Supporting Information

Aromatic Polyaroxydiazole Pseudocapacitive Anode Materials with Tunable Electrochemical Performance through Side Group Engineering

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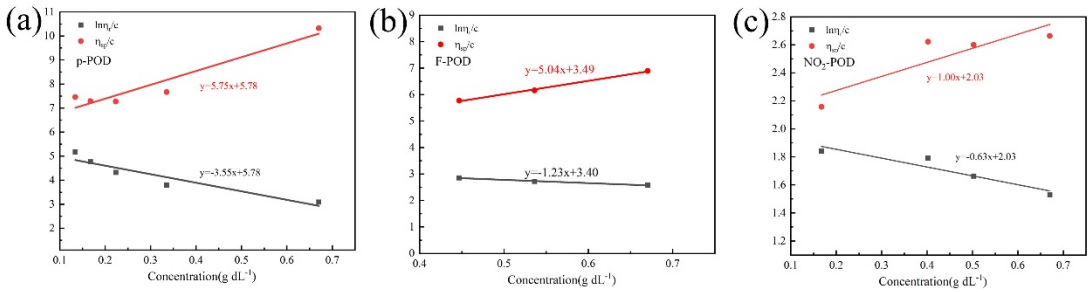

Figure S1. The intrinsic viscosity and the fitting curves of the POD samples.

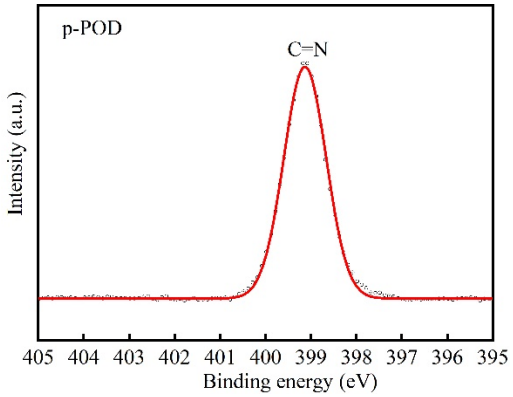

Figure S2. N1s XPS spectra of p-POD.

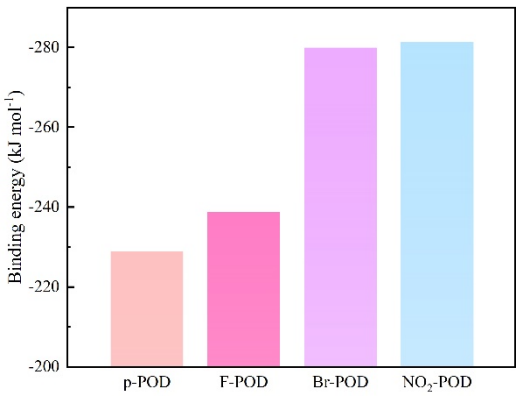

Figure S3. The binding energy of POD samples.

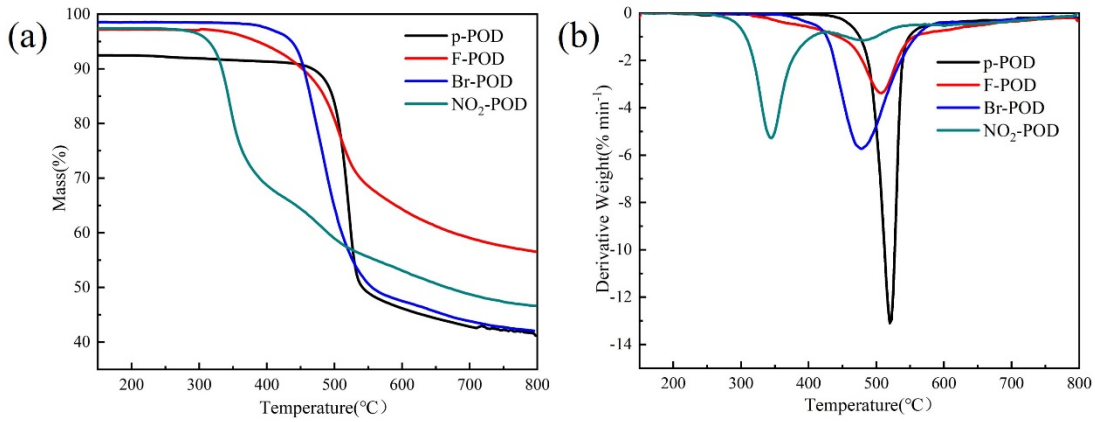

Figure S4. TG and DTG curves of the POD samples in N_2 atmosphere.

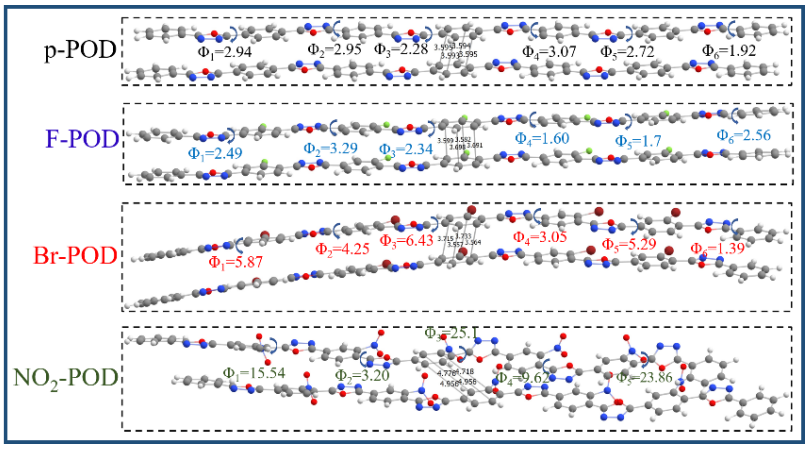

Figure S5. Dihedral angles of POD's hexamer layers.

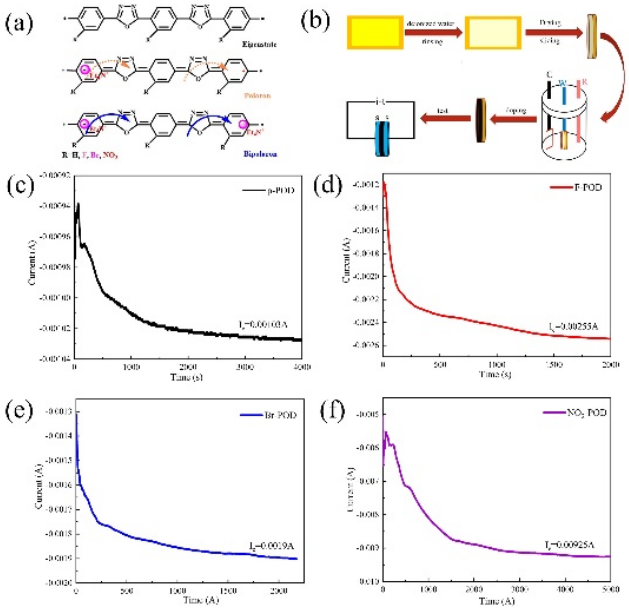

Figure S6. (a) The schematic diagram of the structure and conductance of POD samples. (b) The specific operation of electronic conductivity testing. The i-t curves of POD samples (c) p-POD; (d) p-POD; (e) Br-POD; and (f) NO_2-POD.

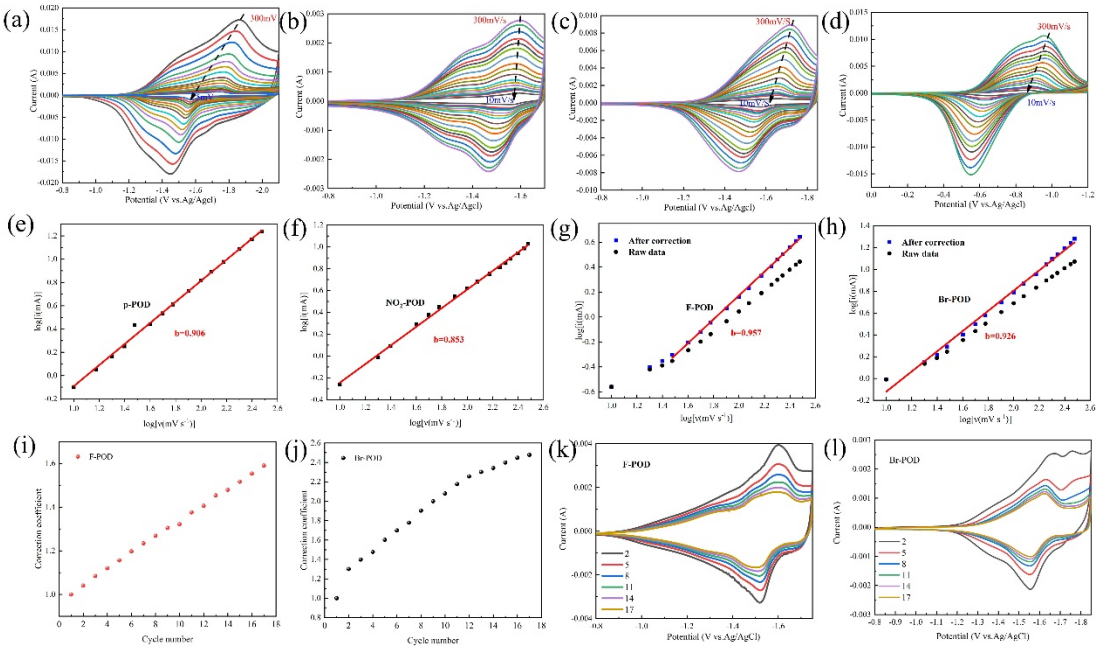

Figure S7. CV curves of POD electrodes at different scan rates (10, 20, 25, 30, 40, 50, 60, 80, 100, 120, 150, 180, 200, 220, 250, 280, and 300mV s^{-1}): (a) p-POD; (b) p-POD; (c) Br-POD; and (d) NO_2-POD; The b values and fitting curves of POD samples: (e) p-POD, and (f) NO_2-POD, (g) F-POD, and (h) Br-POD; The correction coefficients and fitting curves of (i) F-POD; (j) Br-POD; CV curves of POD electrodes at different cycles with a scan rate of 80 mV s^{-1}: (k) F-POD, (l) Br-POD.

Table S1. Comparison of discharge capacity of CP electrode materials

material	electrode composition	gravimetric specific capacitance (F g^{-1})	areal specific capacitance (mF cm^{-2})	electrolyte	ref
Lig	Lig confined on rGO surface	203 at 1 A g^{-1}	/	0.1M $HClO_4$	4
PPOT	PPOT nanoparticles	310 at 25 mV s^{-1}	/	0.5M HCl	5
TF	G3DTF	400 at 1 mV s^{-1}	160 at 1 mV s^{-1}	1M H_2SO_4	6
PEDOT	EVPP-PEDOT	180 at 1 A g^{-1}	/	1M H_2SO_4	7
PANI	PANI/RGO	431 at 0.45 1A g^{-1}	718 at 0.45 A g^{-1}	1M H_2SO_4	8
PPy	PPy film	403 at 0.45 1 A g^{-1}	/	1M KCl	9
p-POD	p-POD film	530 at 1 A g^{-1}	117	1M Et_4NBF_4 in AN	This work

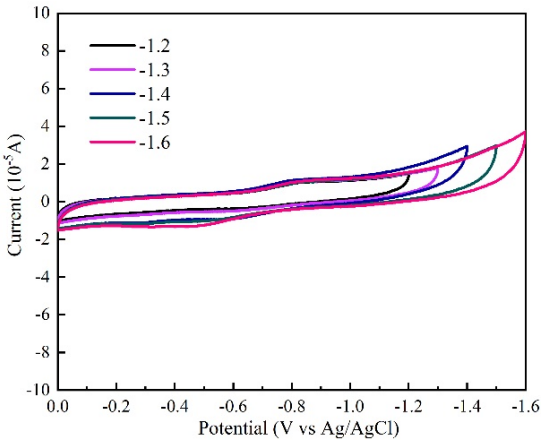

Figure S8. The low potential resistance of the electrolyte (1.0 M Et_4NBF_4 in AN).

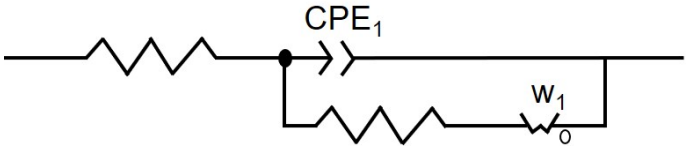

Figure S9. The equivalent circuit.

Supplementary References

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