Electronic Supplementary Material (ESI) for RSC Advances.

3D Reduced Graphene Oxide/$Ni_{0.5}Zn_{0.5}Fe_2O_4$/Polyindole nanocomposite modified glassy carbon electrode for supercapacitor applications

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1. Supporting information S1

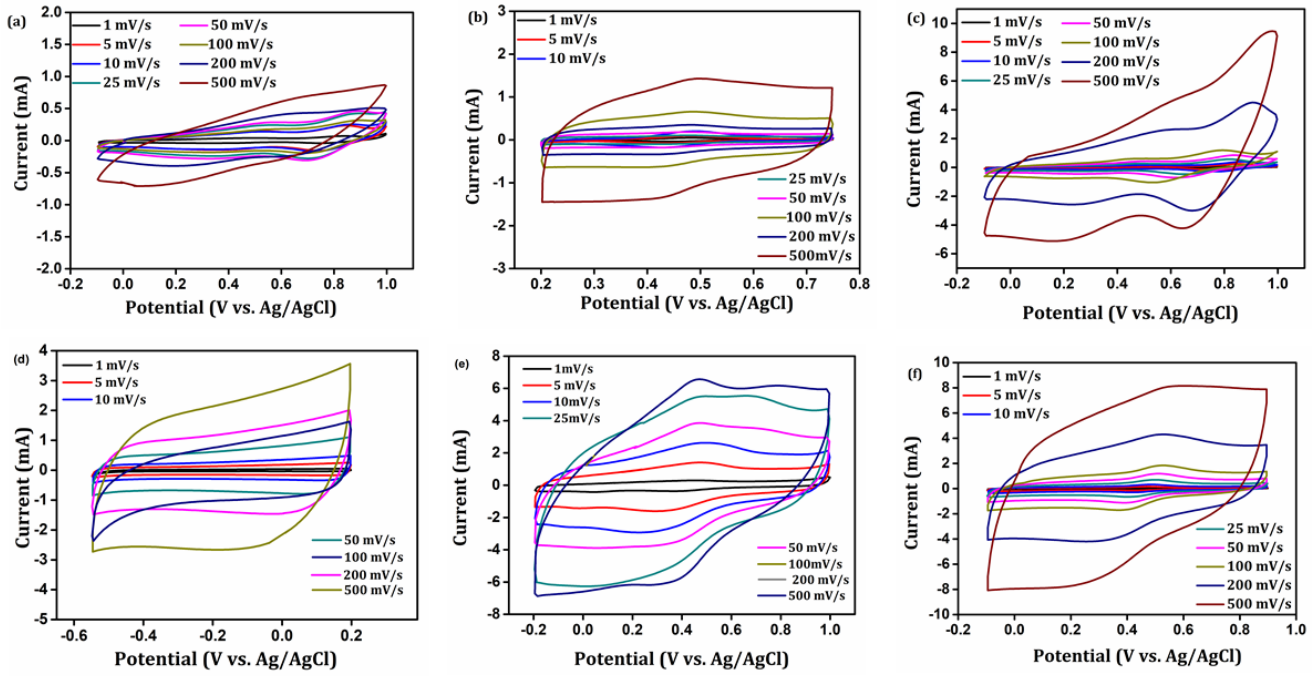

Fig.S1. The effect of scan rate on the stability of different electrodes within a scan ranges from 1 to 500 mV/s (a) PIN, (b) NZF, (c) PIN10, (d)3D RGO, (e) PIN/RGO, and (f) GN2.

2. Supporting information S2

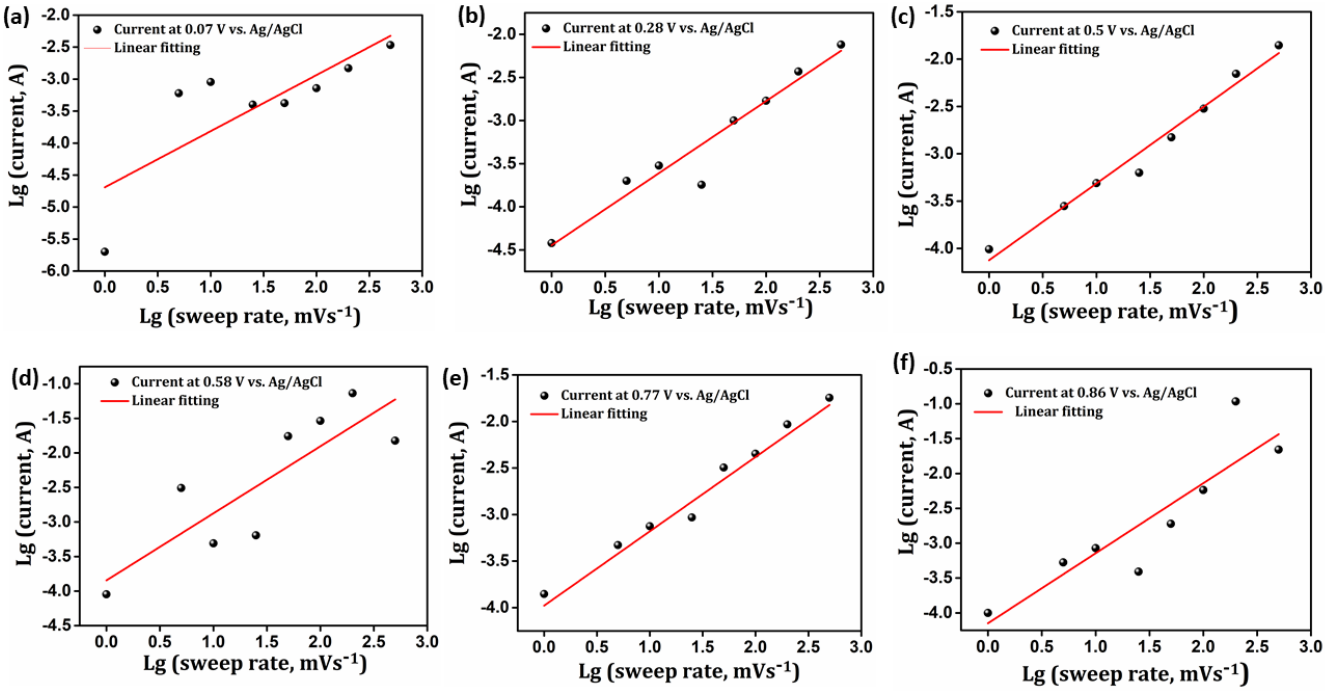

Fig. S2 The determination of b values at various potentials.

3. Supporting information S3

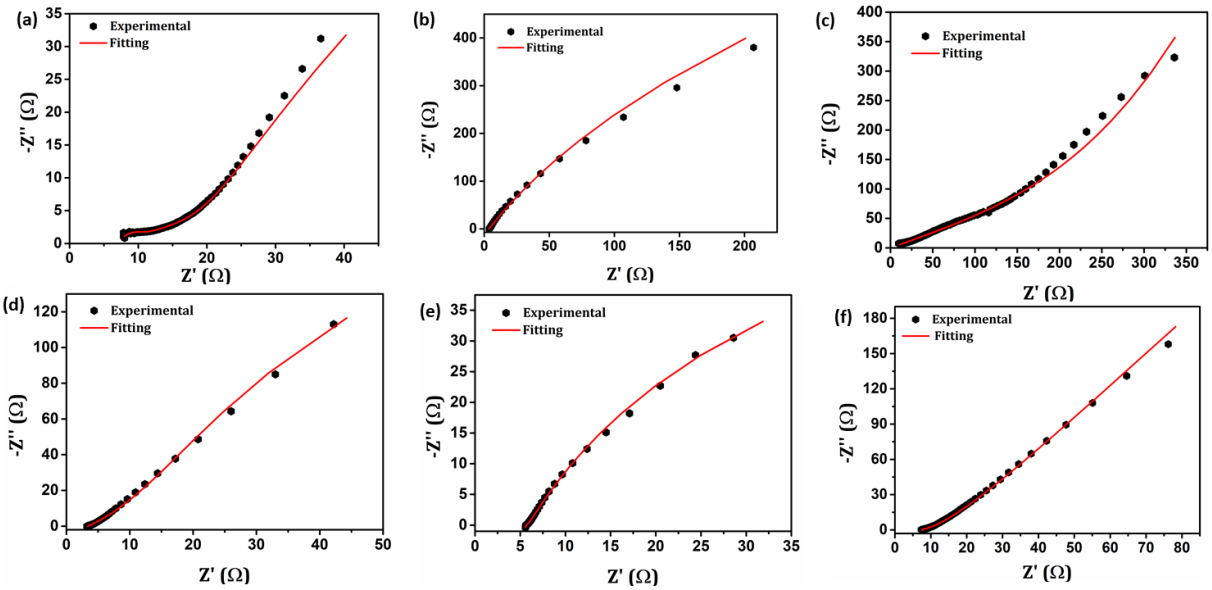

Fig. S3 Nyquist plots of (a) PIN, (b) NZF, (c) PN10, (d) 3D RGO, (e) PIN/RGO, and (f) GN2 after fitting with an equivalent circuit

4. Supporting information S4

Table S1: Specific surface area, cumulative pore volume, and average pore diameter of the electrode materials.

Electrode material	Surface area (m^2/g)	Pore volume (cm^3/g)	Average pore diameter (nm)
PIN	10	0.010076	2.6
NZF	14	0.011943	2.1
3D RGO	240	0.1795	2.9
GN2	50	0.035414	3.2
GNP	61.9	0.049722	4.6

5. Supporting information S5

Table S2: Fitted values of the components R_s, R_1, R_2, and W_d in equivalent circuit for different electrodes

Electrode	R_s (Ω)	R_1 (Ω)	R_2 (Ω)	W_d
PIN	7.25	101	70.3	8.53 m
NZF	3.65	18.4 k	19.4 k	200
PN10	9.8	34 k	13 k	219
3D RGO	3.34	296	138	638
PIN/RGO	5.46	14	134	200
GN2	7.08	31	0.6	213
GNP	3.85	7.68	0.419	19