

**Poly(3,6-silafluorene-co-2,7-fluorene)-Based High-Efficiency and  
Color-Pure Blue Light-Emitting Polymers with Extremely Narrow  
Band-Width and High Spectral Stability**

Supplementary information

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**Supporting information**

**Fig. S1.** <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) spectrum of 2,2'-dinitrobiphenyl (**1**).

**Fig. S2.** <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>) spectrum of 2,2'-dinitrobiphenyl (**1**).

**Fig. S3.** <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) spectrum of *N,N'*-biphenyl-2,2'-diylbiacetamide (**3**).

**Fig. S4.** <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>) spectrum of *N,N'*-biphenyl-2,2'-diylbiacetamide (**3**).

**Fig. S5.** <sup>1</sup>H NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of

*N,N'*-(5,5'-dibromobiphenyl-2,2'-diyl)biacetamide (**4**).

**Fig. S6.** <sup>13</sup>C NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of

*N,N'*-(5,5'-dibromobiphenyl-2,2'-diyl)biacetamide (**4**).

**Fig. S7.** <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) spectrum of 5,5'-dibromo-2,2'-diiodobiphenyl (**6**).

**Fig. S8.** <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>) spectrum of 5,5'-dibromo-2,2'-diiodobiphenyl (**6**).

**Fig. S9.** <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) spectrum of 3,6-dibromo-9,9-dioctylsilafluorene (**7**).

**Fig. S10.**  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) spectrum of 3,6-dibromo-9,9-dioctylsilafuorene (**7**).

**Fig. S11.**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of PSiFF50.

**Fig. S12.**  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) spectrum of PSiFF50.

**Fig. S13.** TGA of PSiFF50.

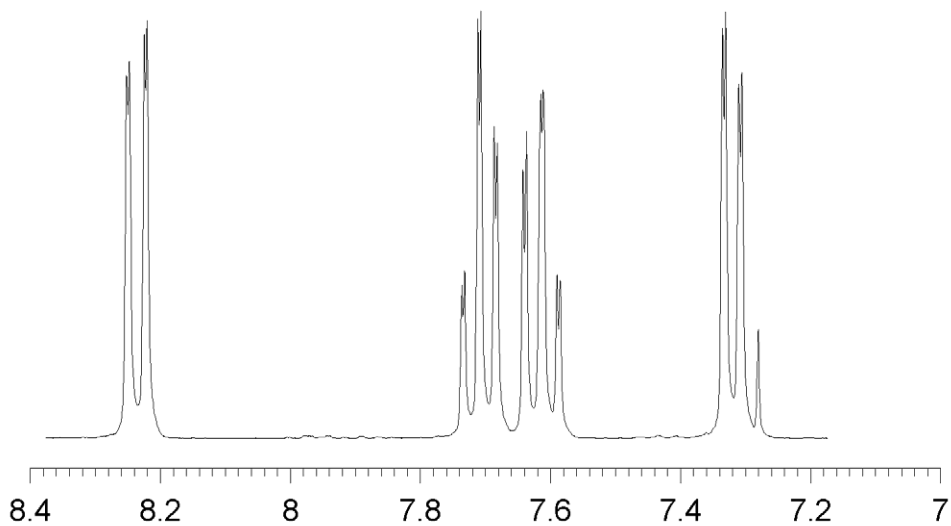
**Fig. S14.** TGA of PSiFF70.

**Fig. S15.** TGA of PSiFF90.

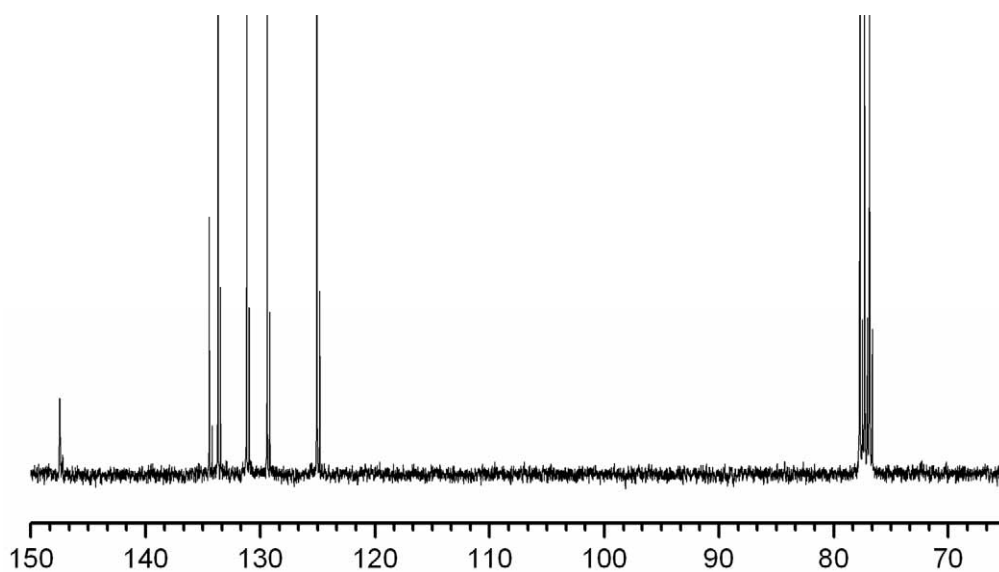
**Fig. S16.** TGA of PSiFF95.

**Fig. S17.** DSC heating curves of the copolymers (scanning rate:  $10\text{ }^\circ\text{C min}^{-1}$ ).

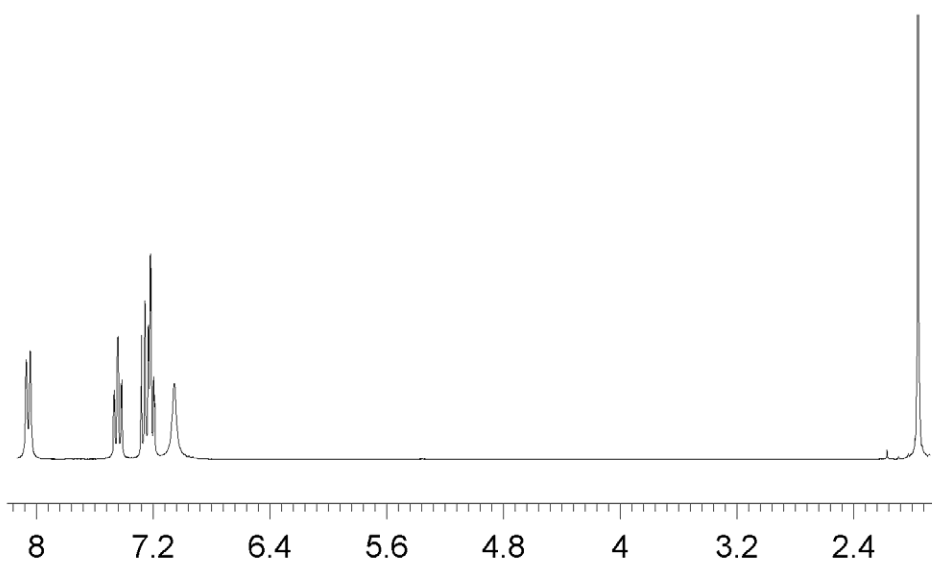
**Fig. S18.** Cyclic voltammograms of the polymers.



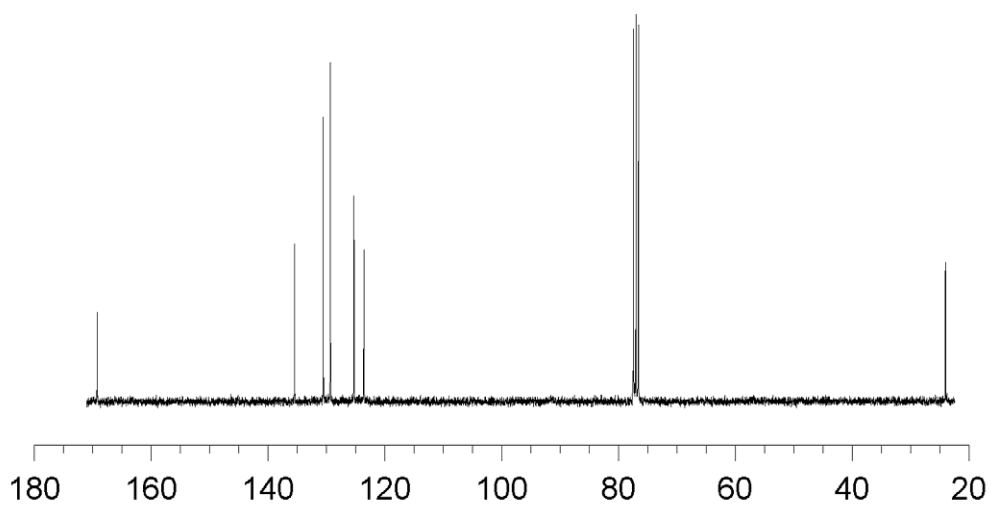
**Fig. S1.**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of 2,2'-dinitrobiphenyl (**1**).



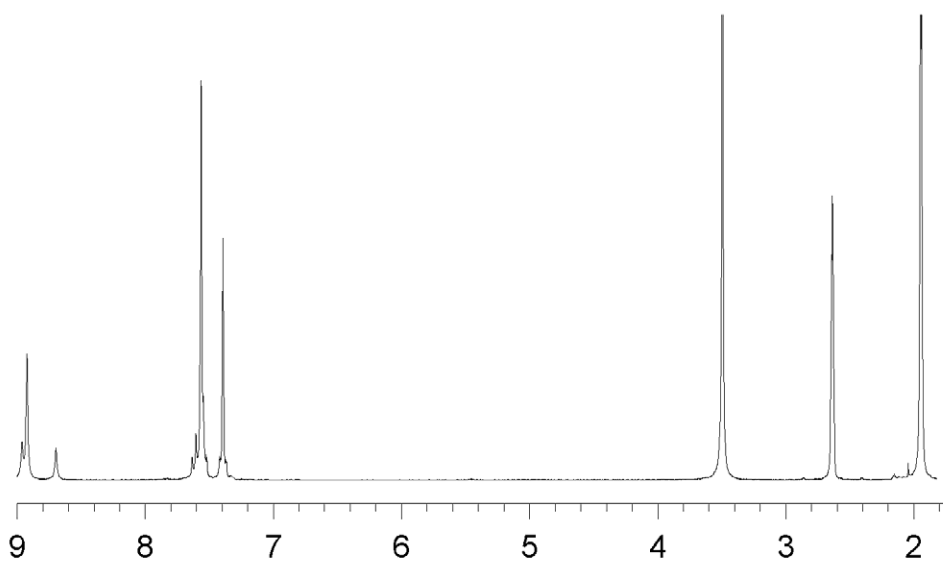
**Fig. S2.**  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) spectrum of 2,2'-dinitrophenyl (**1**).



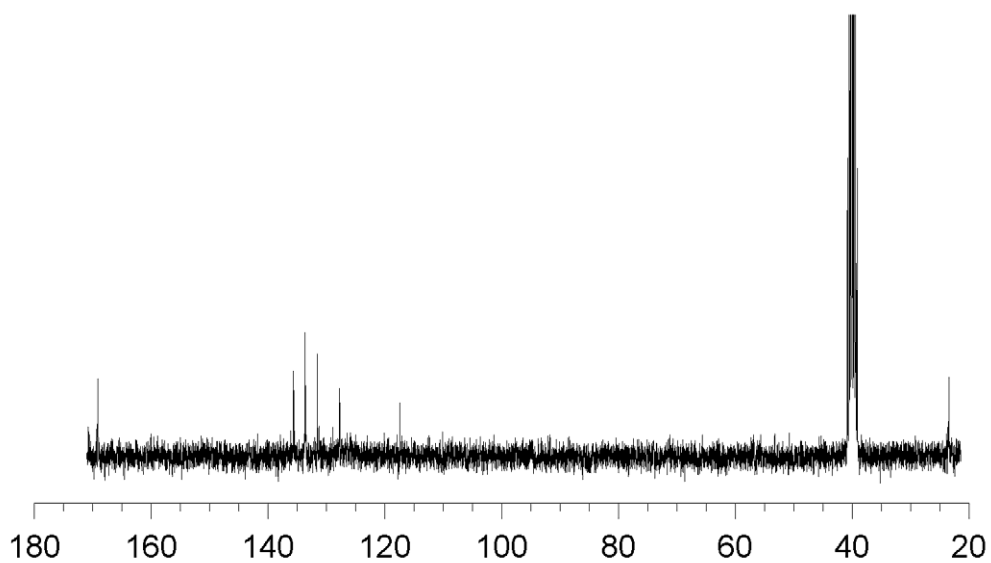
**Fig. S3.**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of *N,N'*-biphenyl-2,2'-diylbiacetamide (**3**).



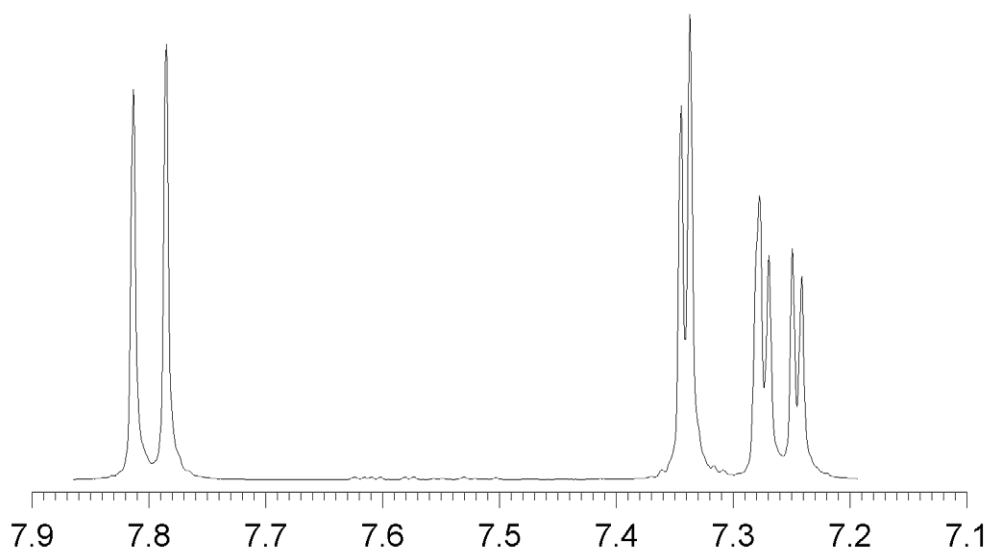
**Fig. S4.** <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>) spectrum of *N,N'*-biphenyl-2,2'-diylbiacetamide (**3**).



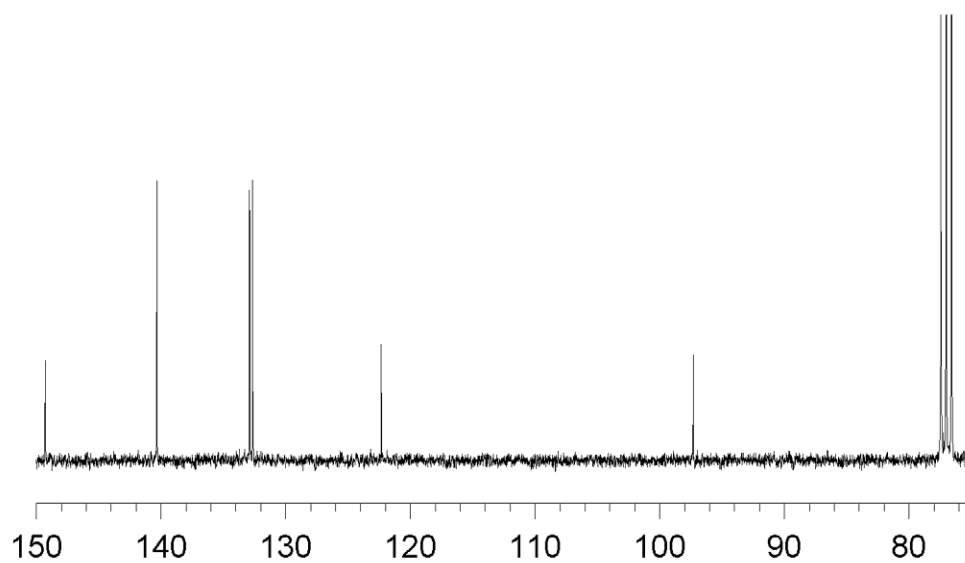
**Fig. S5.** <sup>1</sup>H NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of *N,N'*-(5,5'-dibromobiphenyl-2,2'-diyl)biacetamide (**4**).



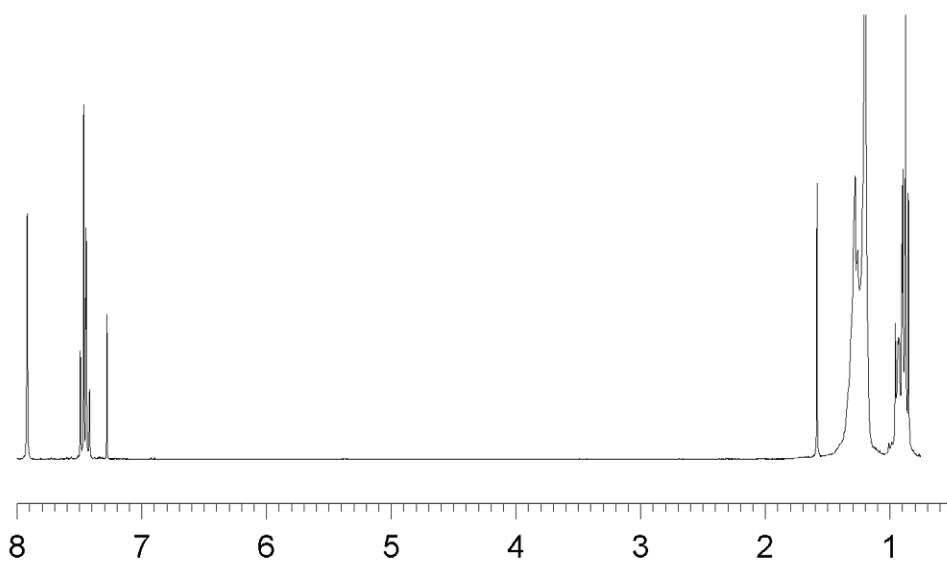
**Fig. S6.** <sup>13</sup>C NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of *N,N'*-(5,5'-dibromobiphenyl-2,2'-diyl)biacetamide (**4**).



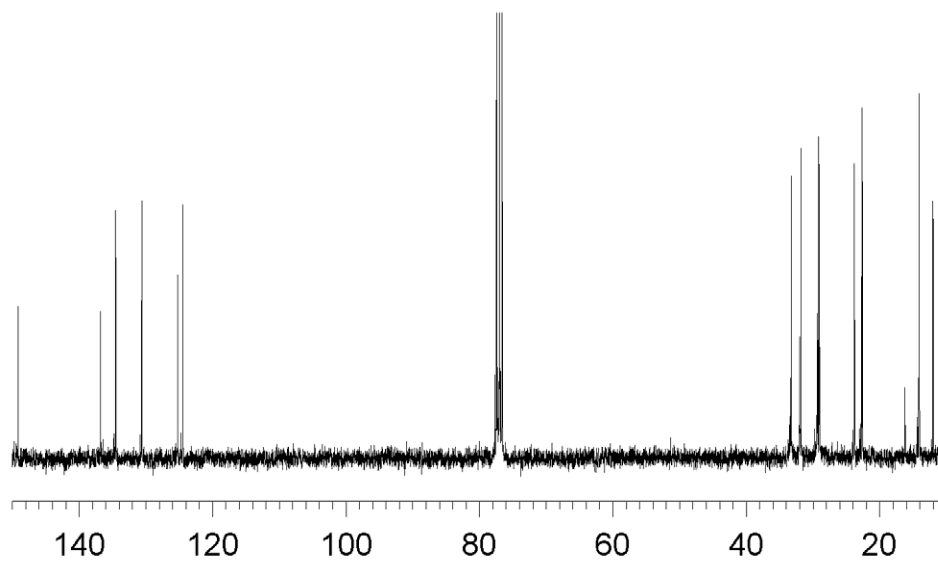
**Fig. S7.** <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) spectrum of 5,5'-dibromo-2,2'-diiodobiphenyl (**6**).



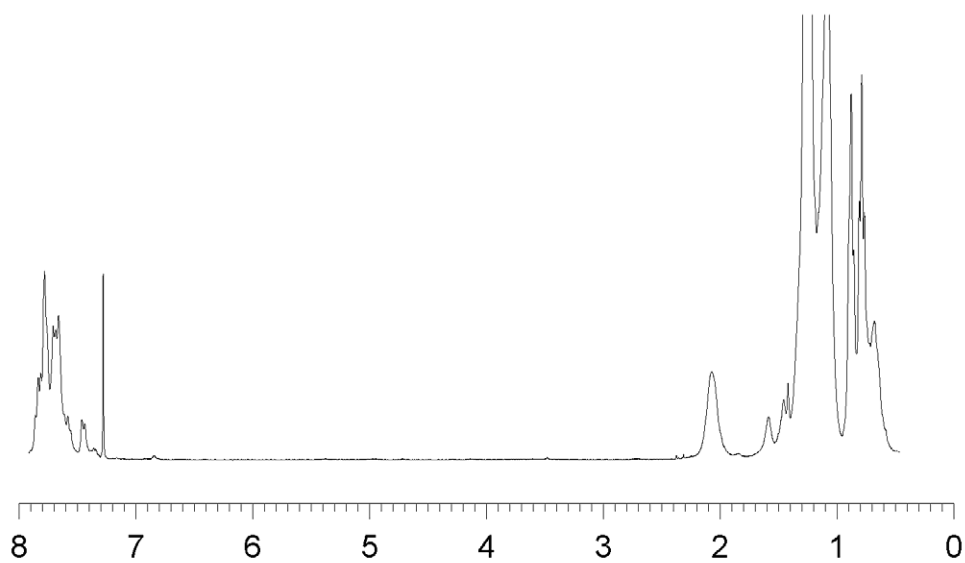
**Fig. S8.**  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) spectrum of 5,5'-dibromo-2,2'-diiodobiphenyl (**6**).



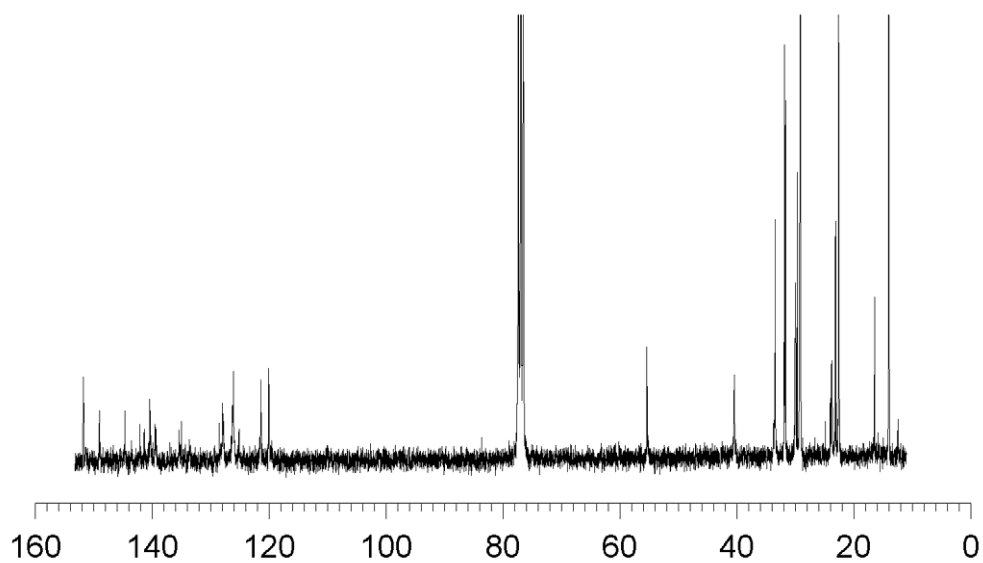
**Fig. S9.**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of 3,6-dibromo-9,9-dioctylsilafluorene (**7**).



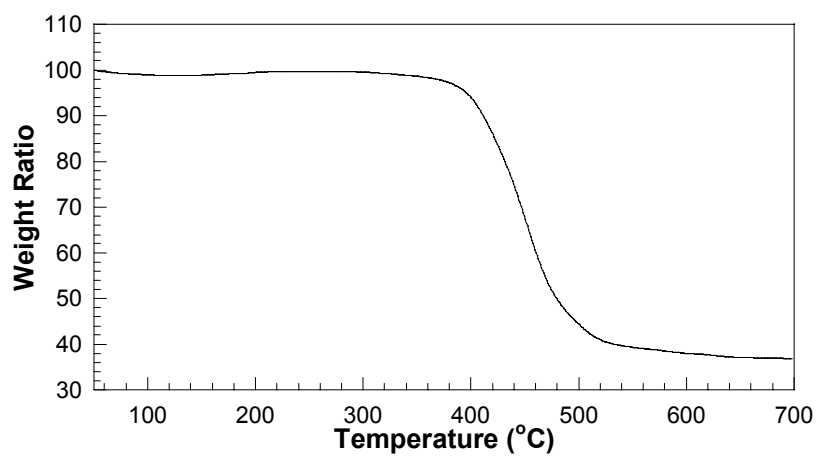
**Fig. S10.**  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) spectrum of 3,6-dibromo-9,9-dioctylsilafluorene (7).



**Fig. S11.**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of PSiFF50.

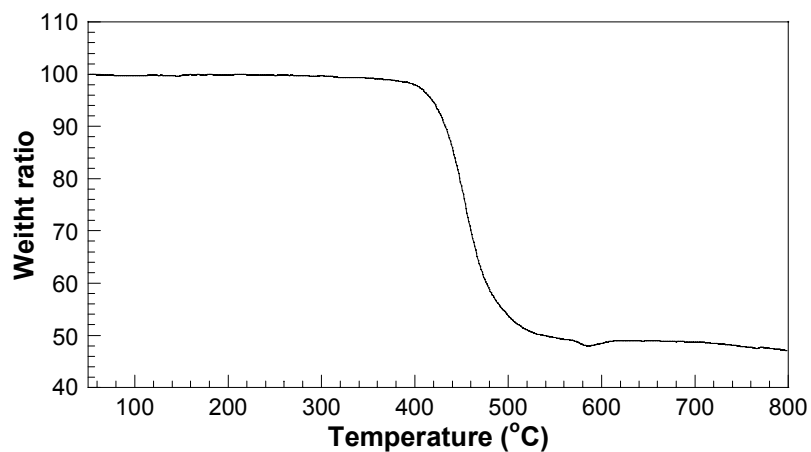


**Fig. S12.**  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) spectrum of PSiFF50.

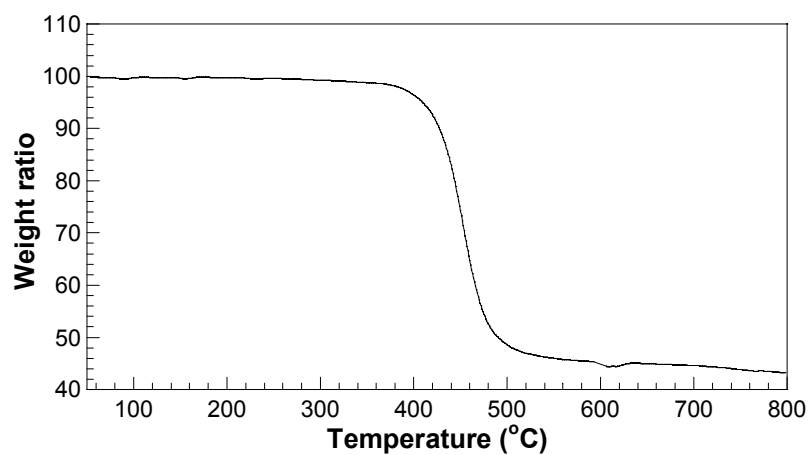


**Fig. S13.** TGA of PSiFF50.

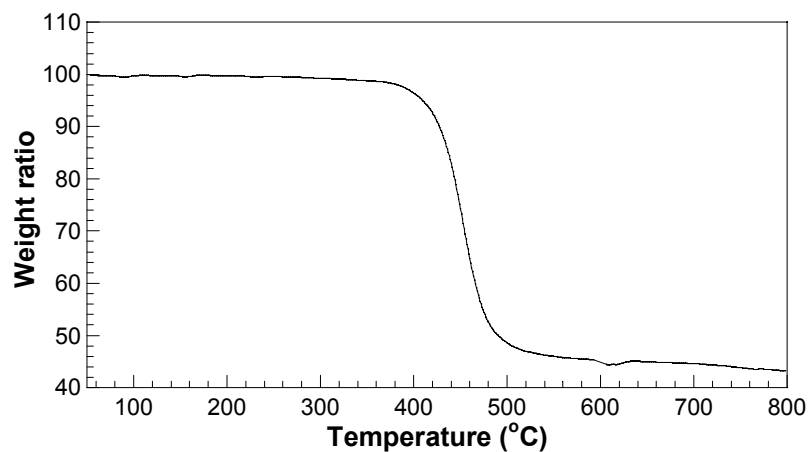




**Fig. S14.** TGA of PSiFF70.



**Fig. S15.** TGA of PSiFF90.



**Fig. S16.** TGA of PSiFF95.

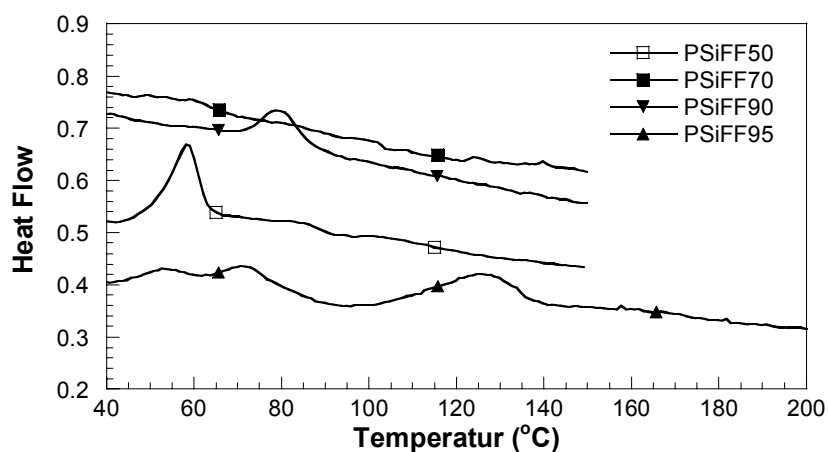


Fig. S17. DSC heating curves of the copolymers (scanning rate: 10 °C min<sup>-1</sup>).

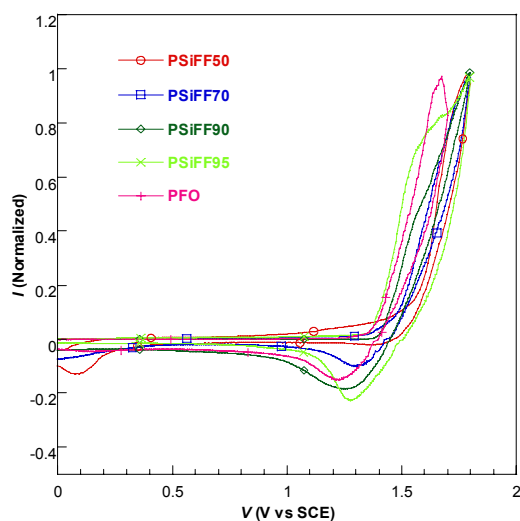


Fig. S18. Cyclic voltammograms of the polymers.