Supporting Information for

A benzimidazole-based highly selective colorimetric and far-red fluorometric pH sensor for intracellular imaging

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Table of Contents

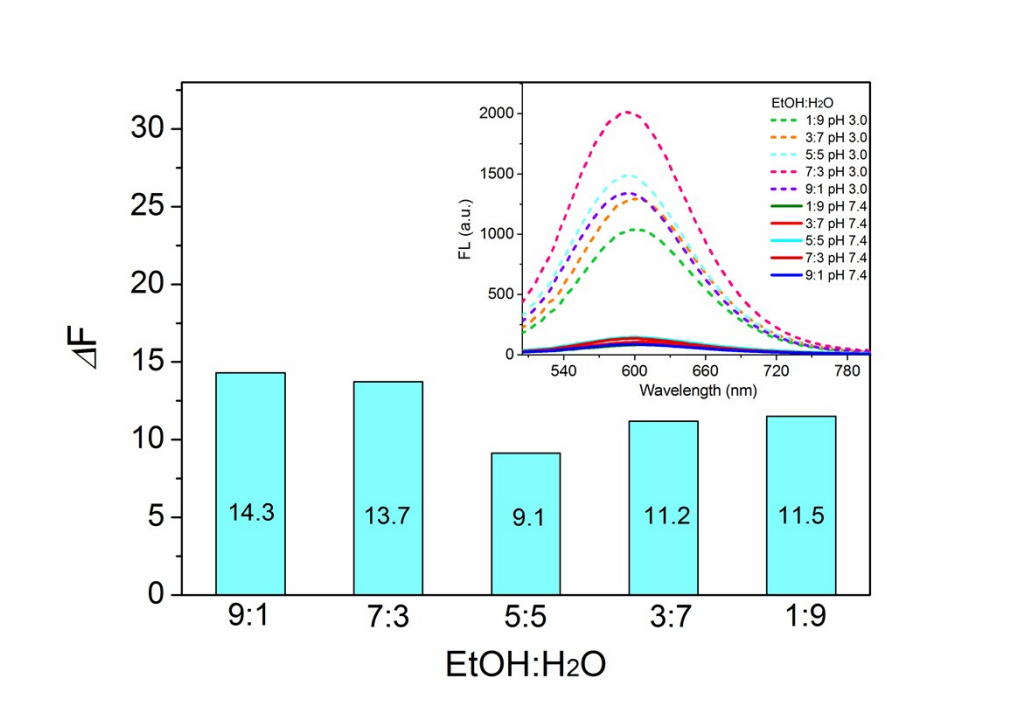

Figure S1. ΔF at 605 nm of **BVD** (5 μM) in various ethanol-water solution (1:9, 3:7, 5:5, 7:3, 9:1, v/v, EtOH/H_2O); $\Delta F=(F_H-F_0)/F_0$, F_H is the fluorescence intensity at pH 3.0, and F_0 is the fluorescence intensity at pH 7.4. Inset: the fluorescence spectra of **BVD** (5 μM) in various ethanol-water solution (1:9, 3:7, 5:5, 7:3, 9:1, v/v, EtOH/H_2O) at pH 7.4 and 3.0

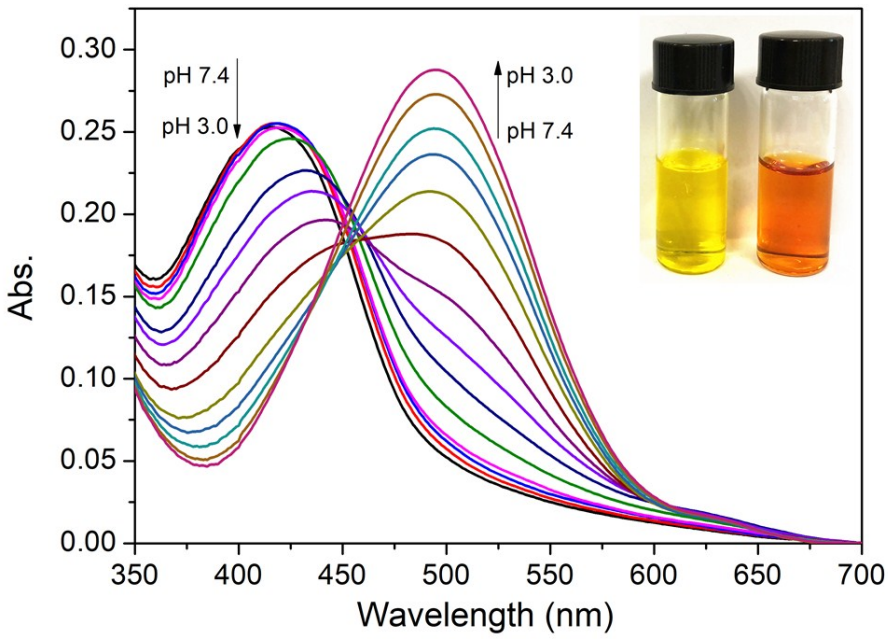

Figure S2. Changes of the UV-vis absorption spectra of **BVD** with decreasing pH from 7.4 to 3.0.Inset: the color of the solution changed from yellow toorange with decreasing pH.

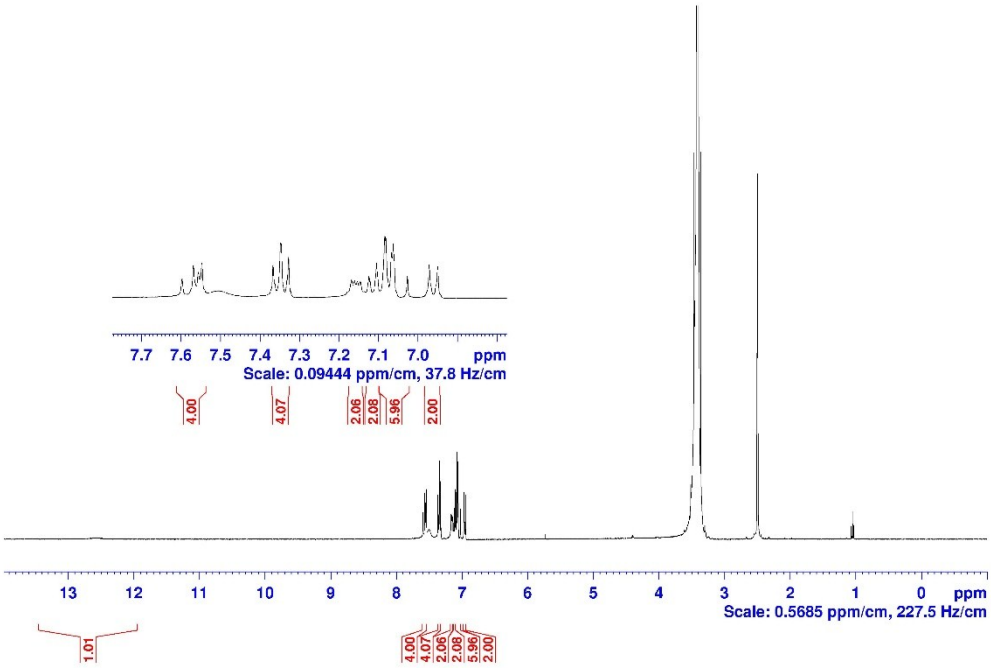

Figure S3.[1]H NMR spectrum of the probe **BVD.**

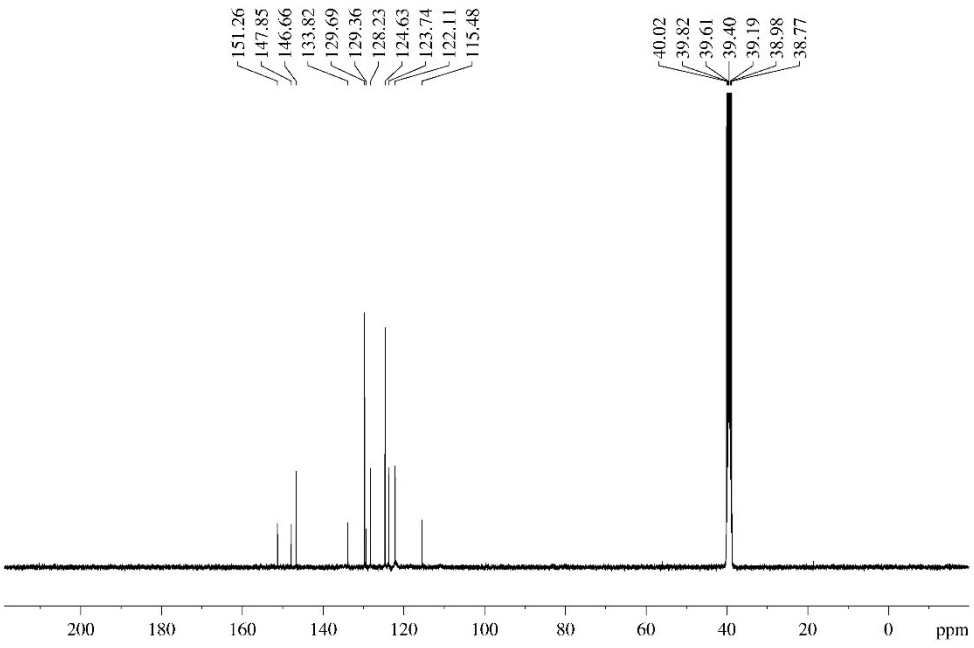

Figure S4.^{13}C NMR spectrum of the probe **BVD.**

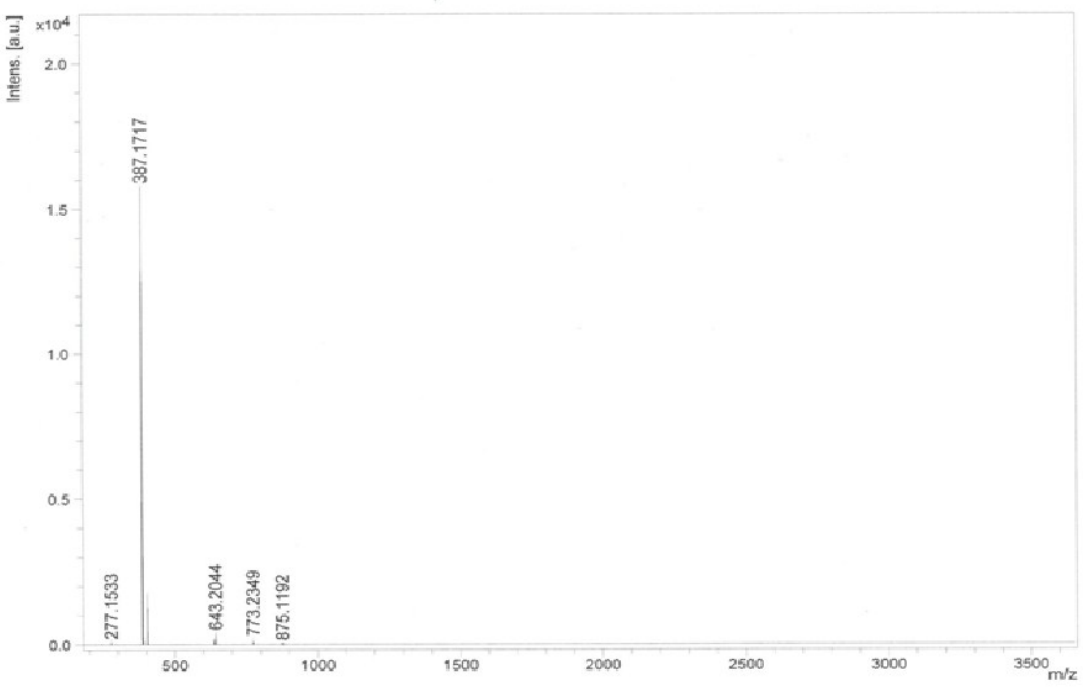

Figure S5. HR-MS spectrum of the probe **BVD**.

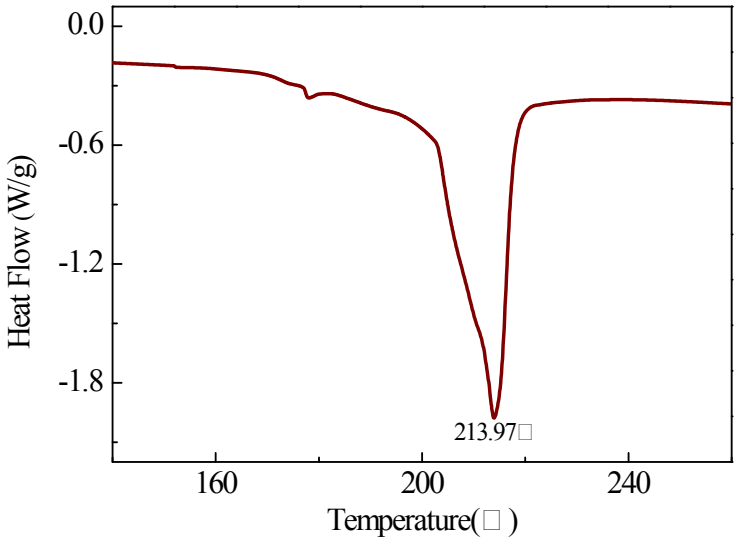

Figure S6. Differential scanning calorimetry of **BVD**.