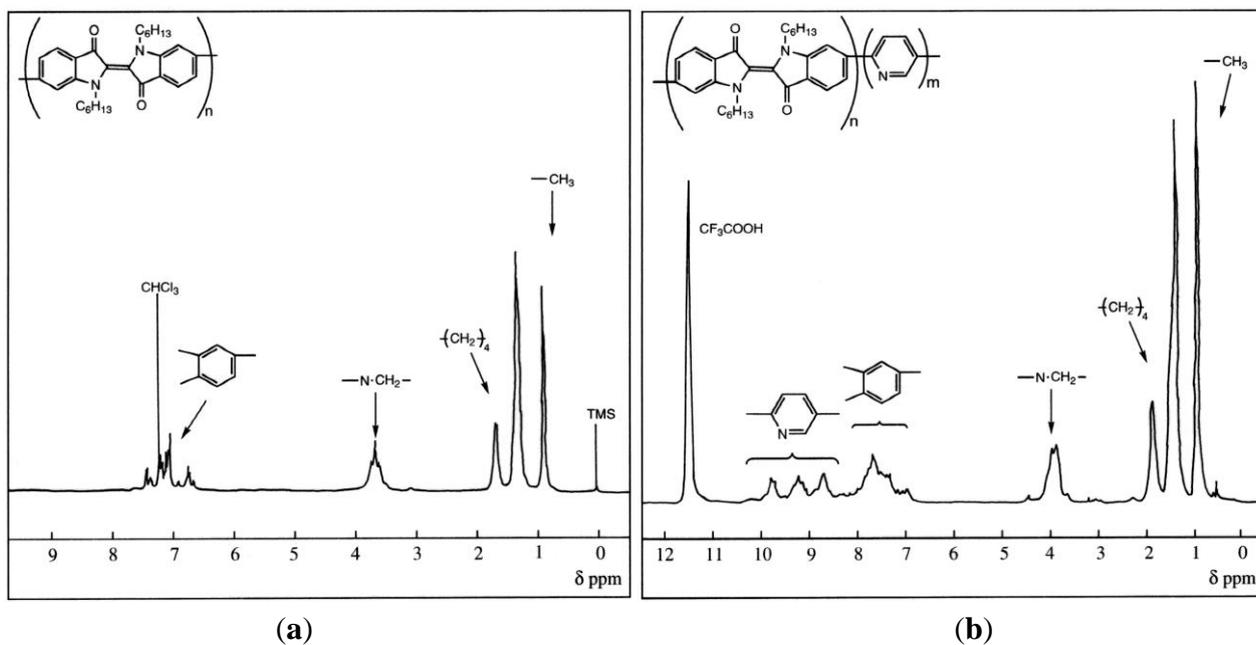
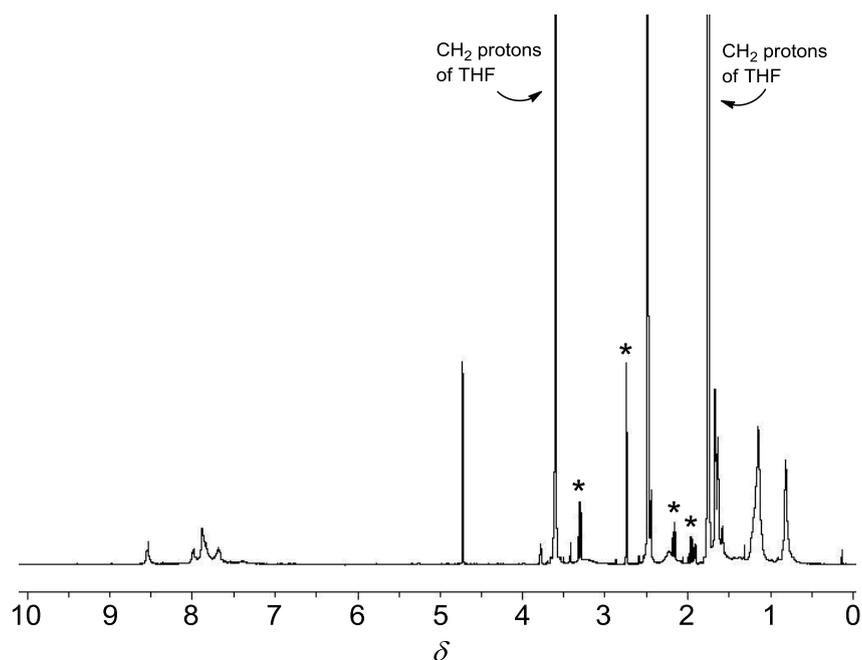


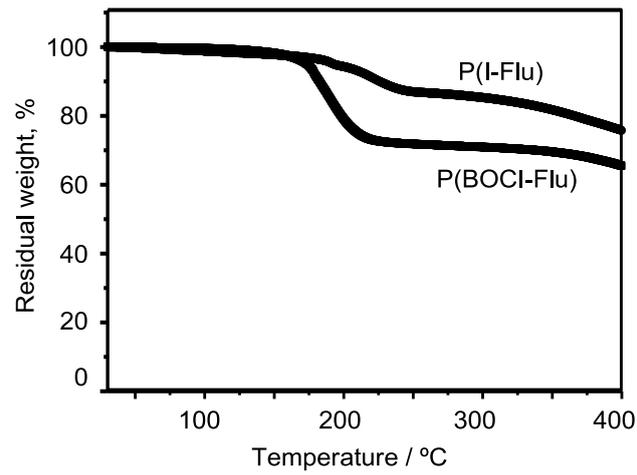
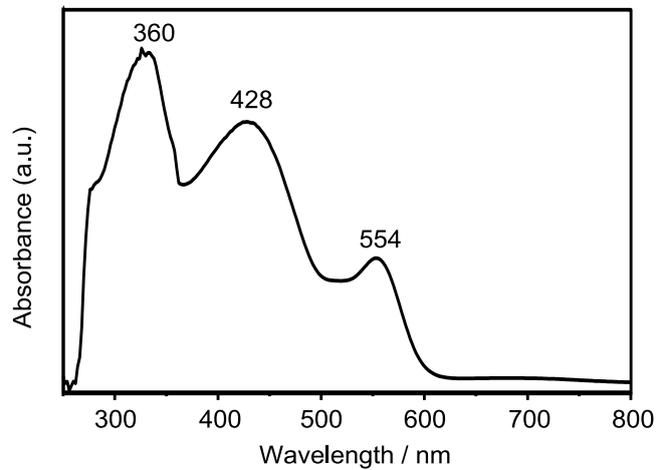
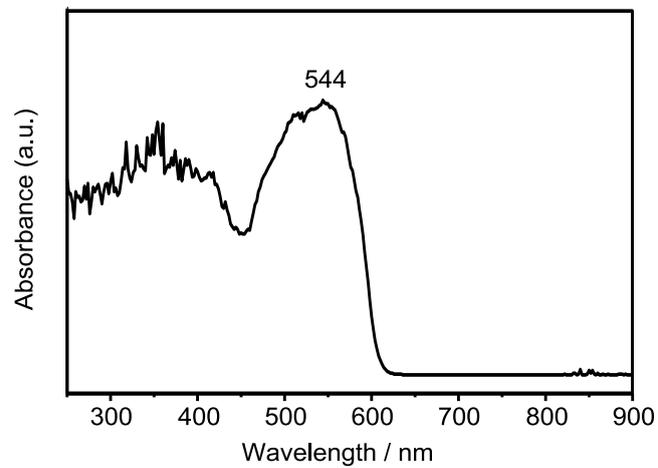
## Supplementary Information

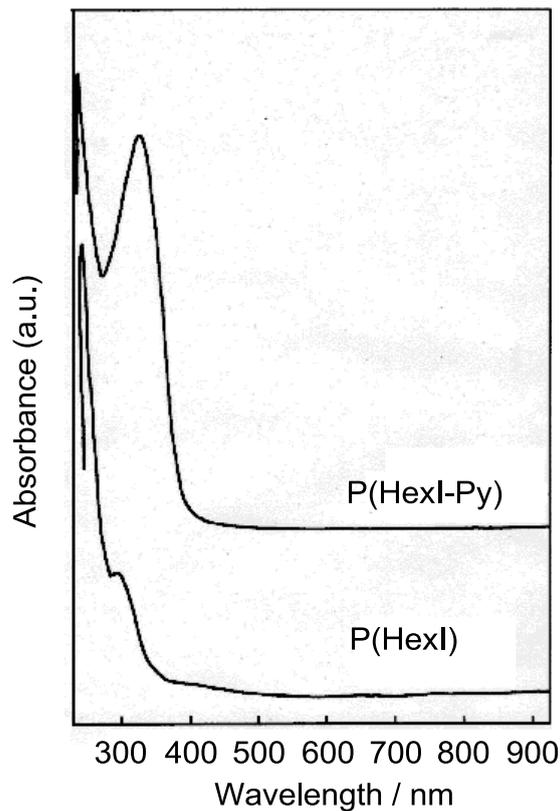
**Figure S1.**  $^1\text{H}$  NMR spectra of (a) **PHexI** in  $\text{CDCl}_3$  and (b) **P(HexI-Py)** in  $\text{CF}_3\text{COOH}$ .



**Figure S2.**  $^1\text{H}$  NMR spectrum of **P(BOCI-Flu)** in  $\text{THF}-d_8$ . Peaks with asterisk (\*) are due to NMP used for reprecipitation of **P(BOCI-Flu)**.



**Figure S3.** TG curves of P(BOCI-Flu) and P(I-Flu).**Figure S4.** UV-Vis spectrum of P(BOCI-Flu) film cast on a quartz glass plate.**Figure S5.** Diffuse reflectance (DR) spectrum of monomer 2.

**Figure S6.** UV-Vis spectra of **P(HexI-Py)** and **P(HexI)** in HCOOH.**Figure S7.** Cyclic voltammogram of **P(HexI-Py)** film cast on a Pt (1 cm × 1 cm) electrode in an acetonitrile solution containing 0.1 M [NEt<sub>4</sub>] [BF<sub>4</sub>]. Sweep rate is 20 mV/s.