

# Supporting Information

## for

### Fluorescence “*on-off-on*” chemosensor for selective detection of Hg<sup>2+</sup> and S<sup>2-</sup>: application to bioimaging in living cells<sup>†</sup>

K. Muthu Vengaiyan,<sup>a</sup> C. Denzil Britto,<sup>a</sup> Karuppanan Sekar,<sup>\*a</sup> Gandhi Sivaraman,<sup>b</sup> and Subramanian Singaravadivel<sup>\*c</sup>

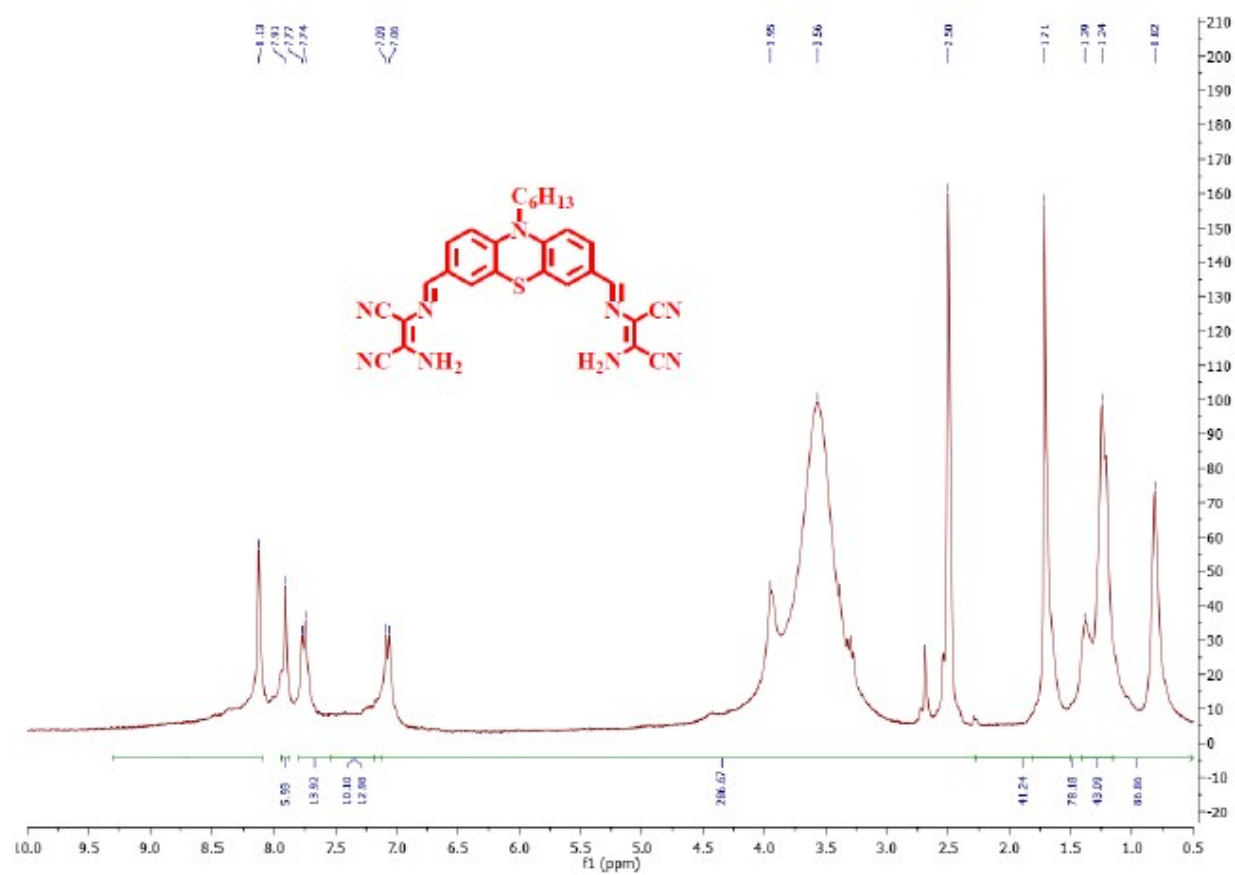
<sup>a</sup>Department of Chemistry, Anna University – University College of Engineering, Dindigul – 624622, India.

<sup>b</sup>Institute for stem cell biology and regenerative medicine, Bangalore-560065, India

<sup>c</sup>Department of Chemistry, SSM Institute of Engineering and Technology, Dindigul – 624002, India.

E-mail: [karuppanansekar@gmail.com](mailto:karuppanansekar@gmail.com), [vesp1984@gmail.com](mailto:vesp1984@gmail.com)

<b>Table of contents</b>	<b>Page No.</b>
1. NMR Spectra-----	2
2. Mass Spectra (ESI-MS) -----	3, 7
3. UV-Visible Spectra -----	4
4. Fluorescence Spectra-----	5, 6
5. Percentage of cell survival -----	8, 9
6. IR Spectra -----	10, 11



**Figure S1:**  $^1\text{H}$  NMR spectrum of Receptor P-1

TAP 10\_130201210100 #19 RT: 0.31 AV: 1 NL: 8.57E3  
T: ITMS + c ESI Full ms [150.00-1000.00]

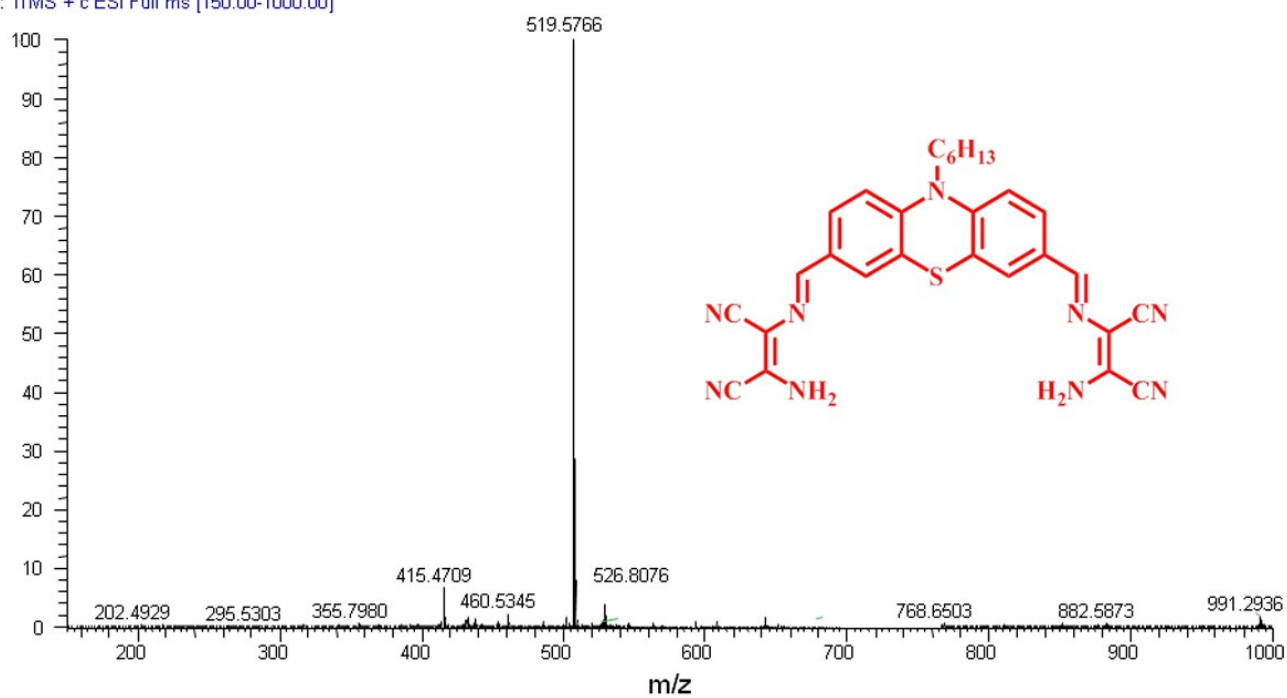
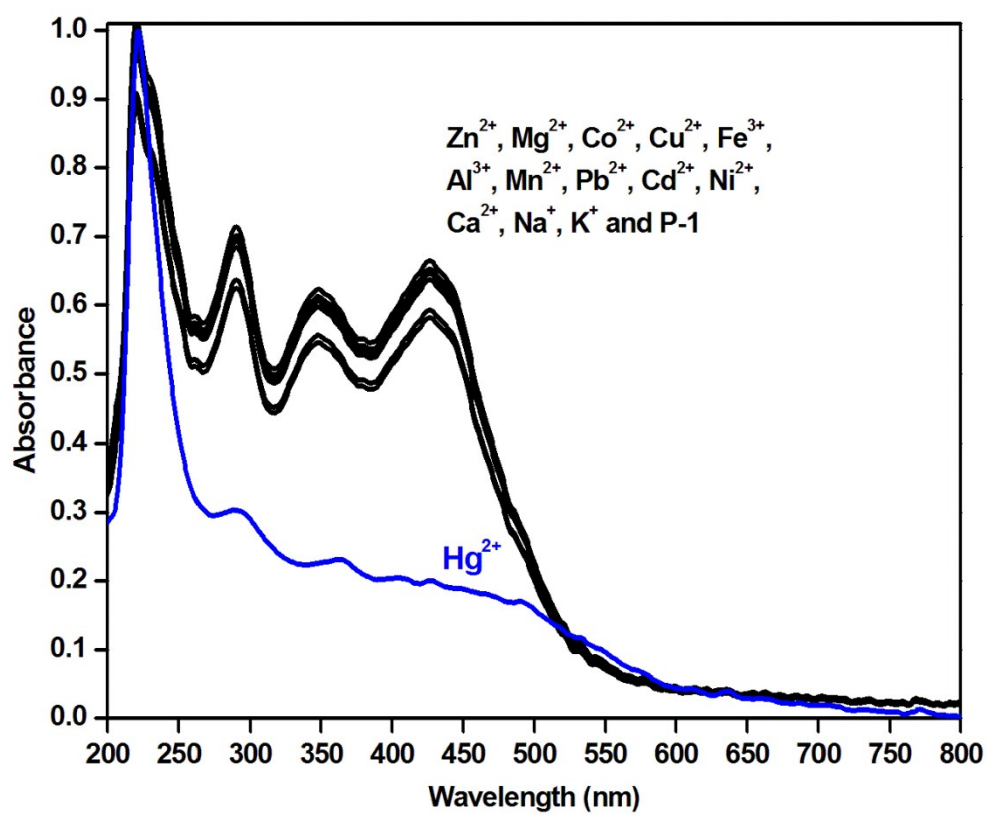
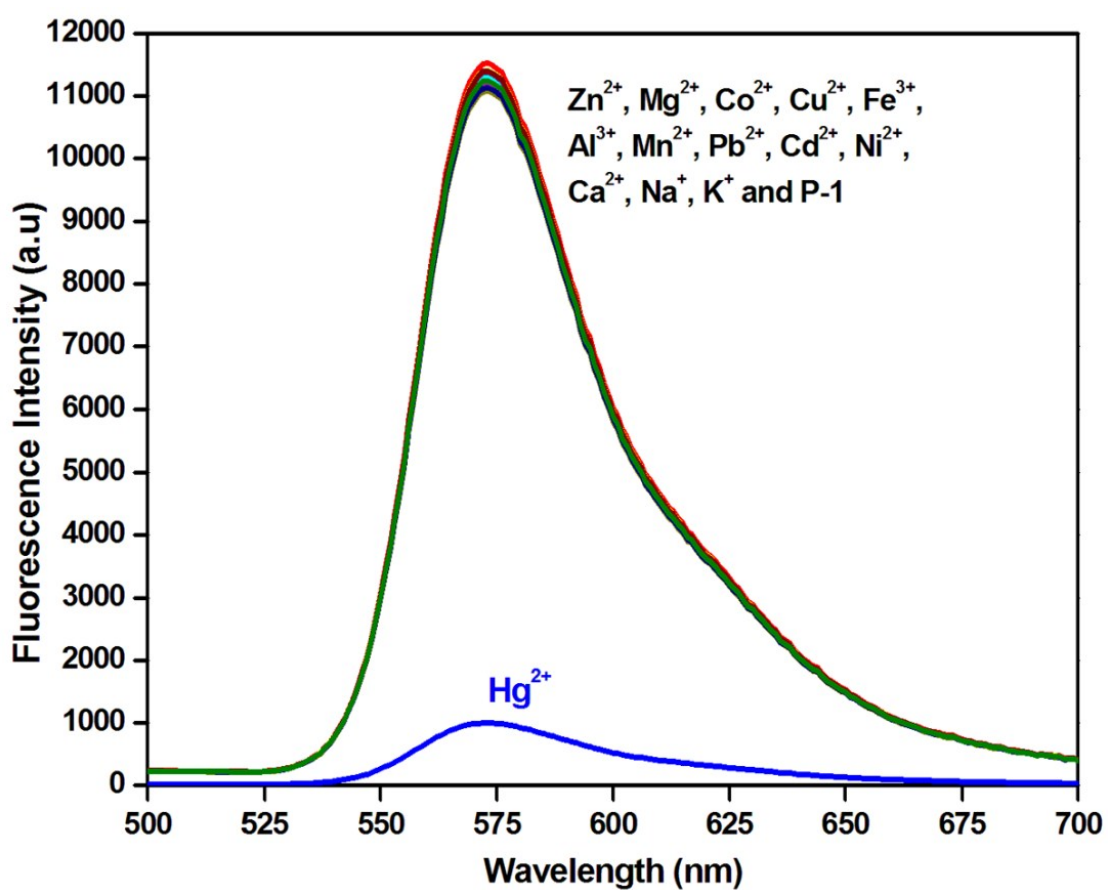


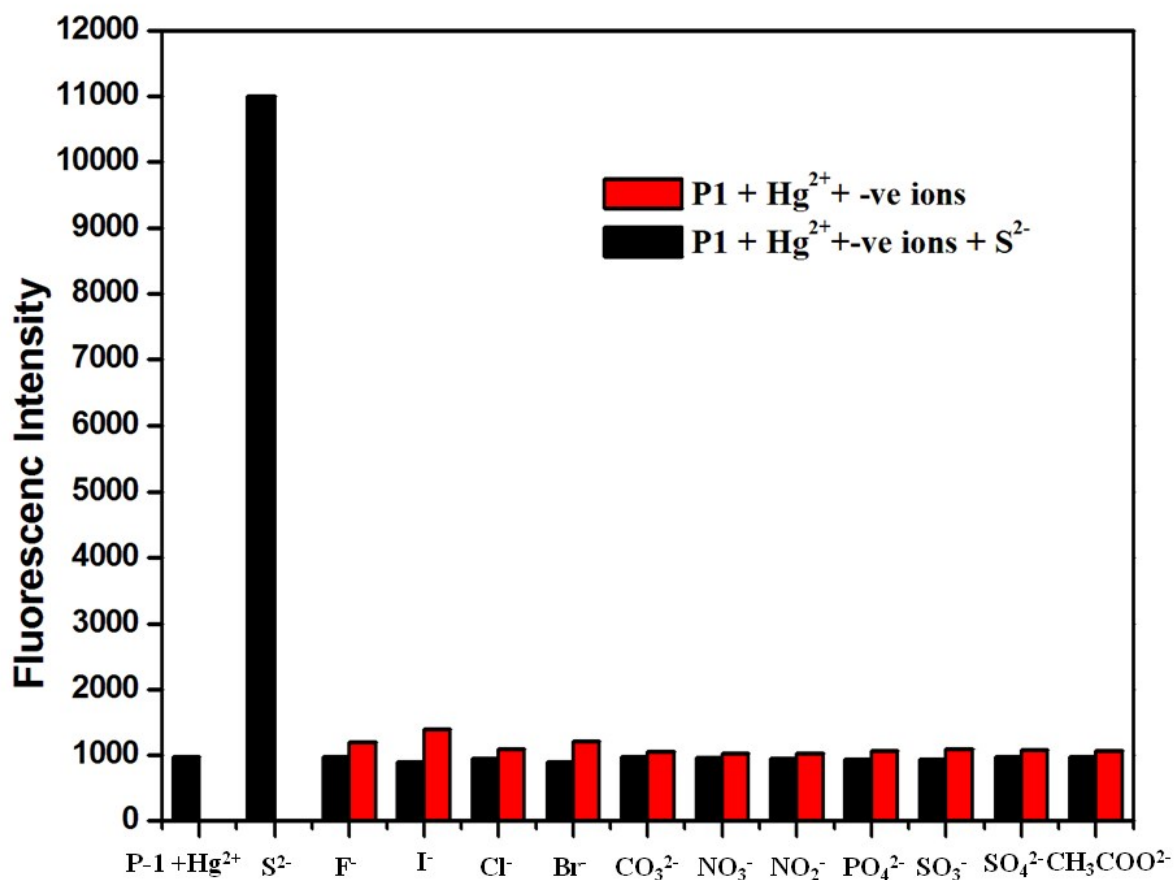
Figure S2:ESI-MS spectrum of P-1



**Figure S3:** UV-vis spectrum of probe **P-1** (10  $\mu$ M) in the presence of various competitive metal ions.



**Figure S4:** Fluorescence spectrum of probe **P-1** (10  $\mu$ M) in the presence of various competitive Metal ions.



**Figure S5:** Fluorescence response of 10  $\mu\text{M}$  **P-1** with various anions in the presence of  $\text{Hg}^{2+}$ . The red bars represent the addition of the corresponding anion to **P-1+Hg<sup>2+</sup>**. The Black bars represent the change of the emission that occurs upon the subsequent addition of  $\text{S}^{2-}$  to the above solution.

SAP 10\_13020121010 #1 RT: 0.21 AV: 1 NL: 8.57E3  
T: ITMS + c ESI Full ms [150.00-1000.00]

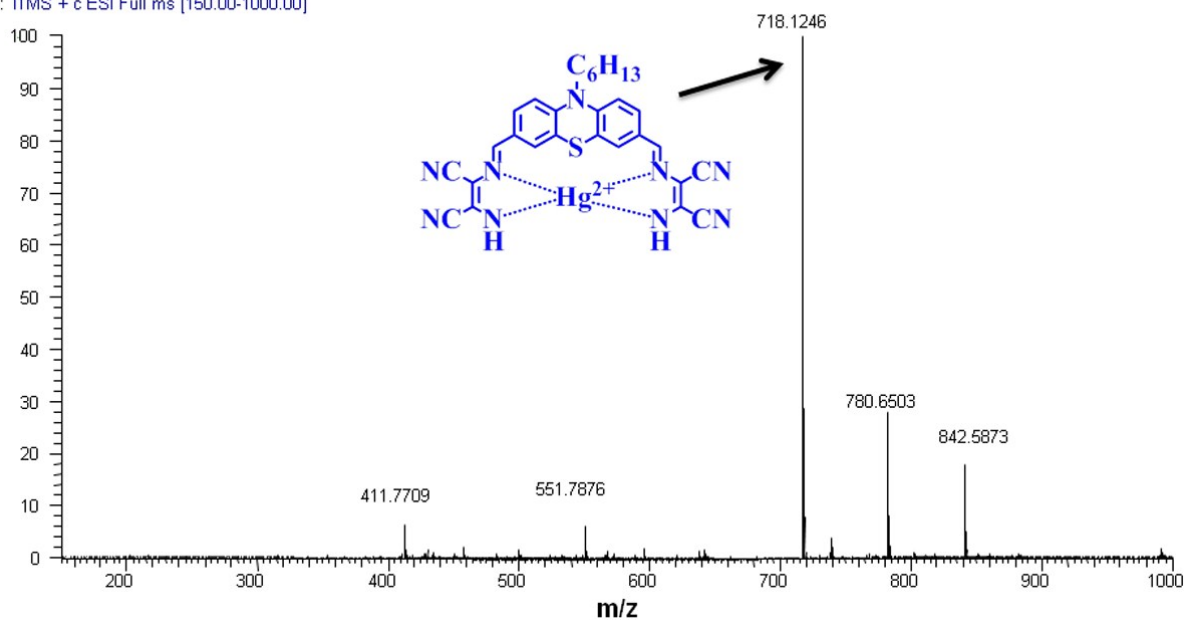


Figure S6: ESI-MS spectrum of probe P-1 + Hg<sup>2+</sup>

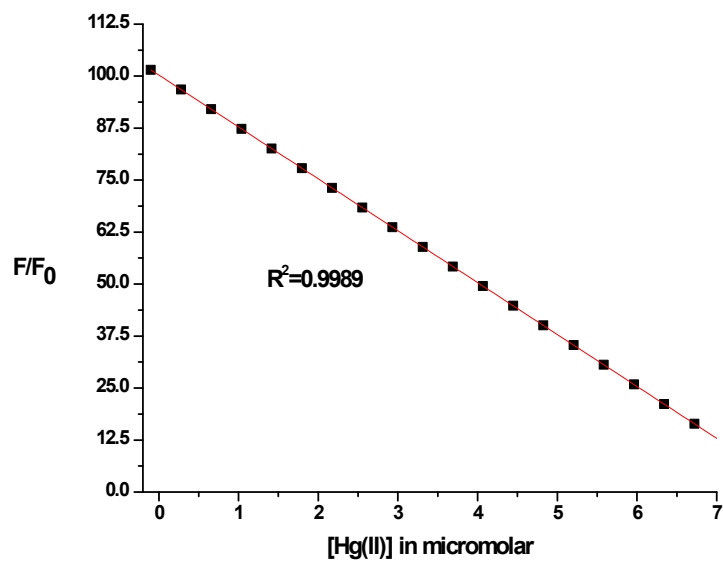
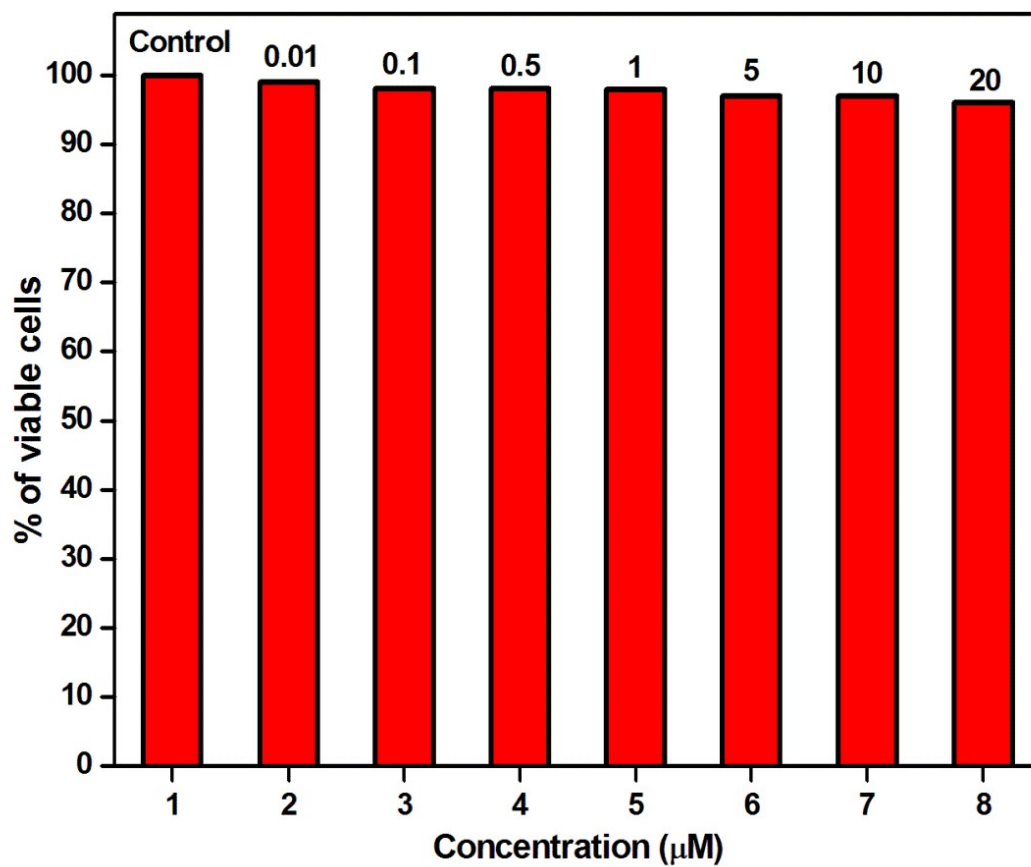
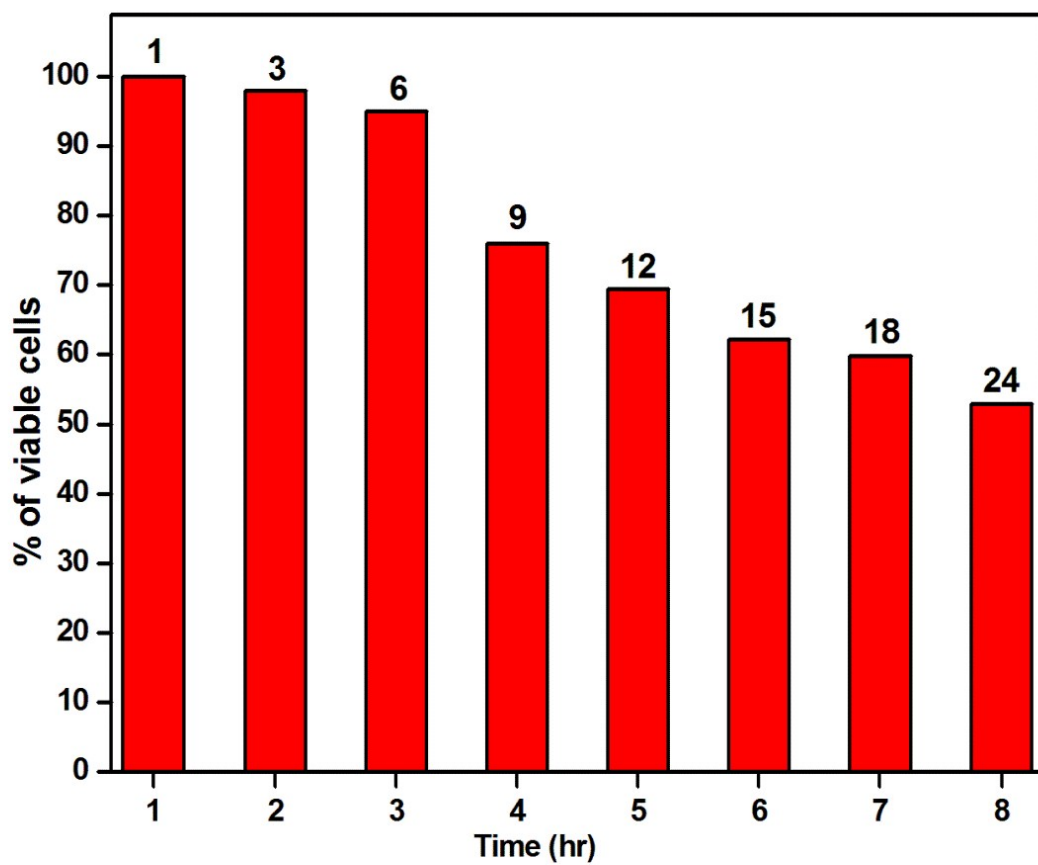


Figure S7: Linear fit of Probe P-1 + Hg<sup>2+</sup>



**Figure S8:** Percentage of cell survival of HeLa cells treated with different concentrations (1-20  $\mu\text{M}/\text{mL}$ ) of **P-1**.





**Figure S9:** Percentage of cell survival of HeLa cells treated with different time intervals with concentrations of 10  $\mu$ M/mL of P-1.

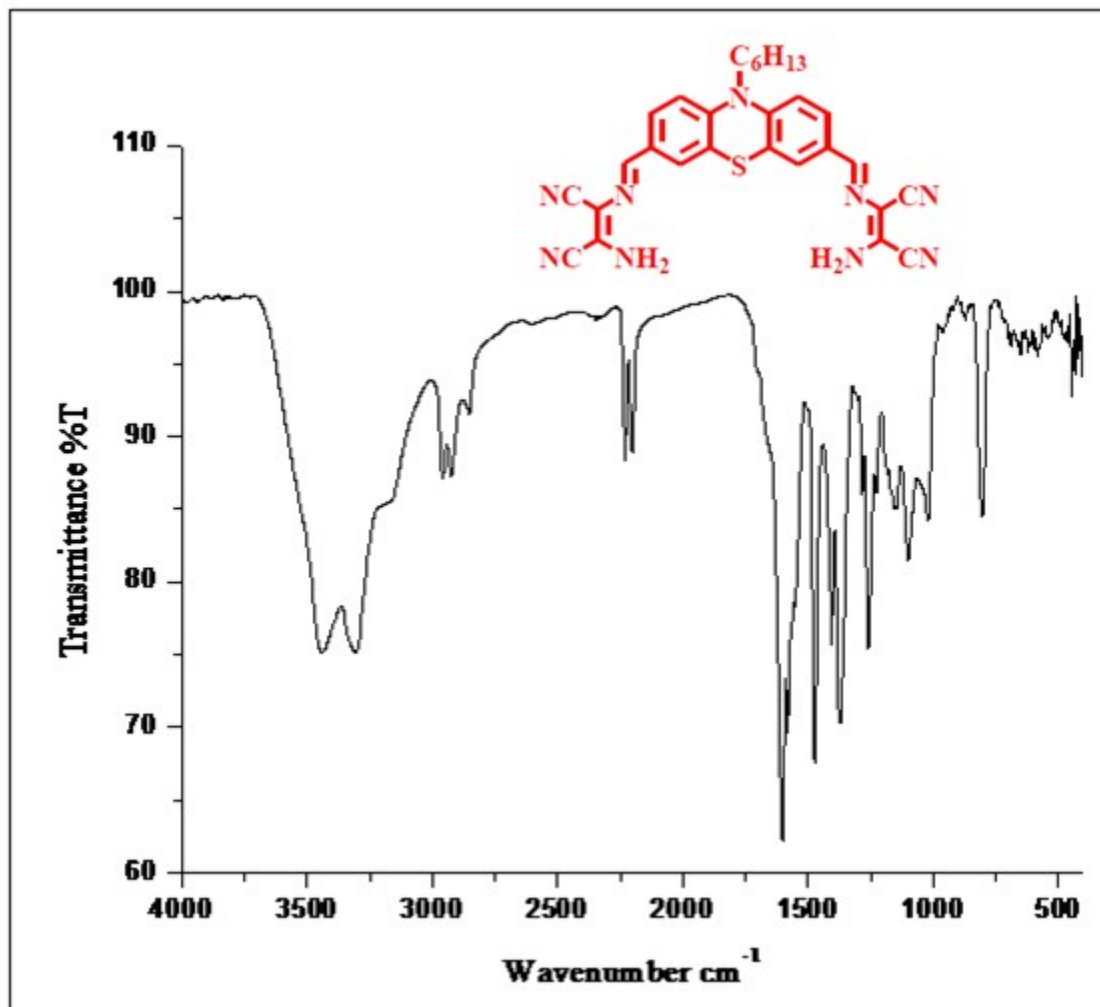


Figure S10: IR spectra of Probe P-1

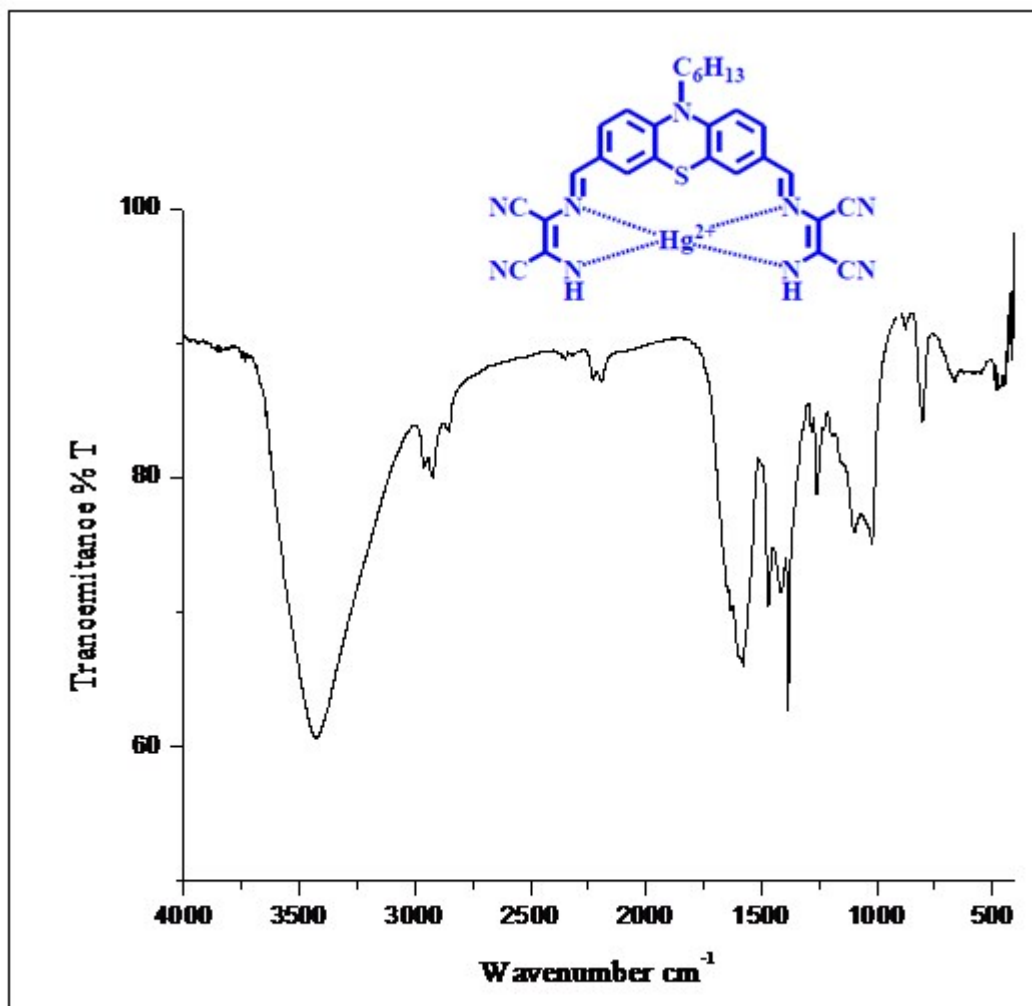


Figure S11: IR spectra of Probe P-1 + Hg<sup>2+</sup>