

Supplementary data for

A solvent-mediated excited-state intermolecular proton transfer fluorescent probe for Fe³⁺ sensing and cell imaging

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1. ¹H NMR, ¹³C NMR and FTIR spectrum of 2-APC

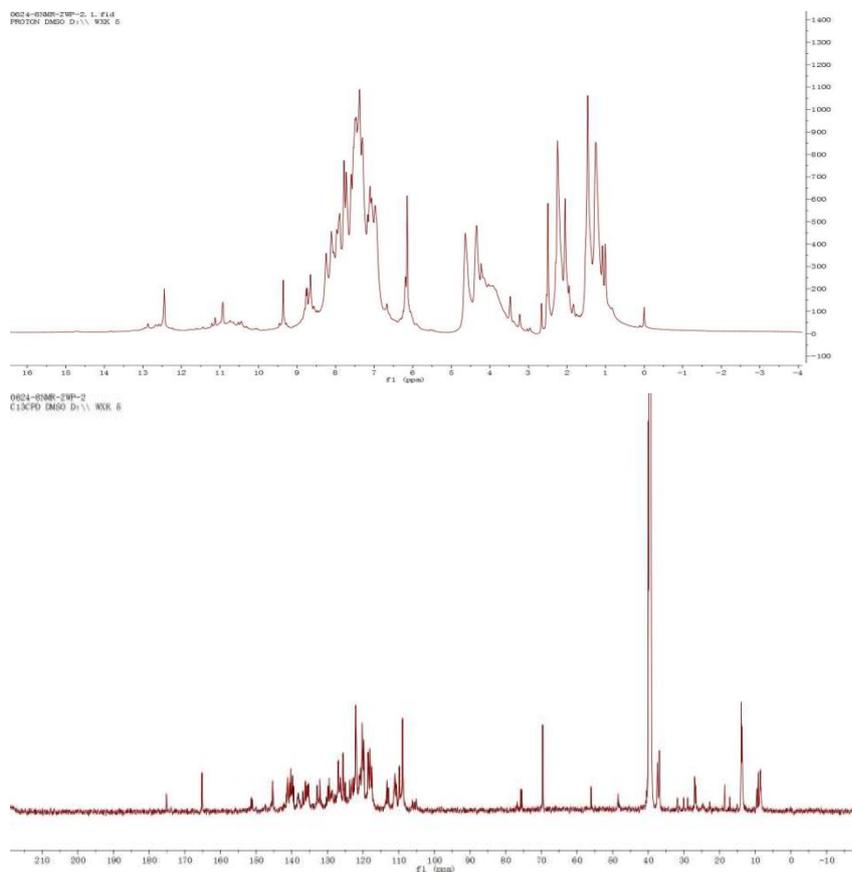


Figure S1 ¹H NMR and ¹³C NMR of 2-APC.

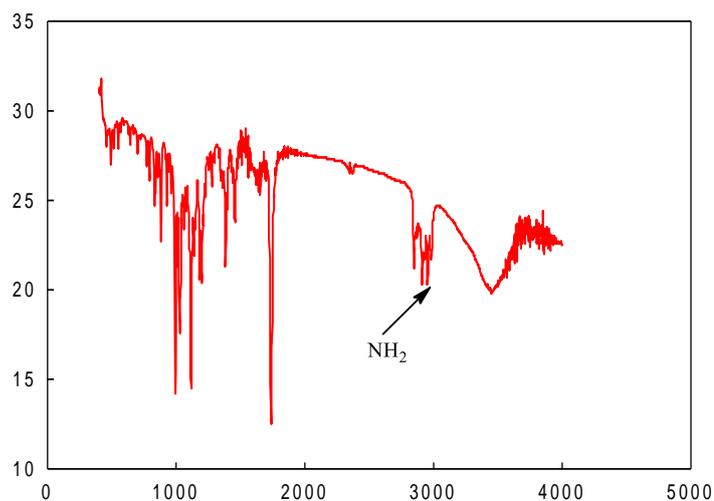


Figure S2 FTIR spectrum for the compound 2-APC.

2. Determination of fluorescence quantum yield

The fluorescence quantum yield (FQY) measurements were carried out using quinine sulfate (FQY=0.54 at 360 nm) in sulfuric acid (0.10 mol.L⁻¹, $\eta = 1.33$) as the standard substance. The absolute FQY values were estimated corresponding to the following equation:

$$\Phi_u = \Phi_s (I_u/I_s) (A_s/A_u) (\eta_u^2/\eta_s^2)$$

Φ is fluorescence quantum yield; I is the determined integrated fluorescence intensity; A is the optical density measured at the selected excitation wavelength; η is the refractive index. The subscript “s” refers to the standard FQY of the reference quinine sulfate. The subscript “u” refers to the unknown FQY of the fluorescent PNPs. In order to minimize re-absorption effect, absorbance in the 1.0 cm fluorescence cuvette was kept under 0.1 at the excitation wavelength of 360 nm.