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 10 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 10 and Zn$^{2+}$, the binding constant is $2.27 \times 10^4$ M$^{-1}$. 
Fig. S7  The limit of detection (LOD), LOD is $8.10 \times 10^{-8}$ 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$_2$Cl$_2$, 400 MHz) spectrum of compound 1o.
Fig. S16 $^{13}$C NMR (CD$_2$Cl$_2$, 100 MHz) spectrum of compound 1o.
Fig. S17 Mass spectrum of compound 1o.