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Supplementary Information

Development of an intramolecular charge transfer-type colorimetric and fluorescence sensor for water by fusion with juloidine structure and complexation with boron trifluoride

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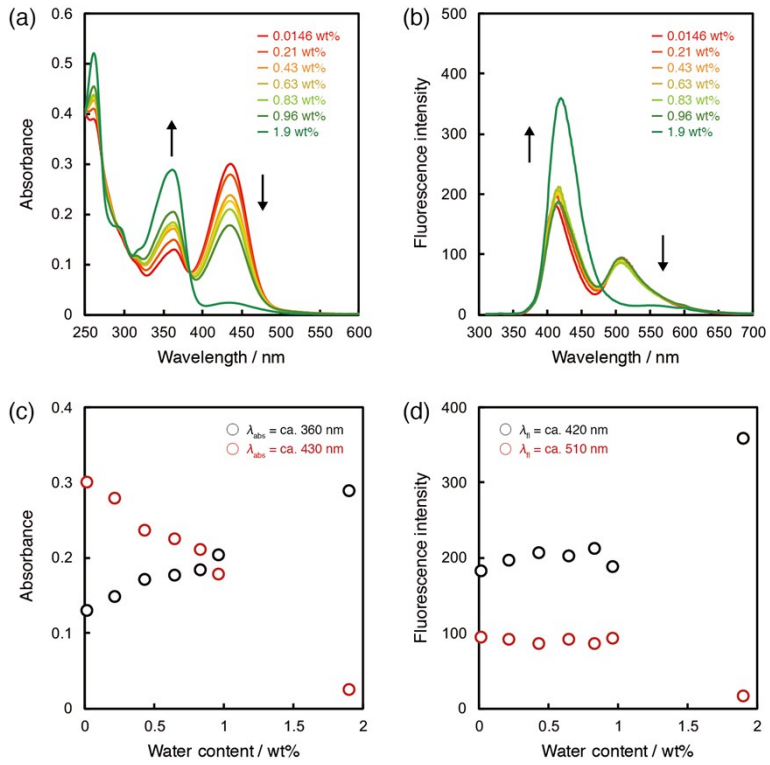

Fig. S1 (a) Photoabsorption and (b) fluorescence spectra of **ET-1-BF$_3$** (c = 2.0 × 10^{-5} M) in acetonitrile containing 0.0146–1.9 wt% of water. Prior to the measurements, the solutions were stored in the dark for 2 days after addition of water. Peak intensities of (c) absorption bands at around 360 and 430 nm and (d) fluorescence bands at around 420 and 510 nm (λ^{ex} = 302 nm) in acetonitrile solutions of **ET-1-BF$_3$** with 0.0146–1.9 wt% of water.

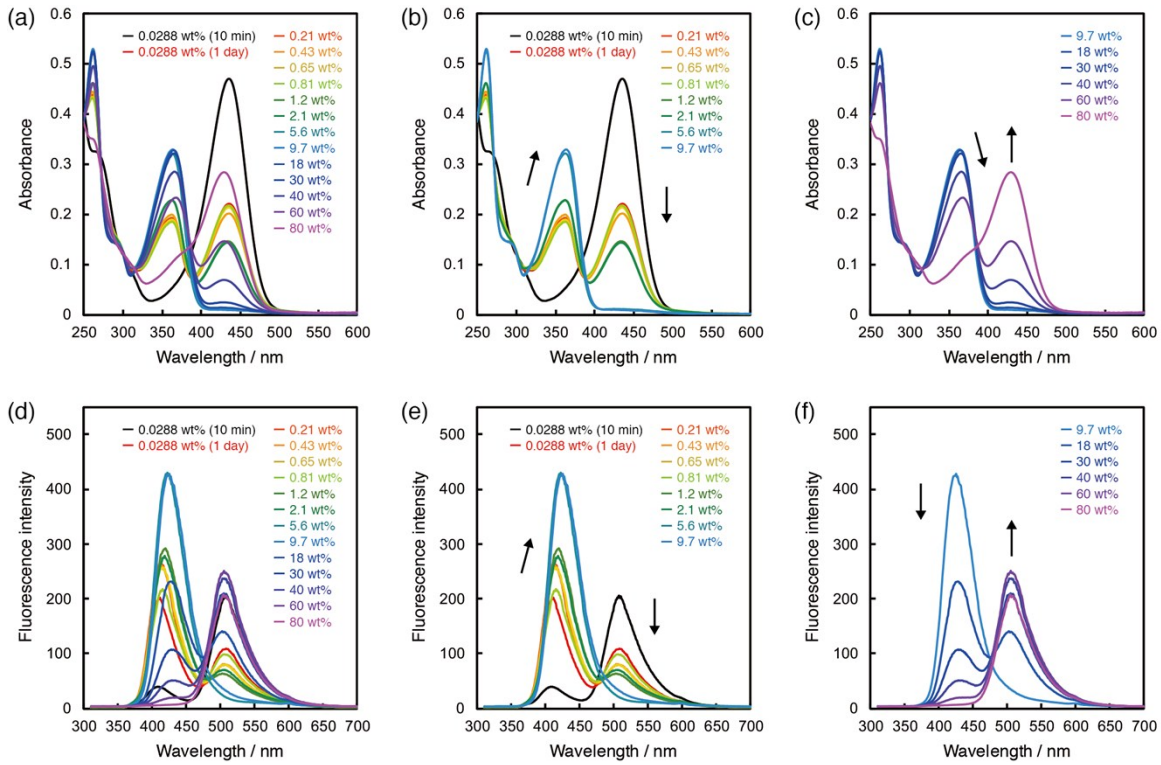

Fig. S2 Results of another solution for demonstration of reproducibility. (a) Photoabsorption spectra of **ET-1-BF$_3$** (c = 2.0 × 10^{-5} M) in acetonitrile containing (a) 0.0288–80 wt%, (b) 0.0288–9.7 wt%, and (c) 9.7–80 wt% of water. Fluorescence spectra of **ET-1-BF$_3$** (c = 2.0 × 10^{-5} M, λ^{ex} = 302 nm) in acetonitrile containing (d) 0.0288–80 wt%, (e) 0.0288–9.7 wt%, and (f) 9.7–80 wt% of water.

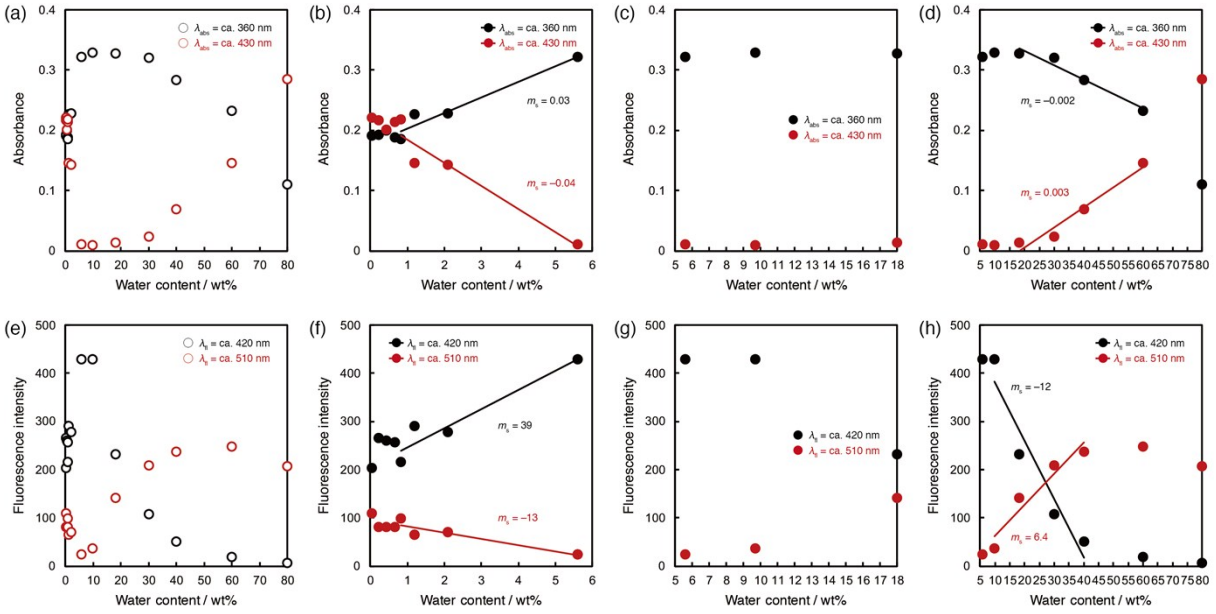

Fig. S3 Results of another solution for demonstration of reproducibility. Peak intensities of photoabsorption bands at around 360 and 430 nm in acetonitrile solutions of **ET-1-BF$_3$** with (a) 0.0288–80 wt%, (b) 0.0288–5.6 wt%, (c) 5.6–18 wt%, and (d) 5.6–80 wt% of water. Peak intensities of fluorescence bands at around 420 and 510 nm (λ^{ex} = 302 nm) in acetonitrile solutions of **ET-1-BF$_3$** with (e) 0.0288–80 wt%, (f) 0.0288–5.6 wt%, (g) 5.6–18 wt%, and (h) 5.6–80 wt% of water.

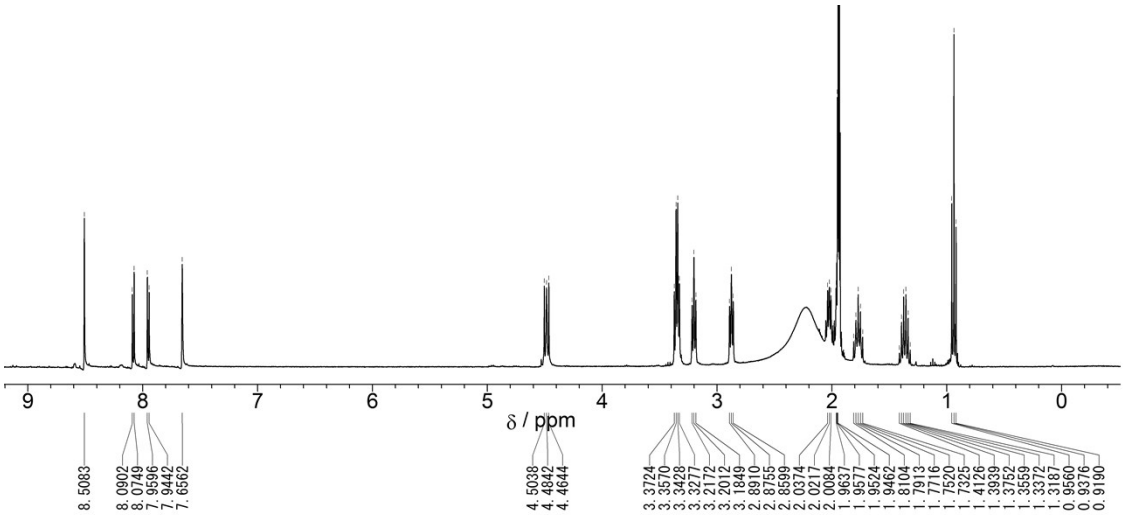

Fig. S4 ^{1}H NMR spectrum of **ET-1-BF$_3$** (CD_3CN).

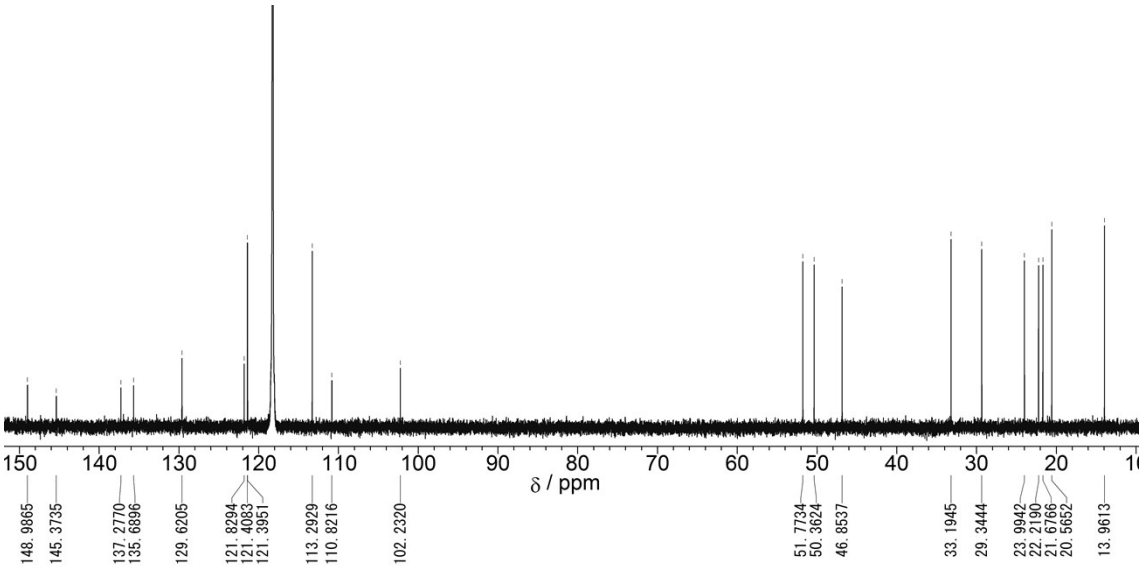

Fig. S5 ^{13}C NMR spectrum of **ET-1-BF$_3$** (CD_3CN).

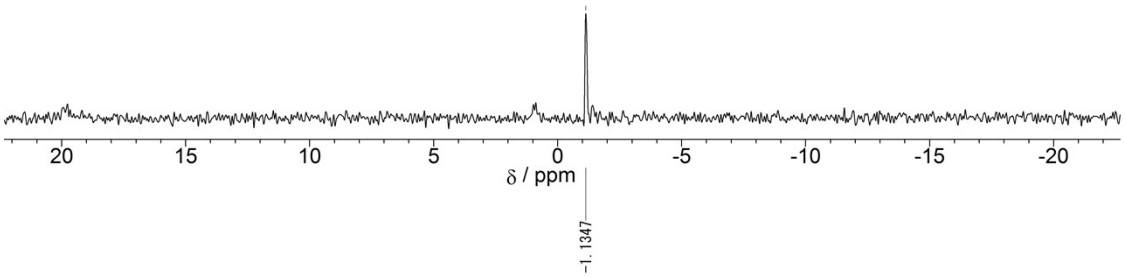

Fig. S6 ^{11}B NMR spectrum of **ET-1-BF$_3$** (CD_3CN).