Supplementary Information

Fluorene-based hyperbranched copolymers with spiro[3.3]heptane-2,6-dispirofluorene as the conjugation-uninterrupted branching point and their application in WPLEDs

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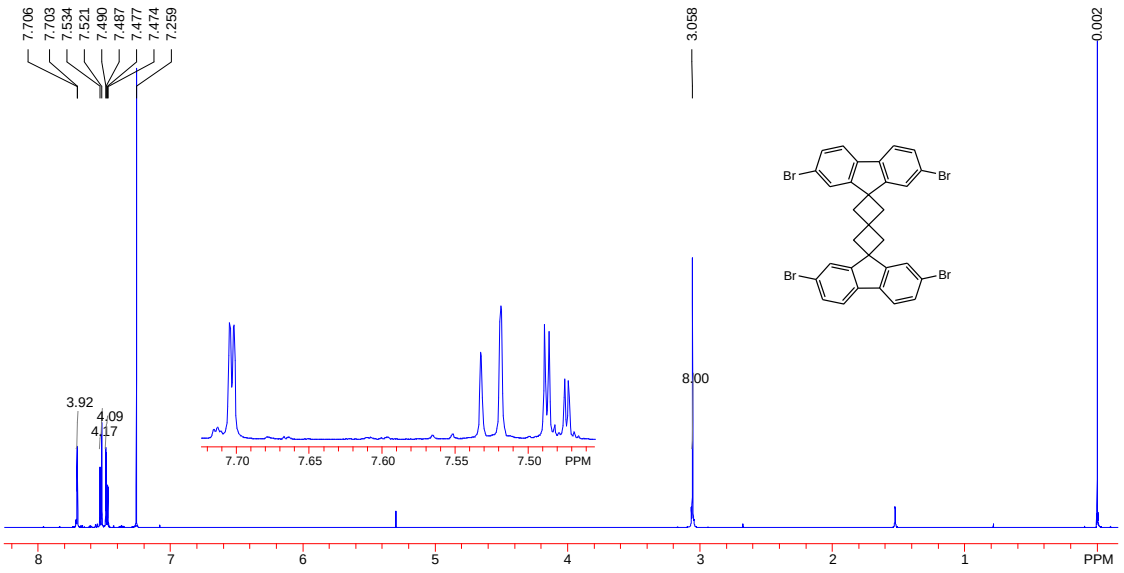

Figure S1. ^{1}H NMR spectrum of **TBrSDF**.

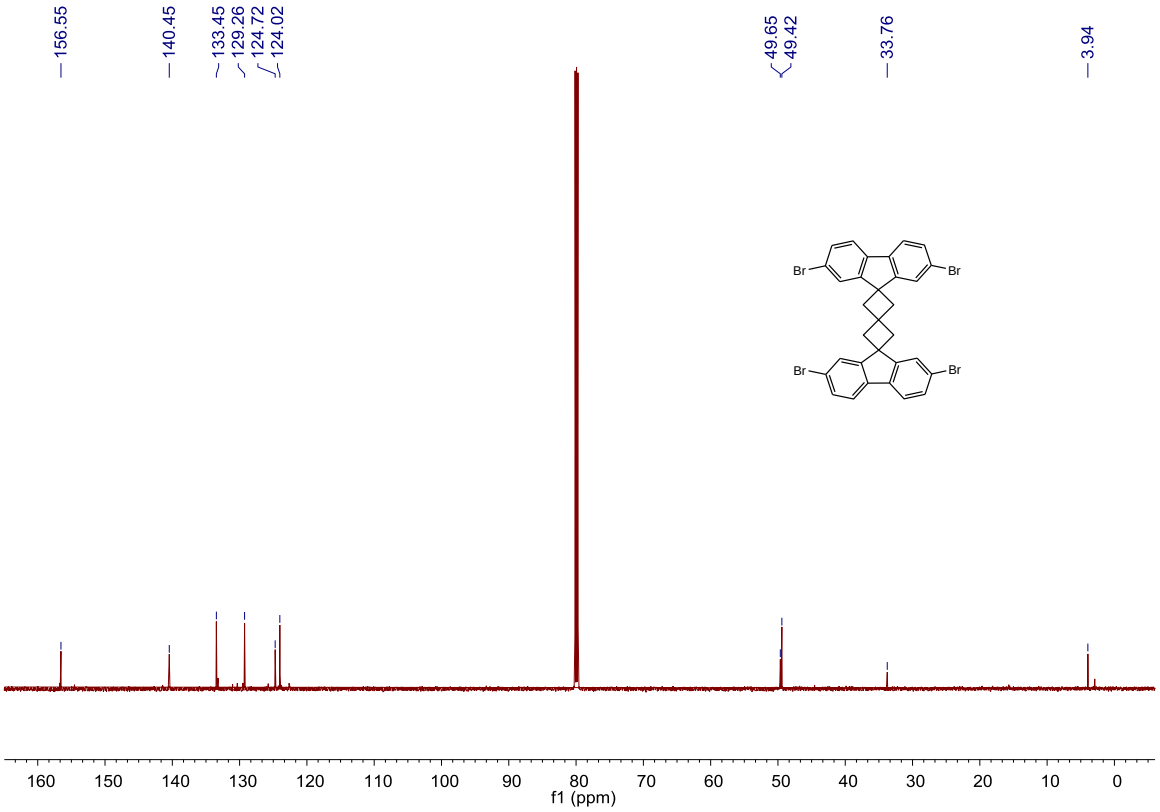

Figure S2. ^{13}C NMR spectrum of **TBrSDF**.

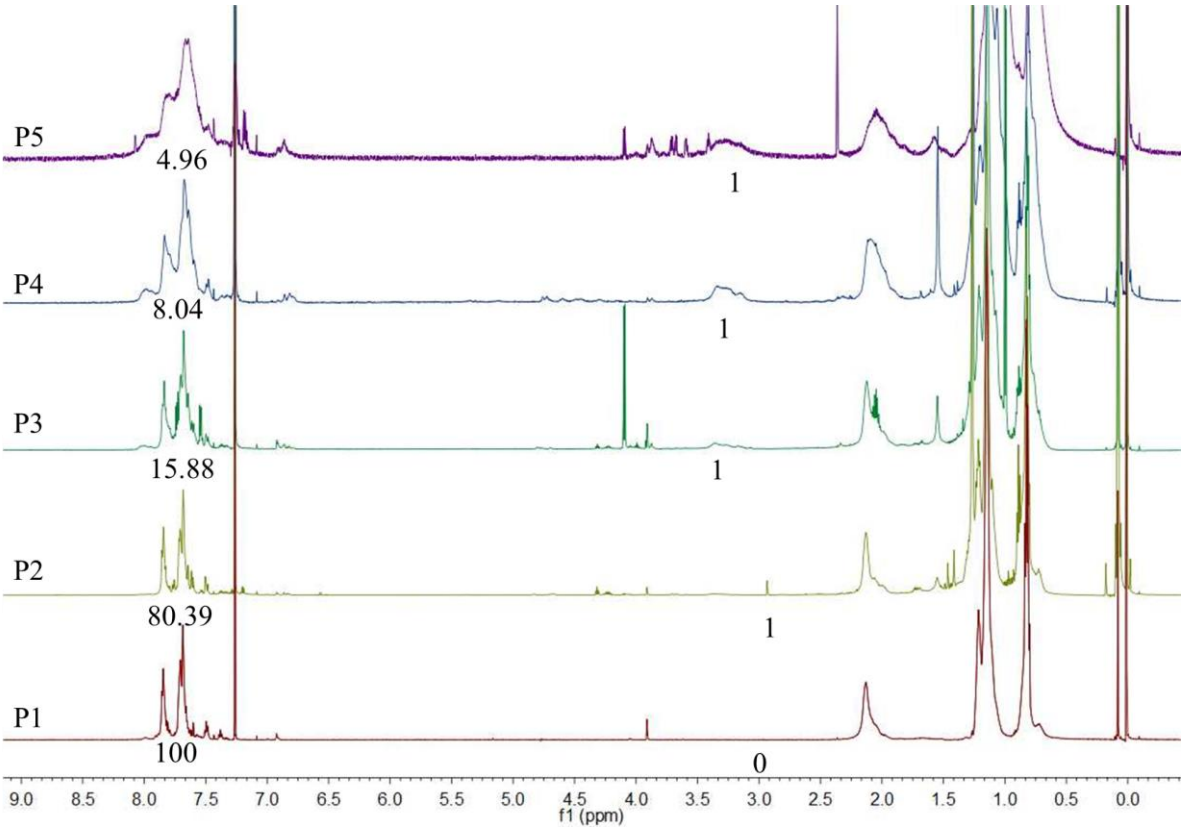

Figure S3. ^{1}H NMR spectra of the copolymers.

Table 1. Polymerization results of the copolymers

Copolymer	n_{TBrSDF} [a]		n_{TBrSDF} [b]	
	feed	found	feed	found
P1	100:0	100:0	0	0
P2	75.75:1	80.39:1	0.01	0.0124
P3	15.75:1	15.88:1	0.05	0.063
P4	8.25:1	8.04:1	0.10	0.1243
P5	4.50:1	4.96:1	0.20	0.2016

[a] The integral ratio between the aromatic ring of fluorene and the spiro[3.3]heptane of **TBrSDF**.

[b] The mole ratio of **TBrSDF** in copolymers.

The actual contents of spiro[3.3]heptane-2,6-dispirofluorene (**SDF**) were calculated by comparing the peak integral intensities of the proton signials of the spiro[3.3]heptane of **SDF** (δ 3.0-3.5) and the aromatic ring of fluorene (δ 7.4-8.0) of the copolymer and were close to the feed ratios.