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Electronic Supplementary Information (ESI)

Sensitively ratiometric detection of Al(III) ions in 100% aqueous buffered solution using fluorescent probe based on the peptide receptor

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Figure S1. HPLC chromatograph of 1.



Figure S2. ESI-MS spectrum of 1.



Figure S3. ¹H NMR of **1** (20 mM) in 100% DMSO.



Figure S4. ¹³C NMR of **1** (20 mM) in 100% DMSO.



Figure S5. Ratiometric response of 1 to Al(III) ions in aqueous buffered solution (10 mM Hexamine, pH 5.5).



Figure S6. A Job's plot for **1** with Al(III) (emission intensity at 395 nm) in aqueous buffered solution (10 mM Hexamine, pH 5.5). (λ_{ex} =342 nm, slit=15/10 nm, 1% T attenuator).



Figure S7. Titration curve for determination of binding constant of **1** (10 μ M) to Al(III) in aqueous buffered solution (10 mM Hexamine, pH 5.5).



Figure S8. Fluorescence emission spectra of **1** (10 μ M) with Al(III) (35 μ M) in the presence and absence of EDTA (14 equiv.) in aqueous buffered solution (10 mM Hexamine, pH 5.5) (λ_{ex} =342 nm, slit=15/10 nm, 1% T attenuator).



Figure S9. The emission intensity ratio changes of **1** (5 μ M) with increasing concentrations of Al(III) in aqueous buffered solution (10 mM Hexamine, pH 5.5) prepared by distilled water (100%, v/v) ground water (50%, v/v), and tap water (50%, v/v), respectively.



Figure S10. (a) fluorescence emission spectra and (b) ratiometric response of 1 (50 μ M) with increasing concentration of Al(III) in aqueous buffered solutions (10 mM hexamine, pH 5.5) with 1% urine.