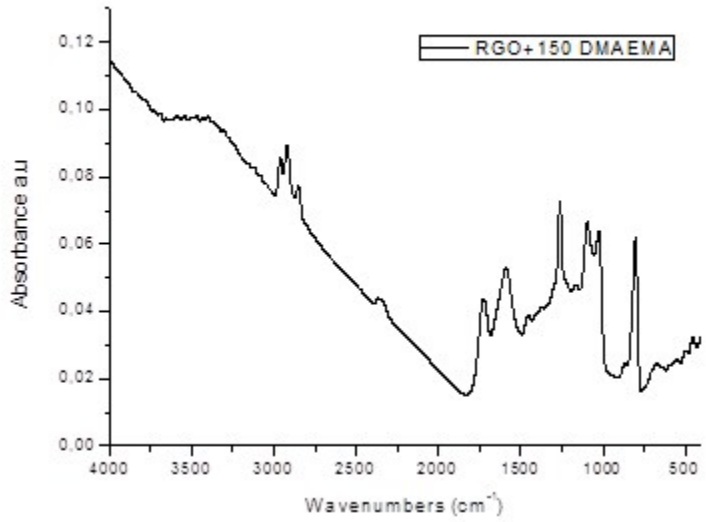

Figure S5 FT-IR spectrum of RGO+150DMAEM

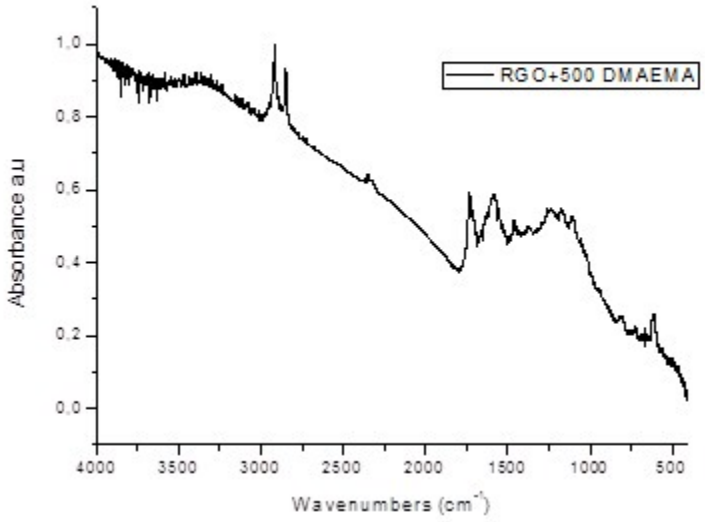

Figure S6 FT-IR spectrum of RGO+500DMAEM

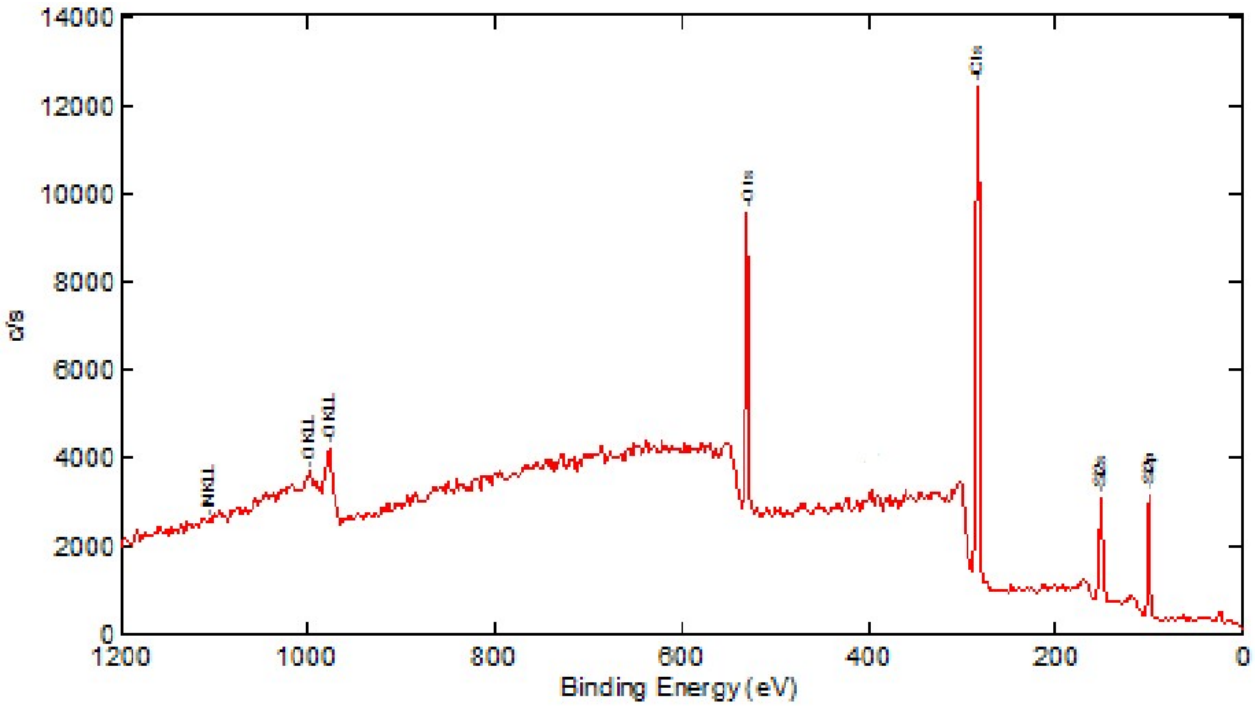

Figure S7 XPS survey spectrum of RGO+BP sample.

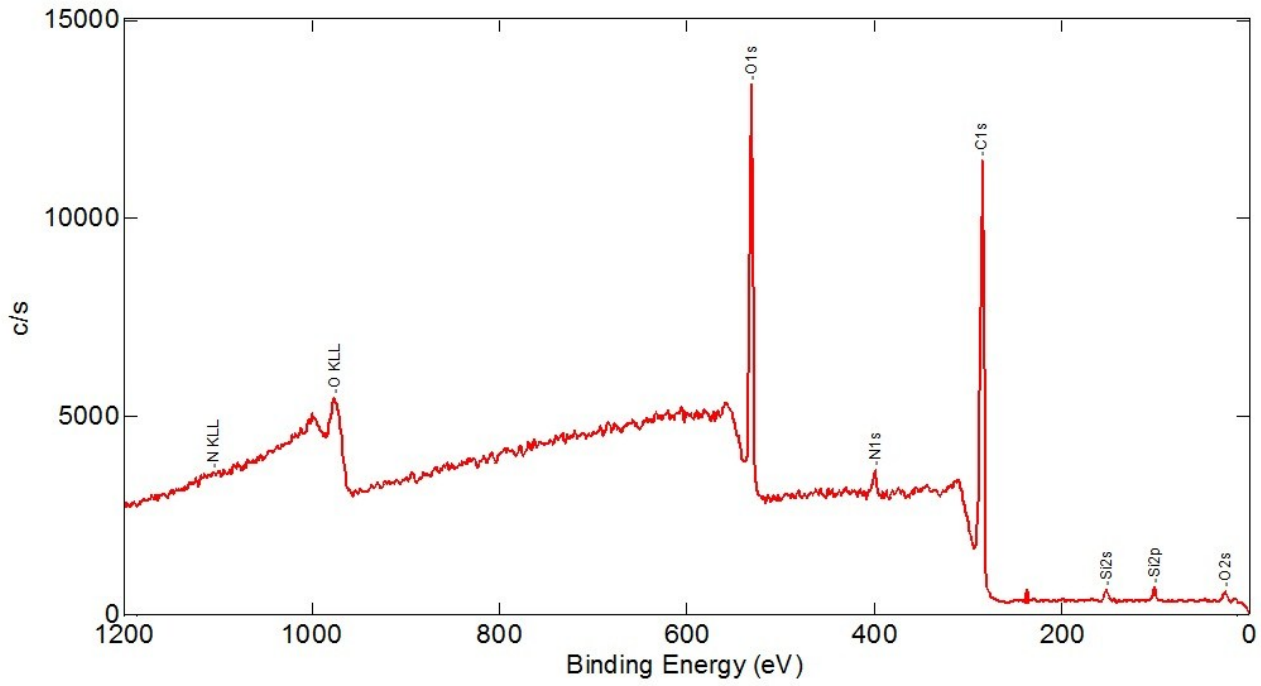

Figure S8 XPS survey spectrum of RGO+50DMAEM sample.

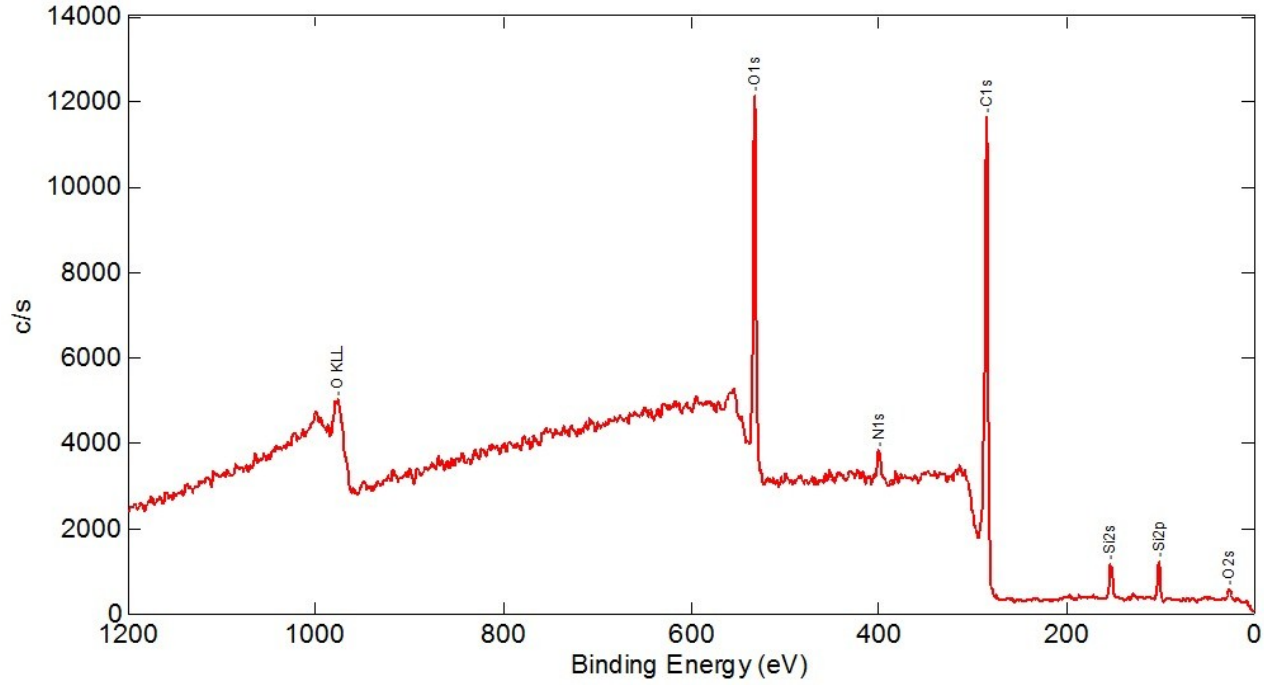

Figure S9 XPS survey spectrum of RGO+150DMAEM sample.

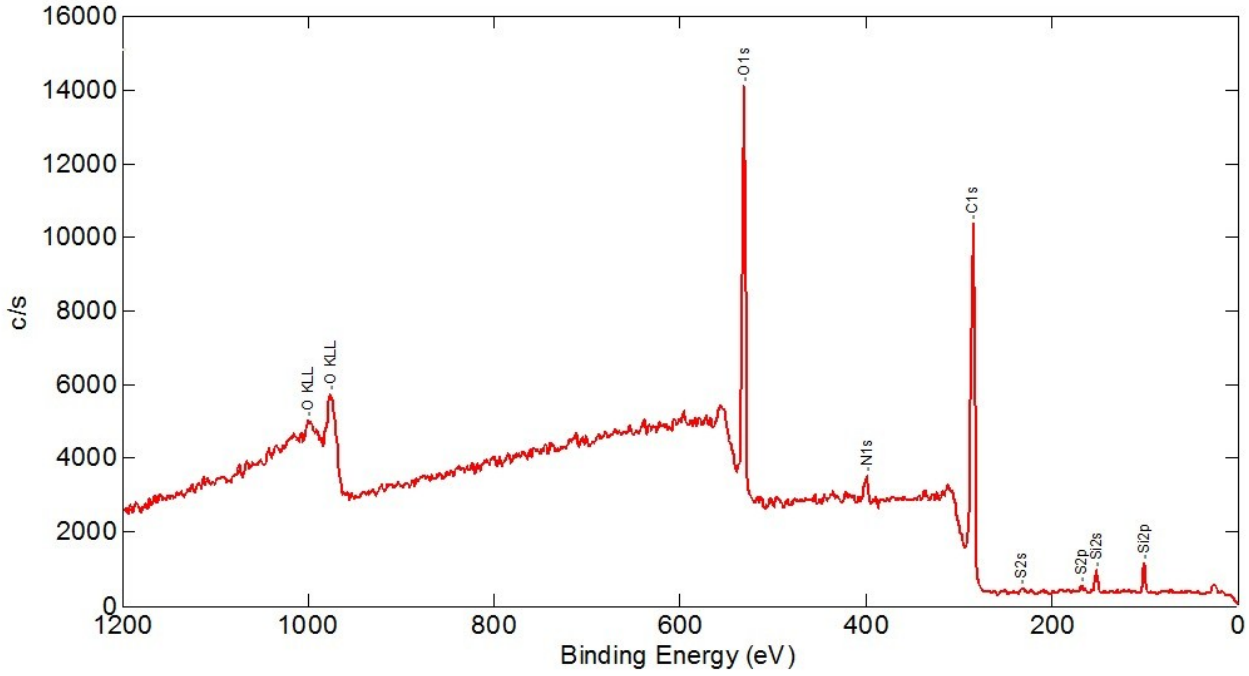

Figure S10 XPS survey spectrum of RGO+500DMAEM sample.

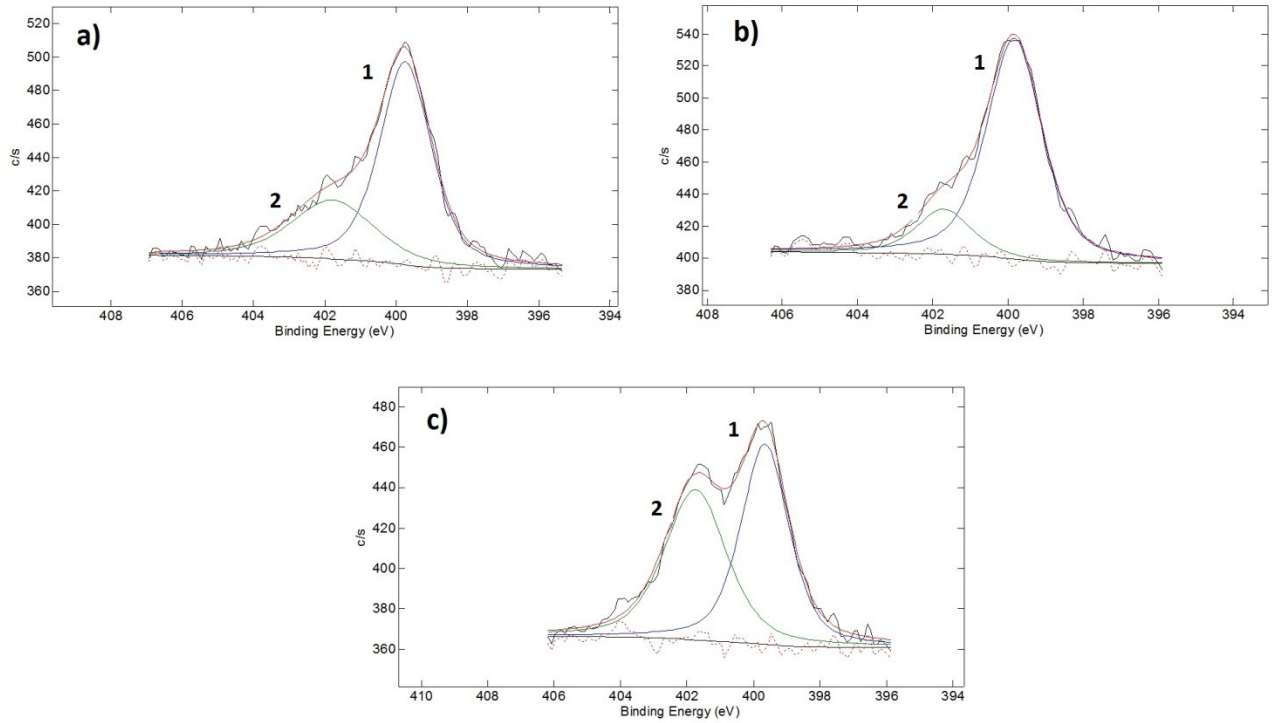

Figure S11 XPS spectra of N1s of (a) RGO+50 DMAEM, (b) RGO+150 DMAEM, (c) RGO+500 DMAEM.

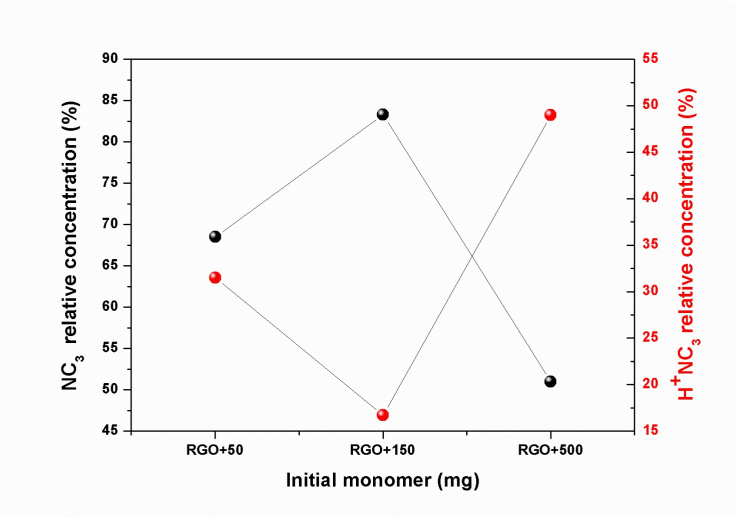

Figure S12 XPS relative concentration of NH2 and NH3+ from N1s HR spectra of RGO+50 DMAEM, RGO+150 DMAEM and RGO+500 DMAEM

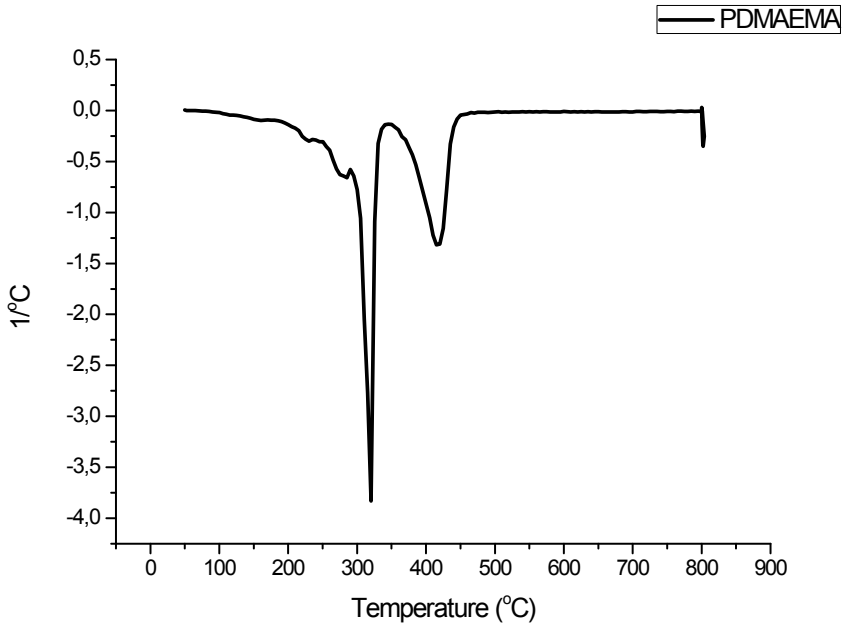

Figure S13 DTGA of Poly((dimethylamino) ethyl methacrylate).

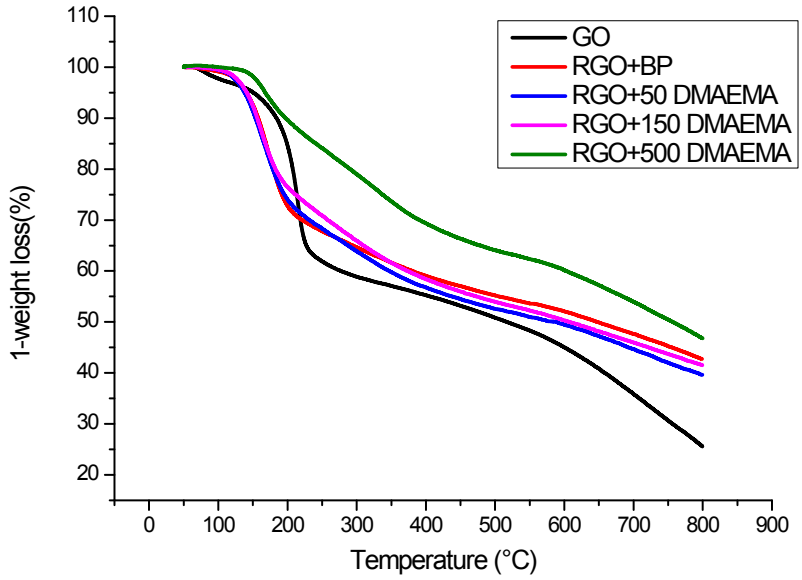

Figure S14 TGA curves comparison of samples synthesized.

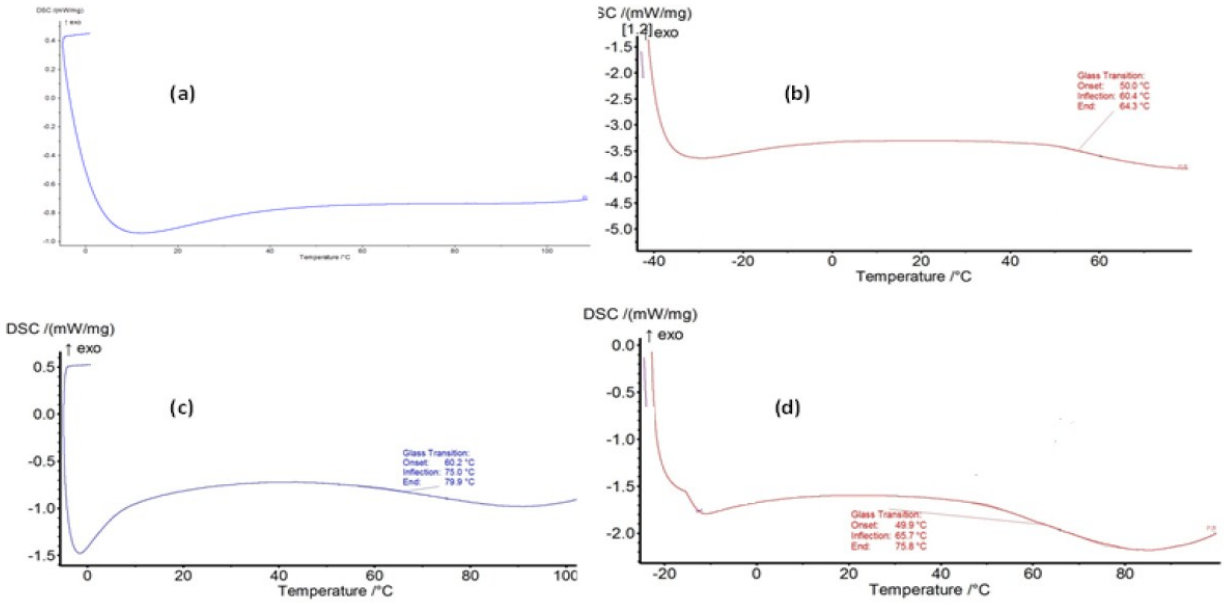

Figure S15 DSC curves of (a) RGO+BP (b) RGO+50 DMAEM, (c) RGO+150 DMAEM, (d) RGO+500 DMAEM.

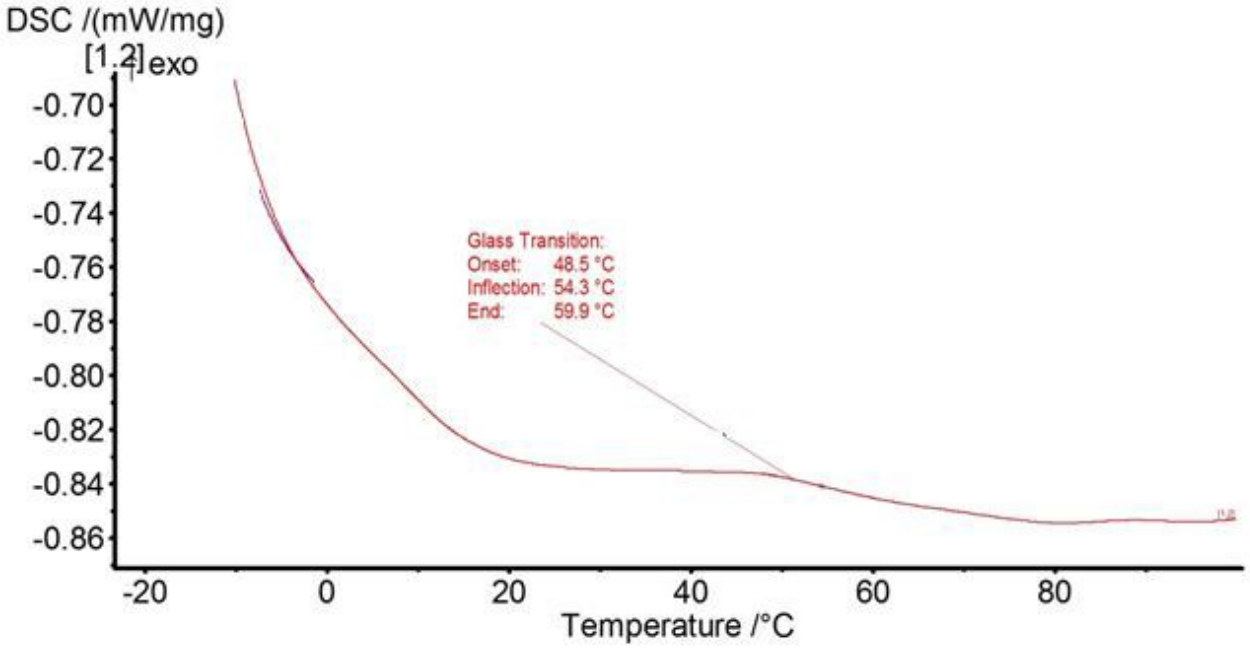

Figure S16 DSC of PDMAEM homopolymer

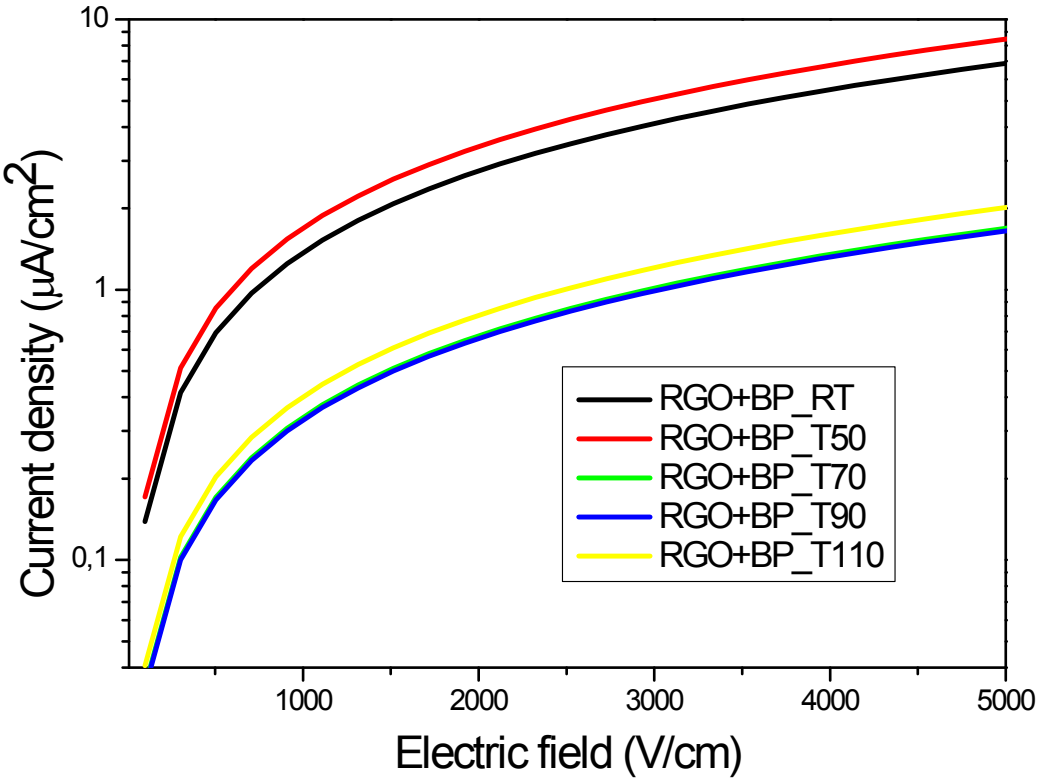

Figure S17 I-V curves of the RGO+BP after thermal treatments at different temperatures at room temperature

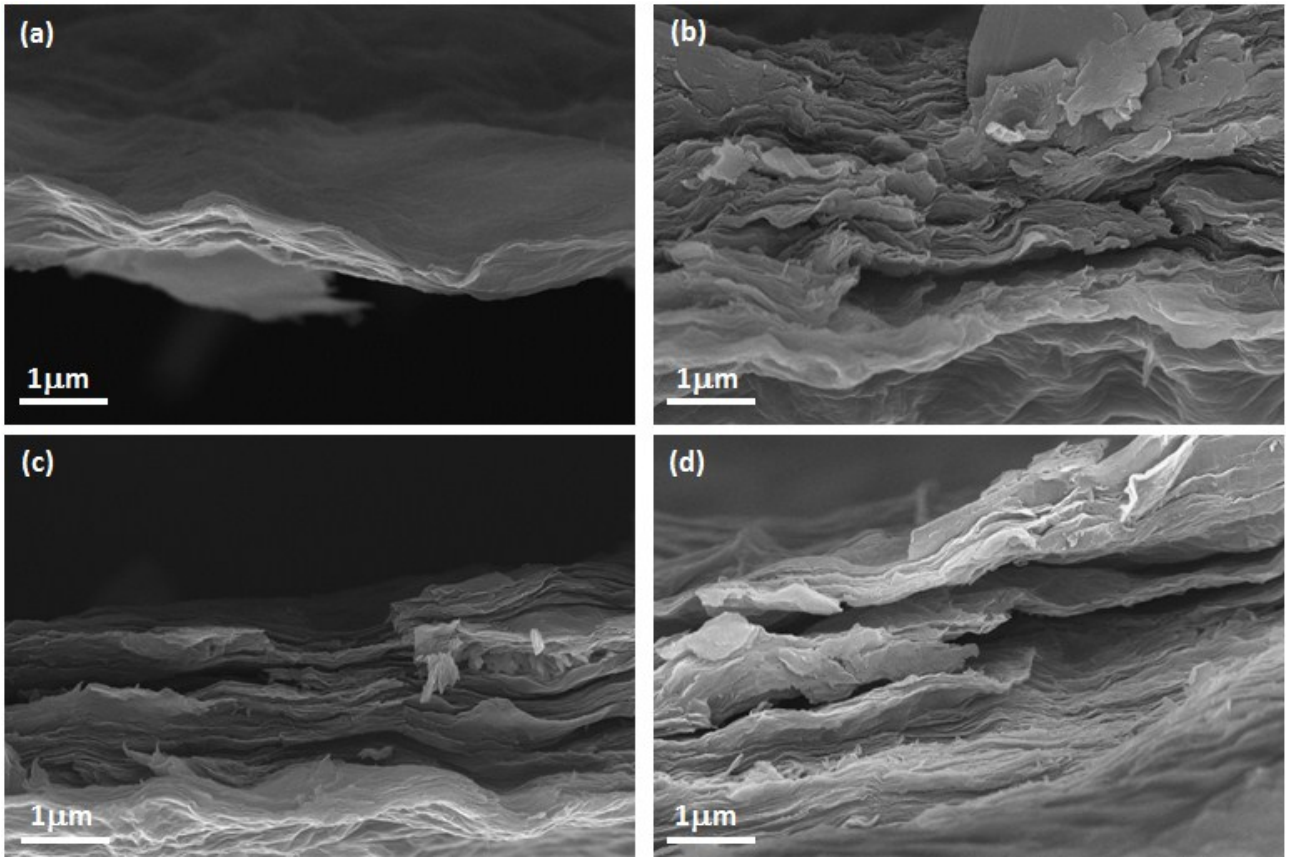

Figure S18 Cross-section FESEM images of (a) RGO+BP (b) RGO+50 DMAEM, (c) RGO+150 DMAEM, (d) RGO+500 DMAEM papers

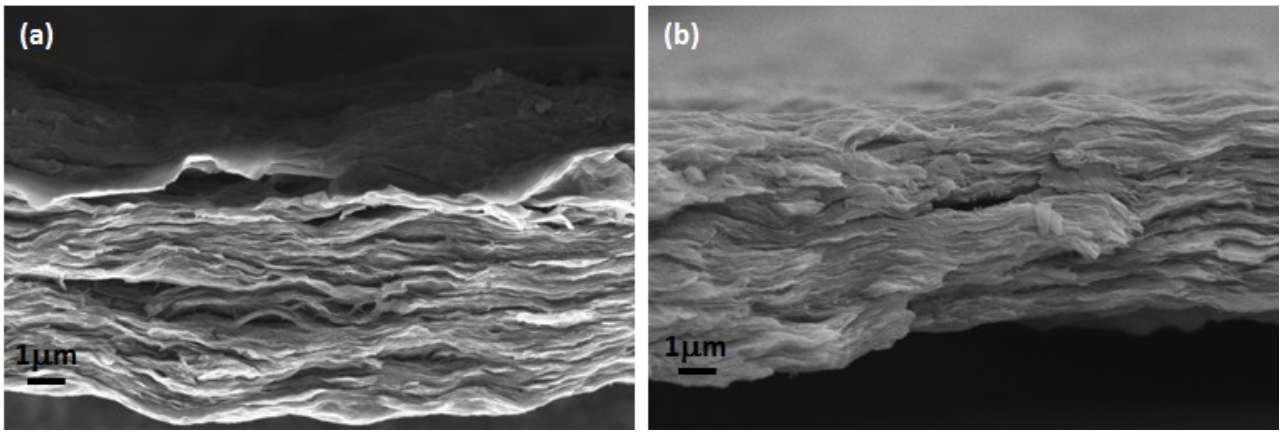

Figure S19 Cross-section FESEM images of (a) RGO+50 DMAEM, (b) RGO+500 DMAEM papers after thermal treatment at 110 °C

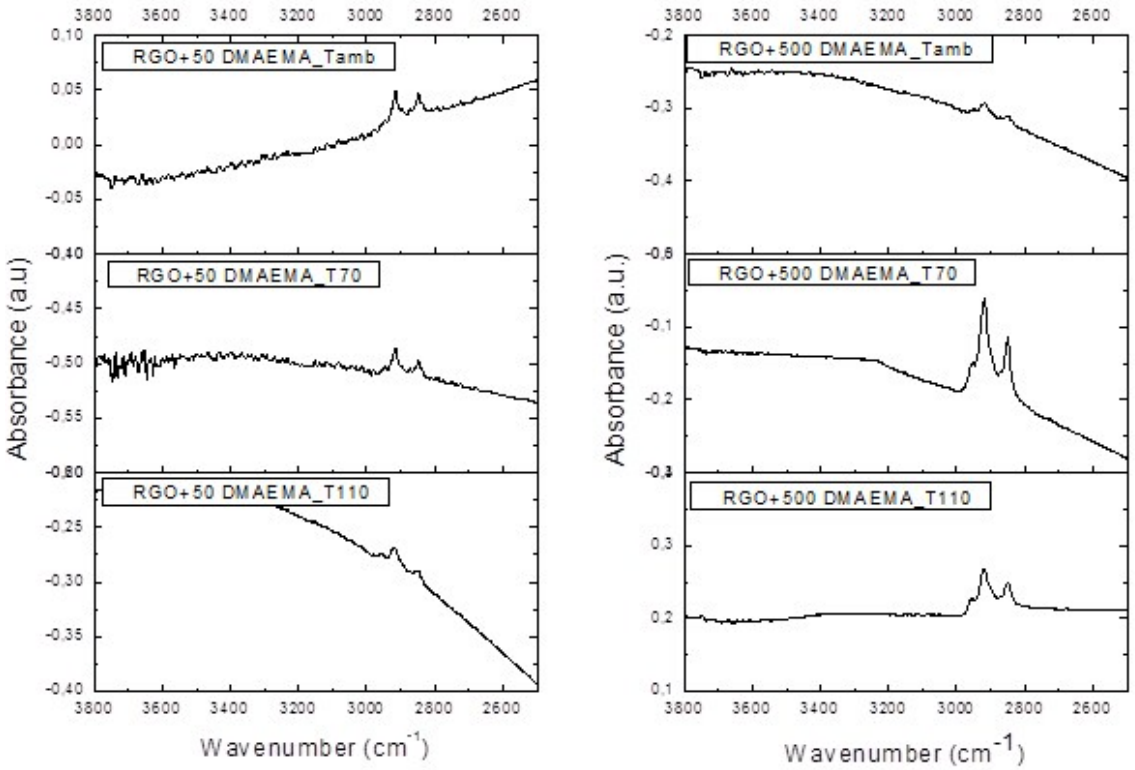

Figure S20 FT-IR spectra comparison of RGO+50 DMAEM (left) and RGO+500 DMAEM (right) after thermal treatments at different temperatures.