Electronic Supplementary Information

AIEgens for real-time naked-eye sensing of hydrazine in solution and on paper substrate: structure-dependent signal output and selectivity

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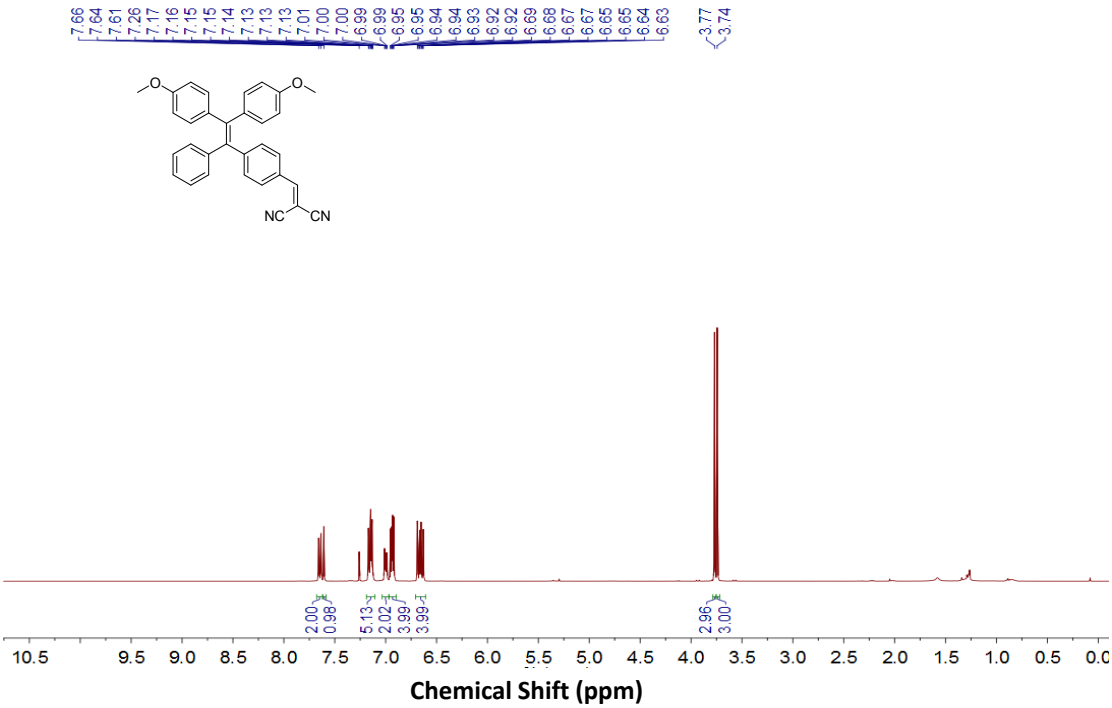

Figure S1. ^{1}H NMR spectrum of MTPE-DCV in $CDCl_3$.

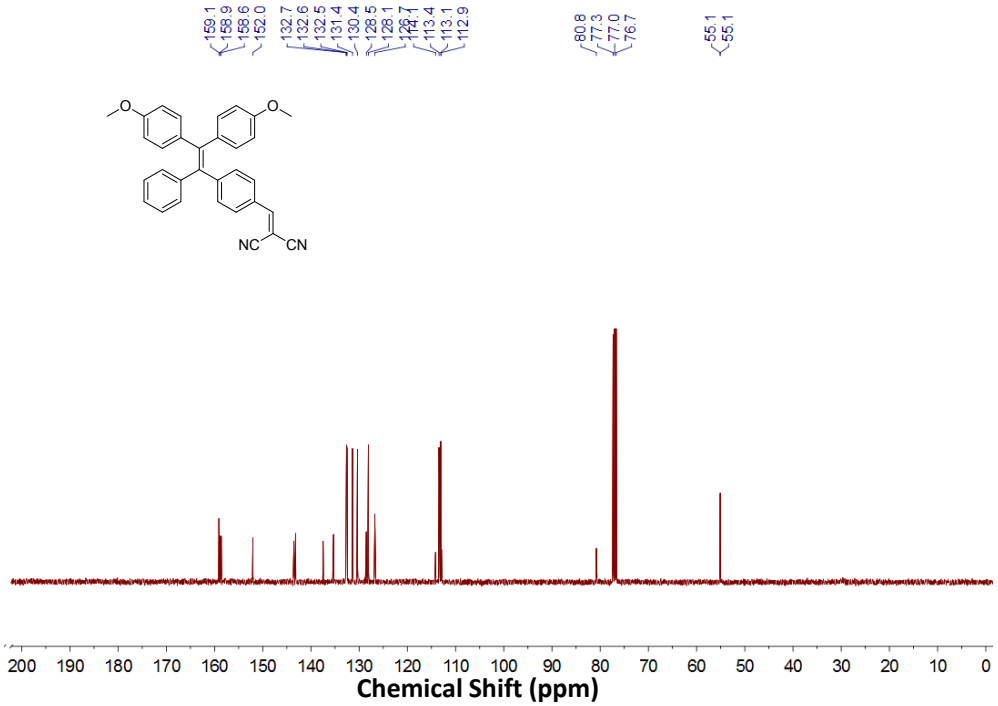

Figure S2. ^{13}C NMR spectrum of MTPE-DCV in $CDCl_3$.

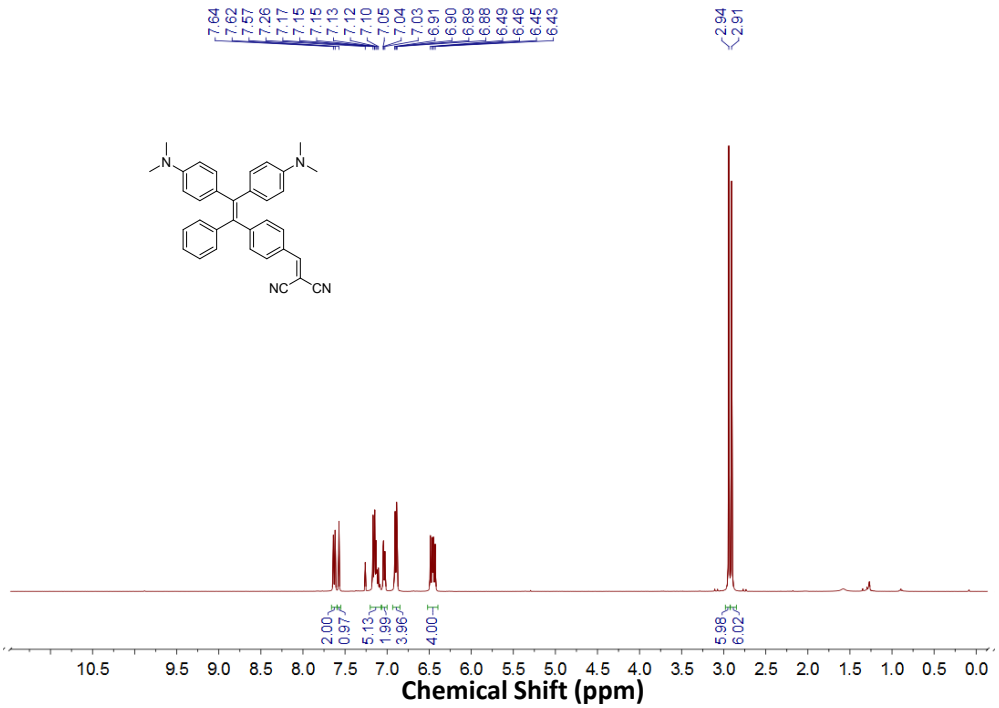

Figure S3. ^{1}H NMR spectrum of NTPE-DCV in $CDCl_3$.

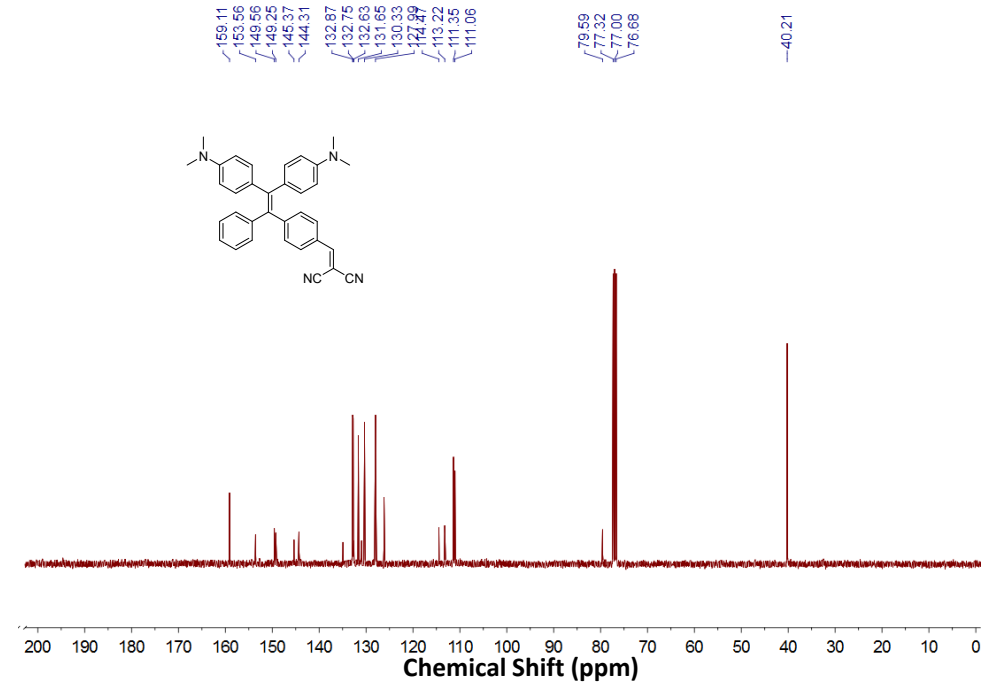

Figure S4. ^{13}C NMR spectrum of NTPE-DCV in $CDCl_3$.

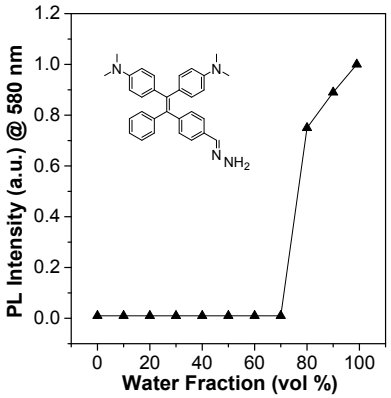

Figure S5. Plots of the maximum PL intensity of 10 μM hydrazone product of NTPE-DCV against water fractions (vol %) in the solvent mixture of DMSO-H_2O. λ_{ex} = 380 nm.

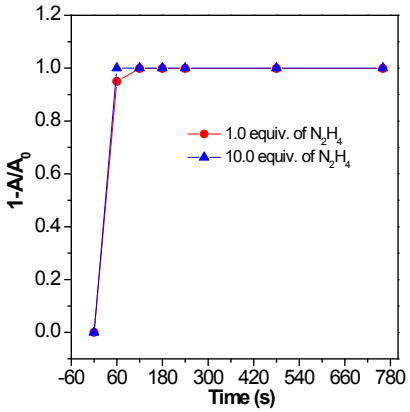

Figure S6. The plot of normalized changes in UV-vis absorbance (1-A/A_0) of 100 μM NTPE-DCV upon addition of 1.0, and 10.0 equiv. of hydrazine over different time scales in the mixture of DMSO-H_2O (v/v = 9/1).

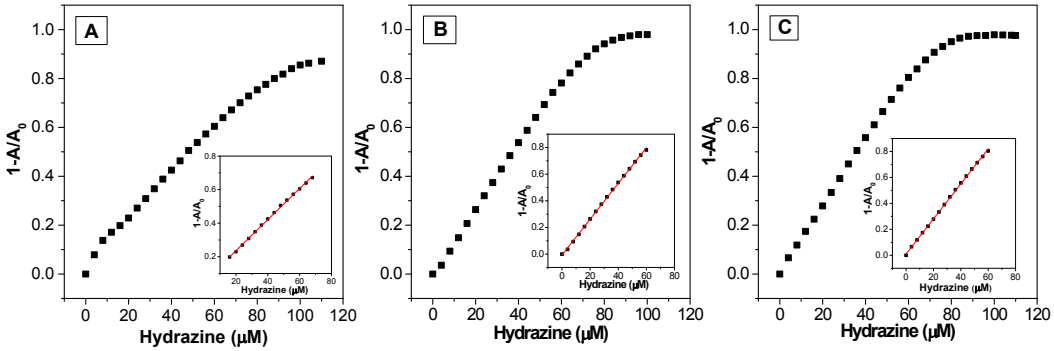

Figure S7. The plot of normalized changes in UV-vis absorption (1-A/A_0) of 100 μM (A) TPE-DCV, (B) MTPE-DCV, and (C) NTPE-DCV against the concentration of hydrazine (0–110 μM) in DMSO-PBS buffer (10 mM, pH = 7.4, v/v = 9:1); the inset shows the linear regions of the plots, respectively.

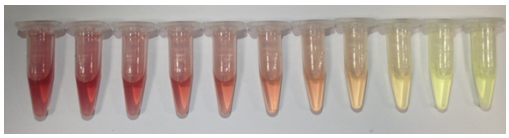

Figure S8. Photographs of 100 μM NTPE-DCV in DMSO-PBS buffer (10 mM, pH = 7.4, v/v = 9:1) after incubation with 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 μM hydrazine. (Photographs were taken under natural light.)

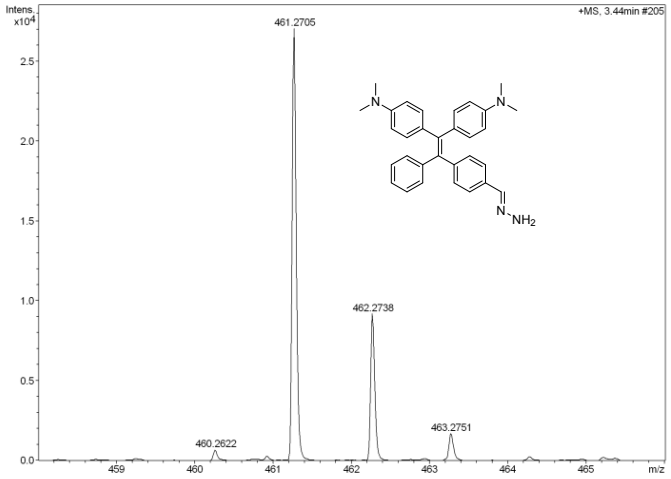

Figure S9. HRMS (ESI) spectrum of the hydrazone product of NTPE-DCV with hydrazine. m/z $[M+H]^+$ calcd for $C_{31}H_{33}N_4$: 461.2705; found: 461.2705.