

Supporting Information

Porous Graphene Oxide Frameworks: Synthesis and Gas Sorption

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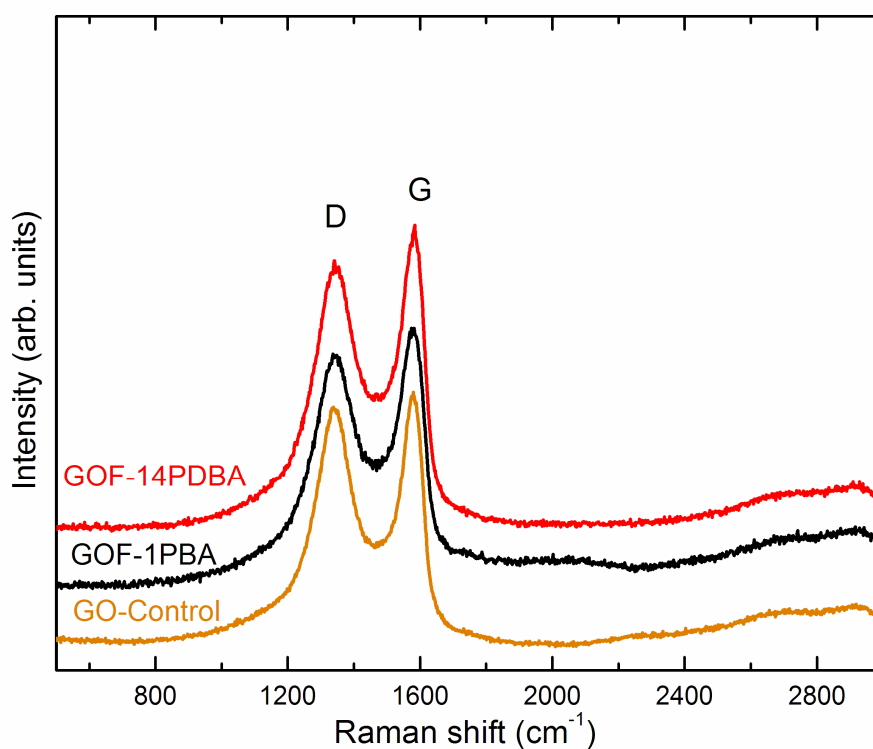


Figure S1: Raman spectra of as-synthesized (at 100 °C solvothermal) GO, GOF-1PBA, and GOF-4BPBA.

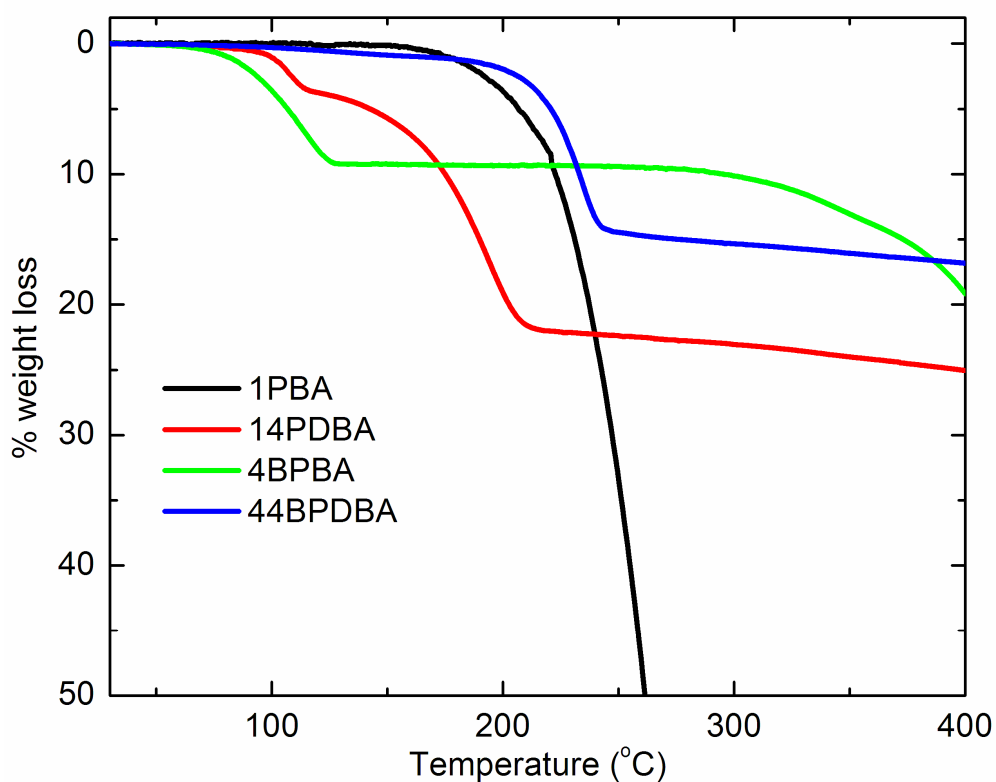


Figure S2: TG plots of pristine boronic acids: 1PBA=1-phenylboronic acid; 14PDBA=1,4-phenyldiboronic acid; 4BPBA=4-biphenylboronic acid; 44BPDBA=4,4'-biphenyldiboronic acid.

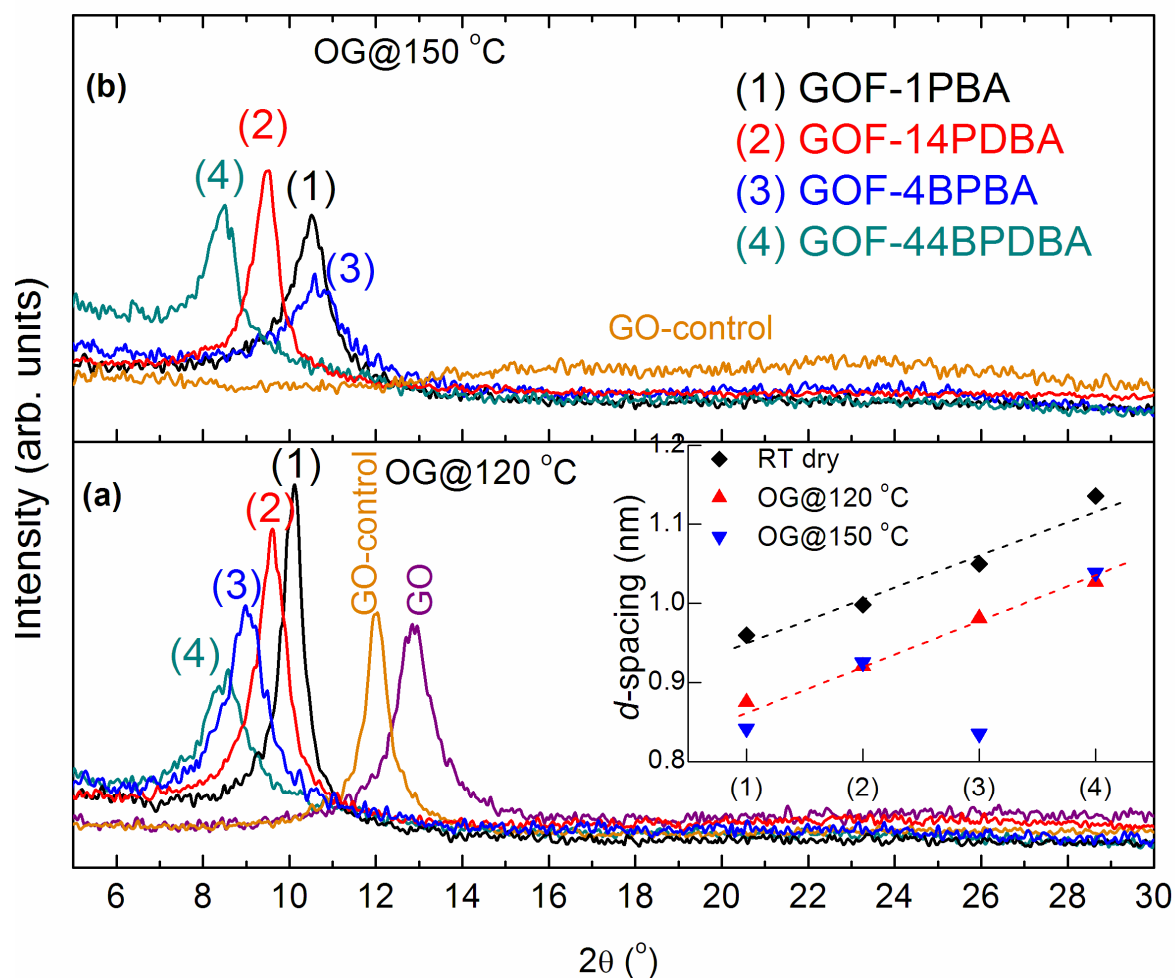


Figure S3: XRD patterns of GOFs (synthesized at 100 $^\circ$ C solvothermal) after out gassed at different temperatures; the precursor GO subjected to the same conditions is also given. The inset shows variation of d-spacing upon outgassed temperature.

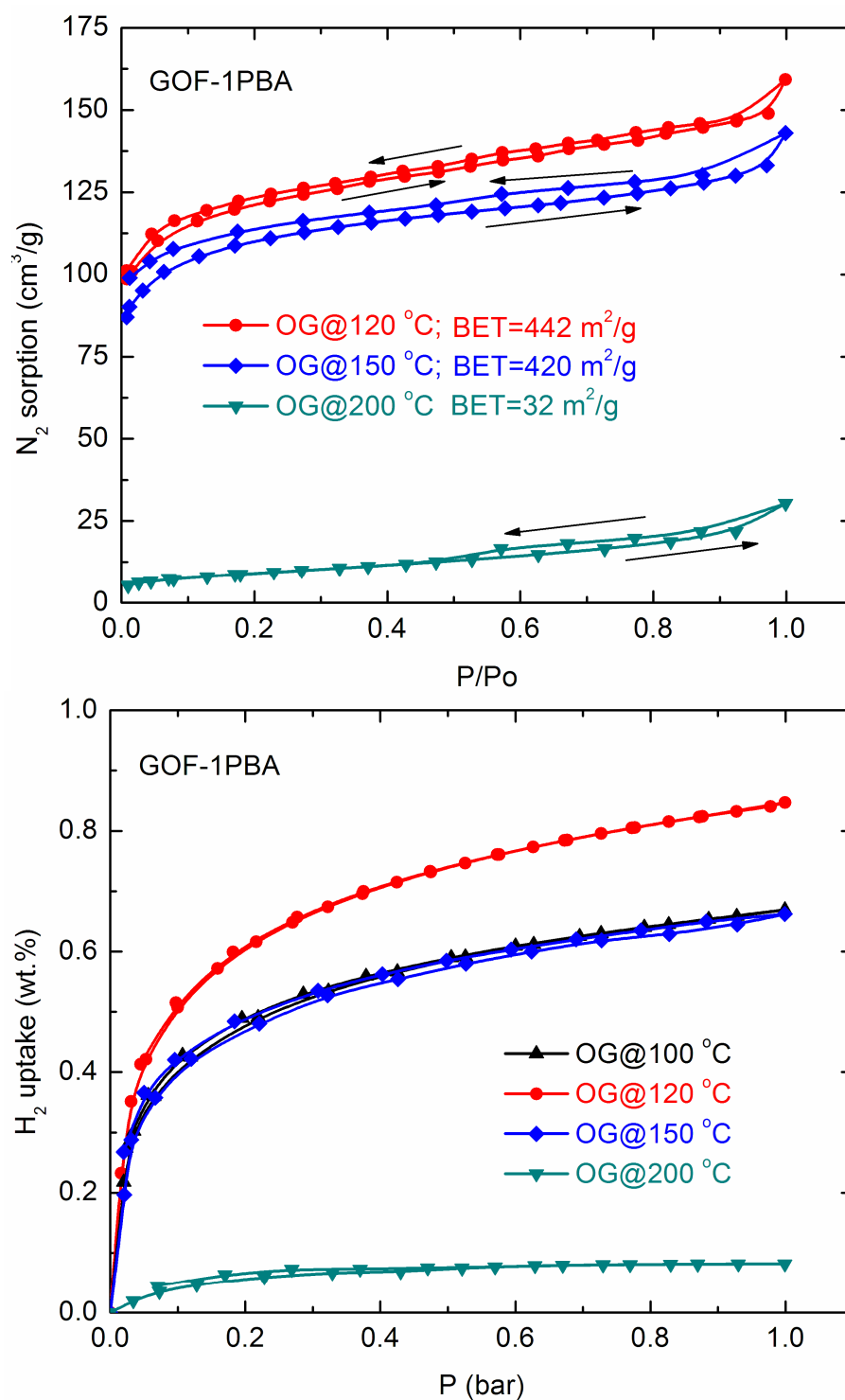


Figure S4: Effect of outgassing temperature on the N₂ and H₂ adsorption-desorption (at 77 K) properties of GOF-1PBA (synthesized at 100 °C solvothermal).

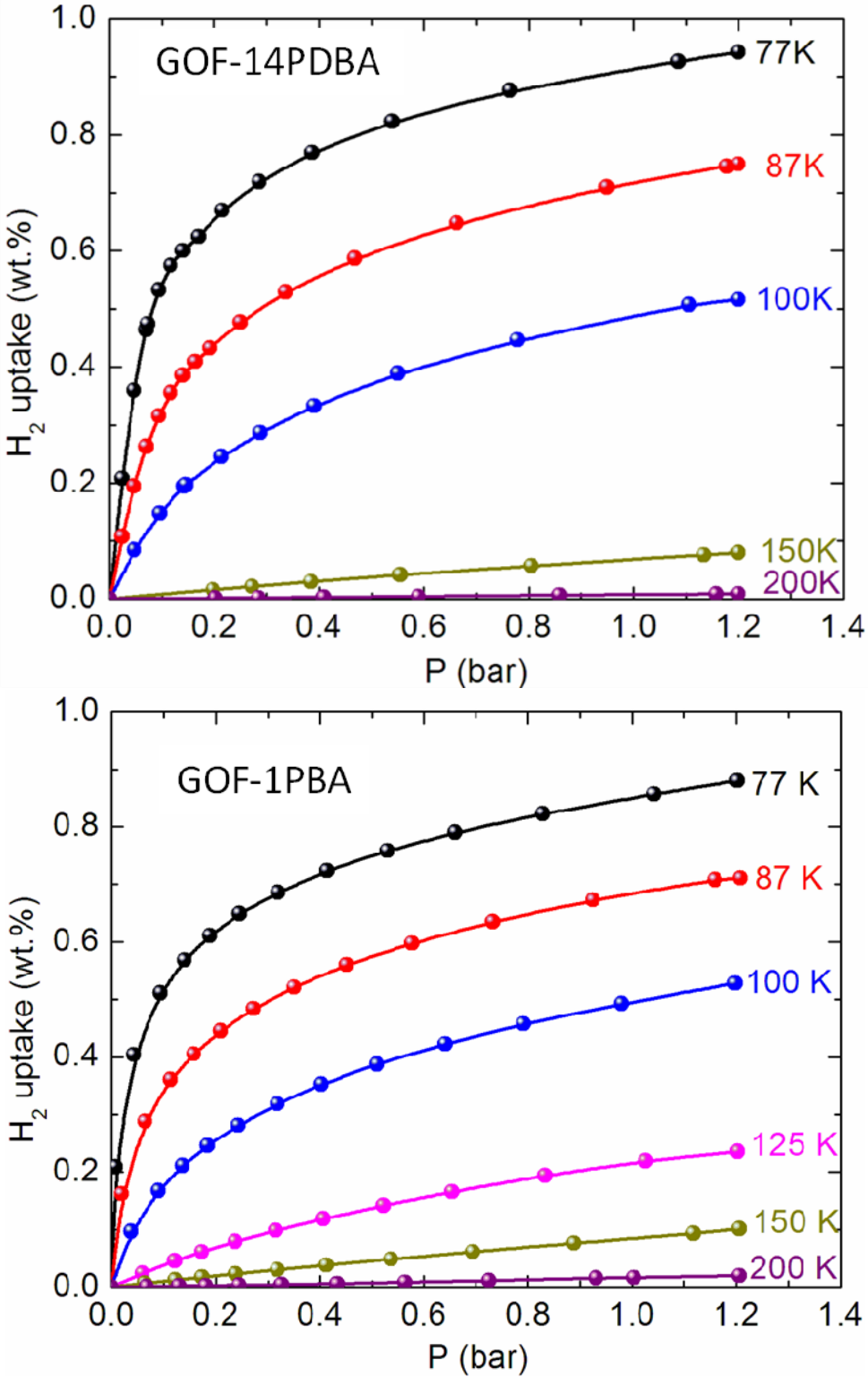


Figure S5: Temperature dependence of H₂ uptake of GOF-1PBA and GOF-14PDBA (synthesized at 100 °C solvothermal).

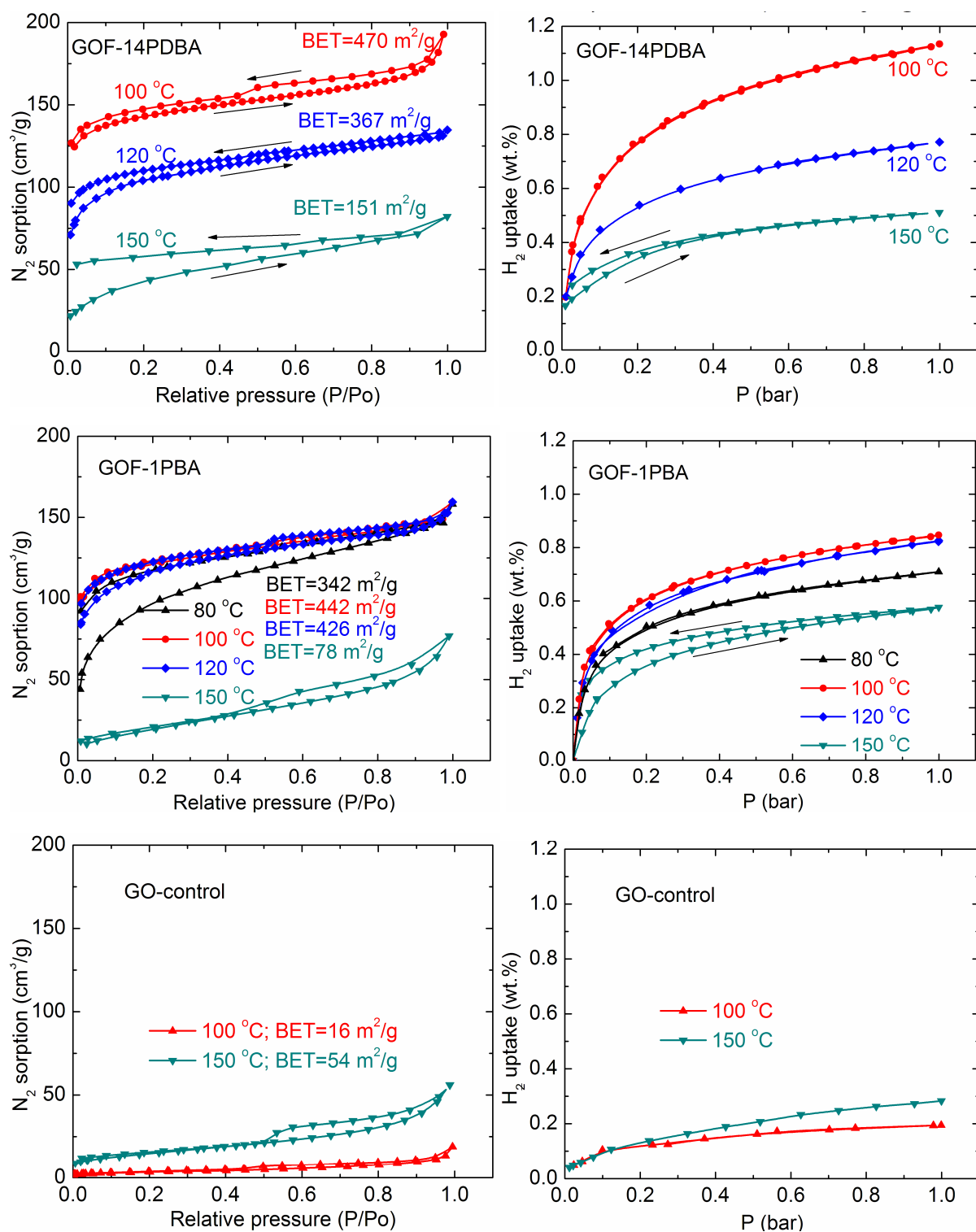


Figure S6: The N_2 and H_2 adsorption-desorption (at 77 K) properties of GO, GOF-1PBA and GOF-14PDDBA: Synthesized at different temperatures of solvothermal process, and are out gassed at 120 °C before gas sorption analyses.

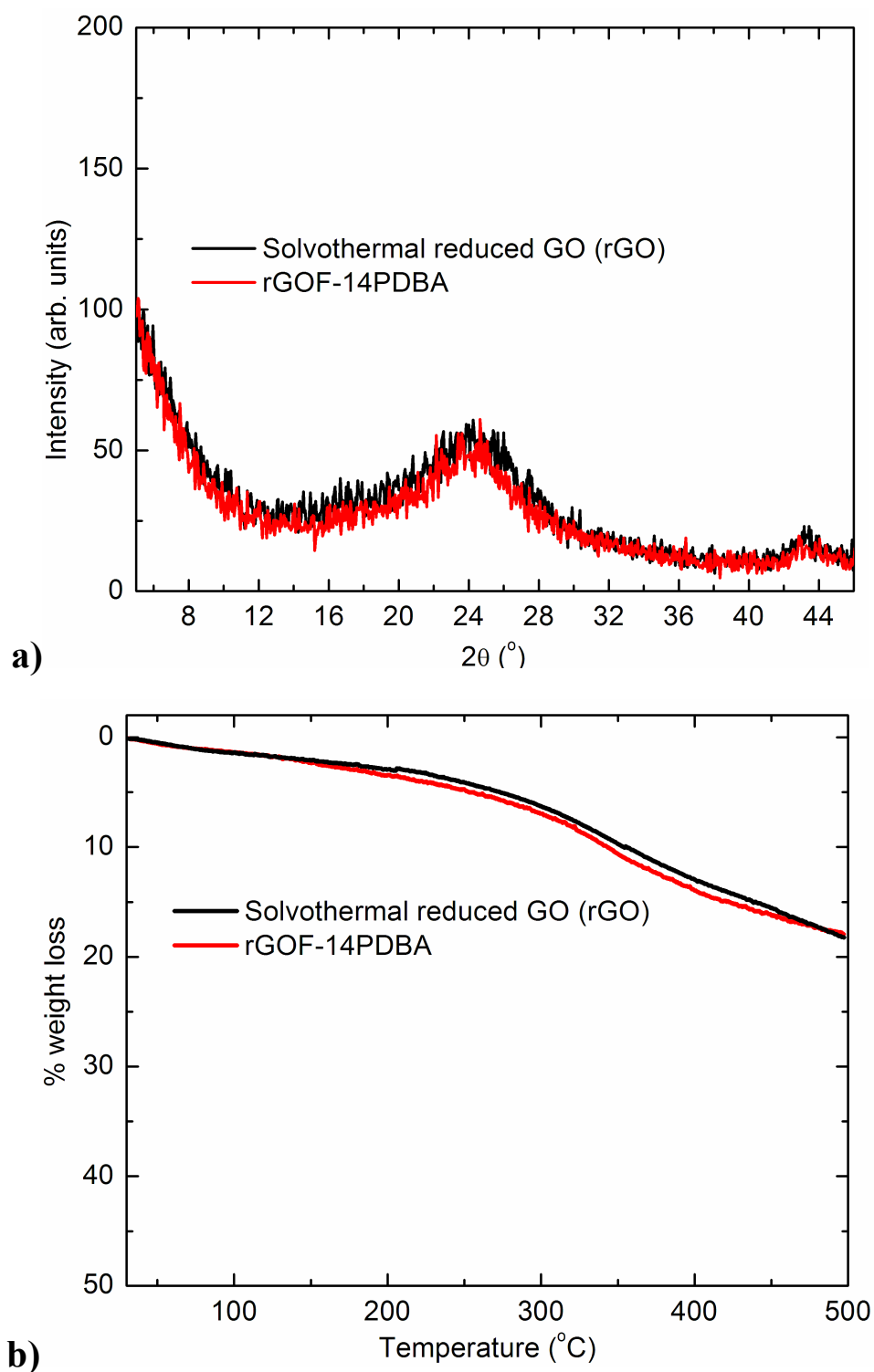


Figure S7: a) XRD patterns and b) TG plots of rGOF-14PDDBA (red) synthesized at 100 $^\circ\text{C}$ from a solvothermal reduced GO (black) also at 150 $^\circ\text{C}$.

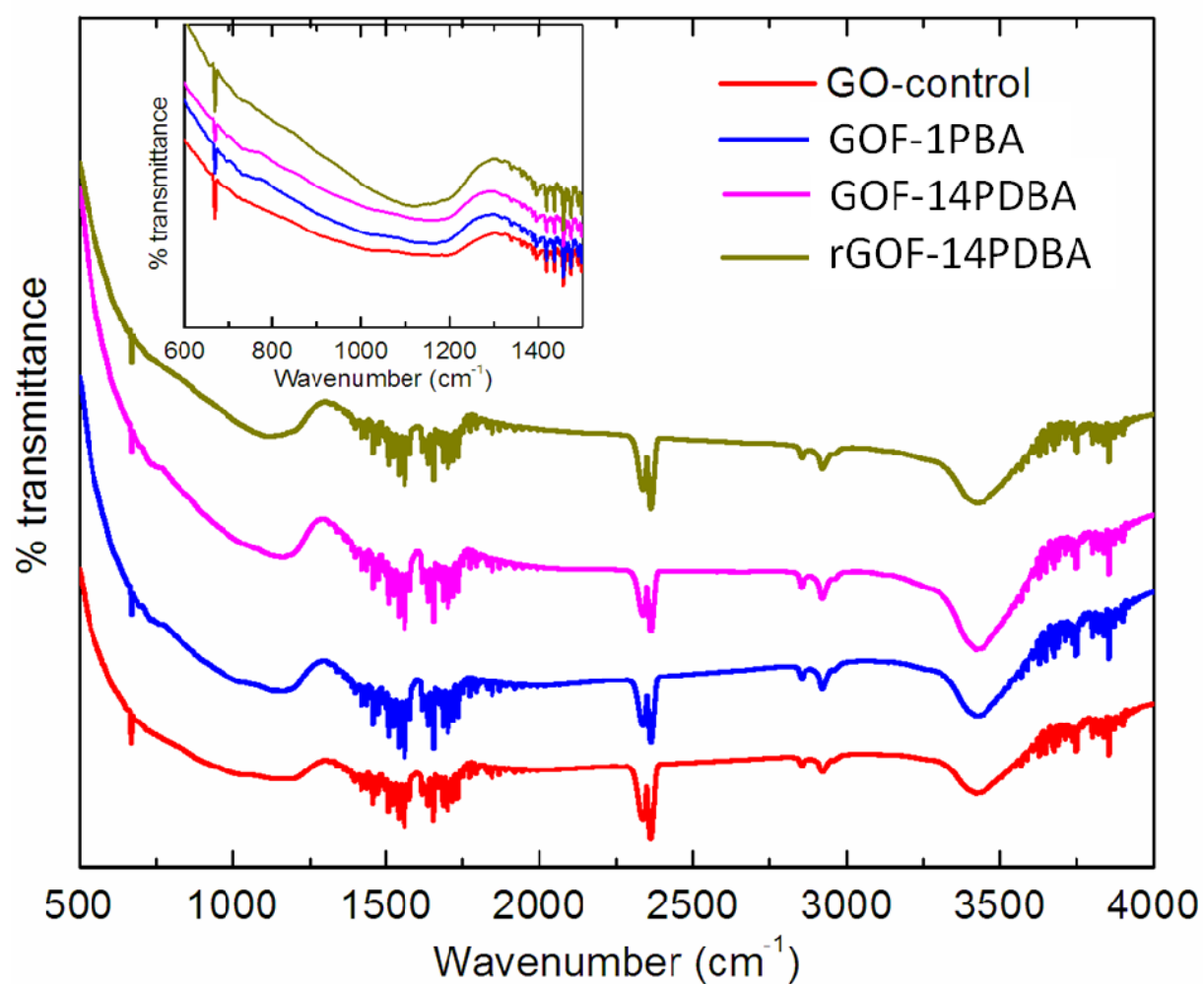


Figure S8: FTIR spectra of GO and GOFs synthesized at 150 °C solvothermal process. There one cannot differentiate any change between GO and GOFs spectra.