

Electronic Supplementary Information (ESI)

General remarks:

5 Infrared (FT-IR) spectra were recorded on a *Perkin-Elmer* FTIR Spectrum 2000, absorptions are reported in cm^{-1} . UV-Vis spectra were recorded with a *Parkin-Elmer* Lambda 19 spectrophotometer. Electrochemistry was performed using a *Metrohm* Autolab PGSTAT 30 Potentiostat. In CV-measurements, all potentials were internally referenced to the ferrocene/ferrocenium couple (Fc/Fc^+).

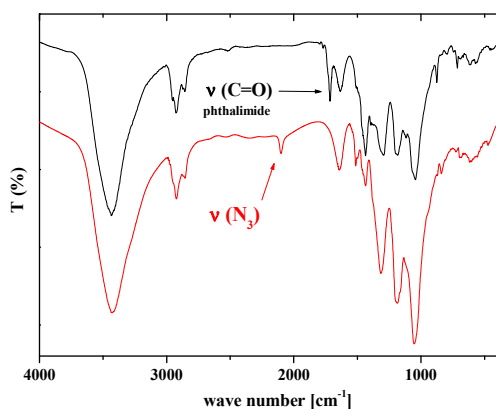
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Chemicals:

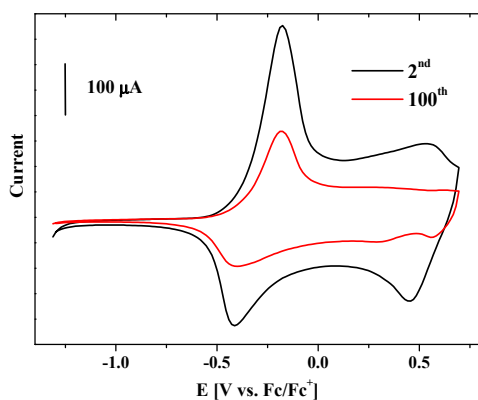
2,3-Dihexyl-2,3-dihydro-thieno[3,4-b][1,4]dioxine^[1] **1** and 2-azidomethyl-2,3-dihydro-thieno[3,4-b][1,4]dioxine^[2] **2** were synthesized according to literature. N-(3-butynyl)-phthalimide **4a** and $\text{Cu}(\text{CH}_3\text{CN})_4\text{PF}_6$ were purchased from *Aldrich*.

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Figures:



20 **Fig. S1** IR-spectrum of precursor copolymer **P3** in KBr (red) and “click”-modified copolymer **P5** after derivatization (black). The red arrow indicates the weak N_3 -absorption at 2101 cm^{-1} in **P3**, the black arrow the $\text{C}=\text{O}$ -absorption at 1715 cm^{-1} in **P4**.



25 **Fig. S2** The electroactivity of a spin-coated copolymer **P3** film in acetonitrile/TBAHFP in the 2nd sweep compared to the electroactivity after 100 sweeps. For the preparation a copolymer **P3** solution in DCM was spin-coated on platinum disk (area = 28.26 mm^2) for 200s at 800 rpm to give a thin copolymer film.

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References

- 1 D. Caras-Quintero, P. Bäuerle, *Chem. Commun.* **2004**, 926.
- 2 H.-B. Bu, G. Götz, E. Reinold, A. Vogt, S. Schmid, R. Blaco, J. L. Segura, P. Bäuerle, *Chem. Commun.* **2008**, 1320.