Supplementary Information for:

Supramolecular dioxygen receptors composed of an anionic water-soluble porphinatoiron(II) and cyclodextrin dimers

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Fig. S1  (a) UV-vis absorption spectral changes of Fe\textsuperscript{III}TPPS ($1 \times 10^{-5}$ M) as a function of pH in aqueous 0.1 M NaClO\textsubscript{4} solution at 25 °C. The pH values were adjusted by NaOH and HClO\textsubscript{4} (pHs were changed from 11.94 to 1.43). (b) Absorbance changes at 394 nm as a function of pH.
Fig. S2  (a) UV-vis spectral changes of Fe$^{III}$TPPS (5.0 x 10$^{-6}$ M) in 0.05 M phosphate buffer at pH 8.0 and 25 °C upon addition of Py3NHCD and (b) plots of the change in absorbance of [Fe$^{III}$TPPS] versus [Py3NHCD].
Fig. S3  (a) UV-vis spectral changes of Fe$^{III}$TPPS (5.0 x 10$^{-6}$ M) in 0.05 M phosphate buffer at pH 8.0 and 25 °C upon addition of Im3NHCD. (b) Plots of the changes in absorbances of [Fe$^{III}$TPPS] versus [Im3NHCD].
**Fig. S4**  (a) UV-Vis spectral changes of Fe$^{III}$TPPS (5.0 x 10$^{-6}$ M) in 0.05 M phosphate buffer at pH 8.0 and 25 °C upon addition of Im2CD and (b) plots of the changes in absorbances of [Fe$^{III}$TPPS] versus [Im2CD].
**Fig. S5** UV-Vvis spectral changes of Fe\textsuperscript{III}TPPS (5.0 x 10\textsuperscript{-6} M) complexed with Py3NHCD (2.5 x 10\textsuperscript{-5} M) as a function of pH in aqueous 0.05 M NaClO\textsubscript{4} solution at 25 °C. The pH values were adjusted by NaOH and HClO\textsubscript{4} (pHs were changed from 7.82 to 0.87).
Fig. S6  (a) UV-vis absorption spectral changes of Fe$^{III}$TPPS (5.0 x 10$^{-6}$ M) complexed with Im3NHCD (6.0 x 10$^{-6}$ M) as a function of pH in aqueous 0.1 M NaClO$_4$ solution at 25 °C. The pH values were adjusted by NaOH and HClO$_4$ (pHs were changed from 9.96 to 1.0.). (b) Plot of log{$\left( A_{a} - A \right) / \left( A_{b} - A \right)$} at 394 nm vs. pH for determining p$K_a$. 
Fig. S7  (a) UV-Vis spectral changes of Fe$^{III}$TPPS (5.0 x 10$^{-6}$ M) complexed with Im2CD (6.0 x 10$^{-6}$ M) as a function of pH in aqueous 0.1 M NaClO$_4$ solution at 25 °C. The pH values were adjusted by NaOH and HClO$_4$ (pH change from 9.86 to 6.43). (b) Plot of log{(A$_a$-A)(A-A$_b$)$^{-1}$} at 396 nm vs. pH for determining p$K_a$. 

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Fig. S8  (a) UV-Vis spectral changes in autoxidation of $(\text{O}_2\text{Fe}^{II}\text{TPPS/Im3NHCD})$ complex ($[\text{Fe}^{II}\text{TPPS}] = 3.0 \times 10^{-4} \text{ M}, [\text{Im3NHCD}] = 3.6 \times 10^{-4} \text{ M}$) under air in 0.05 M phosphate buffer at pH 7.0 and 25 °C. Scans were carried out at 20 min interval. (b) First-order plot for the absorbance change at 420 nm.

\[ k_{\text{obs}} = 3.51 \times 10^{-3} \text{ min}^{-1} \quad t_{\frac{1}{2}} = 3.3 \text{ h} \]