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Supporting Information



Fig S1.The XRD diffractrogram of graphene oxide with the calculated lattice spacing.



Fig S2. (a-b) FESEM image of graphene oxide (GO) at different magnifications. (c) EDX spectra of Graphene oxide (Inset representing the corresponding mapping and elemental analysis based on weight % of elements present).



Fig S3.Cyclic voltagramms of (a) $MnFe_2O_4$ nanoparticles, (b) $MnFe_2O_4$ nanoneedles, (c) $MnFe_2O_4/rGO$ nanoparticles and (d) Graphene oxide at various scan rates extending from 5-100 mVs⁻¹.



Fig S4. The Specific capacitance calculated from cyclic voltagramms of all the samples at different scan rates.



Fig S5. The slope of Impedance Bode plot of M-nr/rGO nanocomposite at (a) Low frequency region, (b) Mid frequency region, (c) High frequency region.



Fig S6. The cyclic voltagramms of (a) MnFe₂O₄/rGO nanoparticles and (b) MnFe₂O₄/rGO nanoneedles deposited on Cu substrate recorded at various scan rates from 5-100 mVs⁻¹.