

Supporting Information: Synthesis, characterization and application of four novel electrochromic materials employing nitrotriphenylamine unit as the acceptor and different thiophene derivatives as the donor

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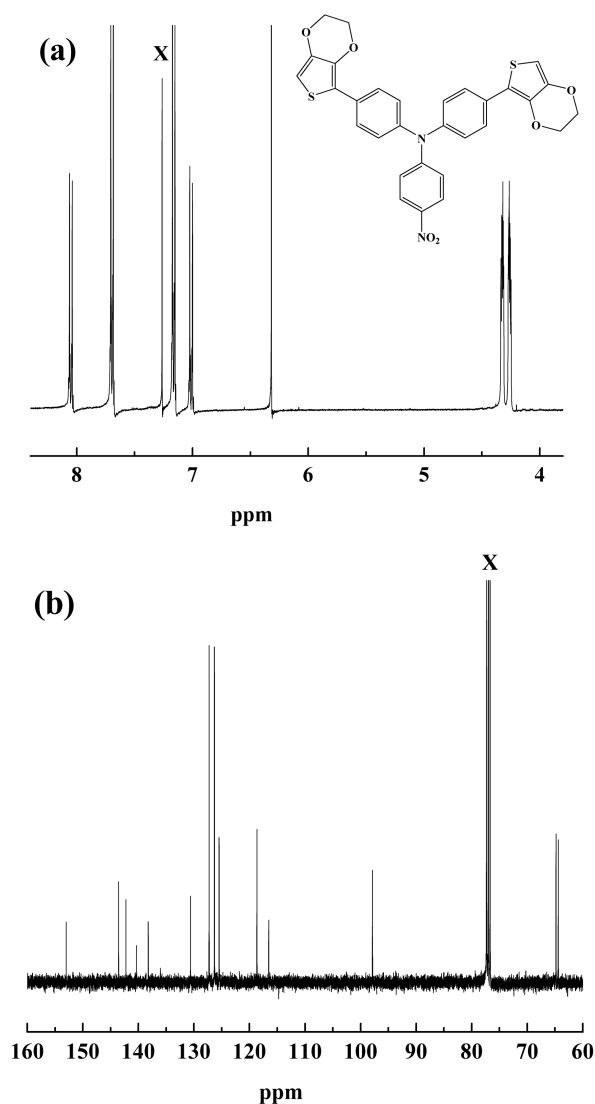


Fig.S1. ¹H NMR spectrum of NETPA in CDCl₃ (a). Solvent peak is at $\delta=7.26$ ppm. ¹³C NMR spectrum of NETPA in CDCl₃ (b). Solvent peak is at $\delta = 77.3$ ppm.

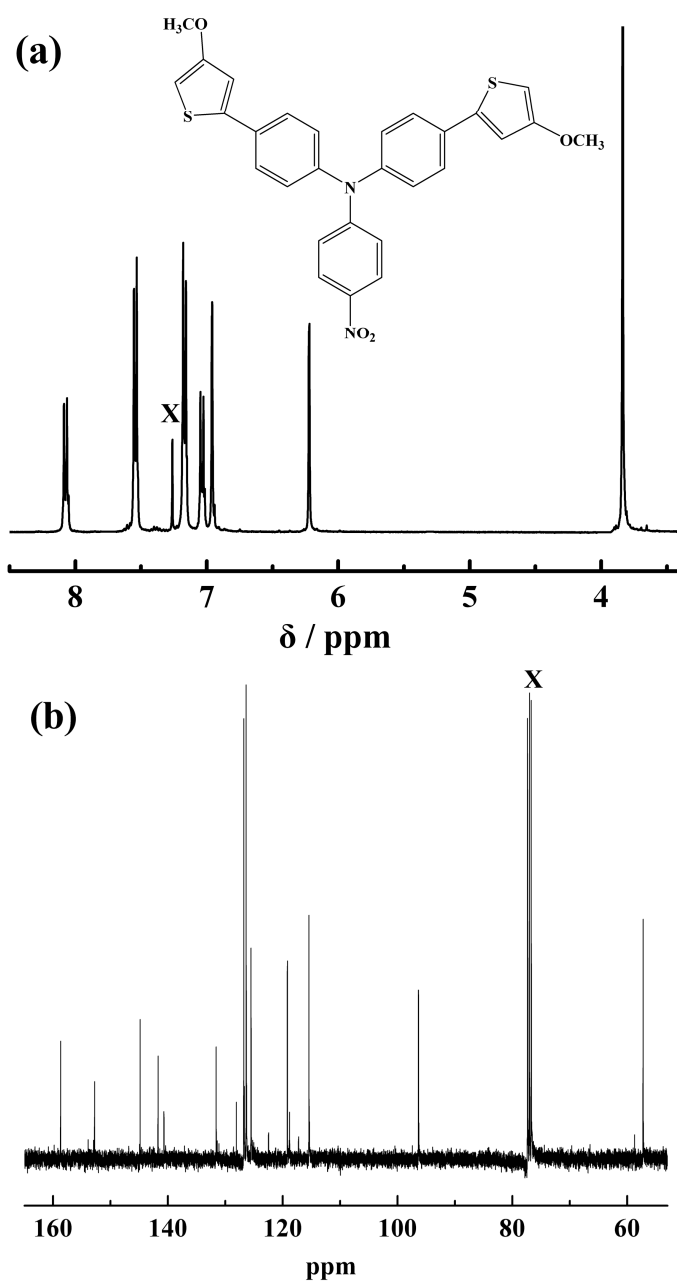


Fig.S2. ^1H NMR spectrum (a) and ^{13}C NMR spectrum (b) of NMOTPA in CDCl_3 . The solvent peak in ^1H NMR is at $\delta = 7.26$ ppm, and the solvent peak in ^{13}C NMR spectrum is at $\delta = 77.3$ ppm.

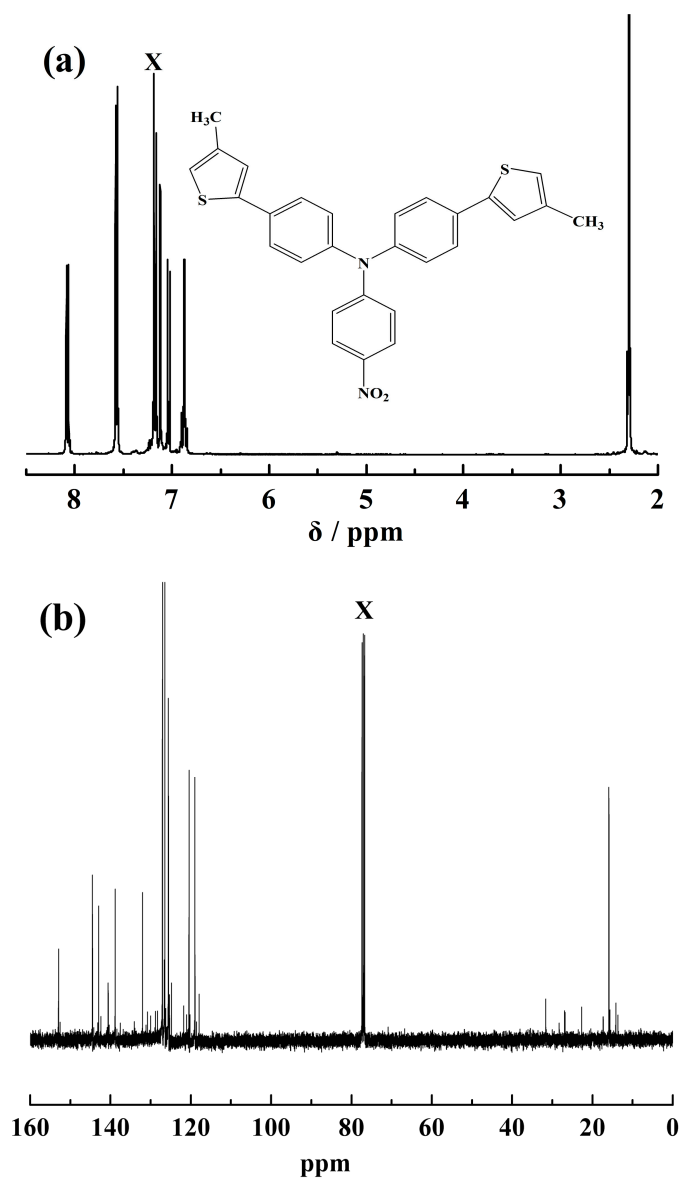


Fig.S3. ^1H NMR spectrum (a) and ^{13}C NMR spectrum (b) of NMTPA in CDCl_3 . The solvent peak in ^1H NMR spectrum is at $\delta = 7.26$ ppm and the solvent peak in ^{13}C NMR spectrum peak is at $\delta = 77.3$ ppm.

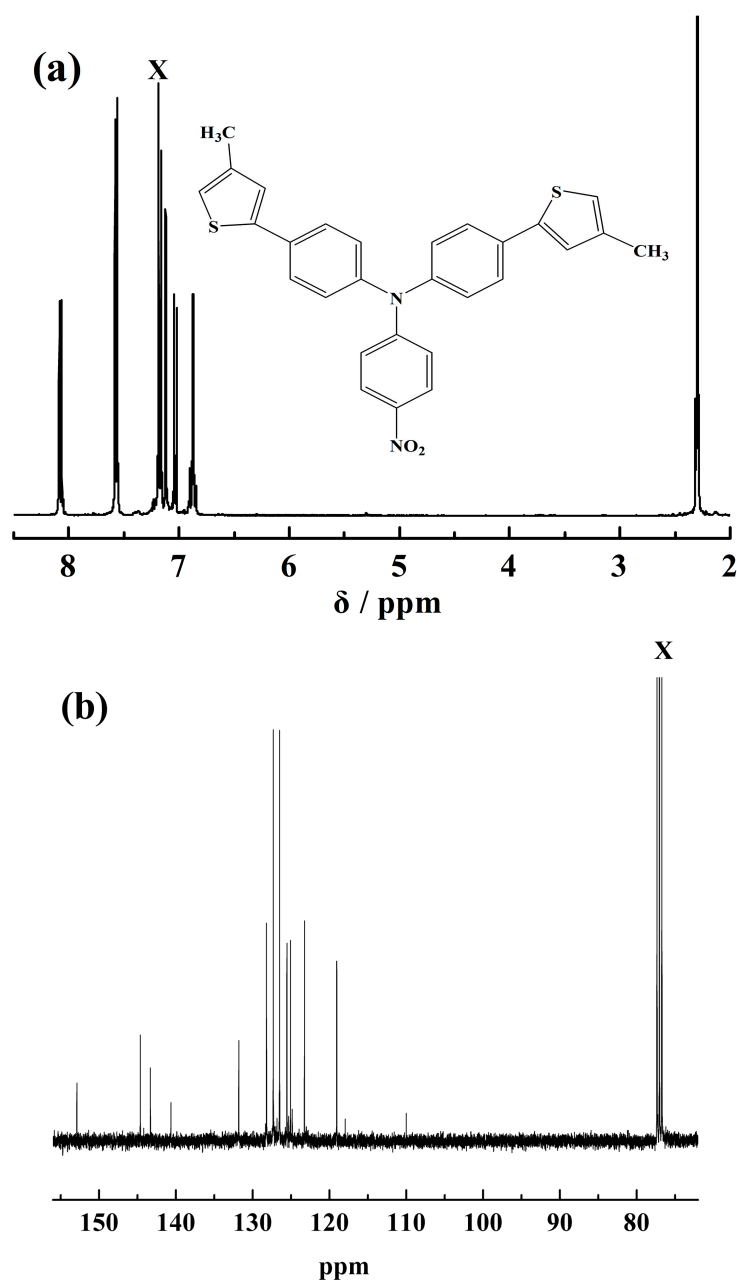


Fig. S4. ^1H NMR spectrum(a) and ^{13}C NMR spectrum (b) of NTTPA in CDCl_3 . The solvent peak for ^1H NMR spectrum is at $\delta = 7.26$ ppm. The solvent peak in ^1H NMR spectrum is at $\delta = 7.26$ ppm and the solvent peak in ^{13}C NMR spectrum peak is at $\delta = 77.3$ ppm.

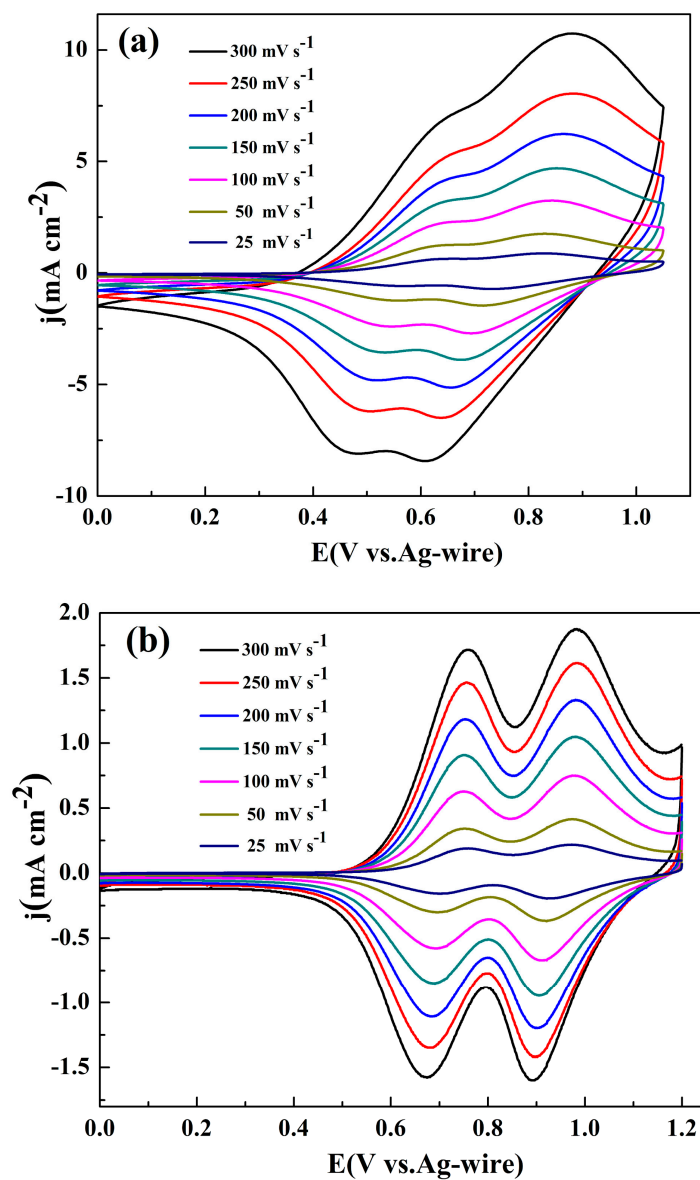


Fig. S5. CV curves of the NETPA (a), NMOTPA(b), NMTPA (c) and NTPPA (d) film at different scan rates between 25 mV s⁻¹ and 300 mV s⁻¹ in the monomer-free 0.2 M NaClO₄/ACN/DCM solution.