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## **Electronic Supporting Information (ESI)**

## Selective chromo-fluorogenic detection of trivalent cations in aqueous environments using a dehydration reaction

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**Figure S-1** Uv-visible titration of **3** ( $1.0 \times 10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of Fe<sup>3+</sup>.



**Figure S-2** Fluorescence titration of **3** (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of Fe<sup>3+</sup>.



**Figure S-3** Uv-visible titration of **3** ( $1.0 \times 10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of Al<sup>3+</sup>.



**Figure S-4** Fluorescence titration of **3** (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of Al<sup>3+</sup>.



**Figure S-5** Uv-visible titration of **3** (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of Ga<sup>3+</sup>.



**Figure S-6** Fluorescence titration of **3** (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of Ga<sup>3+</sup>.



**Figure S-7** Uv-visible titration of **3** (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of  $In^{3+}$ .



**Figure S-8** Fluorescence titration of **3** (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of  $In^{3+}$ .



Figure S-9 Uv-visible titration of 3 (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of As<sup>3+</sup>.

**Figure S-10** Fluorescence titration of **3** (1.0 x  $10^{-4}$  mol L<sup>-1</sup>) in water-acetonitrile 95:5 v/v solution at pH 7.0 upon addiction of increasing quantities of As<sup>3+</sup>.



**Figure S-11** UV-visible titration of probe **3** ( $1.0 \times 10^{-4} \mod L^{-1}$ ) in water-acetonitrile 95:5 v/v at pH 7.0 upon addition of increasing quantities of *p*-toluenesulfonic acid.



Figure S-12 Job's plot for probe 3 (1.0 x  $10^{-3}$  mol L<sup>-1</sup>) and Ga<sup>3+</sup> cation in water-acetonitrile 95:5 v/v solution at pH 7.0.