Supporting Information for

Full-colour luminescent compounds based on anthracene and 2, 2'- dipyridylamine

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Experimental section

Crystallography

Single crystals suitable for X-ray analysis of **7** were obtained by slow evaporation of a CH_3OH-H_2O solution at room temperature.

Crystal data for **7·MeOH**: $C_{47}H_{46}N_4O$, Mw = 682.88 $g \cdot mol^{-1}$, 0.40×0.39×0.20 mm^3, Monoclinic, P2(1)/c, a = 24.460(2) Å, b = 10.4080(10) Å, c = 15.1901(14) Å, β = 94.2550(10)°, V = 3856.5(6) $Å^3$, F(000) = 1456, ρ_{calcd} = 1.176 $Mg \cdot m^{-3}$, μ (Mo-Kα) = 0.071 mm^{-1}, T = 298(2) K, 18184 data were measured on a Bruker SMART Apex diffractometer, of which 6191 were unique (R_{int} = 0.1171); 508 parameters were refined against Fo^2 (all data), final wR_2 = 0.3489, S = 1.074, R_1 (I > 2σ(I)) = 0.0930, largest final difference peak/hole = +0.314 /-0.262 $e.Å^{-3}$.

CCDC-895653 (**2**) and 959339 (**7**) contain the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif.

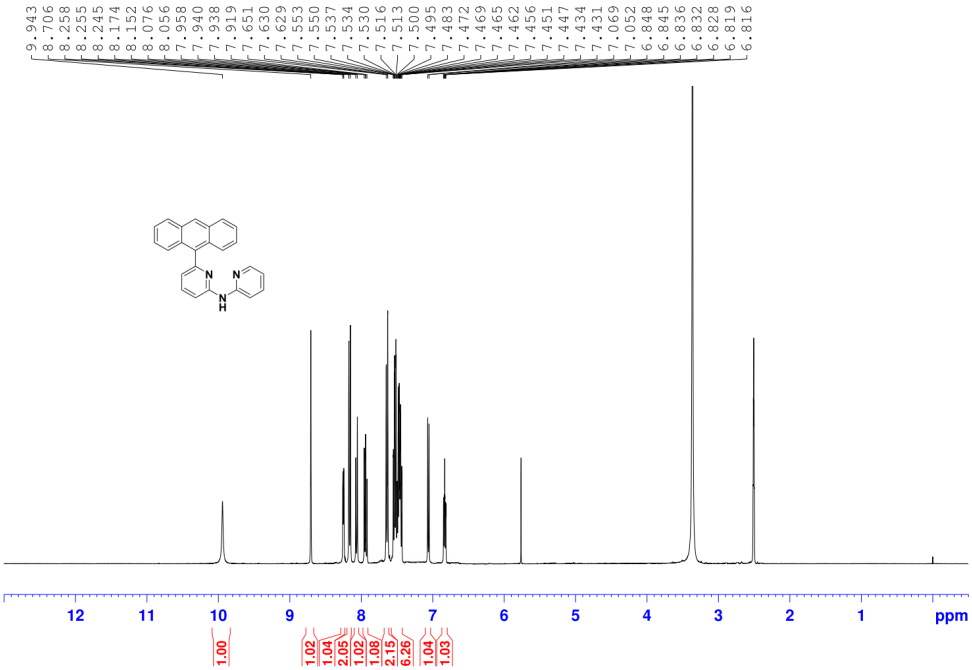

Fig. S1. The ^{1}H NMR spectrum of **1** in DMSO-d^{6}.

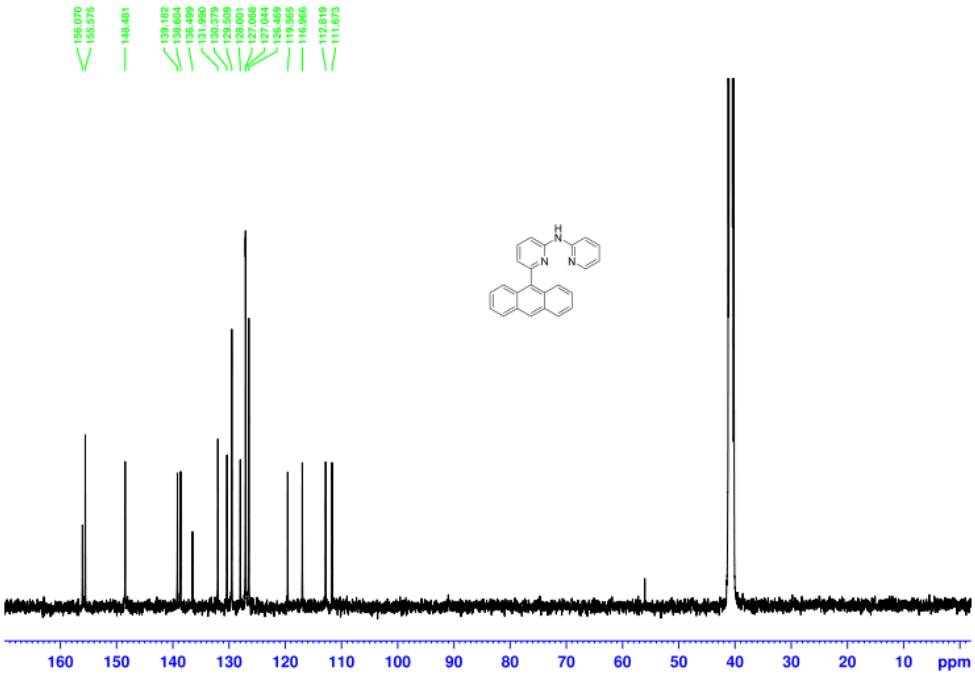

Fig. S2. The ^{13}C NMR spectrum of **1** in DMSO-d^{6}.

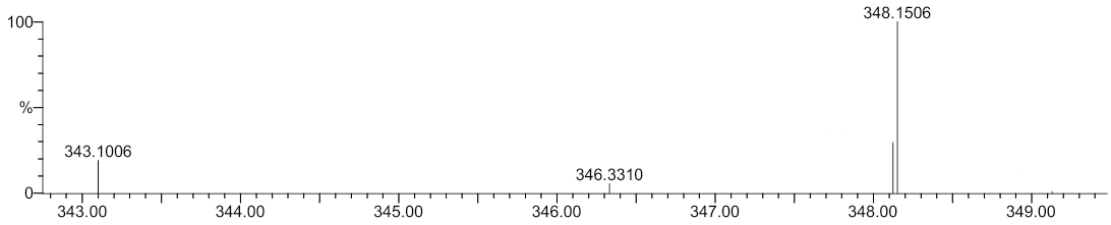

Fig. S3. ESI HRMS of **1** in MeOH.

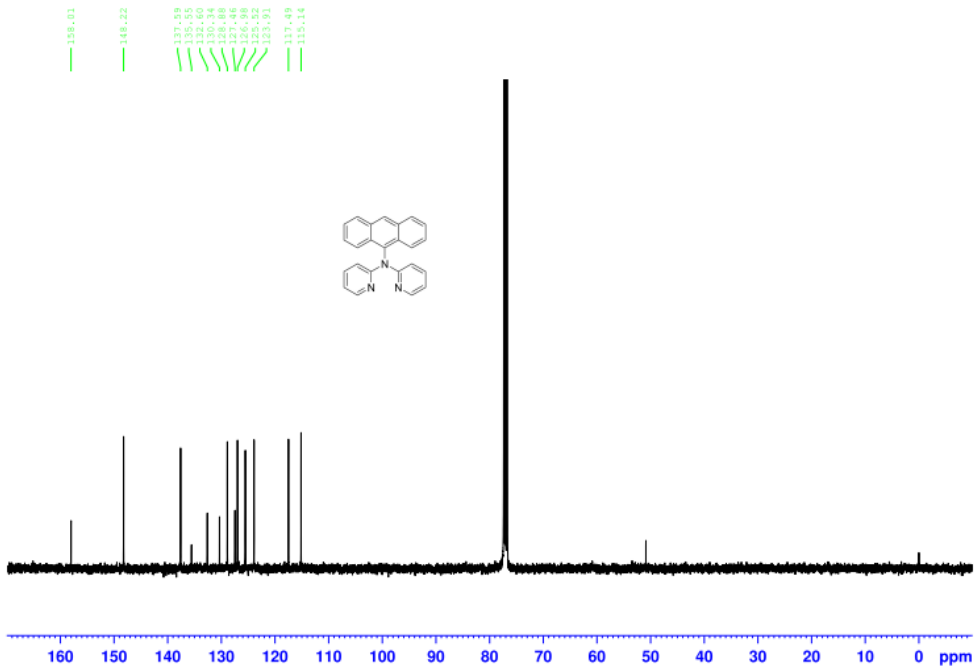

Fig. S4. The ^{13}C NMR spectrum of **2** in $CDCl_3$.

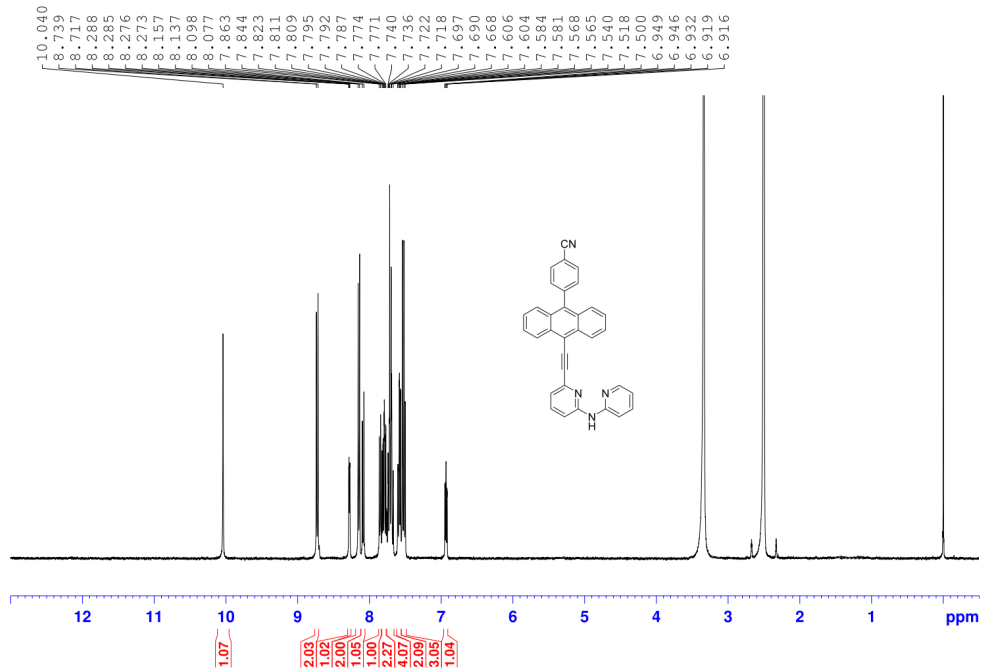

Fig. S5. The ^{1}H NMR spectrum of **4** in DMSO-d^{6}.

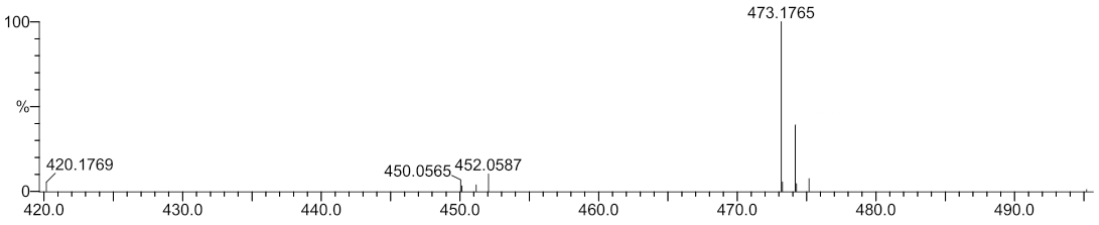

Fig. S6. ESI HRMS of **4** in MeOH.

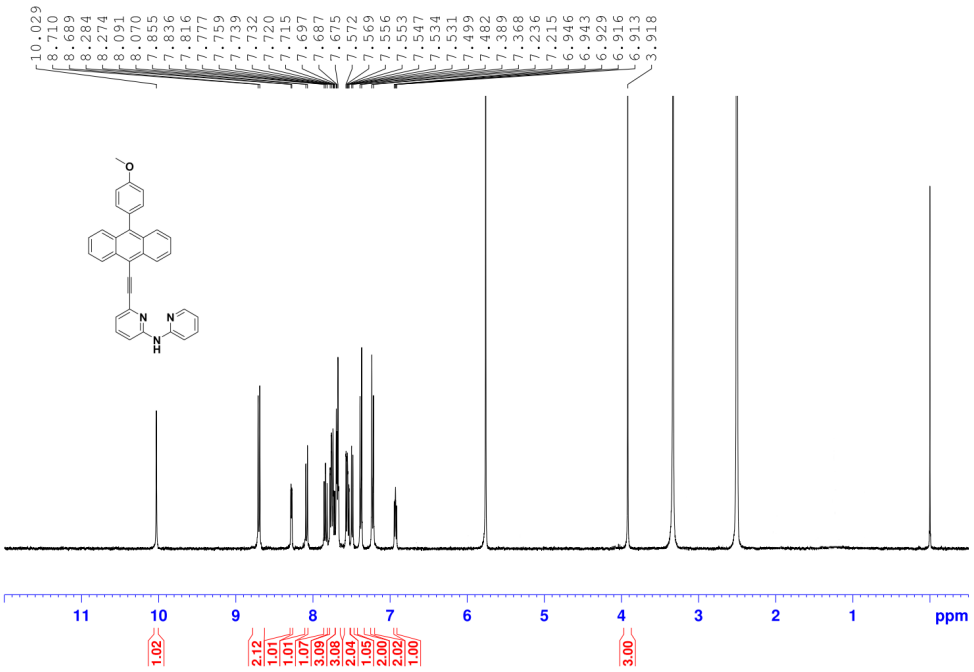

Fig. S7. The ^{1}H NMR spectrum of **5** in DMSO-d^{6}.

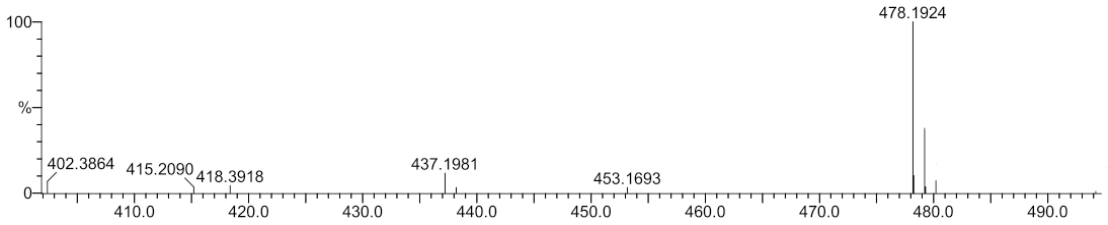

Fig. S8. ESI HRMS of **5** in MeOH.

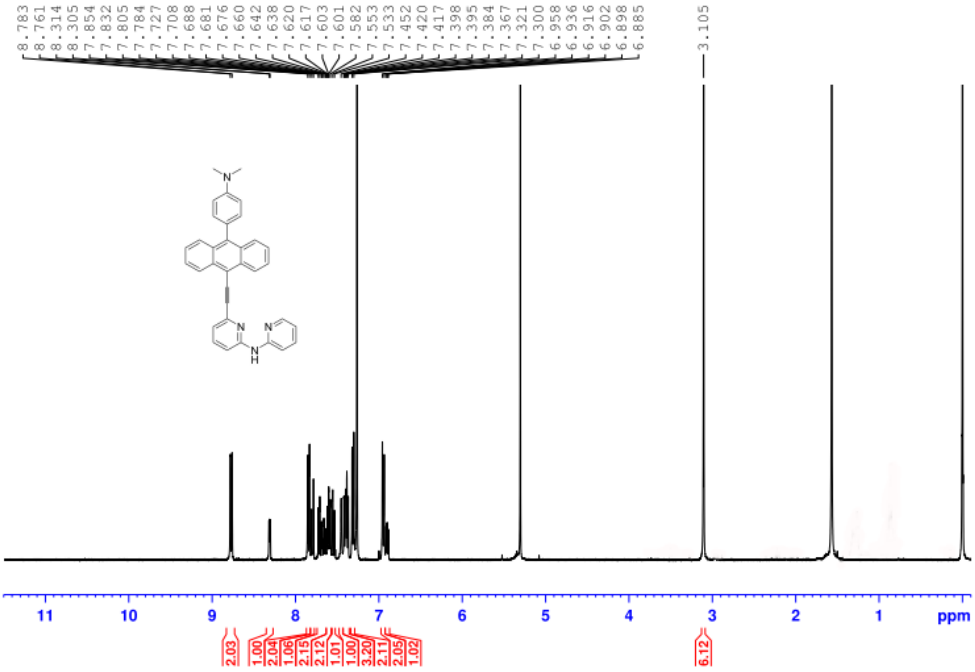

Fig. S9. The ^{1}H NMR spectrum of **6** in $CDCl_3$.

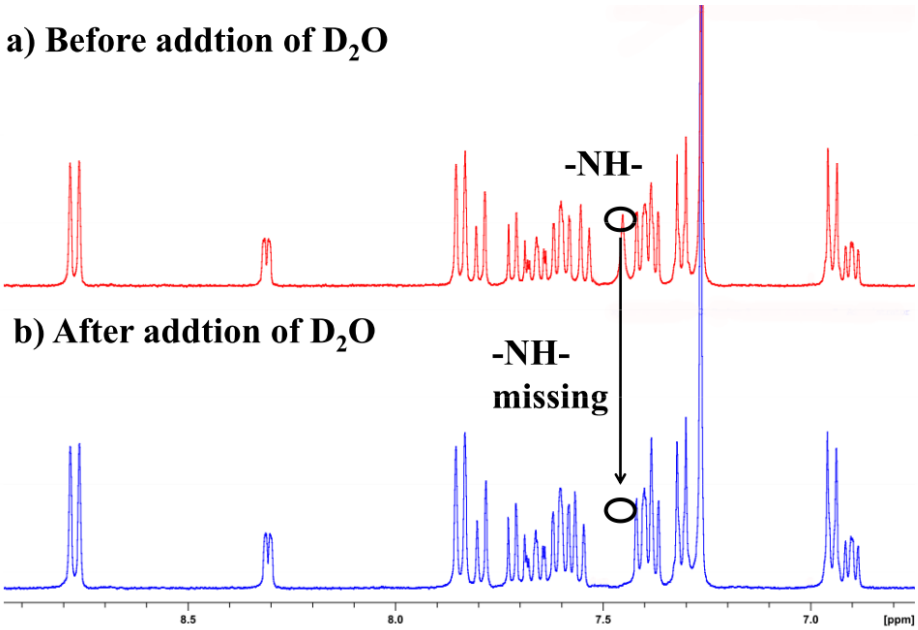

Fig. S10. The ^{1}H NMR spectrum of **6** in $CDCl_3$. a) Before addition of D_2O; b) After addition of D_2O.

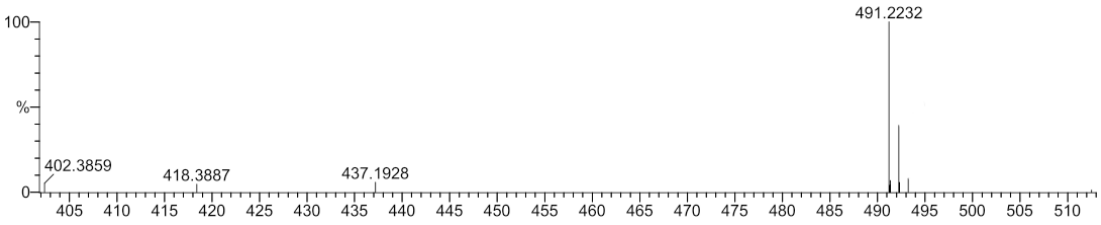

Fig. S11. ESI HRMS of **6** in MeOH.

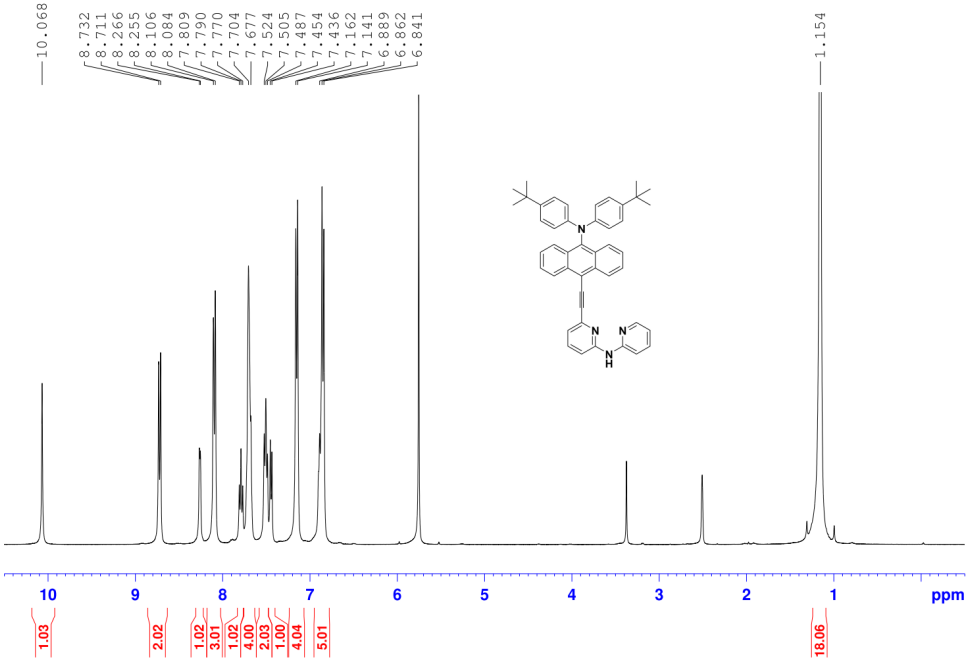

Fig. S12. The ^{1}H NMR spectrum of **7** in DMSO-d^{6}.

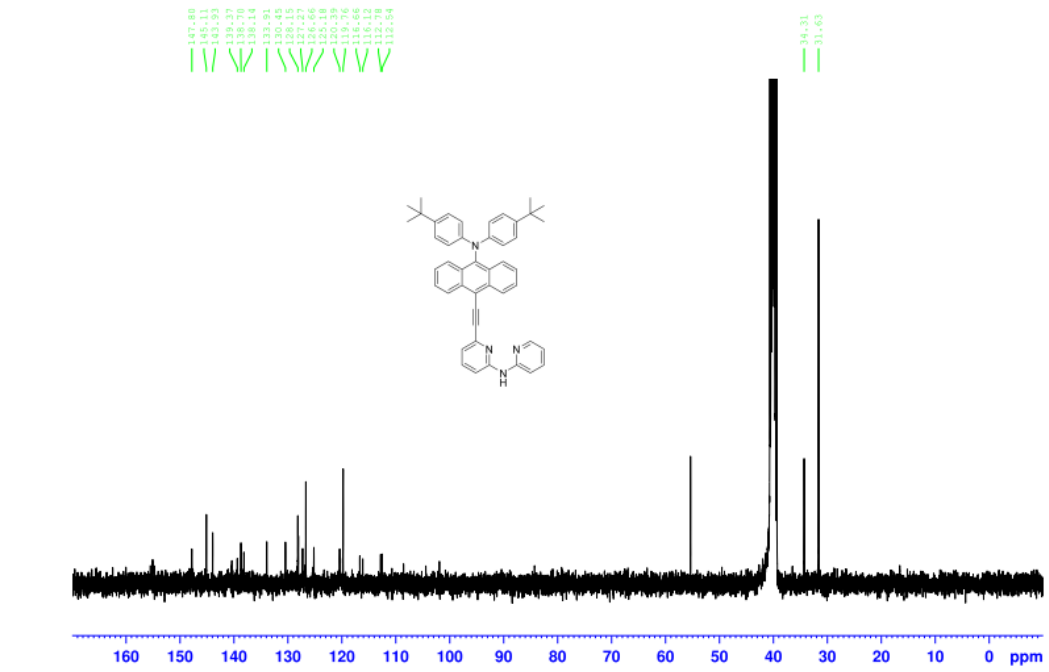

Fig. S13. The ^{13}C NMR spectrum of **7** in DMSO-d^6.

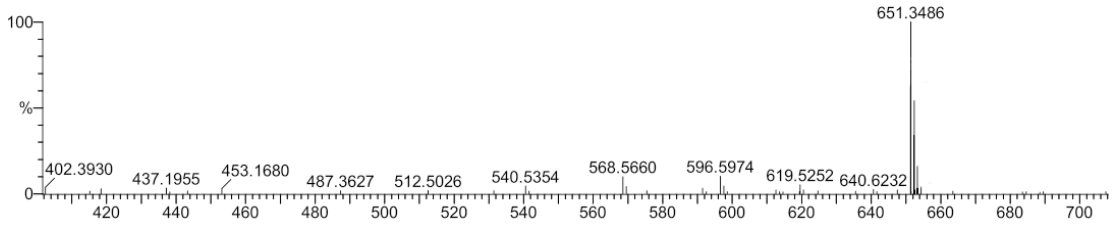

Fig. S14. ESI HRMS of **7** in MeOH.

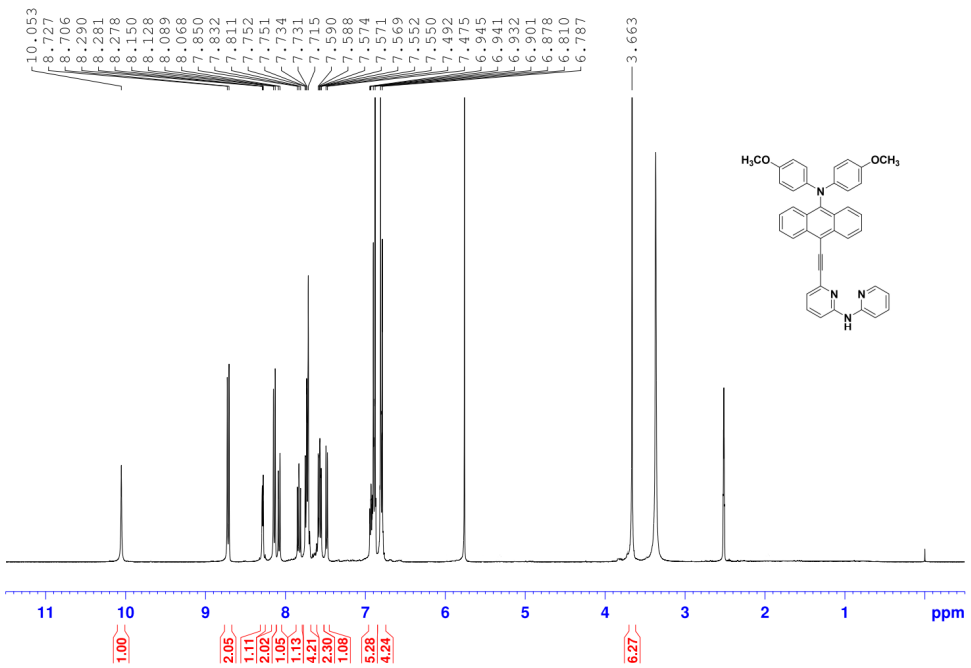

Fig. S15. The ^{1}H NMR spectrum of **8** in DMSO-d^{6}.

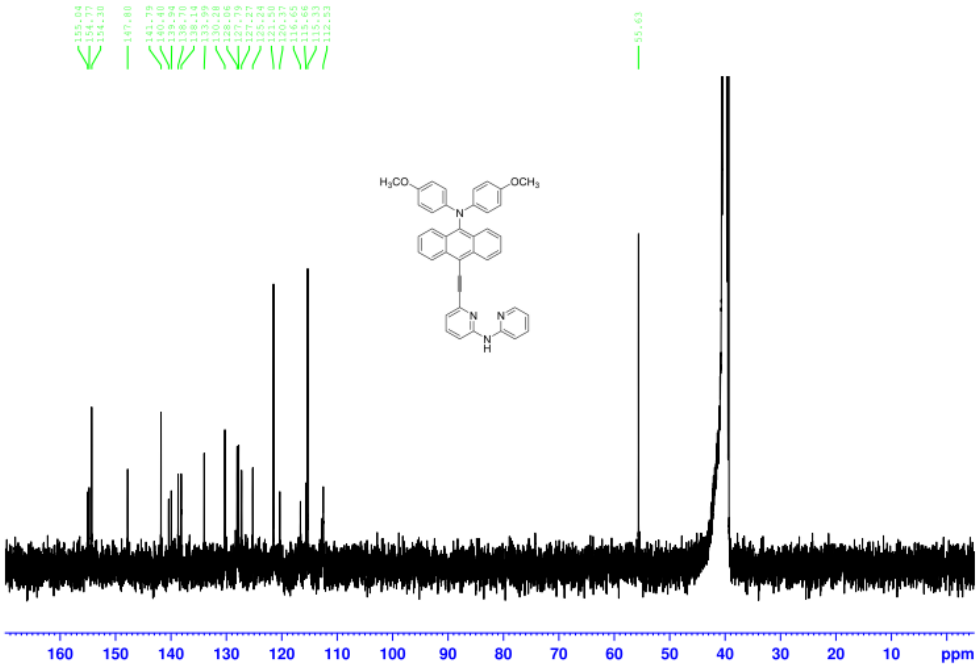

Fig. S16. The ^{13}C NMR spectrum of **8** in DMSO-d^{6}.

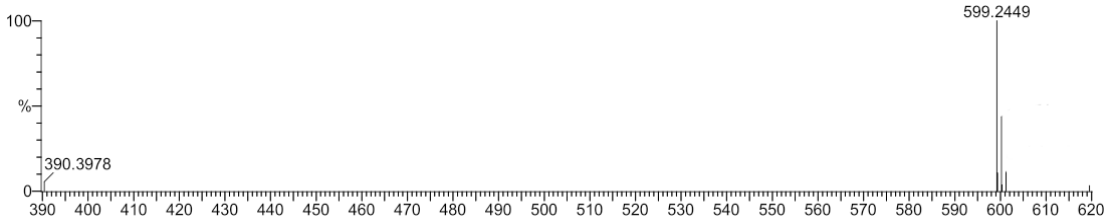

Fig. S17. ESI HRMS of **8** in MeOH.

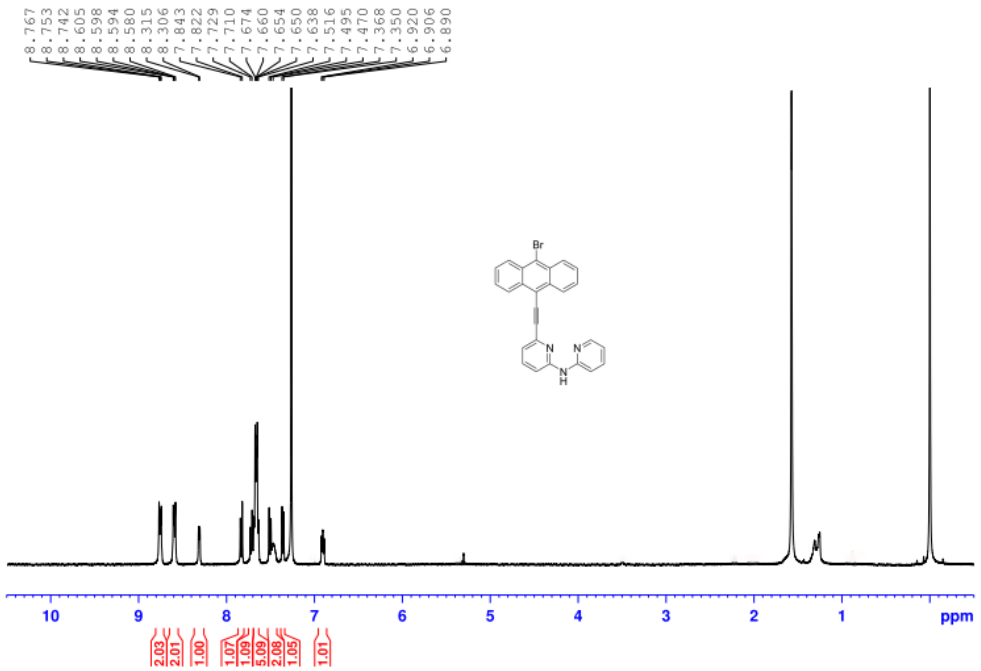

Fig. S18. The ^{1}H NMR spectrum of **9** in $CDCl_3$.

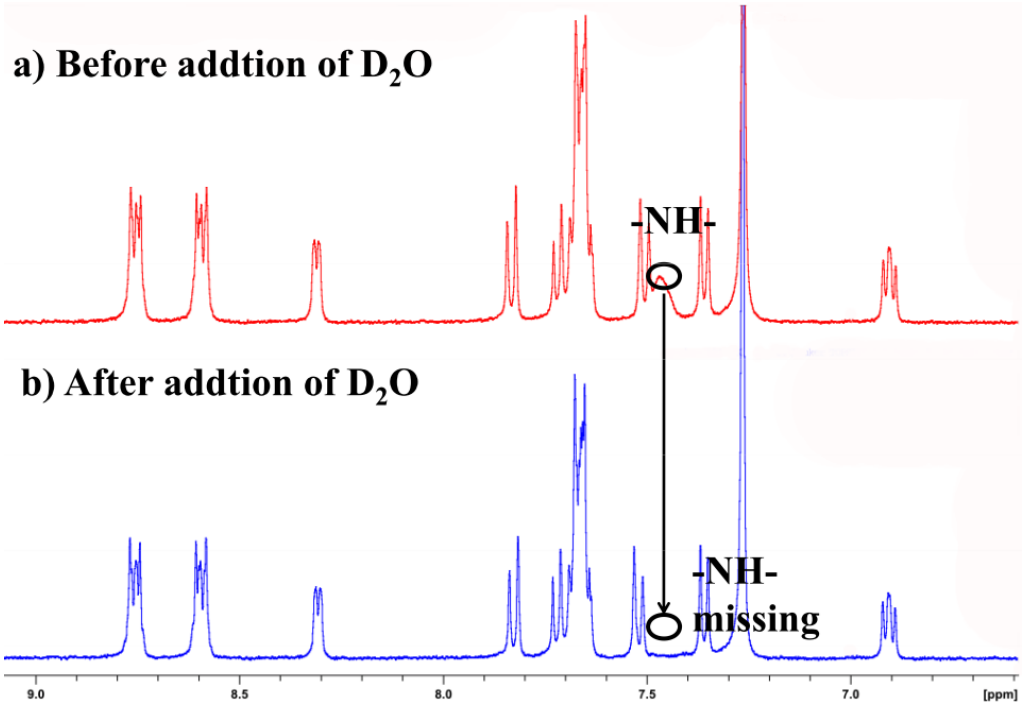

Fig. S19. The ^{1}H NMR spectrum of **9** in $CDCl_3$. a) Before addition of D_2O; b) After addition of D_2O.

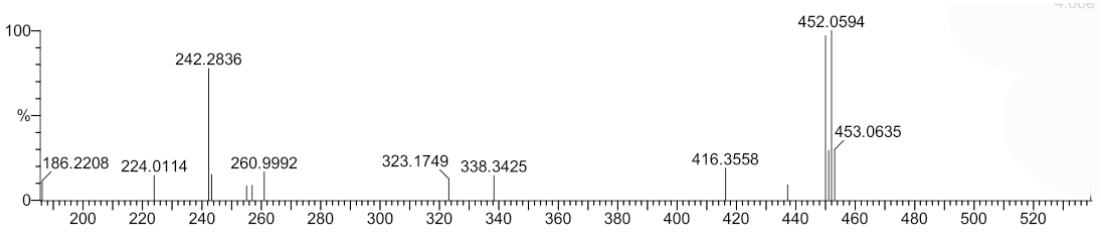

Fig. S20. ESI HRMS of **9** in MeOH.

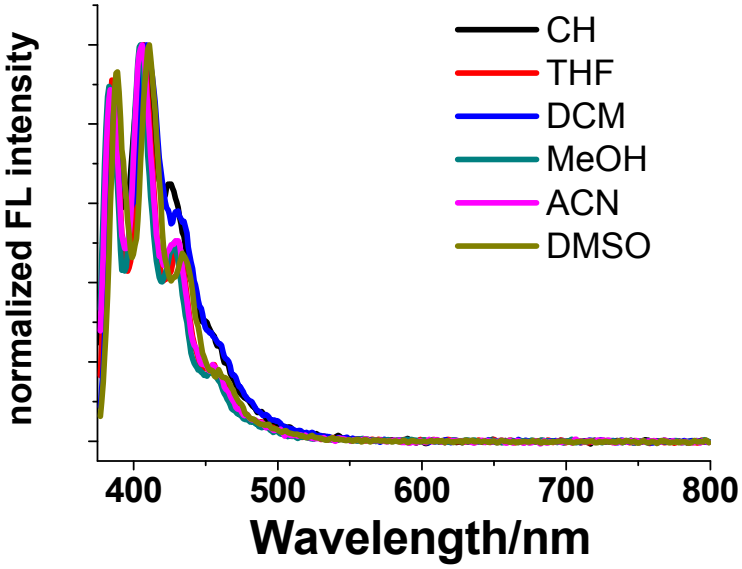

Fig. S21. Emission spectra of **1** recorded in various solvents.

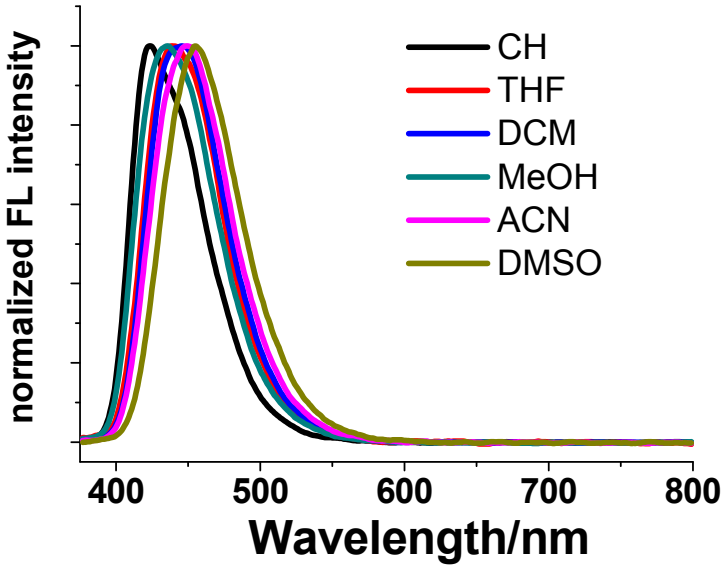

Fig. S22. Emission spectra of **2** recorded in various solvents.

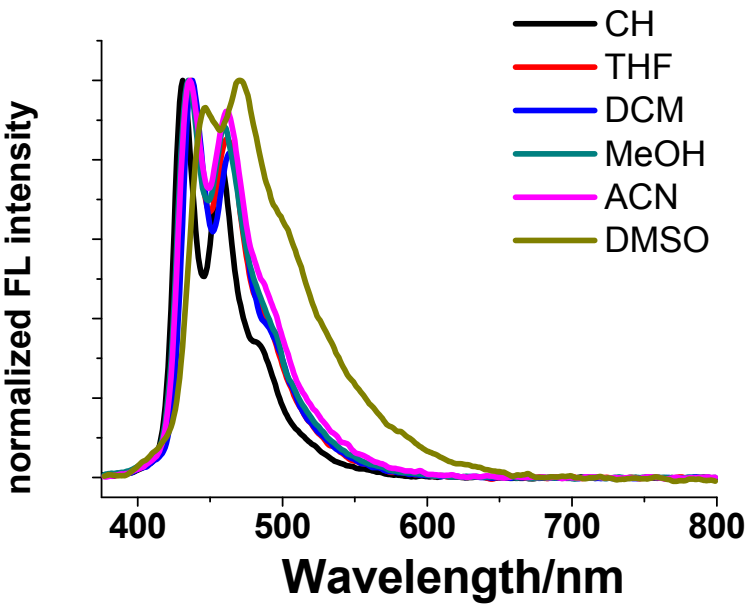

Fig. S23. Emission spectra of **3** recorded in various solvents.

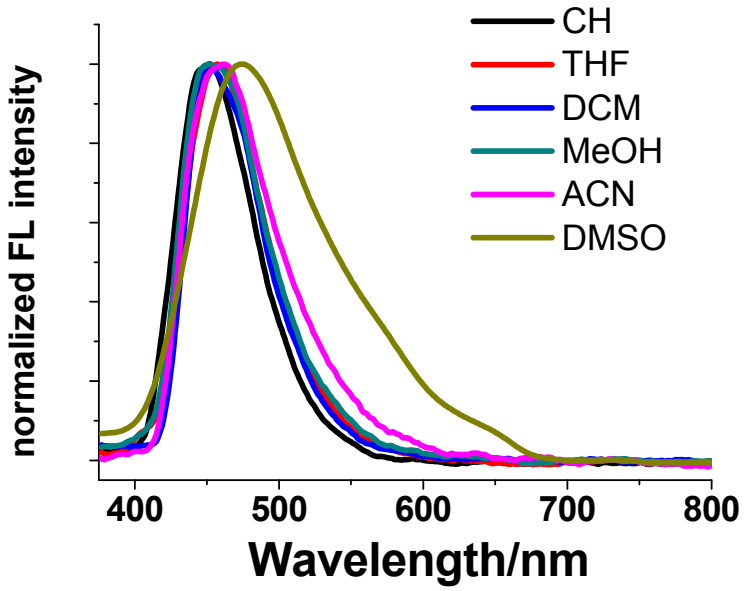

Fig. S24. Emission spectra of **4** recorded in various solvents.

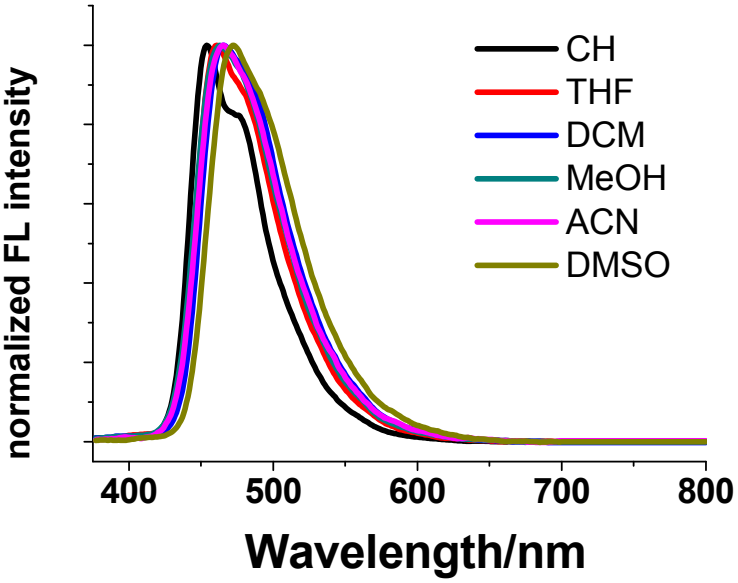

Fig. S25. Emission spectra of **5** recorded in various solvents.

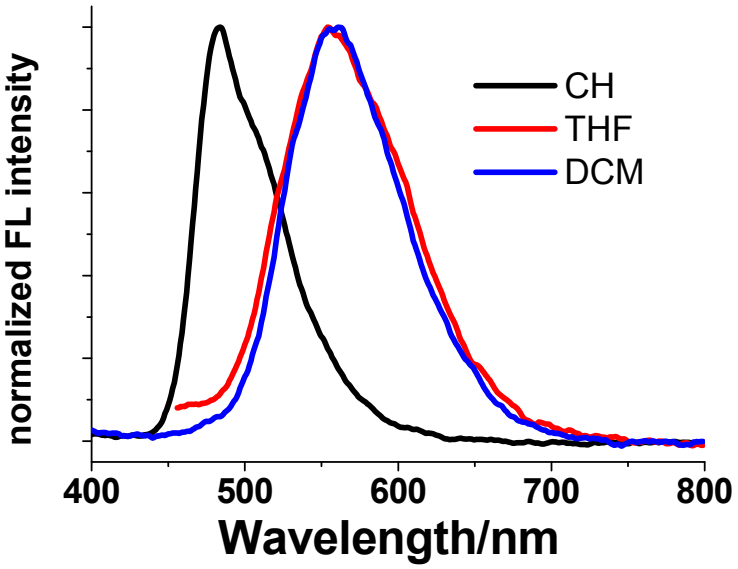

Fig. S26. Emission spectra of **6** recorded in various solvents.

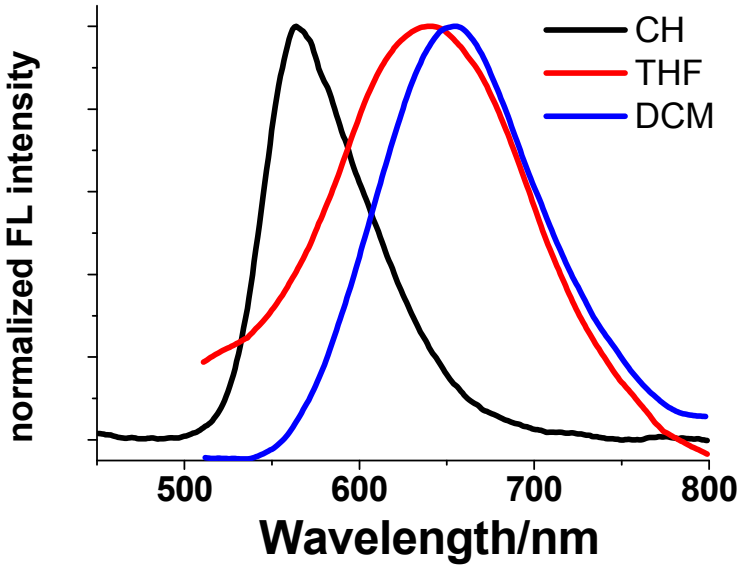

Fig. S27. Emission spectra of **8** recorded in various solvents.

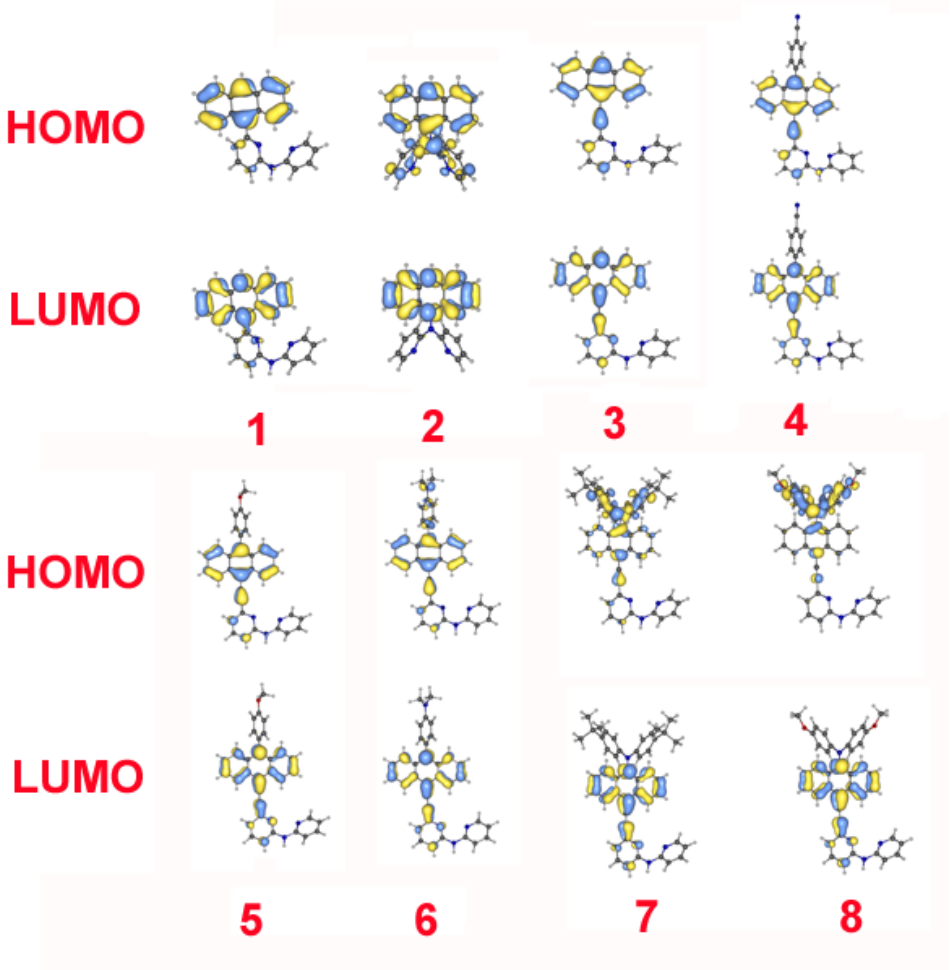

Fig. S28. Diagrams showing the HOMO and LUMO levels of **1~8**.

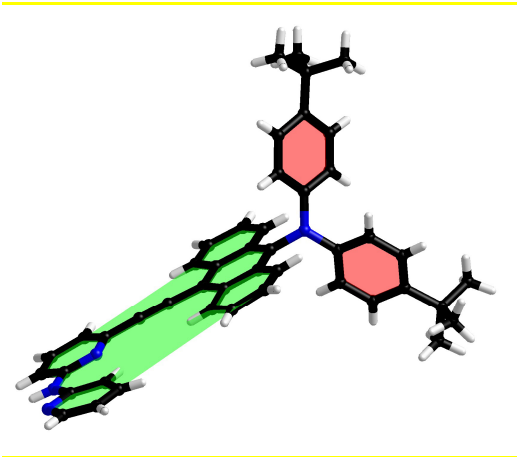

Fig. S29. X-ray crystal structure of **7**.

Table 1. Quantum yields of **1**~**8** in different solvents.

entry	Φ_F/% CH	Φ_F/% THF	Φ_F/% CH_2Cl_2	Φ_F/% MeOH	Φ_F/% ACN	Φ_F/% DMSO
1	11	7	9	8	7.5	12
2	51	83	80	60	72	77
3	62	50	69	66	72	38
4	14	11	15	14	17	12
5	50	46	41	34	29	27
6	51	46	46	n.d.	n.d.	n.d.
7	80	74	67	21	18	12
8	26	1.3	1	n.d.	n.d.	n.d.

Note: n. d. denotes too weak signal to be detected.