Supporting Information

Synergistic effect between electroactive tetraphenyl-*p*-phenylenediamine and AIE-active tetraphenylethylene for highly integrated electrochromic/electrofluorochromic performances

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List of Contents for Supplementary Material:

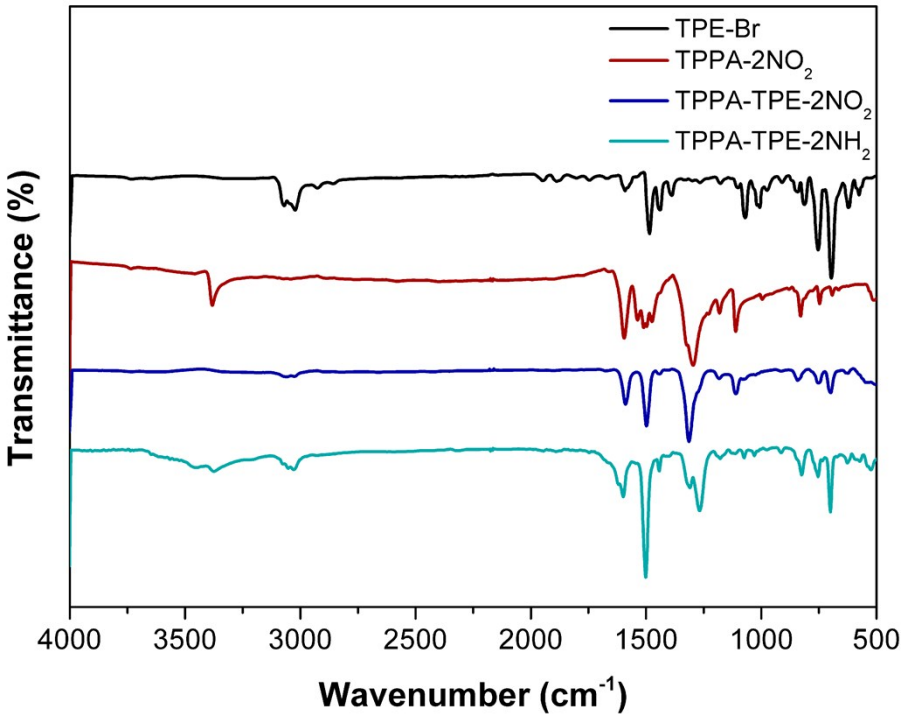

Figure S1 FTIR spectra of the synthesized monomers.

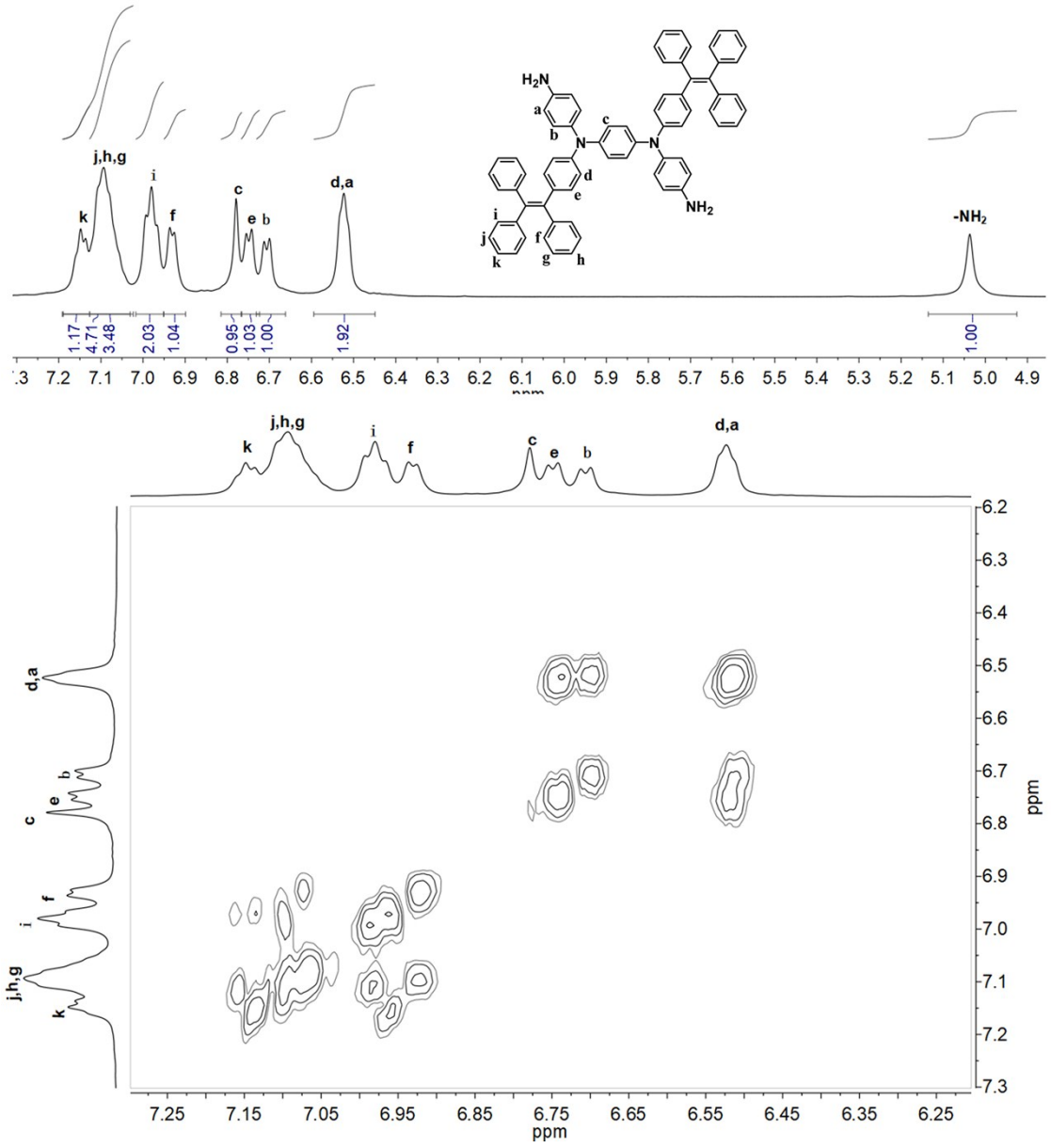

Figure S2 ^{1}H NMR and H-H COSY spectra of the target diamine TPPA-TPE-2NH_2.

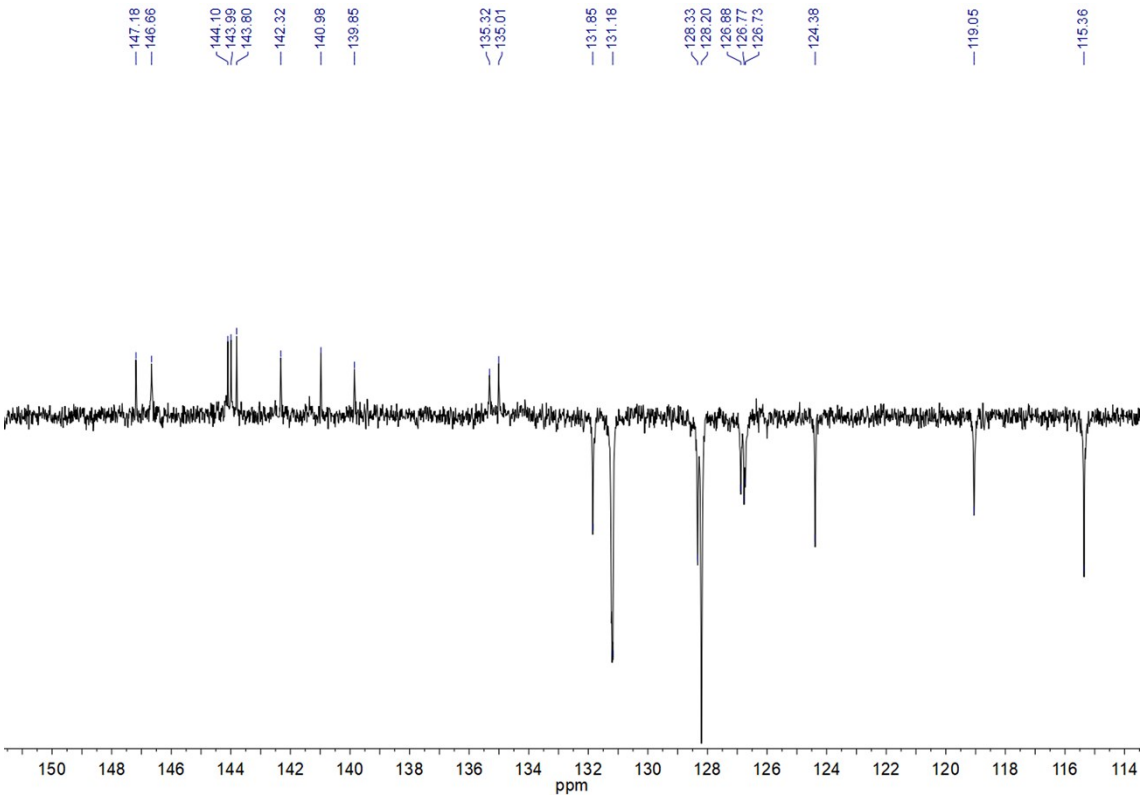

Figure S3 ^{13}C NMR spectrum of the target diamine TPPA-TPE-2NH_2.

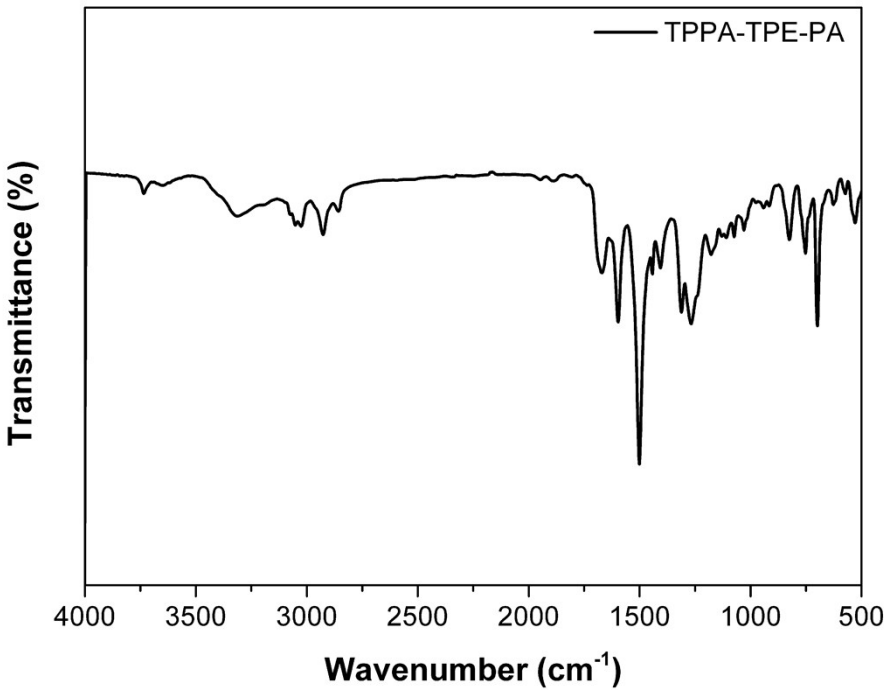

Figure S4 FTIR spectrum of the polyamide TPPA-TPE-PA.

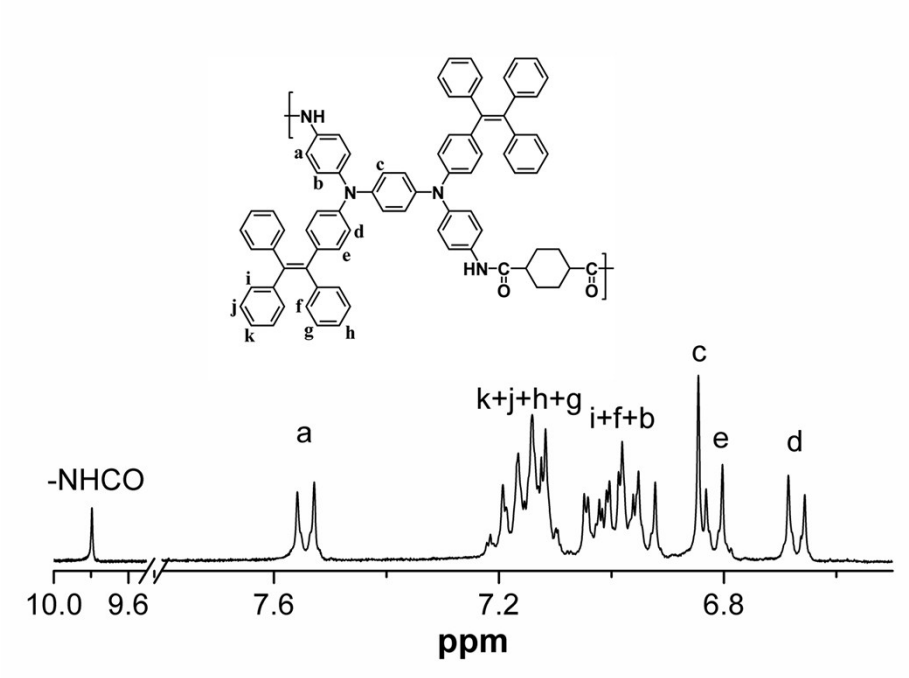

Figure S5 ^{1}H NMR spectrum of the polyamide TPPA-TPE-PA.

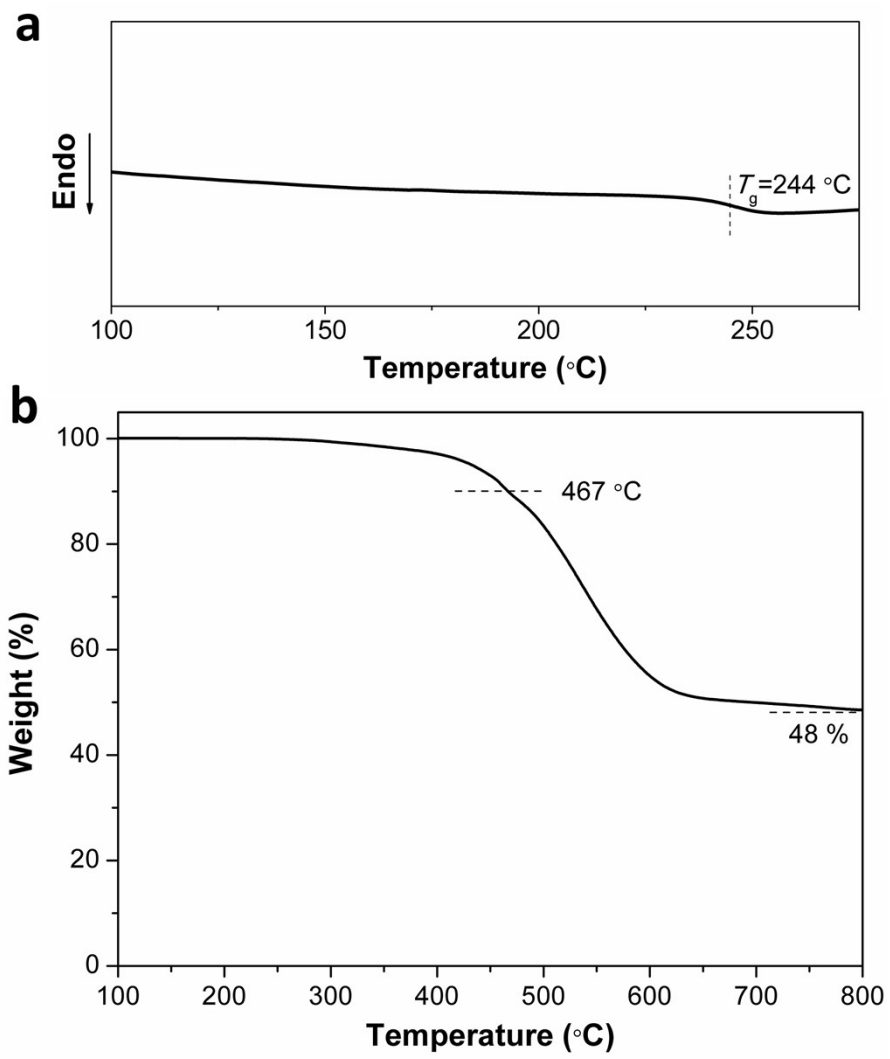

Figure S6 DSC and TGA curves of the polyamide TPPA-TPE-PA.

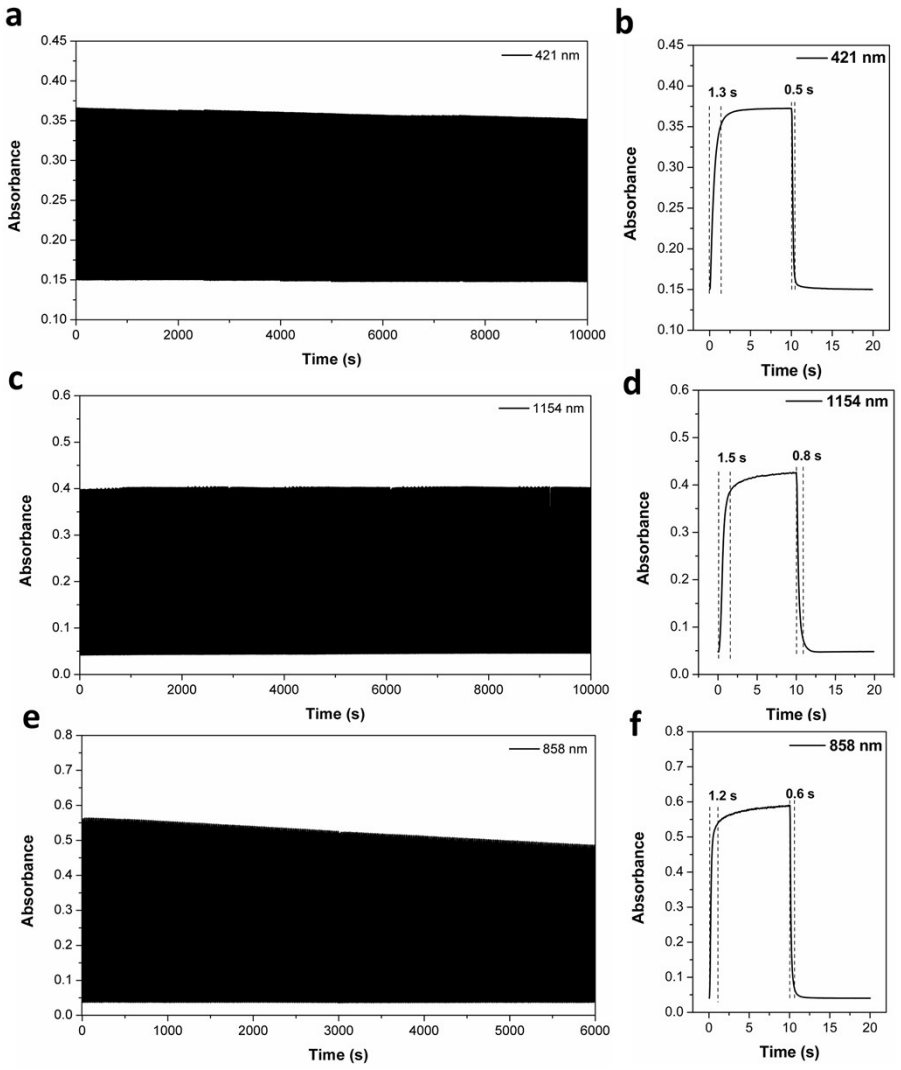

Figure S7 EC switching stability of TPPA-TPE-PA thin film electrode at 421 nm (a) and 1154 nm (c) between 0.00 V and 0.07 V, and at 858 nm between 0.00 V and 1.10 V (e). EC switching time monitoring the wavelength at 421 nm (b), 1154 nm (d) and 858 nm (f).

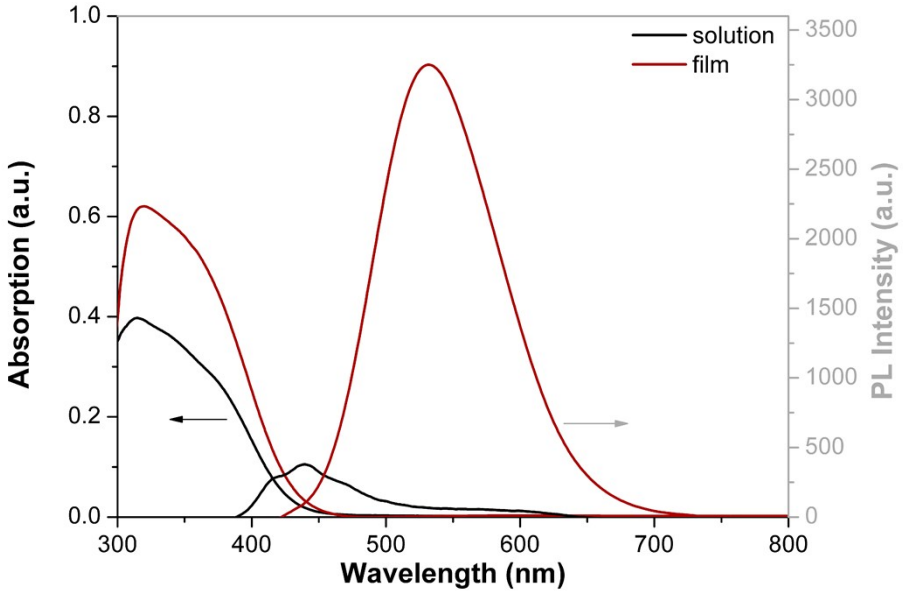

Figure S8 UV−vis absorption and PL spectra of TPPA-TPE-PA in NMP solution and film states.

Table S1 Inherent Viscosities, Molecular Weights and Solubilities of TPE-TPPA-PA.

Sample	η_{inh}(dL/g)[a]	GPC[b]			Solvents[c]						
		M_w	M_n	PDI	NMP	DMAc	DMF	DMSO	THF	$CHCl_3$	CH_3CN
TPPA-TPE-PA	1.09	56000	41200	1.36	++	++	++	++	+-	+-	--

[a] Inherent viscosity was measured at a concentration of 0.5 g/ dL in DMAc at 25 °C; [b] Relative to polystyrene standard, using DMF as the eluent; [c] Qualitative solubilities were tested with 10 mg of polymers in 1mL of solvent. ++, soluble at room temperature; +-, partially soluble; --, insoluble even on heating.