

Supporting Information

A turn-on fluorescence sensor for highly selective detection of Al³⁺ based on diarylethene and its application by test strips

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Contents

Figure S1. ¹H NMR spectrum of **10**.

Figure S2. ¹³C NMR spectrum of **10**.

Figure S3. IR spectra of **10**.

Figure S4. MS-ESI spectrum of **10**.

Figure S5. Absorption spectra changes of **1C** induced by Al³⁺/EDTA in methanol solution (2.0 × 10⁻⁵ mol L⁻¹).

Figure S6. The binding constant of **10** with Al³⁺ was calculated to be 4.72 × 10⁴ L·mol⁻¹.

Figure S7. The limit of detection (LOD) for Al³⁺ was 1.24 × 10⁻⁵ mol L⁻¹.

Figure S8. Fluorescence photos of Al³⁺ at different concentrations.

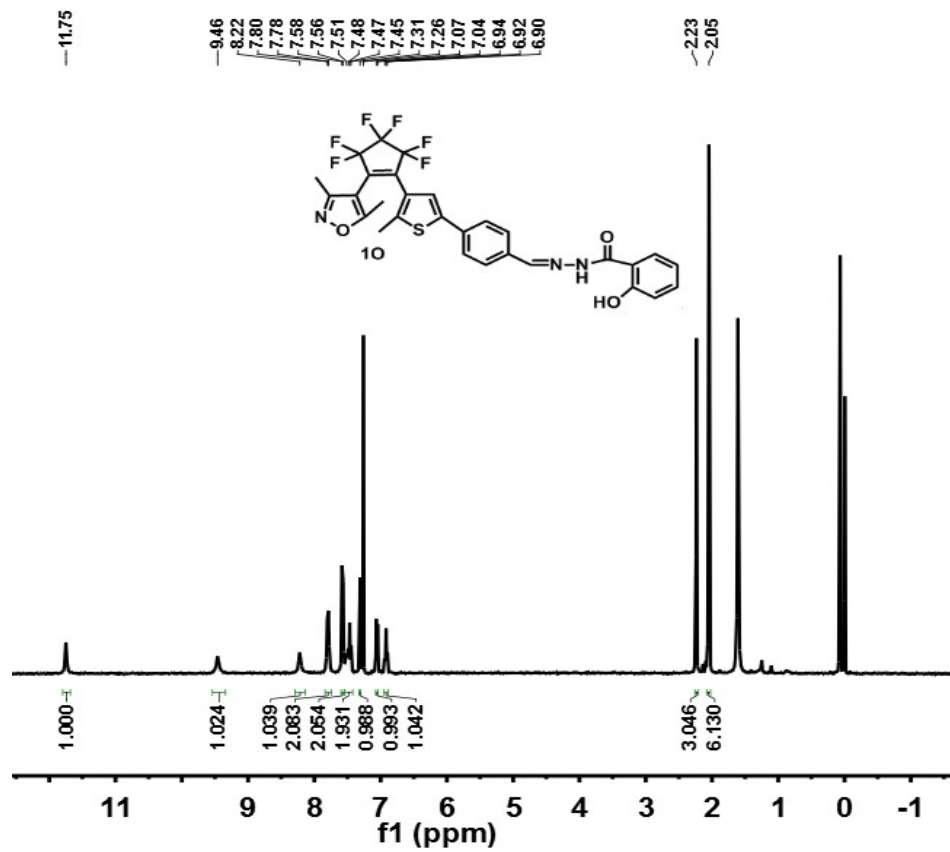


Figure S1. $^1\text{H NMR}$ spectrum of 10.

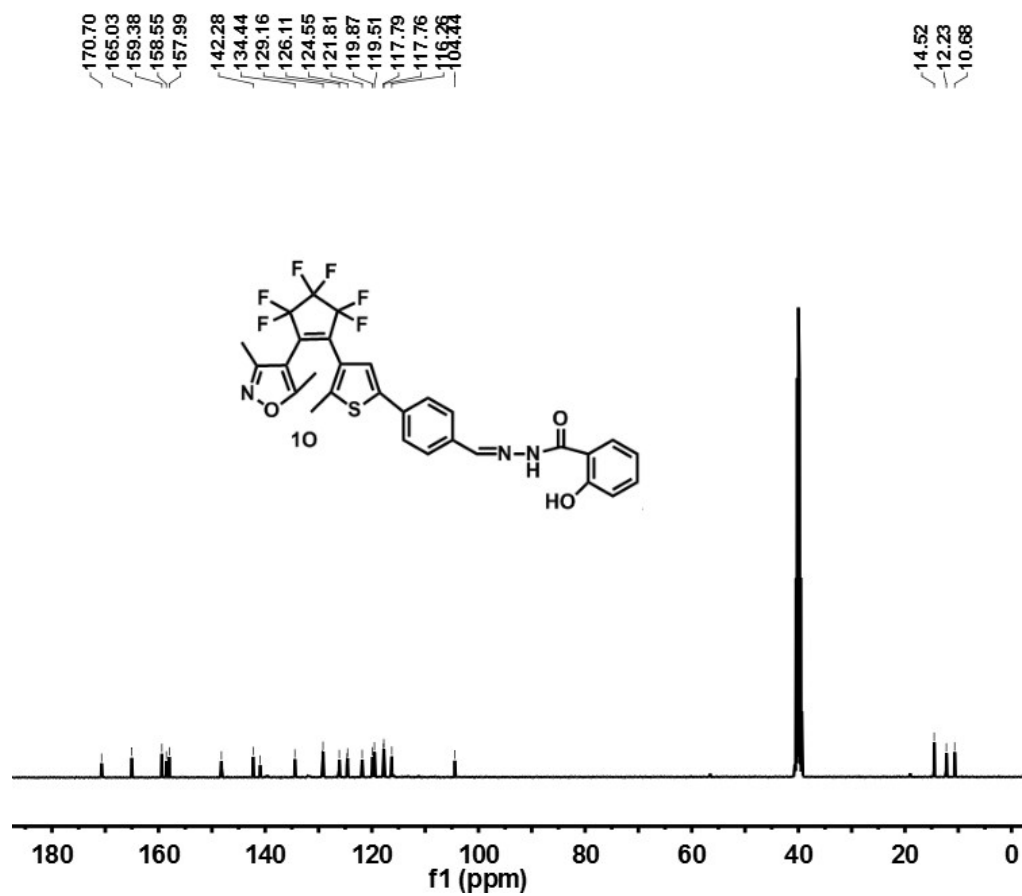


Figure S2. ¹³C NMR spectrum of 10.

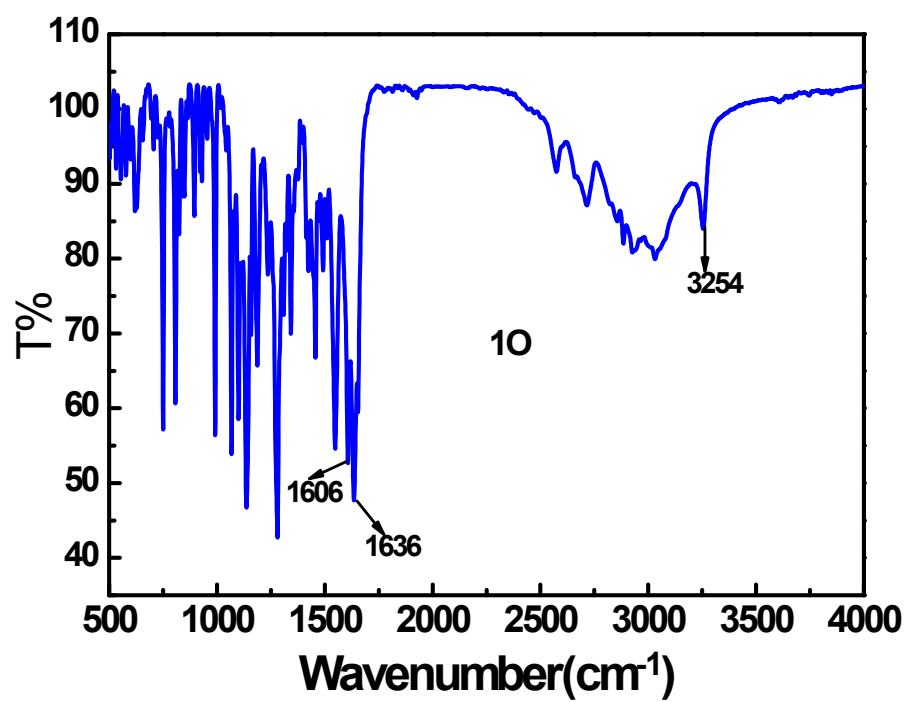


Figure S3. IR spectra of 10.

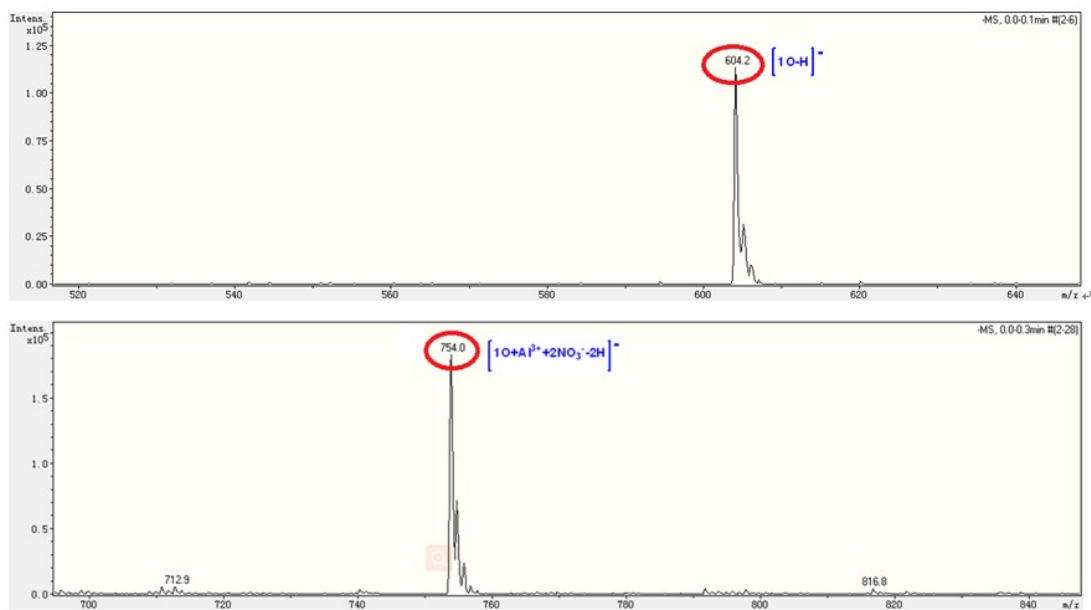


Figure S4. MS-ESI spectrum of **10** and **10-Al³⁺**.

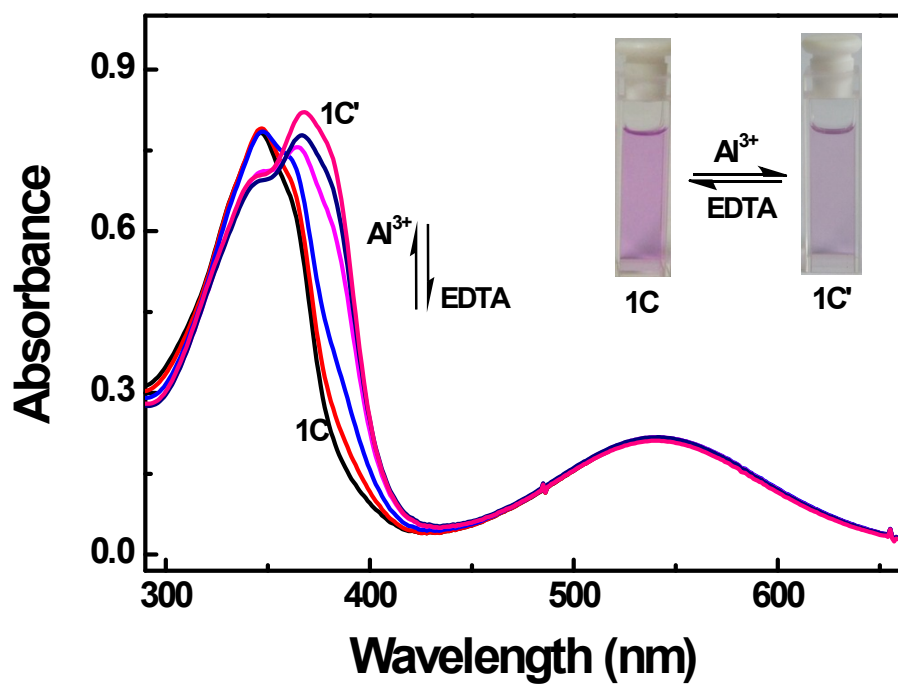


Figure S5. Absorption spectra changes of 1C induced by Al³⁺/EDTA in methanol solution ($2.0 \times 10^{-5} \text{ mol L}^{-1}$).

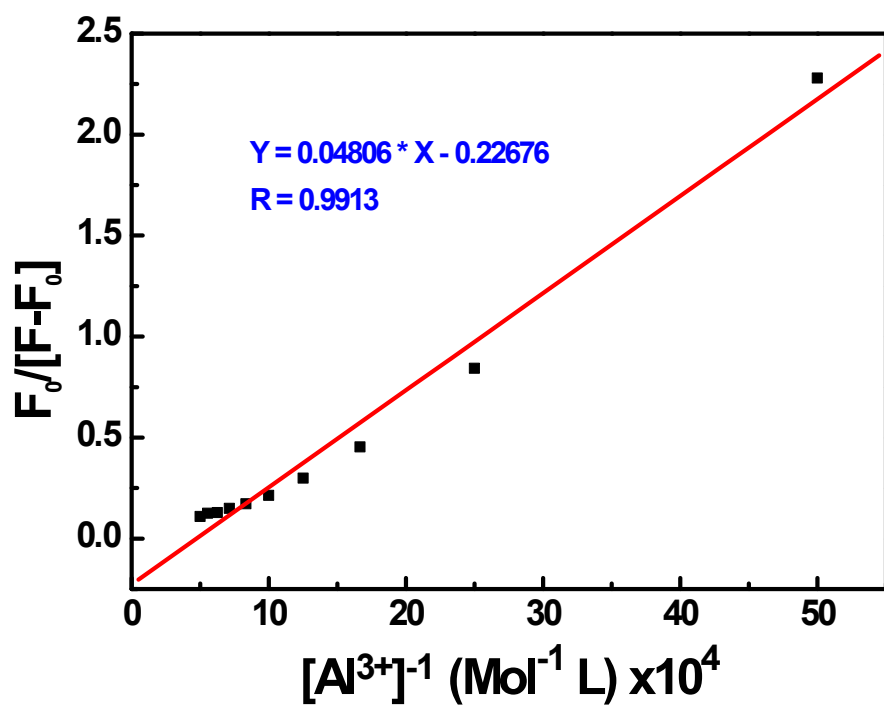


Figure S6. Hildebrand-Benesi plot based on the 1 : 1, the association constant of **10** with Al^{3+}

was calculated to be $4.72 \times 10^4 L \cdot mol^{-1}$.

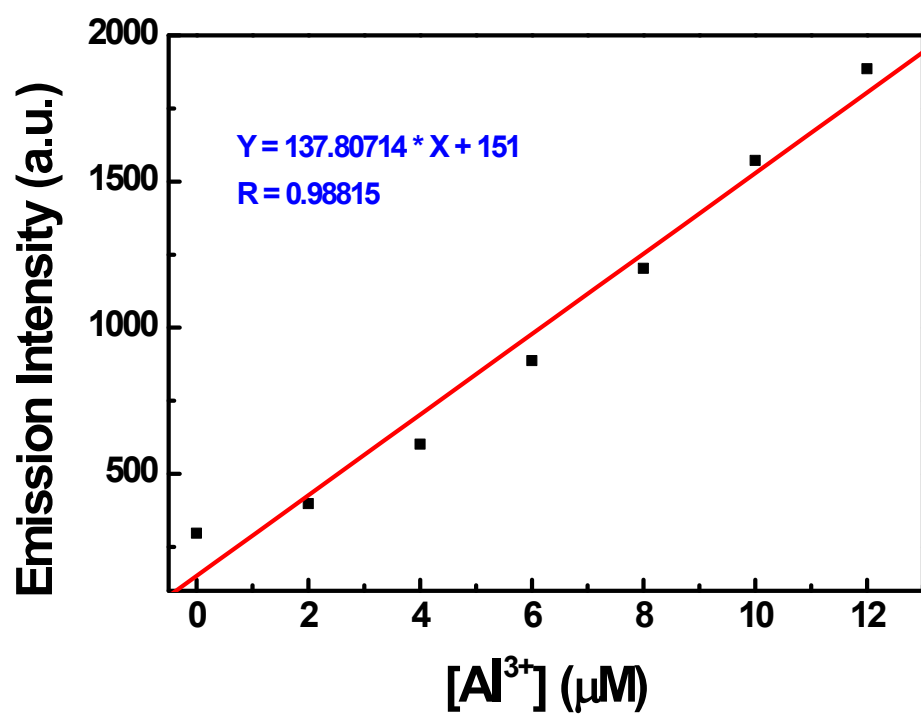


Figure S7. The limit of detection (LOD) for Al^{3+} was $1.24 \times 10^{-5} \text{ mol L}^{-1}$.

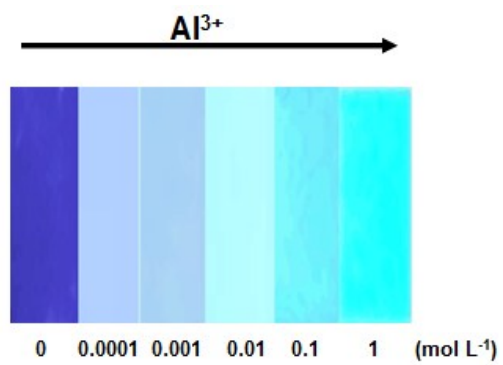


Figure S8. Fluorescence photos of Al^{3+} at different concentrations.