

Supporting Information for:

Nanofibers generated from nonclassical organogelators based on difluoroboron β -diketonate complexes to detect aliphatic primary amine vapors

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Table S1. Photophysical data of **ABA**, **ABVA** and **AVBVA**.

Complex	Solvent	λ_{abs} (nm)	λ_{em} (nm)	Stokes shift (cm^{-1})	Φ_{F} ^a
ABA	Cyclohexane	488	518	1186	-
	Toluene	500	552	1884	0.97
	THF	501	585	2866	0.21
	Acetone	502	612	3580	-
	DMSO	516	614	3093	-
ABVA	Cyclohexane	501, 527	553	892	-
	Toluene	541	590	1535	0.70
	THF	539	632	2729	0.15
	Acetone	542	655	3183	-
	DMSO	560	678	3108	-
AVBVA	Cyclohexane	525, 558	582	739	-
	Toluene	574	621	1319	0.82
	THF	573	655	2185	0.13
	Acetone	578	699	2995	-
	DMSO	600	711	2003	-

^a Fluoresce in 1M NaOH ($\Phi_{\text{F}} = 0.95$) was used as the standard in measuring Φ_{F} for **ABA** and **ABVA**, and cresyl violet in methanol ($\Phi_{\text{F}} = 0.53$) was used as the standard in measuring Φ_{F} for **AVBVA**.

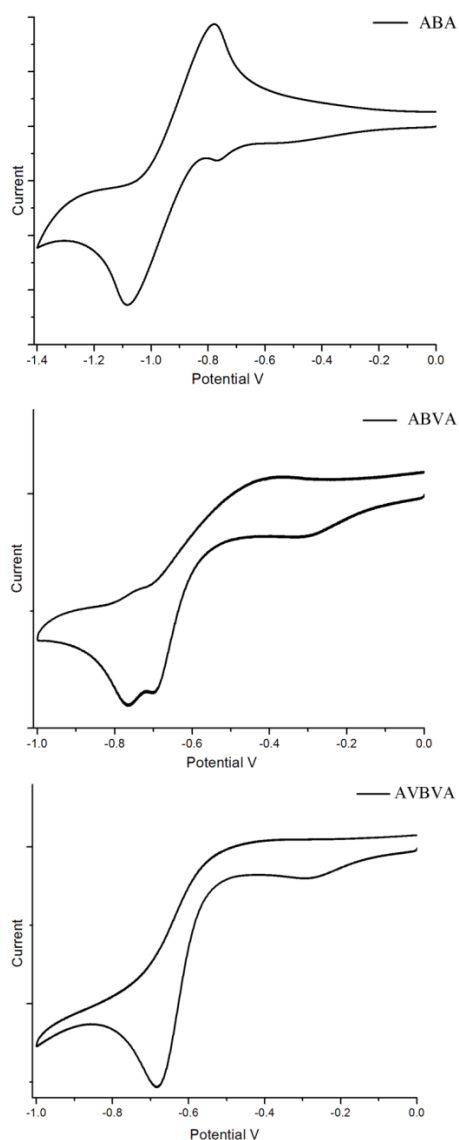


Figure S1. Cyclic voltammery diagrams of complexes **ABA**, **ABVA** and **AVBVA** in anhydrous CH_2Cl_2 with 0.1 M Bu_4NBF_4 as electrolyte at a scan rate of 50 mV/s.



Figure S2. Pictures of the gels of **ABVA** (left) and **AVBVA** (right) obtained from 1,4-dioxane/cyclohexane (v/v = 1/4).

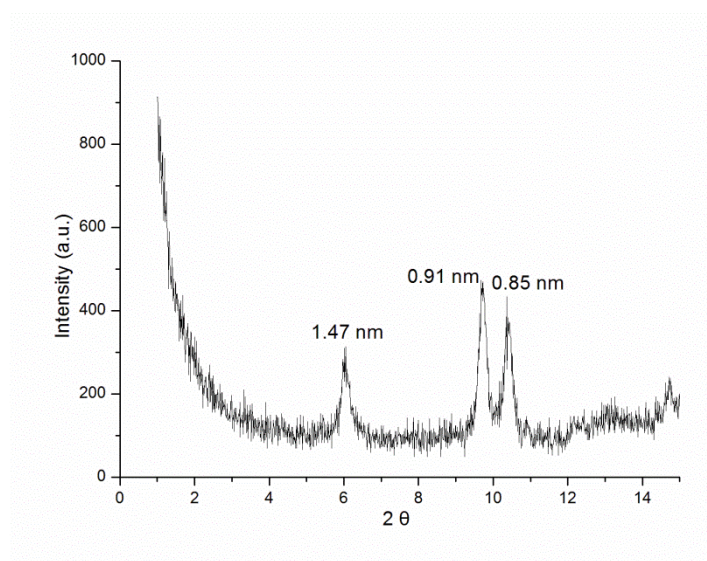


Figure S3. XRD pattern of xerogel ABVA.

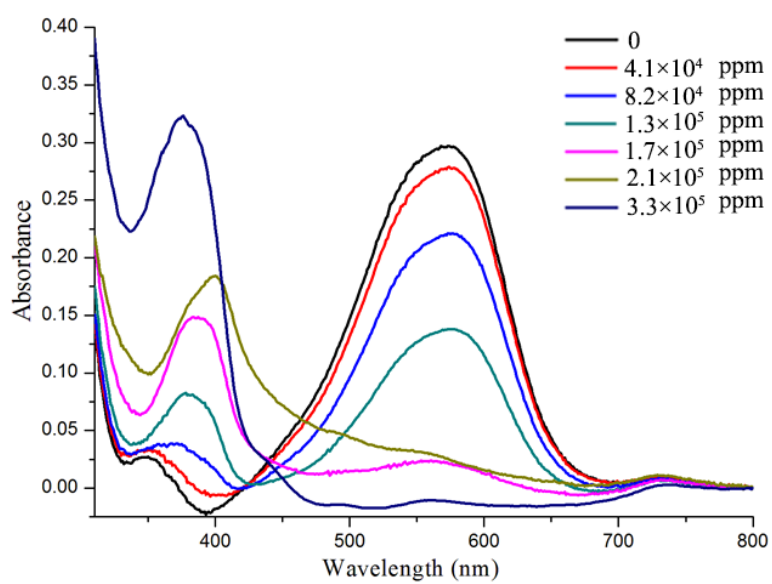


Figure S4. UV-vis absorption spectra of the xerogel-based films of ABVA upon exposure to *n*-propylamine in different concentrations for 30 s.

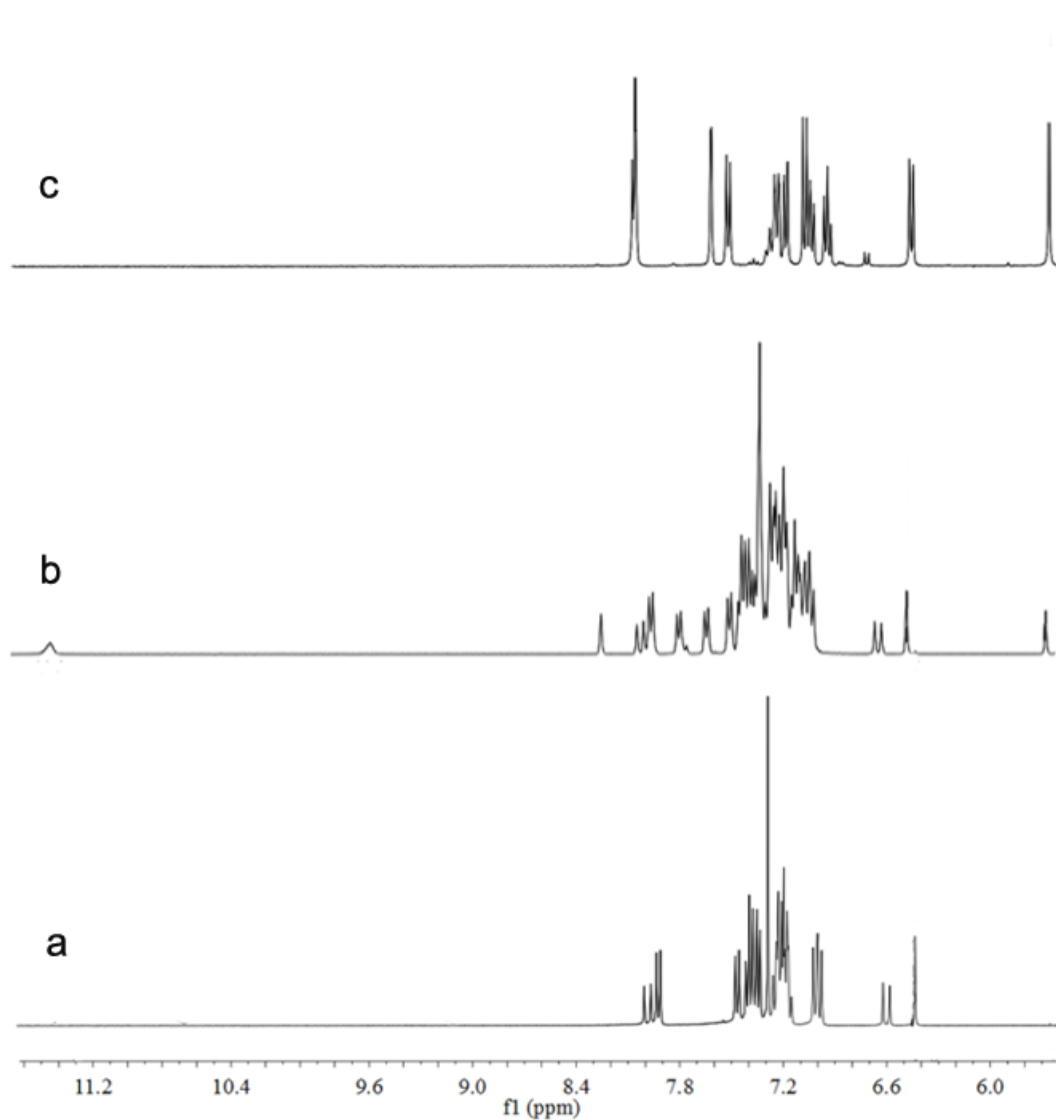


Figure S5. ^1H NMR (400 MHz) spectra of **ABVA** in CDCl_3 (3.2×10^{-3} M) before (a) and after (b) adding 2.0×10^3 equiv. of *n*-propylamine as well as (c) further adding a drop of D_2O .

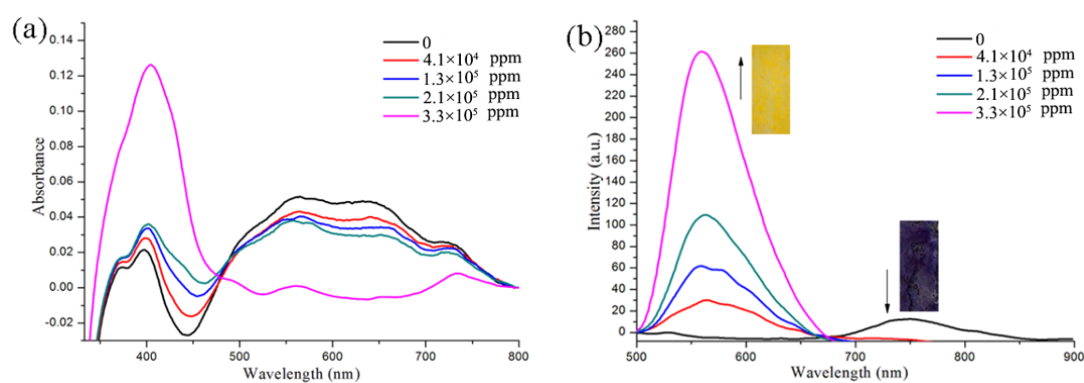


Figure S6. UV-vis absorption (a) and fluorescence emission (b, $\lambda_{\text{ex}} = 400$ nm) spectra of the xerogel-based film of **AVBVA** upon exposure to *n*-propylamine in different concentrations for 30 s. Insets: the fluorescence enhanced of the xerogel films after being added into a cell filled with the vapors of *n*-propylamine.

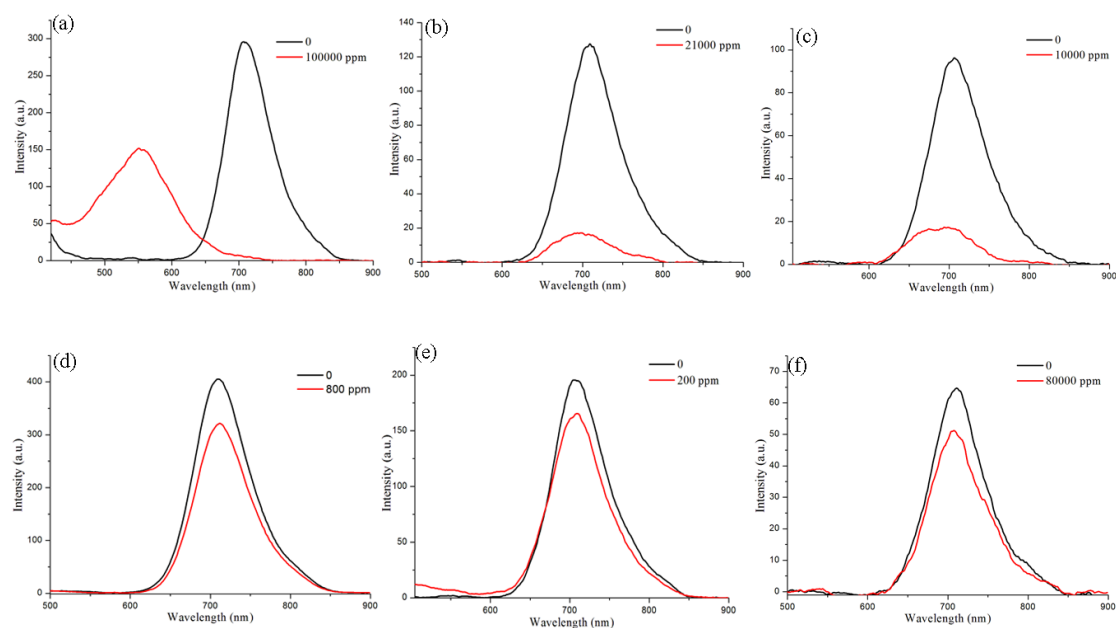


Figure S7. Fluorescence emission spectra of the xerogel film based on **ABVA** upon exposure to saturated vapors of *n*-butylamine (a), pyridine (b), cyclohexylamine (c), aniline (d), tributylamine (e) and triethylamine (f) for 30 s. The excitation wavelength is 360 nm.

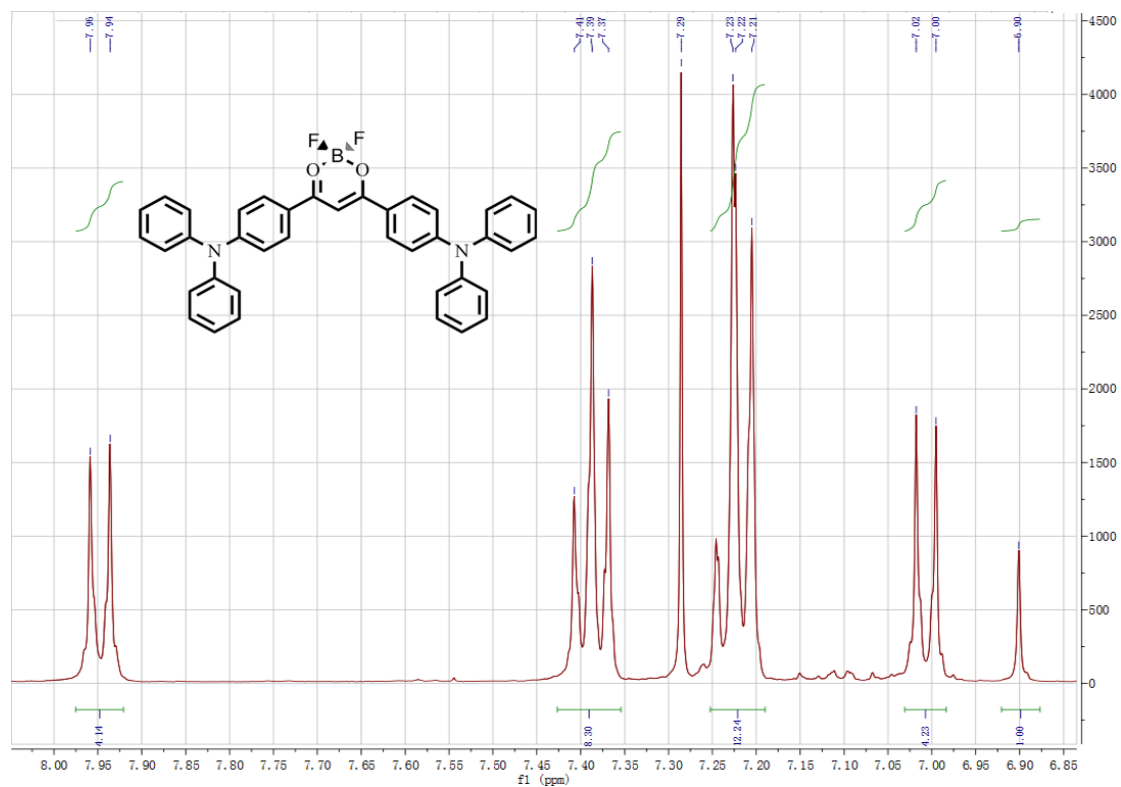


Figure S8. ^1H NMR (400 MHz) spectrum of **ABA** in CDCl_3 .

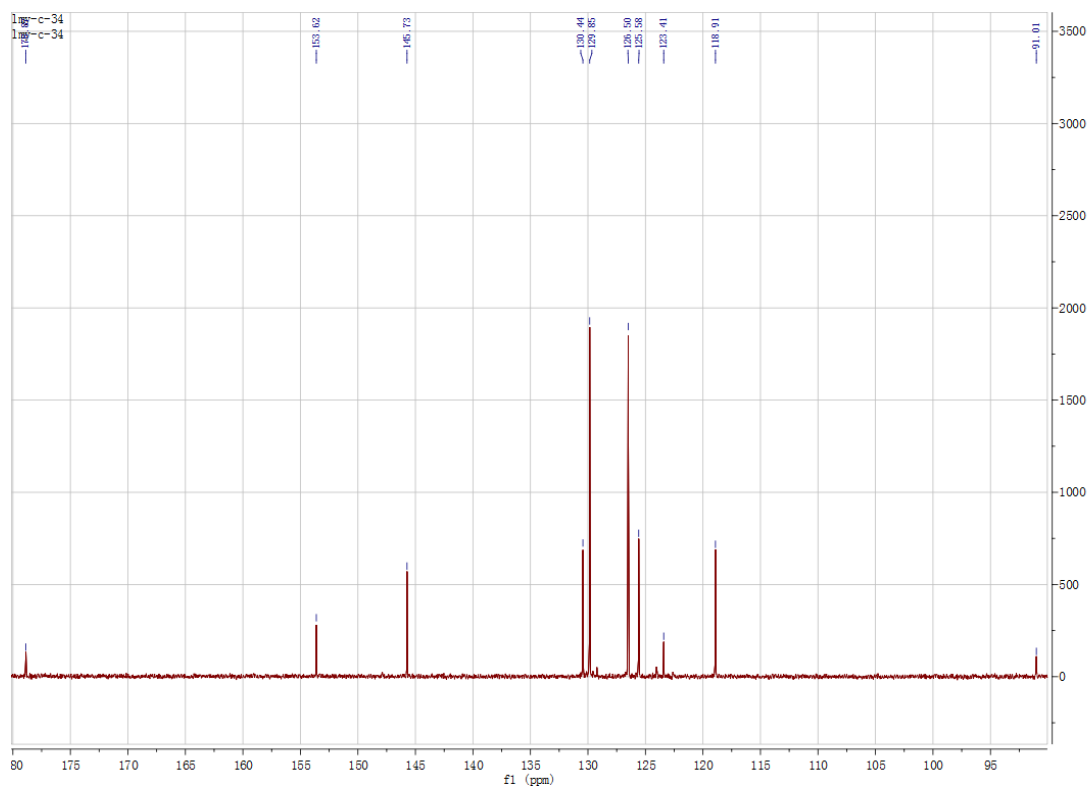


Figure S9. ^{13}C NMR (100 MHz) spectrum of **ABA** in CDCl_3 .

Reflectron Mode

Data: LR-248-Ln0001.L13 4 Jan 2015 15:46 Cal: 30 Jan 2015 14:16
Kratos PC Axima CFR V2.3.1: Mode default_linear_neg, Power: 95, P.Ext. @ 606 (bin 57)
%Int. 129 mV[sum= 8620 mV] Profiles 1-67 Smooth Av 20 -Baseline 80

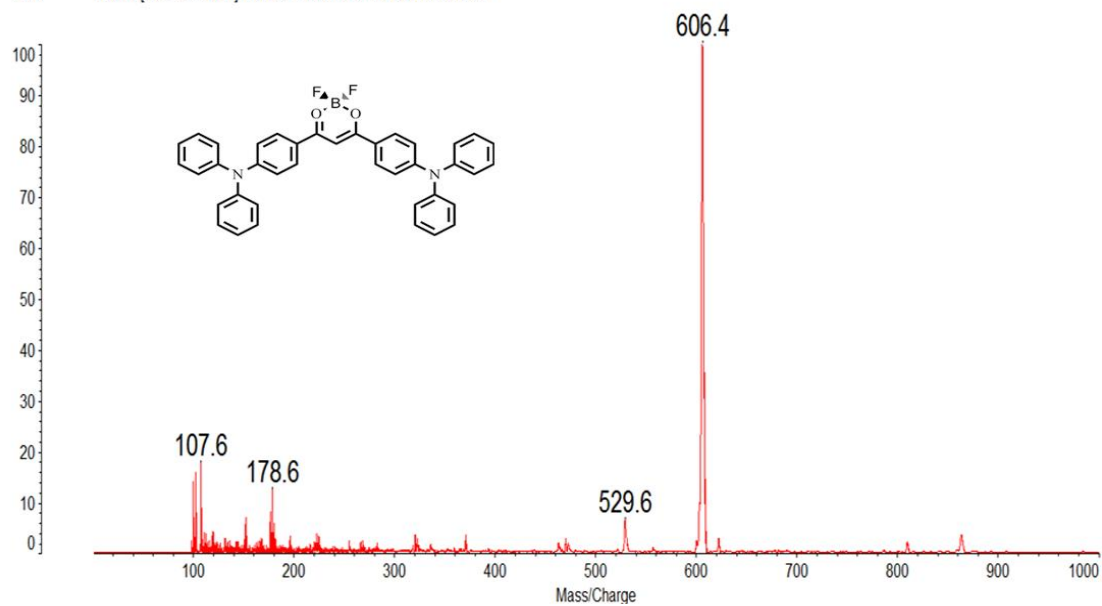


Figure S10. MALDI/TOF MS spectrum of ABA.

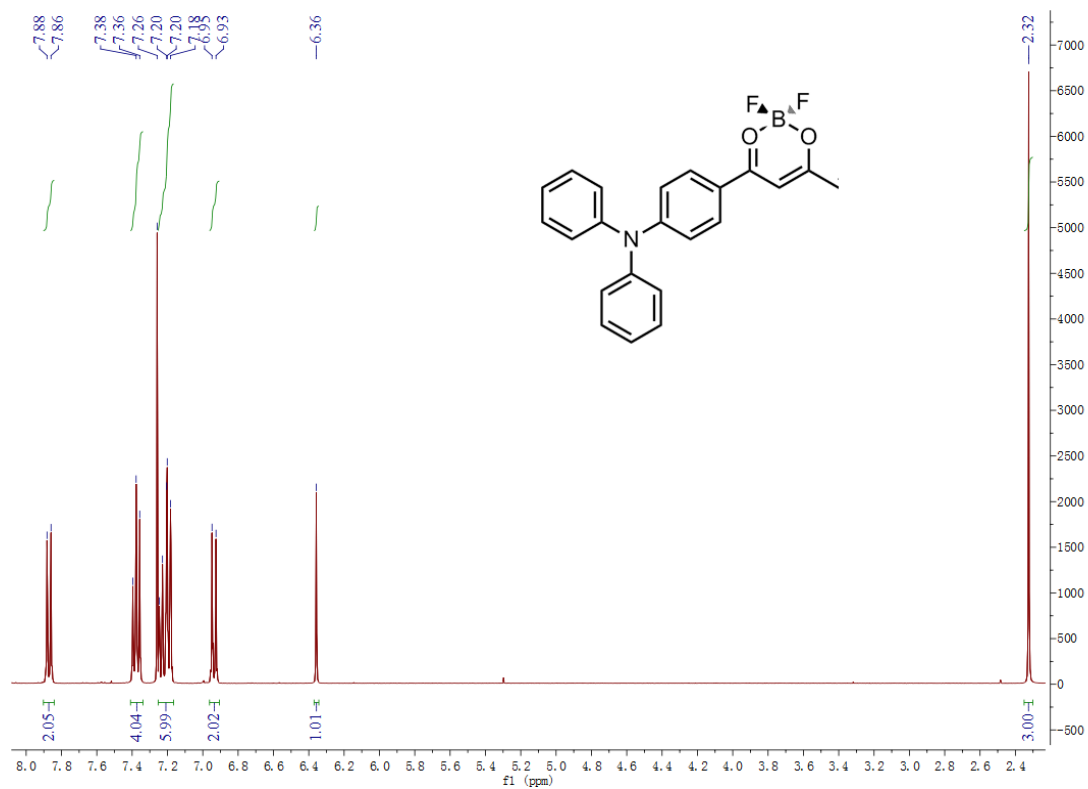


Figure S11. ^1H NMR (400 MHz) spectrum of compound **3** in CDCl_3 .

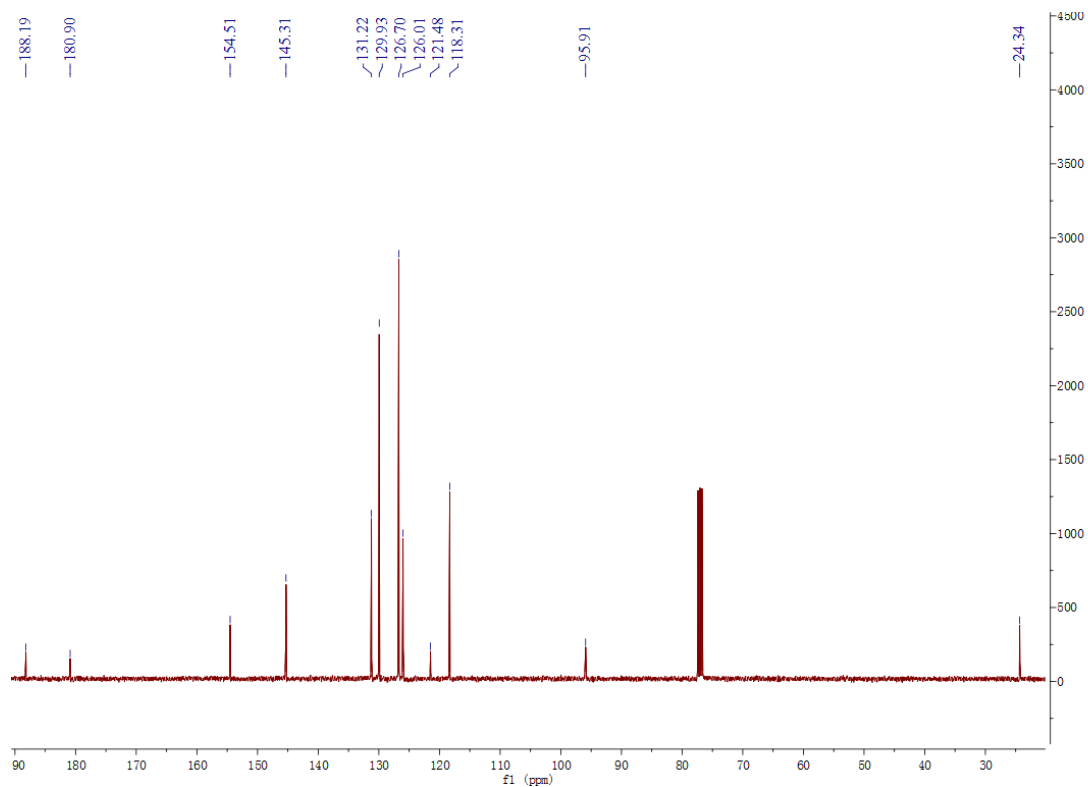


Figure S12. ^{13}C NMR (100 MHz) spectrum of compound **3** in CDCl_3 .

Reflection Mode

Data: LR-42-L0001.M15 29 Apr 2016 11:23 Cal: 2 May 2016 9:45
 Kratos PC Axima CFR V2.3.1: Mode default_linear, Power: 85, P.Ext. @ 377 (bin 57)

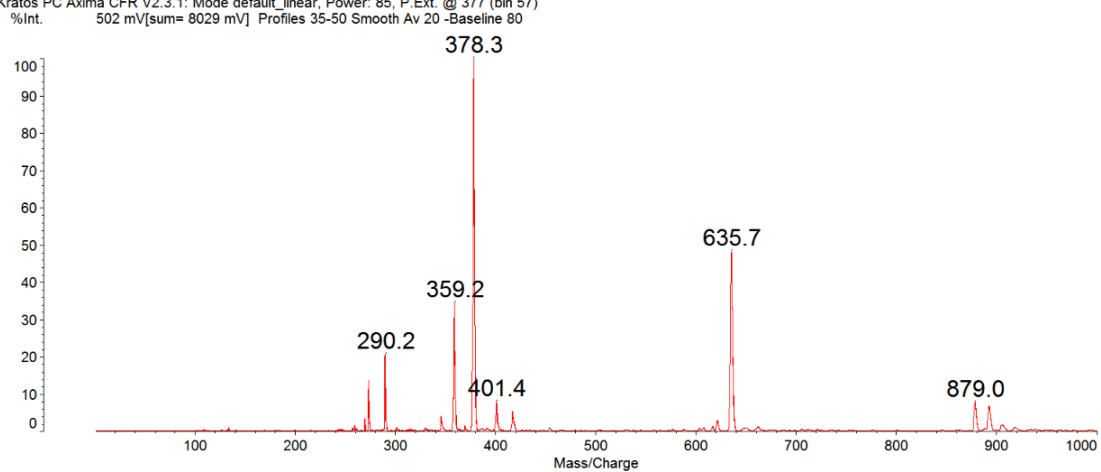


Figure S13. MALDI/TOF MS spectrum of **3**.

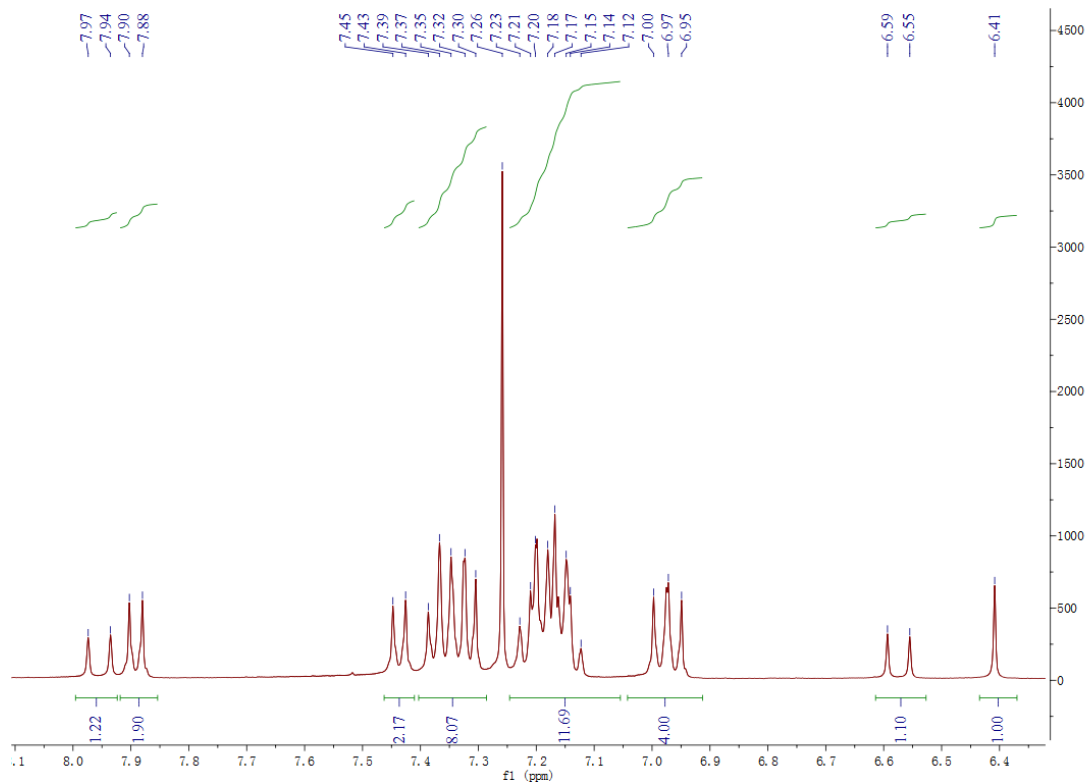


Figure S14. ^1H NMR (400 MHz) spectrum of ABVA in CDCl_3 .

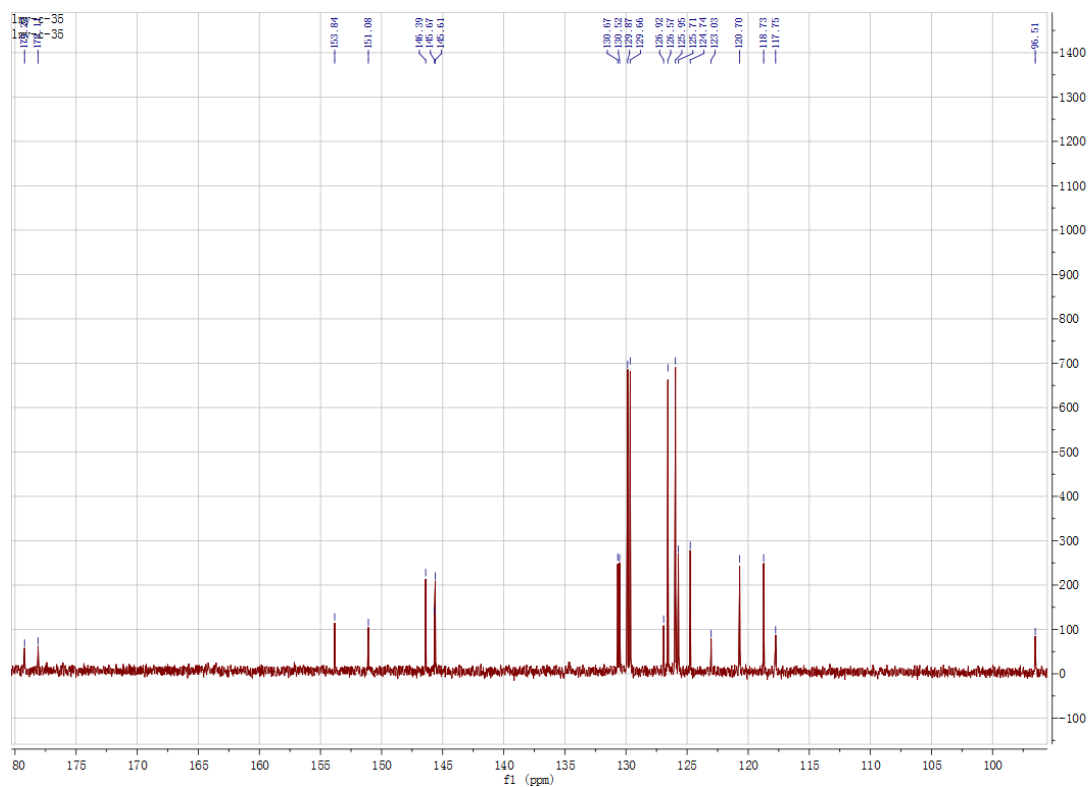


Figure S15. ^{13}C NMR (100 MHz) spectrum of ABVA in CDCl_3 .

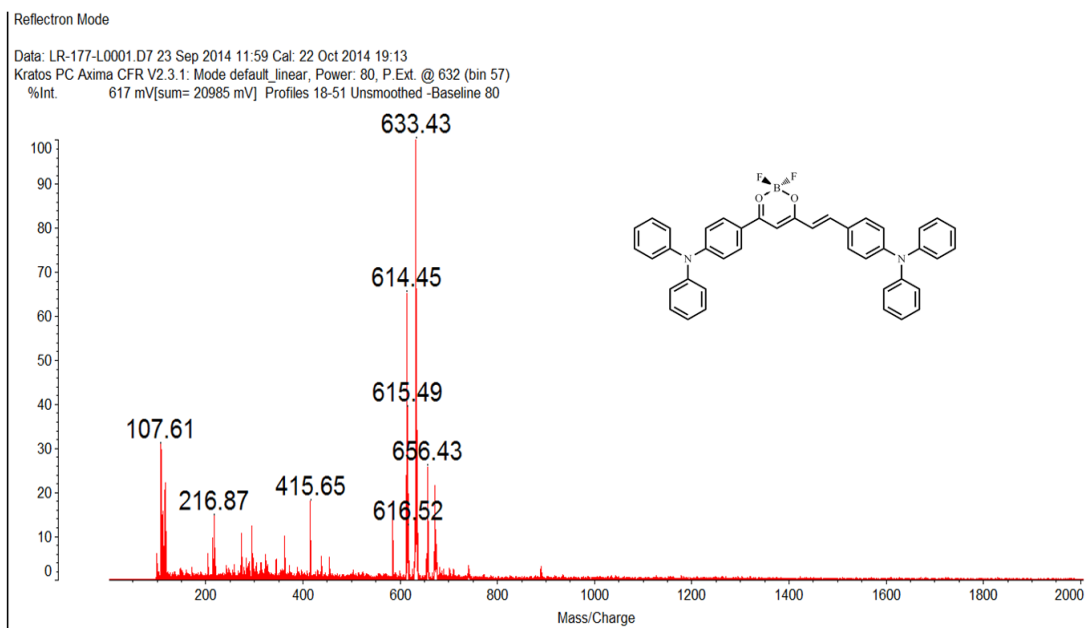


Figure S16. MALDI/TOF MS spectrum of ABVA.

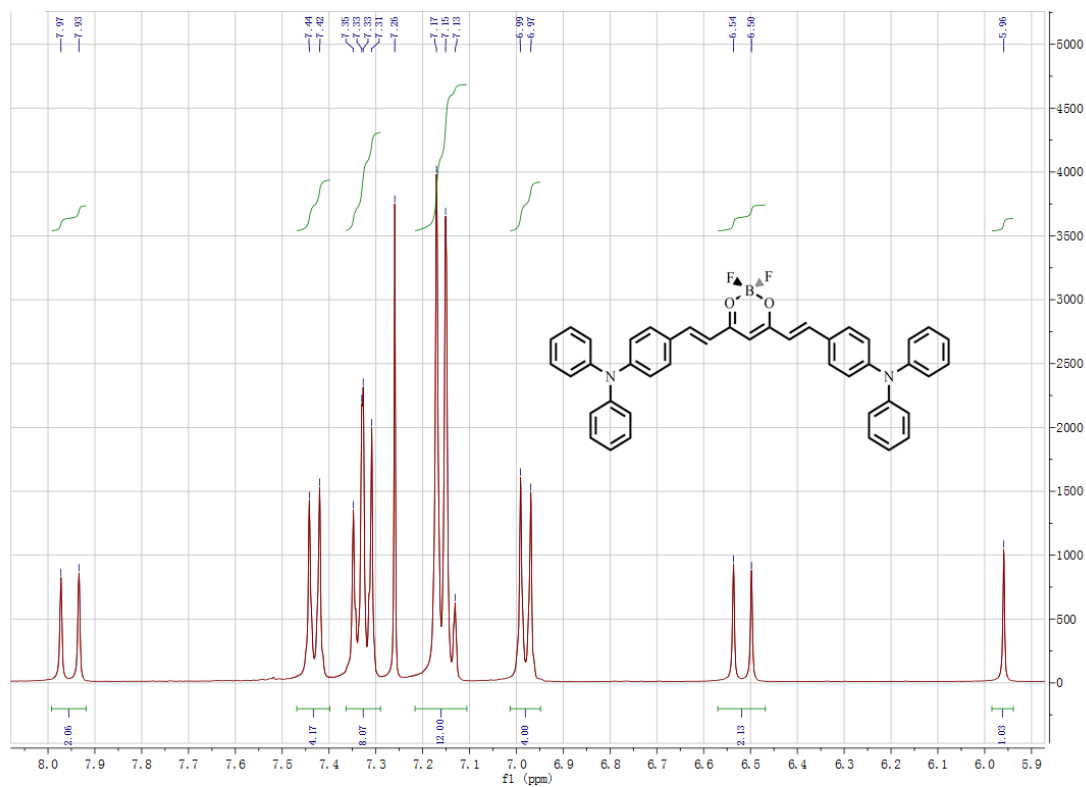


Figure S17. ^1H NMR (400 MHz) spectrum of AVBVA in CDCl_3 .

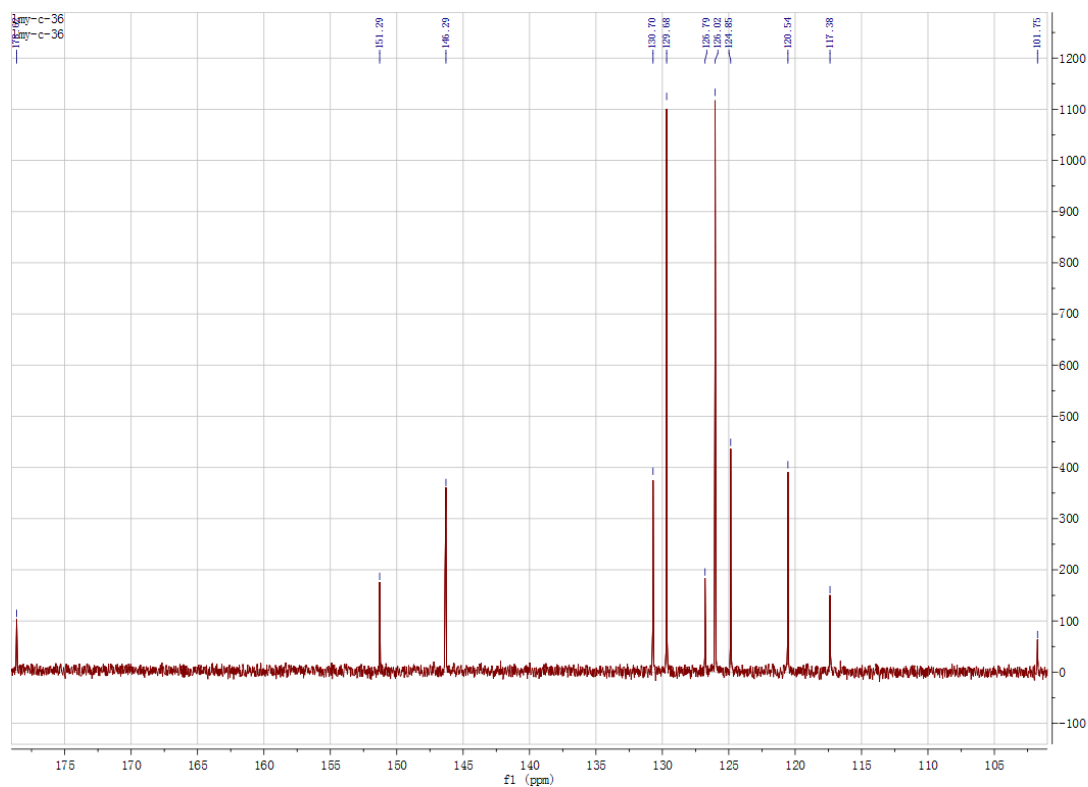


Figure S18. ^{13}C NMR (100 MHz) spectrum of AVBVA in CDCl_3 .

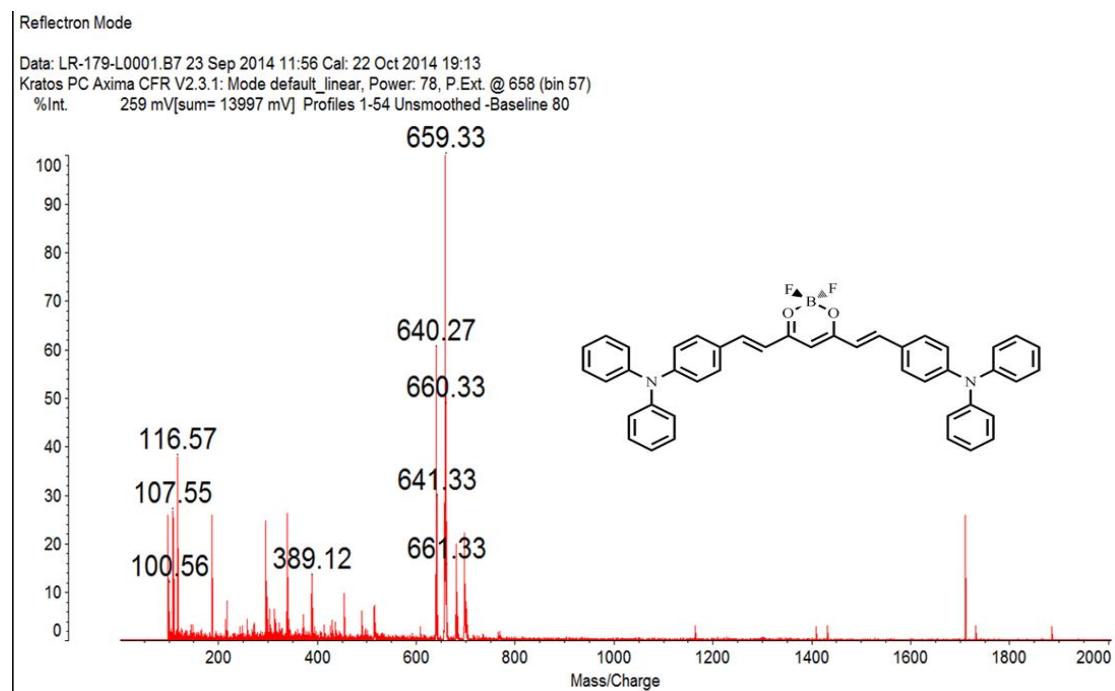


Figure S19. MALDI/TOF MS spectrum of AVBVA.