**Electronic Supplementary Information**

**General Experimental.** All reactions were carried out under a nitrogen atmosphere with the use of standard Schlenk techniques, but no special precautions were taken to exclude oxygen during workup. Solvents were predried and distilled from appropriate drying agents. All reagents and chemicals, unless otherwise stated, were purchased from commercial sources and used without further purification. Preparative TLC was performed on 0.7 mm silica plates (Merck Kieselgel 60 GF254) prepared in our laboratory. Infrared spectra were recorded as CH₂Cl₂ solutions using a Perkin Elmer Paragon 1000 PC or Nicolet Magna 550 Series II FTIR spectrometer. NMR spectra were measured in CDCl₃ on a Jeol EX270 or a Varian Inova 400 MHz FT-NMR spectrometer, with ¹H and ¹³C NMR chemical shifts quoted relative to TMS and ³¹P chemical shifts relative to an 85% H₃PO₄ external standard. Fast atom bombardment (FAB) mass spectra were recorded on a Finnigan MAT SSQ710 mass spectrometer. Electronic absorption spectra were obtained with a HP 8453 UV/Vis spectrometer. For solid-state emission spectral measurements, the 325 nm line of a He-Cd laser was used as an excitation source. The luminescence spectra were analyzed by a 0.25 m focal length double monochromator with a Peltier cooled photomultiplier tube and processed with a lock-in-amplifier. For the low temperature experiments, samples were mounted in a closed-cycle cryostat (Oxford CC1104) in which the temperature can be adjusted from 10 to 330 K. The solution emission spectra were measured on a PTI Fluorescence Master Series QM1 spectrophotometer. The fluorescence quantum yields were determined in CH₂Cl₂ solutions at 290 K against the quinine sulfate standard in 0.1 N H₂SO₄ (Φₕ = 0.54). Phosphorescence quantum yields were measured in solid thin films at 20 K relative to the prototypical polymer trans-[Pt(PBu₃)₂C≡C-p-C₆H₄-C≡C-]₉ (Φₕ = 0.30 at 20 K). The molecular weights of the polymers were determined by GPC (HP 1050 series HPLC with visible wavelength and
fluorescent detectors) using polystyrene standards and thermal analyses were performed with a Perkin-
Elmer Pyris Diamond DSC and Perkin-Elmer DTA-7 thermal analyzers.

**Experimental Procedures and Spectroscopic Data for OFEG**

1a-1c: To a chilled solution of 2,7-diethynyl-9,9-dihexylfluorene I (1.80 g, 4.70 mmol) in dried THF
(20 cm³) at –78 °C, nBuLi (1.6 M in hexane, 7.10 mmol) was added dropwise. The mixture was stirred
for 0.5 h at this temperature and then 1 h at room temperature (r.t.). The resulting solution was again
cooled to –78 °C and a solution of Me₂GeCl₂ (0.3 cm³, 2.40 mmol) in THF (10 cm³) was added over
0.5 h and the reaction mixture was stirred for a further 0.5 h before stirring was continued for another 1
h at r.t.. The volatile components were evaporated and the residue was extracted with CH₂Cl₂. The
filtrate was subjected to preparative TLC isolation on silica plates using n-hexane as the eluent. From
the second (R_f = 0.30), third (R_f = 0.13) and fourth (R_f = 0.06) bands, compounds 1a (310 mg, 15%), 1b
(350 mg, 22%) and 1c (150 mg, 10%) were obtained as pale-yellow to yellow-orange solids. Although
the yields of these oligomers were not very high, the recovered I (20%) could be reused to prepare
more 1a-1c. 1a: pale yellow solid. (Found: C, 83.10; H, 8.15. C₆₀H₁₂₂Ge requires C, 83.23; H, 8.38). IR
(KBr): 3298 (ν≡CH), 2153 and 2104 cm⁻¹ (νC≡C); ¹H NMR (400 MHz): δ 7.62–7.45 (m, 12H, Ar), 3.14 (s,
2H, C≡CH), 1.97 (m, 8H, CH₂), 1.14–1.03 (m, 24H, (CH₂)₃), 0.78–0.73 (m, 18H, CH₃), 0.58 (m, 8H,
CH₂CH₃); ¹³C{¹H} NMR (100.6 MHz): δ 150.76, 150.68, 140.75, 140.55, 130.97, 126.23, 121.54,
120.74, 119.71 (Ar), 105.48, 90.44, 84.32, 77.39 (C≡C), 55.10 (quat C), 40.24, 31.44, 29.59, 23.65,
22.53, 13.94 (C₆H₁₃), 0.99 (CH₃); FAB-MS: m/z 866 [M]+. 1b: yellow solid. (Found: C, 80.92; H, 8.10.
C₉₁H₁₁₀Ge₂ requires C, 81.02; H, 8.22). IR (KBr): 3298 (ν≡CH), 2153 and 2104 cm⁻¹ (νC≡C); ¹H NMR
(400 MHz): δ 7.64–7.61 (m, 6H, Ar), 7.52–7.46 (m, 12H, Ar), 3.16 (s, 2H, C≡CH), 1.97 (m, 12H, CH₂),
1.16–1.04 (m, 36H, (CH₂)₃), 0.82–0.75 (m, 30H, CH₃), 0.57 (m, 12H, CH₂CH₃); ¹³C{¹H} NMR (100.6
MHz): $\delta$ 150.85, 150.78, 140.87, 140.64, 131.07, 126.33, 121.54, 121.48, 120.69, 119.78, 119.74 (Ar), 105.60, 105.55, 90.47, 90.44, 84.44, 77.30 ($C\equiv C$), 55.22 (quat $C$), 40.40, 31.53, 29.66, 23.70, 22.61, 14.00 ($C_6H_{13}$), 1.13 (CH$_3$); FAB-MS: $m/z$ 1349 [$M^+$]. 

1c: yellow-orange solid. (Found: C, 79.72; H, 8.05. $C_{122}H_{148}Ge_3$ requires C, 79.97; H, 8.14). IR (KBr): 3296 ($\nu_{\equiv CH}$), 2153 and 2104 cm$^{-1}$ ($\nu_{C\equiv C}$); 1H NMR (400 MHz): $\delta = 7.64$-$7.61$ (m, 8H, Ar), 7.53-$7.48$ (m, 16H, Ar), 3.16 (s, 2H, $C\equiv CH$), 1.98 (m, 16H, CH$_2$), 1.14-$1.05$ (m, 48H, ($CH_2)_3$), 0.81-$0.76$ (m, 42H, CH$_3$), 0.58 (m, 16H, $CH_2CH_3$); 13C{1H} NMR (100.6 MHz): $\delta = 150.87$, 150.78, 140.90, 140.77, 140.66, 131.13, 126.35, 121.58, 121.50, 120.69, 119.81, 119.75 (Ar), 105.65, 105.59, 90.50, 90.46, 84.49, 77.32 ($C\equiv C$), 55.24 (quat $C$), 40.35, 31.58, 29.72, 23.72, 22.66, 14.05 ($C_6H_{13}$), 1.19 (CH$_3$); FAB-MS: $m/z$ 1832 [$M^+$].

2a-2c: To a chilled solution of I (1.00 g, 4.90 mmol) in dried THF (20 cm$^3$) at $–78$ °C, $n$BuLi (1.6 M in hexane, 6.70 mmol) was added dropwise under N$_2$. The mixture was stirred for 0.5 h at this temperature and then 1 hr at r.t. The resulting solution was again cooled to $–78$ °C and a solution of Ph$_2$GeCl$_2$ (0.5 cm$^3$, 2.50 mmol) in THF (10 cm$^3$) was added dropwise over 0.5 h and the reaction mixture was stirred for a further 0.5 h before stirring was continued for another 1 h at r.t.. The volatile components were evaporated and the residue was extracted with CH$_2$Cl$_2$. The filtrate was concentrated and purified by preparative TLC on silica plates eluting with n-hexane/CH$_2$Cl$_2$ (4:1, v/v). From the second ($R_f = 0.48$), third ($R_f = 0.30$) and fourth ($R_f = 0.20$) fluorescent bands, pure samples of compounds 2a (250 mg, 10%), 2b (220 mg, 11%) and 2c (173 mg, 10%) were obtained. The starting 2,7-diethynyl-9,9-dihexylfluorene was also recovered in a pure form from the top band (16 %). 2a: yellow-orange solid. (Found: C, 84.82; H, 7.55. $C_{70}H_{76}Ge$ requires C, 84.93; H, 7.74). IR (KBr): 3298 ($\nu_{\equiv CH}$), 2156 and 2107 cm$^{-1}$ ($\nu_{C\equiv C}$); 1H NMR (400 MHz): $\delta 7.90$-$7.86$ (m, 4H, Ar), 7.67-7.48 (m, 18H,
Experimental Procedures and Spectroscopic Data for Platinum(II) Polyynes

3a-3c: Cul (3.0 mg) was added to a mixture of 1a (80.0 mg, 0.09 mmol) and trans-[PtCl₂(PBu₃)₂] (62.0 mg, 0.09 mmol) in ‘Pr₂NH/CH₂Cl₂ (20 cm³, 1:1, v/v). The yellow solution was stirred at r.t. over 15 h,
after which all solvents were evaporated off. The residue was redissolved in CH$_2$Cl$_2$, and filtered
through a silica column using the same eluent. The polymer film obtained was purified by precipitation
in toluene from MeOH to afford a yellow solid of 3a (94.0 mg, 71 %). Polymers 3b and 3c can be
synthesized from 1b and 1c using the same procedures with isolated yields of 52 and 47%, respectively.

3a: yellow powder. (Found: C, 68.78; H, 8.44. (C$_{84}$H$_{124}$Ge$_2$Pt)$_n$ requires C, 68.94; H, 8.54). IR
(CH$_2$Cl$_2$): 2153 and 2095 cm$^{-1}$ ($\nu_{C\equiv C}$); $^1$H NMR (400 MHz): $\delta$ 7.53–7.45 (m, 4H, Ar), 7.24–7.17 (m, 8H, Ar), 2.20 (m, 12H, PCH$_2$ of Bu), 1.91 (m, 8H, CH$_2$ of Hex), 1.67 (m, 12H, PCH$_2$CH$_2$ of Bu), 1.50–1.46 (m, 12H, CH$_2$CH$_3$ of Bu), 1.10–0.92 (m, 42H, CH$_3$ of Bu + (CH$_2$)$_3$ of Hex), 0.80–0.77 (m, 18H, CH$_3$ of Hex + GeMe), 0.59 ppm (m, 8H, CH$_2$CH$_3$ of Hex); $^{13}$C{$^1$H} NMR (100.6 MHz): $\delta$ 150.68, 150.52, 141.88, 137.36, 131.12, 129.69, 128.98, 128.17, 126.26, 125.25, 119.51, 119.06 (Ar), 110.25, 108.81, 106.05, 89.86 (C=C), 54.83 (quat C), 40.57, 31.56, 29.75, 23.79, 22.62, 13.97 (Hex), 26.36, 24.13, 22.62, 13.81 (Bu), 1.11 (Me); $^{31}$P{$^1$H} NMR (161.9 MHz): $\delta$ 3.99 ($J_{P, Pt}$ = 2352 Hz).

3b: yellow powder. (Found: C, 70.69; H, 8.24. (C$_{115}$H$_{162}$Ge$_2$Pt)$_n$ requires C, 70.95; H, 8.39). IR (CH$_2$Cl$_2$): 2153 and 2096 cm$^{-1}$ ($\nu_{C\equiv C}$); $^1$H NMR (400 MHz): $\delta$ 7.62–7.46 (m, 12H, Ar), 7.26–7.17 (m, 6H, Ar), 2.19 (m, 12H, PCH$_2$

3c: yellow powder. (Found: C, 72.02; H, 8.20. (C$_{146}$H$_{200}$Ge$_3$P$_2$Pt)$_n$ requires C, 72.17; H, 8.30). IR (CH$_2$Cl$_2$): 2153 and 2096 cm$^{-1}$ ($\nu_{C\equiv C}$); $^1$H NMR (400
6 MHz): $\delta$ 7.63-7.46 (m, 18H, Ar), 7.25-7.23 (m, 6H, Ar), 2.18 (m, 12H, PCH$_2$ of Bu), 1.89 (m, 12H, CH$_2$ of Hex), 1.62 (m, 12H, PCH$_2$CH$_2$ of Bu), 1.50-1.42 (m, 12H, CH$_2$CH$_3$ of Bu), 1.12-0.90 (m, 66H, CH$_3$ of Bu + (CH$_2$)$_3$ of Hex), 0.78-0.73 (m, 42H, CH$_3$ of Hex + GeMe), 0.53 (m, 16H, CH$_2$CH$_3$ of Hex); $^{13}$C{$_1^H$} NMR (100.6 MHz): $\delta$ 150.92, 150.69, 150.55, 141.94, 140.95, 140.91, 137.35, 131.25, 131.15, 129.73, 128.12, 126.41, 126.26, 125.15, 121.58, 121.50, 120.19, 119.84, 119.54, 119.09 (Ar), 110.25, 106.16, 105.72, 105.63, 90.62, 90.44, 89.71 (C≡C), 55.23, 54.85 (quat C), 40.59, 40.43, 31.56, 29.77, 29.68, 23.79, 22.61, 13.99 (Hex), 26.37, 24.45, 23.64, 13.84 (Bu), 1.23, 1.13 (Me); $^{31}$P{$_1^H$} NMR (161.9 MHz): $\delta$ 3.97 ($J_{P,P}$ = 2354 Hz).

4a-4c: Polymerization was carried out by mixing 2a (40.0 mg, 0.04 mmol), trans-[PtCl$_2$(PBu$_3$)$_2$] (27.1 mg, 0.04 mmol) and Cul (3.0 mg) in iPr$_2$NH/CH$_2$Cl$_2$ (20 cm$^3$, 1:2, v/v). After stirring at r.t. for 15 h, the solution mixture was evaporated to dryness. The residue was redissolved in CH$_2$Cl$_2$, and filtered through a silica column using the same eluent to remove ionic impurities and catalyst residues. After removal of the solvent, the crude product was purified by precipitation in toluene from MeOH. Subsequent washing with n-hexane and drying in vacuo gave a pure sample of 4a (28.0 mg, 44 %). Similar synthetic methodologies can be employed to give polymers 4b (41%) and 4c (65%) based on 2b and 2c, respectively. 4a: yellow-orange powder. (Found: C, 71.04; H, 8.04. (C$_{94}$H$_{128}$GeP$_2$Pt)$_n$ requires C, 71.11; H, 8.13). IR (CH$_2$Cl$_2$): 2154 and 2095 cm$^{-1}$ ($\nu$$_{C=C}$); $^1$H NMR (400 MHz): $\delta$ 7.87 (m, 4H, Ar), 7.57-7.48 (m, 12H, Ar), 7.25-7.18 (m, 6H, Ar), 2.20 (m, 12H, PCH$_2$ of Bu), 1.91 (m, 8H, CH$_2$ of Hex), 1.65 (m, 12H, PCH$_2$CH$_2$ of Bu), 1.52-1.45 (m, 12H, CH$_2$CH$_3$ of Bu), 1.14-0.93 (m, 42H, CH$_3$ of Bu + (CH$_2$)$_3$ of Hex), 0.77 (t, $J$ = 7.2 Hz, 12H, CH$_3$ of Hex), 0.58 (m, 8H, CH$_2$CH$_3$ of Hex); $^{13}$C{$_1^H$} NMR (100.6 MHz): $\delta$ 150.80, 150.61, 142.17, 137.31, 134.60, 133.96, 131.44, 129.91, 129.73, 129.01,
128.55, 128.20, 126.44, 125.16, 119.63, 119.12 (Ar), 110.29, 108.49, 86.41 (C≡C), 54.90 (quat C), 40.52, 31.56, 29.74, 24.01, 22.64, 14.00 (Hex), 26.40, 24.44, 23.65, 13.83 (Bu); $^{31}$P {$^1$H} NMR (161.9 MHz): $\delta$ 4.02 ($J_{P,Pt} = 2348$ Hz). **4b**: yellow-orange powder. (Found: C, 73.58; H, 7.60. (C$_{135}$H$_{170}$Ge$_2$P$_2$Pt)$_n$ requires C, 73.87; H, 7.81). IR (CH$_2$Cl$_2$): 2155 and 2095 cm$^{-1}$ ($\nu$C≡C); $^1$H NMR (400 MHz): $\delta$7.87-7.85 (m, 6H, Ar), 7.63-7.47 (m, 24H, Ar), 7.26-7.19 (m, 8H, Ar), 2.18 (m, 12H, PCH$_2$ of Bu), 1.92 (m, 12H, CH$_2$ of Hex), 1.65 (m, 12H, PCH$_2$CH$_2$ of Bu), 1.51-1.43 (m, 12H, CH$_2$CH$_3$ of Bu), 1.10-0.90 (m, 54H, CH$_3$ of Bu + (CH$_2$)$_3$ of Hex), 0.76 (t, $J$ = 7.2 Hz, 18H, CH$_3$ of Hex), 0.56 (m, 12H, CH$_2$CH$_3$ of Hex); $^{13}$C {$^1$H} NMR (100.6 MHz): $\delta$ 150.88, 150.62, 150.46, 142.11, 141.00, 137.18, 134.36, 133.85, 131.43, 131.34, 129.87, 129.63, 128.92, 128.48, 128.12, 126.50, 126.32, 125.19, 125.08, 121.34, 119.89, 119.83, 119.53, 119.02 (Ar), 108.54, 107.91, 87.19, 86.20 (C≡C), 55.34, 54.93 (quat C), 40.60, 40.41, 31.64, 31.61, 29.84, 29.72, 24.30, 24.06, 22.74, 22.70, 14.12 (Hex), 26.47, 24.55, 23.74, 13.96 (Bu); $^{31}$P {$^1$H} NMR (161.9 MHz): $\delta$3.98 ($J_{P,Pt} = 2349$ Hz). **4c**: yellow-orange solid. (Found: C, 75.08; H, 7.45. (C$_{176}$H$_{212}$Ge$_3$P$_2$Pt)$_n$ requires C, 75.43; H, 7.62). IR (CH$_2$Cl$_2$): 2155 and 2093 cm$^{-1}$ ($\nu$C≡C); $^1$H NMR (400 MHz): $\delta$7.78 (m, 18H, Ar), 7.57-7.39 (m, 34H, Ar), 7.18-7.07 (m, 12H, Ar), 2.08 (m, 12H, PCH$_2$ of Bu), 1.85 (m, 16H, CH$_2$ of Hex), 1.57 (m, 12H, PCH$_2$CH$_2$ of Bu), 1.38 (m, 12H, CH$_2$CH$_3$ of Bu), 1.02-0.85 (m, 66H, CH$_3$ of Bu + (CH$_2$)$_3$ of Hex), 0.68 (m, 24H, CH$_3$ of Hex), 0.47 (m, 16H, CH$_2$CH$_3$ of Hex); $^{13}$C {$^1$H} NMR (100.6 MHz): $\delta$151.30, 151.03, 150.87, 142.50, 141.44, 141.37, 138.11, 137.55, 134.73, 134.59, 134.22, 131.81, 130.27, 130.00, 129.28, 128.84, 128.47, 126.85, 125.54, 121.72, 121.64, 120.19, 119.88, 119.37 (Ar), 110.54, 108.87, 108.33, 108.26, 87.51, 87.34, 86.51 (C≡C), 55.58, 55.16 (quat C), 40.81, 40.60, 31.83, 31.78, 30.02, 29.90, 26.35, 24.23, 24.06, 22.91, 22.86, 14.26 (Hex), 26.64, 24.72, 23.91, 14.11 (Bu); $^{31}$P {$^1$H} NMR (161.9 MHz): $\delta$4.02 ($J_{P,Pt} = 2348$ Hz).
Preparation and Spectroscopic Data of \([-\text{C}≡\text{C}(9,9\text{-dihexylfluorene-2,7-diyl})\text{C}≡\text{CGePh}_2]-_n\]

A dried two-necked flask, equipped with a condenser and magnetic stirrer bar was charged with Ph$_2$Ge(C≡CH)$_2$ (54.5 mg, 0.20 mmol), 9,9-dihexyl-2,7-diiodofluorene (115.5 mg, 0.20 mmol), CuI (5.0 mg) and Pd(PPh$_3$)$_4$ (20.0 mg). The flask was evacuated and filled with nitrogen. iPr$_2$NH (15 cm$^3$) and THF (15 cm$^3$) were then added via syringe. The reaction mixture was stirred at 75 °C for 20 h. After the reaction mixture was cooled to r.t., the precipitate was removed by filtration and solvents of the filtrate were pumped off. The residue was dissolved in CH$_2$Cl$_2$ and the solution was passed through a silica gel chromatography column eluting with CH$_2$Cl$_2$. The solution was concentrated and added dropwise into methanol with vigorous stirring. The yellow precipitate was collected and dried under vacuum. Yield: 83.1 mg (69%). (Found: C, 80.78; H, 6.77. (C$_{41}$H$_{42}$Ge)$_n$ requires C, 81.08; H, 6.97). IR (KBr): 2155 cm$^{-1}$ ($\nu_{C≡C}$); $^1$H NMR (400 MHz): $\delta$ 7.87–7.30 (m, 16H, Ar), 1.96 (m, 4H, CH$_2$), 1.11–1.03 (m, 12H, (CH$_2$)$_3$), 0.76 (t, $J = 6.8$ Hz, 6H, CH$_3$), 0.55 (m, 4H, CH$_2$CH$_3$); $^{13}$C{$^1$H} NMR (100.6 MHz): $\delta$151.03, 141.14, 140.25, 133.94, 131.54, 129.97, 128.58, 126.56, 122.85, 119.93 (Ar), 108.06, 87.07 (C≡C), 55.30 (quat C), 40.34, 31.51, 29.68, 23.64, 22.59, 13.99 (C$_6$H$_{13}$). GPC (THF): $M_w = 8850$, $M_n = 6700$, DP = 15; $\lambda_{abs}$ (CH$_2$Cl$_2$): 298, 309, 329, 346 nm; TGA (N$_2$): $T_{dec} = 419$ °C.
Calculations for $k_{nr}$ and $k_r$

Since the intersystem crossing (ISC) efficiency ($\Phi_{ISC}$) can be roughly taken to be unity for third row metal chromophores, the radiative ($k_r$) and nonradiative ($k_{nr}$) decay rates are related to the measured lifetime of triplet emission ($\tau_P$) and the phosphorescence quantum yield ($\Phi_P$) by Eqs. (1) and (2):

$$k_{nr} = (1 - \Phi_P)/\tau_P \quad \text{[Eq. (1)]}$$

$$k_r = \Phi_P/\tau_P \quad \text{[Eq. (2)]}$$

X-ray Crystallographic Details

Light yellow crystals of 1a and 2a suitable for X-ray diffraction studies were grown by slow evaporation of their solutions in CH$_2$Cl$_2$/hexane at room temperature. Geometric and intensity data were collected at 293 K using graphite-monochromated Mo-K\(\alpha\) radiation ($\lambda = 0.71073$ Å) on a Bruker Axs SMART 1000 CCD diffractometer. The collected frames were processed with the software SAINT and an absorption correction (SADABS) was applied to the collected reflections. The structure was solved by the Direct methods (SIR92) in conjunction with standard difference Fourier techniques and subsequently refined by full-matrix least-squares analyses on $F$ using the software “CRYSTALS”. Except for some of the carbon atoms in the hexyl chains of 1a, all non-hydrogen atoms were assigned with anisotropic displacement parameters. Hydrogen atoms were generated in their idealized positions and allowed to ride on the parent carbon atoms.
Fig. S1 ORTEP plot (at the 25% probability level) of 1a. Selected bond lengths [Å] and angles [°]:

Ge(1)-C(29) 1.90(1), Ge(1)-C(32) 1.87(1), C(1)-C(2) 1.16(2), C(28)-C(29) 1.20(2), C(32)-C(33) 1.21(2), C(59)-C(60) 1.13(2); Ge(1)-C(29)-C(28) 175.6(8), Ge(1)-C(32)-C(33) 176(1).
Fig. S2 ORTEP plot (at the 25% probability level) of 2a. Selected bond lengths [Å] and angles [°]: Ge(1)-C(29) 1.904(3), C(1)-C(2) 1.144(6), C(28)-C(29) 1.191(5); Ge(1)-C(29)-C(28) 176.5(3).
Fig. S3 Photoluminescence spectra of 1a-1c in CH$_2$Cl$_2$ at room temperature.
Fig. S4 Photoluminescence spectra of 2a-2c in CH$_2$Cl$_2$ at room temperature.
**Fig. S5** Absorption (⋅⋅⋅) and emission (→) spectra of 1a and 3a. The emission spectrum of 3a was taken at 77 K.
**Fig. S6** Absorption (---) and emission (→) spectra of 1b and 3b. The emission spectrum of 3b was taken at 77 K.
**Fig. S7** Absorption (· · · ) and emission (→) spectra of 1c and 3c. The emission spectrum of 3c was taken at 77 K.
Fig. S8  Temperature dependence of the photoluminescence of 3c.
Table S1: Structural and thermal properties of 3a-3c and 4a-4c

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<th>$M_n^a$</th>
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<th>$T_{dec} {^\circ}C$</th>
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<th>$E_{gap}/eV$</th>
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<td>3.04</td>
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$^a$ Calibration against polystyrene. $^b$ In CH$_2$Cl$_2$. $^c$ In solid film at 77 K. $^d$ $\Phi_P$ (%) in parentheses.

Table S2: Structural and thermal properties of 6a-6c

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<th>Polymer</th>
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<th>$M_n^a$</th>
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<th>$\lambda_{em}/nm$ (film)$^b$</th>
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<td>8550</td>
<td>14620</td>
<td>10</td>
<td>420, 550</td>
<td>2.12</td>
<td>0.10</td>
<td>$4.2 \times 10^5$</td>
<td>$4.8 \times 10^4$</td>
</tr>
<tr>
<td>6b</td>
<td>10010</td>
<td>16300</td>
<td>8</td>
<td>420, 550</td>
<td>3.02</td>
<td>0.12</td>
<td>$2.9 \times 10^5$</td>
<td>$4.1 \times 10^4$</td>
</tr>
<tr>
<td>6c</td>
<td>11270</td>
<td>16000</td>
<td>6</td>
<td>414, 545</td>
<td>5.67</td>
<td>0.13</td>
<td>$1.5 \times 10^5$</td>
<td>$2.4 \times 10^4$</td>
</tr>
</tbody>
</table>

$^a$ Calibration against polystyrene. $^b$ At 77 K.