Electronic Supplementary Material (ESI) for Polymer Chemistry

Supporting information

Optical and electrical properties of dithienothiophene based conjugated polymers: Medium donor *vs* weak, medium, and strong acceptor

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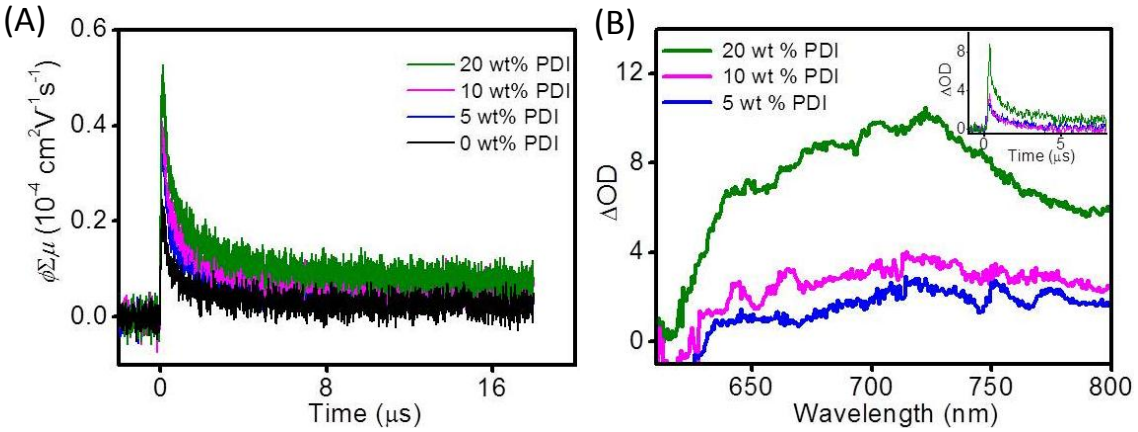

Figure S1. (A) (A) FP-TRMC transients (λ_{ex} = 355 nm) of $\mathbf{P_w}$ with different weight percentages of PDI films (0-20 wt %) relative to 100 wt % of $\mathbf{P_w}$. (B) Corresponding transient absorption spectra (λ_{ex} = 355 nm) with the kinetic traces at 720 nm shown in the inset.

Table S1. FP-TRMC and TAS values of $\mathbf{P_m}$ with different wt % of PDI

Wt % PDI	$\phi\Sigma\mu_{max}$ (10^{-4} cm^2/Vs)	ϕ	$\Sigma\mu$ (10^{-2} cm^2/Vs)
2 wt%	2.0	1.3×10^{-2}	1.6
5 wt%	2.7	1.4×10^{-2}	1.9
10 wt%	3.0	1.5×10^{-2}	2.0
20 wt%	4.2	1.8×10^{-2}	2.4
			Ave $\Sigma\mu = 2.0 \times 10^{-2}$

Table S2. FP-TRMC and TAS values of $\mathbf{P_w}$ with different wt % of PDI

Wt % PDI	$\phi\Sigma\mu_{max}$ (10^{-4} cm^2/Vs)	ϕ	$\Sigma\mu$ (10^{-2} cm^2/Vs)
5 wt%	0.37	5.0×10^{-3}	0.74
10 wt%	0.40	6.6×10^{-3}	0.61
20 wt%	0.49	1.6×10^{-2}	0.31
			Ave $\Sigma\mu = 5.5 \times 10^{-3}$

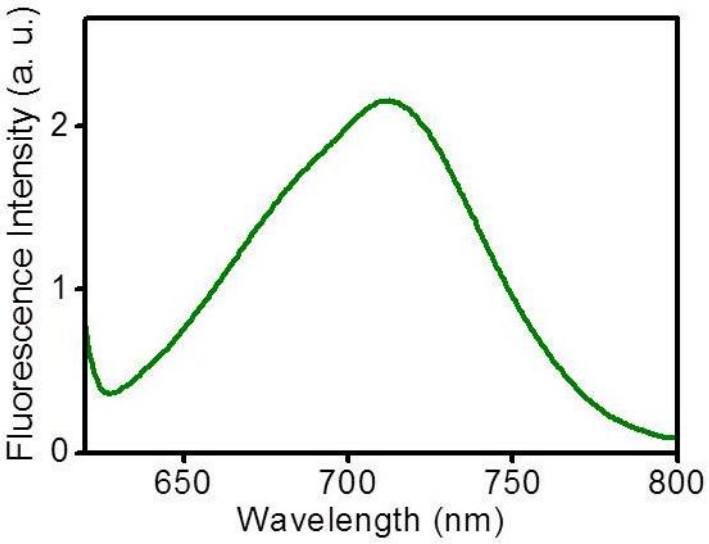

Figure S2. Normalized fluorescence spectra of $\mathbf{P_{s2}}$ in chloroform (λ_{exc} = 600 nm)

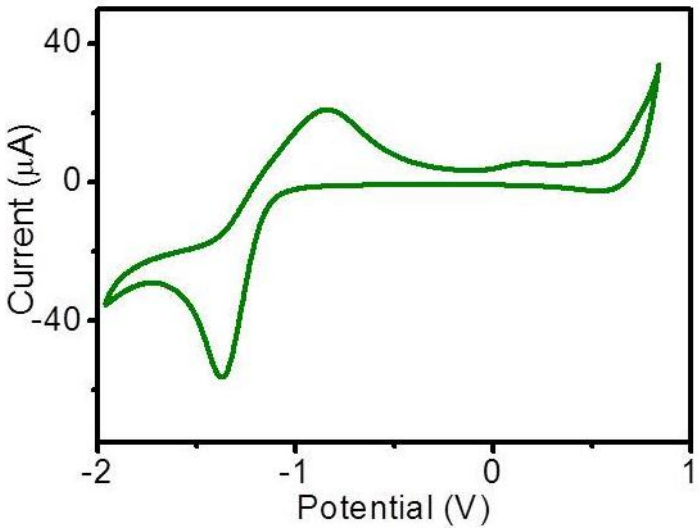

Figure S3. Cyclic voltammogram of $\mathbf{P_{s2}}$ in film state.

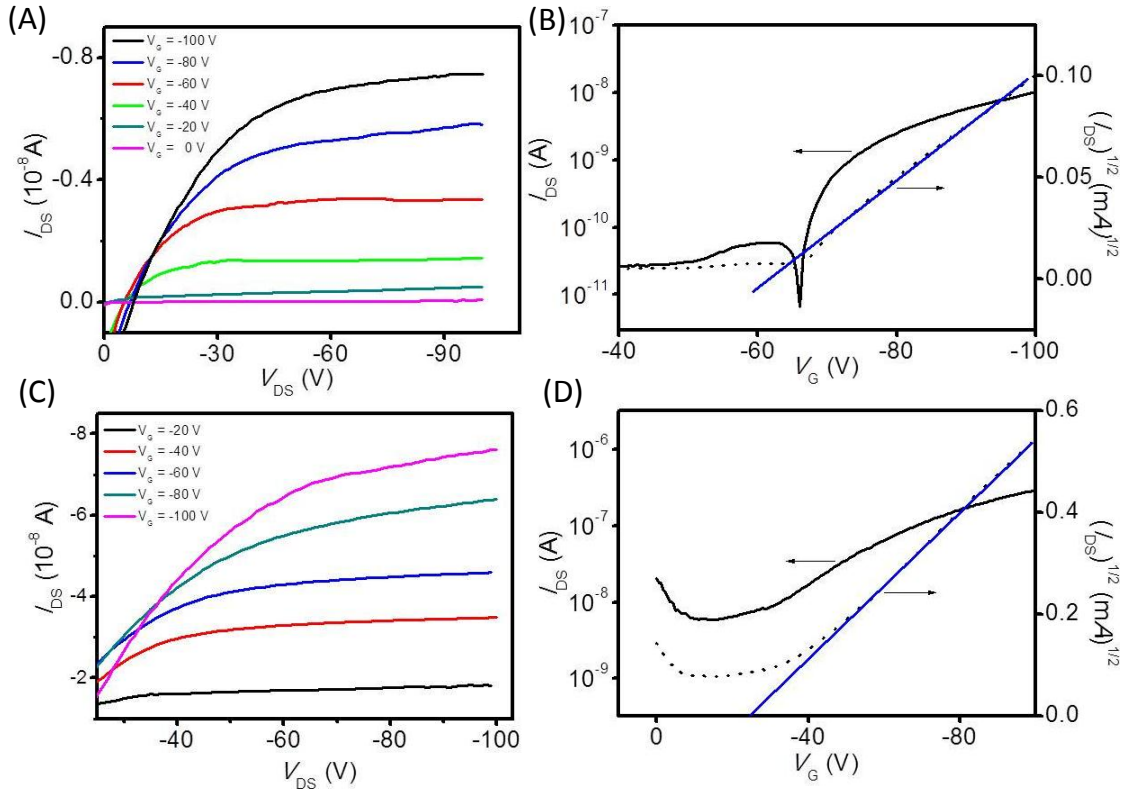

Figure S4. (A) and (C) show the output characteristics of $\mathbf{P_w}$ and $\mathbf{P_{s2}}$ respectively with W = 3000 μm and L = 100 and 50 μm respectively for $\mathbf{P_w}$ and $\mathbf{P_{s2}}$. (B) and (D) are the transfer characteristics of $\mathbf{P_w}$ and $\mathbf{P_{s2}}$.