

## Solvent effects on electrosynthesis, morphological and electrochromic properties of a nitrogen analog of PEDOT

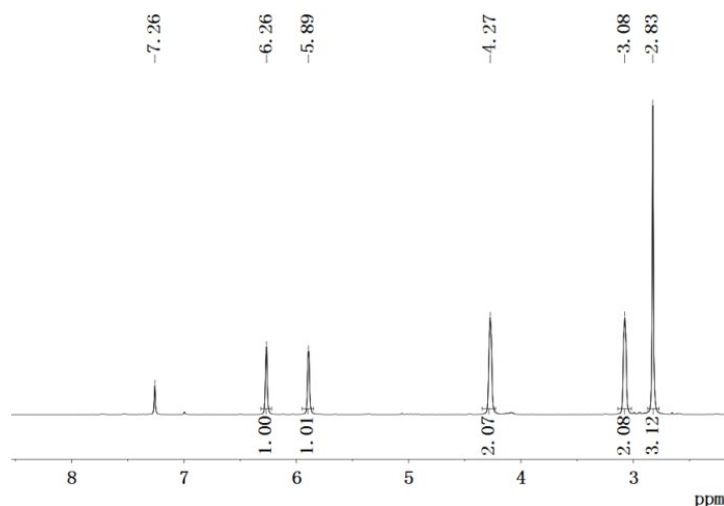
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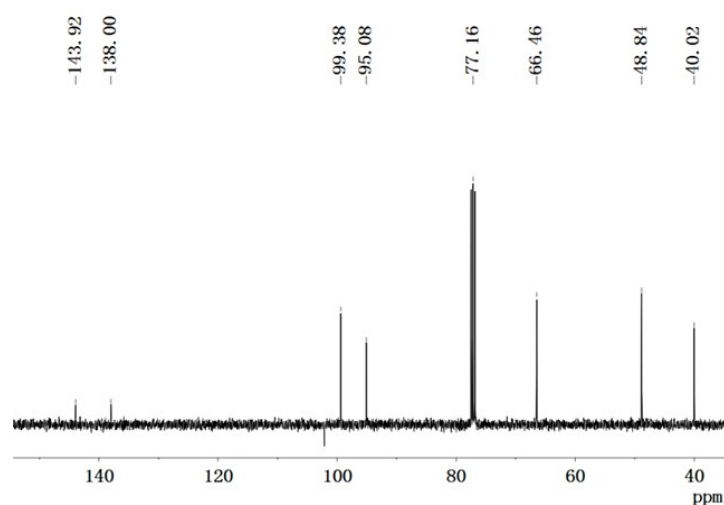
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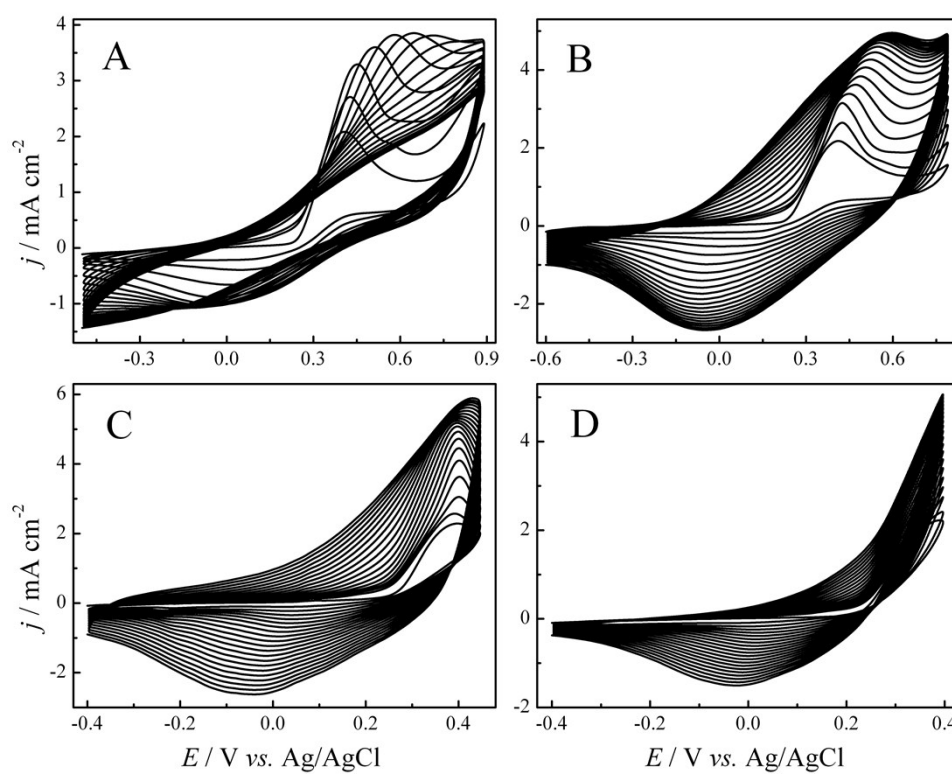
Email: [lby1258@163.com](mailto:lby1258@163.com); [xujingkun@tsinghua.org.cn](mailto:xujingkun@tsinghua.org.cn).



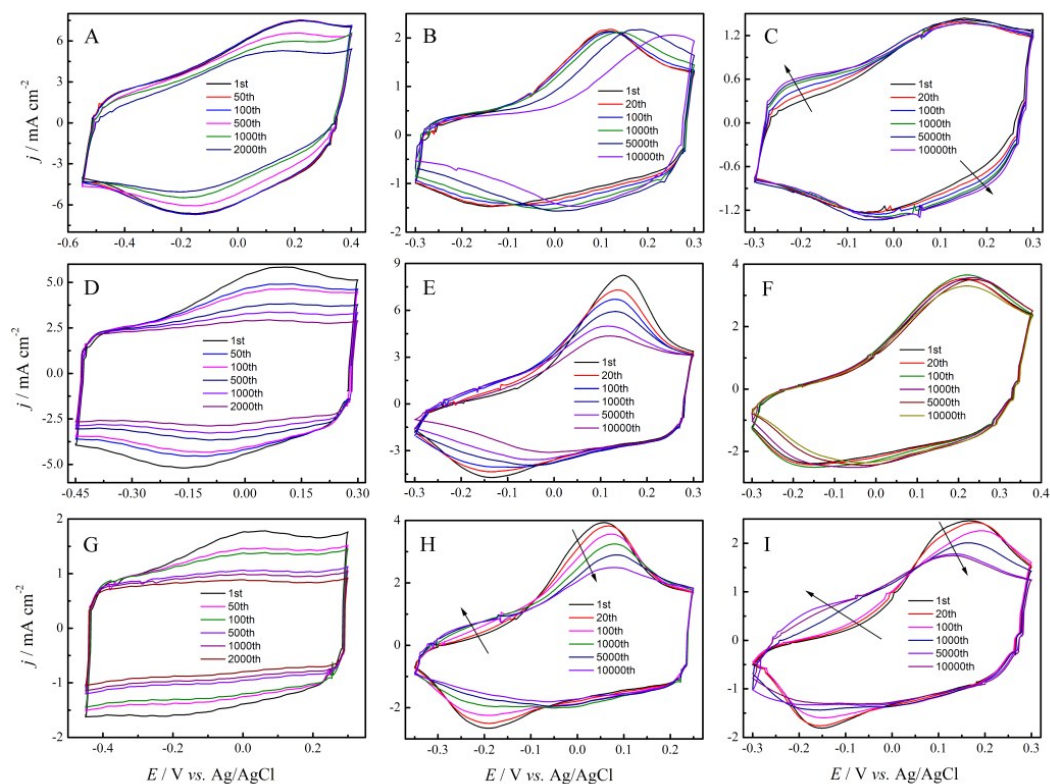
**Fig S1.** <sup>1</sup>H NMR spectrum of MDTO in CDCl<sub>3</sub>.



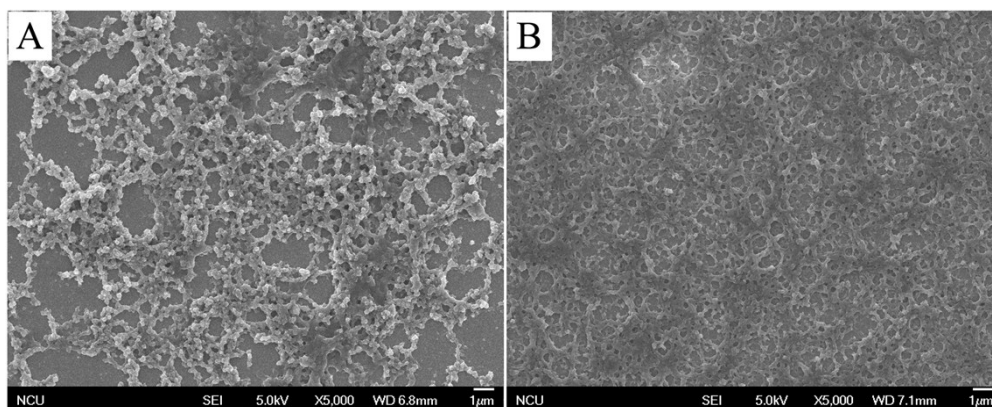
**Fig S2.** <sup>13</sup>C NMR spectrum of MDTO in CDCl<sub>3</sub>.



**Fig. S3** Electropolymerization of  $0.01 \text{ mol L}^{-1}$  MDTO in deionized water under different potential scanning ranges. Supporting electrolyte:  $0.1 \text{ mol L}^{-1} \text{ LiClO}_4$ .



**Fig. S4** The long-term electrochemical activity of PMDTO in monomer-free DW (A, D and G), ACN (B, E and H) and PC (C, F and I). PMDTO prepared in DW (A, B and C); PMDTO prepared in ACN (D, E and F); PMDTO prepared in PC (G, H and I).



**Fig. S5** SEM images of PMDTO films deposited electrochemically on ITO electrode: PMDTO obtained in ACN (A) and BmimPF<sub>6</sub> (B) at magnification of 5000 $\times$ .