The design of a simple fluorescent chemosensor for Al^{3+}/Zn^{2+} via two different approaches

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bar: 25 μM of HL with 1.0 equiv. of Zn^{2+} ; 25μM of HL and 1.0 equiv. of Zn^{2+} with 1.0 equiv. of metal ions stated (λ_{ex}=405nm, slit widths:3nm /3nm).

Fig. S10. Benesi-Hildebrand analysis of the emission changes for the complexation between HL and Zn^{2+}

Fig. S11. The detection limits for Zn^{2+} based on 3σ/K

Fig. S12. The ESI-MS spectra of HL and Al^{3+}

Fig. S13. ^{1}H NMR titration, Al^{3+} was added to the DMSO-d_6 solution of HL

Fig. S14. The ESI-MS spectra of HL and Zn^{2+}

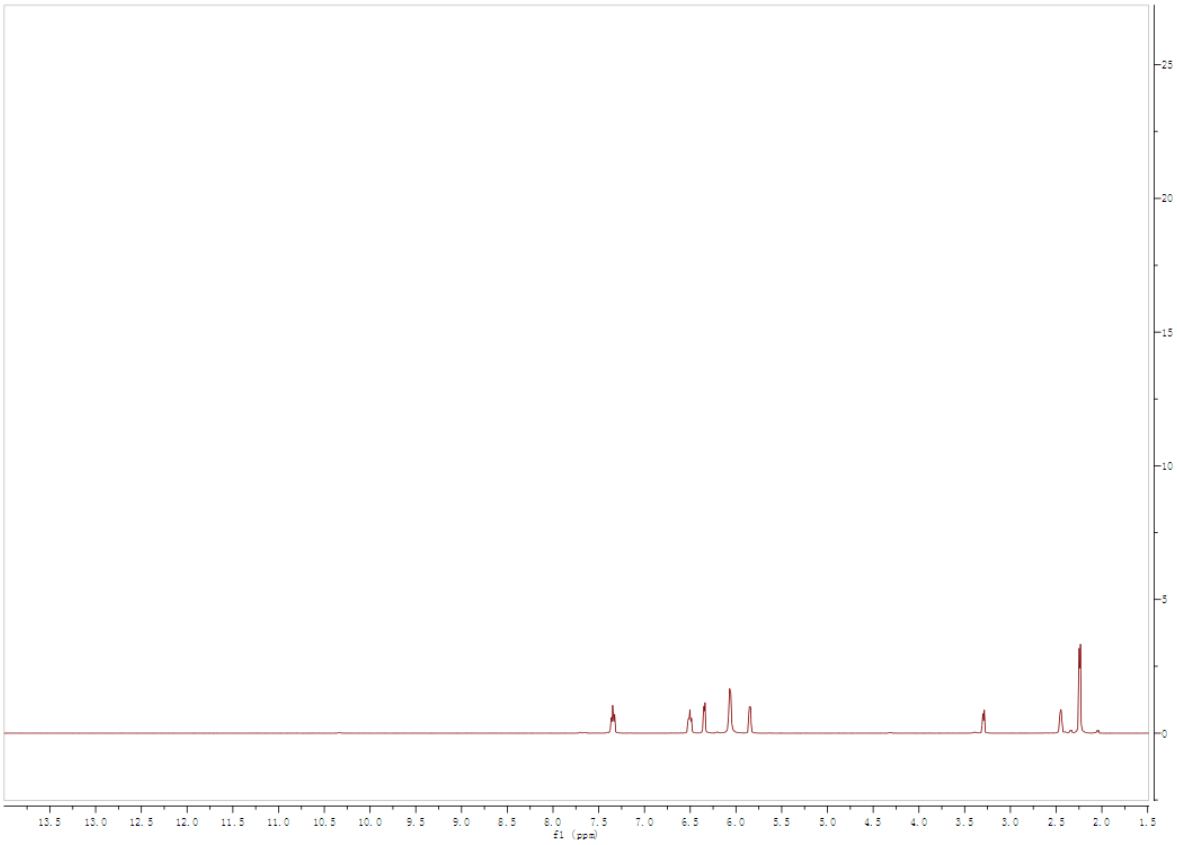


Fig. S1 The ^{1}H NMR of 7-amino-4-methyl coumarin

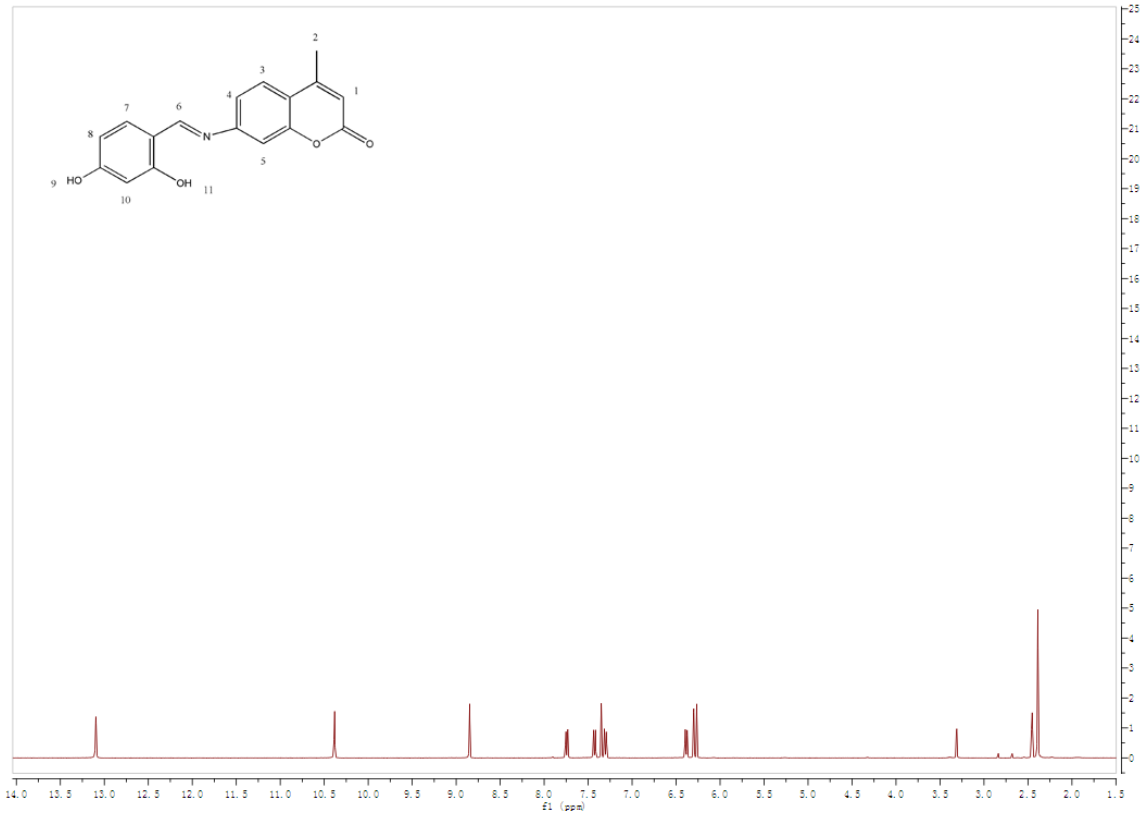


Fig. S2. The ^{1}H NMR of HL

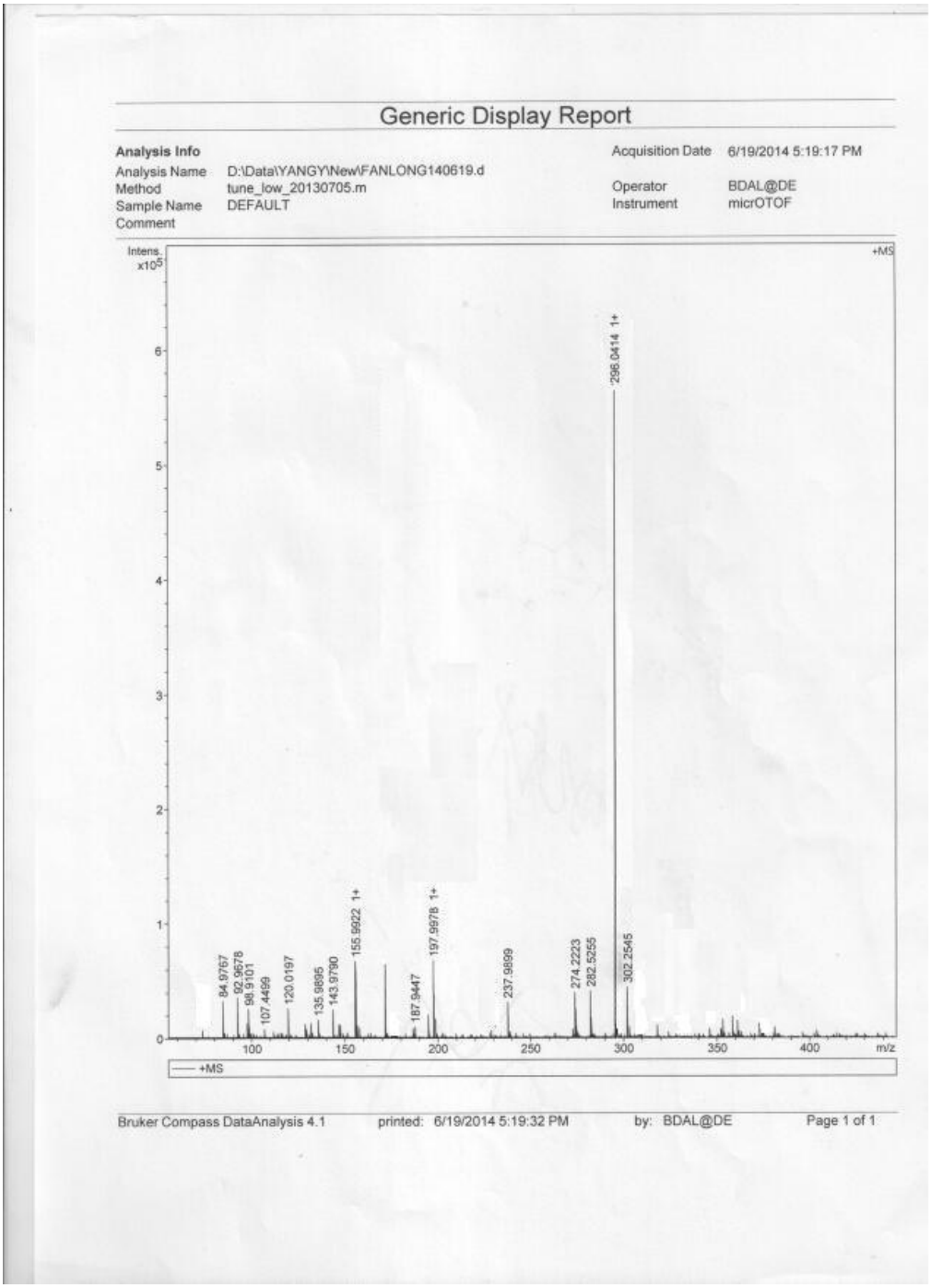


Fig. S3. The ESI-MS spectra of HL

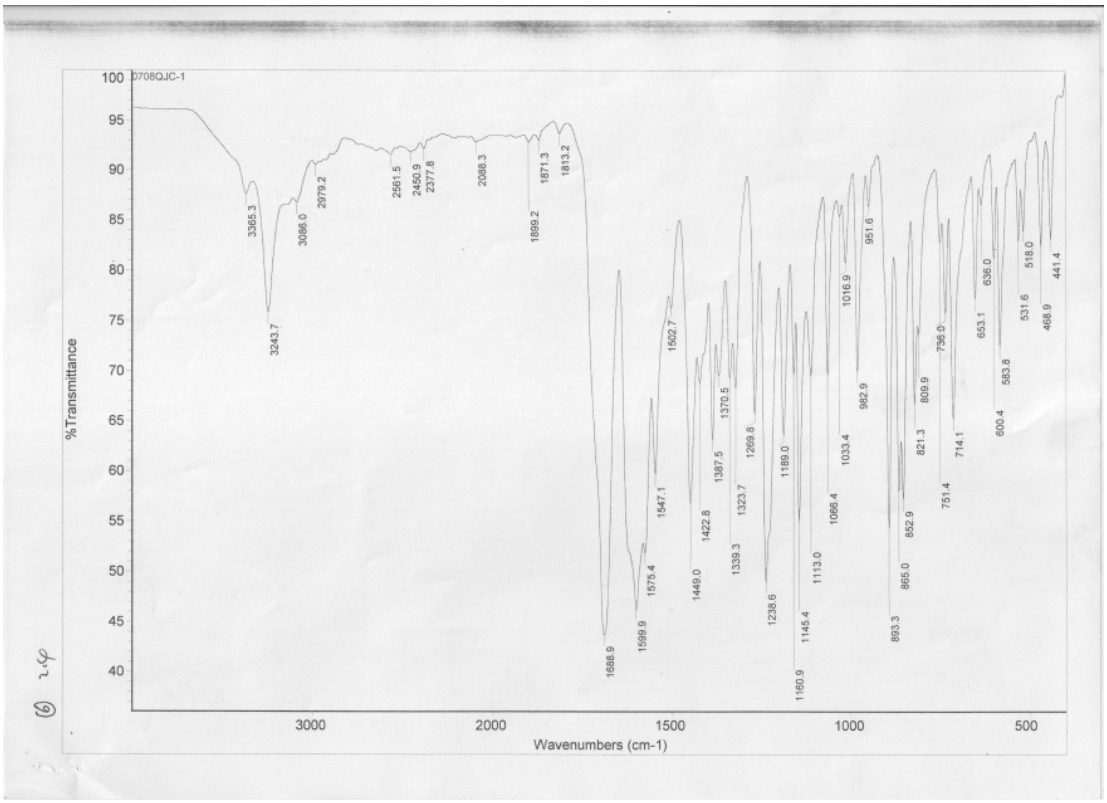


Fig. S4 The IR spectra of HL.

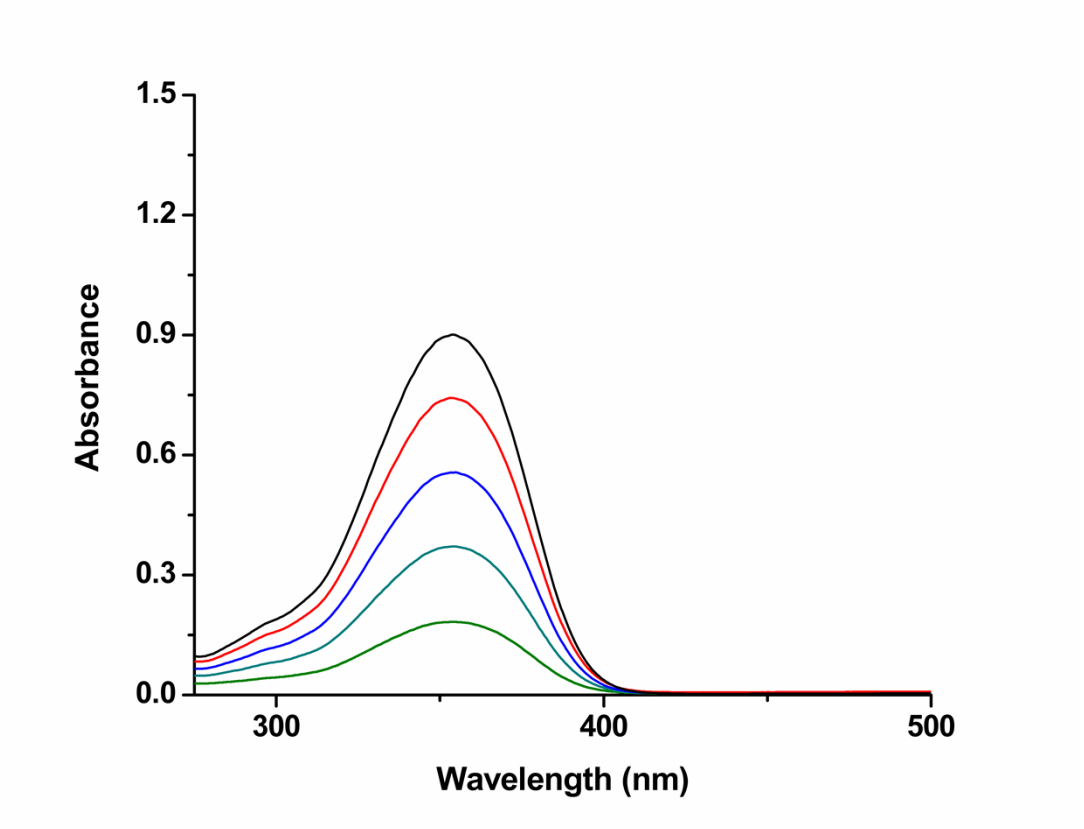


Fig. 5. Changes in the absorption spectra of AMC (0-25 μM) in ethanol and water (95:5, v/v) at room temperature

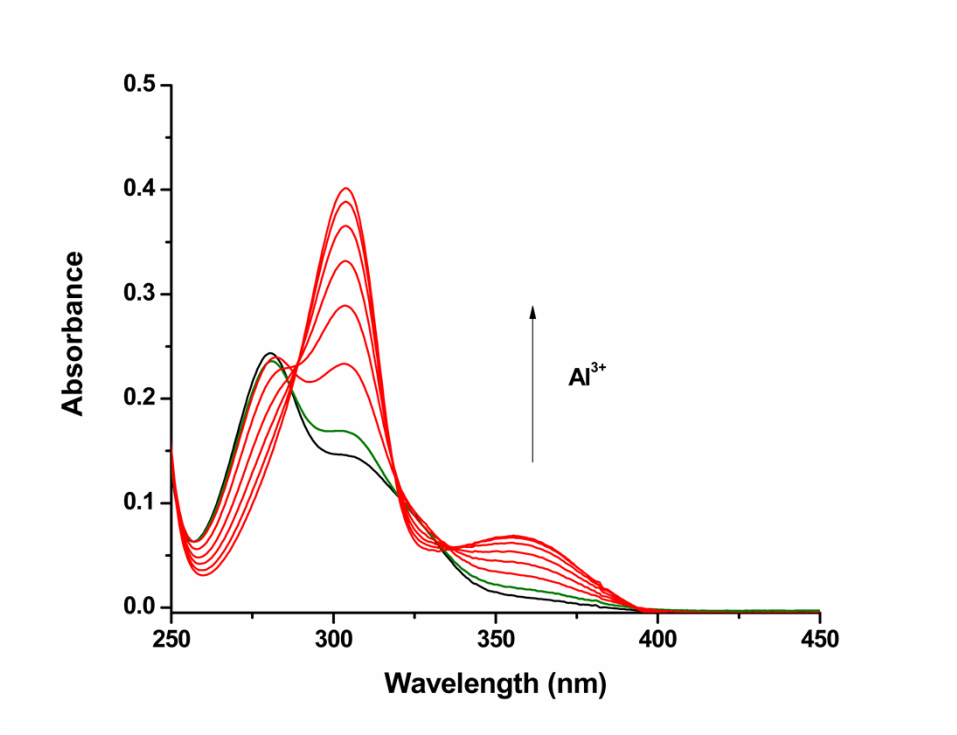


Fig. S6. Changes in the absorption spectra of DHB(25 μM) in ethanol and water (95:5, v/v) at room temperature as a function of added Al^{3+} .

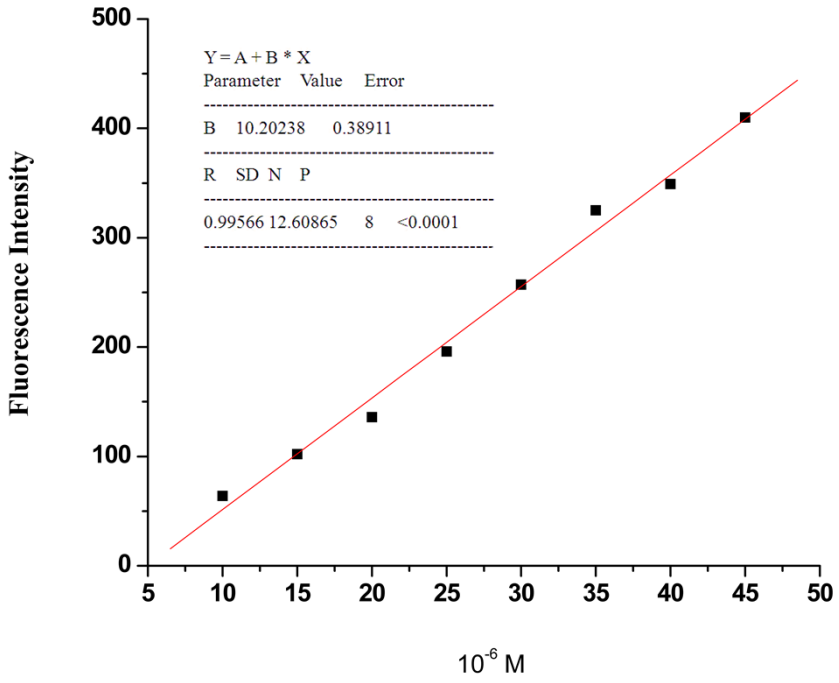


Fig. S7. The detection limits for Al^{3+} based on 3σ/K

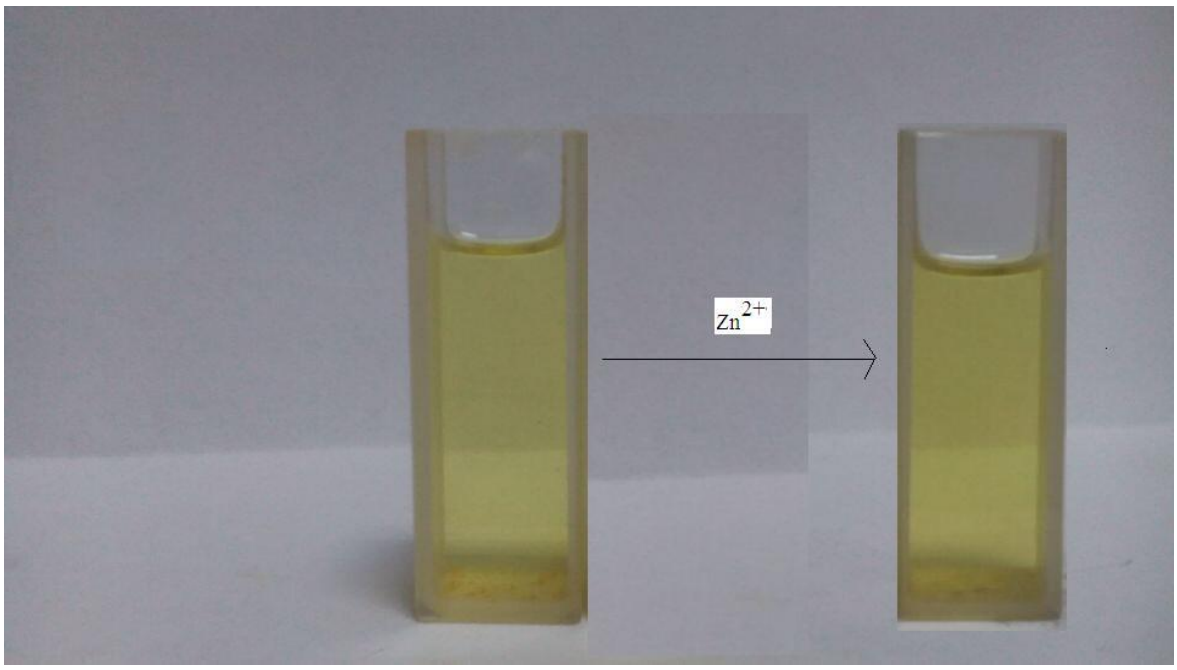


Fig. S8. The color of HL (left) and HL+Zn^{2+} (right) system under visible light.

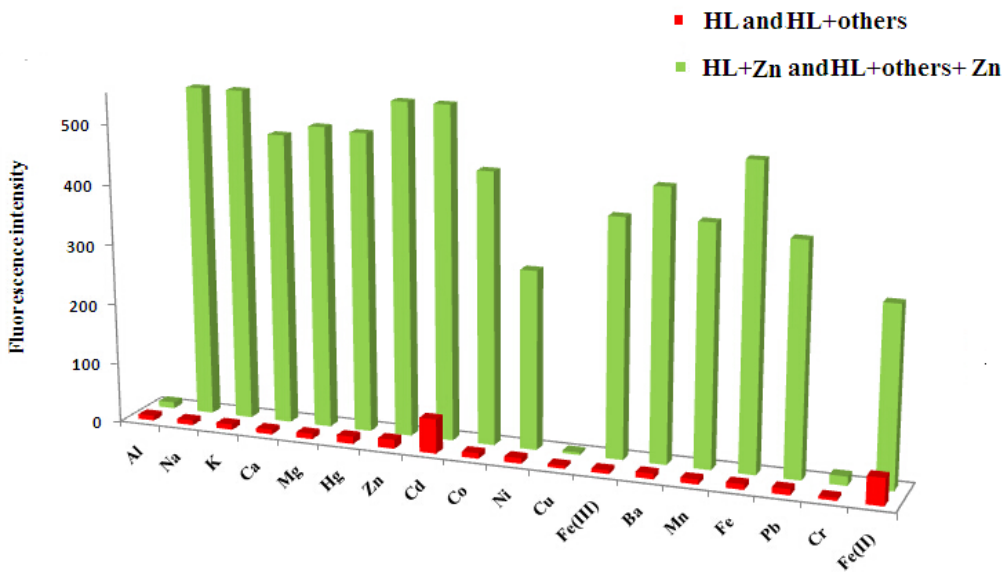
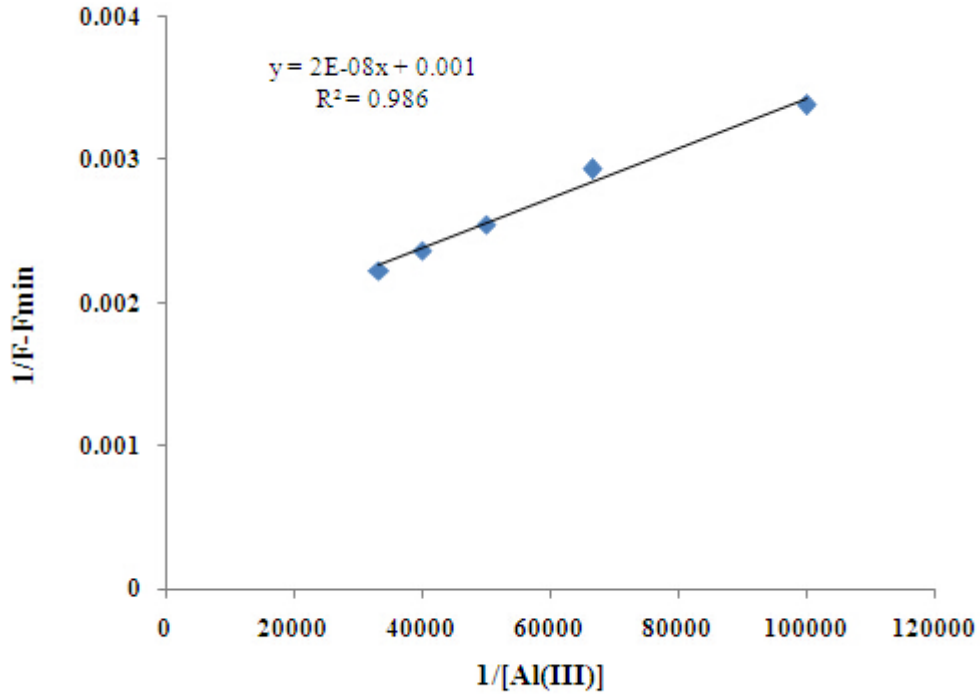


Fig. S9. Fluorescence intensity of HL and its complexation with Zn^{2+} in the presence of various metal ions. Red bar: HL(25 μM) ; HL with 1.0 equiv. of Na^{+}, Pb^{2+}, Ca^{2+}, K^{+}, Ba^{2+}, Hg^{2+}, Mg^{2+}, Mn^{2+}, Cd^{2+}, Co^{2+}, Cr^{3+}, Ni^{2+}, Fe^{2+}, Fe^{3+}, and Cu^{2+}, stated. Green bar: 25 μM of HL with 1.0 equiv. of Zn^{2+} ; 25μM of HL and 1.0 equiv. of Zn^{2+} with 1.0 equiv. of metal ions stated (λ_{ex}=405nm, slit widths:3nm /3nm).



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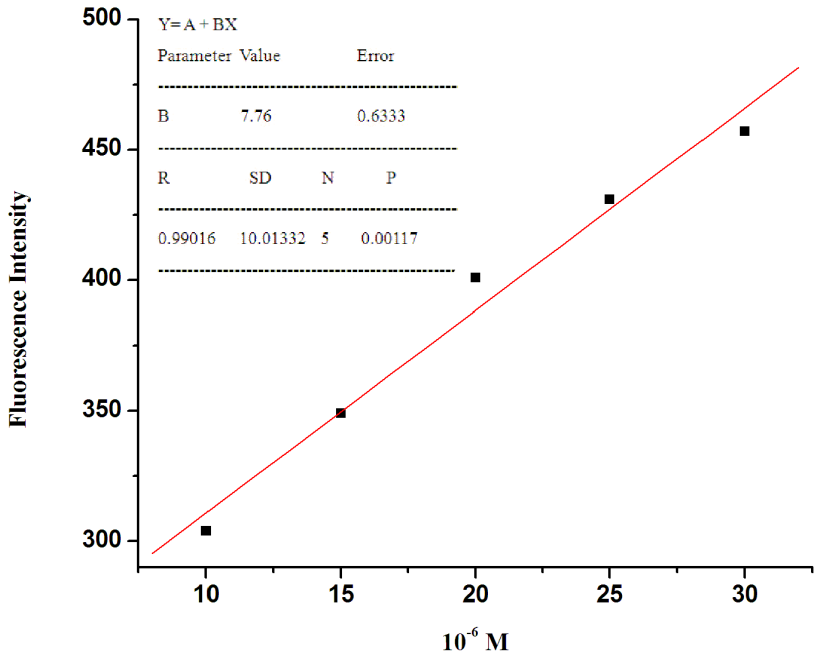

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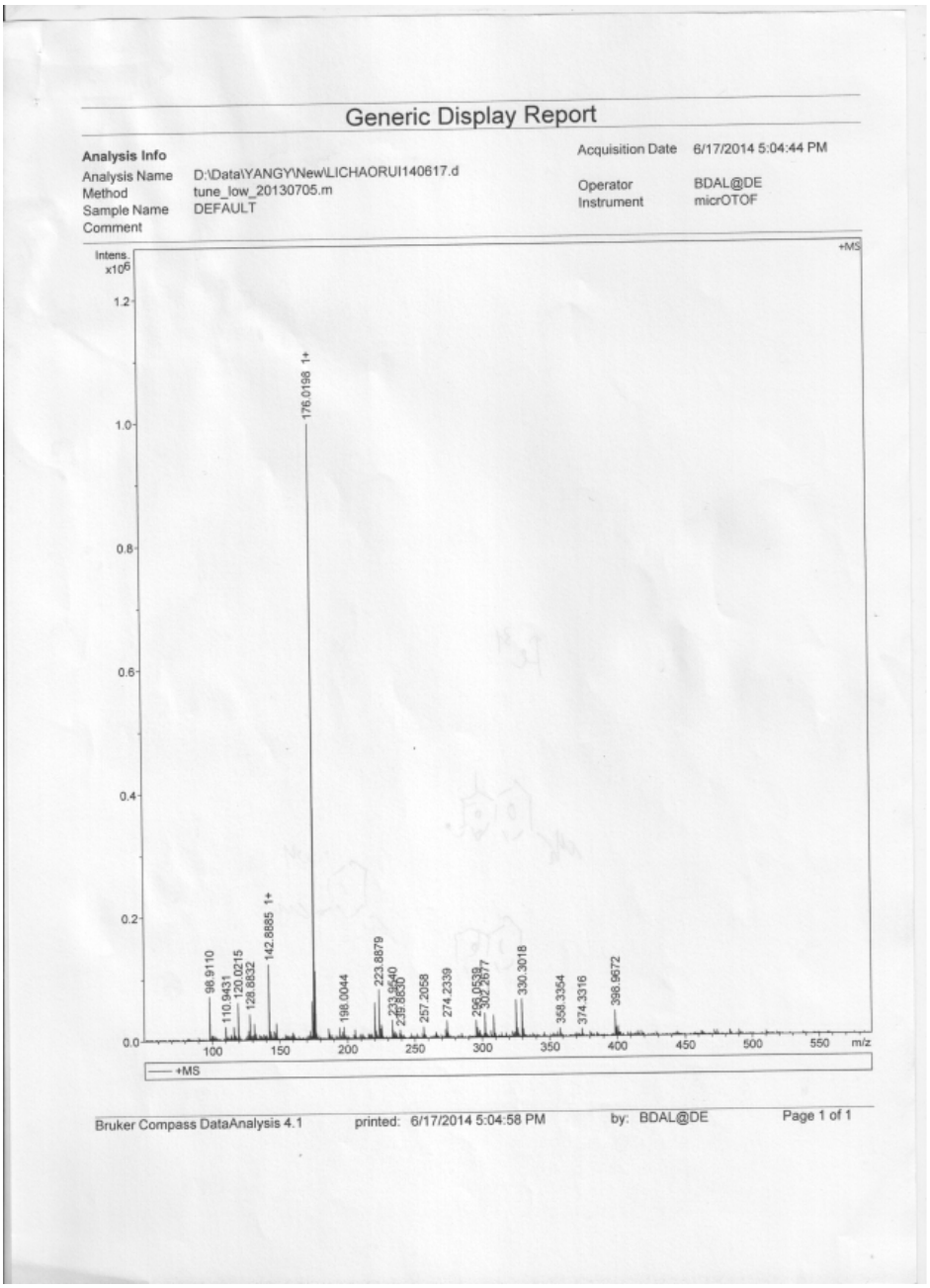

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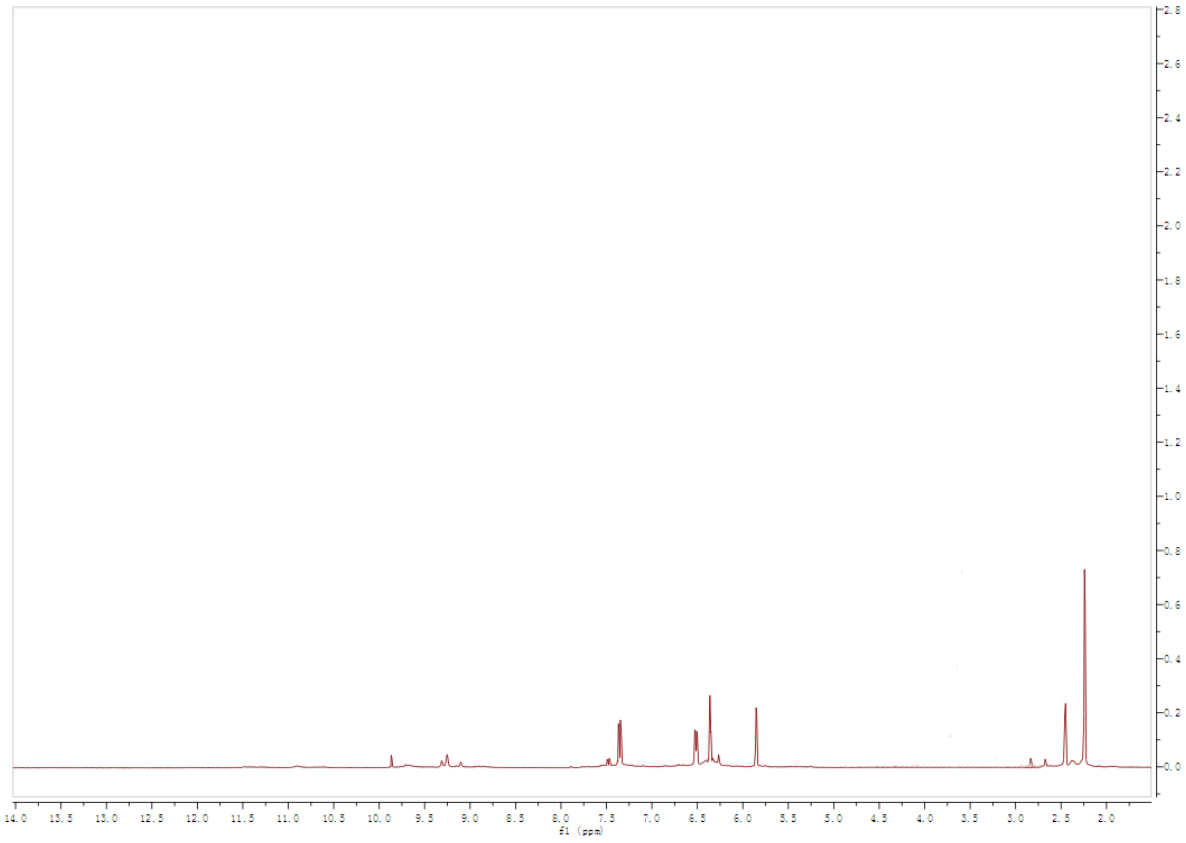

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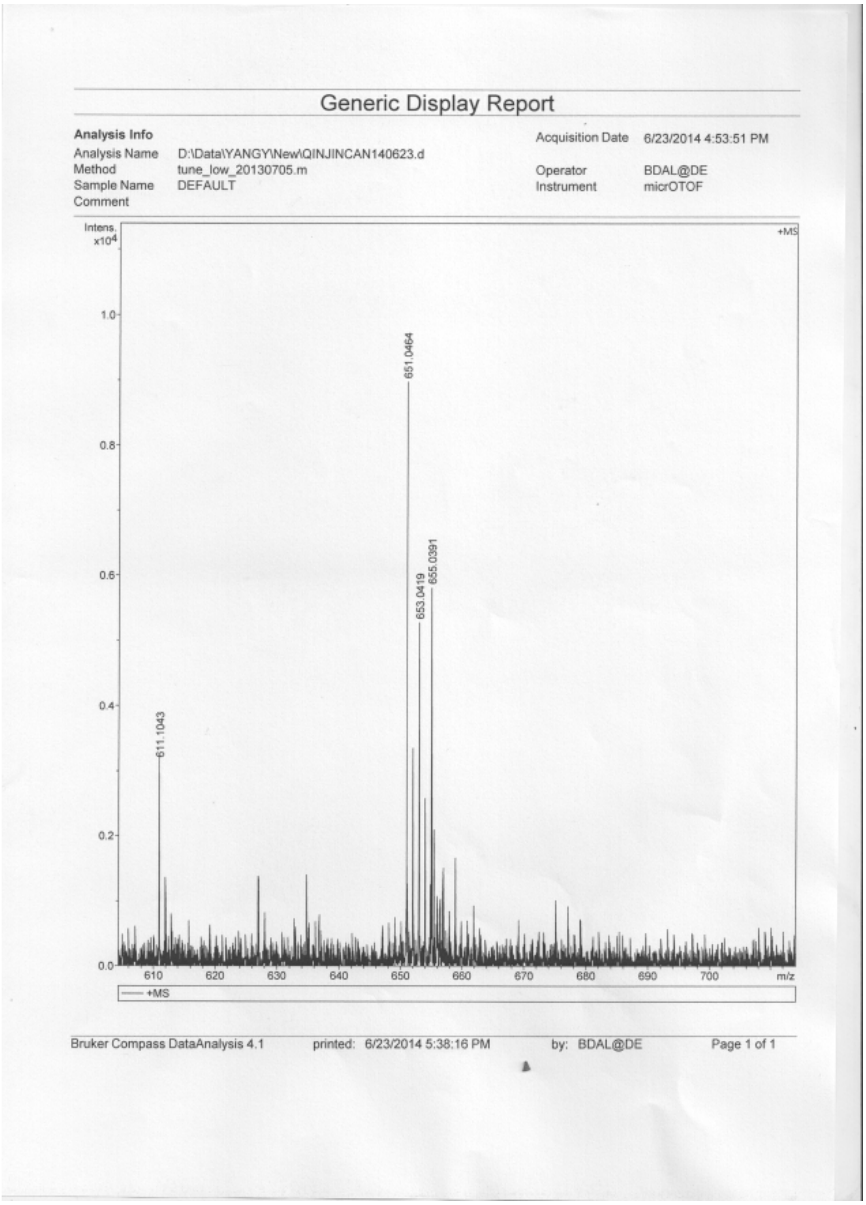

Fig. S14. The ESI-MS spectra of HL and Zn^{2+}