

Supporting Information

Principles Directing Transport and Charge Separation in Isoindigo Polymers

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Experimental Section:

Materials and methods: All reagents and starting materials were purchased from commercial sources and used without further purification, unless otherwise noted. The solvents were dried using known methods (W. L. F. Armarego, C. L. L. Chai, Purification of Laboratory Chemicals, 5th Edition, ELSEVIER, 2003). Toluene used for polymerizations was also deoxygenated by 5 freeze-pump-thaw cycles prior to use. All reactions were carried under argon atmosphere unless otherwise mentioned. ^1H NMR and ^{13}C NMR spectra were collected on a Varian Mercury Vx 300 MHz NMR and referenced to residual solvent peaks (CDCl_3 : ^1H : $\delta = 7.26$ ppm, ^{13}C : $\delta = 77.23$ ppm). Gel permeation chromatography (GPC) was performed using a Waters Associates GPCV2000 liquid chromatography system with its S2 internal differential refractive index detector (DRI) at 40°C , using two Waters Styragel HR-5E columns (10 μm PD, 7.8 mm i.d., 300 mm length) with HPLC grade THF or *ortho*-dichlorobenzene (oDCB) as the mobile phase at a flow rate of 1.0 mL /min. Injections were made at 0.05 - 0.07 % w/v sample concentration using a 220.5 μL injection volume. Retention times were calibrated against narrow molecular weight polystyrene standards (Polymer Laboratories; Amherst, MA). All UV-Vis absorption spectra were collected using a Varian Cary 5000 Scan UV-vis-near-IR spectrophotometer.

Electrochemistry: Tetra-*n*-butylammonium hexafluorophosphate was purchased (98%, Acros) and recrystallized from ethanol. The salts were transferred to an argon-filled drybox (OmniLab model, Vacuum Atmospheres). Dichloromethane was obtained from an anhydrous solvent system and kept under inert atmosphere before being transferred to the drybox in which the electrolyte solutions were made. Cyclic voltammetry (CV) and differential pulse voltammetry (DPV) studies were performed using an EG&G Princeton Applied Research model 273A potentiostat/galvanostat in the argon-filled drybox. Experiments were carried out in a one compartment electrochemical cell using a platinum disk electrode (0.02 cm^2) as working

electrode, an Ag/Ag⁺ reference electrode and platinum foil as a counter electrode; all potentials were reported vs. Fc/Fc⁺ redox couple. The following setup parameters were applied for the DPV studies: a step size of 1.4 mV, a step time of 0.035 s, and amplitude of 55 mV.

Grazing Incidence Wide-Angle X-Ray Scattering: GIWAXS was performed at Stanford Synchrotron Radiation Lightsource (SSRL) on beamline 11-3. Beamline 11-3 is equipped with a MAR345 image plate detector and operates at an energy of 12.7 keV, corresponding to a photon wavelength of 0.0978 nm. The distance between the sample and the detector was kept at 400 mm and the incident angle was maintained at 0.12° in order to achieve the highest scattering intensity from the sample (polymer critical angle ~0.08°) without interference from the substrate (critical angle for silicon substrate ~0.14°). The scattering images were calibrated using aLaB₆ standard. Samples were loaded into a chamber purged with helium to reduce beam damage to the sample and reduce the air scattering background. The data analysis was conducted using the WxDiff software developed by Dr. Stefan Mannsfeld.¹

Organic field-effect transistor fabrication and testing: All OFETs were fabricated employing the bottom-gate, bottom-contact architecture. The 200 nm thick SiO₂ dielectric covering the highly doped Si acting as the gate electrode was functionalized with hexamethyldisilazane (HMDS) to minimize interfacial trapping sites. Polymer thin films were deposited by drop-casting 2 mg/mL chloroform solution on FET substrates in nitrogen atmosphere, followed by annealing at 150 °C for 1 h. The channel lengths and widths are 20 and 1400 μm, respectively. For the average mobilities, 8 transistors were measured in nitrogen atmosphere. All the electrical measurements (using Keithley 4200 SCS) are performed in a glove box under nitrogen atmosphere.

It is important to note that different groups use different device and fitting parameters, which can lead to variations in the measured mobility value. For instance, the ratio of the OFET channel length (L) to channel width (W) can range from 20 to 70, and the charge carrier mobility can be extracted from the linear or saturation regime of the output curve. These parameters among others can lead to variations in the reported mobilities for a same polymer structure.

Solar cell device materials and fabrication: [6,6] phenyl-C₇₁-butyric acid methyl ester (99+% purity) (PC₇₁BM) as an electron acceptor and Poly(3,4-ethylenedioxythiophene):poly-(styrene sulfonic acid) (PEDOT:PSS) were purchased from Nano-C and Clevios (CLEVIOS P VP AI

4083) respectively. 1, 2-dichlorobenzene (oDCB) was obtained from Sigma-Aldrich and used as-received. Patterned ITO glass was cleaned with acetone and isopropyl alcohol using an ultrasonication method. The ITO was then subject to an UV ozone treatment for 15 min. A 40 nm PEDOT:PSS film was spin coated on top of an ITO substrate after filtered through a 0.45 μm PVDF filter. The PEDOT:PSS films were then dried for 15 min at 180 $^{\circ}\text{C}$. The mixing ratio was 1:1.5 by weight, and the concentration was 20 mg/ml. The solution was filtered with a 0.45 μm PVDF filter. The blends of Isoindigo-based polymer:PC₇₁BM (1:1.5 wt% ratio, 20 mg/ml) in oDCB without or with 1,8-diiodooctane (DIO) was spin coated onto the ITO/PEDOT:PSS substrate at 800 rpm. The isoindigo-based polymer:PC₇₁BM films were then dried at room temperature in a nitrogen atmosphere overnight without any thermal treatment. These films were \sim 100 nm thick, as determined by profilometry (Dektak XT). To complete the device, LiF (1 nm) and Al (100 nm) were thermally evaporated under 2×10^{-6} torr.

Inverted devices were fabricated using the same procedure for the active layer. To fabricate inverted devices, the ZnO–PVP precursors were spin coated on cleaned ITO glass and then were annealed at 200 $^{\circ}\text{C}$ for 40 min in air. After slow cooling the sample, the ZnO–PVP composite film was UV-ozone treated to remove PVP from the surface of the film. The active layer of isoindigo-based polymer:PC₇₁BM was spin-coated on top of the ZnO–PVP layer. Then, MoO_x (4 nm) and Ag (100 nm) were thermal evaporated.

The current–voltage characteristics were measured using Keithley 2401 source-measure unit and AM 1.5G solar simulator (Newport Thermal Oriel 94021 1000 W) calibrated to 100 mW/cm² with a standard PV reference cell (ORIEL 91150V monosilicon reference cell calibrated by Newport Corporation). The open circuit voltage (V_{oc}), short circuit current density (J_{sc}), fill factor (FF), and power conversion efficiency (PCE) were calculated from the J-V curves. The surface morphology and absorption spectra of the active layers were measured using atomic force microscopy (AFM, SPM/AFM Dimension 3100, Tapping Mode) and UV–Vis spectroscopy, respectively. All characterizations were performed at room temperature without encapsulation.

XPS Sample preparation and analysis: The same conditions used to spin-coat the active layer for conventional devices were used for the preparation of XPS samples. PEDOT:PSS was spun-coated onto ITO-coated glass (1 cm x 1 cm) and annealed following the procedure described

above. After annealing of the PEDOT:PSS layer, the polymer:PC₇₁BM blend with and without DIO was spun-cast onto the PEDOT:PSS layer following the same conditions as listed above. After drying overnight, the samples were transferred under inert atmosphere to the XPS vacuum chamber and analyzed using a Thermo Scientific K-Alpha XPS system with a monochromatic aluminum source and a 180° double focusing hemispherical electron energy analyzer. The sample was angled relative to the detector entrance (around 45°), resulting in a probing depth of 2-4 nm based on the attenuation lengths for organic materials. Data was collected in 0.1 eV increments with a collection time of 50 ms at each increment. The % composition was determined using the following equations, and averaging the results calculated from different elements:

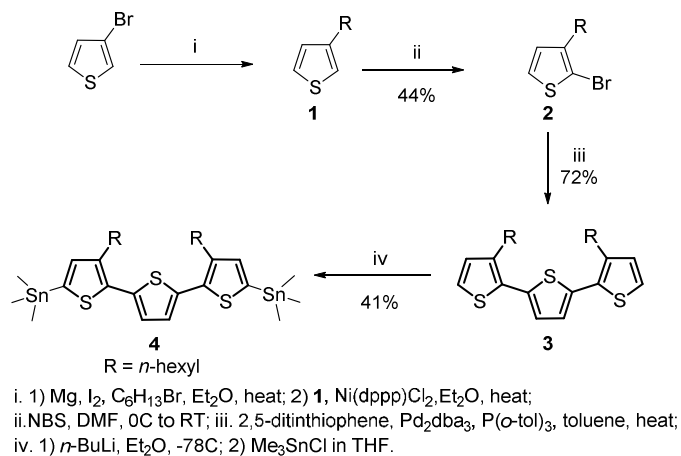
$$\begin{aligned} \%P[T3(C6) - iI(HD)] &= 100\% \times \frac{\%S}{3.80} = 100\% \times \frac{\%N}{2.53} \\ \%PC_{71}BM &= 100\% - \%P[T3(C6) - iI(HD)] \\ &= \frac{\%C - 91.14 \times \%P[T3(C6) - iI(HD)]}{97.62} \end{aligned}$$

The coefficients used in these equation are extracted from the elemental composition of P[T3(C6)-iI(HD)] and PC₇₁BM as listed in Table S1 below.

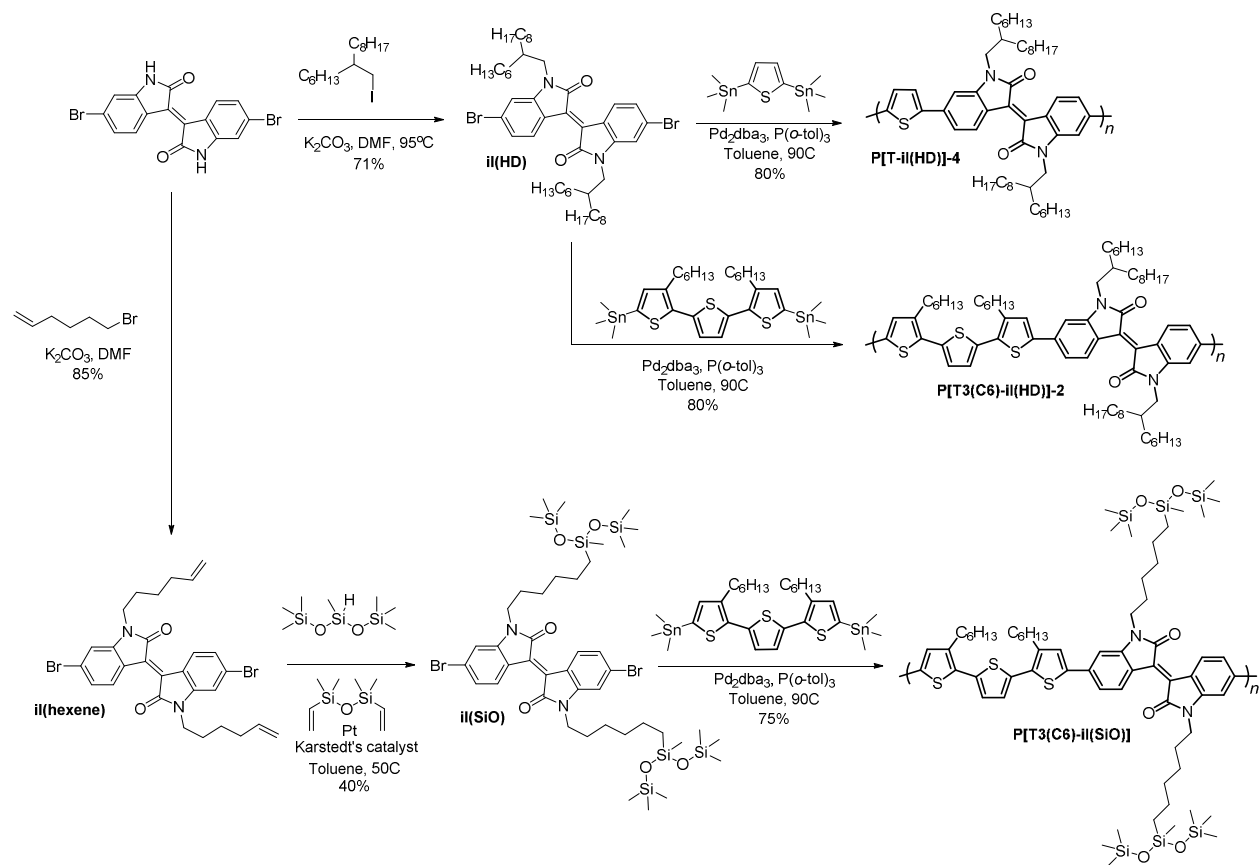
Table S1. Elemental composition of P[T3(C6)-iI(HD)] and PC₇₁BM with the number of atoms of each element per molecule shown along with the percent composition of that element relative to the total atoms present. Note that hydrogen is not included.

Material	#C	%C	#N	%N	#O	%O	#S	%S
P[T3(C6)-iI(HD)]	72	91.14	2	2.53	2	2.53	3	3.80
PC ₇₁ BM	82	97.62	0	0.00	2	2.38	0	0.00

Synthetic procedures:



Scheme S1. Synthesis of terthiophene monomer, based on ref ²



Scheme S2. Synthesis of P[T-iI(HD)]-4, P[T3(C6)-iI(HD)]-2 and P[T3(C6)-iI(SiO)]

3-hexylthiophene 1. The reagent 1-bromohexane (66.6 g, 403.6 mmol) was added dropwise to a solution of ground magnesium turnings (8 g, 333.3 mmol) with a tip of iodine in 100 mL dry

ethyl ether in an air-free 3-neck flask fitted with a condenser. Once the addition was over, the reaction mixture was heated to 45°C for two hours. The reaction mixture was then transferred to a 3-neck flask containing 3-bromothiophene (47.3 g, 290.2 mmol) and Ni(dppp)Cl₂ (2.09 g, 3.9 mmol, 0.013 equiv) in 200 mL dried ethyl ether. After addition, the brown solution was refluxed at 45 °C overnight. Upon cooling to room temperature, 150 mL of H₂O, 50 mL 0.1 M HCl was added to the reaction, and the resulting mixture was filtered over coarse filter paper. The filtrate was extracted three times with 200 mL of diethyl ether. The combined organic layer was washed once with NaHCO₃, thrice with 200 mL of H₂O, once with 100 mL of brine, and the organic layer was dried over MgSO₄. After filtration, the solvent was removed by rotary evaporation to afford a brown oil that was purified by distillation. A colorless oil was obtained as pure product (20.24 g, 30% yield). ¹H NMR (300 Hz, CDCl₃, ppm): δ 7.28 (dd, 1H), 7.00 (d, 2H), 2.70 (t, 2H), 1.70 (m, 2H), 1.36 (m, 6H), 0.98 (t, 3H).

2-bromo-3-hexylthiophene 2. N-bromosuccinimide (NBS) (10.68 g, 60 mmol) was added in three portions over 45 min to a solution of **1** (10.10 g, 60 mmol) in 200 mL of dried DMF at 0°C kept in the dark. The mixture was stirred overnight at room temperature and poured into 1 L of water. The organic material was extracted with hexane (3x250 mL). The combined organic extracts were washed with water (200 mL) and brine (200 mL) and dried over anhydrous MgSO₄. After filtration and removal of the solvent, the remaining organic material was passed through a silica plug using hexanes to give 6.21 g of compound **2**, yield 41%. ¹H NMR (300 Hz, CDCl₃, ppm): 7.20 (d, 1H), 6.80 (d, 1H), 2.55 (t, 2H), 1.59 (m, 2H), 1.28 (m, 6H), 0.91 (t, 3H).

3,3''-dihexyl- 2,2':5',2''-terthiophene 3. In a dry schlenk flask with a stir bar, a mixture of 2,5-bis(trimethylstannyl)thiophene (1.85 g, 4.54 mmol), **2** (2.80 g, 11.34 mmol), Pd2dba3 (207.0 mg, mmol, equiv), and P(o-tyl)₃ (151.0 mg, mmol, equiv) was deaerated three times with argon, and then toluene dried over MS (40 mL) and freeze-pump-thawed for three cycles was added. The reaction mixture was set in an oil bath at 95°C overnight under argon. After cooling, the solvent was evaporated, and hexanes added to flask to precipitate out tin salts which were filtered out. After the solvent had been removed, the residue was purified by column chromatography with hexanes on silica gel to afford **3** as a light yellow liquid with a yield of 70% (1.33 g, 3.19 mmol). ¹H NMR (300 Hz, CDCl₃, ppm): δ 7.18 (d, 2H), 7.08 (s, 2H), 6.95 (d, 2H), 2.81 (t, 4H), 1.67 (m, 4H), 1.33 (m, 12H), 0.98 (m, 6H).

5,5''-Bis(trimethylstannyl)-3,3''-hexyl-2,2':5',2''-terthiophene 4. n-butyllithium (1.6 M in hexanes, 4.37 mL, 7.02 mmol) was added to a solution of **3** (1.33 g, 3.19 mmol) in 30 mL of dry diethyl ether at -78°C. The mixture was maintained at this temperature for 30 min, warmed to room temperature for another 30 min, and then cooled back to -78°C. Trimethyltin chloride (1M in THF, 7.02 mL, 7.02 mmol) was added at once. The mixture was stirred overnight at room temperature and poured into water for extraction with diethyl ether (3x 50 mL). The combined organic layers were washed with brine (2x100 mL) and dried over MgSO₄. After the solvent had been removed under reduced pressure, purification by HPLC (60:40 ACN:acetone) yields 0.98g of **4** (41% yield). ¹H NMR (300 Hz, CDCl₃, ppm): δ 7.06 (s, 2H), 7.02 (t, 2H), 2.81 (t, 4H), 1.68 (m, 4H), 1.33 (m, 12H), 0.88 (t, 6H), 0.39 (m, 18H).

Isoindigo monomers: Synthesized as previously reported in ref³⁻⁵

il(HD): In dry 100mL round bottom flask, 6,6'-dibromoisoidigo (1.89 g, 4.5 mmol) and K₂CO₃ (3.73 g, 27 mmol, 6 equiv.) powders were dried under vacuum for 30 min. 40 mL dry DMF was added via cannula and 2-hexyldecyl iodine (4.86 g, 13.5 mmol, 3 equiv.) was injected through the septum into the reaction mixture. The reaction was heated to 95°C for 10h, then cooled to RT and quenched with 500 mL of water. Extraction with ethyl acetate followed by a silica gel column using 4:1 hexane:DCM yielded desired product (2.77 g, 71% yield). ¹H NMR (300 Hz, CDCl₃, ppm): δ 9.08 (d, 2H), 7.15 (dd, 2H), 6.92 (d, 2H), 3.61 (t, 4H), 1.88 (m, 2H), 1.24 (m, 48H), 0.86 (m, 12H).

il(hexene): In dry 100mL round bottom flask, 6,6'-dibromoisoidigo (1.47 g, 3.5 mmol) and K₂CO₃ (1.93 g, 14 mmol, 4 equiv.) powders were dried under vacuum for 30 min. 30 mL dry DMF was added via cannula and 6-bromo-1-hexene (1.37 g, 8.4 mmol, 2.4 equiv.) was injected through the septum into the reaction mixture. The reaction was heated to 100°C for 10h, then cooled to RT and quenched with 200 mL of water. Extraction with DCM followed by a silica gel column using 1:1 DCM:hexane yielded desired product (1.74 g, 85% yield). ¹H NMR (300 Hz, CDCl₃, ppm): δ 9.08 (d, 2H), 7.15 (dd, 2H), 6.92 (d, 2H), 5.79 (m, 2H), 5.05 (m, 4H), 3.74 (t, 4H), 2.11 (m, 4H), 1.70 (m, 4H), 1.51 (m, 4H).

il(SiO): il(hexene) (1.17 g, 2 mmol) was dissolved in 15 mL anhydrous toluene under argon atmosphere. 1,1,3,3,5,5,5-heptamethyltrisiloxane (1.06 g, 4.8 mmol, 2.4 equiv.) was injected

through a septum, followed by the addition of 40 μL of Karstedt's catalyst (platinum divinyltetramethyl-siloxane complex in xylene, 3 wt%). The reaction mixture was stirred at 50°C under argon until consumption of 6,6'-dibromoisoidigo as monitored by TLC. The solution was directly subjected to silica gel chromatography using 2:3 DCM:hexane as the eluent, yielding a dark red oily solid (900 mg, 43% yield). ^1H NMR (300 Hz, CDCl_3 , ppm): δ 9.09 (d, 2H), 7.15 (dd, 2H), 6.92 (d, 2H), 3.72 (t, 4H), 1.67 (m, 4H), 1.35 (m, 12H), 0.47 (t, 4H), 0.08 (m, 36H), 0.01 (s, 6H).

General procedure for Stille polymerization: The dibrominated monomer (0.5 mmol, 1 equiv.), $\text{Pd}_2(\text{dba})_3$ (15 mg) and $\text{P}(\text{o-tyl})_3$ (10 mg) were added to a flame-dried Schlenk flask which was then evacuated and backfilled with argon three times to dry the powders. The bis(trimethylstannyl) comonomer (0.5 mmol, 1 equiv.) was dissolved in a dried separate vial in 5 mL of toluene, subsequently degassed with argon for one hour. The solution was then added to the Schlenk flask and the reaction mixture was stirred at 90°C for 60 hours under argon, after which 2-(tributylstannyl)thiophene and 2-bromothiophene (0.2 mmol) were sequentially added and allowed to react for another 3 hours. The reaction mixture was then cooled down to room temperature, and a spatula tip of diethylammonium diethyldithiocarbamate was added to act as a palladium scavenger. The reaction mixture was left stirring with the scavenger at room temperature for 3 hours, and then the mixture was precipitated in 100 mL of methanol and filtered through a 0.45 μm nylon filter. The dark solids were purified using a Soxhlet apparatus with methanol until the extracts appeared colorless. The polymers were then fractionated in the Soxhlet apparatus using acetone, hexanes, dichloromethane and chloroform fractions, which contained varying amounts of oligomers and polymer after complete extraction depending on the nature of the comonomer used. Concentration and reprecipitation in methanol allowed filtering the solids through a 0.45 μm nylon filter to afford the targeted polymer after complete drying in vacuo.

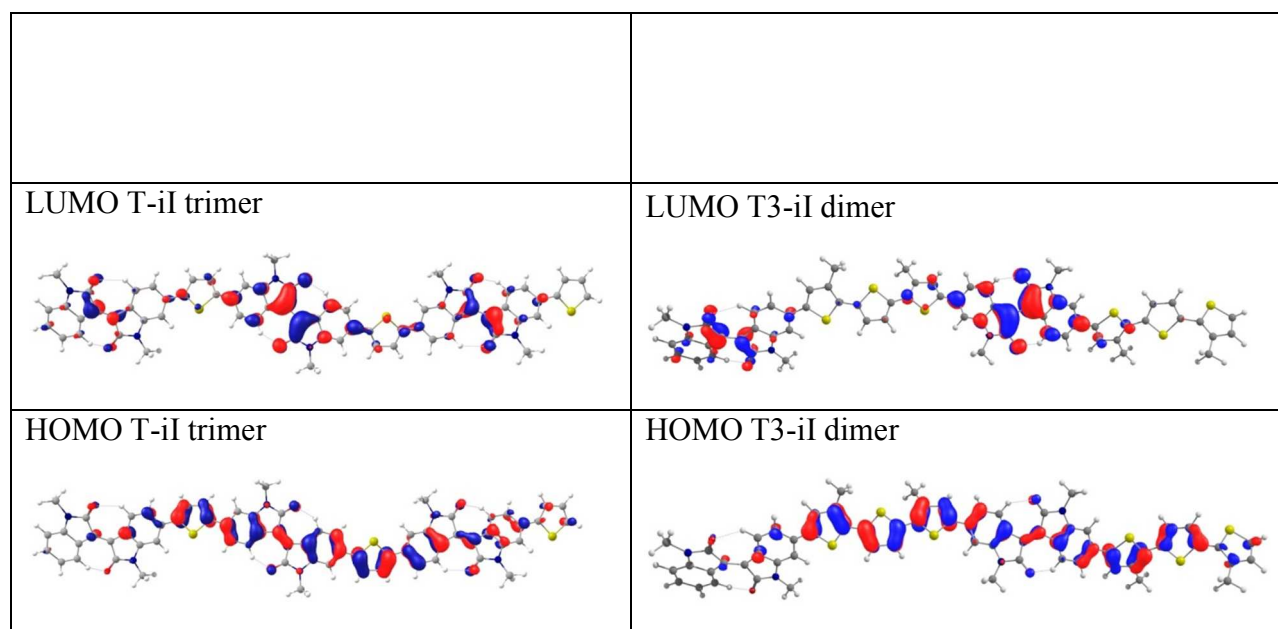
$\text{P}[\text{T-}i\text{I}(\text{HD})]\text{-4}$: Brown solid (344 mg, 86% CH_2Cl_2 fraction). M_n : 26.4 kDa, PDI: 2.1 (THF).
Anal. Calcd for $\text{C}_{52}\text{H}_{74}\text{N}_2\text{O}_2\text{S}$ C: 78.94, H: 9.43, N: 3.54, S: 4.05. Found C: 78.20, H: 9.48, N: 3.50, S: 3.98.

P[T3(C6)-iI(HD)]-2: Brown solid (457 mg, 90% chloroform fraction). M_n : 17.7 kDa, PDI: 3.7 (THF). Anal. Calcd for $C_{72}H_{102}N_2O_2S_3$ C: 76.95, H: 9.15, N: 2.49, S: 8.56. Found C: 76.66, H: 9.02, N: 2.52, S: 8.75.

P[T3(C6)-iI(SiO)]: Brown solid (385 mg, 60% chloroform fraction). M_n : 31.7 kDa, PDI: 2.2 (THF). Anal. Calcd for $C_{66}H_{102}N_2O_6S_3Si_6$ C: 61.73, H: 8.01, N: 2.18, S: 7.49. Found C: 60.18, H: 7.96, N: 1.99, S: 7.05.

Supporting Figures and Tables:

(a)



(b)

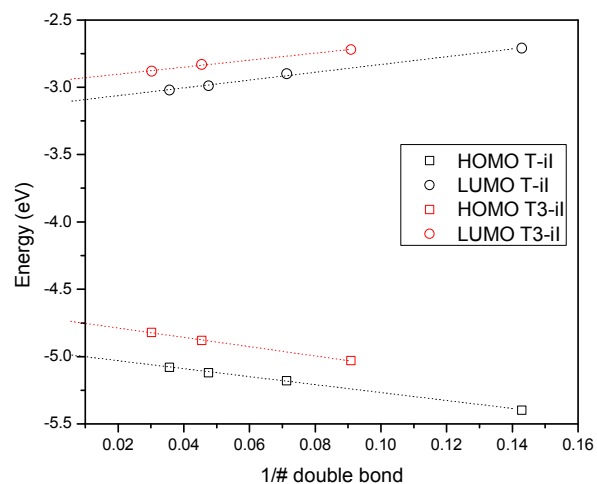


Figure S1. (a) Orbital delocalization, and (b) Frontier Molecular Orbital Energies (FMOE) for the T-ii and T3-ii backbones at the B3LYP/6-31G(d) level of theory.

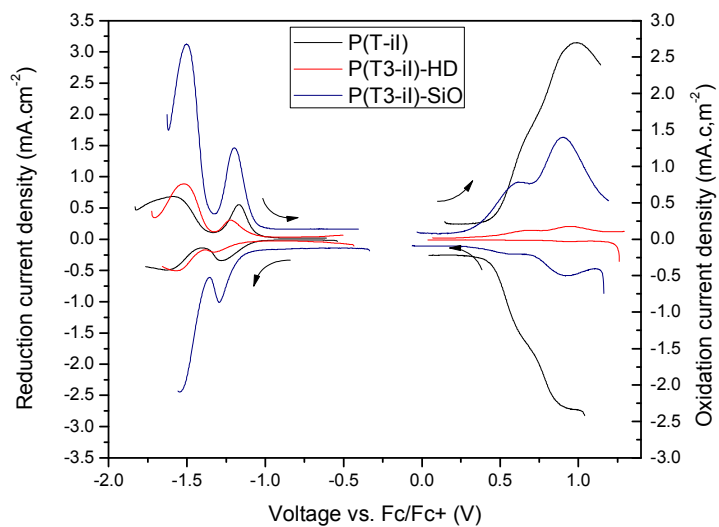


Figure S2. DPV (step size 1.4 mV, step time 0.035 ms, pulse amplitude 55 mV) of a thin film of polymer drop-cast from chloroform on a platinum disk immersed in 0.1 M Bu₄NPF₆/ACN solution. Arrows indicate scan direction.

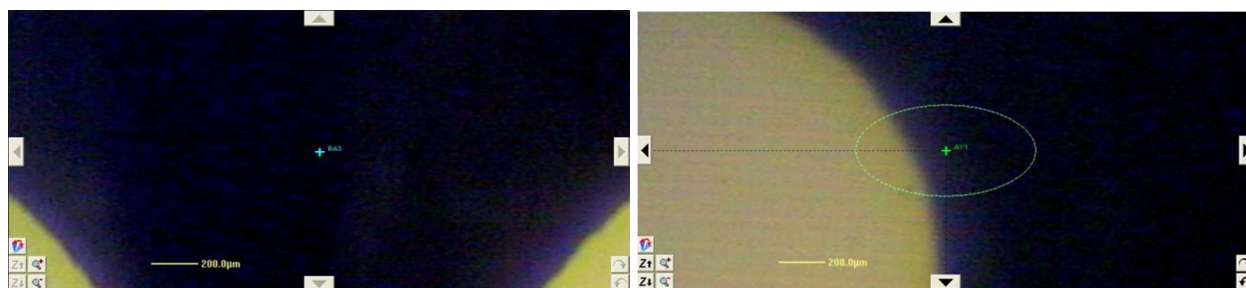


Figure S3. XPS spot locations in between contacts (left) and near Al contact (right)

Table S2. XPS analysis as a function of device area probed in P[T3(C6)-iI(HD)]:PC₇₁BM (1:1.5) blends spun cast from oDCB without DIO.

P[T3(C6)-iI(HD)]- 2:PC ₇₁ BM	C (%)	N (%)	O (%)	S (%)	Polymer (%)	PC ₇₁ BM (%)
In between Al contacts	92.0	2.3	2.8	2.8	83±12	16±3
Near Al contact	87.2	1.8	8.3	2.6	71±2	26±5

Table S3. Neutron reflectivity (NR) scattering length density (SLD) of P[T3(C6)-iI(HD)]-2 and PC₇₁BM, and formula to calculate the percent composition of P[T3(C6)-iI(HD)]-2.

	P[T3(C6)-iI(HD)]-2	PC ₇₁ BM	SLD for x% P[T3(C6)-iI(HD)]-2
SLD (Å ⁻²)	7.29×10^{-7}	4.3×10^{-6}	$0.729x + 4.3(1 - x)$

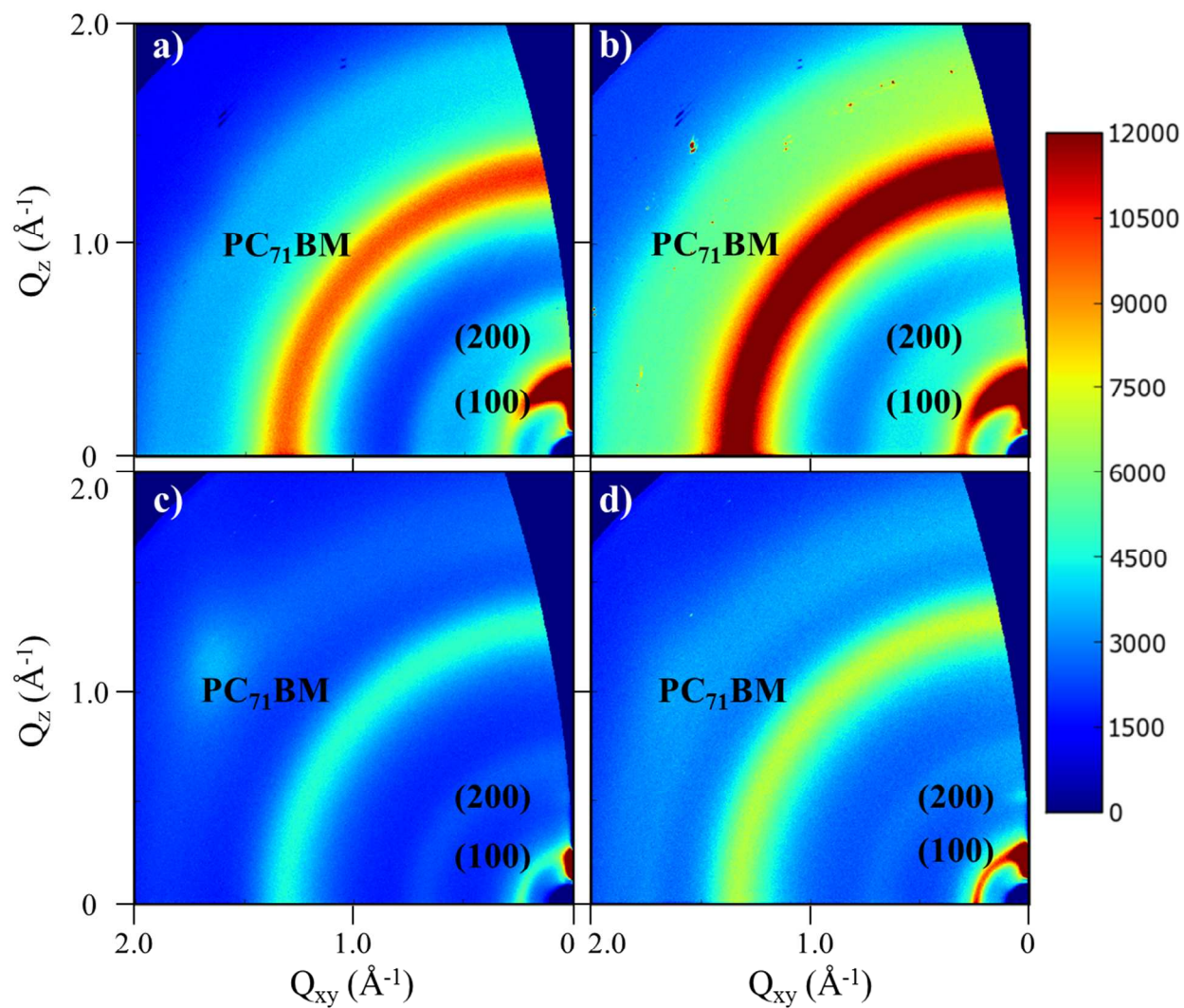


Figure S4. GIWAXS patterns of blends $PC_{71}BM$ with $P[T3(C6)-il(HD)]-2$ without (a) and with 2.5% DIO (b), and with $P[T3(C6)-il(SiO)]$ without (c) and with 2.5% DIO (d).

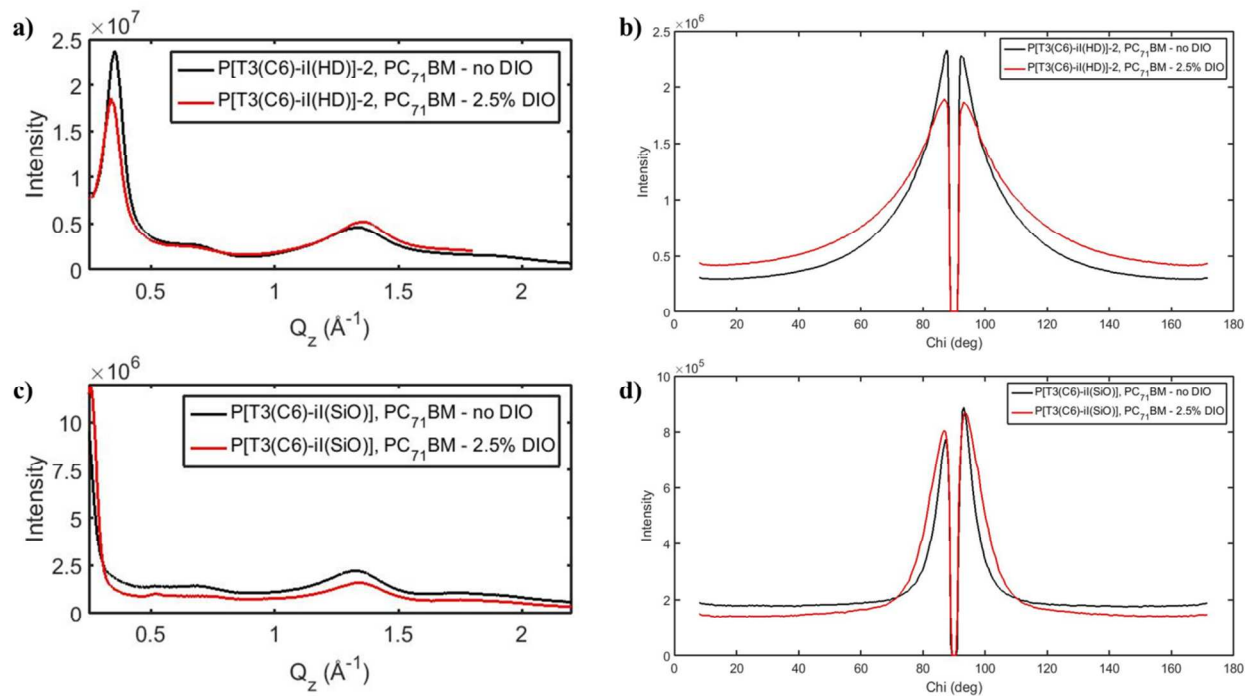
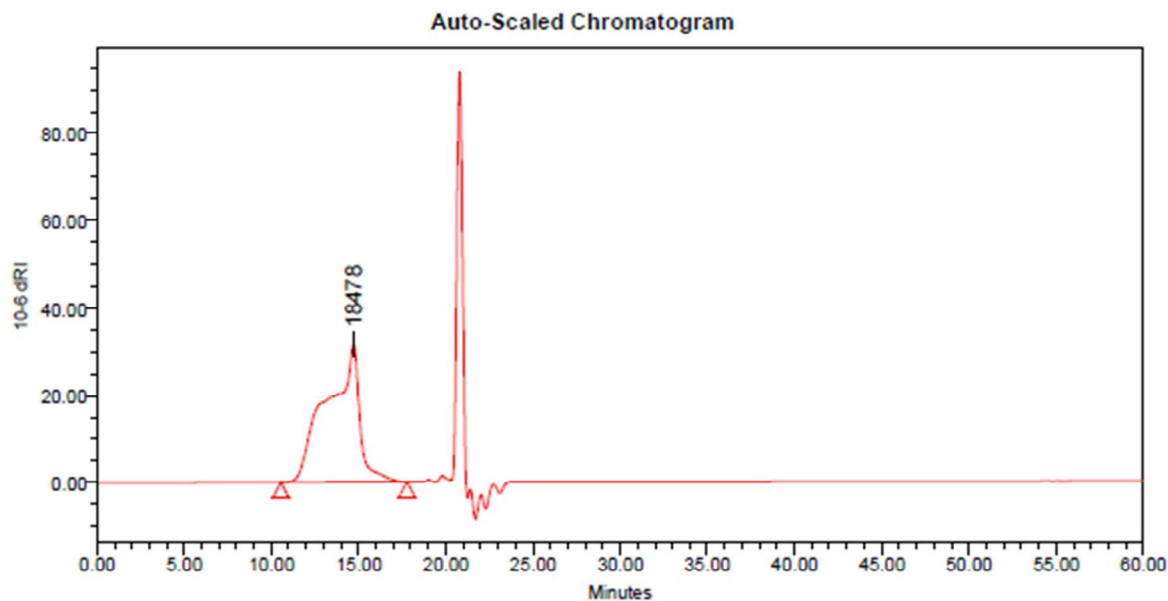


Figure S5. Scattering intensity of P[T3(C6)-il(HD)]-2:PC₇₁BM along Qz (a) and along the (100) peak (b), and scattering intensity of P[T3(C6)-il(SiO)]:PC₇₁BM along Qz (c) and along the (100) peak (d).

Gel Permeation Chromatograms:

SAMPLE INFORMATION			
Sample Name:	AP2_61_1	Acquired By:	system
Sample Type:	Broad Unknown	Date Acquired:	1/23/2012 12:47:19 PM
Vial:	3	Acq. Method Set:	
Injection #:	1	Date Processed:	1/23/2012 3:41:00 PM
Injection Volume:	220.50 ul	Processing Method:	James_Main
Run Time:	60.0 Minutes	Channel Name:	Ch1
Sample Set Name:	zander_01_20_12	Proc. Chnl. Descr.:	Refractive Index

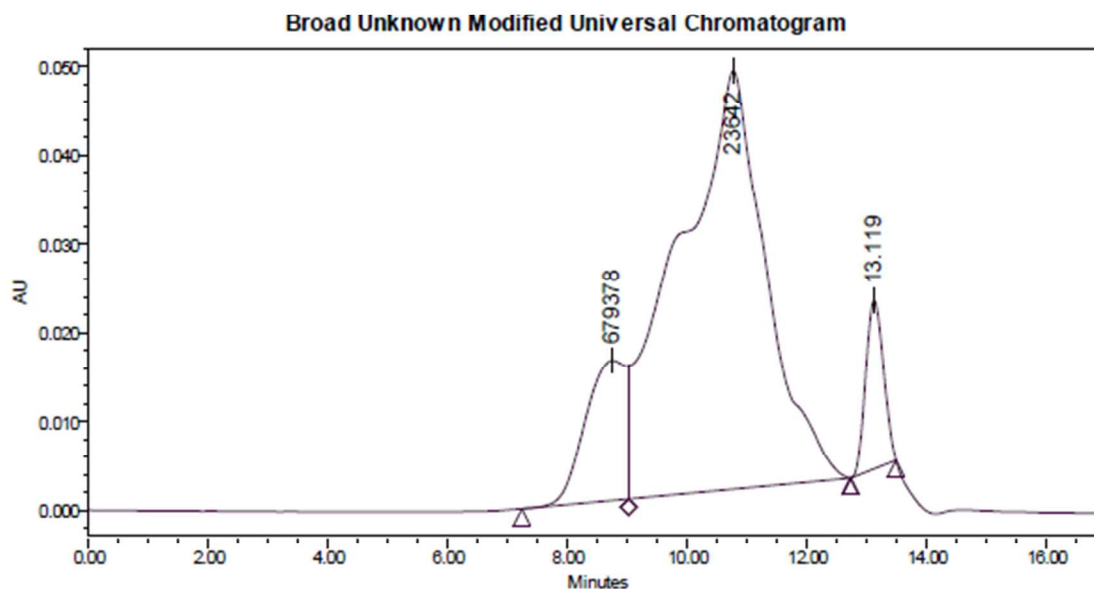


GPC Results

	Dist Name	Mn	Mw	MP	Mz	Mz+1	Mv	Polydispersity	MW Marker 1	MW Marker 2
1		26446	55095	18478	99285	139179		2.083267		

Figure S4. Gel Permeation Chromatogram of P[T-iI(HD)]-4 in THF

SAMPLE INFORMATION			
Sample Name:	120807_CG21-01_CHCl3	Acquired By:	Marder
Sample Type:	Broad Unknown	Date Acquired:	8/7/2012 5:11:54 PM EDT
Vial:	1	Acq. Method:	03MLFlow
Injection #:	3	Date Processed:	8/7/2012 5:38:43 PM EDT
Injection Volume:	20.00 ul	Channel Name:	W2489 ChA
Run Time:	17.00 Minutes	Channel Desc.:	W2489 ChA 254nm
Column Type:		Sample Set Name:	

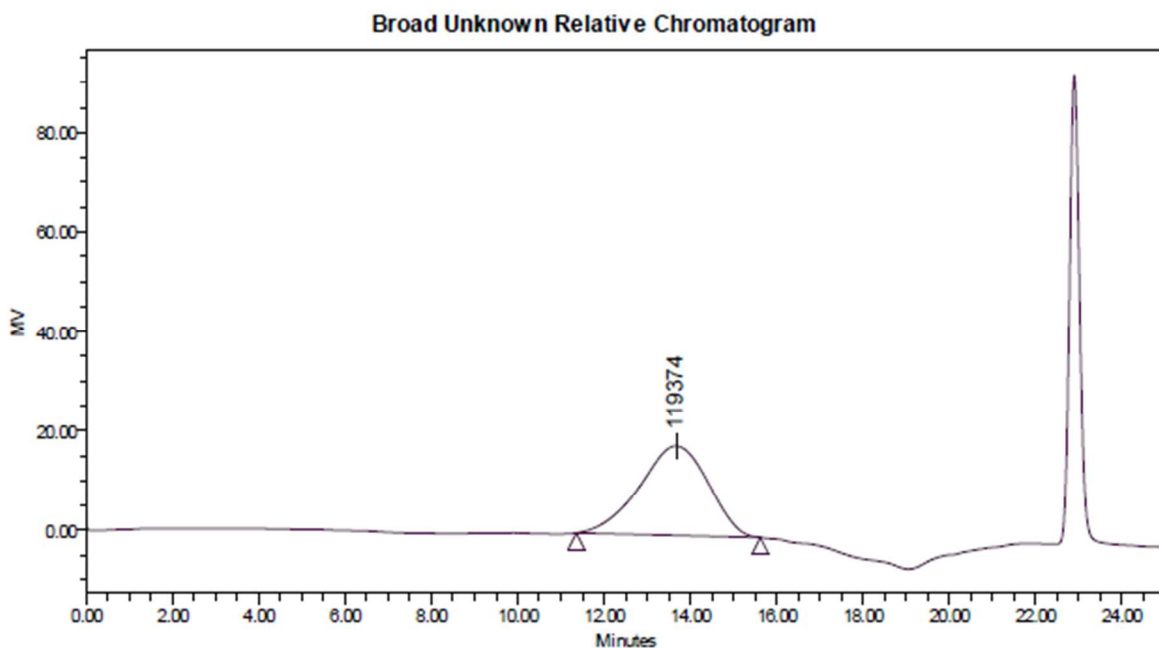


Broad Unknown Modified Universal Peak Table

	Distribution Name	Mv (Daltons)	K (dl/g)	alpha	Intrinsic Viscosity (dl/g)	Mn (Daltons)	Mw (Daltons)	MP (Daltons)	Mz (Daltons)	Mz+1 (Daltons)	Polydispersity	Mz/Mw
1								679378				
2						17745	66834	23642	157699	235089	3.710117	2.395387

Figure S5. Gel Permeation Chromatogram of P[T3(C6)-il(HD)]-2 in THF

SAMPLE INFORMATION			
Sample Name:	CG21-01	Acquired By:	Breeze
Sample Type:	Broad Unknown	Date Acquired:	3/26/2013 3:06:39 PM EDT
Vial:	2:C,4	Acq. Method:	
Injection #:	1	Date Processed:	3/27/2013 12:13:40 PM EDT
Injection Volume:	50.00 ul	Channel Name:	410
Run Time:	25.00 Minutes	Channel Desc.:	
Column Type:		Sample Set Name:	CG

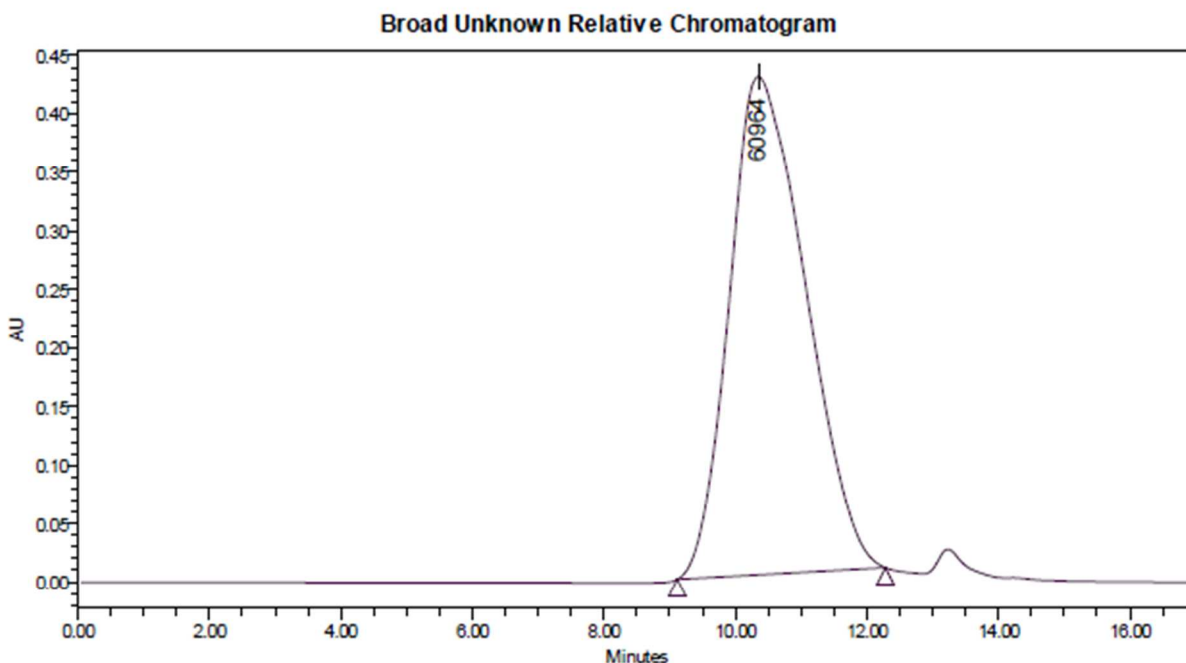


Broad Unknown Relative Peak Table

	Distribution Name	Mn (Daltons)	Mw (Daltons)	MP (Daltons)	Mz (Daltons)	Mz+1 (Daltons)	Polydispersity	Mz/Mw	Mz+1/Mw
1		102830	168853	119374	283335	433389	1.642063	1.678002	2.566672

Figure S6. Gel Permeation Chromatogram of P[T3(C6)-iI(HD)]-2 in oDCB

SAMPLE INFORMATION			
Sample Name:	CG-16-01_Pil3T-SiO	Acquired By:	Breeze
Sample Type:	Broad Unknown	Date Acquired:	6/4/2012 12:20:06 PM EDT
Vial:	1	Acq. Method:	03MLFlow
Injection #:	1	Date Processed:	6/4/2012 12:38:19 PM EDT
Injection Volume:	20.00 ul	Channel Name:	W2489 ChA
Run Time:	17.00 Minutes	Channel Desc.:	W2489 ChA 254nm
Column Type:		Sample Set Name:	

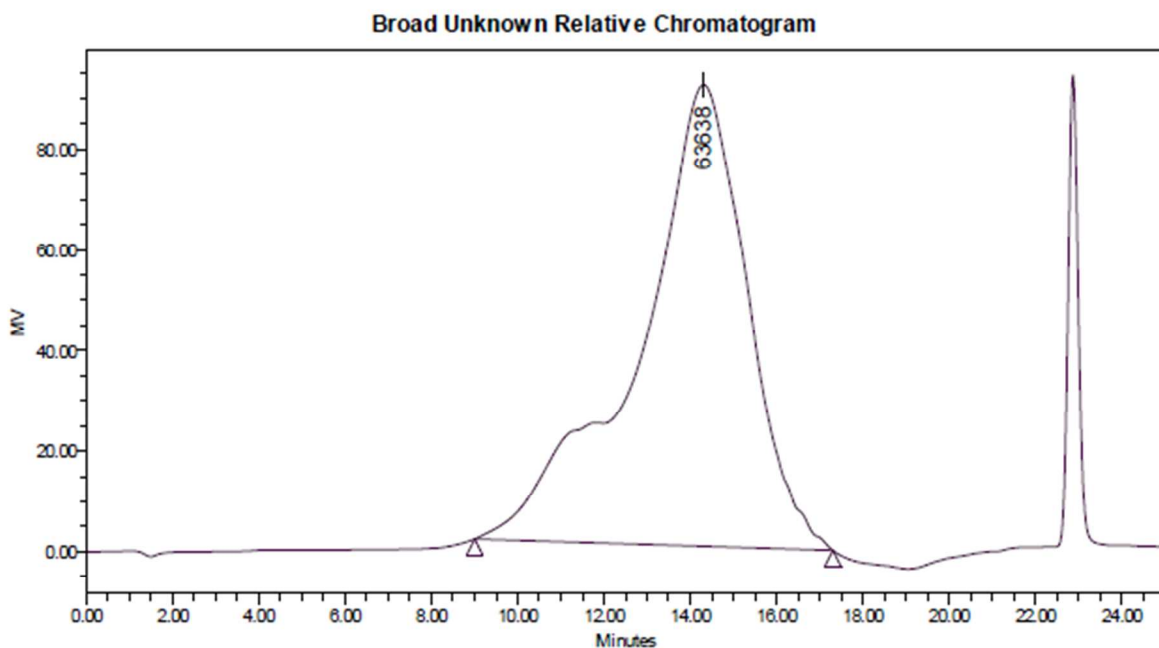


Broad Unknown Relative Peak Table

	Distribution Name	Mn (Daltons)	Mw (Daltons)	MP (Daltons)	Mz (Daltons)	Mz+1 (Daltons)	Polydispersity	Mz/Mw	Mz+1/Mw
1		28046	59939	60964	100099	142914	2.137176	1.670029	2.384344

Figure S7. Gel Permeation Chromatogram of P[T3(C6)-iI(SiO)] in THF

SAMPLE INFORMATION			
Sample Name:	cg16-01	Acquired By:	Breeze
Sample Type:	Broad Unknown	Date Acquired:	3/26/2013 5:13:55 PM EDT
Vial:	2:D,1	Acq. Method:	
Injection #:	1	Date Processed:	3/27/2013 12:12:54 PM EDT
Injection Volume:	50.00 ul	Channel Name:	410
Run Time:	25.00 Minutes	Channel Desc.:	
Column Type:		Sample Set Name:	CG



Broad Unknown Relative Peak Table

	Distribution Name	Mn (Daltons)	Mw (Daltons)	MP (Daltons)	Mz (Daltons)	Mz+1 (Daltons)	Polydispersity	Mz/Mw	Mz+1/Mw
1		48657	265018	63638	1136918	1810811	5.448582	4.289975	6.832797

Figure S8. Gel Permeation Chromatogram of P[T3(C6)-iI(SiO)] in oDCB

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