†Electronic Supplementary Information (ESI)

Probing the Electrochemical Properties of Electrophoretically Deposited Co$_3$O$_4$/rGO/CNT Nanocomposite for Supercapacitor Applications

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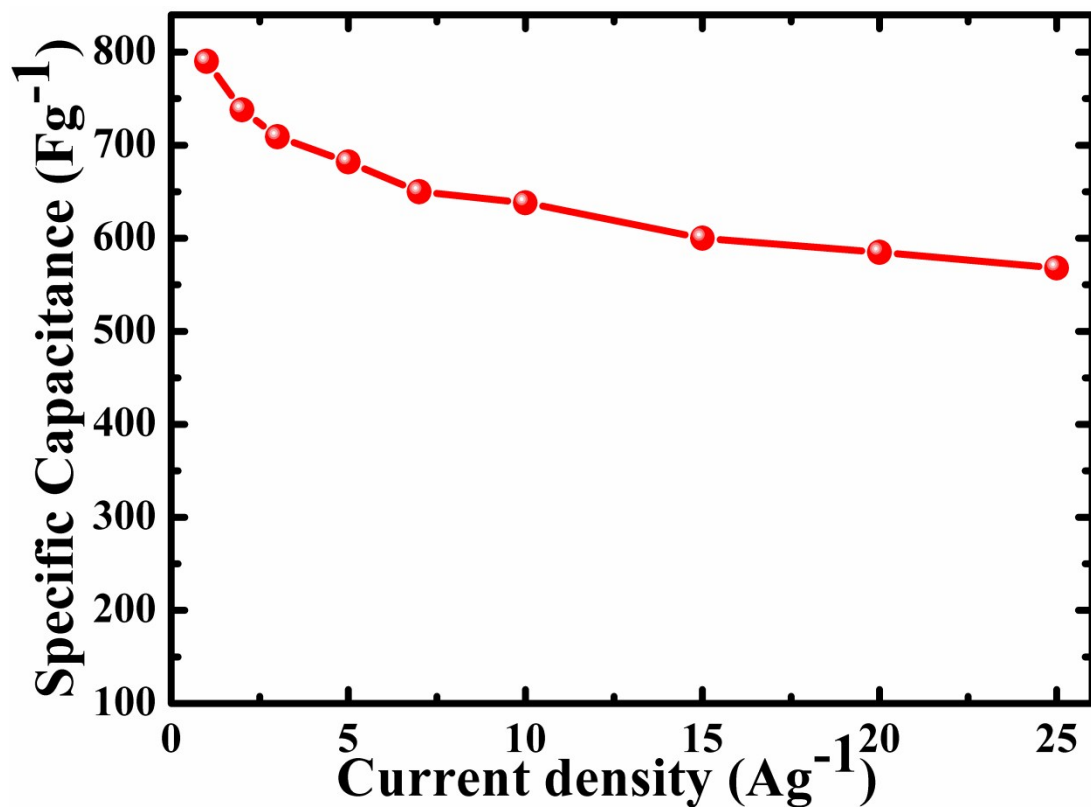
Figure S1. The specific capacitances, calculated from GCD curves at different current density values for 2GCoC composite.
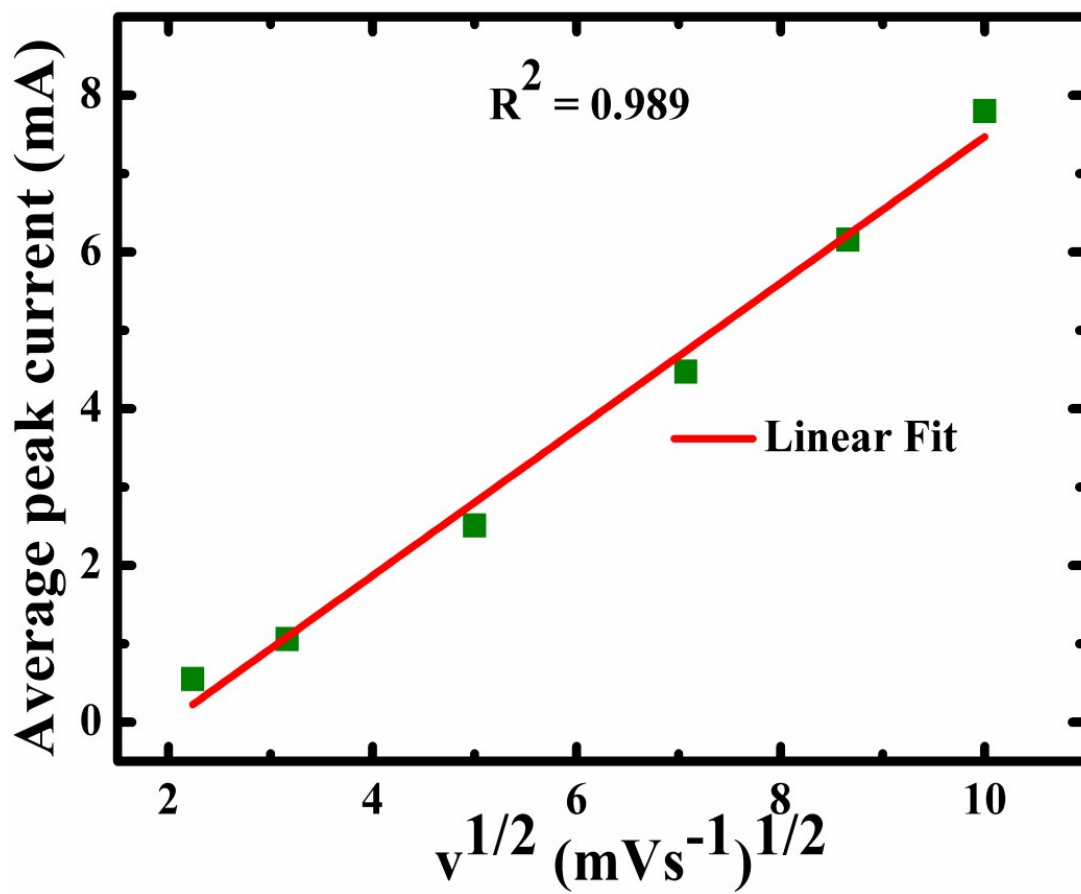
Figure S2. The square root of scan rate (v) as a function of average peak current for designed asymmetric supercapacitor in 1 M KOH electrolyte.
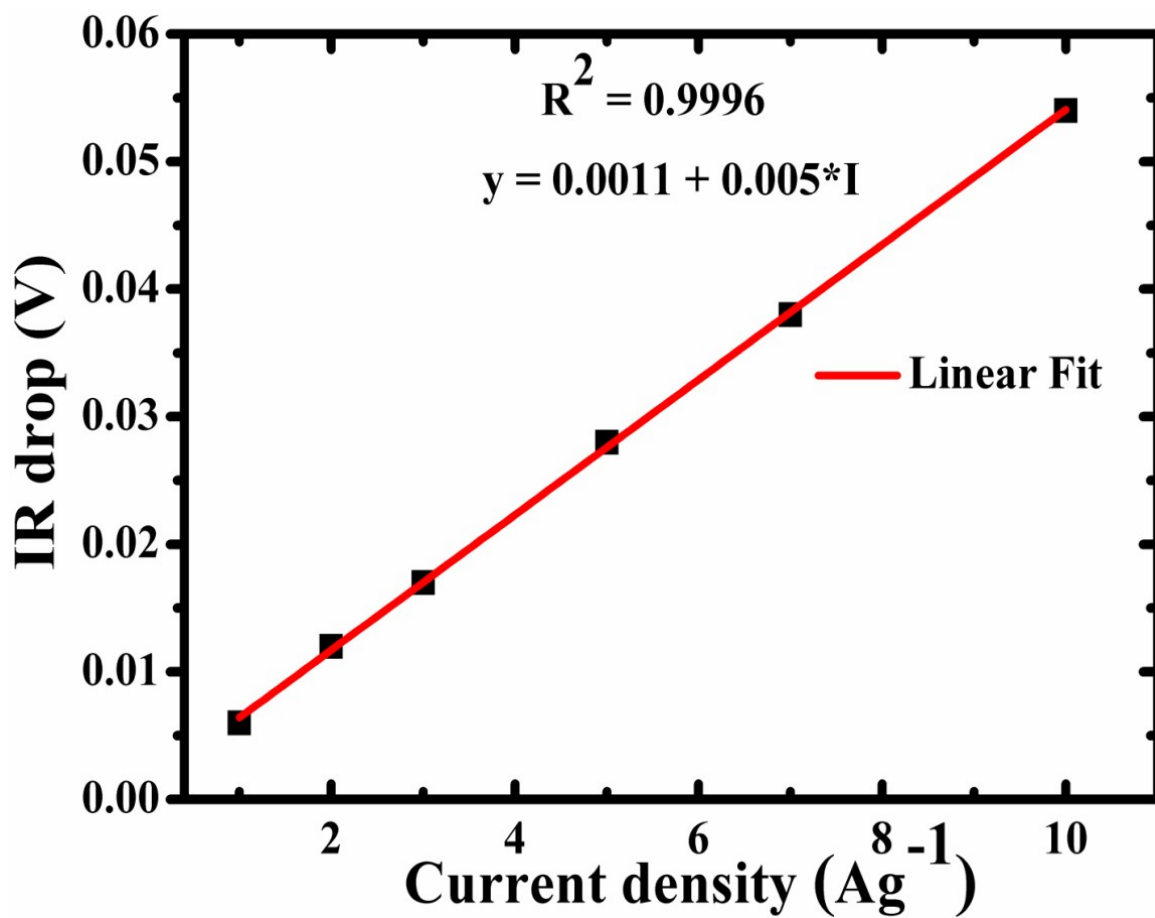
Figure S3. The IR drops as a function of current density for asymmetric supercapacitor in 1 M KOH electrolyte.

Table S1. Electrochemical performance of Co_3O_4/rGO/CNTs nanocomposites in this study, compared with some other Co_3O_4/ rGO nanocomposites reported in previous literature.

Material	Specific capacitance (Fg^{-1})	Electrolyte	Capacitance Retention	Ref.
Co_3O_4 nanosheet/rGO	396 Fg^{-1} (1 Ag^{-1})	3 M KOH	72.3% after 3000 cycles	[1]
Co_3O_4 microsphere /rGO/CNTs paper	378 Fg^{-1} (2 Ag^{-1})	3 M KOH	96% after 700 cycles	[2]
Co_3O_4/rGO	636 Fg^{-1} (1 Ag^{-1})	6 M KOH	97.6% after 1000 cycles	[3]
Co_3O_4/rGO nanosheet Carbon black	341 Fg^{-1} (10 mVs-1)	6 M KOH	89% after 1000 cycles	[4]
Co_3O_4/Mildly oxidized CNT/Mildly oxidized rGO	492 Fg^{-1} (0.1 Ag-1)	6 M KOH		[5]
Co_3O_4 nanoplate/rGO	338 Fg^{-1} (0.2 Ag^{-1})	6 M KOH	93.2% after 1000 cycles	[6]
Carbon nanofiber/Co_3O_4 -nanoparticles	585 Fg^{-1} (1 Ag^{-1})	6 M KOH	74% after 1000 cycles	[7]
Co_3O_4/rGO composites	438 Fg^{-1} (1 Ag^{-1})	1M KOH	56% after 2000 cycles	[8]
Strongly coupled nanosheet/rGO	187 Fg^{-1} (1.2 Ag^{-1})	2 M KOH	94% after 1000 cycles	[9]
Needle-like Co_3O_4/rGO	158 Fg^{-1} (0.1 Ag^{-1})	2 M KOH	70% after 4000 cycles	[10]
3D rGO hydrogel/Co_3O_4	757.5 Fg^{-1} (0.5 Ag^{-1})	6 M KOH	94.5% after 500 cycles	[11]
Co_3O_4/rGO nanosheets	650 Fg^{-1} (5 mVs^{-1})	1M KOH	92% after 1000 cycles	[12]
Co_3O_4/rGO/CNTs composite	790 Fg^{-1} (1 Ag^{-1})	1M KOH	75% after 1000 cycles	Present work

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