Electronic Supplementary Information (ESI)

A Novel Fluorescence Sensor for Relay Recognition of Zinc Ion and Nitric Oxide through Fluorescence 'Off-onoff' Functionality

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1. Structure characterization of the Probe LJ-1

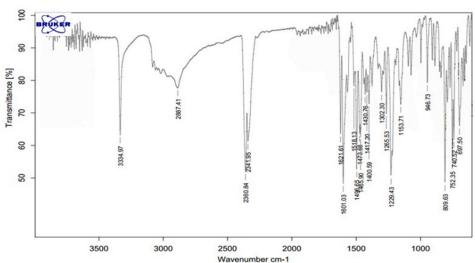


Fig. S1a IR spectrum of LJ-1

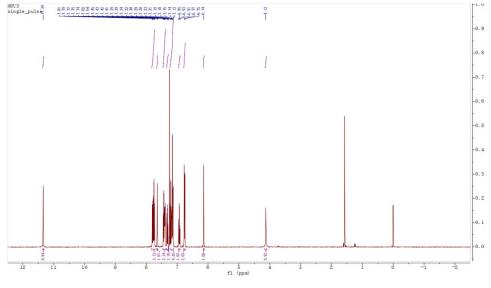


Fig. S1b ¹H NMR spectrum of LJ-1

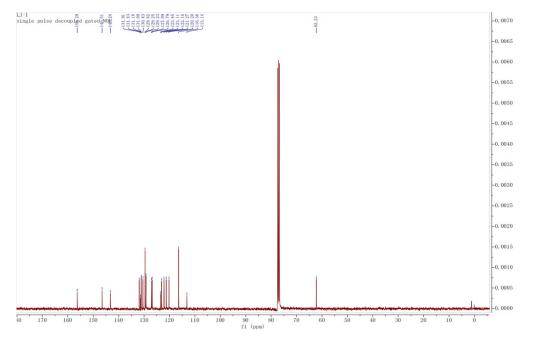


Fig. S1c ¹³C NMR spectrum of LJ-1

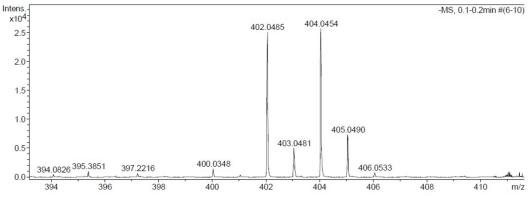


Fig. S1d HRMS spectrum of LJ-1

2. Solvent effects on the Zn²⁺ induced fluorescence variation

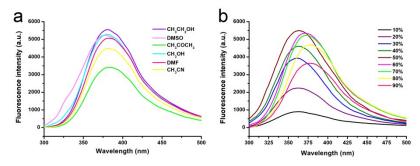


Fig. S2 Solvent effects on fluorescence intensity. a) Solvent screening of LJ-1 (1 μ M) on Zn²⁺ (1.0 equiv.) in different solution (organic solvent/water=1:1, v/v, pH 7.4). b) Solvent effects of LJ-1 (1 μ M) on the Zn²⁺ (1.0 equiv.) induced fluorescence enhancement by increasing EtOH content in aqueous solution from 10 % to 90 % (EtOH/water, v/v, pH 7.4).

3. Time effect on LJ-1/Zn²⁺ complex

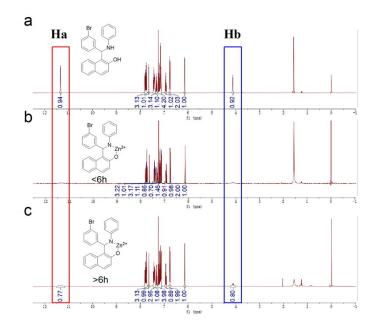


Fig. S3 Time-dependent effects on ¹H NMR characterization. a) LJ-1; b) LJ-1/Zn²⁺ complex within 6 h; c) LJ-1/Zn²⁺ complex after 6 h.

4. The proposed binding mode of NO to $LJ-1/Zn^{2+}$ complex

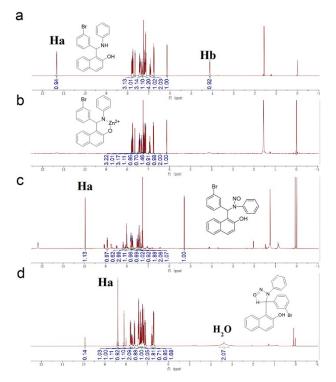


Fig. S4 Proposed response mechanism for \Box -1 /Zn²⁺ with NO on ¹H NMR. a) \Box -1; b) \Box -1/Zn²⁺ complex; c) \Box -1/Zn²⁺ complex exposed to NO at 1 h; d) \Box -1/Zn²⁺ complex exposed to NO at 2 h.