

Supporting Information

Efficient solar cells are more stable: Improved efficiency and lifetime of organic photovoltaics by control of polymer molecular weight

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Figure S1. GPC elution curves. The measurements were carried out using THF as the solvent and calibrated by polystyrene standards.

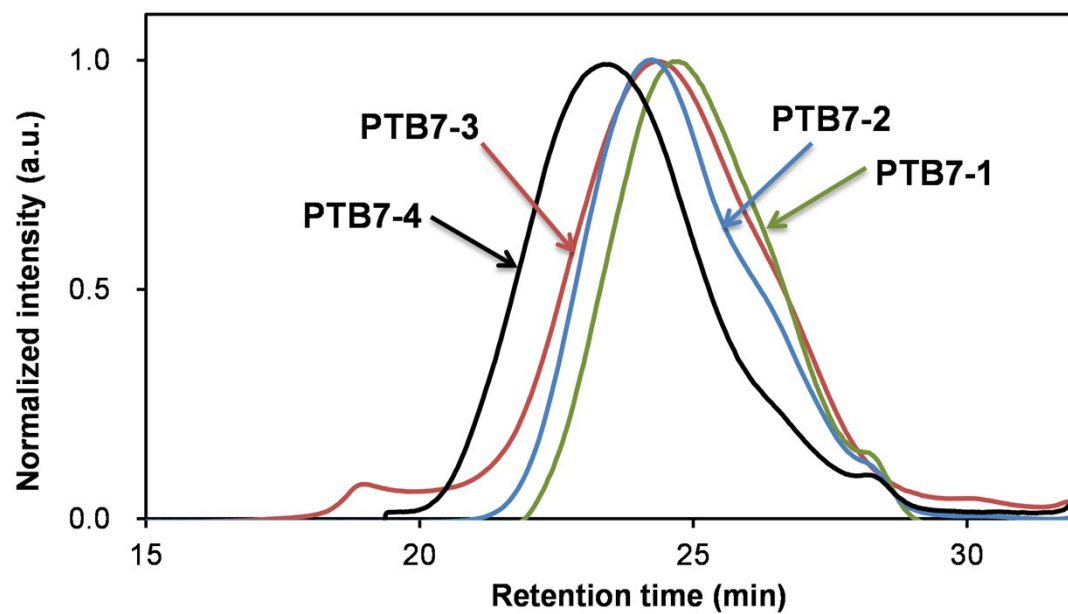
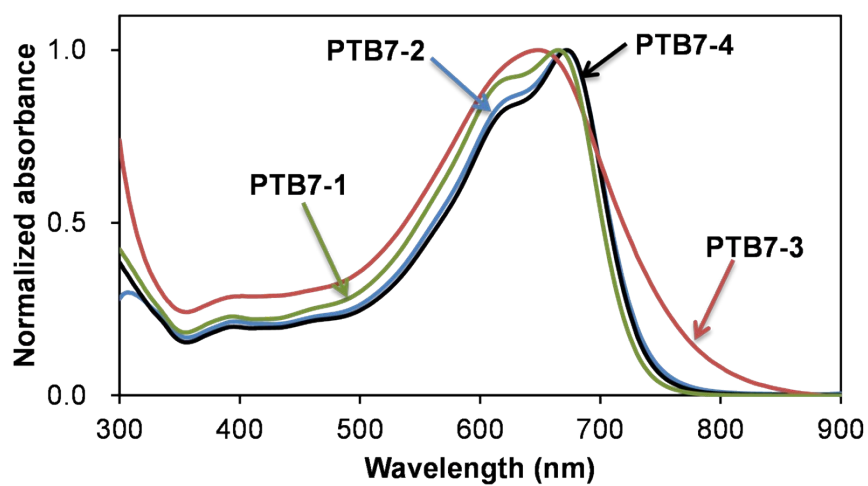


Figure S2. UV-vis spectra of PTB7 in (a) THF solutions and (b) thin films cast from 20mg/mL by spin-coating at the same spin speed.

(a) In THF



(b) In film

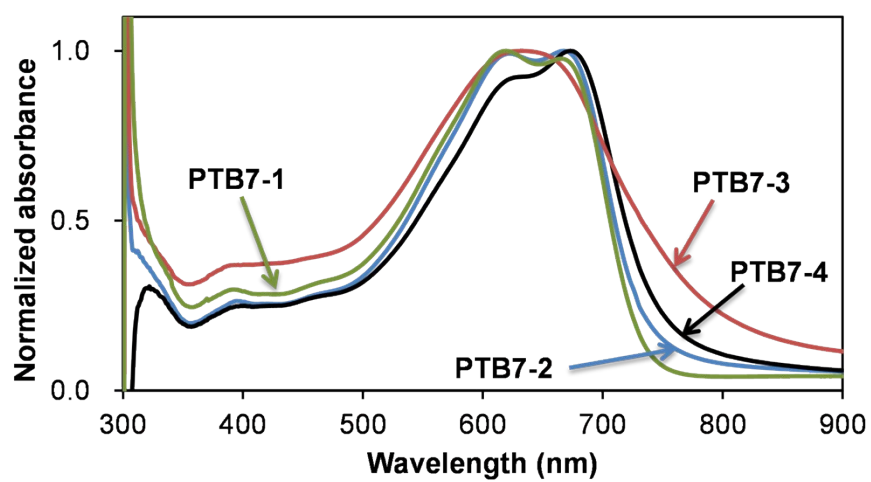


Figure S3. Cyclic voltammograms of **PTB7-1 - 4** on Pt plate in MeCN solution containing 0.1 M *n*-Bu₄NPF₆. Scan rate = 0.10 V/s.

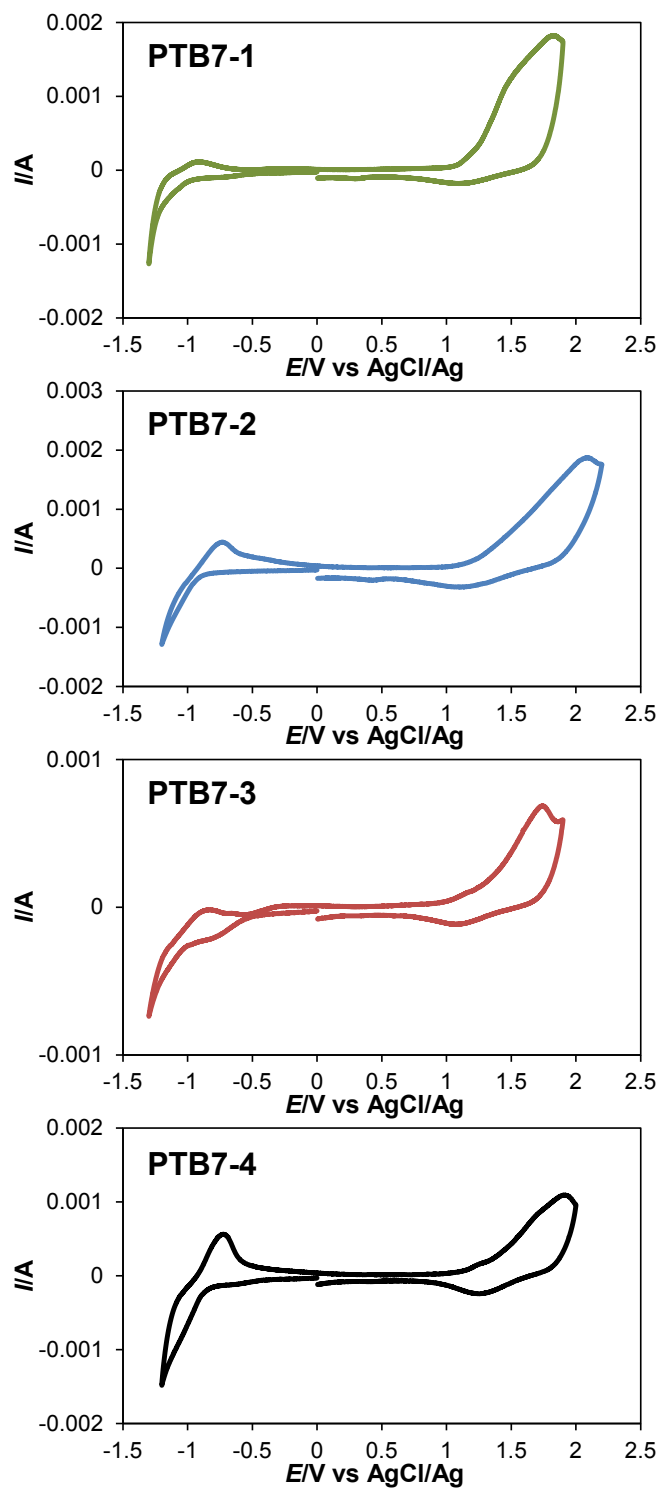


Figure S4. Experimental (black trace) and simulated (red trace) X-band EPR spectra of positive polarons in PTB7-1 powder. Spin-Hamiltonian parameters used for simulation: $g_1 = 2.0068$, $g_2 = 2.0038$, $g_3 = 2.0026$, $a_1 = a_2 < 0.06$ mT and $a_3 = 0.36$ mT, Lorentzian shape of individual lines, $\Delta H_{pp1} = \Delta H_{pp2} = 0.06$ mT, $\Delta H_{pp3} = 0.18$ mT.

