

## Supplementary Data for

# The easy synthesis of new *N*-substitute 5-oxindoline-rhodanines and sensing ability: *The recognition of acetate ions in aqueous solution*

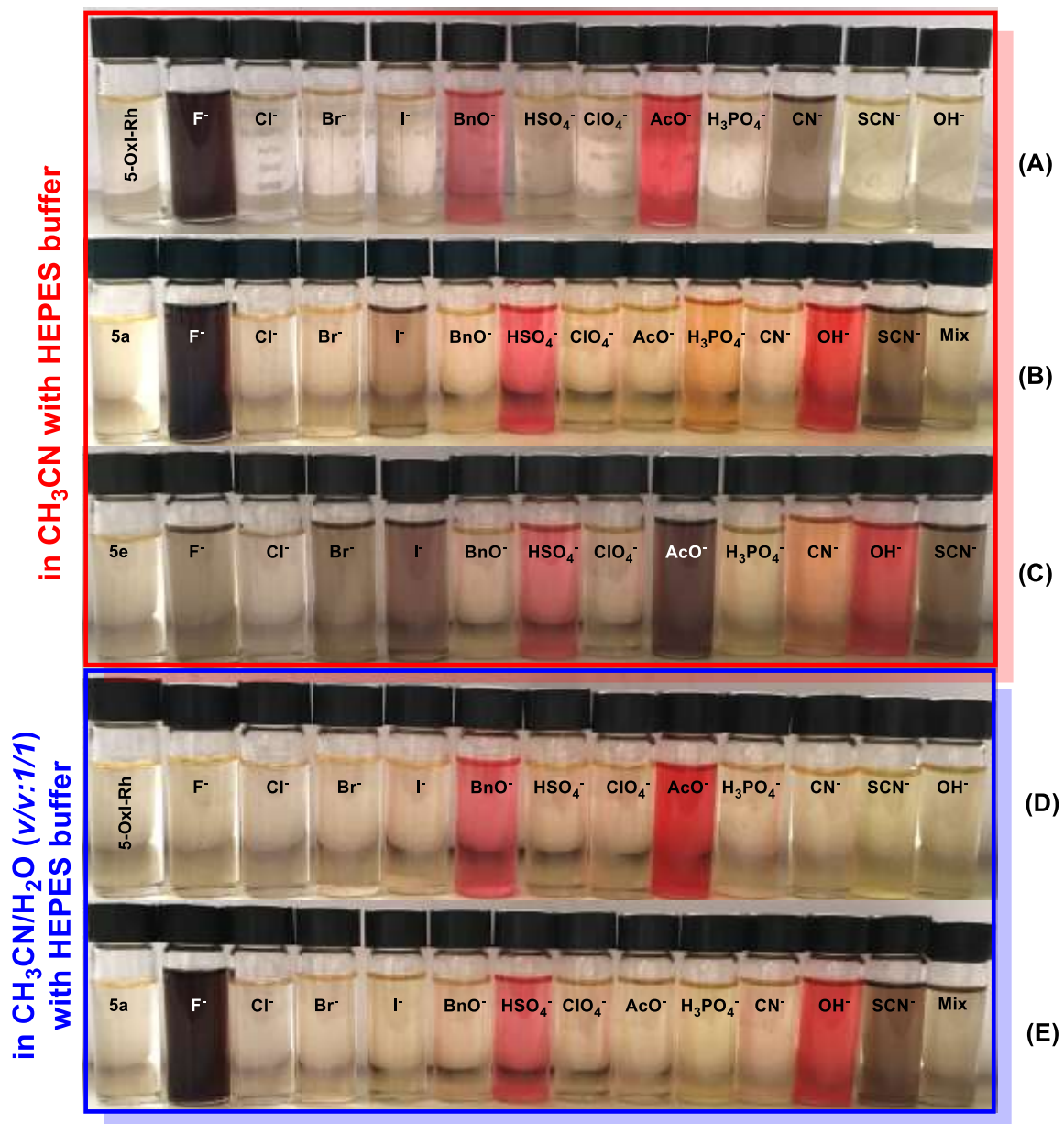
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Turkey

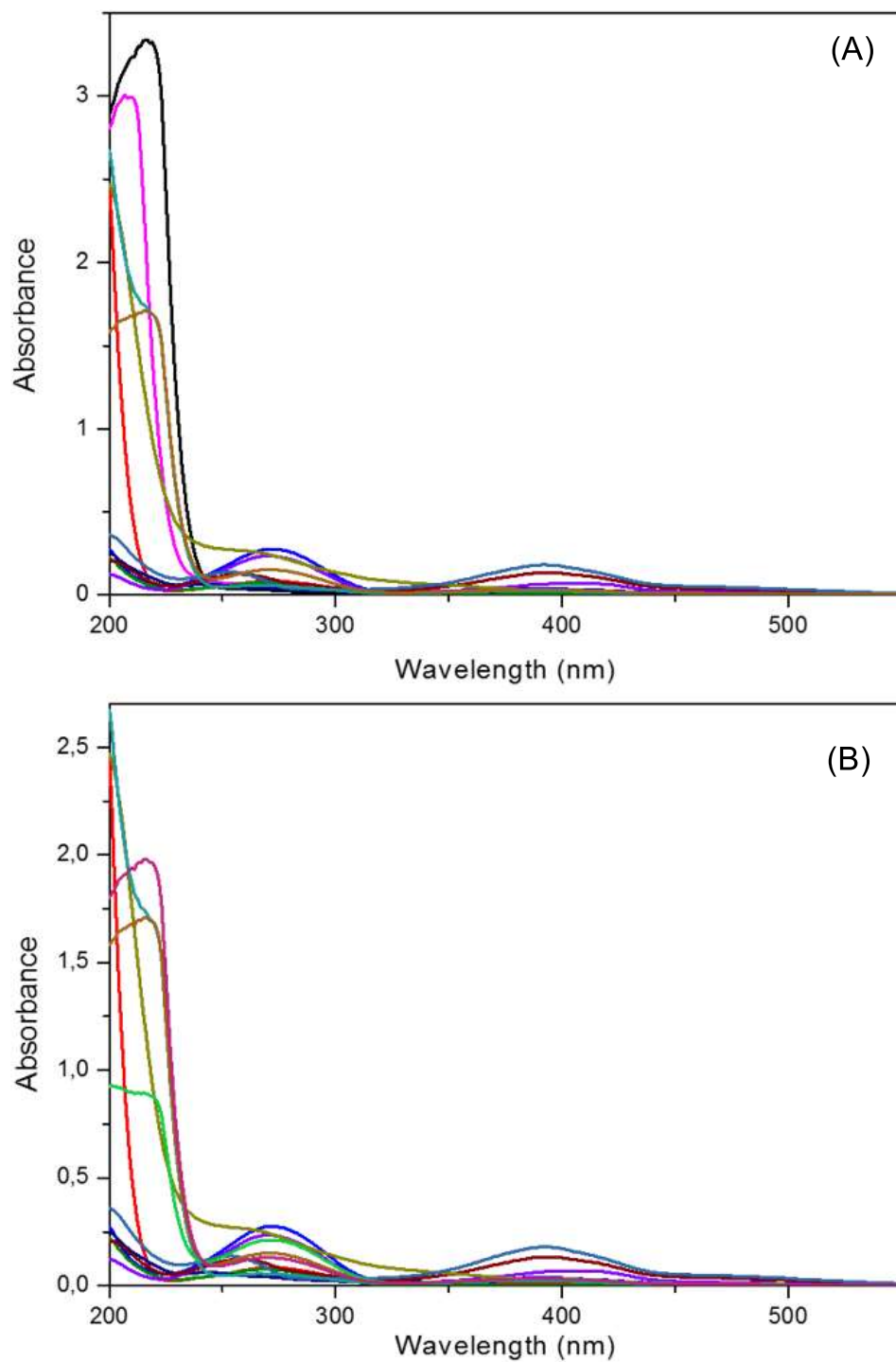
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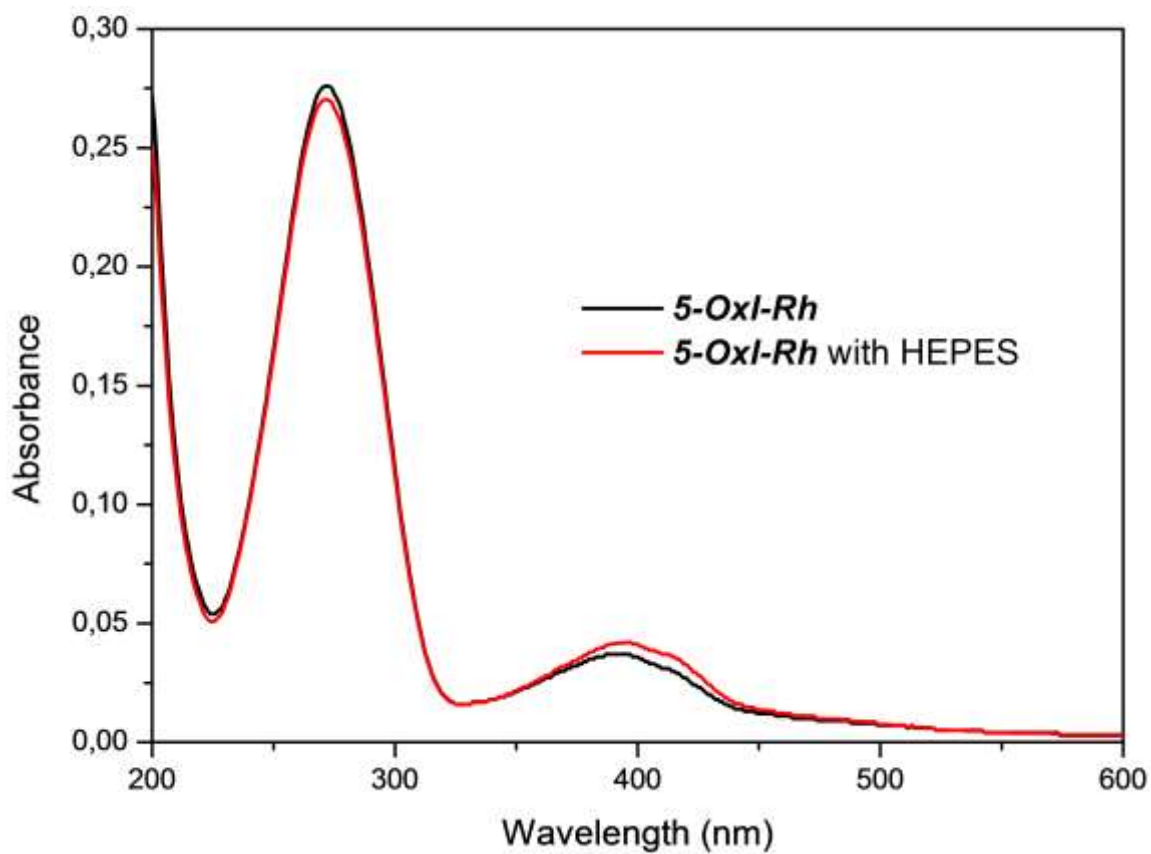
Colorimetric screening of <b>5-OxI-Rh</b> (A and D), <b>5a</b> (B and E) and <b>5e</b> (C) (5 μM) in CH <sub>3</sub> CN or in CH <sub>3</sub> CN/H <sub>2</sub> O (v/v: 1/1) with the presence of 10 equiv. of anions	2
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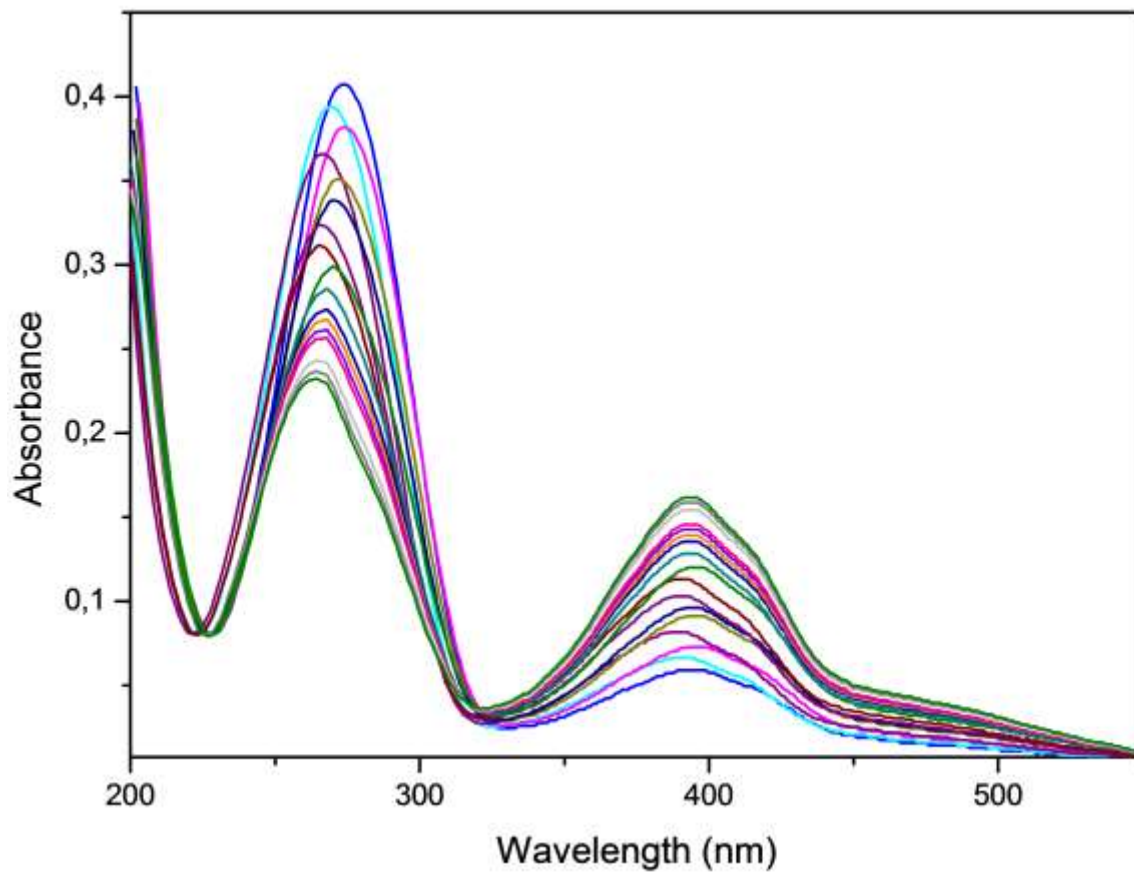
**Fig. S1.** Colorimetric screening of **5-OxI-Rh** (A and D), **5a** (B and E) and **5e** (C) (5  $\mu$ M) in CH<sub>3</sub>CN or in CH<sub>3</sub>CN/H<sub>2</sub>O (v/v: 1/1) with the presence of 10 equiv. of anions.



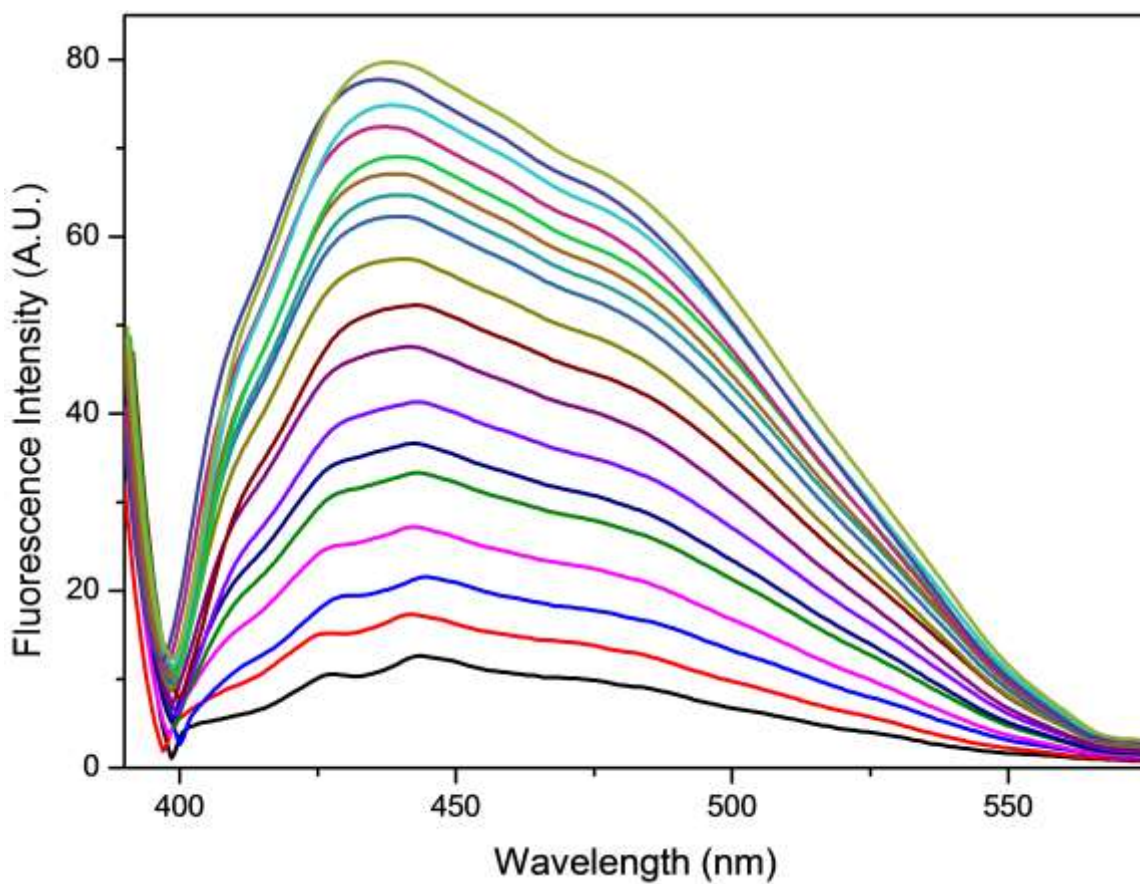
**Fig. S2.** UV-vis spectrums of **5a** (5  $\mu$ M) in  $\text{CH}_3\text{CN}$  (**A**) and  $\text{CH}_3\text{CN}/\text{H}_2\text{O}$  (v/v:1/1, **B**) with various anions



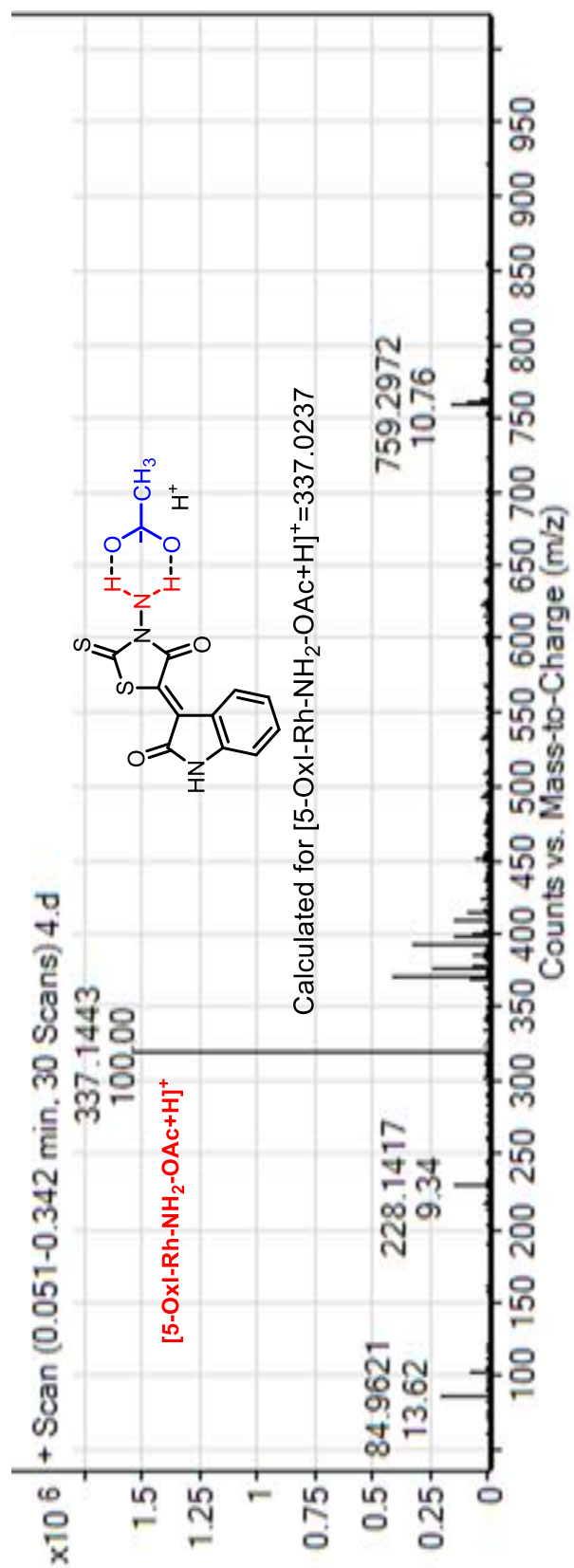
**Fig. S3.** UV-vis spectrum of *5-OxI-Rh* and *5-OxI-Rh*-HEPES (5  $\mu$ M in CH<sub>3</sub>CN/H<sub>2</sub>O (v/v: 1/1)).



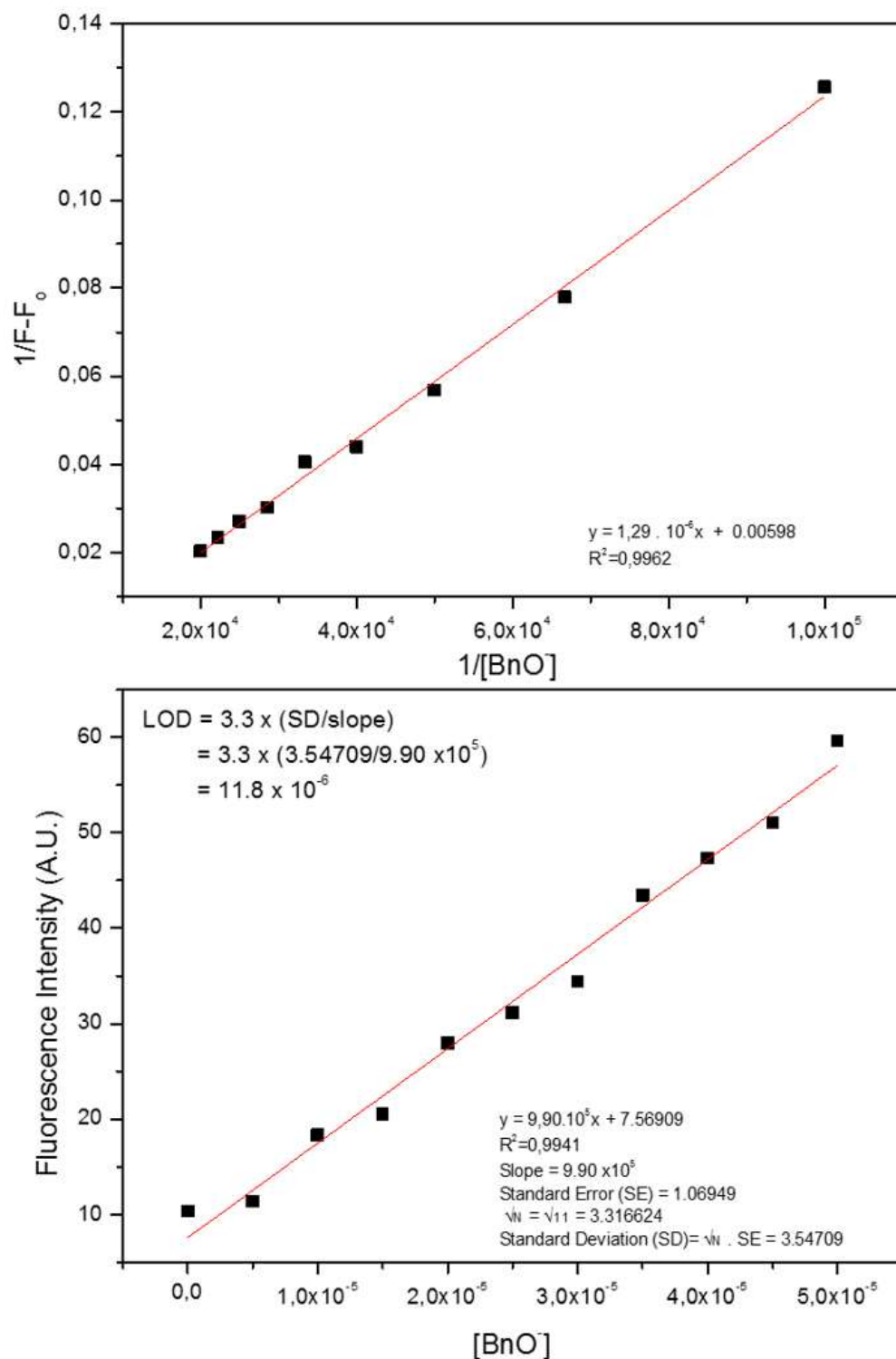
**Fig. S4.** UV-vis titration of *5-OxI-Rh* (5 μM) with the increasing concentration of [Bu<sub>4</sub>N]BnO in CH<sub>3</sub>CN/H<sub>2</sub>O (v/v: 1/1).



**Fig. S5.** Fluorescence titration of *5-OxI-Rh* (5  $\mu\text{M}$ ) with the increasing concentration of  $[\text{Bu}_4\text{N}]\text{BnO}$  in  $\text{CH}_3\text{CN}/\text{H}_2\text{O}$  (v/v: 1/1).

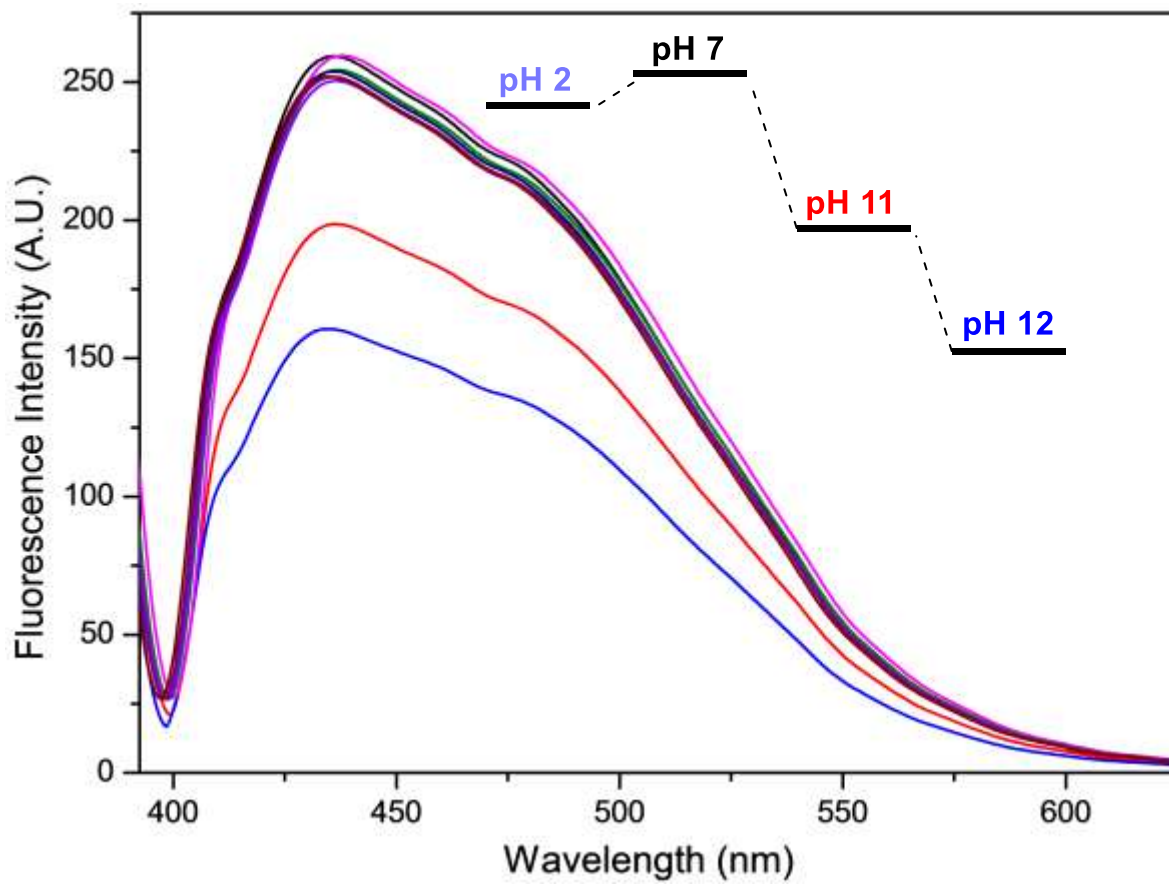


**Fig. S6.** LC-MS (ESI) spectrum of [5-OxI-Rh-AcO<sup>-</sup>] complex.

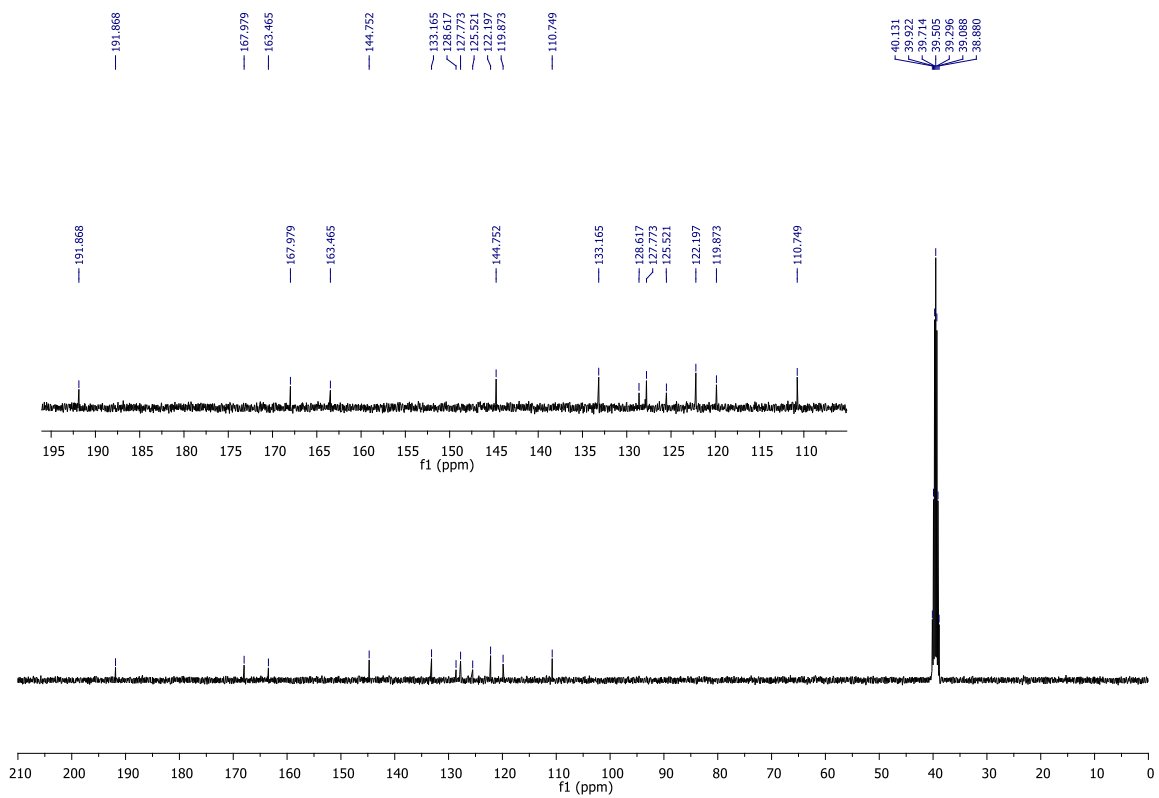
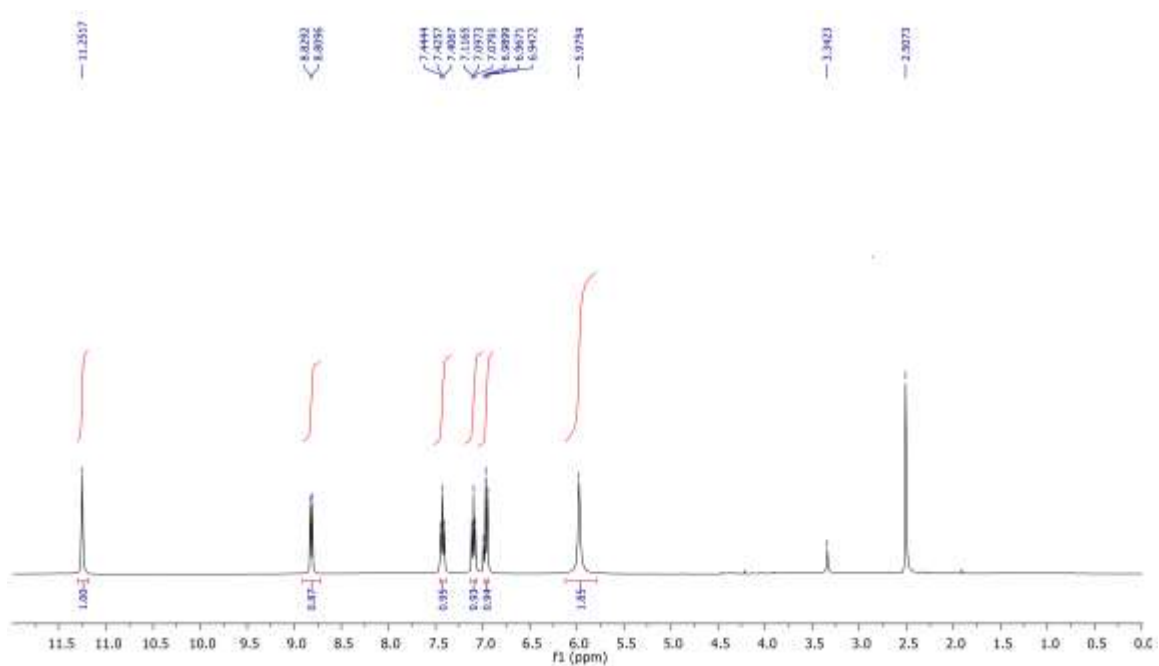


**Fig. S7.** Benesi-Hildebrand plot based on a 1:1 association stoichiometry between *5-OxI-Rh* and BnO<sup>-</sup>, and the change fluorescence intensity of *5-OxI-Rh* with the increasing concentration of BnO<sup>-</sup> ( $\lambda_{exc}=386$  nm).

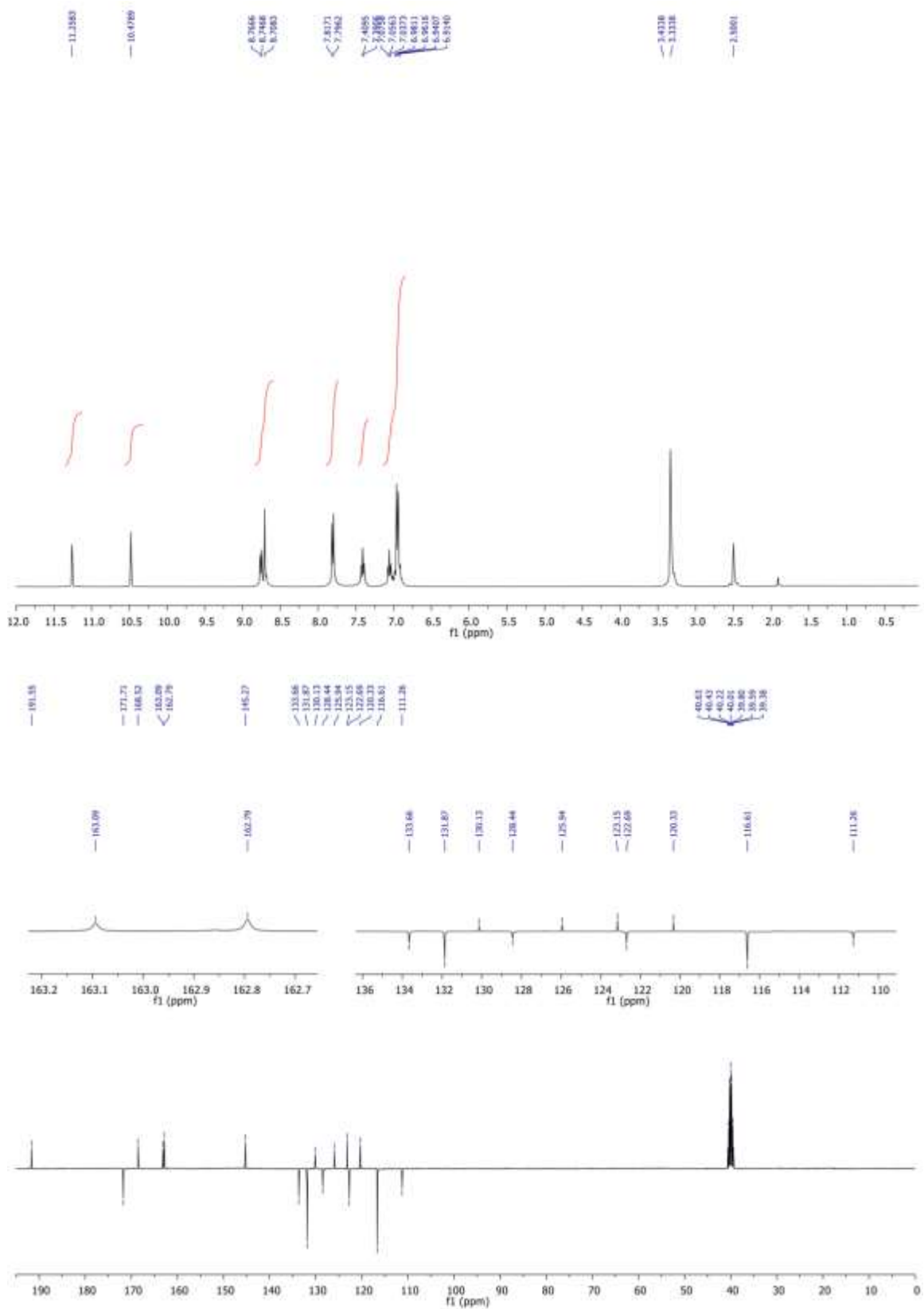




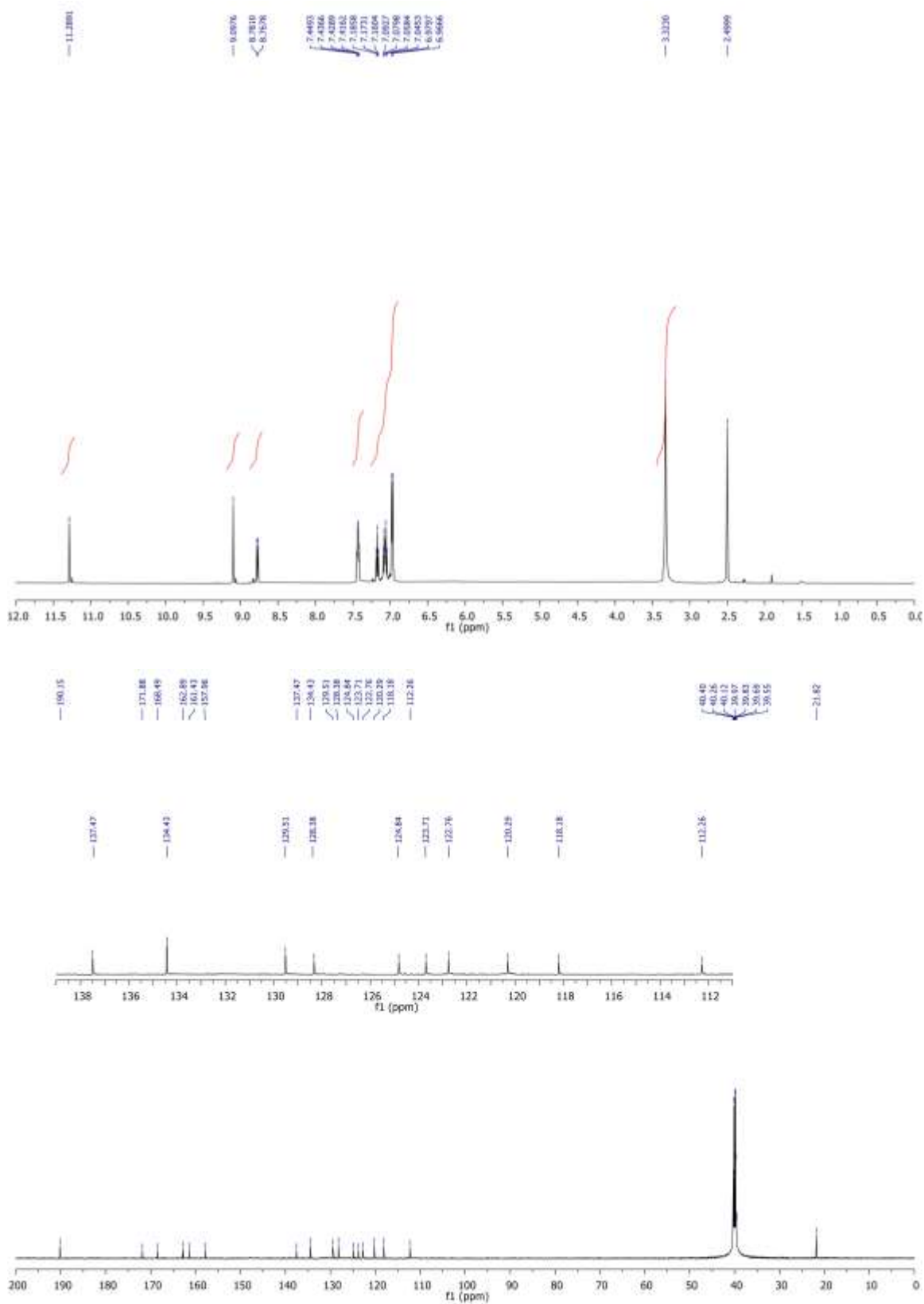
**Fig. S8.** Fluorescence spectra of *5-OxI-Rh* (5 μM) + [Bu<sub>4</sub>N]AcO (30 μM) at different pH (2–12)



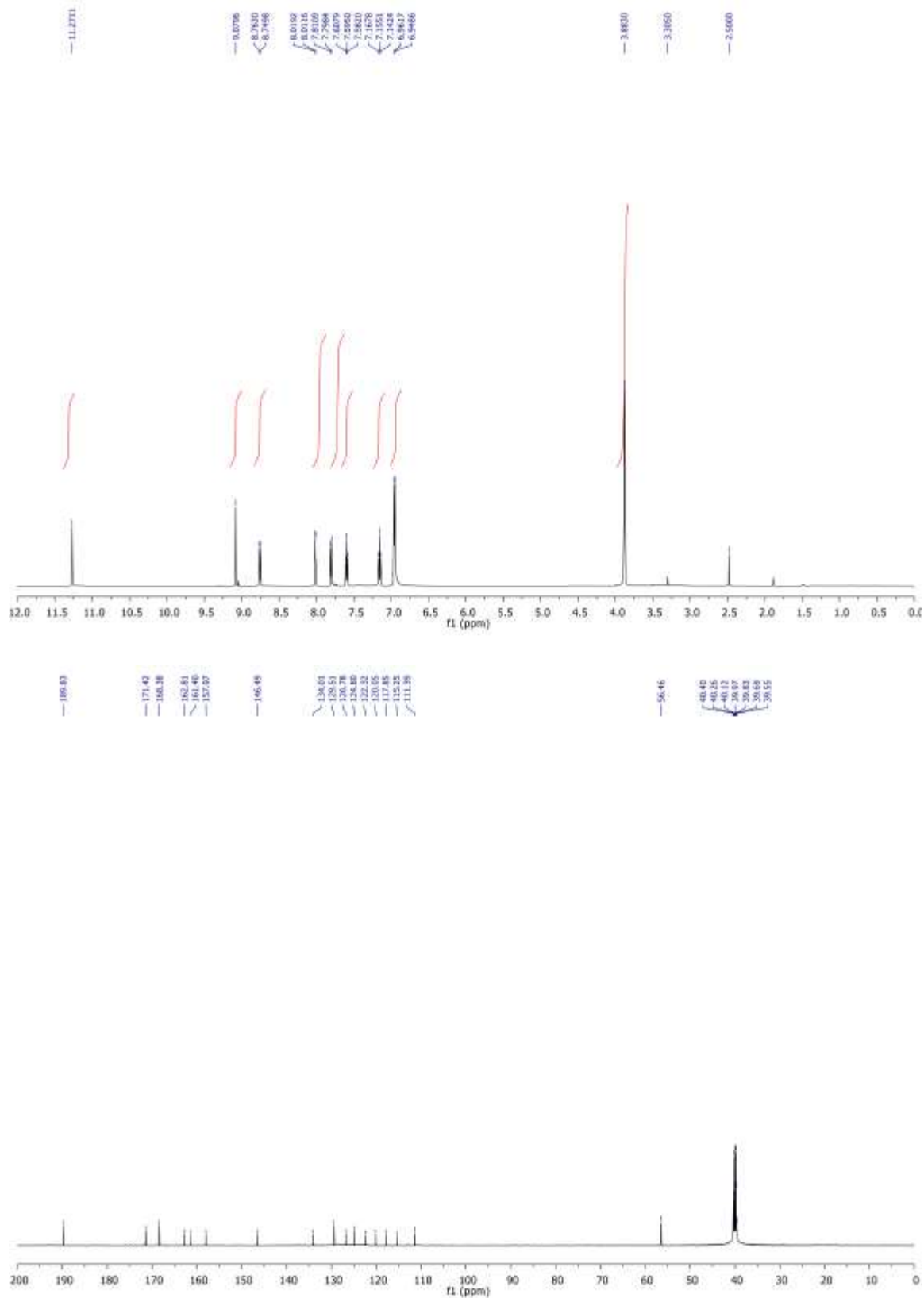
**Fig. S9.** <sup>1</sup>H-NMR (400 MHz) and <sup>13</sup>C-NMR (100 MHz) spectra of *5-OxI-Rh* in DMSO-d<sub>6</sub>.



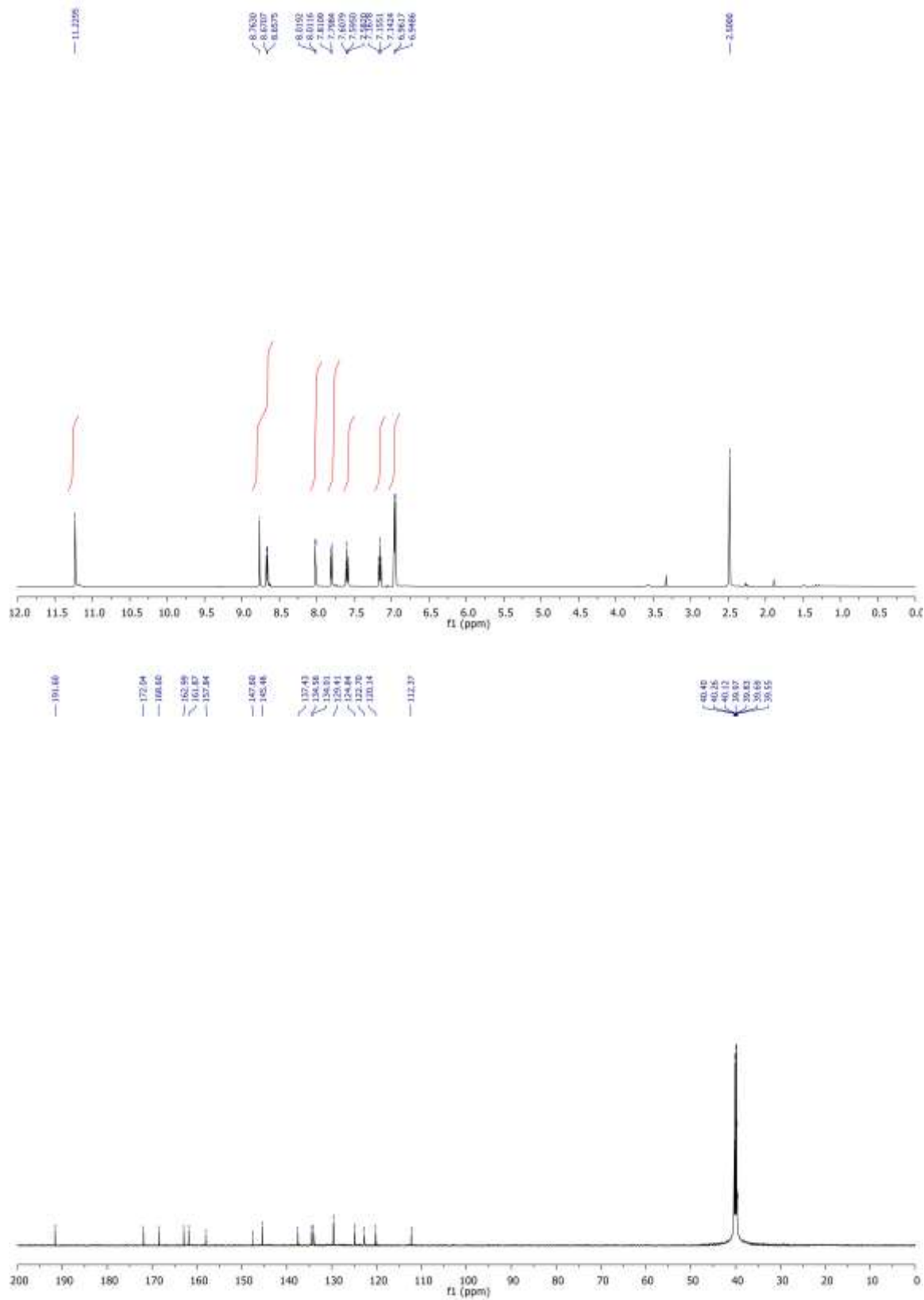
**Fig. S10.**  $^1\text{H-NMR}$  (400 MHz) and  $^{13}\text{C-NMR}$  (100 MHz) spectrums of **5a** in  $\text{DMSO-d}_6$ .



**Fig. S11.** <sup>1</sup>H-NMR (600 MHz) and <sup>13</sup>C-NMR (150 MHz) spectrums of **5b** in DMSO-d<sub>6</sub>.

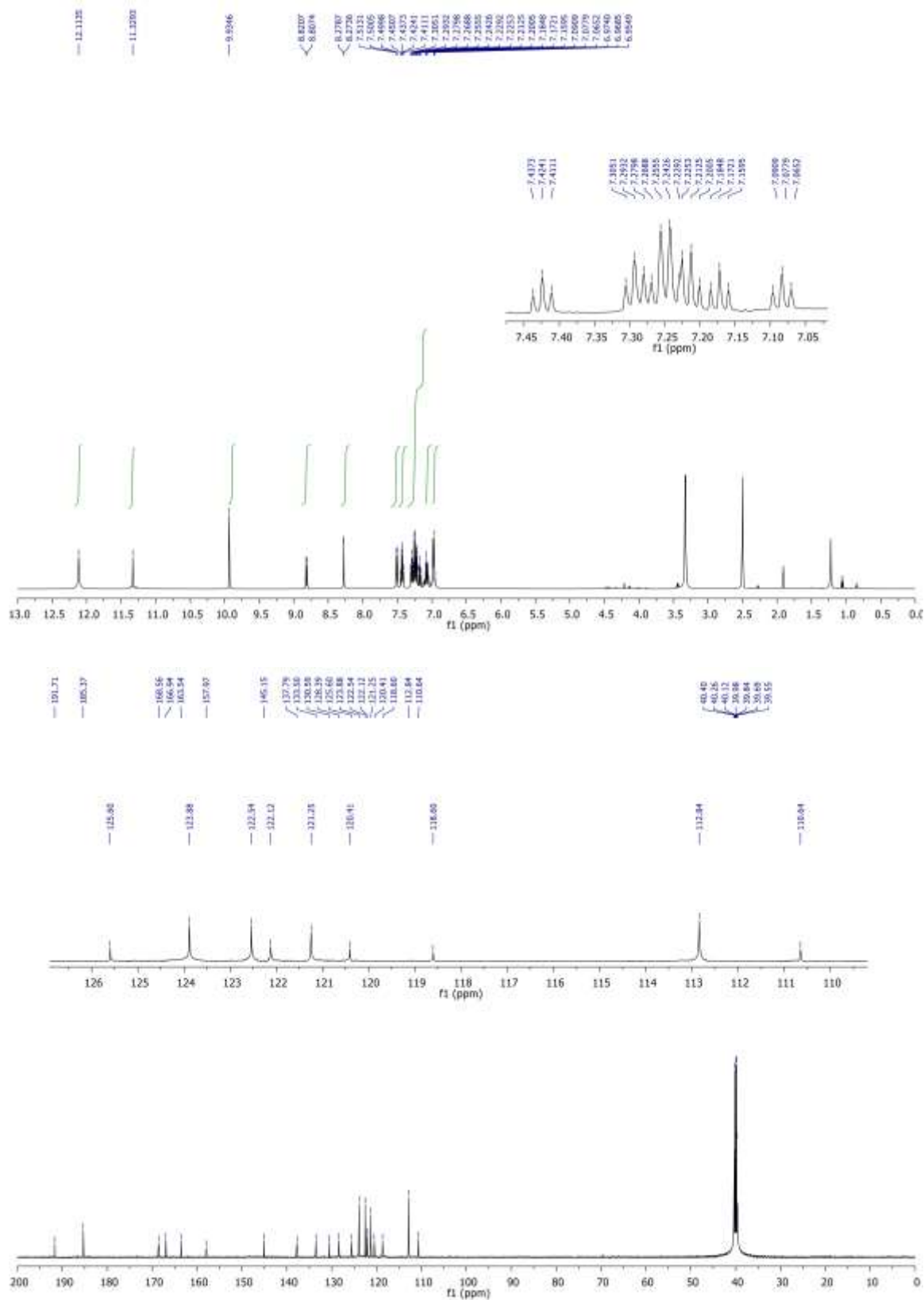


**Fig. S12.**  $^1\text{H-NMR}$  (600 MHz) and  $^{13}\text{C-NMR}$  (150 MHz) spectra of **5c** in  $\text{DMSO-d}_6$ .



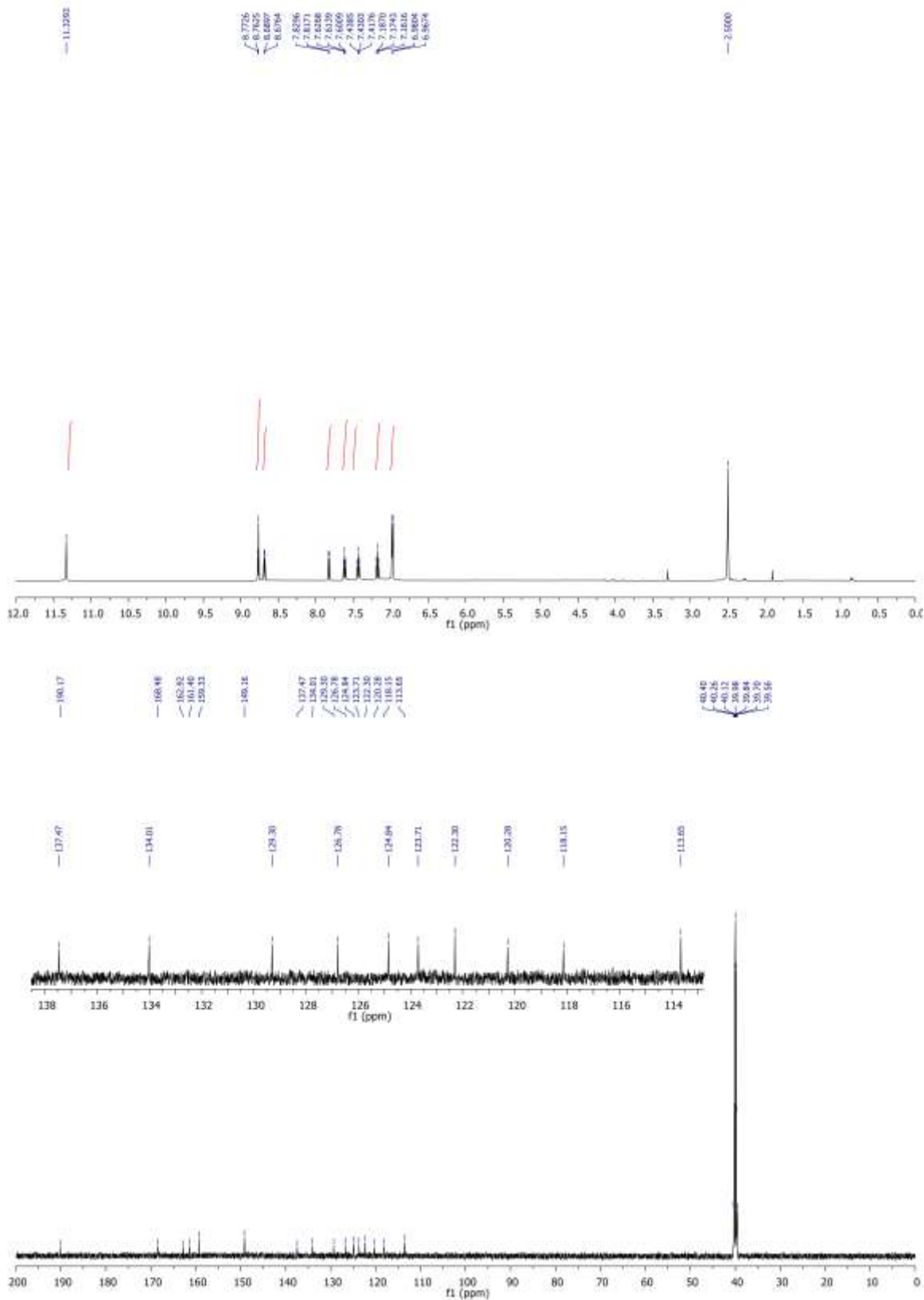
**Fig. S13.**  $^1\text{H-NMR}$  (600 MHz) and  $^{13}\text{C-NMR}$  (150 MHz) spectrums of **5d** in DMSO- $d_6$ .



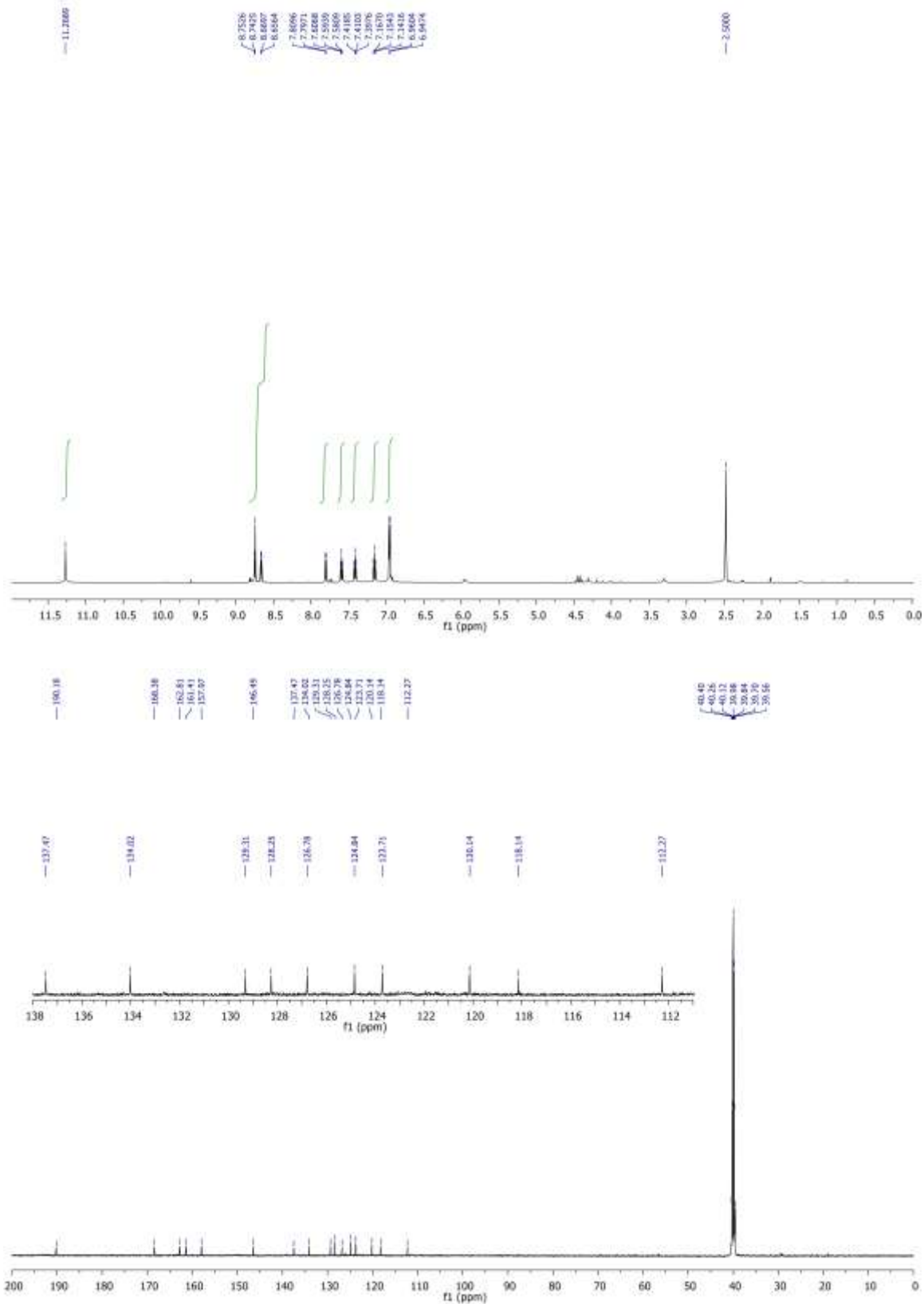


**Fig. S15.**  $^1\text{H-NMR}$  (600 MHz) and  $^{13}\text{C-NMR}$  (150 MHz) spectra of **5f** in  $\text{DMSO-d}_6$ .





**Fig. S16.** <sup>1</sup>H-NMR (600 MHz) and <sup>13</sup>C-NMR (150 MHz) spectrums of **5g** in DMSO-d<sub>6</sub>.



**Fig. S17.** <sup>1</sup>H-NMR (600 MHz) and <sup>13</sup>C-NMR (150 MHz) spectrums of **5h** in DMSO-d<sub>6</sub>.