Electronic Supplementary Information (ESI)

Molecular Engineering of an 2,5-dithiophen-2-yl-pyrrole Bridged Terpyridine-Fe(II) Coordination Polymer toward Multi-State Electrochromic Energy Storage

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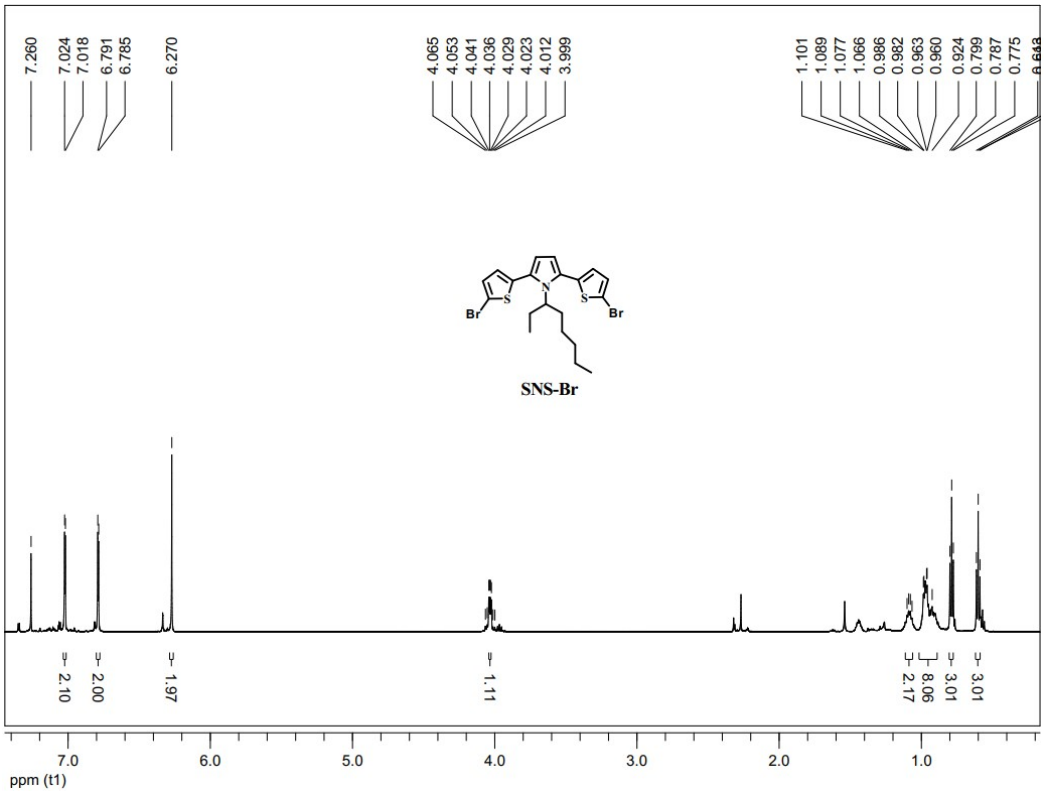

Fig. S1. ^{1}H NMR spectra of compound **SNSBr**

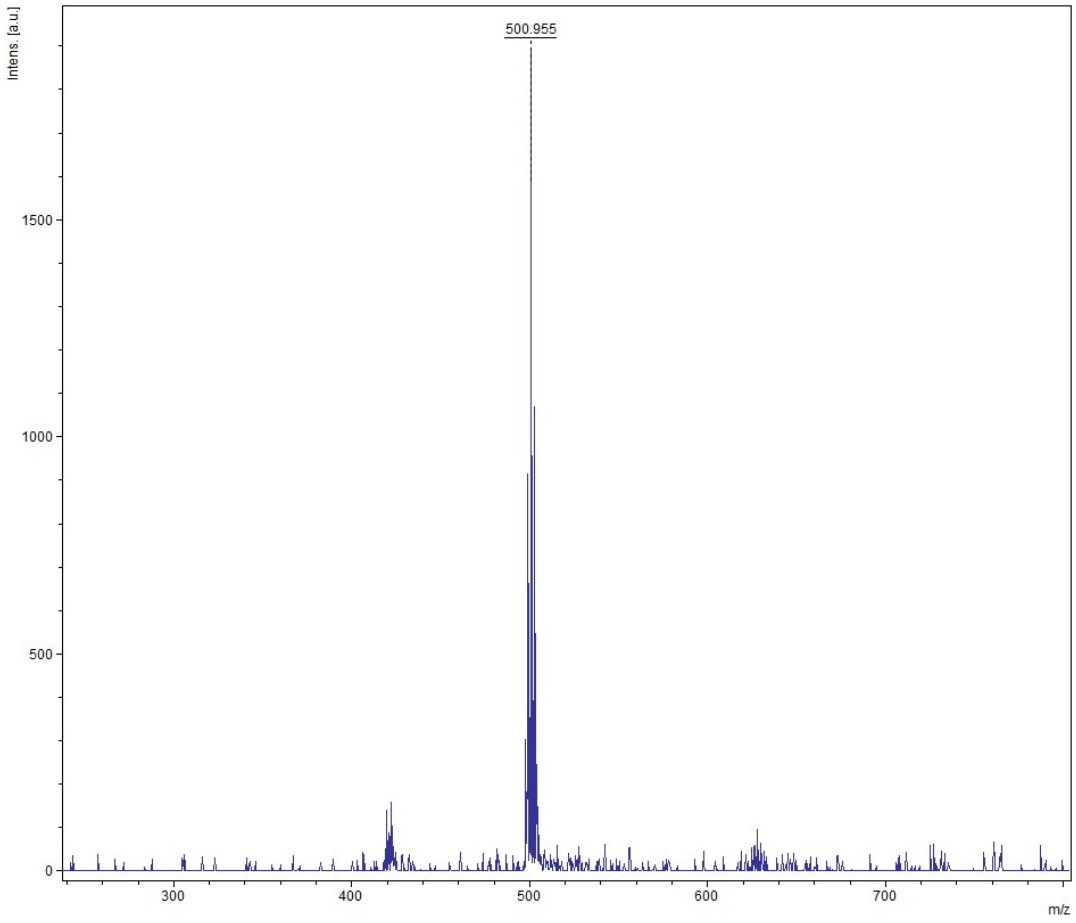

Fig. S2. MALDI-TOF spectra of **SNSBr**

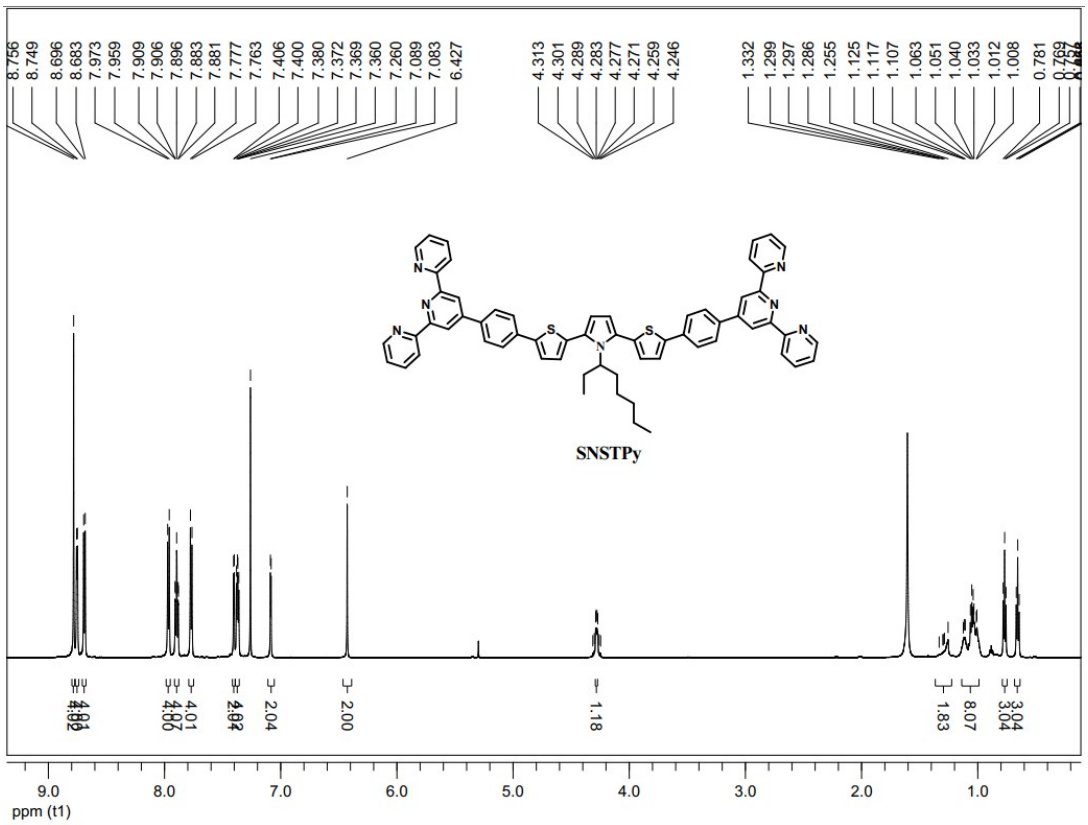

Fig. S3. ^{1}H NMR spectra of compound **SNSTPy**

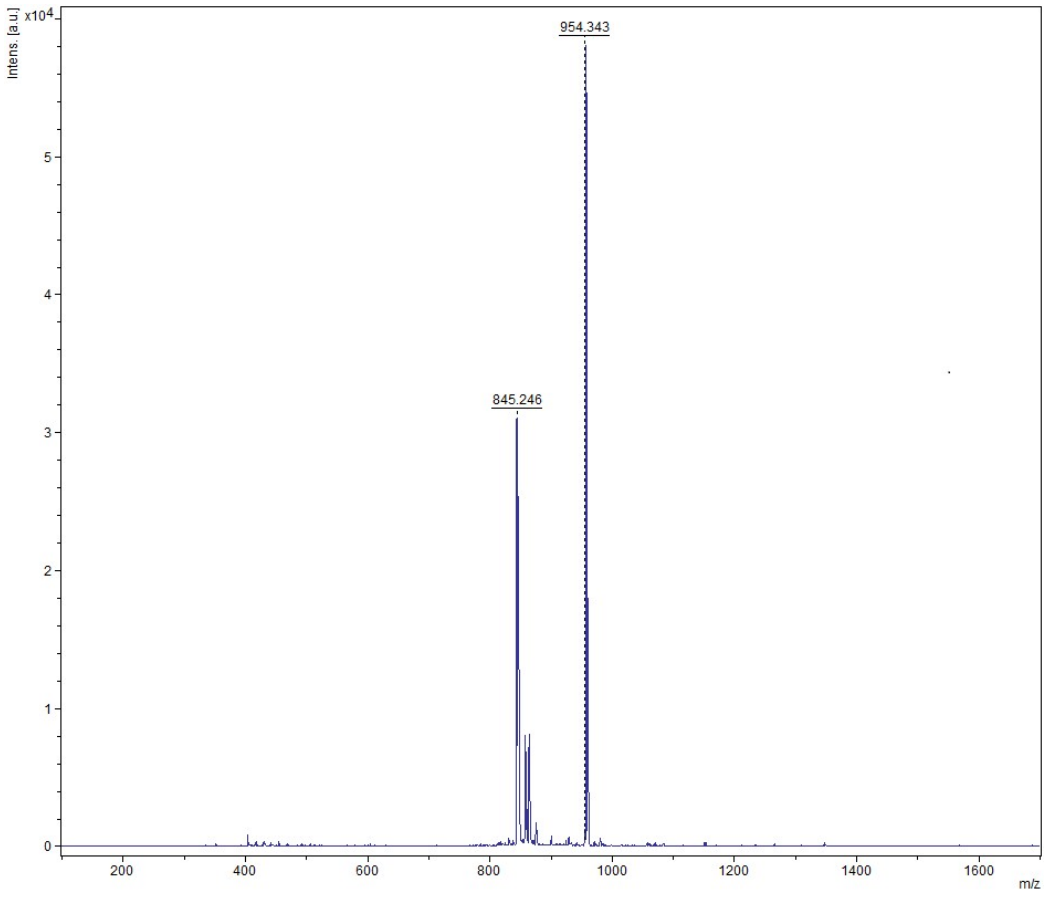

Fig. S4. MALDI-TOF spectra of **SNSTPy**

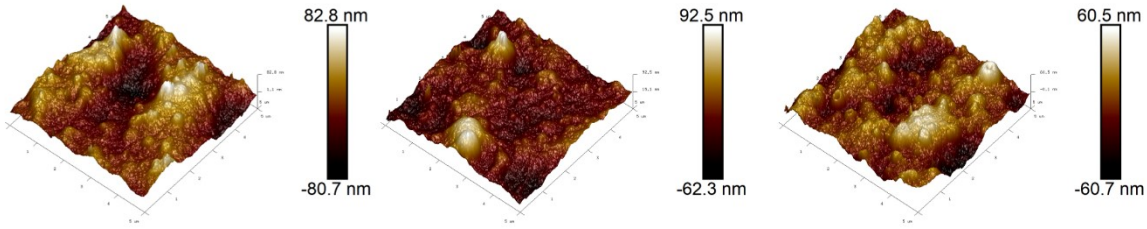

Fig. S5. 3D AFM height image of the **FeSNSTPy** film selected randomly from the surface.

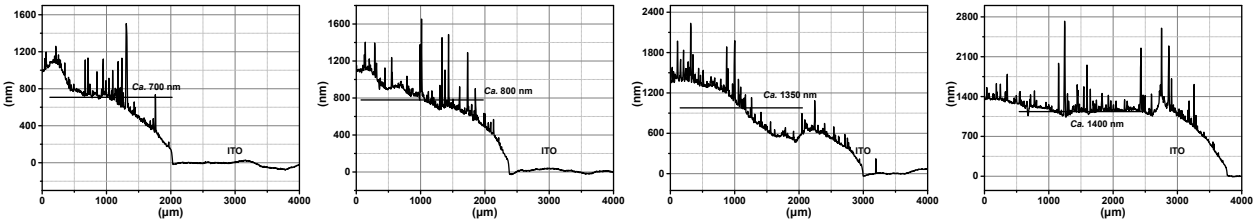

Fig. S6. The thickness of **FeSNSTPy** film measured with a step profiler selected randomly from the surface.

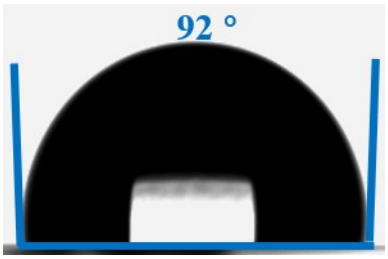

Fig. S7. Contact angle of **FeSNSTPy** film on ITO.

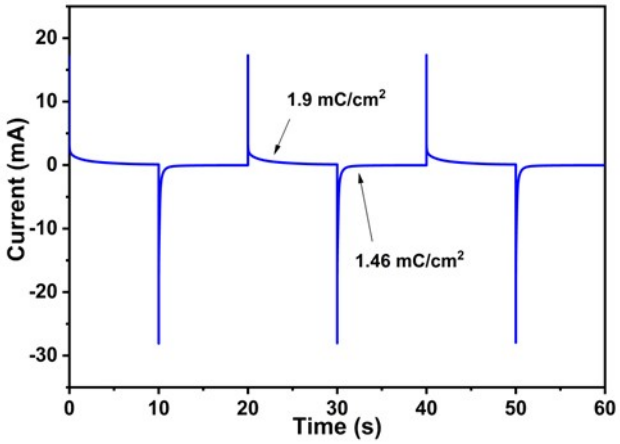

Fig. S8. Charge/discharge curve of polymer film **FeSNSTPy**, applied potential 0-1.25 V

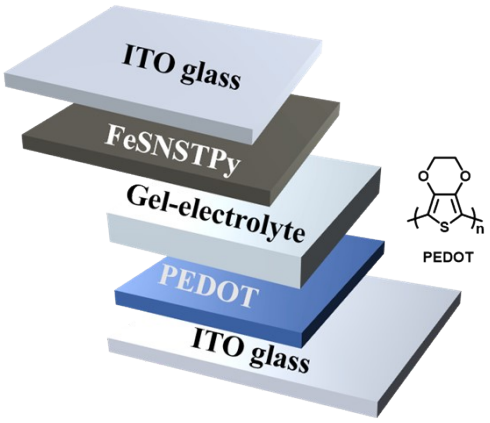

Fig. S9. Schematic diagram of gel-type electrochromic devices

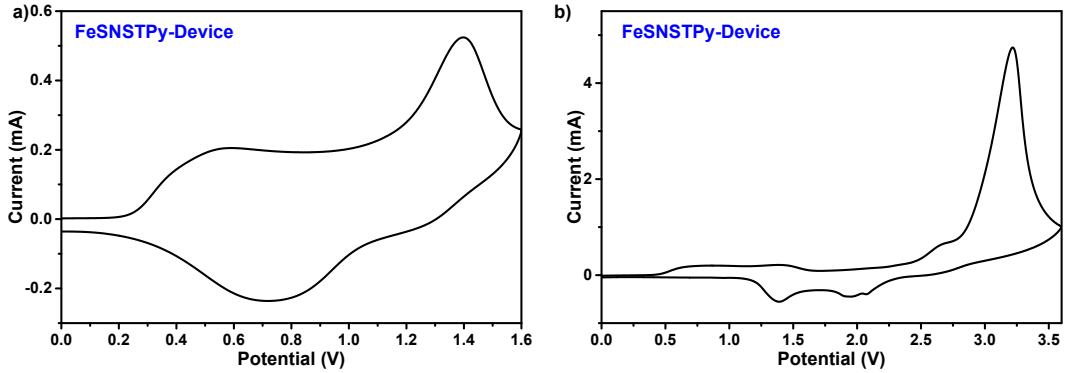

Fig. S10. CV curves of **FeSNSTPy** device from (a) 0-1.6 V and (b) 0-3.6 V.

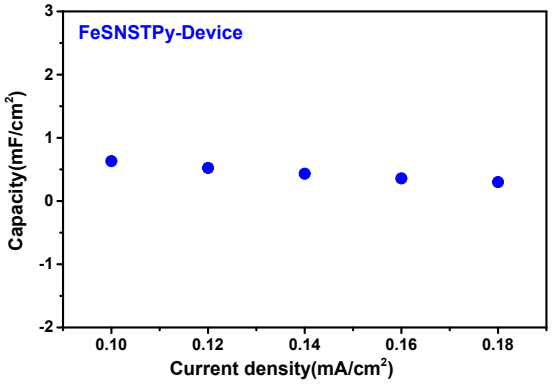

Fig. S11. Dependent of areal and volume capacitance of **FeSNSTPy** device on the discharging rate at various charging current densities.

Table S1. Electrochromic color parameters at different voltages.

Compound	Voltage(V)	*L**	*a**	*b**
FeSNSTPy	0	59.19	3.27	6.92
	0.88	59.76	1.5	3.26
	0.9	59.84	-0.12	0.17
	0.92	60.09	-1.55	-2.16
	0.95	60.51	-3.37	-5.08
	0.97	60.93	-6.35	-9.76
	1	62.23	-6.77	-8.69
	1.05	62.98	-7.72	-9.02
	1.07	63.69	-7.8	-8.53
	1.1	64.03	-8.44	-9.53
	1.12	64.27	-8.5	-10.19
	1.15	64.43	-8.71	-11.58
	1.17	65.15	-8.19	-10.98
	1.2	65.97	-7.91	-8.93
	1.22	68.15	-8	0.86
	1.25	71.09	-7.46	14.09