Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Self-assembled polyaniline nanowires stippled graphene-3-pentadecylphenyl phosphate hybrid nanocomposite based green sustainable electrodes for Supercapacitors

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PGPC	GPC (g)	Aniline (g)
PGPC 1	0.1	1
PGPC 2	0.1	2
PGPC 3	0.1	5
PGPC 4	0.1	10

Table S1. Different weight percentages of aniline monomer in PGPC Composite with respect to GPC

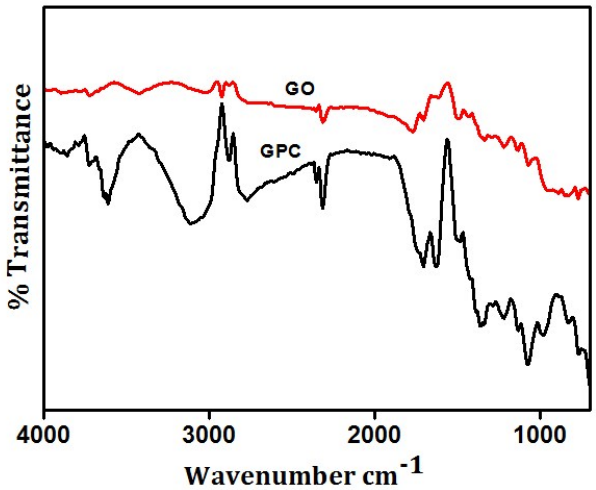

Figure. S1 IR spectra of GO and GPC

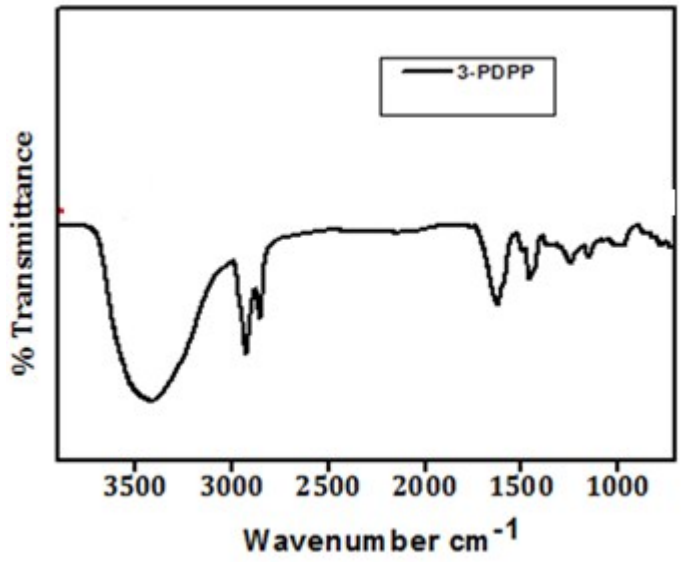

Figure. S2 FTIR spectra of 3-PDPP.

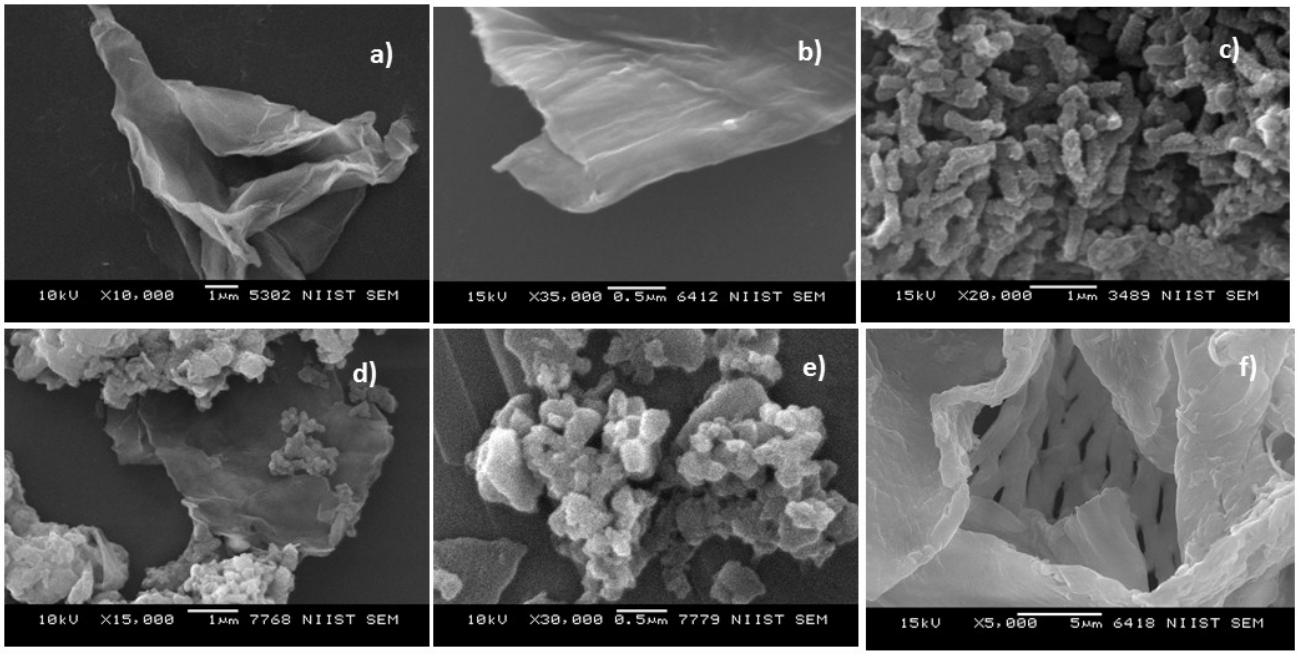

Figure. S3 SEM images of a) GO b) GPC c) PANI d) PGPC 1 e) PGPC 2 f) PGPC 4

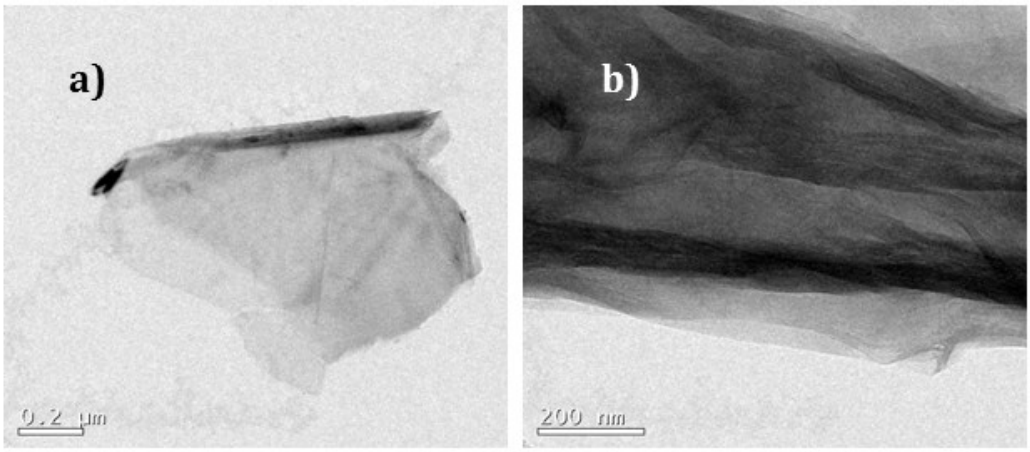

Figure. S4 TEM images of a) GO b) GPC

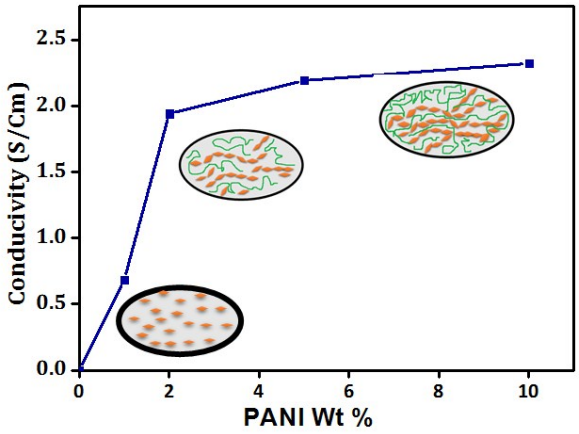

Figure. S5 Conductivity of PGPC composites

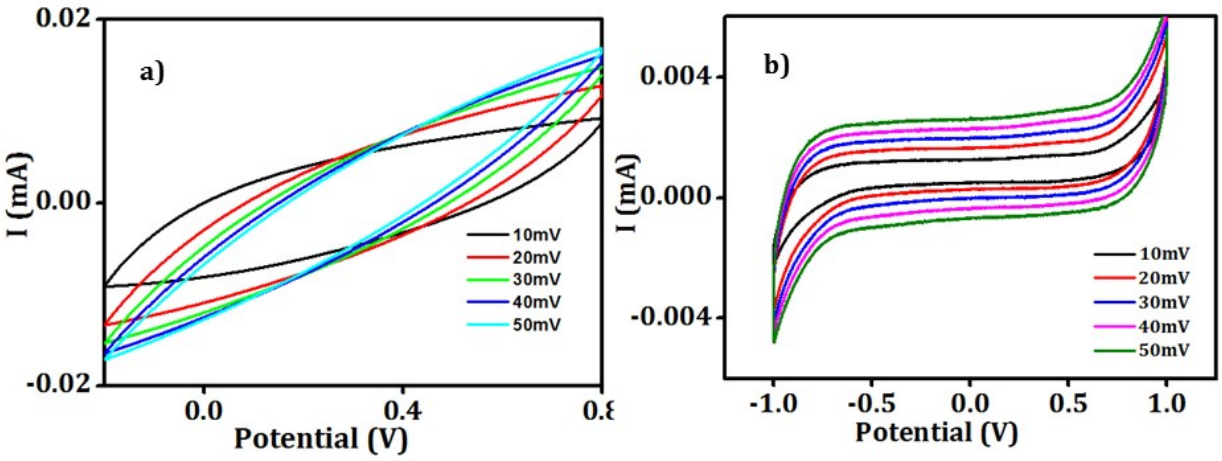

Figure. S6 Cyclic voltammetry diagram of a) PANI b) GPC.

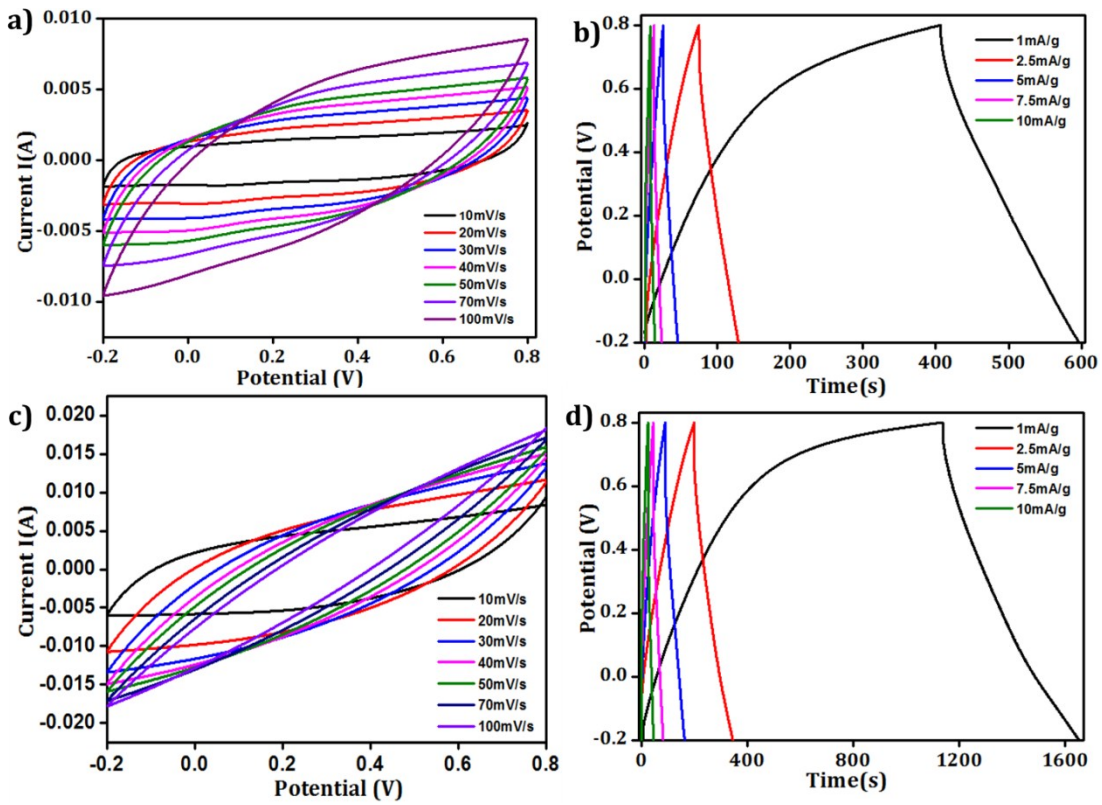

Figure. S7 a) and c) cyclic voltammograms of PGPC 1 and PGPC 2. b) and d) Charge Discharge curve of PGPC 1 and PGPC 2 respectively using 1M Na_2SO_4

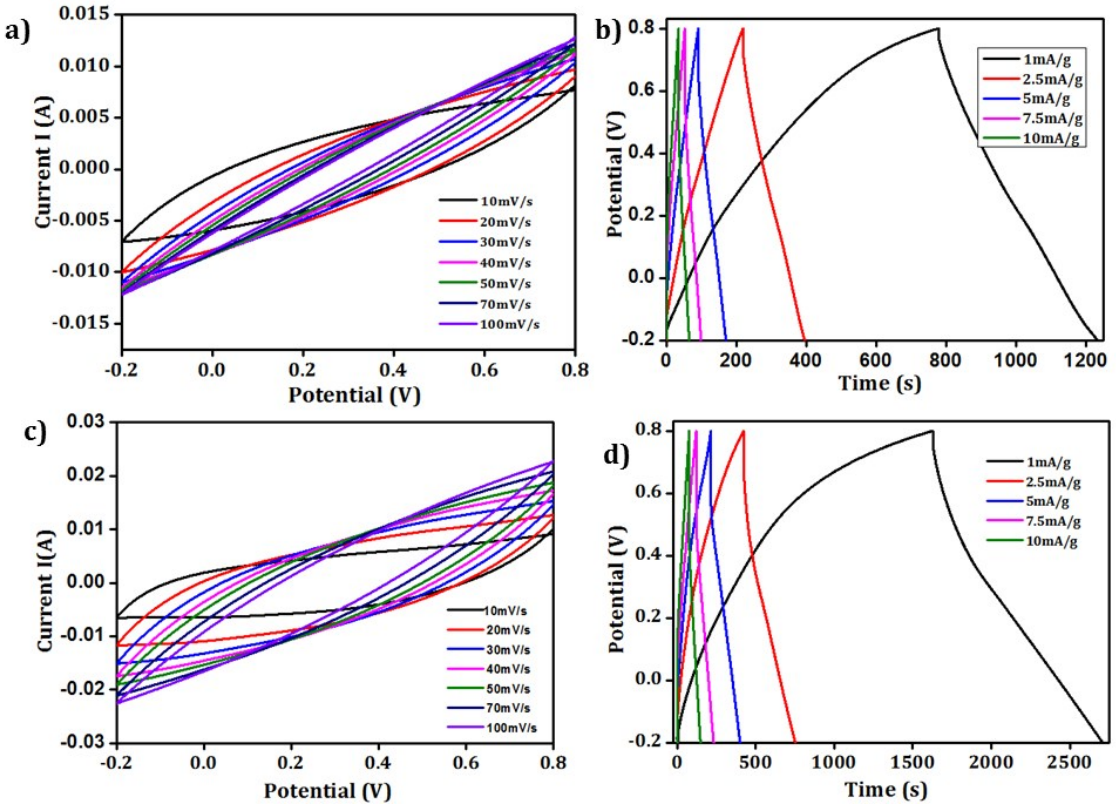

Figure. S8 a) and c) cyclic voltammograms of PGPC 1 and PGPC 2. b) and d) Charge Discharge curve of PGPC 1 and PGPC 2 respectively using PVA-H_3PO_4gel electrolyte

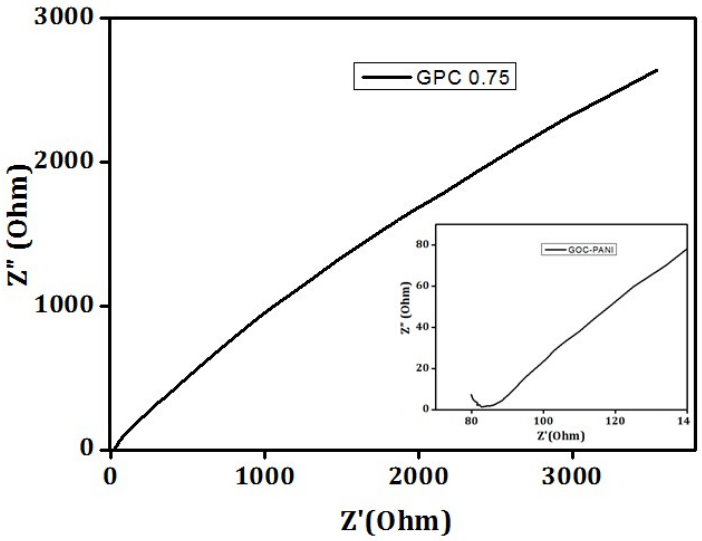

Figure. S9 Impedance spectra of GPC

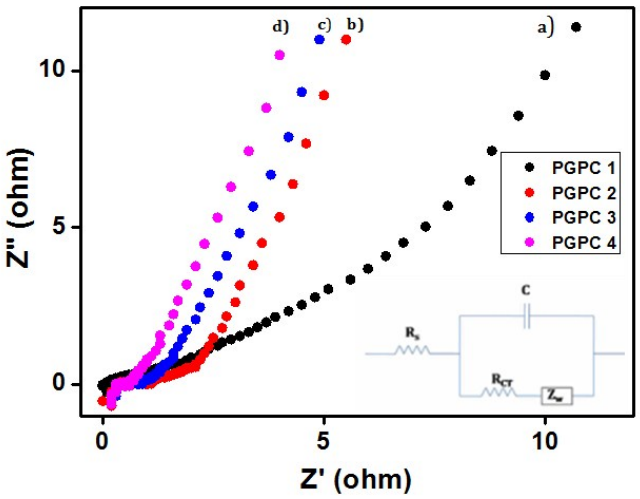

Figure. S10 Impedance spectra of PGPCs in Na_2SO_4

Composition	Specific Capacitance (F/g)									
	Na_2SO_4					PVA-H_3PO_4				
	0.001 A/g	0.0025 A/g	0.005 A/g	0.0075 A/g	0.01 A/g	0.001 A/g	0.0025 A/g	0.005 A/g	0.0075 A/g	0.01 A/g
PGPC 1	204.99	152.86	99.23	60.60	45.11	295.82	200.2	198.10	174.50	155.79
PGPC 2	312.12	289.41	286.55	223.17	165.85	475.88	400.38	263.13	280.29	211.89
PGPC 3	625.70	521.53	414.37	408.66	386.22	744.50	613.69	530.27	466.01	301.55
PGPC 4	791.26	586.22	576.83	524.38	469.18	812.55	725.23	653.33	646.31	552.30

Table S2. Supercapacitor properties of PGPC 1-3 in Na_2SO_4 and PVA-H_3PO_4 gel electrolyte.