molecules

MDPI

Supporting Information for

Partnered excited-state intermolecular proton transfer fluorescence (P-ESIPT) signaling for nitrate sensing and high resolution cell-imaging

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1. Characterization of ESIPT-F

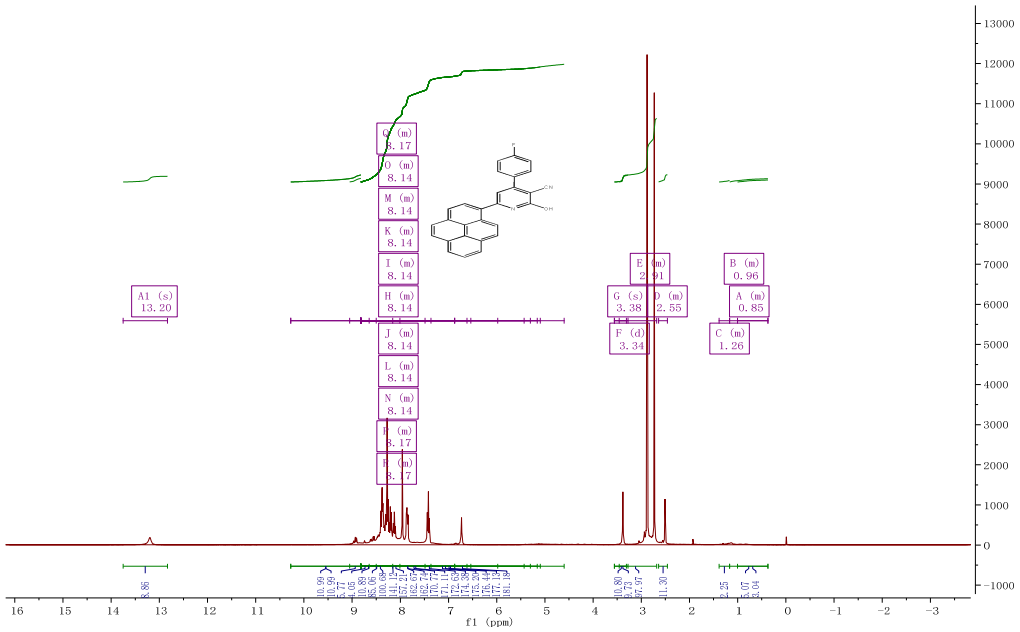


Fig.S1 [1]HNMR of ESIPT-F

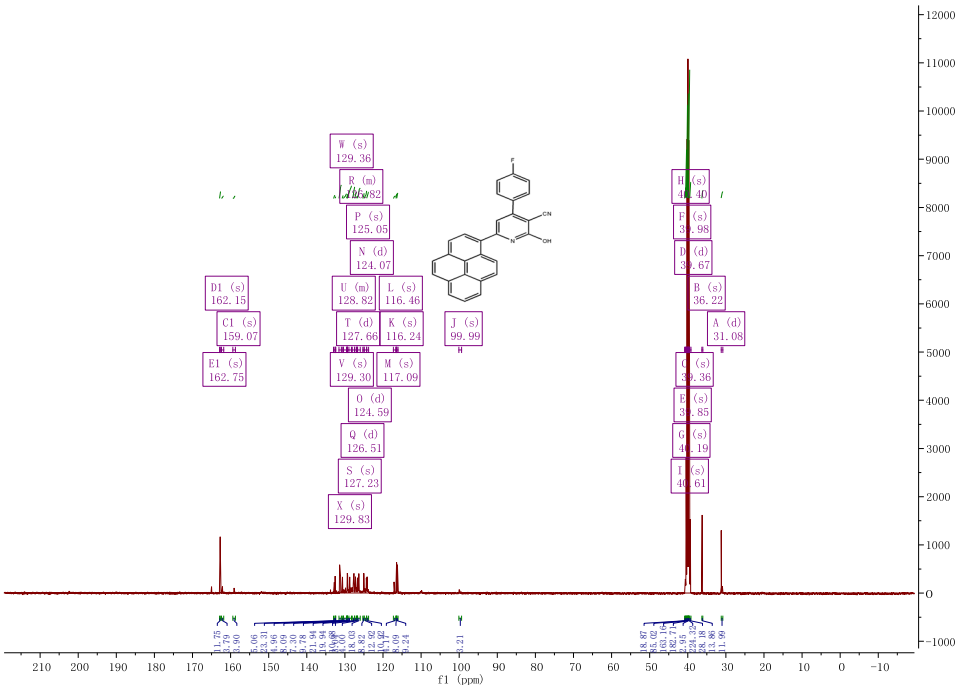
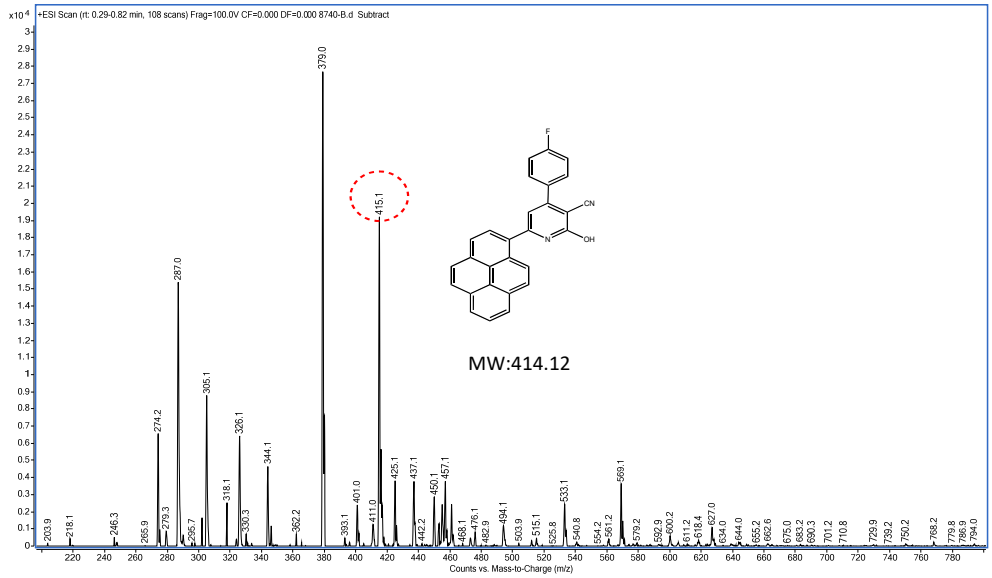


Fig.S2 ^{13}CNMR of ESIPT-F


+ESI Scan (rt: 0.29-0.82 min, 108 scans) Frag=100.0V CF=0.000 DF=0.000 8740-B.d Subtract
x10^4
Counts vs. Mass-to-Charge (m/z)
F
CN
OH
N
MW:414.12

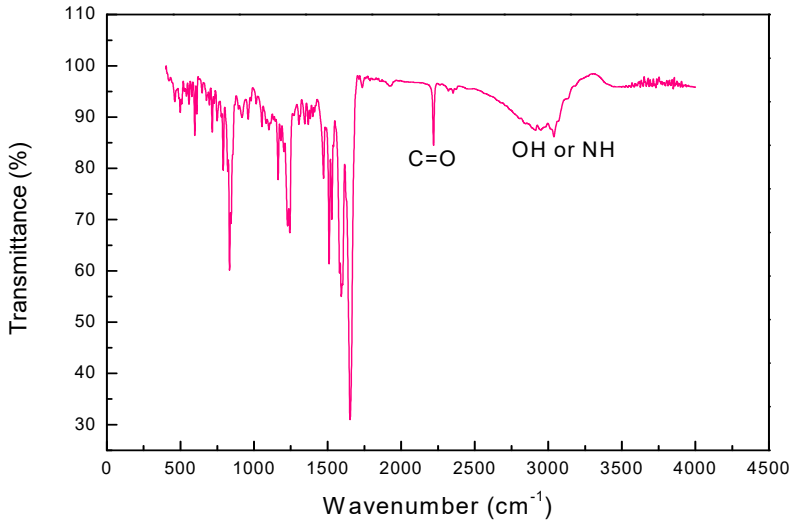


Fig.S4 FT-IR of ESIPT-F

2. Determination of fluorescence quantum yield

The fluorescence quantum yield (FQY) were determined using quinine sulfate (FQY=0.54 at 360 nm) in sulfuric acid (0.10 mol.L^{-1}, η =1.33) as the standard substance. The absolute FQY values were calculated corresponding to the following equation:

$$\Phi_u=\Phi_s(I_u/I_s)(A_s/A_u)(\eta^2_u/\eta^2_s)$$

Φ is fluorescence quantum yield; I is the measured 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.

3. MTT assays of ESIPT-F

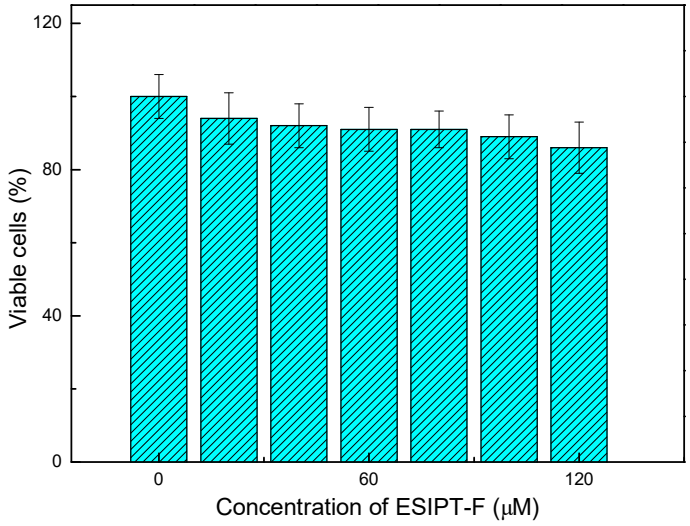


Fig.S5 Denotes% cell viability of HEC-1-A cells treated with different concentrations (0-120 μM) of ESIPT-F for 12 h determined by MTT assay. Results are expressed as mean ± S.D. of three independent experiments.