Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information (SI)

A high selectivity and sensitivity fluorescent chemosensor for Zn^{2+} based on a diarylethene derivative

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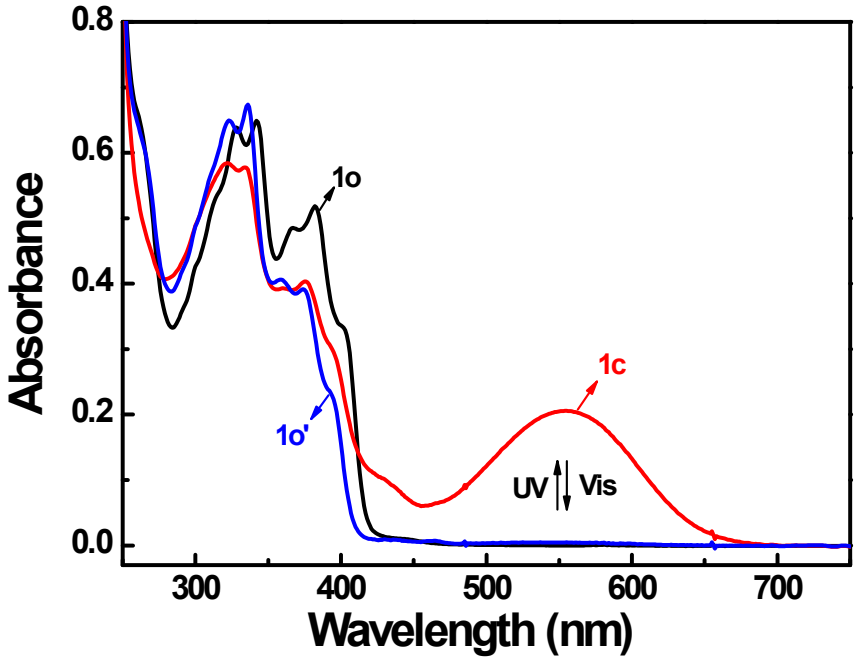

Fig. S1 The absorption spectrum of **1o**, **1c** and **1o'**.

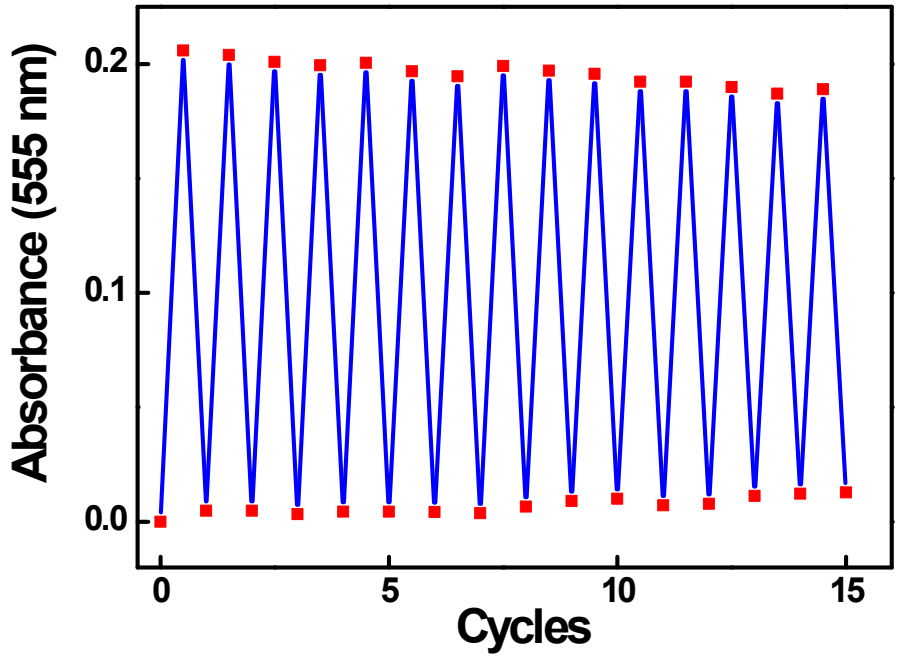

Fig. S2 Fatigue resistance of **1o** (20 μM in THF) at room temperature.

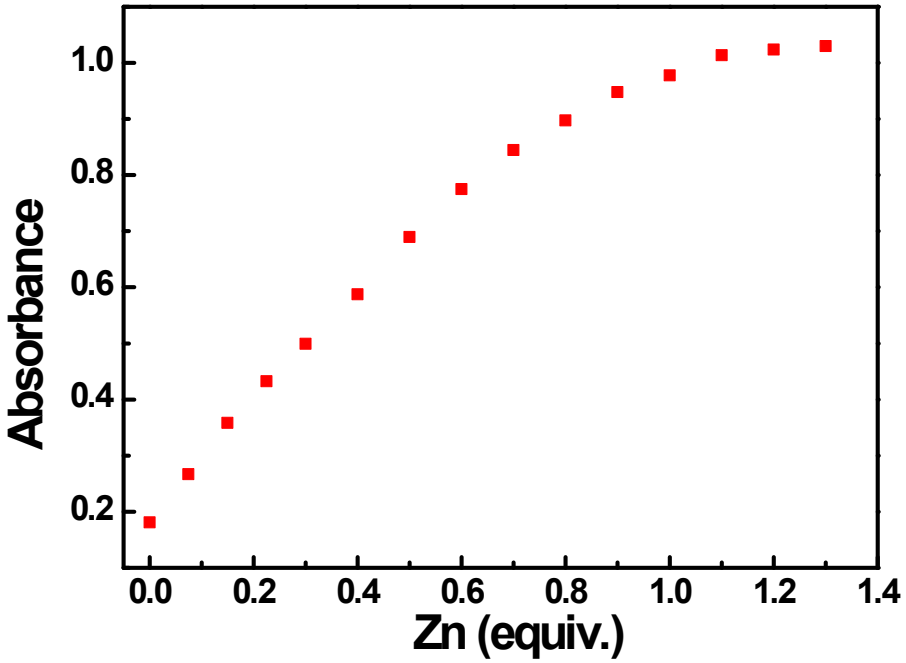

Fig. S3 Variations of absorption intensity of **1o** (20 μM) at 411 nm upon addition of Zn^{2+} (0-1.3 equiv.)

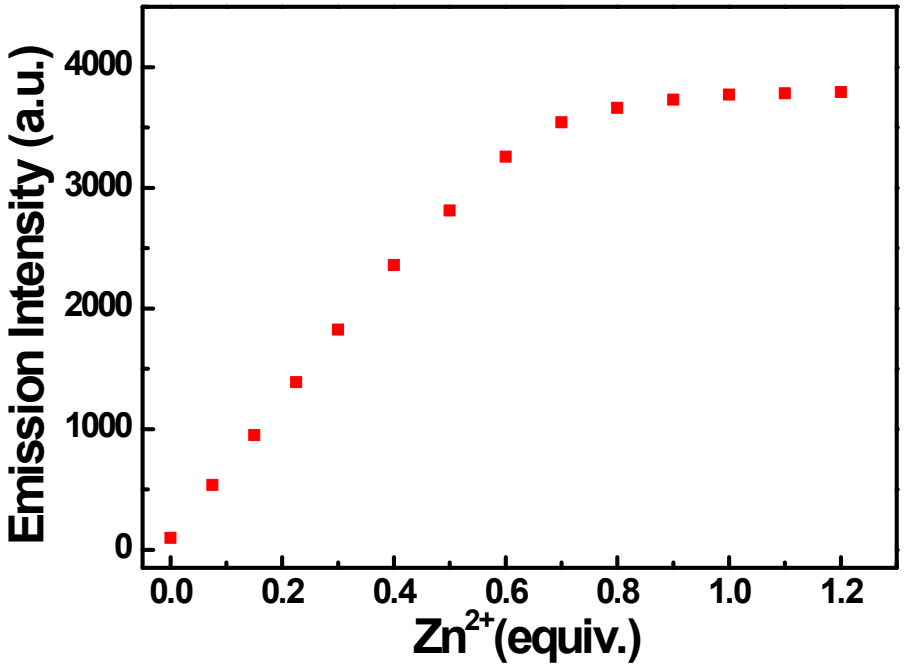

Fig. S4 Fluorescence titration data at 515 nm between receptor **1o** and Zn^{2+} (0-1.2 equiv.).

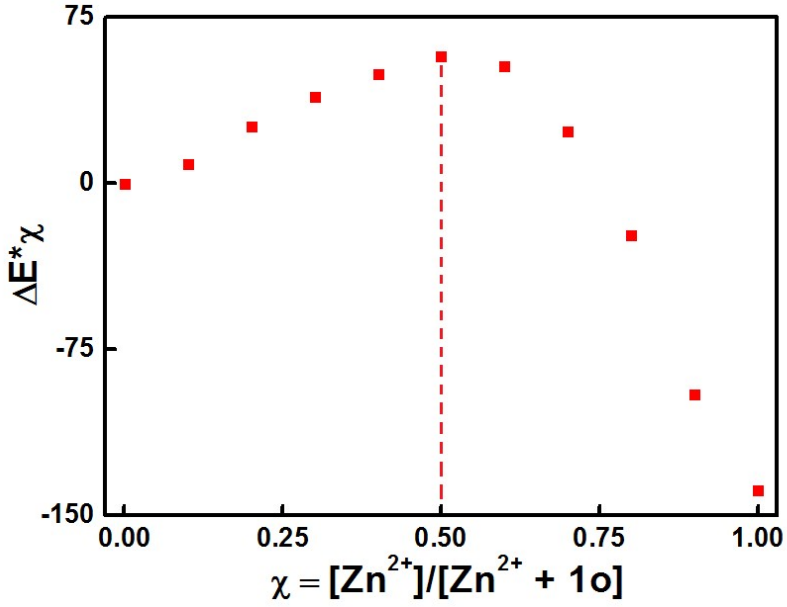

Fig. S5 Job's Plot of receptor **1o** with Zn^{2+} showing 1:1 stoichiometry.

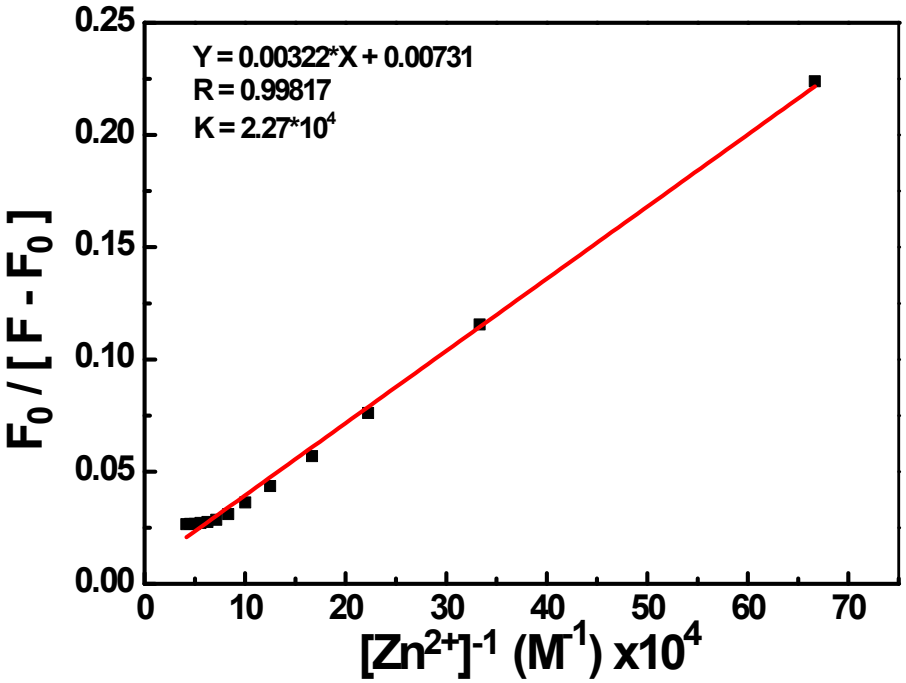

Fig. S6 Hildebrand-Benesi plot based on the 1:1 ratio for **1o** and Zn^{2+}, the binding constant is $2.27 \times 10^4\ M^{-1}$.

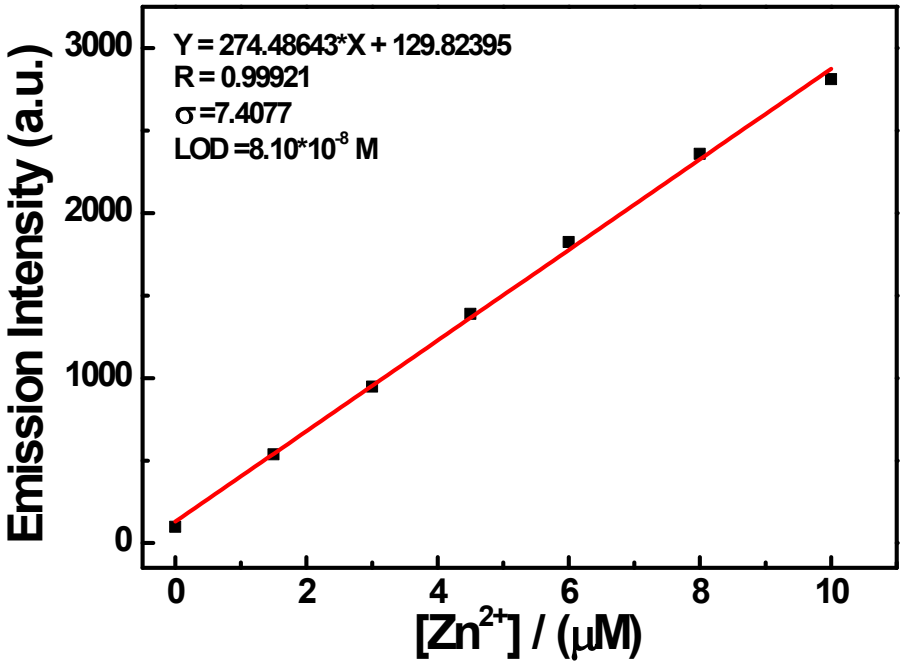

Fig. S7 The limit of detection (LOD), LOD is 8.10×10^{-8} M.

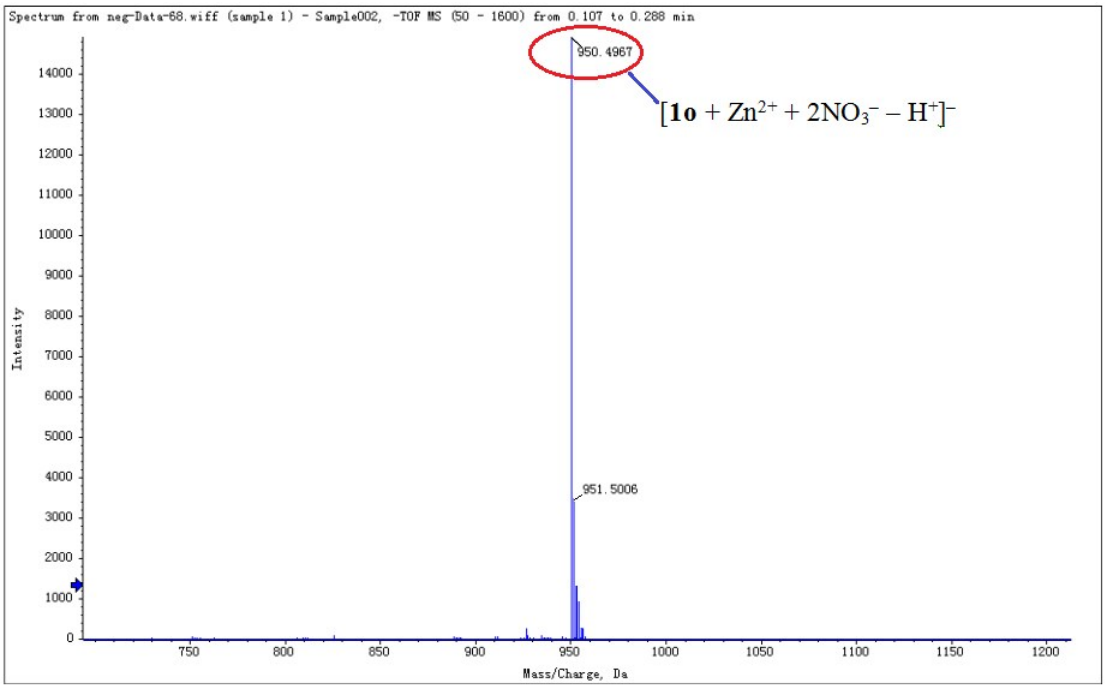

Fig. S8 HRMS of receptor **1o** with Zn^{2+}.

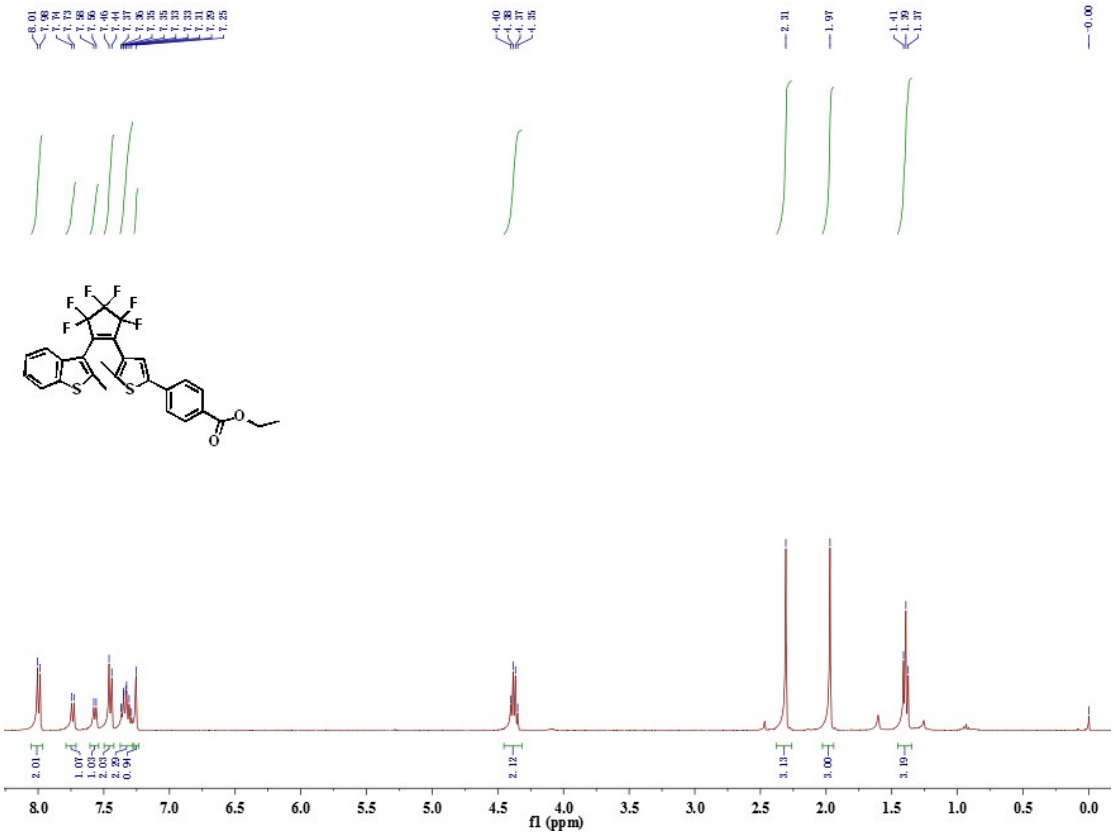

Fig. S9 ^{1}H NMR ($CDCl_3$, 400 MHz) spectrum of compound 3.

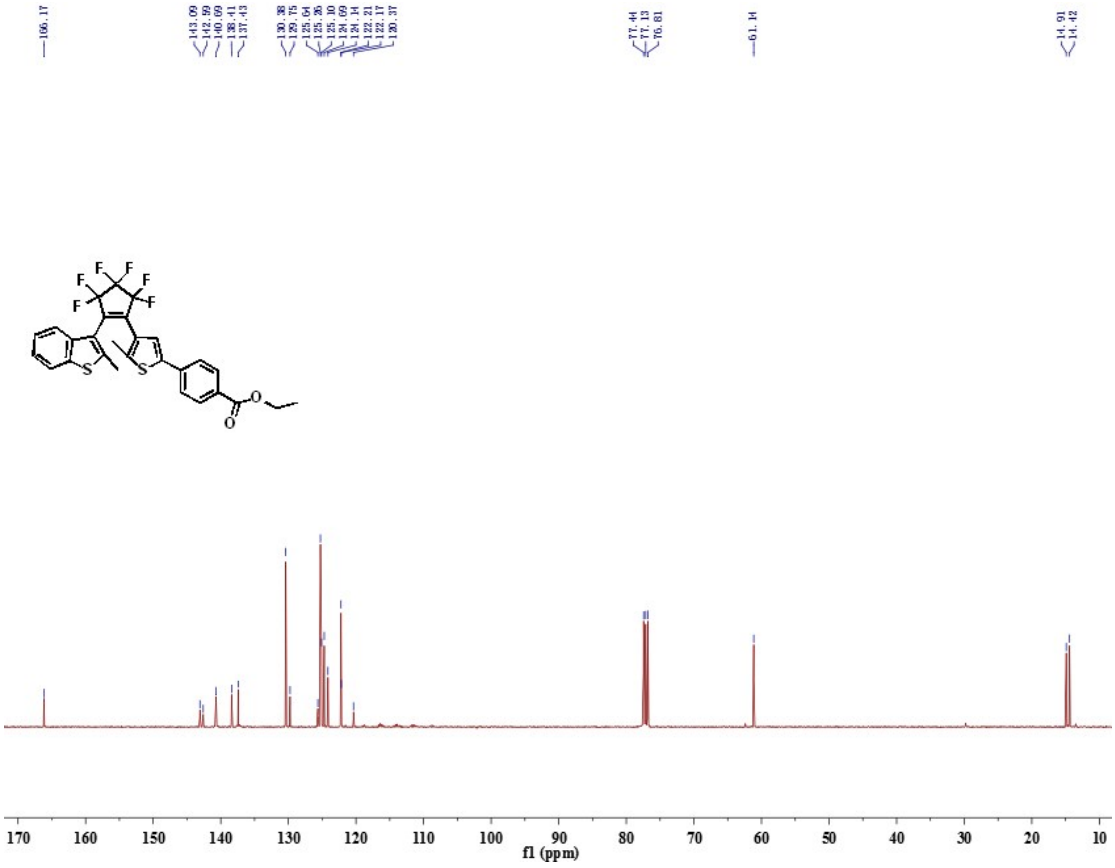

Fig. S10 ^{13}C NMR ($CDCl_3$, 100 MHz) spectrum of compound 3.

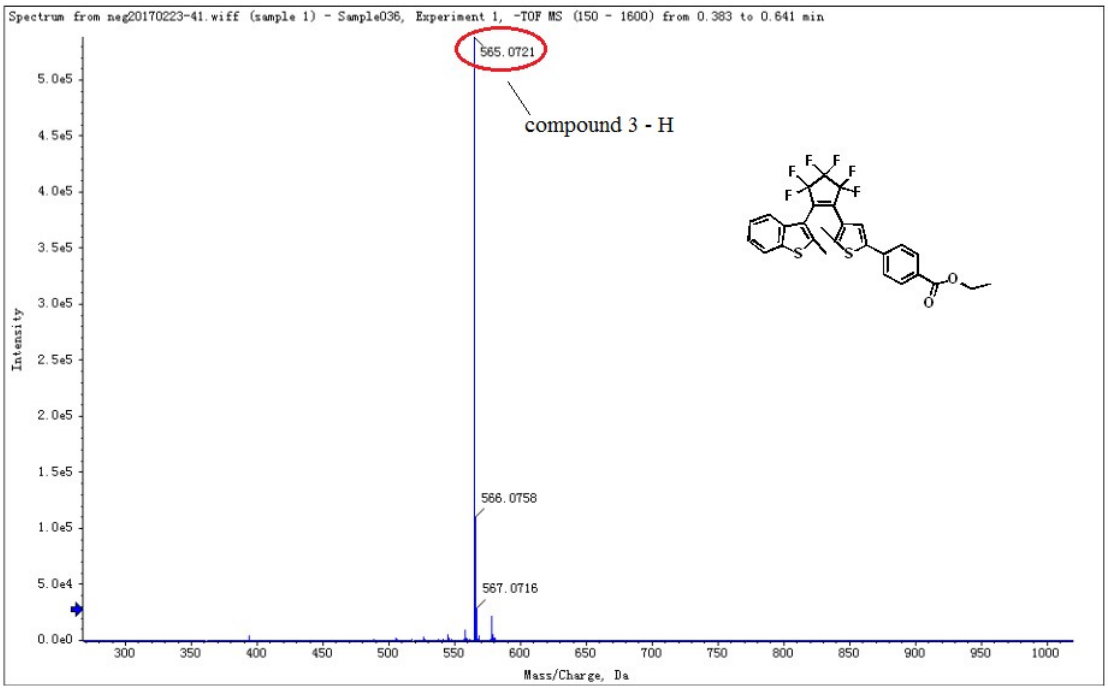

Fig. S11 Mass spectrum of compound 3.

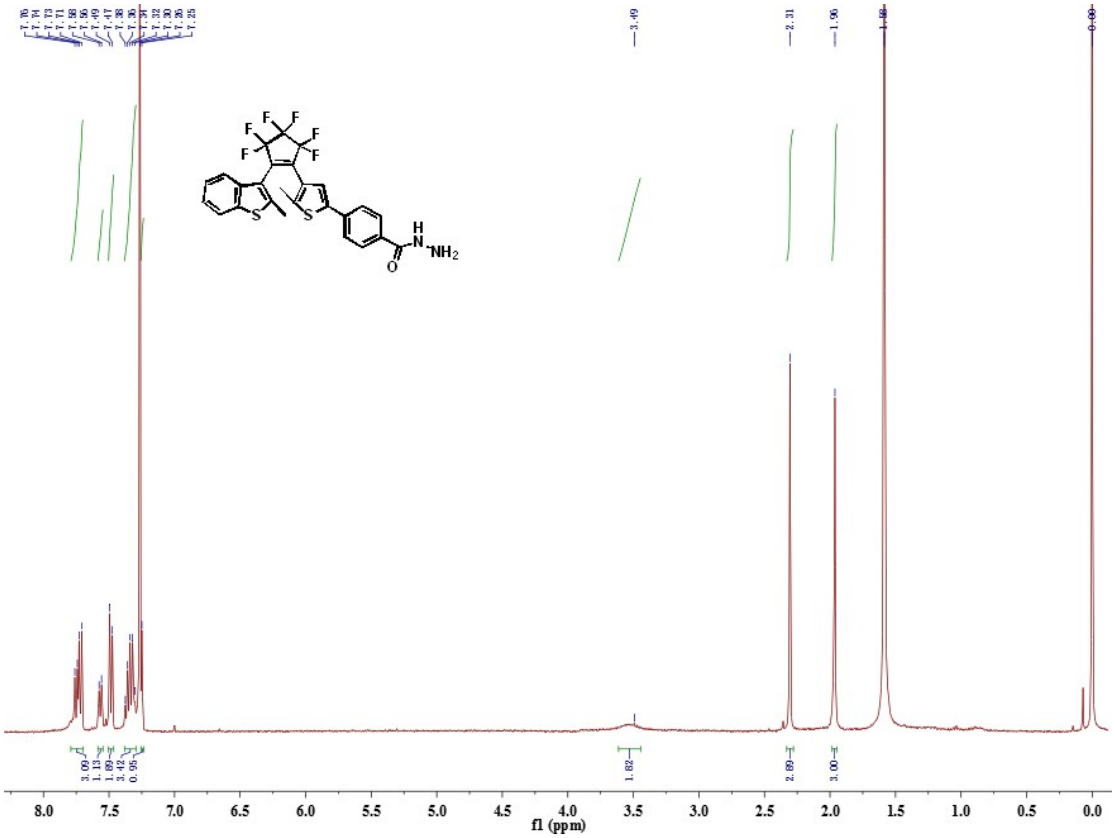

Fig. S12 ^{1}H NMR ($CDCl_3$, 400 MHz) spectrum of compound 4.

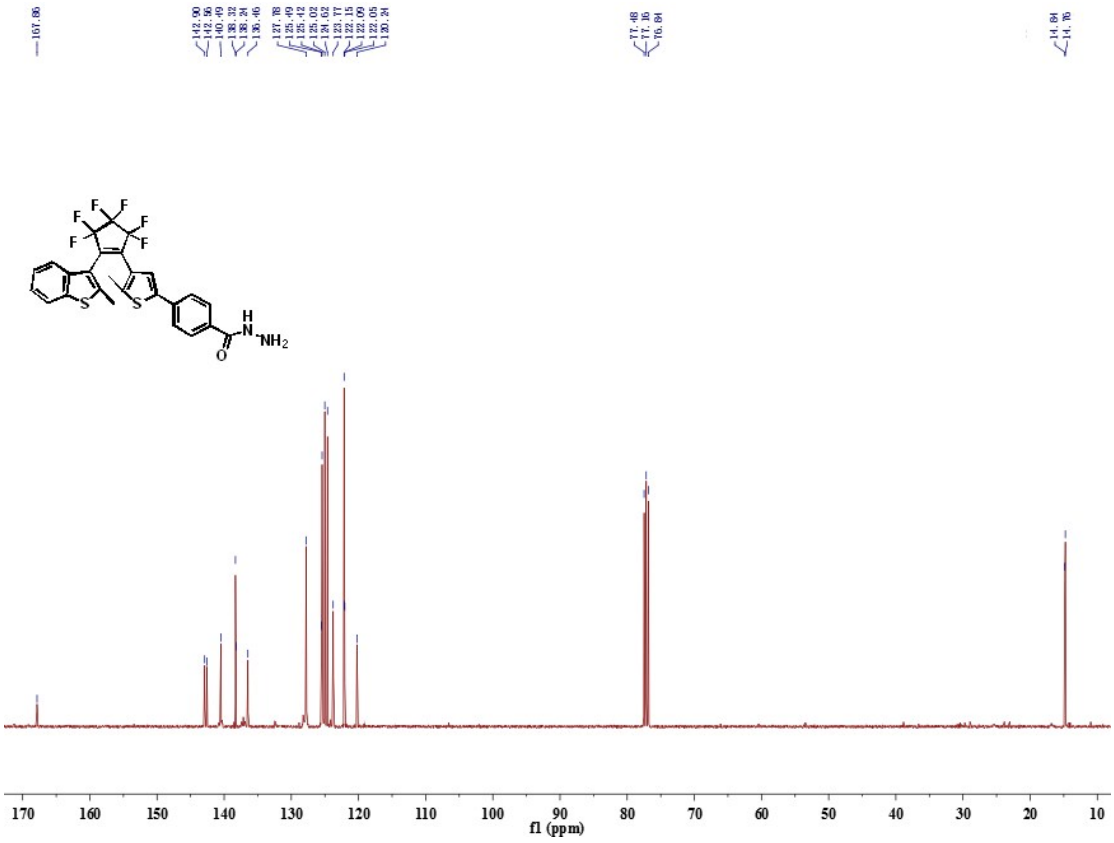

Fig. S13 ^{13}C NMR ($CDCl_3$, 100 MHz) spectrum of compound 4.

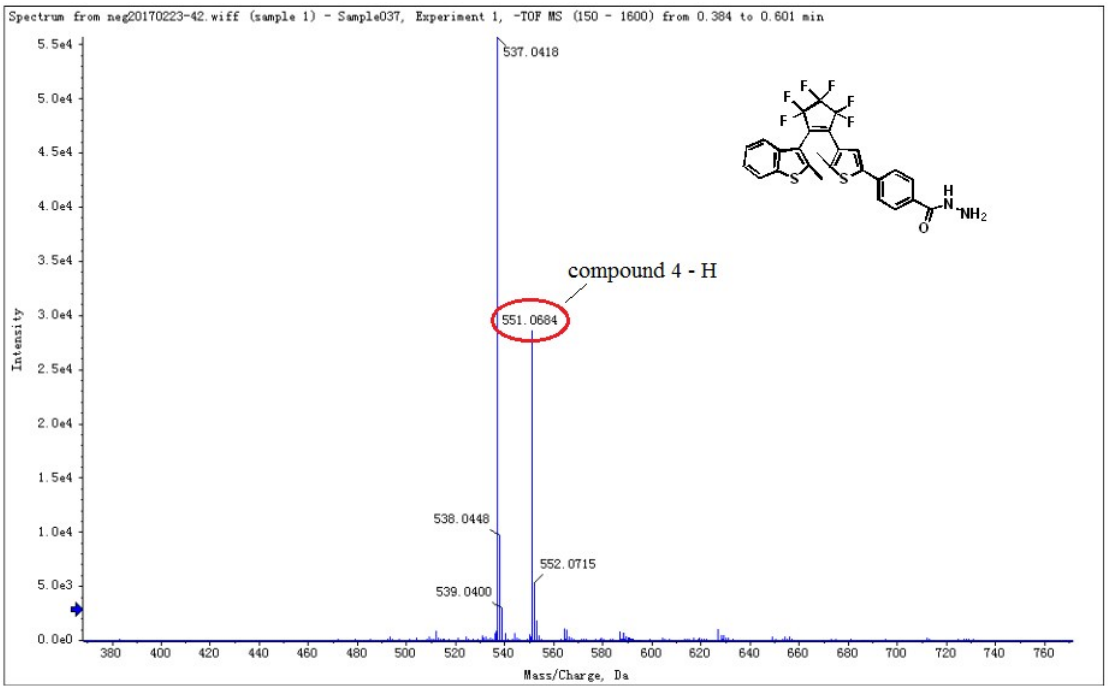

Fig. S14 Mass spectrum of compound 4.

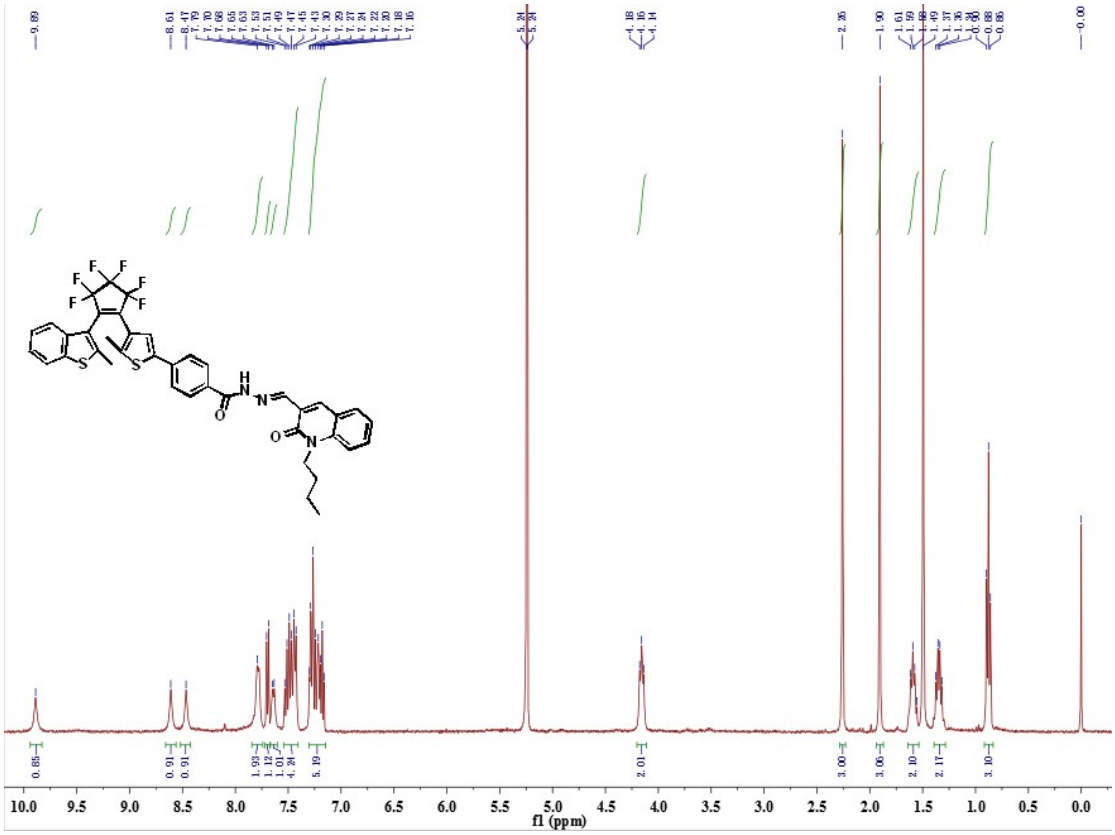

Fig. S15 ^{1}H NMR (CD_2Cl_2, 400 MHz) spectrum of compound **1o**.

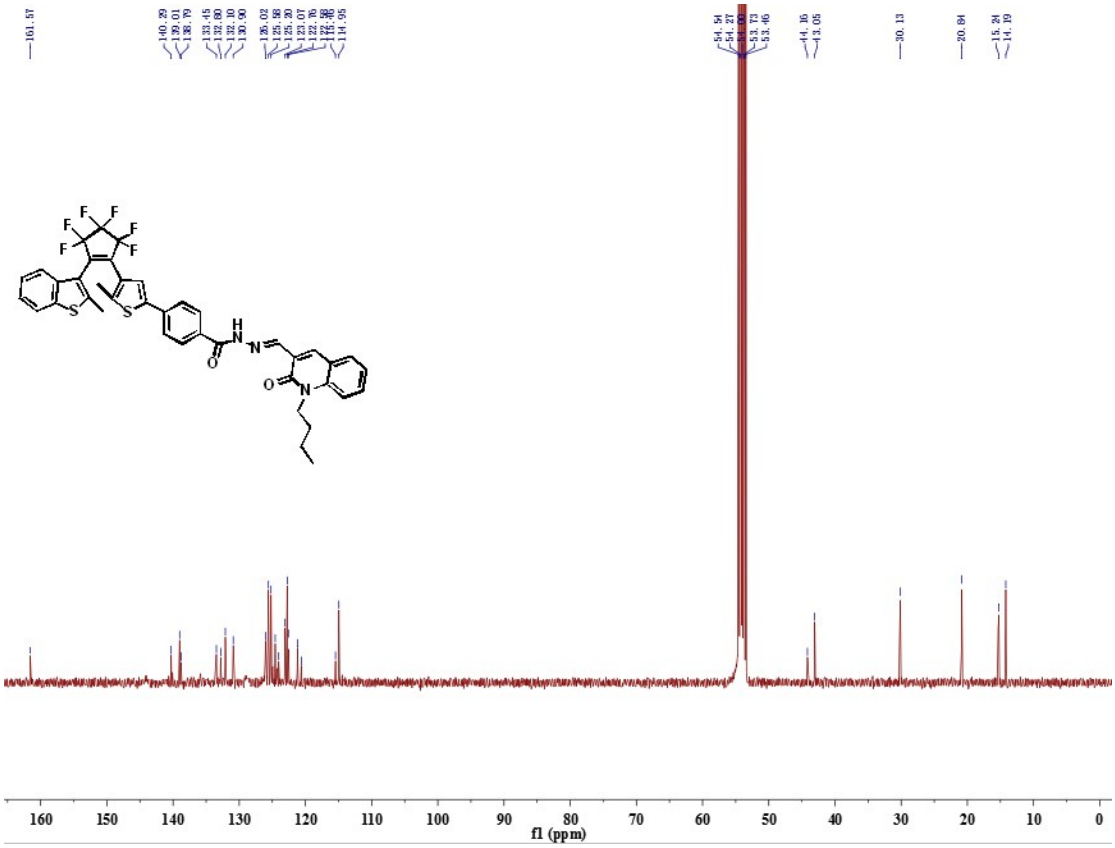

Fig. S16 ^{13}C NMR (CD_2Cl_2, 100 MHz) spectrum of compound **1o**.

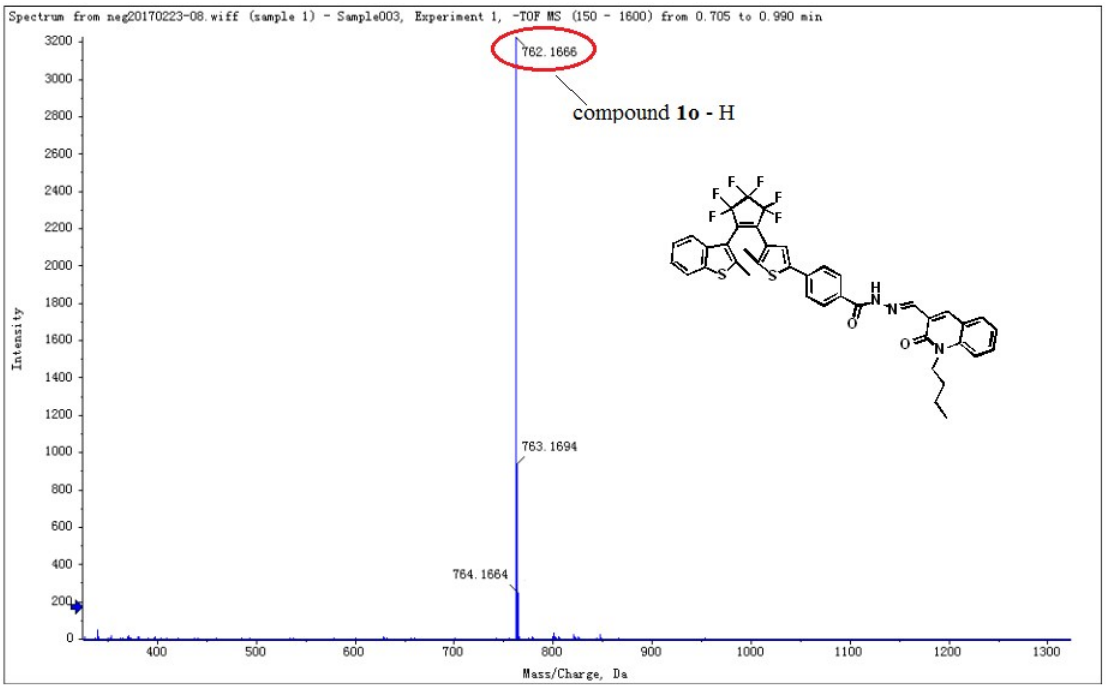

Fig. S17 Mass spectrum of compound **1o**.