Supporting Information

Effects of Alkyl or Alkoxy Side Chains on the Electrochromic Properties of Four Ambipolar Donor-Acceptor Type Polymers

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Fig. S1† (a) $^1$H NMR spectrum of 2,3-bis(2-furyl)-5,8-dibromoquinoxaline in CDCl$_3$. Solvent peak at $\delta = 7.26$ ppm is marked by ‘x’. (b) $^{13}$C NMR spectrum of 2,3-bis(2-furyl)-5,8-dibromoquinoxaline in CDCl$_3$. Solvent peak at $\delta = 77.3$ ppm is marked by ‘x’.
Fig. S2† (a) $^1$H NMR spectrum of 2,3-bis(5-methylfuran-2-yl)-5,8-dibromoquinoxaline in CDCl$_3$. Solvent peak at $\delta = 7.26$ ppm is marked by ‘x’. (b) $^{13}$C NMR spectrum of 2,3-bis(5-methylfuran-2-yl)-5,8-dibromoquinoxaline in CDCl$_3$. Solvent peak at $\delta = 77.3$ ppm is marked by ‘x’.
Fig. S3† (a) $^1$H NMR spectrum of 2,3-di(2-furyl)-5,8-bis(2-(3-butoxythiophene)) quinoxaline (FBOTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 7.26$ ppm is marked by ‘x’. (b) $^{13}$C NMR spectrum of 2,3-di(2-furyl)-5,8-bis(2-(3-butoxythiophene)) quinoxaline (FBOTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 77.3$ ppm is marked by ‘x’.
Fig. S4† (a) $^1$H NMR spectrum of 2,3-di(2-furyl)-5,8-bis(2-(3-butylthiophene)) quinoxaline (FBTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 7.26$ ppm is marked by ‘x’. (b) $^{13}$C NMR spectrum of 2,3-di(2-furyl)-5,8-bis(2-(3-butylthiophene)) quinoxaline (FBTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 77.3$ ppm is marked by ‘x’.
Fig. S5† (a) $^1$H NMR spectrum of 2,3-di(5-methylfuran-2-yl)-5,8-bis(2-(3-butoxythiophene)) quinoxaline (MFBOTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 7.26$ ppm is marked by ‘x’. (b) $^{13}$C NMR spectrum of 2,3-di(5-methylfuran-2-yl)-5,8-bis(2-(3-butoxythiophene)) quinoxaline (MFBOTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 77.3$ ppm is marked by ‘x’.
**Fig. S6†** (a) $^1$H NMR spectrum of 2,3-di(5-methylfuran-2-yl)-5,8-bis(2-(3-butylthiophene)) quinoxaline (MFBTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 7.26$ ppm is marked by ‘x’. (b) $^{13}$C NMR spectrum of 2,3-di(5-methylfuran-2-yl)-5,8-bis(2-(3-butylthiophene)) quinoxaline (MFBTQ) monomer in CDCl$_3$. Solvent peak at $\delta = 77.3$ ppm is marked by ‘x’.
**Fig. S7†** Thicknesses of the PFBOTQ (a), PMFBOTQ (b), PFBTQ (c) and PMFBTQ (d) films deposited potentiostatically onto ITO electrode.