Electronic Supplementary Material (ESI) for RSC Advances.

A simple yet effective fluorescent probe for detecting mercury ion and imaging in cells

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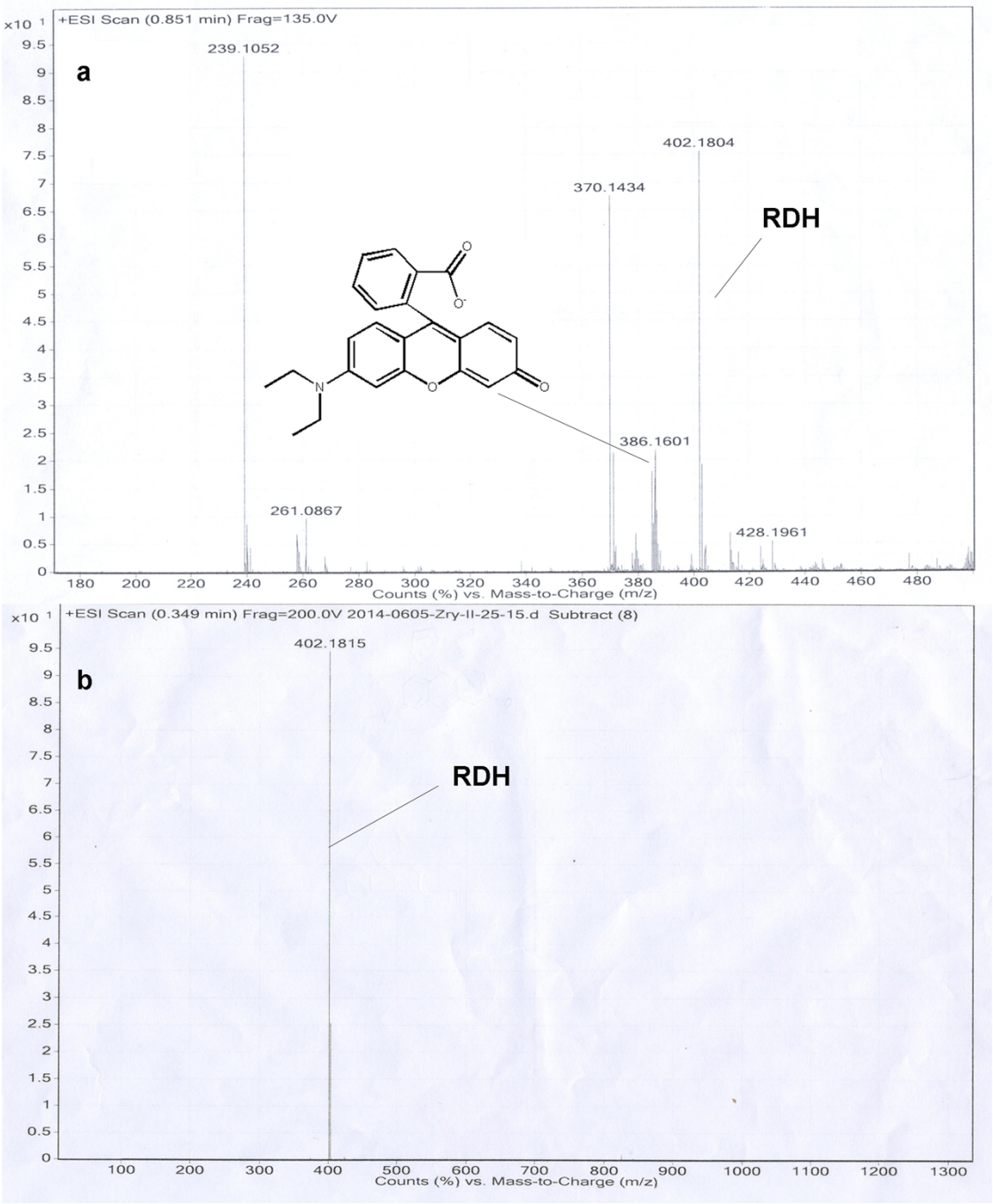


Fig. S1 The mass spectra of RDH+Hg^{2+} (a) and RDH (b).

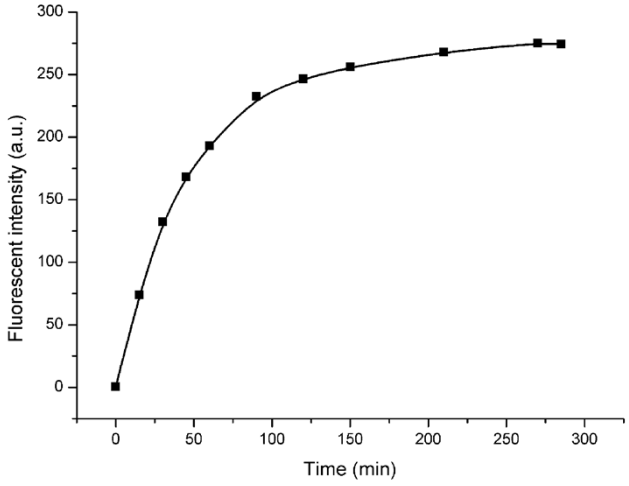


Fig. S2 Effect of time on the fluorescence intensity of RDH (10 μM) in the presence of Hg^{2+} (10 eq.) in HEPES buffer solution and Ethanol (9:1, v/v, pH=7.4), λ_{ex}: 525 nm.

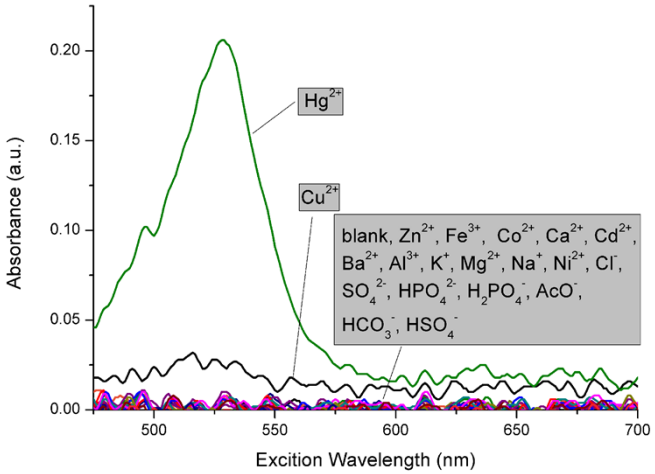


Fig. S3 Absorbance of the probe (10 μM) in a mixture of HEPES buffer and Ethanol (9:1, v/v, pH=7.4)to representative cations and anions (100 μM) including Hg^{2+}, Zn^{2+}, Fe^{3+}, Co^{2+}, Ca^{2+}, Cd^{2+} , Ba^{2+}, Al^{3+}, K^{+}, Mg^{2+}, Na^{+}, Ni^{2+}, Cu^{2+}, Cl^{-}, HPO_4^{2-}, SO_4^{2-}, $H_2PO_4^{-}$, AcO^{-}, HCO_3^{-}, HSO_4^{-} (λ_{ex}: 525 nm).

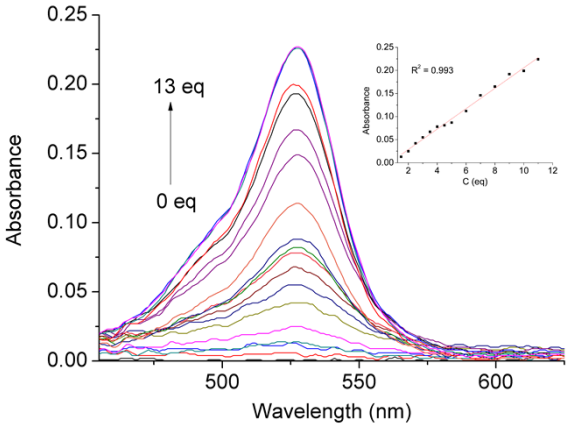
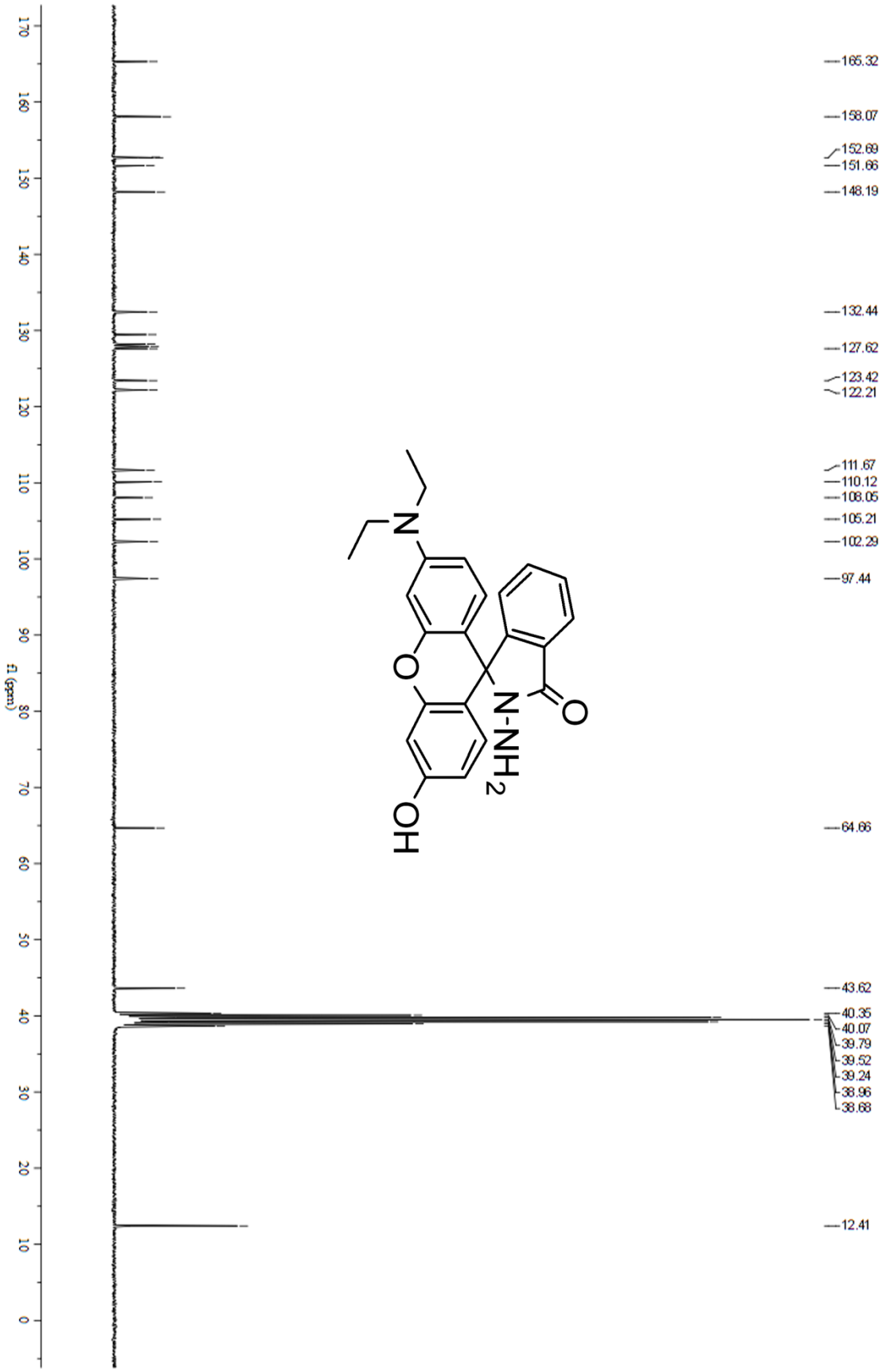


Fig. S4 Absorbance spectra of RDH (10 μM) in HEPES buffer solution and Ethanol (9:1, v/v, pH=7.4) with different concentrations of Hg^{2+} (λ_{ex}: 525 nm). Inset: Linearity of RDH between the UV-absorbance and the concentration of Hg^{2+} from 1.5 to 11 eq.

0.96
1.00
2.00
0.97
0.97
4.82
1.92
4.29
5.92
f1 (ppm)
9.75
7.78
7.78
7.77
7.76
7.48
7.46
7.00
6.98
6.98
6.97
6.59
6.58
6.42
6.42
6.39
6.39
6.37
6.34
4.31
3.35
3.33
3.31
3.28
2.51
2.51
2.50
2.49
2.49
1.10
1.08
1.06
0.00
N
O
N-NH2
O
OH


165.32
158.07
152.69
151.66
148.19
132.44
127.62
123.42
122.21
111.67
110.12
108.05
105.21
102.29
97.44
64.66
43.62
40.35
40.07
39.79
39.52
39.24
38.96
38.68
12.41
f1 (ppm)
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
N
O
N-NH2
O
HO