

Supporting Information

Highly selective, naked-eye and fluorescent “off-on” probe for detection of histidine/histidine-rich protein and its application in living cell imaging

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1. The fluorescent Spectra of M2 with Cu(II) addition

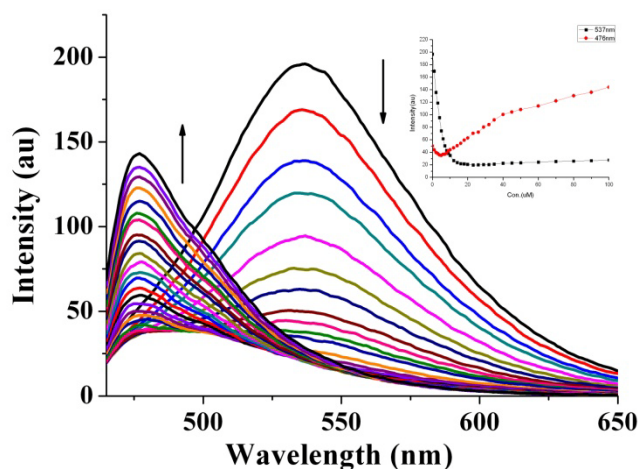


Fig S1. The fluorescent influence of **M2** (10 μM) in the presence of increasing Cu^{2+} concentration (0 – 100 μM) in EtOH-buffer solution (40/60, v/v, 50 mM HEPES, pH 7.2).

2. Determination of the association constant K_s

The association constant (K_s , Formation of a 1:1 complex) was determined by a nonlinear least-squares analysis of I versus CM using the following equation:

$$Y = Y_0 + \frac{Y_{\text{lim}} - Y_0}{2} \left\{ 1 + \frac{C_M}{C_L} + \frac{1}{K_s C_L} - \left[\left(1 + \frac{C_M}{C_L} + \frac{1}{K_s C_L} \right)^2 - 4 \frac{C_M}{C_L} \right]^{1/2} \right\}$$

Where Y is the fluorescent intensity (or fluorescent intensity ratio); C_M is the concentration of additional compounds; C_L is the concentration of probe.

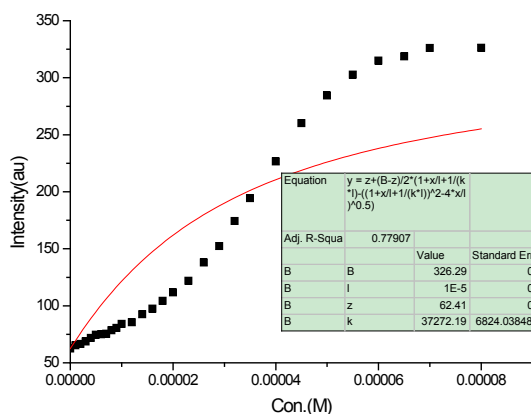


Fig. S2. The fitting curve of fluorescence intensity of **S1** versus increasing concentrations of histidine in EtOH-water solution (60:40, v/v, 50 mM HEPES buffer, pH 7.2). The concentration of **S1** was 10 μM .

3. The FTIR spectras of compounds 3, 2, M2 and S1

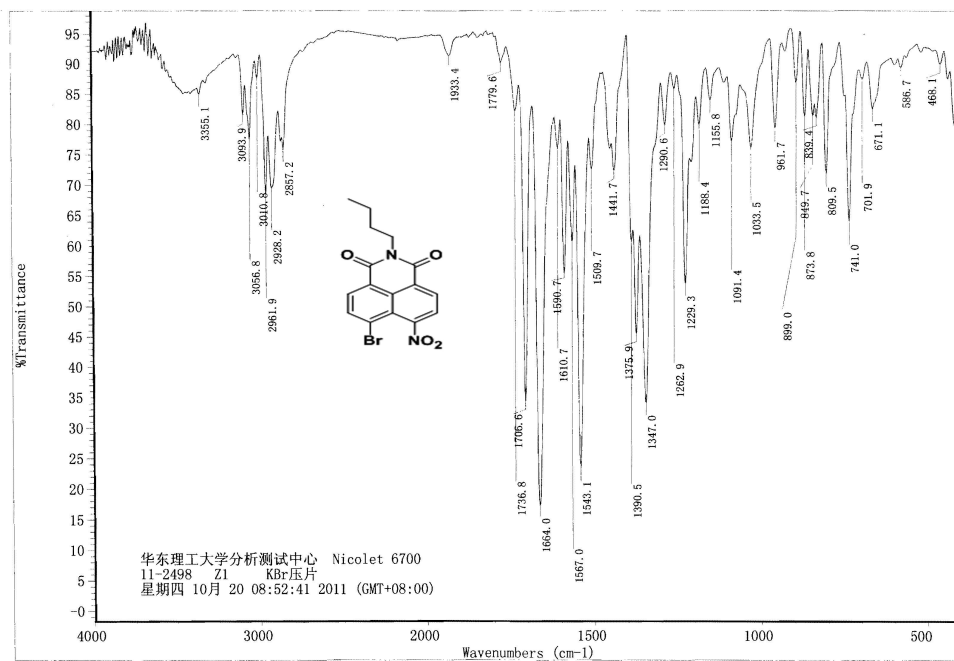


Fig. S3 The FTIR spectra of compound 3

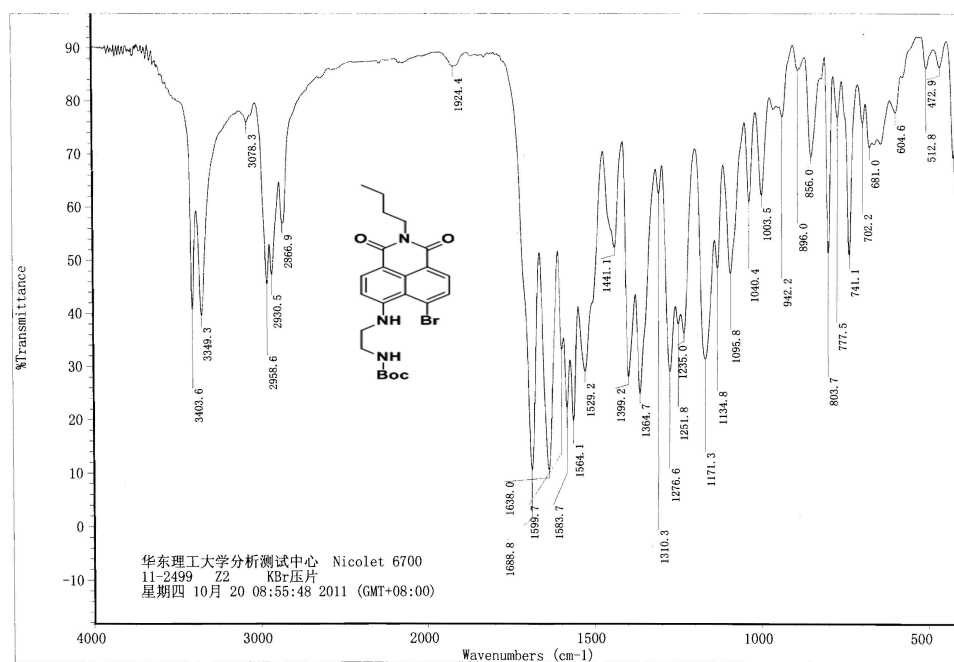


Fig. S4 The FTIR spectra of compound 2

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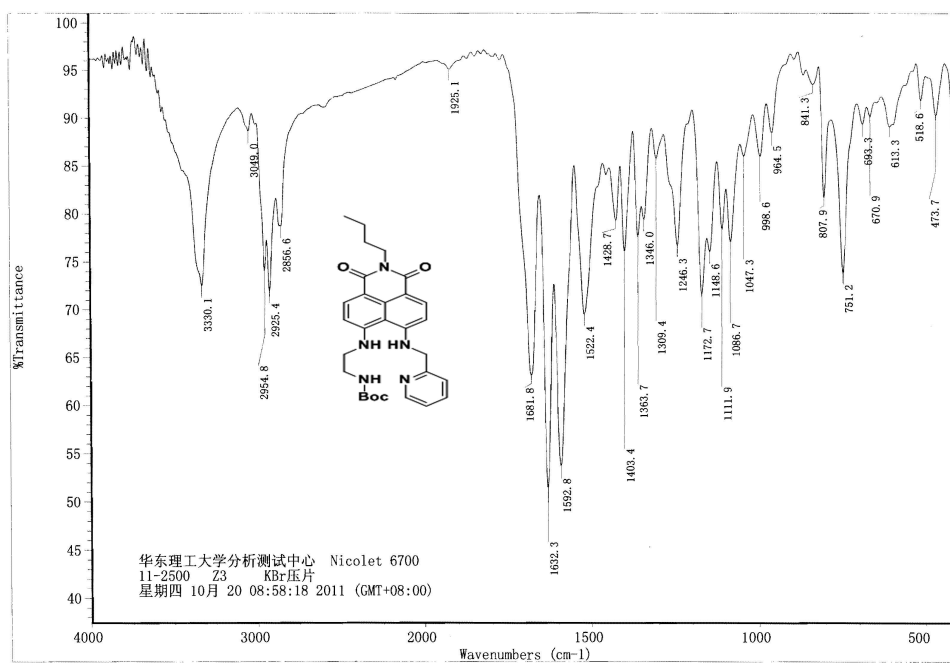


Fig. S5 The FTIR spectra of compound M2

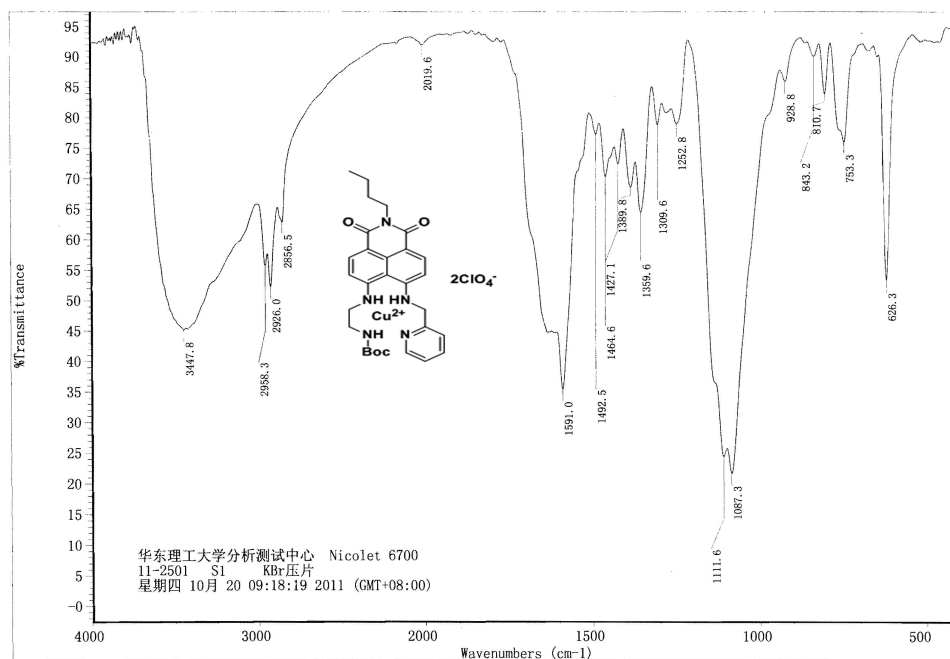


Fig. S6 The FTIR spectra of compound S1

4. The HRMS spectra of compound M2

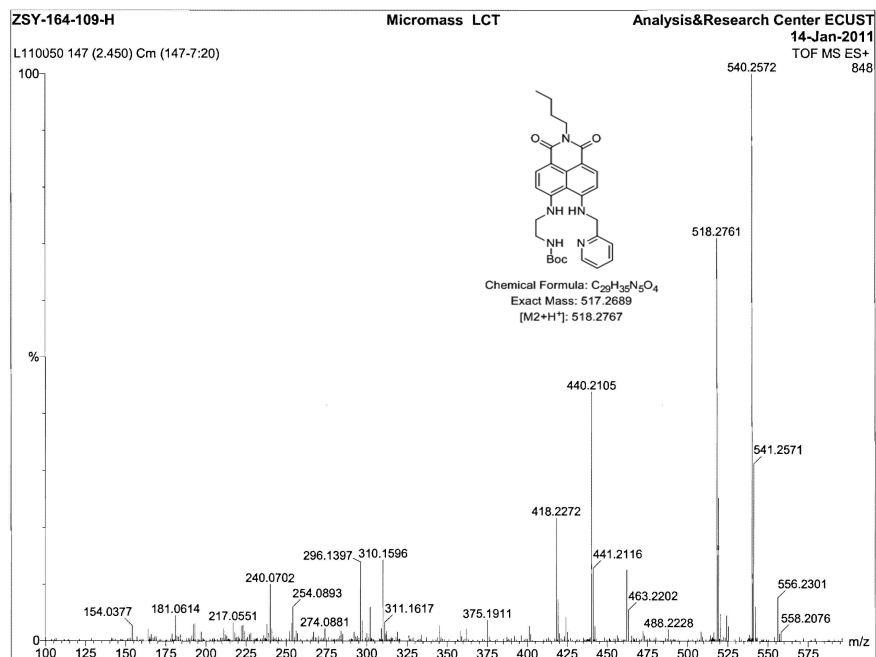


Fig. S7 The HRMS spectra of compound M2

5. The HRMS spectra of compound S1

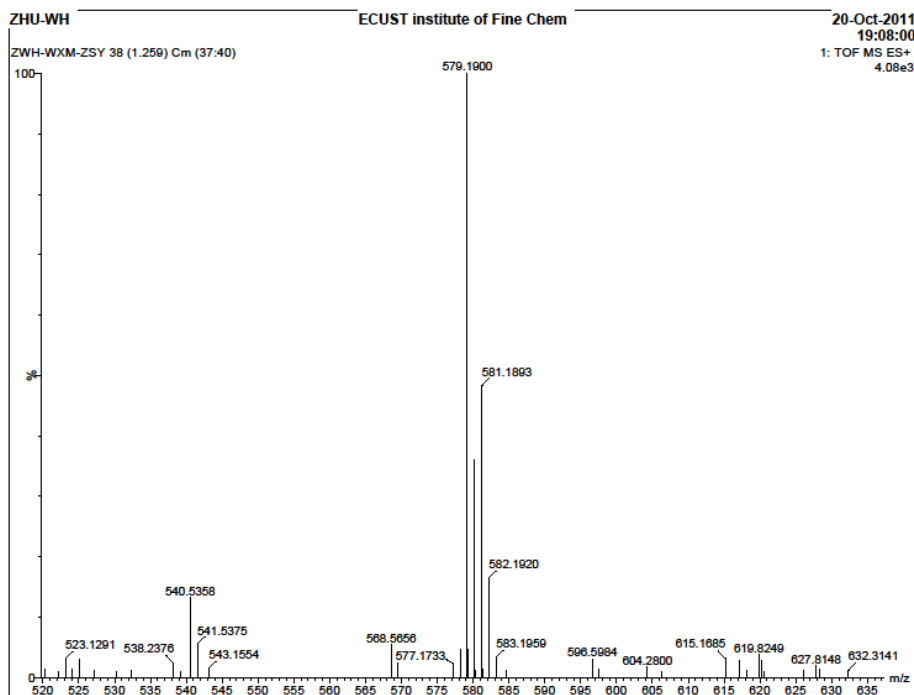


Fig. S8 The HRMS spectra of compound S1