Supporting Information for

Blue emissive dimethylmethylene-bridged triphenylamine derivatives appending cross-linkable groups

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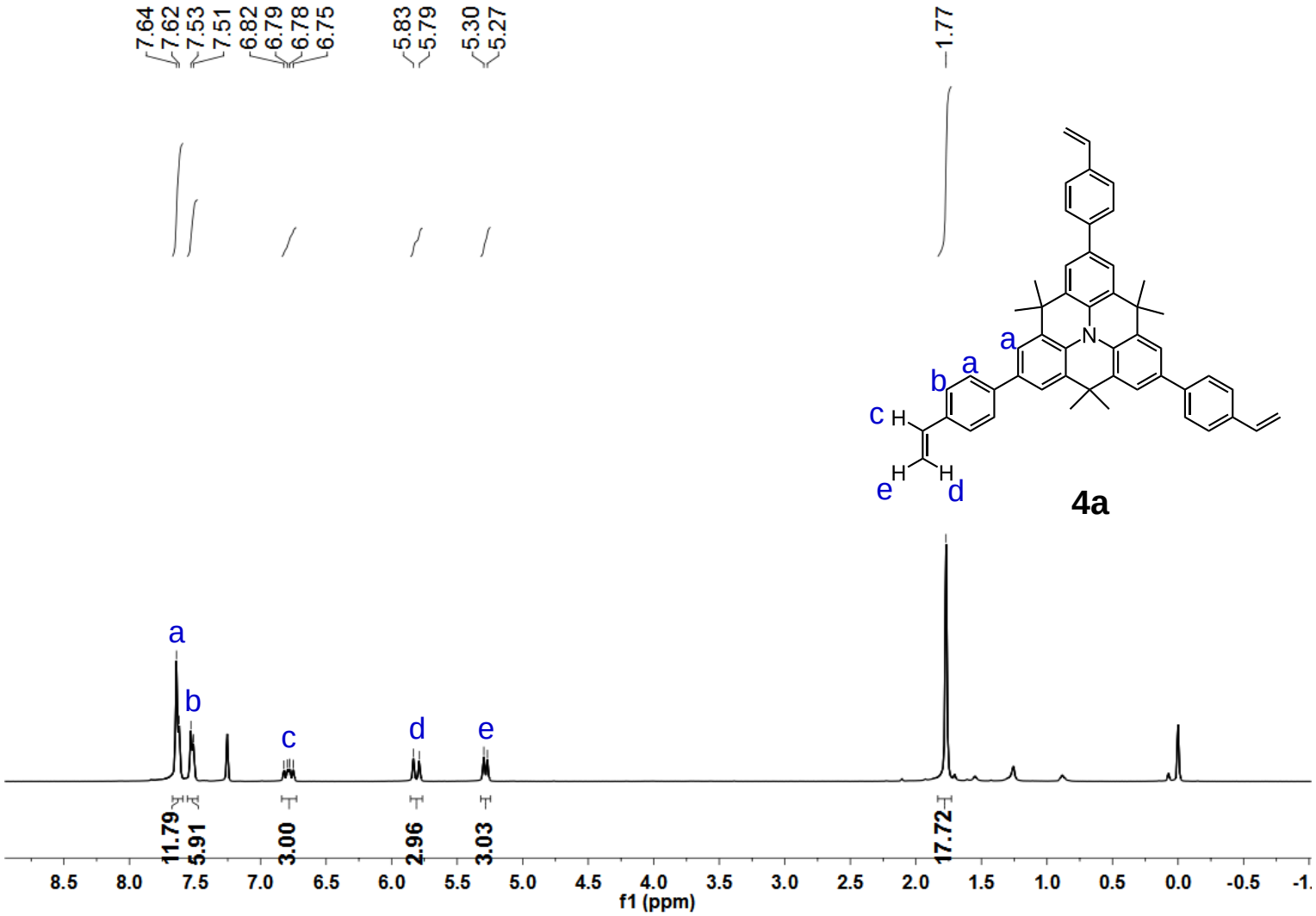
Table of Contents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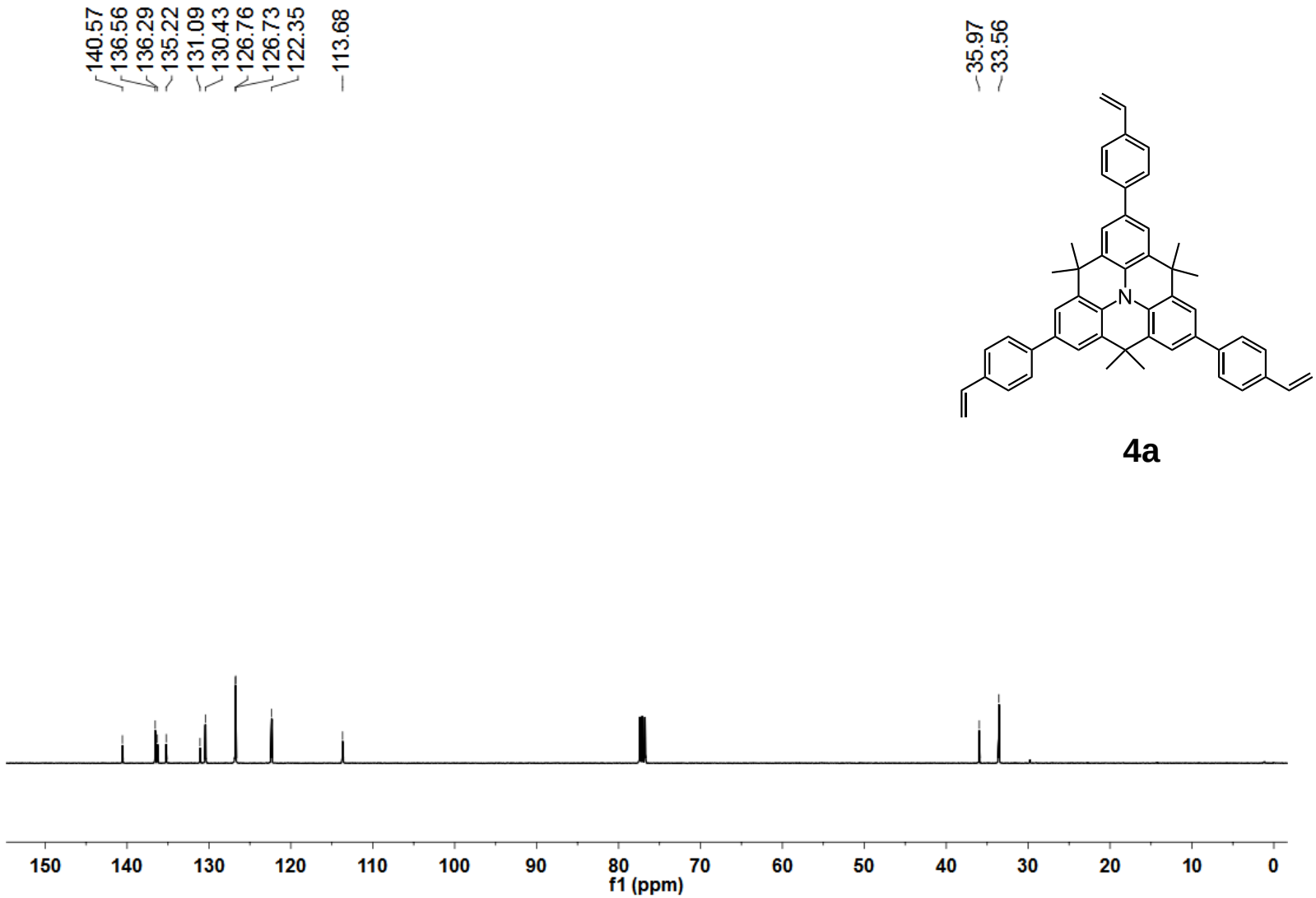
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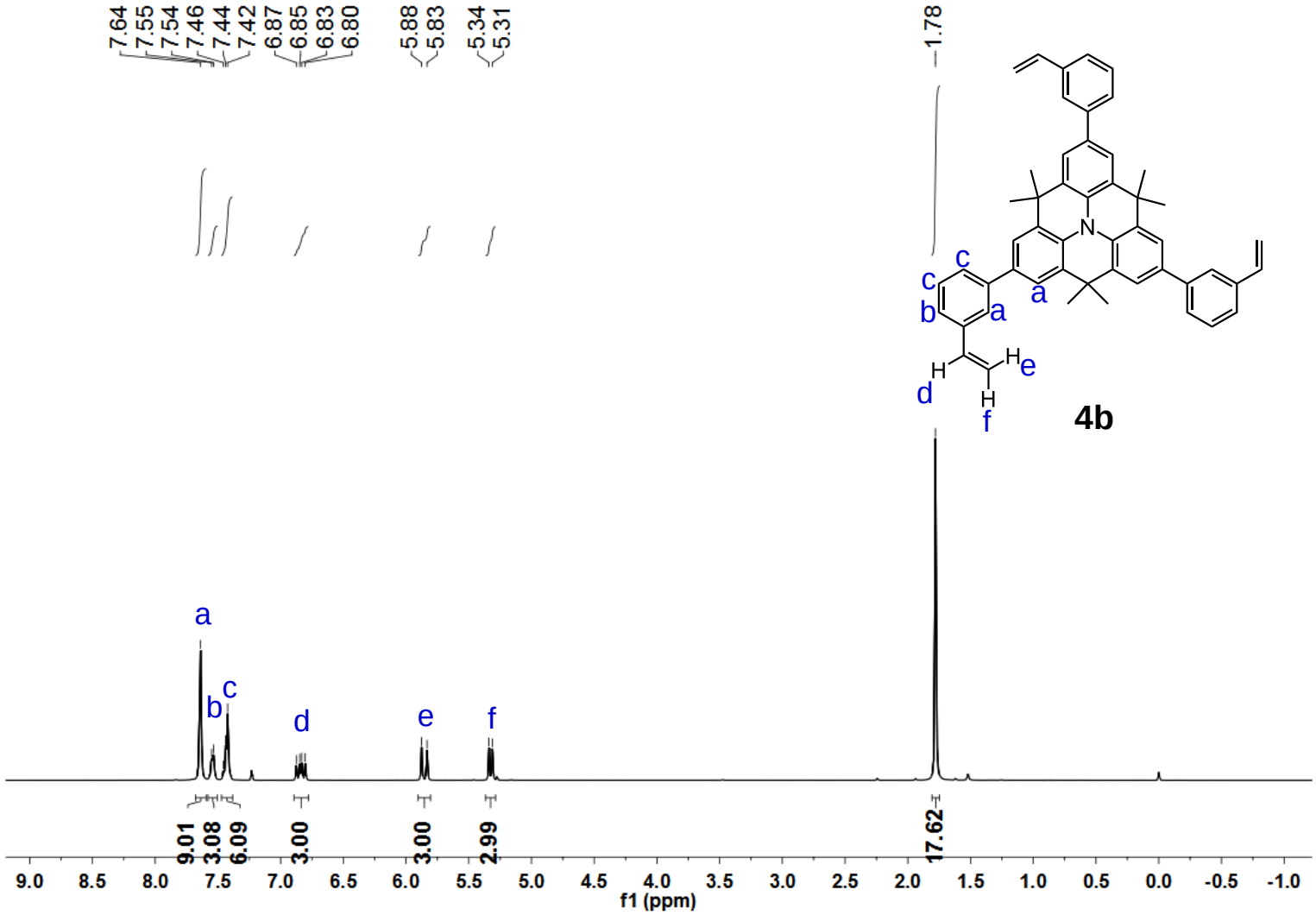
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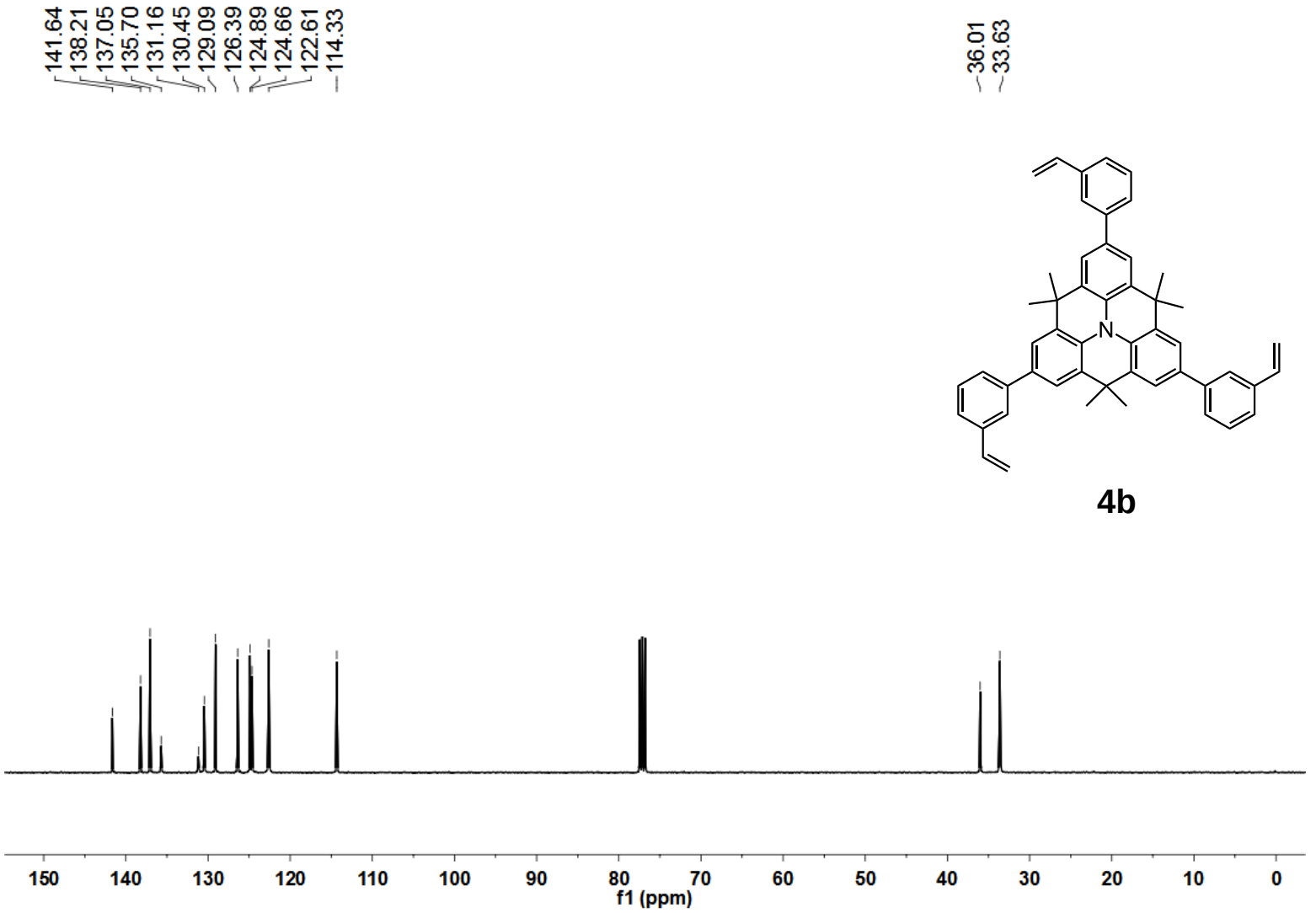
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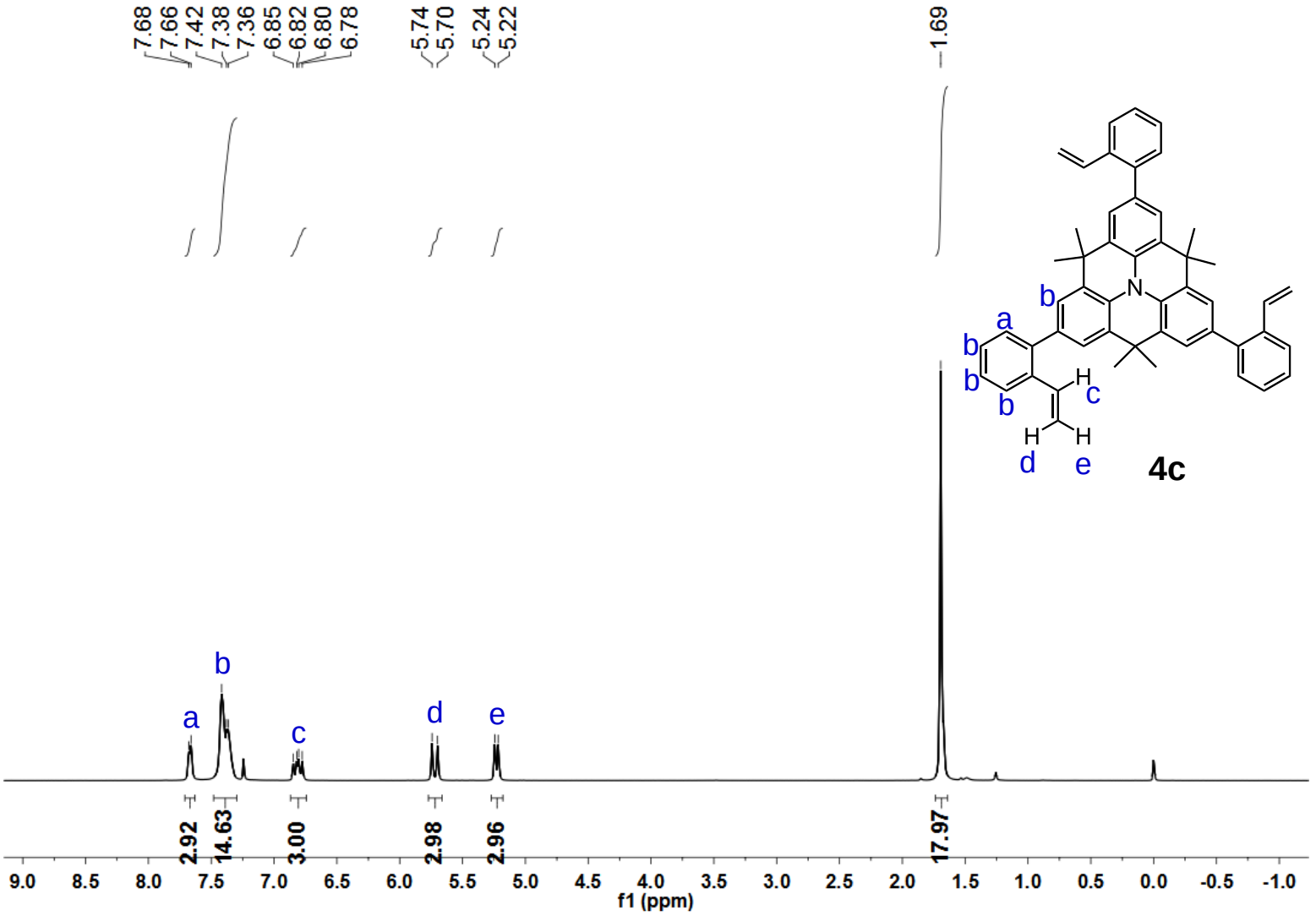
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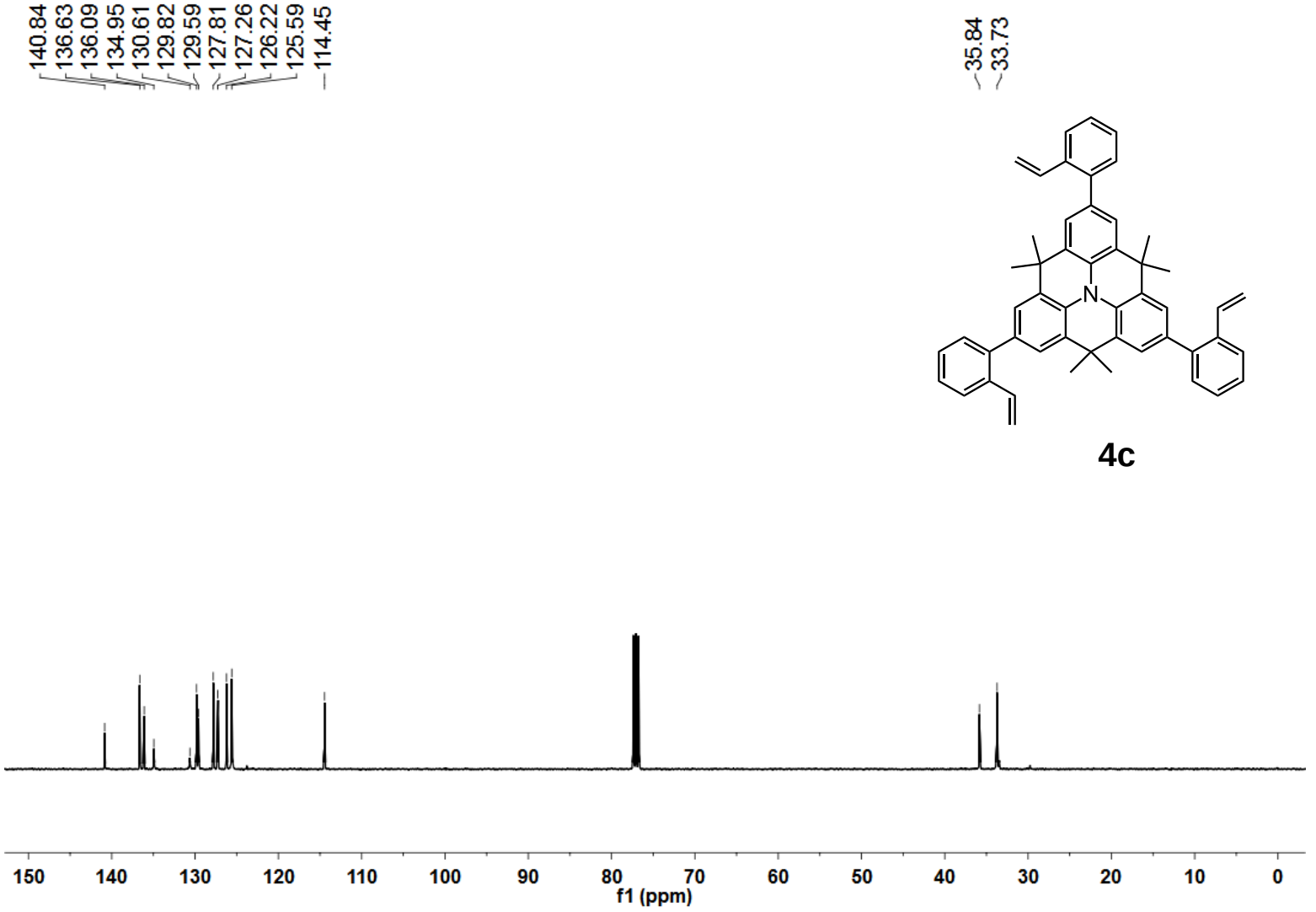
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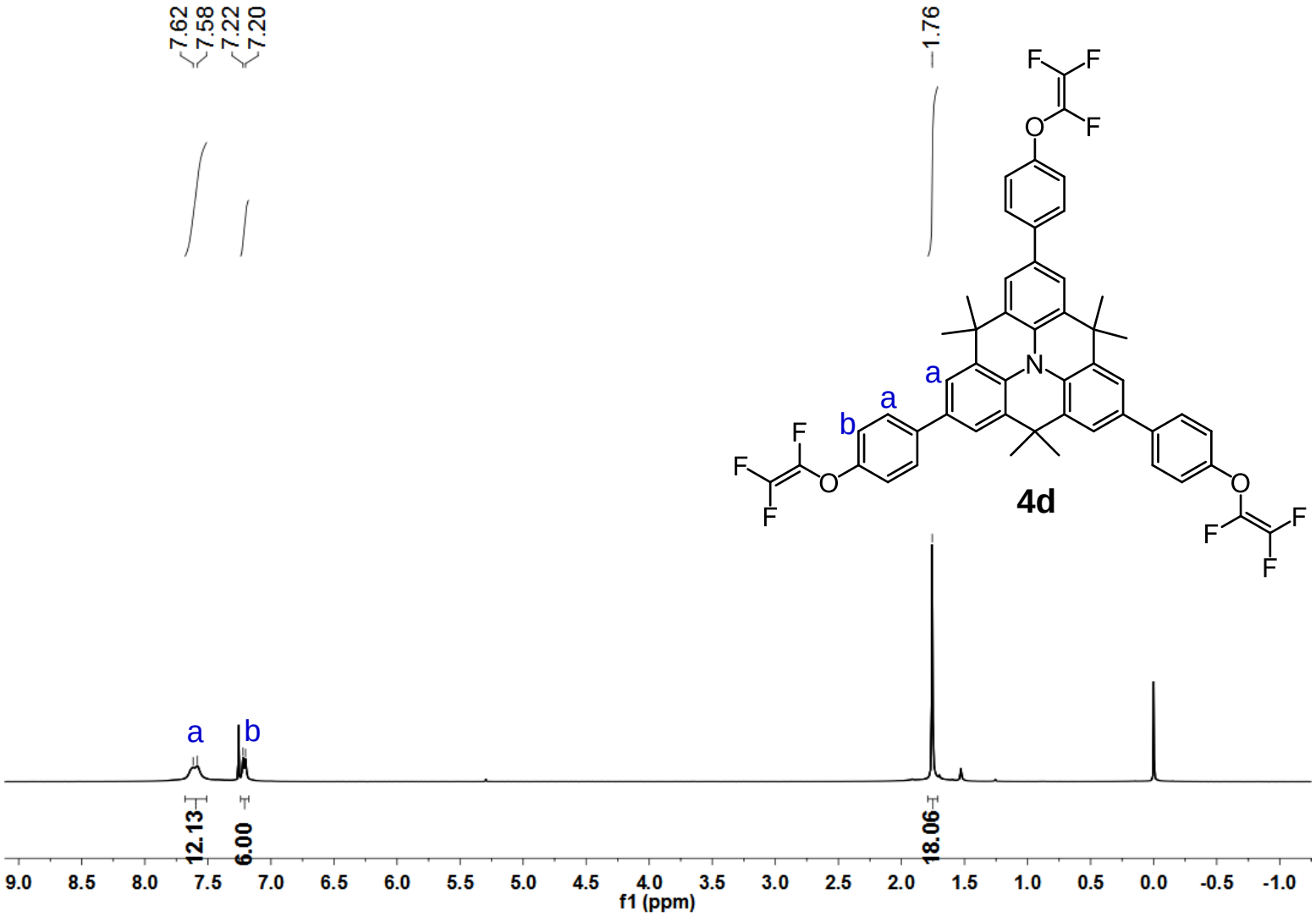
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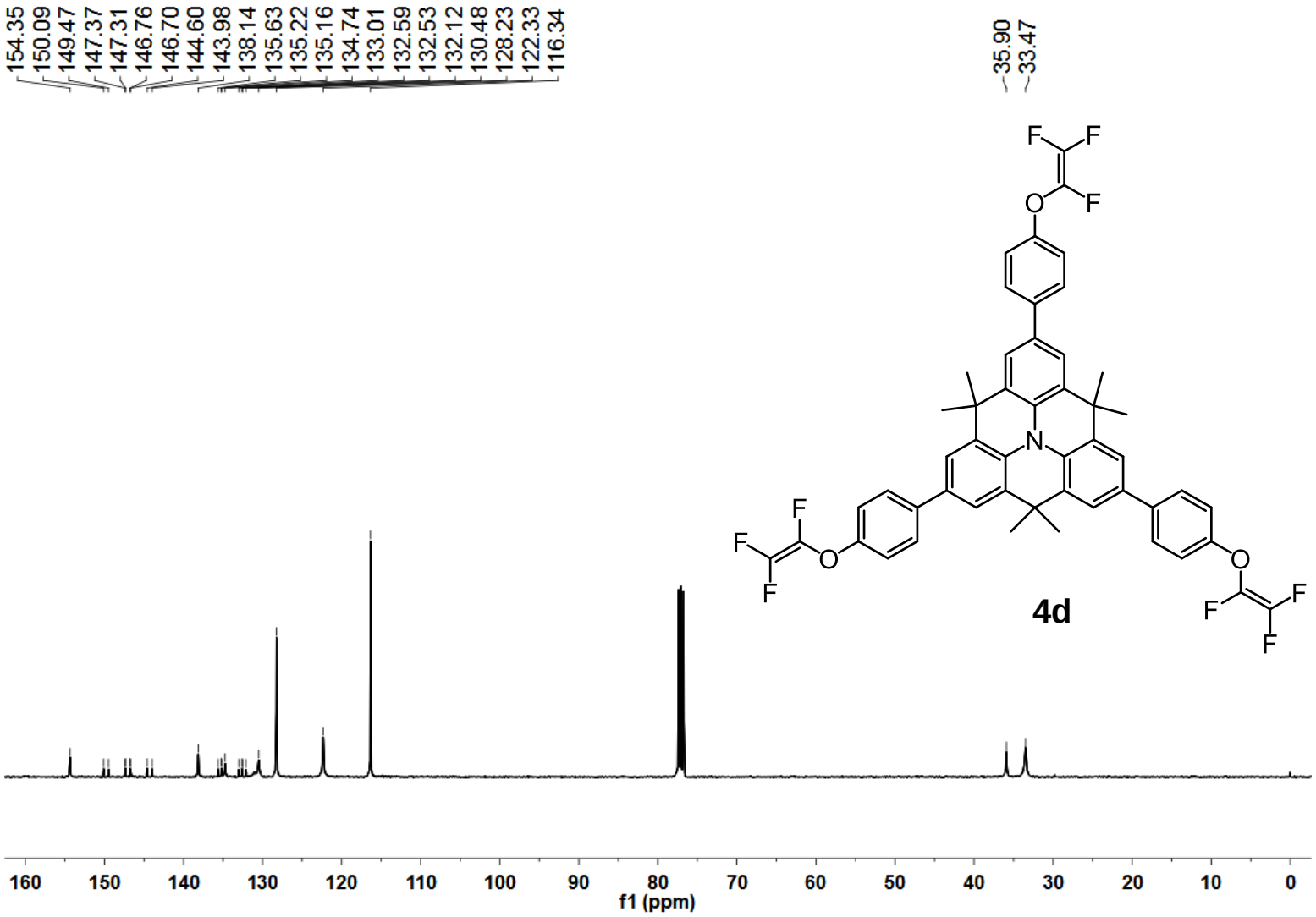
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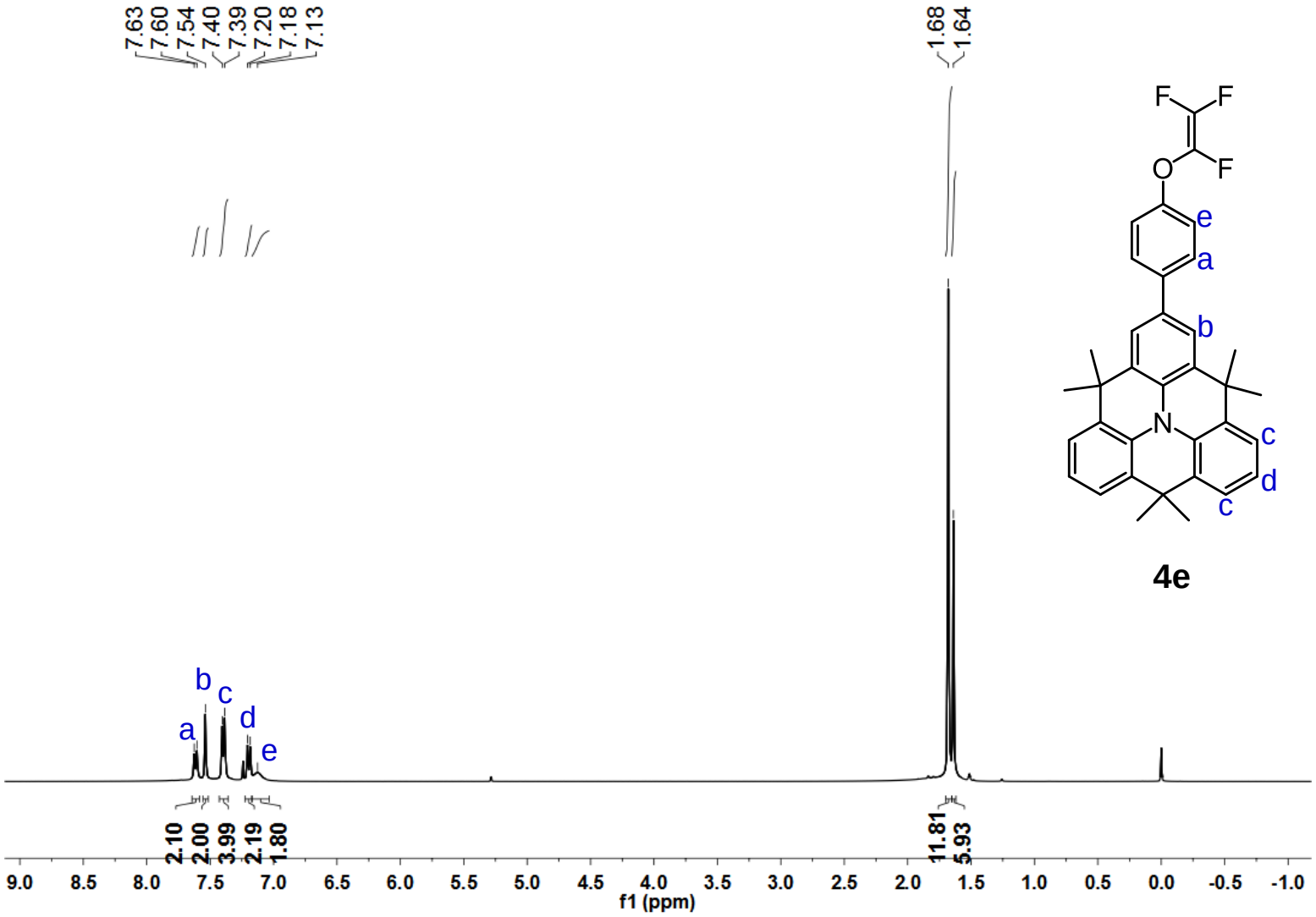
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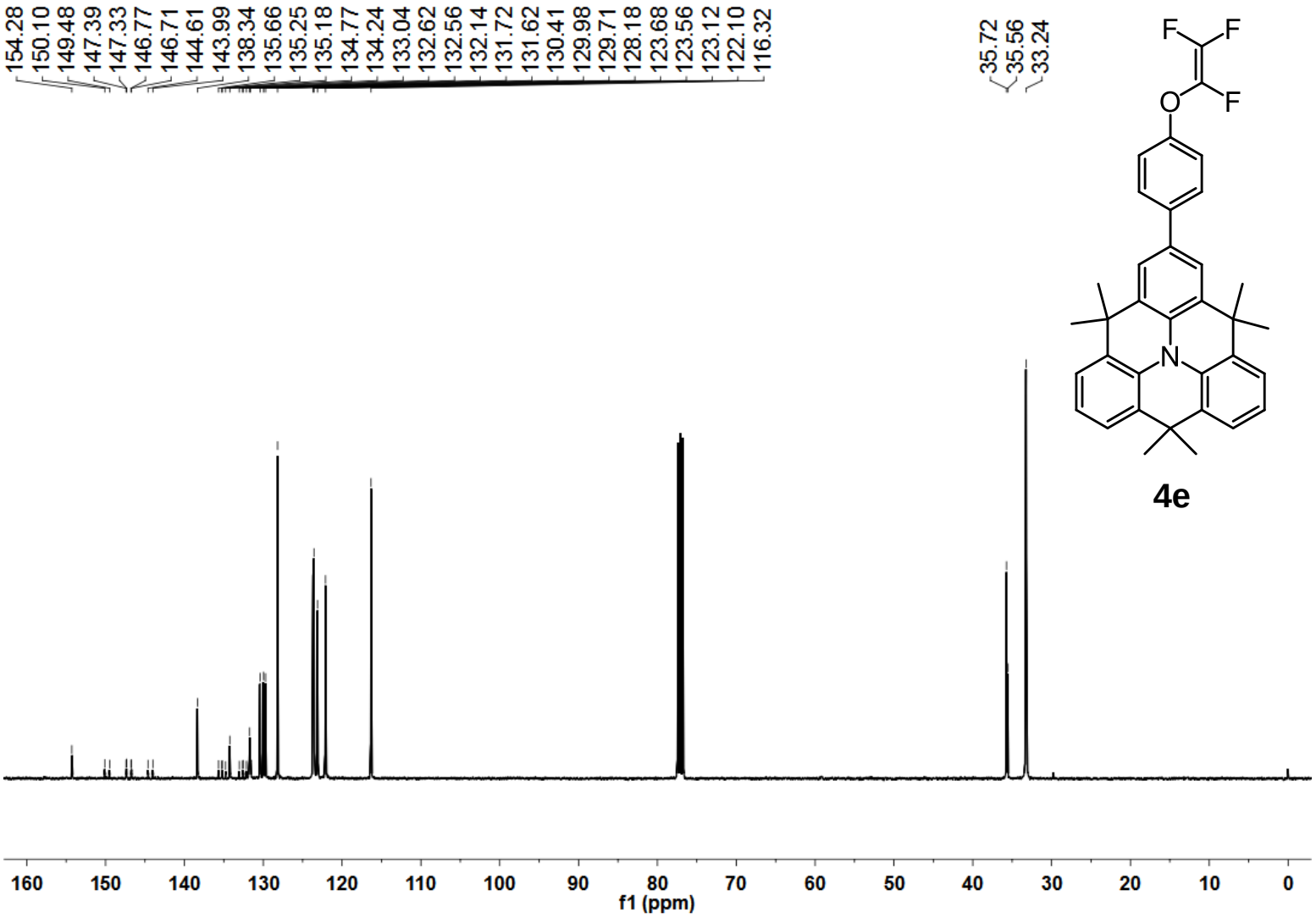
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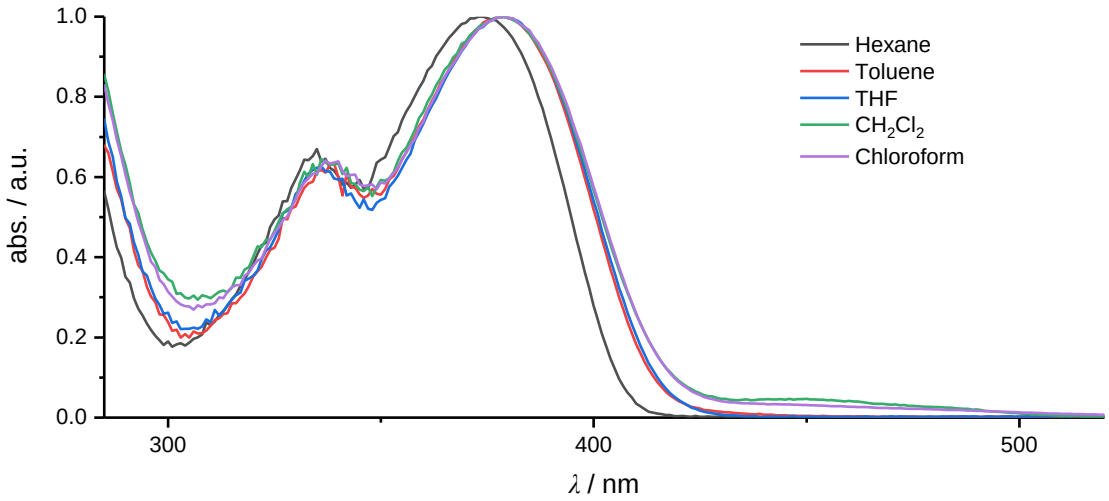

Fig. S1 UV/Vis absorption spectra of **4a** in different solvents (1.0×10^{-5} M).

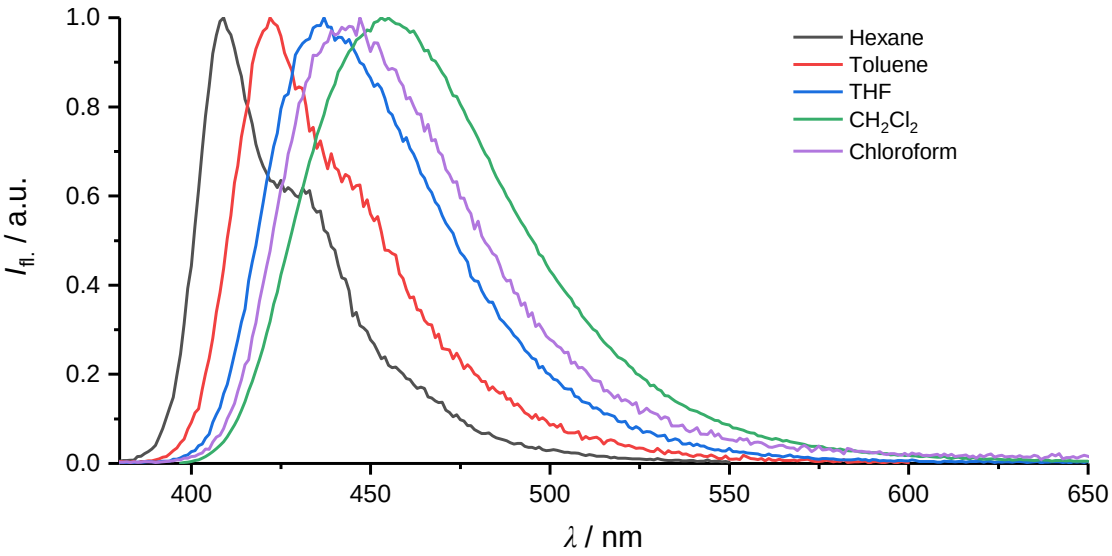

Fig. S2 Fluorescence spectra of **4a** in different solvents (1.0×10^{-5} M). λ_{ex} = 340 nm.

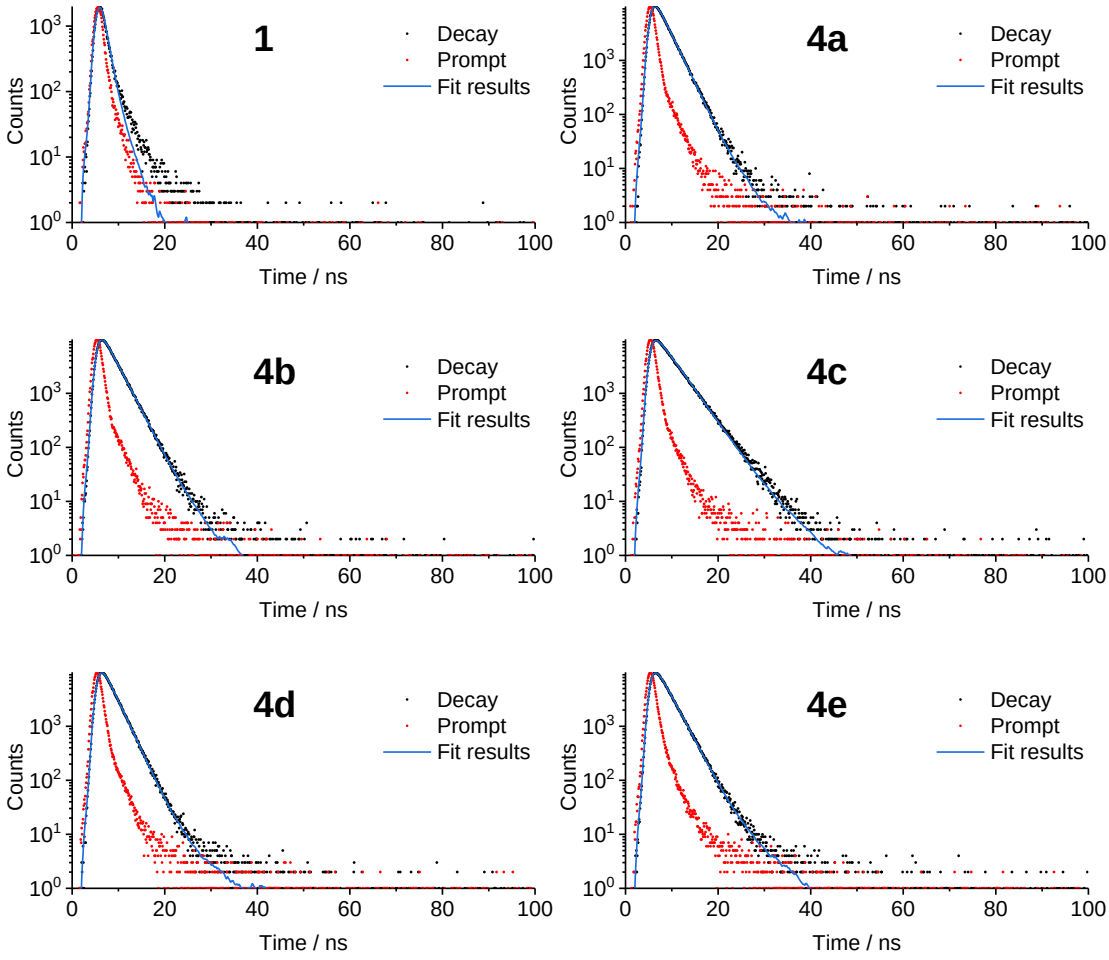

Fig. S3 Fluorescence decay curves of **1** and **4a**–**e** in CH_2Cl_2 (1.0×10^{-5} M). **1**: λ_{ex} = 310 nm, **4a**–**e**: λ_{ex} = 340 nm. The decay curves are fitted with mono-exponential method.

Table S1 The measured fluorescence lifetimes for **1** and **4a**–**e** in CH_2Cl_2.

compound	τ / ns	χ^2
1	0.80	1.219
4a	2.22	0.946
4b	2.42	0.936
4c	3.48	1.107
4d	2.17	0.941
4e	2.48	0.968

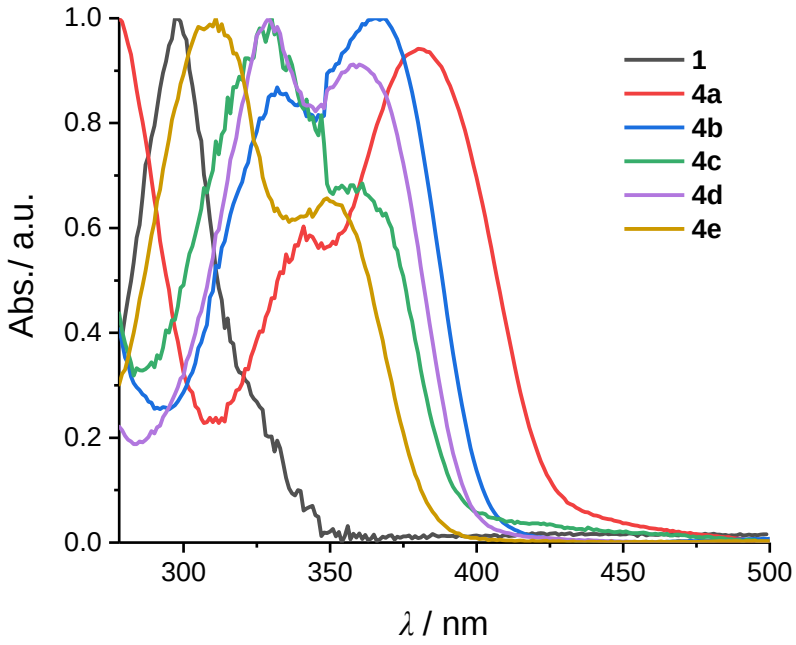

Fig. S4 UV/Vis absorption spectra of compounds **1** and **4a**–**e** in spin-coated thin films (10 mg/mL in toluene, 4000 rpm, 30 s).

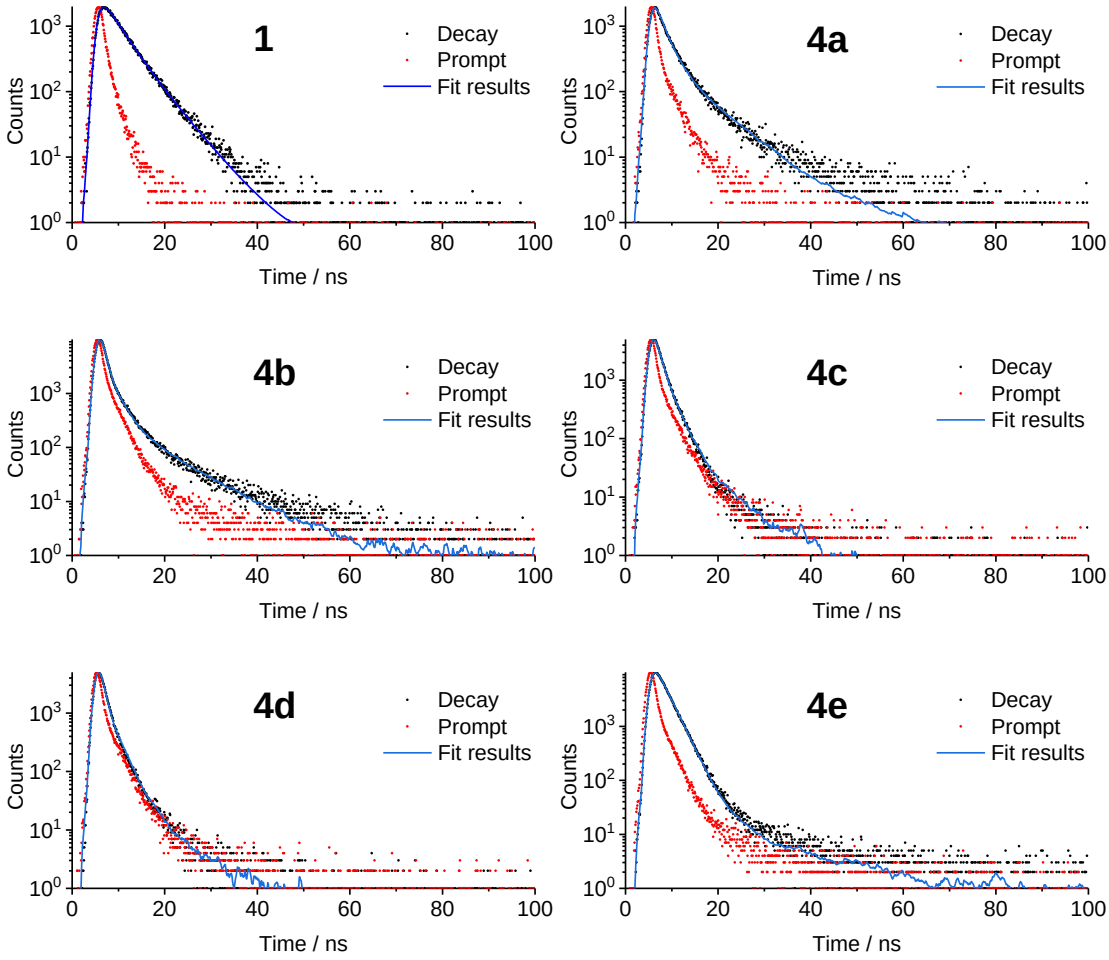

Fig. S5 Fluorescence decay curves of **1** and **4a**–**e** in spin-coated thin films (10 mg/mL in toluene, 4000 rpm, 30 s). **1**: λ_{ex} = 310 nm, **4a**–**e**: λ_{ex} = 340 nm. The decay curves of **1**, **4a** and **4b** are fitted with double-exponential method. The decay curves of **4c**–**e** are fitted with mono-exponential method.

Table S2 The measured fluorescence lifetimes for **1** and **4a**–**e** in thin films.

compound	τ_1 / ns	τ_2 / ns	τ	χ^2
1	2.63 (49.03%)	5.29 (50.97%)	3.98	0.918
4a	1.42 (77.26%)	7.67 (22.74%)	2.84	1.145
4b	0.55 (91.03%)	8.52 (8.97%)	1.26	1.211
4c	0.90	/	0.90	1.115
4d	0.61	/	0.61	1.010
4e	1.83	/	1.83	1.061

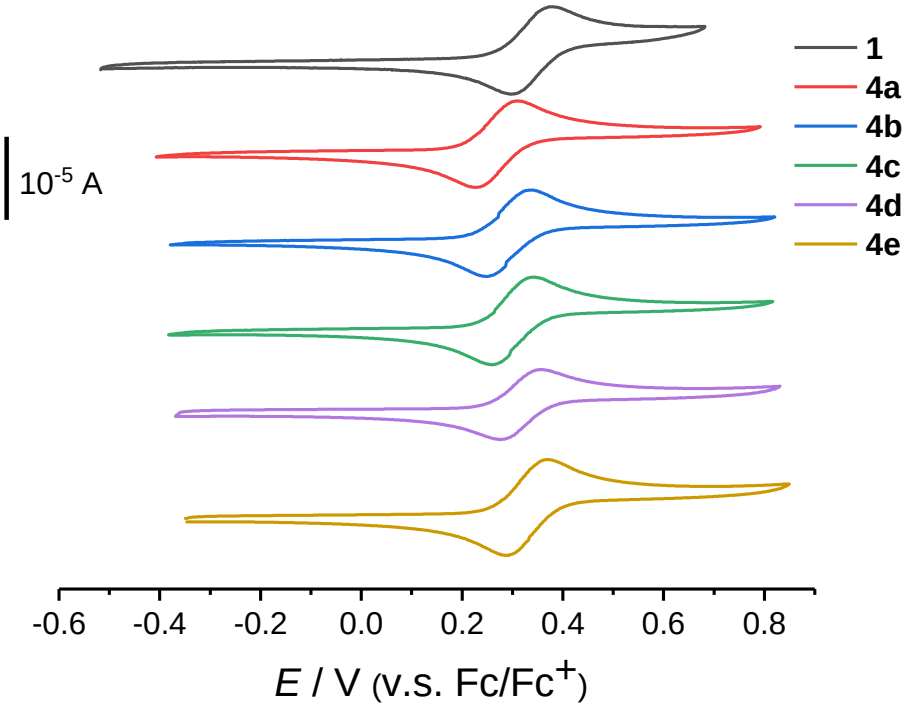

Fig. S6 Cyclic voltammograms of compounds **1** and **4a**–**e** in CH_2Cl_2 (5.0×10^{-4} M). The scan rate is 50 mV/s. Ferrocene was used as internal reference.

Table S3 The HOMO and LUMO levels by DFT calcuation[a]

	HOMO / eV	LUMO / eV	ΔE^b / eV
4a	-5.12	-1.47	3.65
4b	-5.16	-1.30	3.86
4c	-5.18	-1.17	4.01
4d	-5.34	-1.28	4.06
4e	-5.26	-1.04	4.22

[a] B3LYP/6-311G(d) basis set was used. The calculations were performed with the GAUSSIAN 09W program. [b] ΔE = LUMO – HOMO.

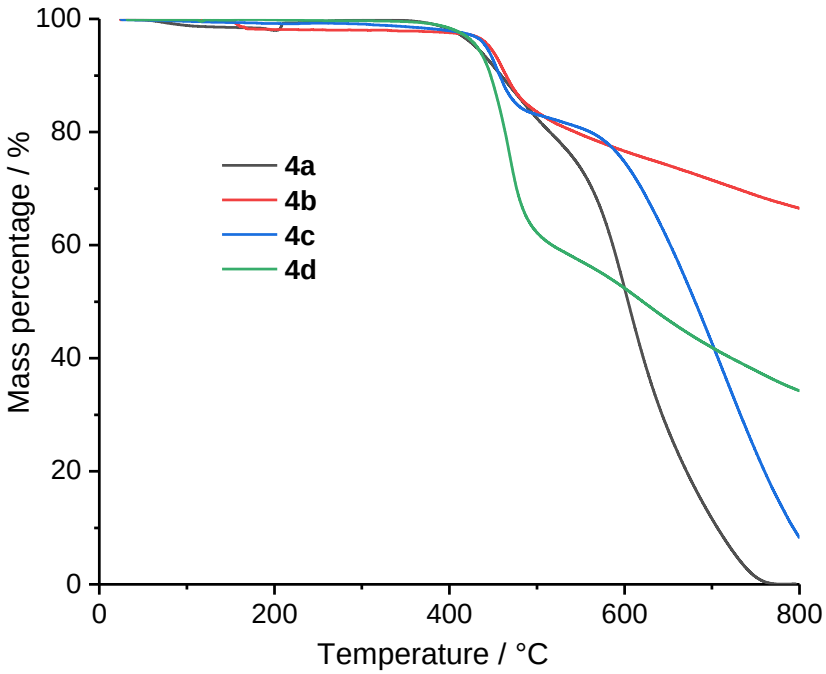

Fig. S7 Thermogravimetric traces for DTPAs **4a**–**d** with heating rate of 10 °C/min.

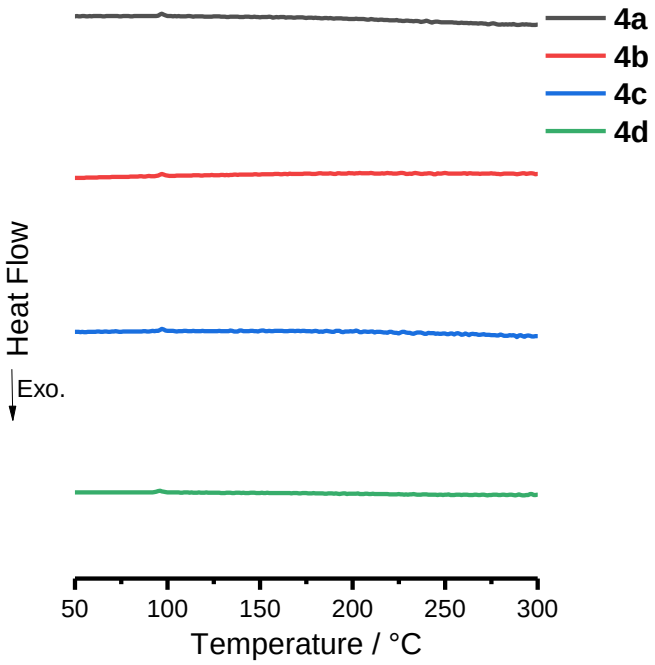

Fig. S8 DSC traces for DTPAs **4a**–**d** with heating rate of 10 °C/min for the second heating scan.