Supporting Information (SI)

Dimalononitrile-Containing Probe based on Aggregation-Enhanced Emission Feature for the Multi-Mode Fluorescence Detection of Volatile Amines

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Figure S1: $^1$H NMR spectrum of ZZ-HPB–CN recorded in DMSO-d6.
Figure S2: MS of ZZ-HPB-CN.

Figure S3: $^{13}$C NMR spectrum of ZZ-HPB-CN recorded in DMSO-d6.
Figure S4: FTIR spectra of ZZ-HPB-CHO and ZZ-HPB-CN.

Figure S5 PL spectra of ZZ-HPB-CN in mixture of water and THF. [ZZ-HPB-CN] =1×10^{-4} M; \lambda_{ex} = 410 \text{ nm}.
Figure S6. Abs spectra of ZZ-HPB-CN in mixture of water and THF. [ZZ-HPB-CN] =1×10^{-4} \text{M}; \lambda_{ex} = 410 \text{ nm}.

Figure S7. Dynamic light scattering results of ZZ-HPB-CN at 90% water fraction. [ZZ-HPB-CN] = 1×10^{-4} \text{ M}. 
Fig. S8 The time-dependence fluorescence response to amine vapor (A) ethylenediamine, (B) di-n-propylamine, (C) diethylamine and (D) trimethylamine.
Fig. S9 (A) The fluorescent spectrum of $10^{-3}$ M ZZ-HPB-CN (1), (1) with 1 ppm styrene (2), (1) with 1 ppm styrene for 60 seconds (3), (1) with 1 ppm styrene and 1 ppm triethylamine mixture (4); (B) The changes of fluorescence intensity and maximum emission wavelength of (1), (2), (3), (4).

Fig. S10 The UV absorption of ZZ-HPB-CN (blank), Trimethylamine/ZZ-HPB-CN with different volume ratio and volume ratio was 1:1 adding with 5 μL $10^{-2}$ M HAc.