

Electronic Supplementary Material (ESI) for RSC Advances.

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Supporting information

A Sensitive OFF-ON-OFF Fluorescent Probe for the Cascade Sensing of Al³⁺ and F⁻ Ions in Aqueous Media and Living Cells

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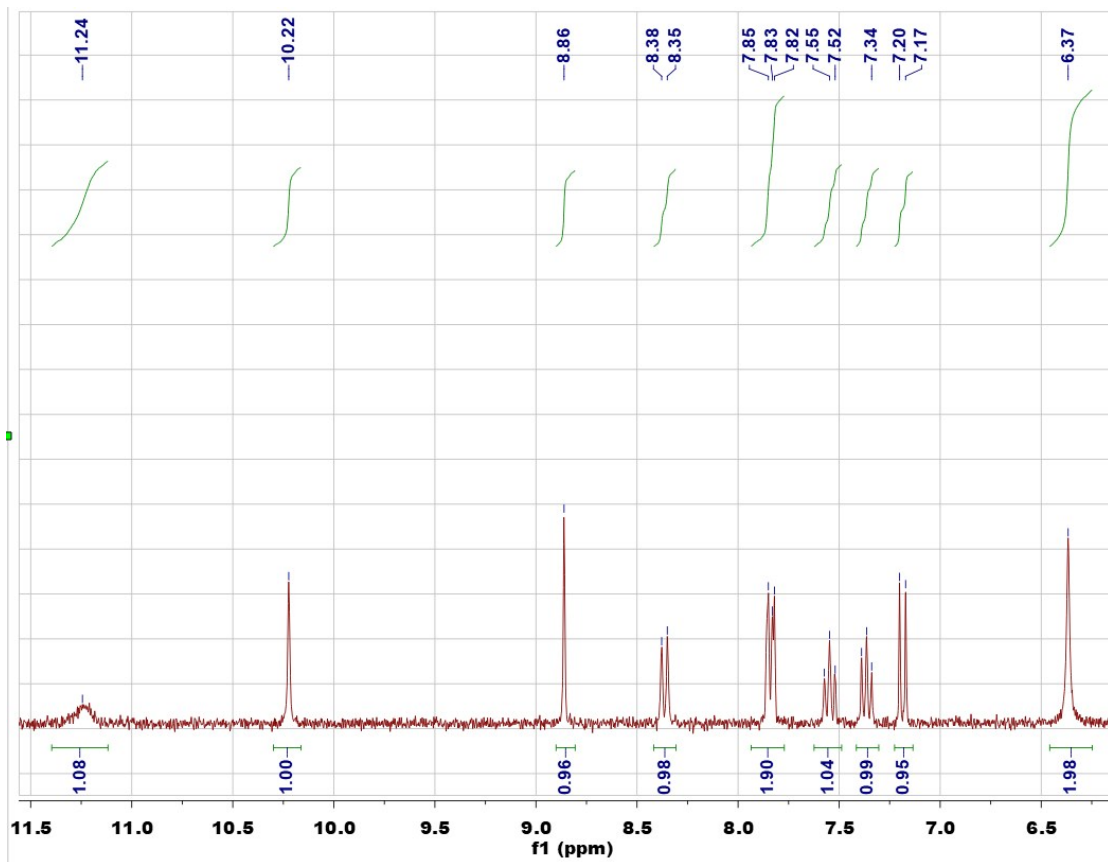


Fig. S1 ¹H NMR spectra of HNS

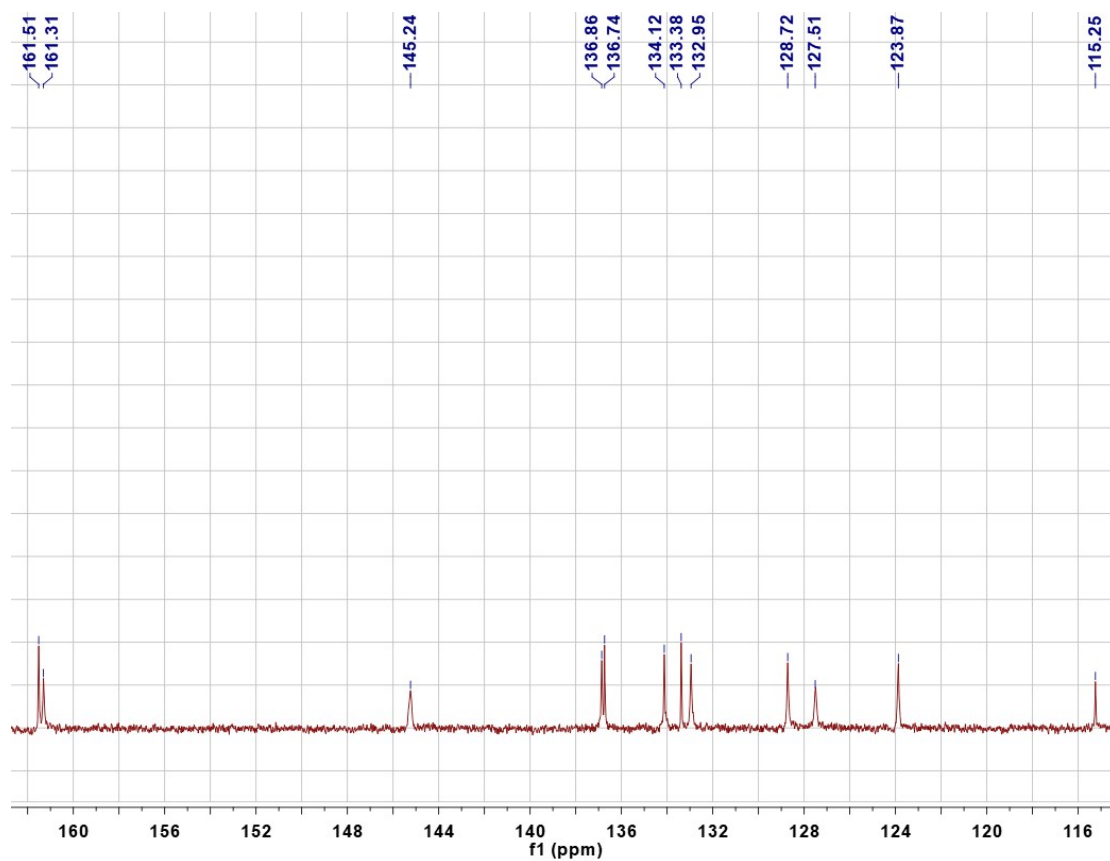


Fig. S2 ^{13}C NMR spectra of HNS

L1 #269 RT: 0.64 AV: 1 NL: 1.93E9
T: FTMS + c ESI Full ms [100.0000-1000.0000]

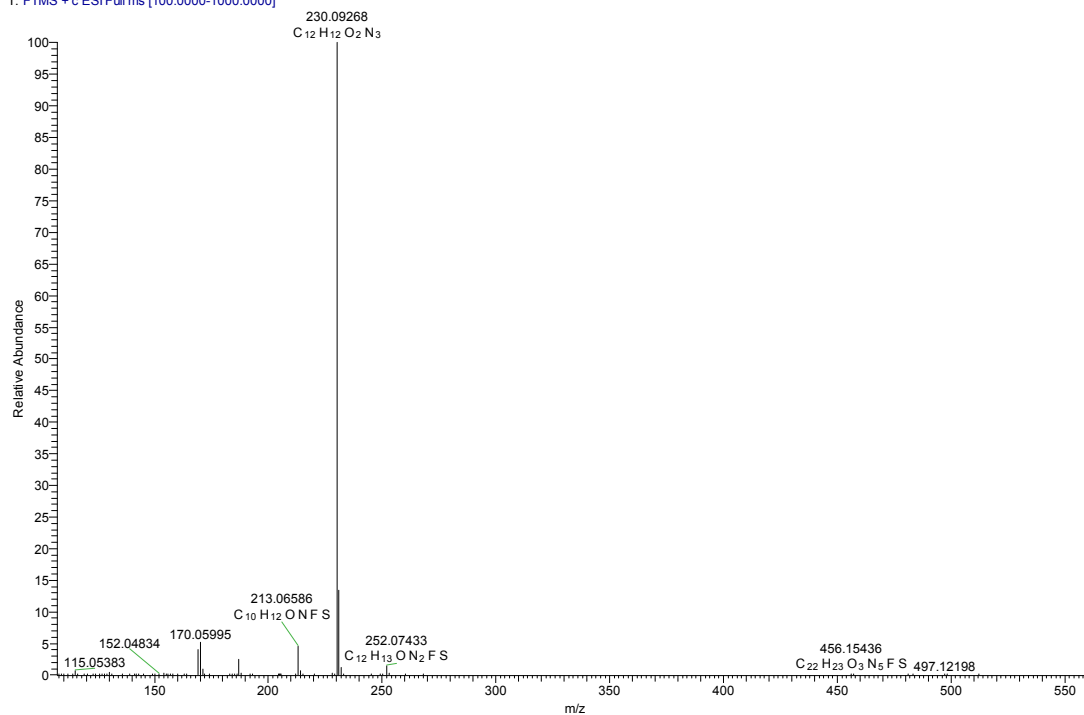


Fig. S3 The ESI-MS spectra of HNS

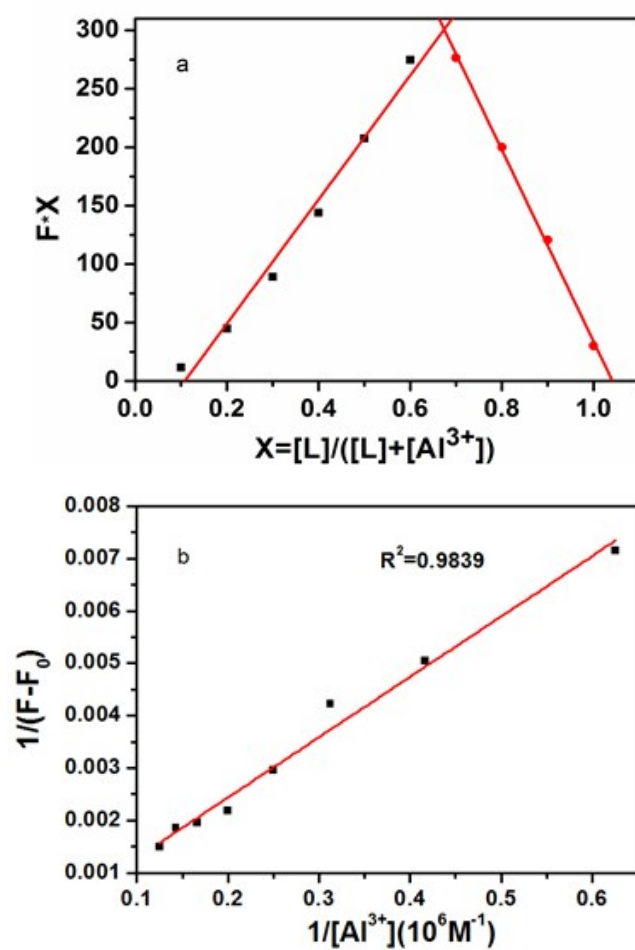


Fig. S4 (a) Job's plot for **HNS** and Al^{3+} complexation in EtOH/ H_2O (1:9, v/v, pH 5.3). The total concentration of **HNS** and Al^{3+} is 10 μM . (b) Benesi-Hildebrand plot from fluorescence titration data of **HNS** with Al^{3+} .

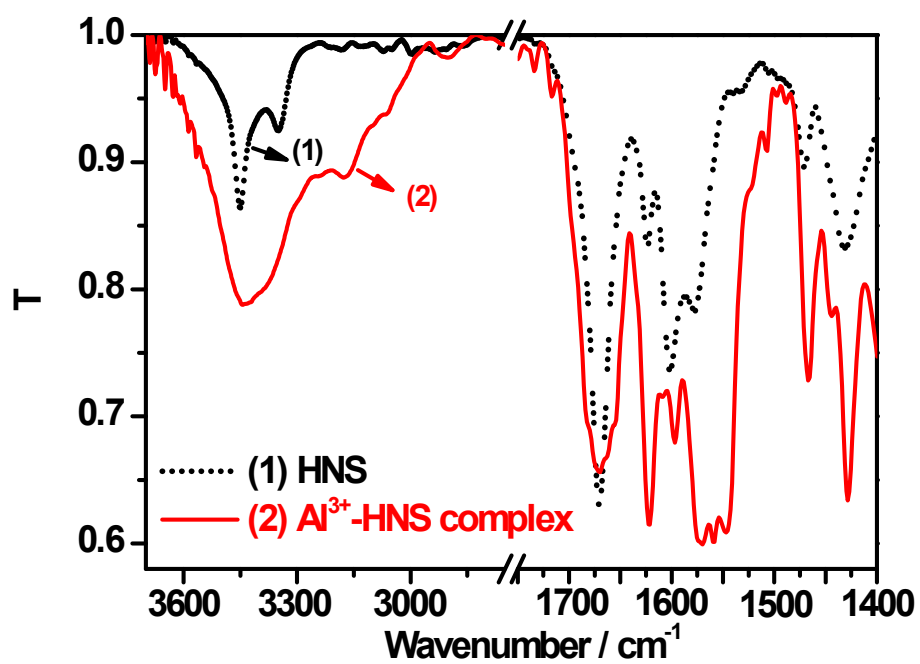


Fig. S5 FTIR spectra of HNS (1) and Al³⁺-HNS complex (2)

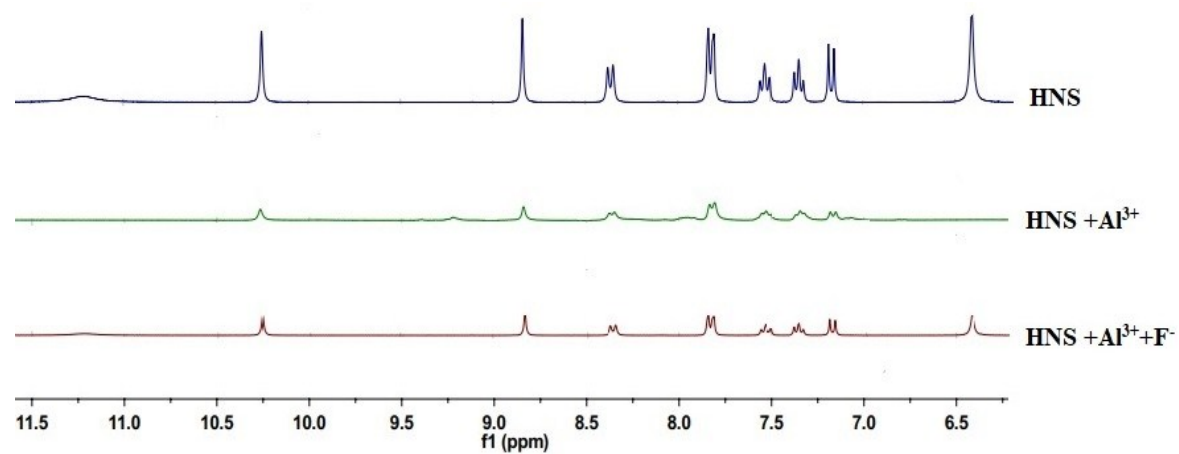


Fig. S6 ^1H NMR spectra of **HNS**, **HNS + Al^{3+}** and **HNS + Al^{3+} + F^-**

L1+AL+F_200512102713 #332 RT: 1.16 AV: 1 NL: 2.05E8
T: FTMS + c ESI Full ms [50.0000-750.0000]

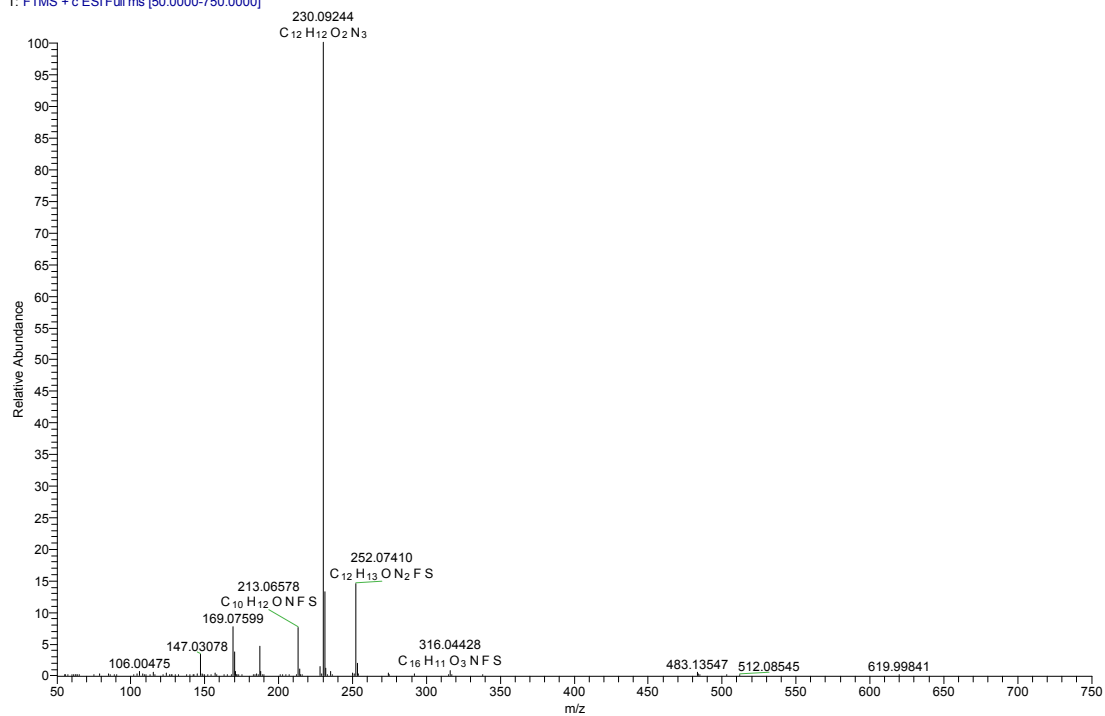


Fig. S7 The ESI-MS spectra of HNS + Al³⁺+F⁻

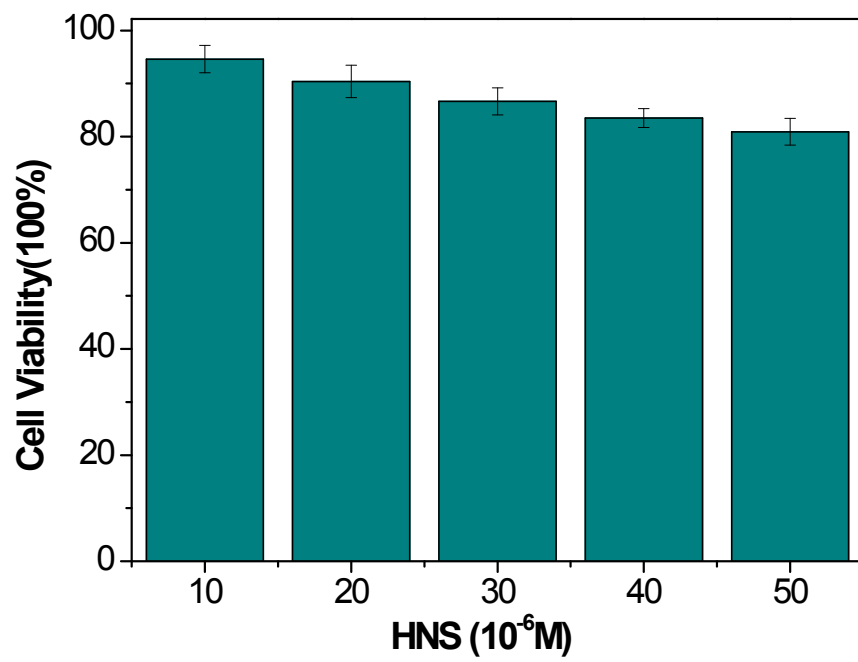


Fig. S8 Cell viability test of SiHa cells treated with various concentrations of the **HNS** (from 0 to 50 μ M) for 24 h.