Supporting Information

A fast-responding, highly sensitive detection system consisting of fluorescent probe and palladium ion for \( \text{N}_2\text{H}_4 \) in environmental water and living cells

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Figure S1. $^1$H-NMR of compound 1

Figure S2. $^1$H-NMR of probe BINC
Figure S3. $^{13}$C-NMR of probe BINC

Figure S4. HRMS of probe BINC
Figure S5. $^1$H-NMR of product ACMN

Figure S6. HRMS of product ACMN
Figure S7. Survival rate of HeLa cells after incubation with different concentrations (0 μM, 5 μM, 10 μM, 15 μM and 25 μM) of probe BINC for 24h.

Figure S8. The fluorescence respond of the BINC (5 μM) - Pd²⁺ (10 μM) system to N₂H₄, HCHO, CO, H₂ and NO in PBS (pH=7, PO₄³⁻ =10 mM, containing 30% ethanol). The final concentration was 10 μM for N₂H₄ and HCHO. Fluorescence detection for CO, H₂ and NO was carried out by bubbling (10 mL/min) an air stream of CO, H₂ and NO into BINC-Pd²⁺ for 10 min and then further reacting at room temperature for 30 min.