Electronic Supporting Information

About the Interaction of Hg^{2+} and Trivalent Ions with Two New Fluorescein Bio-inspired Dual Colorimetric/Fluorimetric Probes

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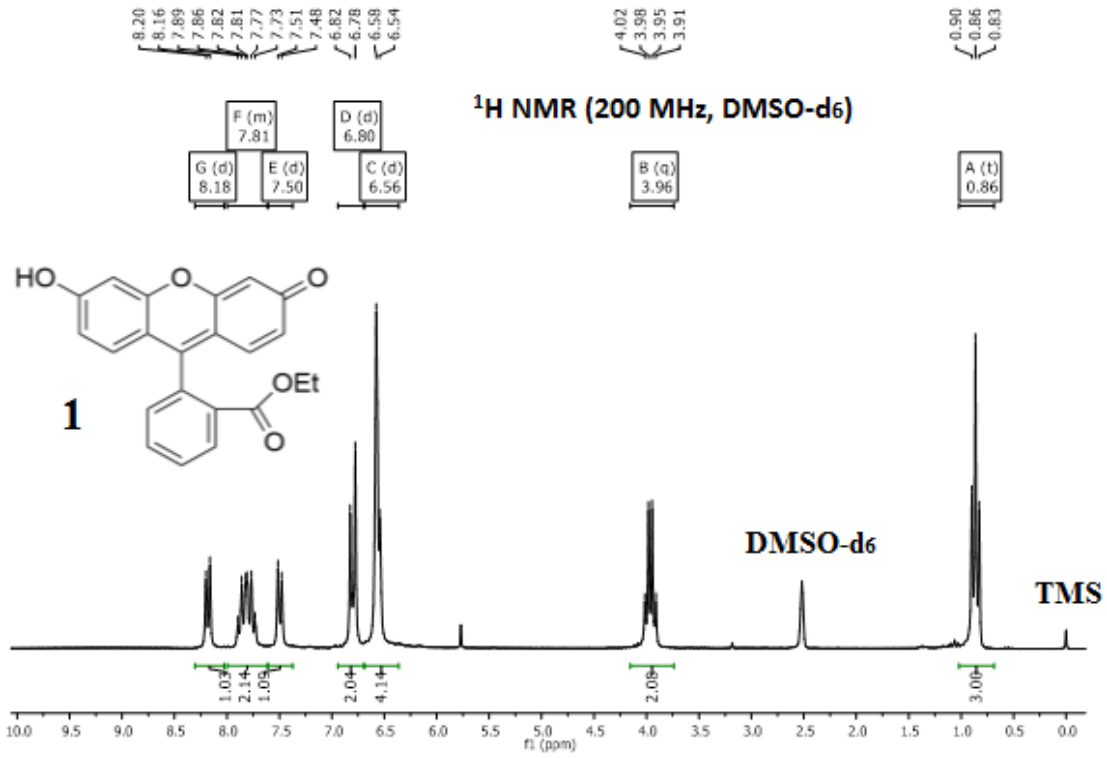

Figure S1. ^{1}H NMR spectrum of **1**.

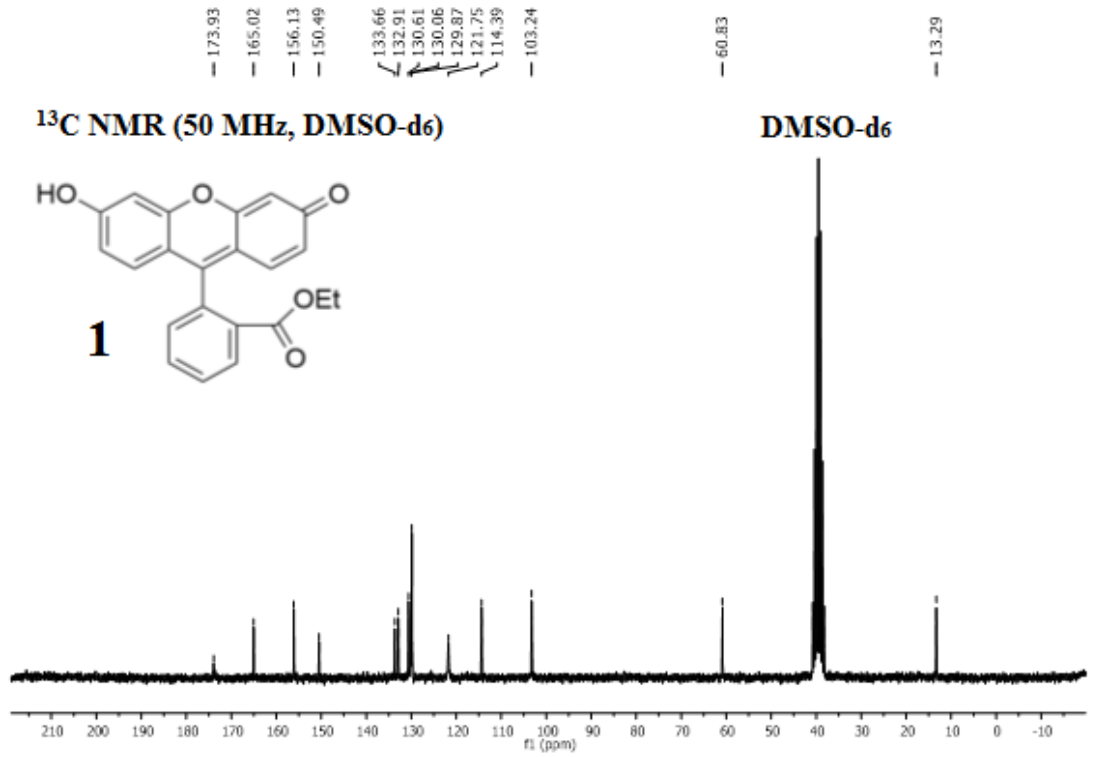

Figure S2. ^{13}C NMR spectrum of **1**.

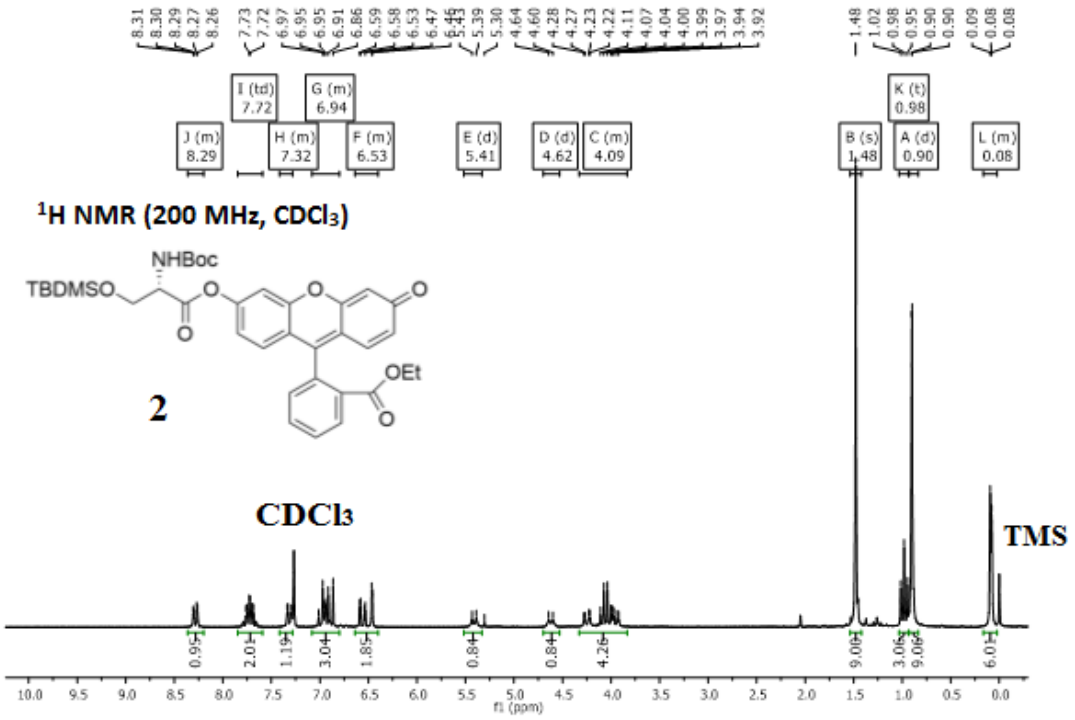

Figure S3. ^{1}H NMR spectrum of **2**.

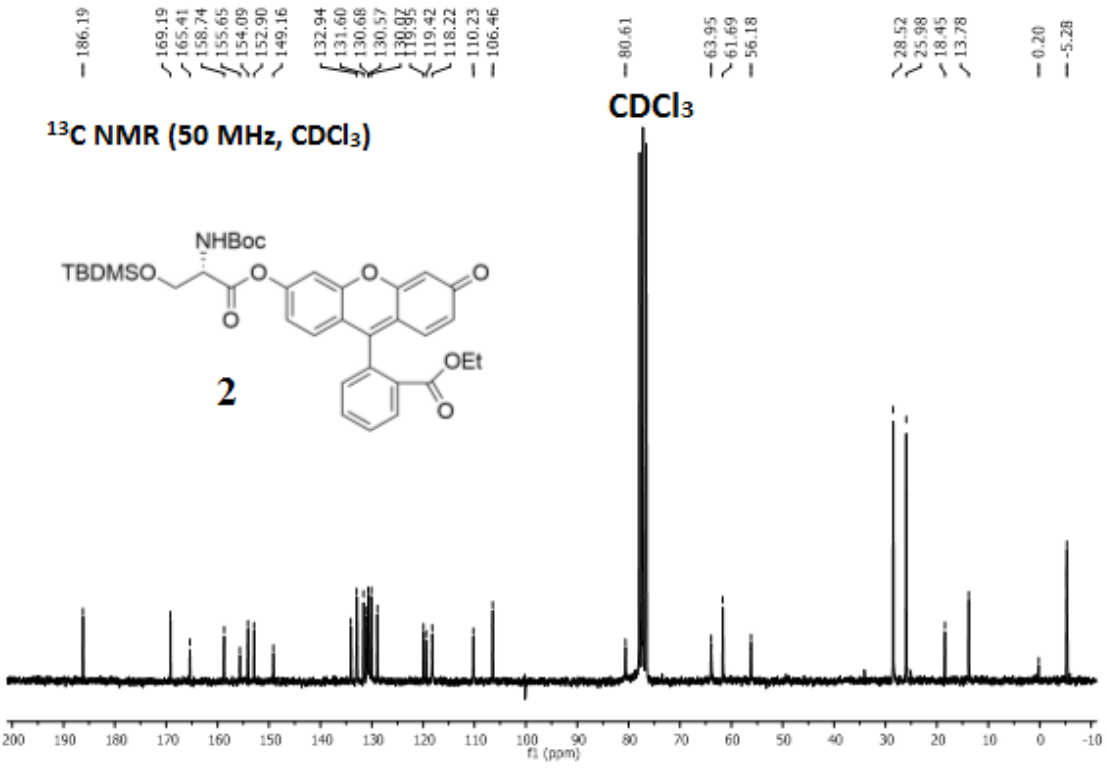

Figure S4. ^{13}C NMR spectrum of **2**.

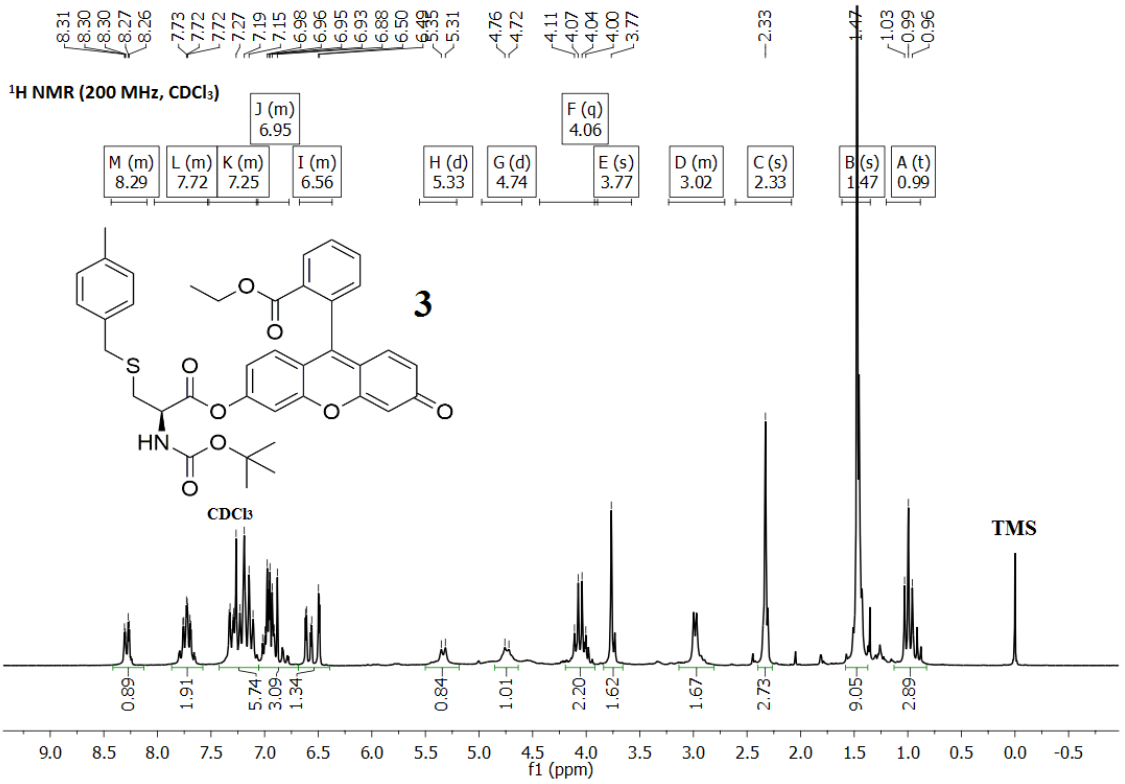

Figure S5. ^{1}H NMR spectrum of **3**.

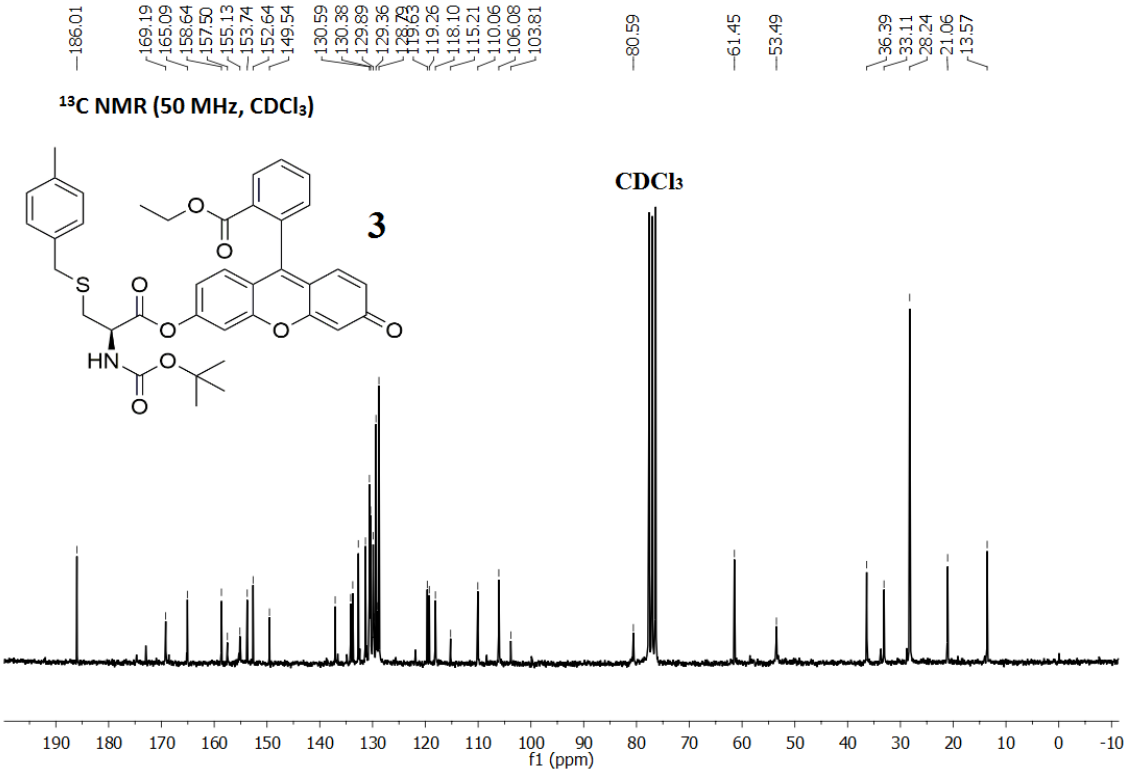

Figure S6. ^{13}C NMR spectrum of **3**.

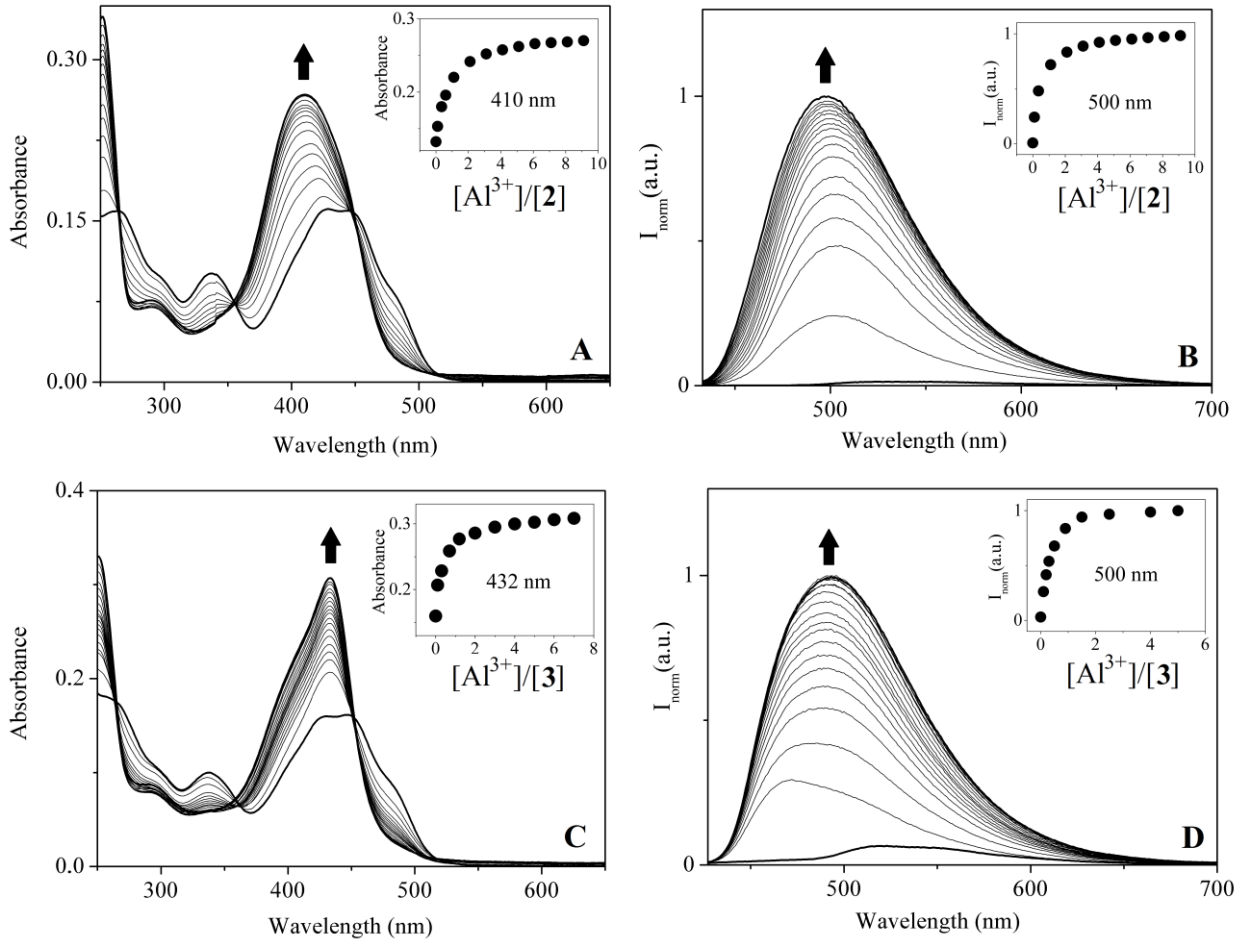

Figure S7. Spectrofotometric titrations of **2** (A) and **3** (C), with increasing amounts of Al^{3+} in acetonitrile solution. Inset: Absorption at 410 nm (A) and 432 nm (C) as a function of $[Al^{3+}]/[\mathbf{2}]$ and $[Al^{3+}]/[\mathbf{3}]$, respectively (T = 298 K; [**2**] = [**3**] = 1.10^{-5} M). Spectrofluorimetric titrations of **2** (B) and **3** (D), with increasing amounts of Al^{3+} in acetonitrile solution. Inset: Emission at 500 nm as a function of $[Al^{3+}]/[\mathbf{2}]$ and $[Al^{3+}]/[\mathbf{3}]$ (T = 298 K; [**2**] = [**3**] = 1.10^{-5} M, λ_{exc} = 362 nm).

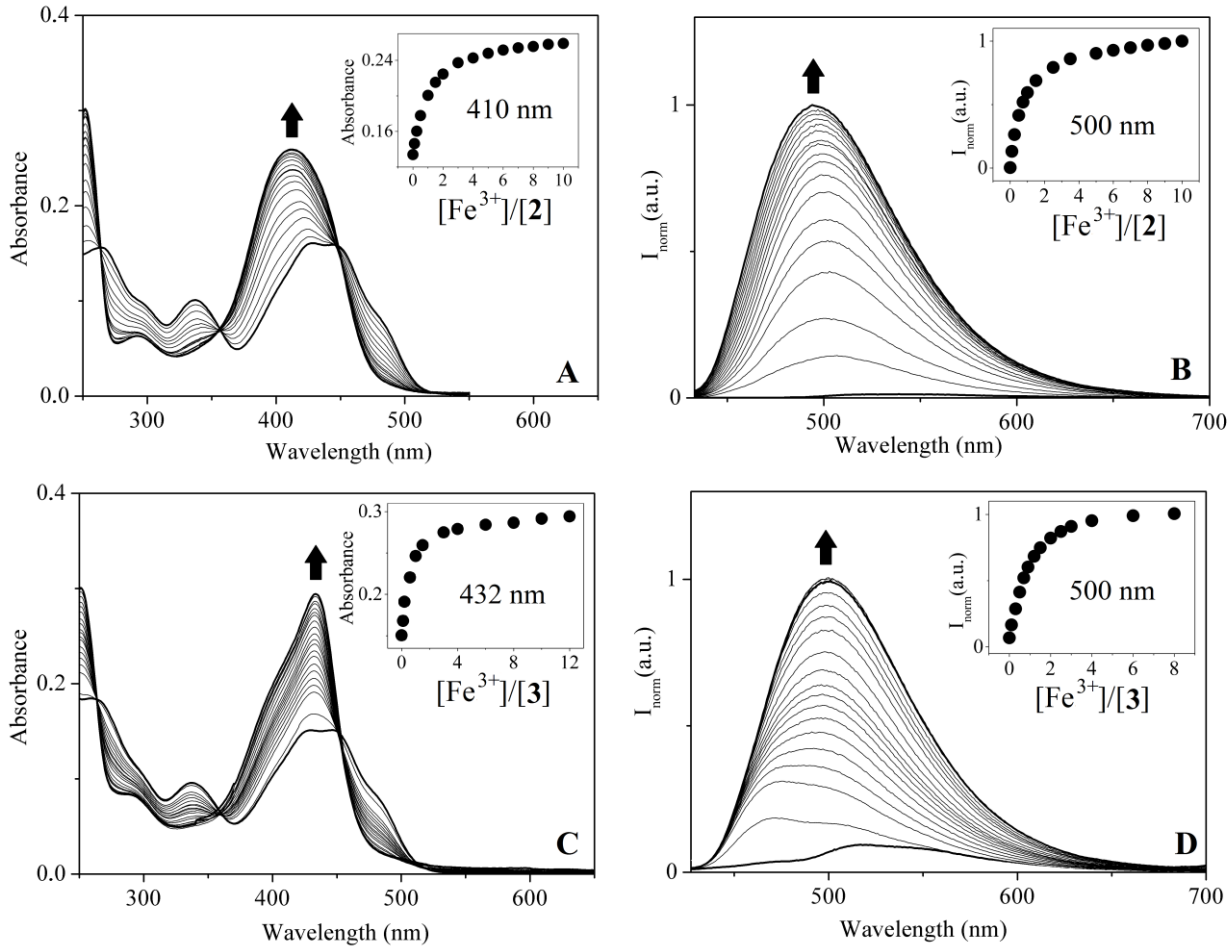

Figure S8. Spectrofotometric titrations of **2** (A) and **3** (C), with increasing amounts of Fe^{3+} in acetonitrile solution. Inset: Absorption at 410 nm (A) and 432 nm (C) as a function of $[Fe^{3+}]/[\mathbf{2}]$ and $[Fe^{3+}]/[\mathbf{3}]$, respectively (T = 298 K; $[\mathbf{2}] = [\mathbf{3}] = 1.10^{-5}$ M). Spectrofluorimetric titrations of **2** (B) and **3** (D), with increasing amounts of Fe^{3+} in acetonitrile solution. Inset: Emission at 500 nm as a function of $[Fe^{3+}]/[\mathbf{2}]$ and $[Fe^{3+}]/[\mathbf{3}]$ (T = 298 K; $[\mathbf{2}] = [\mathbf{3}] = 1.10^{-5}$ M, λ_{exc} = 362 nm).

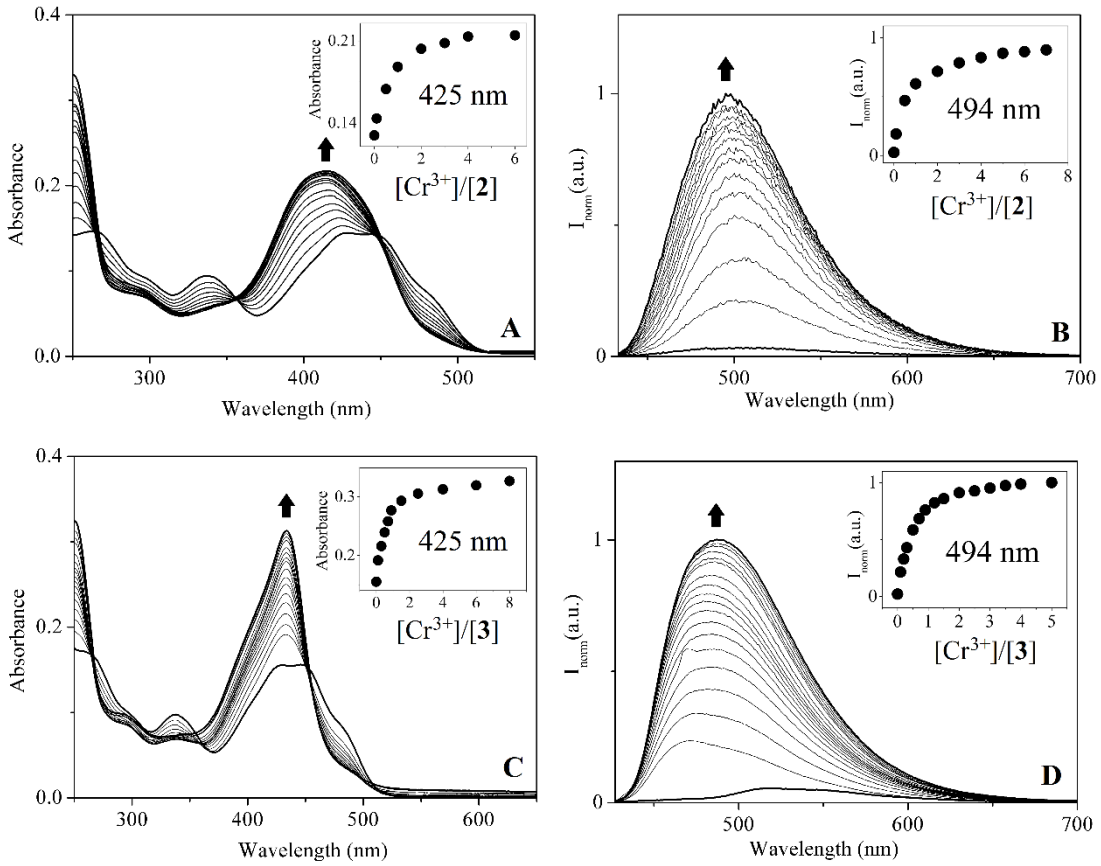

Figure S9. Spectrofotometric titrations of **2** (A) and **3** (C), with increasing amounts of Cr^{3+} in acetonitrile solution. Inset: Absorption at 425 nm as a function of $[Cr^{3+}]/[\mathbf{2}]$ and $[Cr^{3+}]/[\mathbf{3}]$ (T = 298 K; $[\mathbf{2}] = [\mathbf{3}] = 1.10^{-5}$ M). Spectrofluorimetric titrations of **2** (B) and **3** (D), with increasing amounts of Cr^{3+} in acetonitrile solution. Inset: Emission at 494 nm as a function of $[Cr^{3+}]/[\mathbf{2}]$ and $[Cr^{3+}]/[\mathbf{3}]$ (T = 298 K; $[\mathbf{2}] = [\mathbf{3}] = 1.10^{-5}$ M, λ_{exc} = 362 nm).

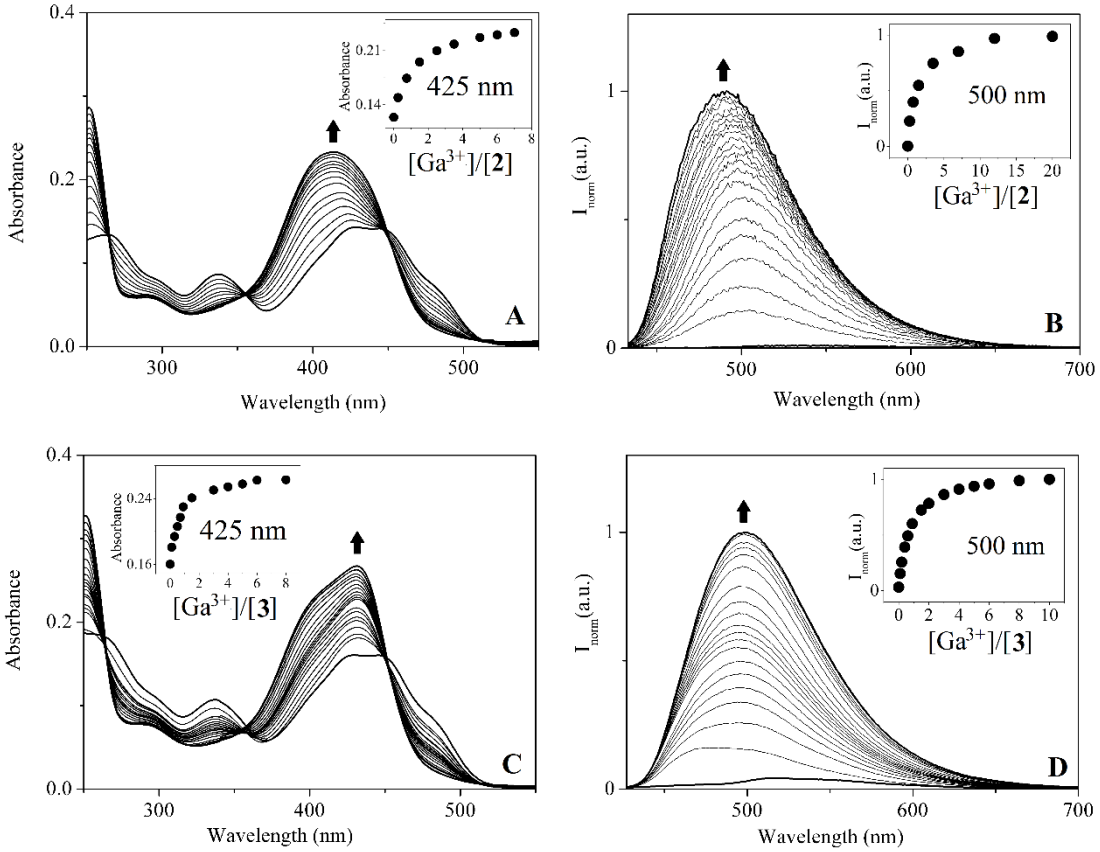

Figure S10. Spectrofotometric titrations of **2** (A) and **3** (C), with increasing amounts of Ga^{3+} in acetonitrile solution. Inset: Absorption at 425 nm as a function of $[Ga^{3+}]/[\mathbf{2}]$ and $[Ga^{3+}]/[\mathbf{3}]$ (T = 298 K; $[\mathbf{2}] = [\mathbf{3}] = 1.10^{-5}$ M). Spectrofluorimetric titrations of **2** (B) and **3** (D), with increasing amounts of Ga^{3+} in acetonitrile solution. Inset: Emission at 500 nm as a function of $[Ga^{3+}]/[\mathbf{2}]$ and $[Ga^{3+}]/[\mathbf{3}]$ (T = 298 K; $[\mathbf{2}] = [\mathbf{3}] = 1.10^{-5}$ M, λ_{exc} = 362 nm).

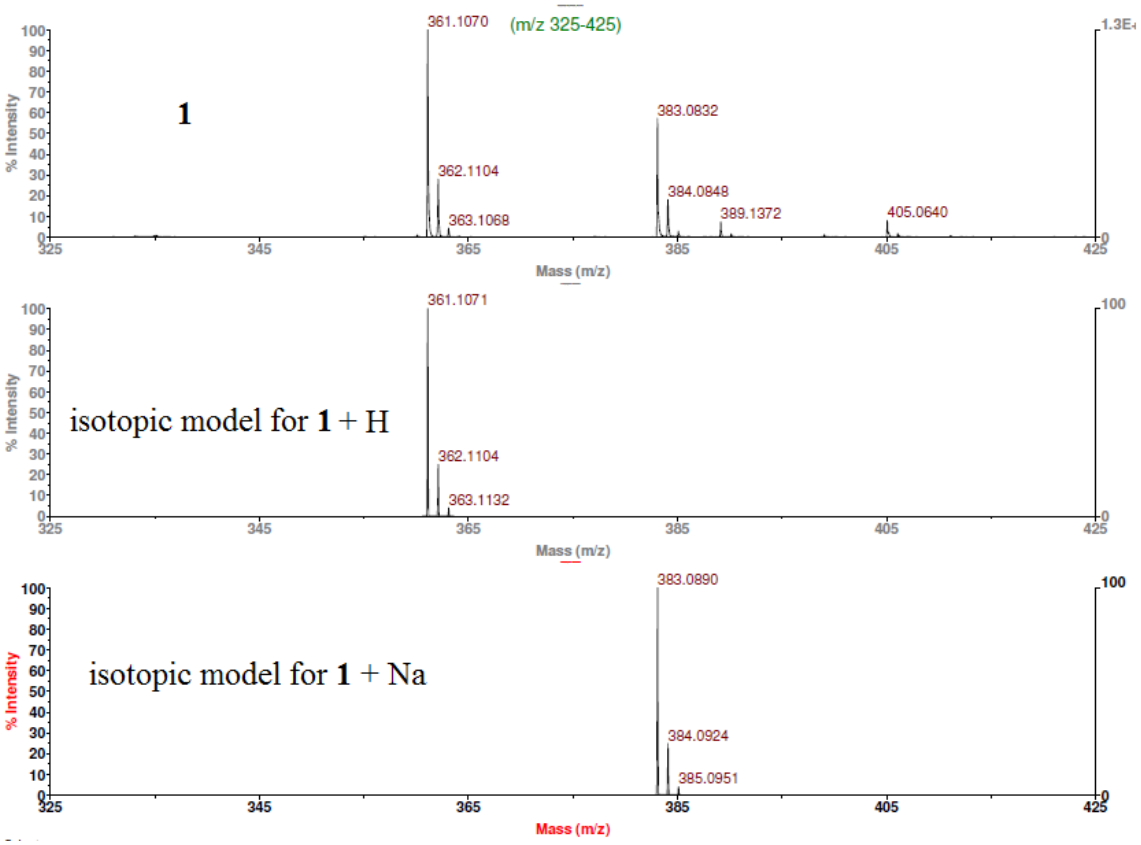

Figure S11. MALDI-TOF-MS spectrum of **1**

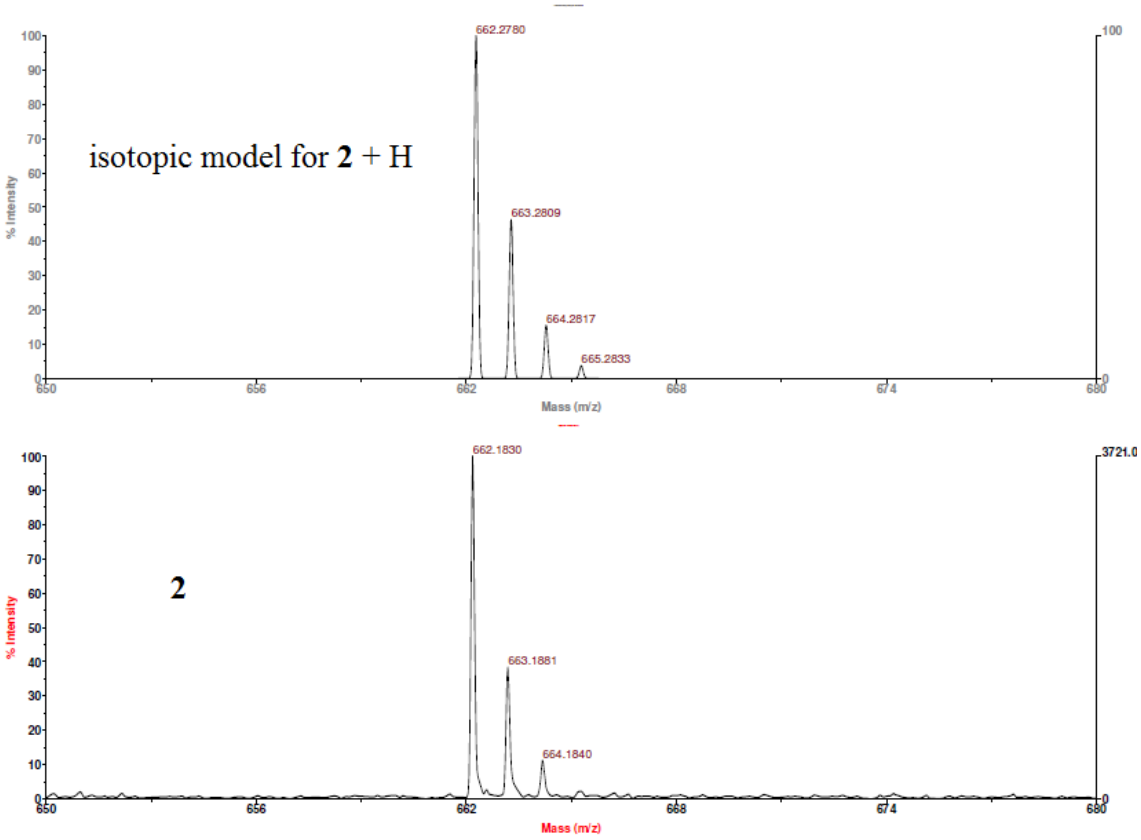

Figure S12. MALDI-TOF-MS spectrum of **2**

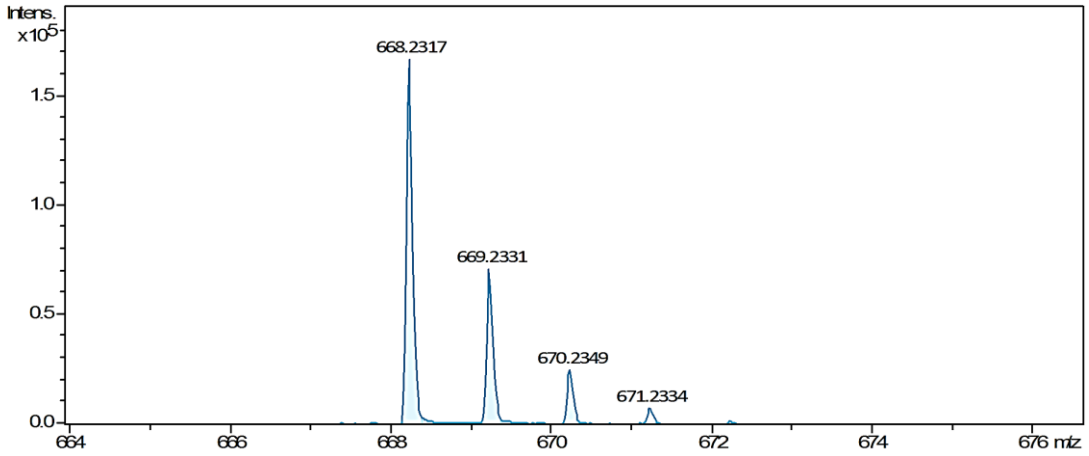

Figure S13. HRMS spectrum of **3**

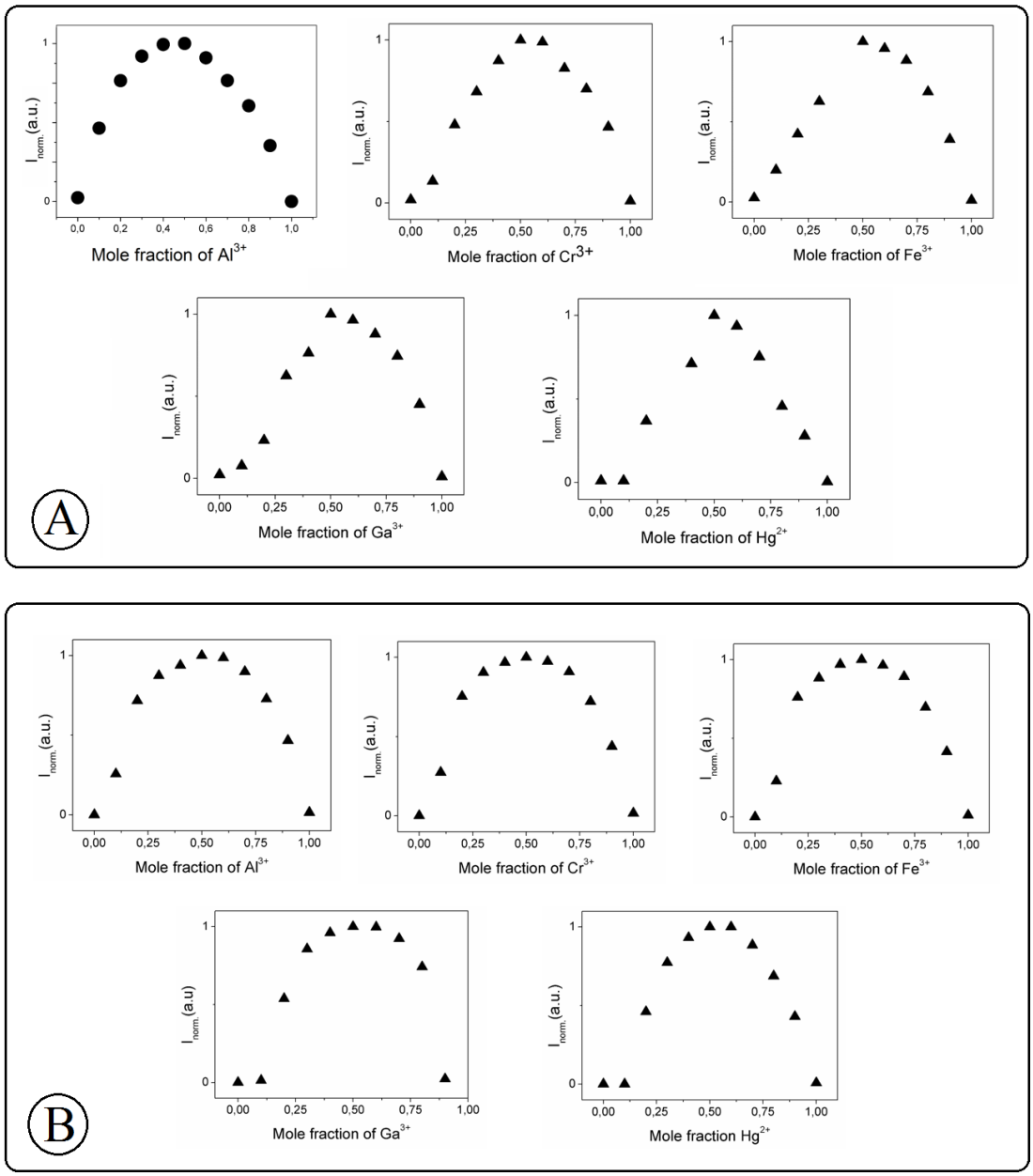

Figure S14. Job´s plot of **2** and **3** with Al^{3+}, Cr^{3+}, Fe^{3+}, Ga^{3+} and Hg^{2+}.

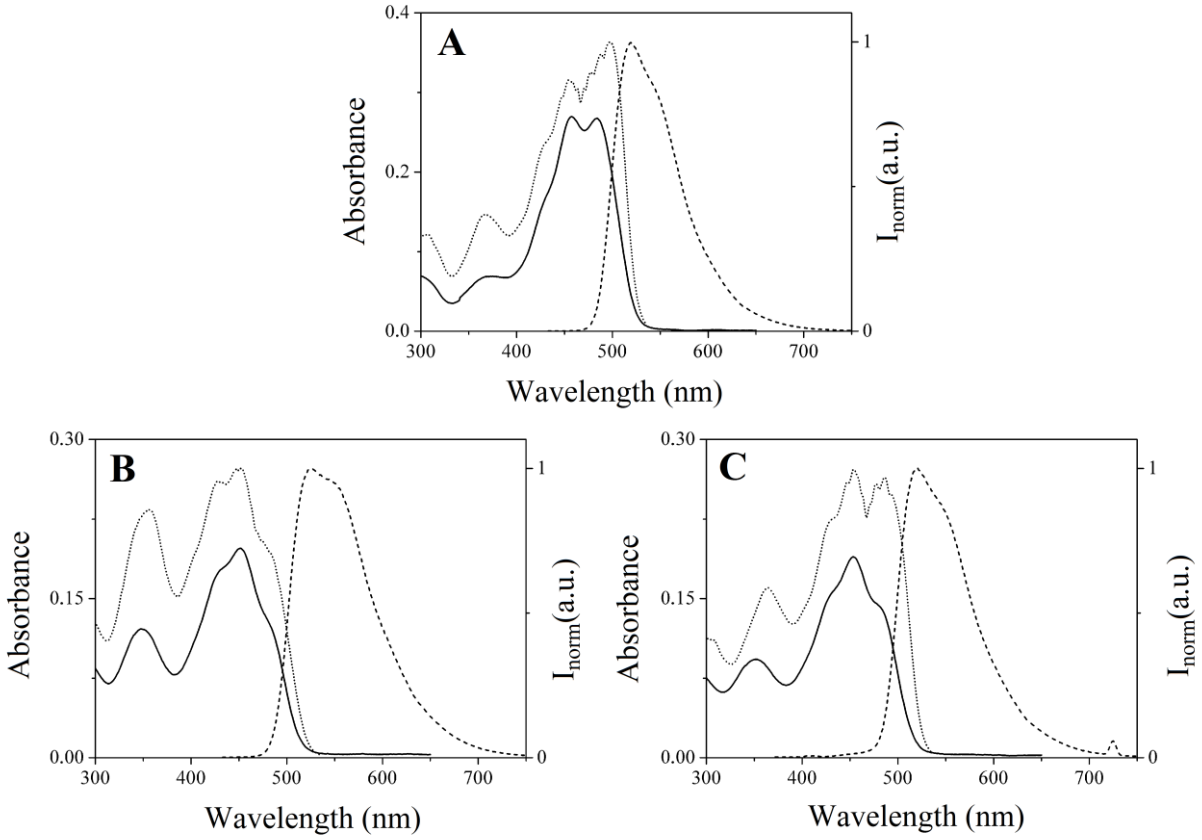

Figure S15. Room temperature absorption (full line), normalized emission (dashed line, λ_{exc} = 423 nm) and excitation spectra (dotted line, λ_{em} = 545 nm) of compounds **1** (A), **2** (B) and **3** (C) in 1:1 (v/v) acetonitrile/water solutions (1.10^{-5}M).