Supporting Information

FerriNaphth: A Fluorescent Dosimeter for Redox Active Metals

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I. NMR spectra
Figure S-1. Oxidation of FerriNaphth with Fe$^{III}$ in methanol. The spectrum of a 10 µM solution of FerriNaphth in methanol was recorded followed by the addition of 2 equivalents of Fe(NO$_3$)$_3$. The solution was allowed to equilibrate for two minutes followed by the acquisition of spectra taken until there was no further change.
Figure S-2. Oxidation of FerriNaphth with incremental additions of Cu(NO₃)₂ in acetonitrile. Metal from a 10 mM stock solution was added to a 10 μM solution of FerriNaphth in 2.5 μM increments. Absorption measurements were recorded after no additional changes were observed following the addition of metal.
Figure S-3. Oxidation of FerriNaphth with Cu\textsuperscript{II} in methanol. The absorption of a 10 μM solution of FerriNaphth was measured followed by the addition of 2 equivalence of Cu(NO\textsubscript{3})\textsubscript{2} from a 10 mM stock solution in 60/40 EtOH/CH\textsubscript{3}CN. The spectrum of the equilibrated mixture was taken after three minutes and subsequent measurements were taken to ensure no further changes.
**Figure S-4.** UV-vis titration of 10 µM FerriNaphth with Ga(NO$_3$)$_3$ in methanol. Metal was added in 20 µM increments (6µL aliquots) from a 10 mM stock solution. Each spectrum was corrected for dilution by multiplying measured absorption by the inverse of the dilution factor.
Figure S-5. Oxidation of FerriNaphth with incremental additions of Fe(NO$_3$)$_3$ in methanol. Iron from a 10 mM stock solution was added to a 10 μM solution of FerriNaphth in 2.5 μM increments up to 2 equivalents. An additional 0.6 equivalents were added incrementally to complete the oxidation. Absorption measurements were recorded after no additional changes were observed following the addition of metal.
Figure S-6. Emission spectra of oxidation of 10 μM FerriNaphth in methanol with 2 equivalents of Fe(NO$_3$)$_3$. Spectra were recorded over a period of 48 min. Excitation was provided at 400 nm with an excitation slit width of 5.0 nm and an emission slit width of 10 nm.
Figure S-7. Oxidation of 10 µM of FerriNaphth with 2 equivalents of Fe(NO₃)₃ at different concentrations of probe in acetonitrile.
Figure S-8. Absorption of species formed at 368 nm, plotted as a function of concentration.
Figure S-9. Absorption spectra of 20 µM Fe(NO$_3$)$_3$ and 20 µM FeCl$_3$ in methanol and acetonitrile.