Electronic Supplementary Material (ESI) for Analyst

A Turn-on and Reversible Fluorescence Sensor for Al^{3+} ion

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Supplementary Data

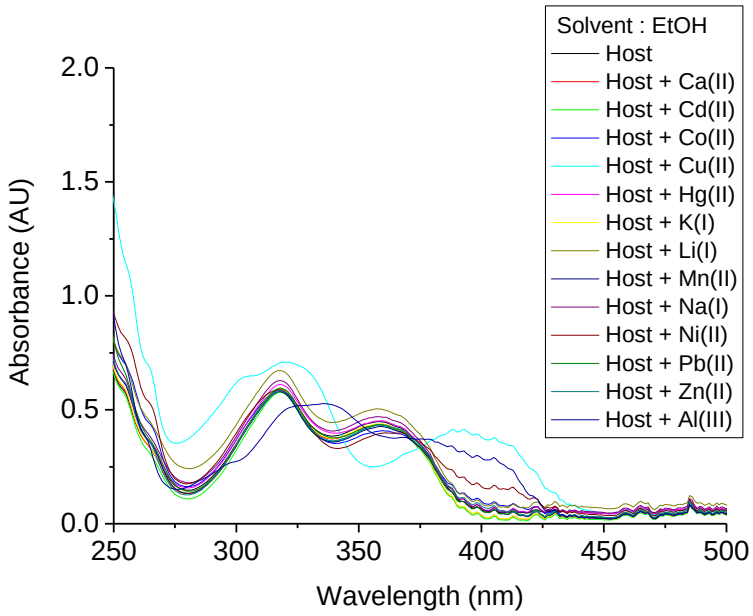

Fig. S1 UV/vis spectra of **1** (80 μM) recorded in EtOH-H_2O (95:5 v/v) after addition of 2.0 equiv of various metal ions.

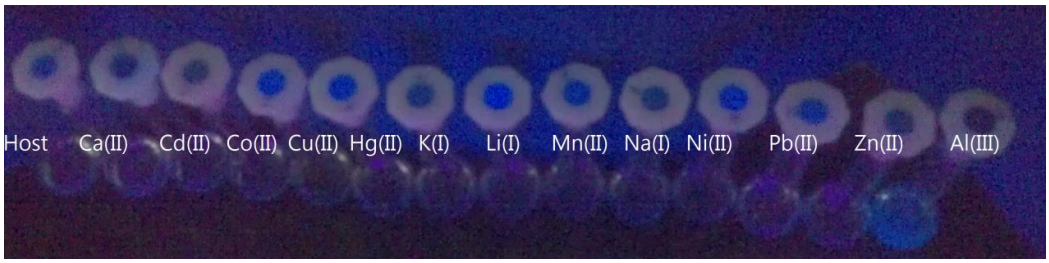

Fig. S2 Fluorescence changes excited by UV lamp of **1** (80 μM) in EtOH-H_2O (95:5 v/v) upon addition of 2.0 equiv of various metal ions.

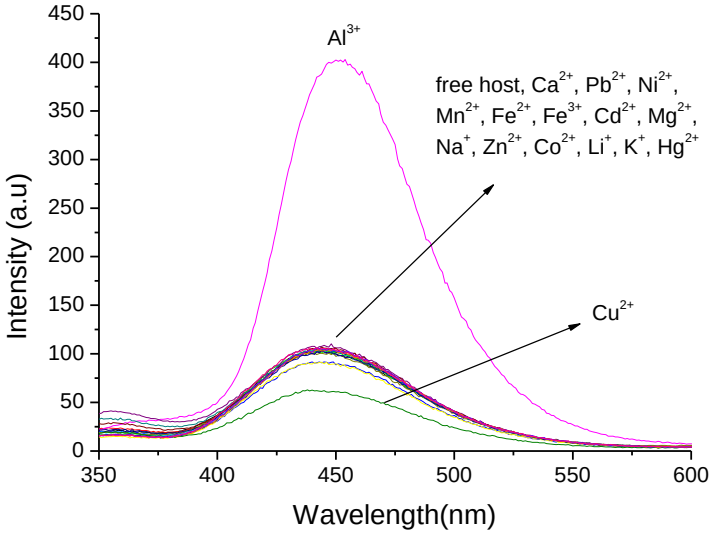

Fig. S3 Fluorescence emission spectra ($\lambda_{ex.}$ = 317 nm) of **1** (80 μM) in the presence of 2.0 equiv of various metal ions in EtOH-H_2O (40:60 v/v).

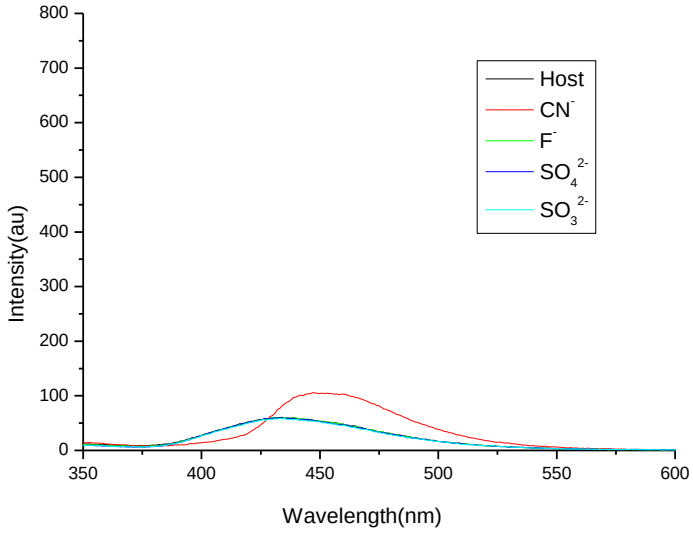

Fig. S4 Fluorescence emission spectra ($\lambda_{ex.}$ = 317 nm) of **1** (80 μM) in the presence of 2.0 equiv of various anions in EtOH-H_2O (95:5 v/v).

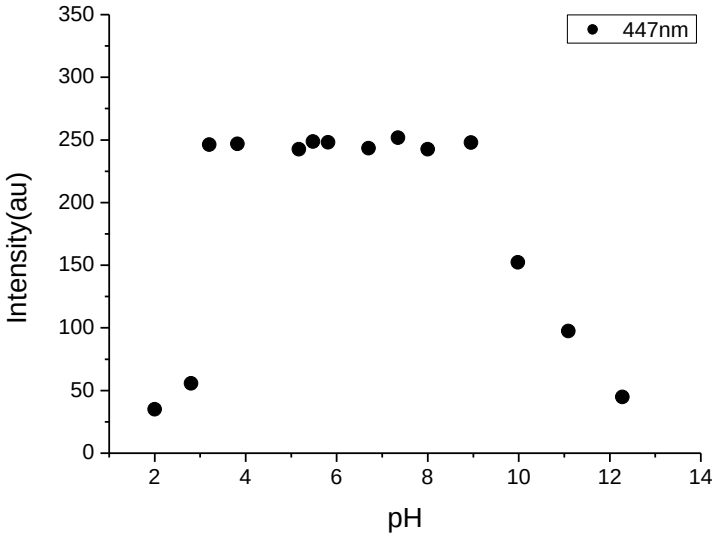

Fig. S5 Variation of fluorescence spectra of complex [**1**+ Al] in EtOH-H_2O (95:5 v/v) as a function of pH at 423 nm; λ_{ex}= 374 nm

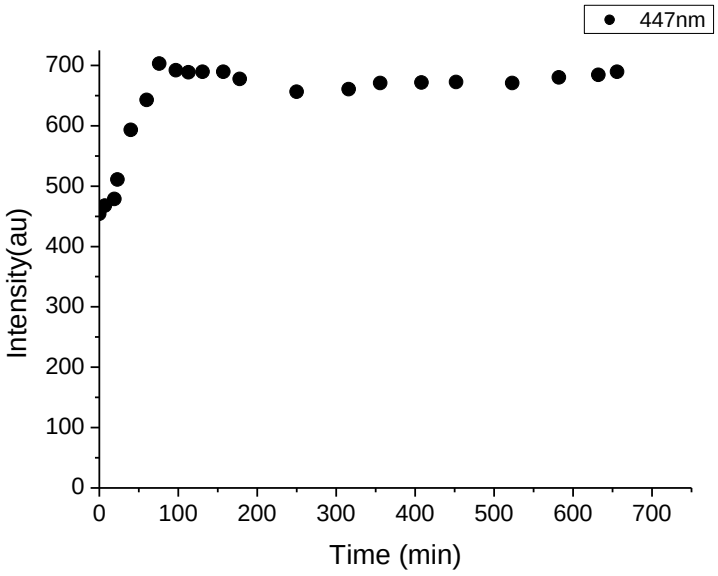

Fig. S6 Time evolution of receptor **1** in EtOH-H_2O (95:5 v/v) in the prescence of 2.0 equiv of Al^{3+} ion.

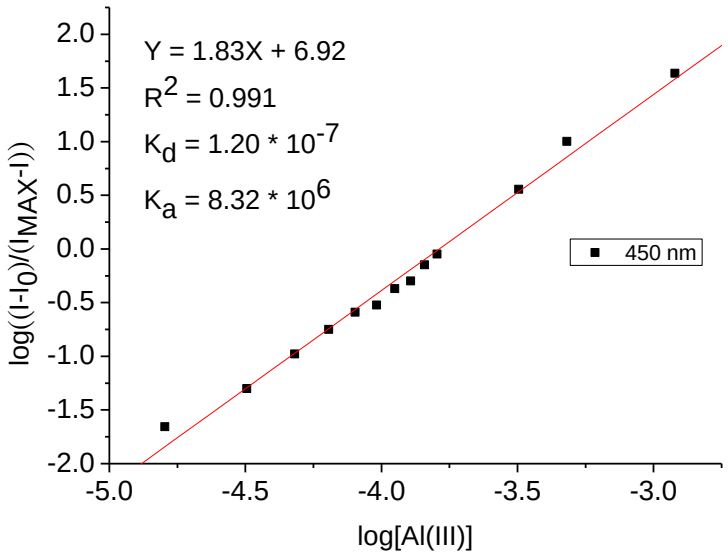

Fig. S7 Hill plot

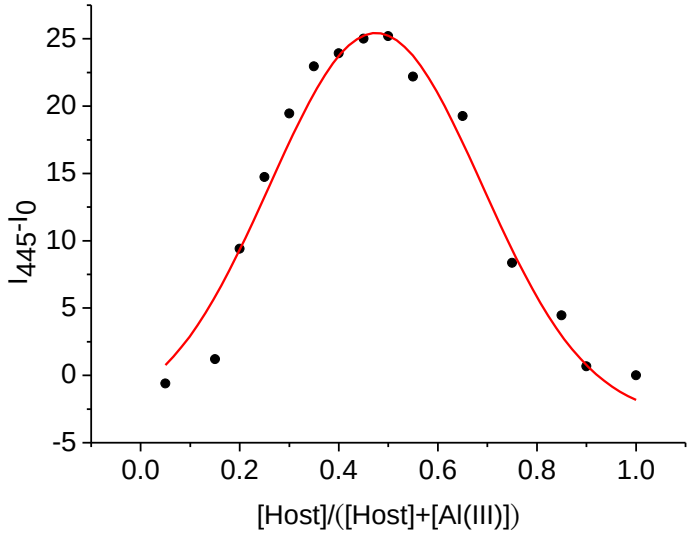

Fig. S8 Job plot

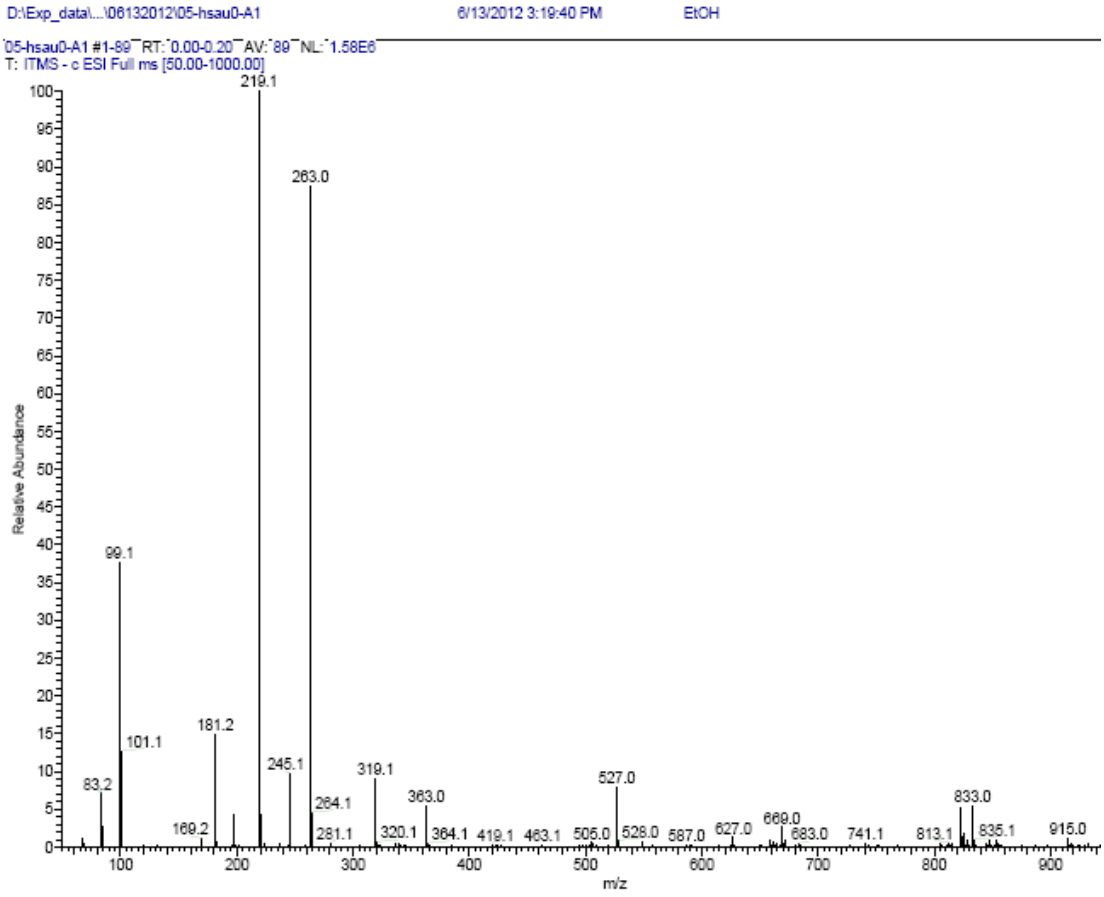

Fig. S9 ESI Mass spectrum for [**1**-Al^{3+} +H_2O - H^+] complex

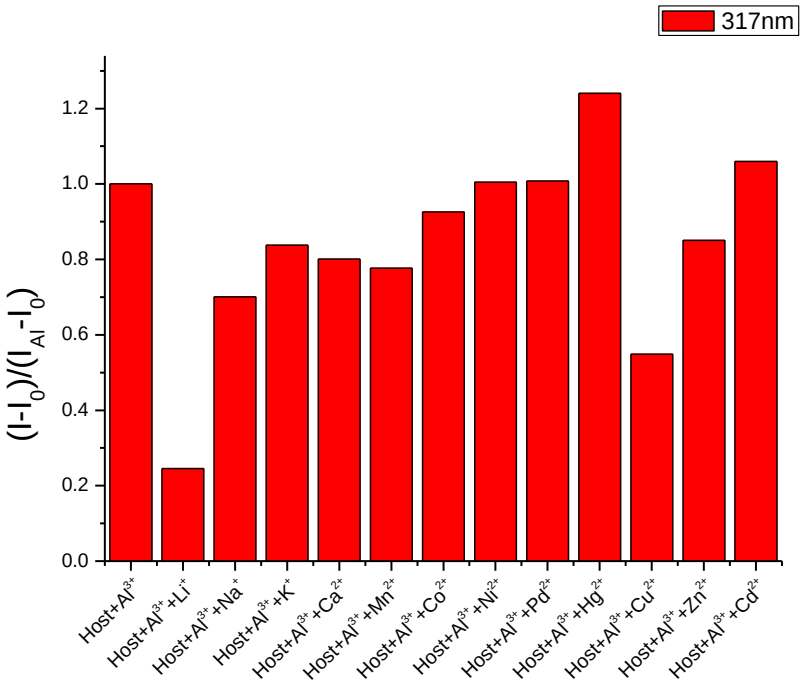

Fig. S10 Competition experiment of 1 towards Al^{3+}in the presence of 2.0 equiv of other cations. [**1**] = 80 μM, [Al^{3+}] = 160 μM, and [X^{n+}] = 160 μM in EtOH-H_2O (95:5 v/v). λ_{ex} = 317 nm.