Electronic Supplementary Information (ESI)

For

Coral-like Polyaniline/Barium Titanate Nanocomposite Electrode with Double Electric Polarization for Electrochromic Energy Storage Applications

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Supplementary Figures

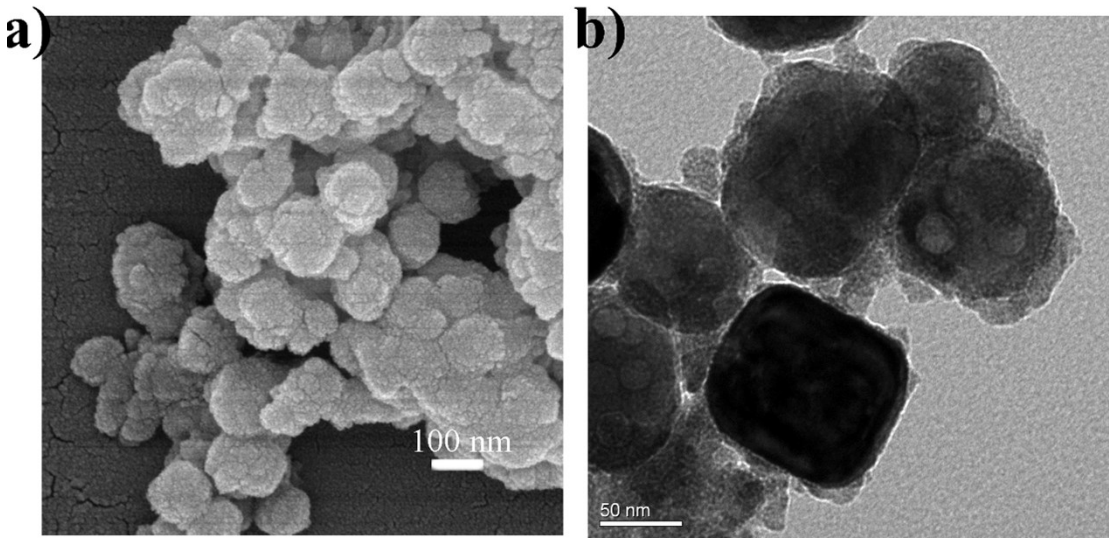

Figure S1. The SEM (a) and TEM (b) images of M-BT particles.

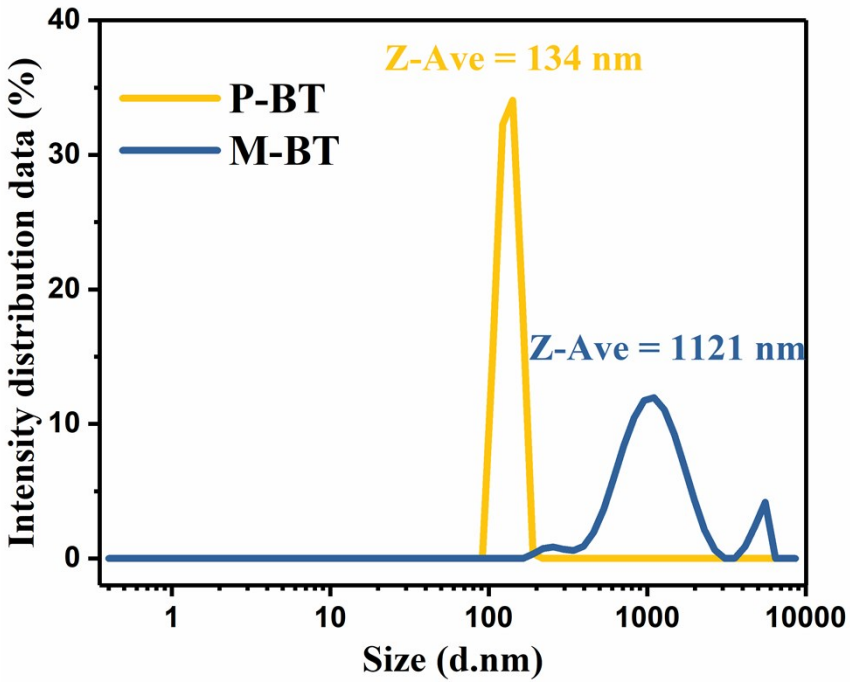

Figure S2. The particle size distribution of initial BT particles (P-BT) and modified BT particles (M-BT).

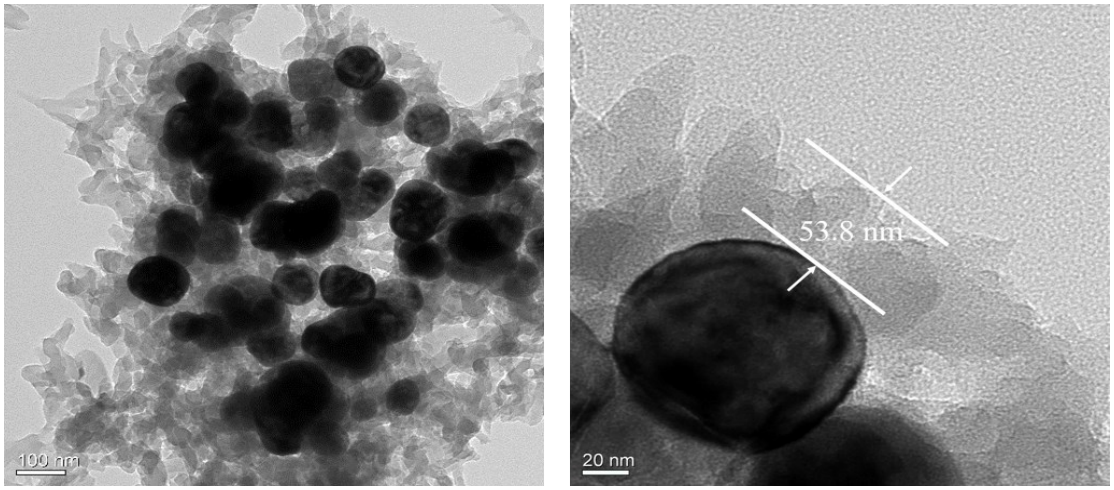

Figure S3. The TEM images of 30BT/70PANI.

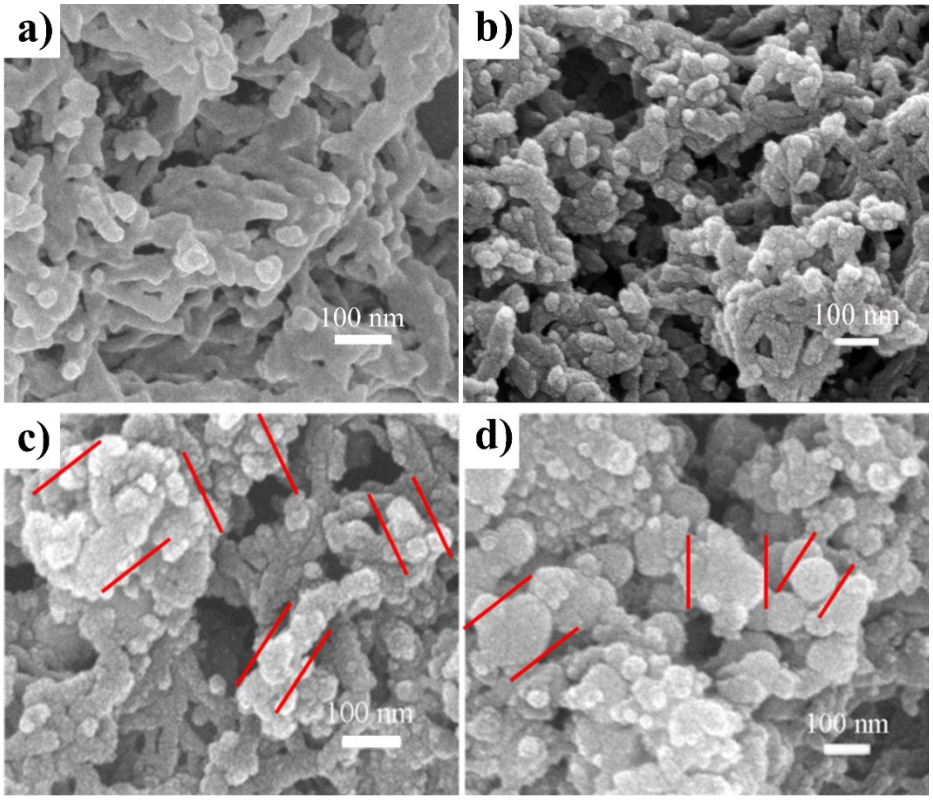

Figure S4. The SEM images of a) 10BT/90PANI, b) 30BT/70PANI, c) 50BT/50PANI, and d) 70BT/30PANI.

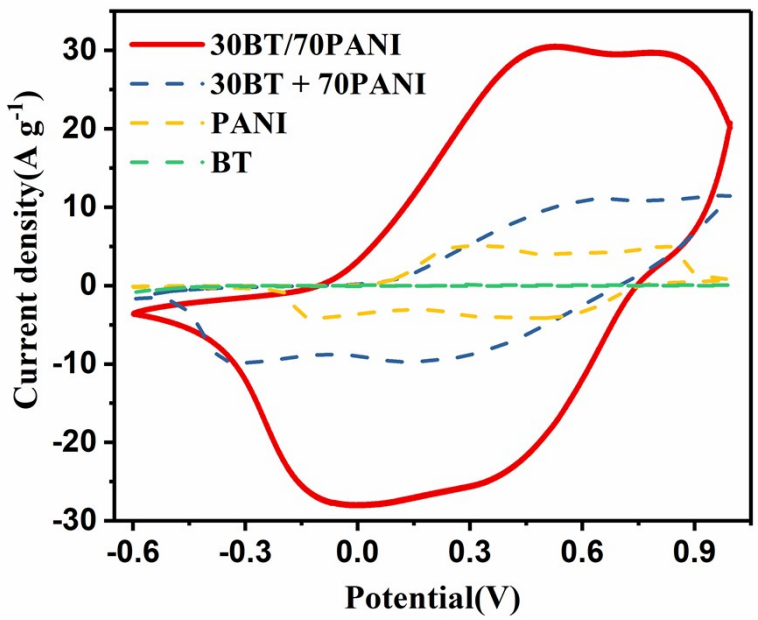

Figure S5. The cyclic voltammograms of 30BT/70PANI, pure PANI, pure BT, and the mixture of 30BT+70PANI at 100 mV s^{-1}.

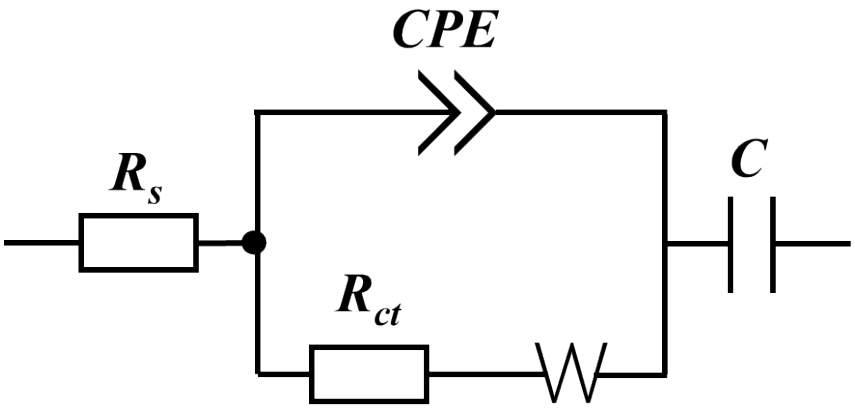

Figure S6. Equivalent circuits that optimally fit with obtained Nyquist plots of BT/PANI electrodes.

Table S1. Electrical parameters for both of pure PANI and the 30BT/70PANI electrode evaluated from EIS test.

Sample	R_s (Ω)	*CPE*		R_{ct} (Ω)	W (Ω·s^{-5})	C (μF·cm^{-2})	Error (%)
		Y_0, (μS·s^n)	n				
Pure PANI	7.67	2.736	0.841	30.52	37.04	3.345	<2.029
30BT/70PANI	1.34	6.906	0.924	12.04	11.49	36.35	<3.168

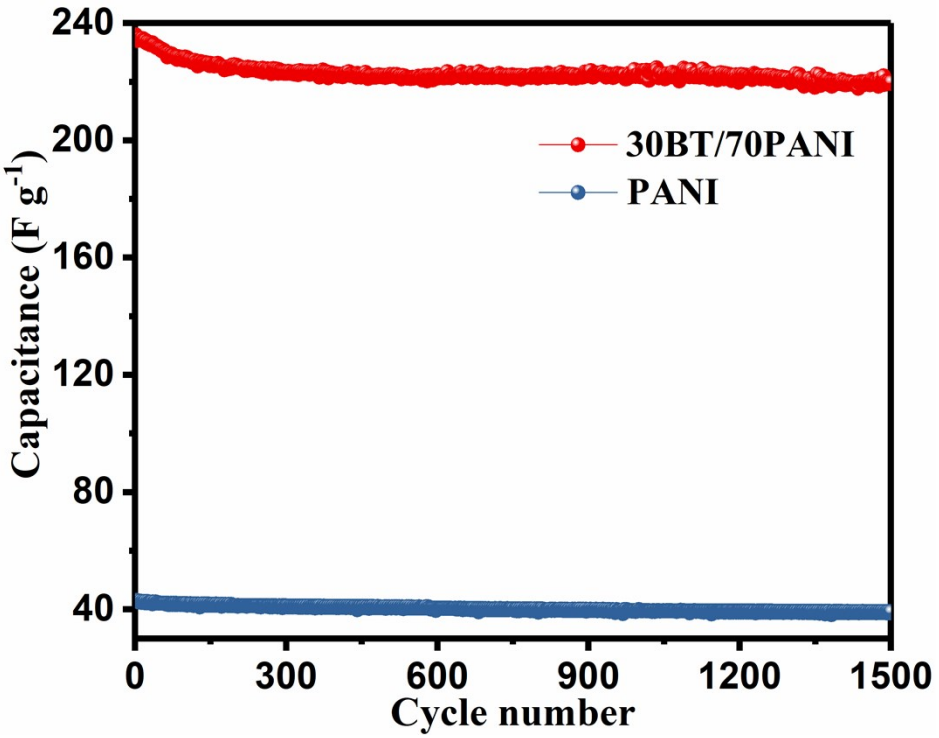

Figure S7. Cycle stability of specific capacitance of 30BT/70PANI and pure PANI electrode at 10 A/g.

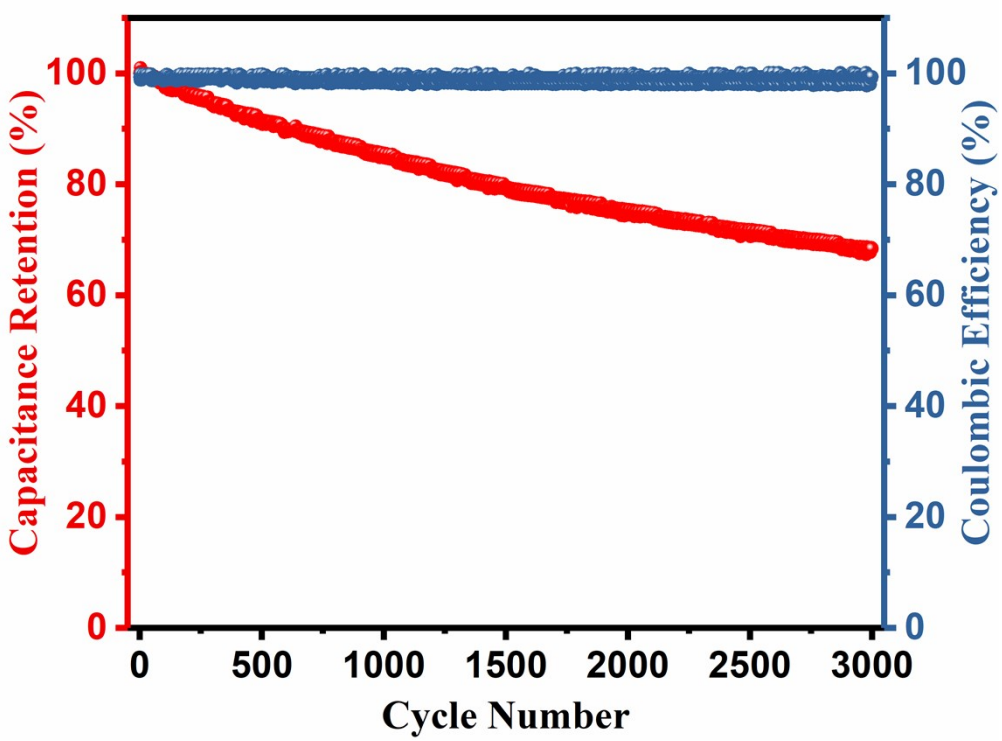

Figure S8. Cycle stability of specific capacitance of 30BT/70PANI electrode at 20 A/g.

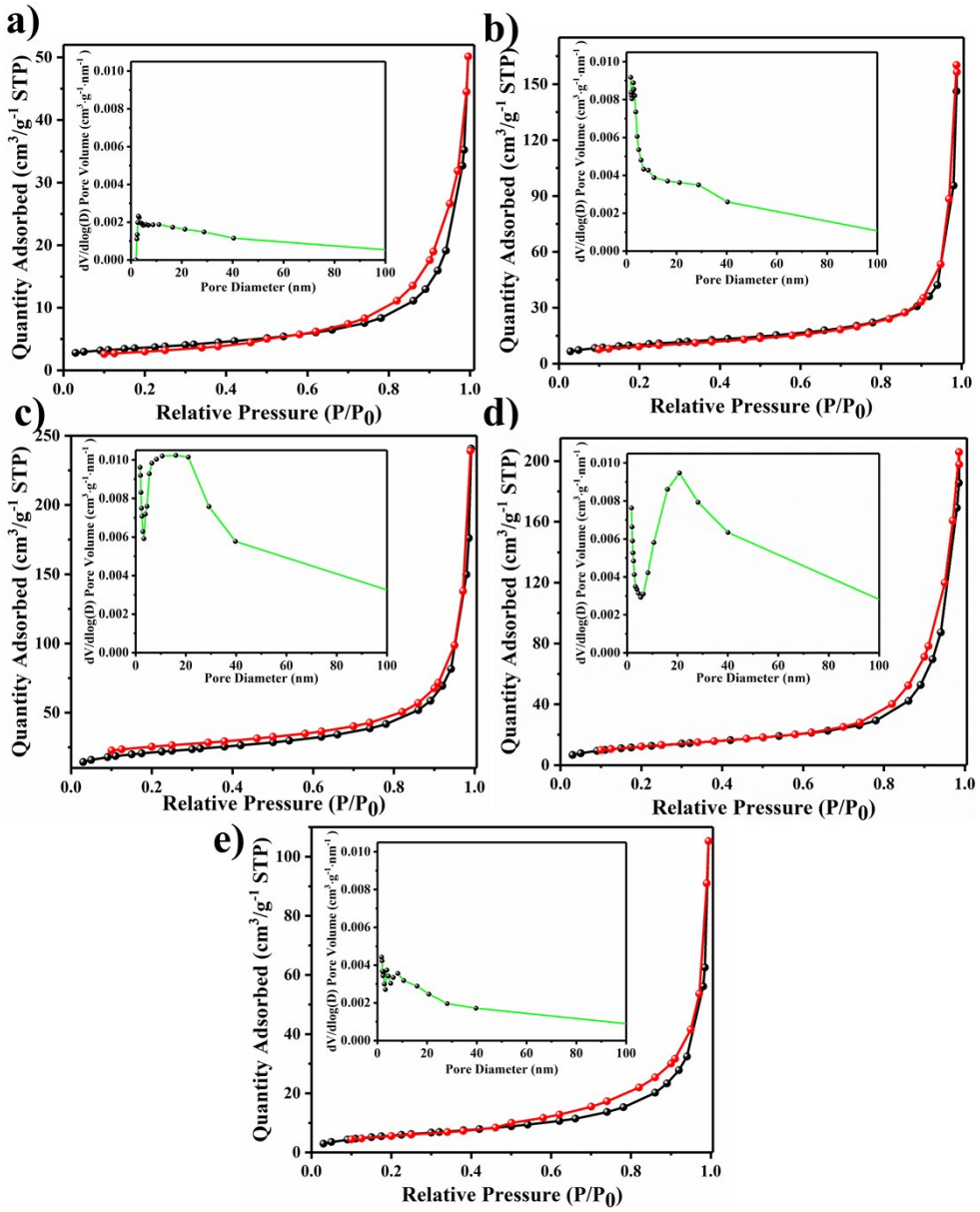

Figure S9. Nitrogen adsorption isotherms curves of a) pure PANI, b) 10BT/90PANI, c) 30BT/70PANI, d) 50BT/50PANI, and e) 70BT/30PANI. (The insets are their corresponding pore size distributions).

Table S2. The specific surface area and pore size of pure PANI, 10BT/90PANI, 30BT/70PANI, 50BT/50PANI, and 70BT/30PANI nanocomposites.

Sample	Surface area (m^2/g)	Single point surface area (m^2/g)	Pore size (nm)
Pure PANI	12.6281	11.2650	17.4865
10BT/90PANI	36.4739	35.3952	20.4512
30BT/70PANI	55.7942	53.1129	23.6522
50BT/50PANI	43.3160	40.8225	21.5364
70BT/30PANI	22.3716	21.0687	18.8413

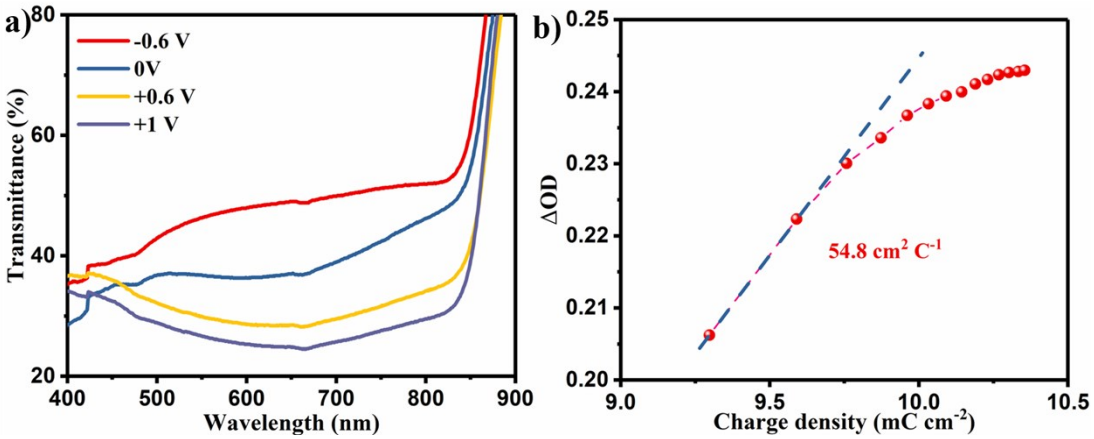

Figure S10. a) UV-vis transmittance spectra of 30BT/70PANI electrode; b) Coloration efficiency of 30BT/70PANI electrode.

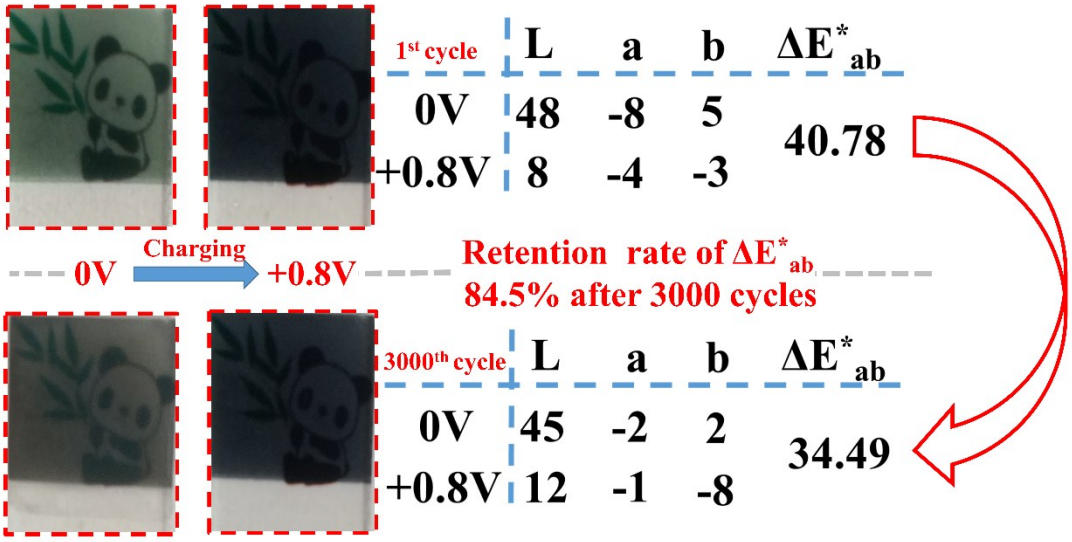

Figure S11. The photographic images of 30BT/70PANI electrode before and after 3000 galvanostatic charging–discharging cycles at a current density of 20 A g^{-1} and their corresponding *"L a b"* and ΔE^*_{ab} value.