Supplementary Table 1: Molecular dynamics simulations

Condition	Number of Simulations	Duration (μs)	Notes
Iron absent	6	2.2 (each)	No iron was added
Iron bound	6	2.2 (each)	A single Fe^{2+} ion was placed in the proposed binding site initially
Iron in bulk solvent	6	2.2 (each)	15 Fe^{2+} ions were placed randomly in solution initially

Supplementary Table 2: Steady-state kinetic constants

	Km (μM)	Vmax ($\Delta F\ s^{-1}$)
Liposome-FPN		
$FeCl_2$	13.6 +/- 2.93	-0.00269 +/- 0.00025
$CoCl_2$	33.5 +/- 9.84	-0.00339 +/- 0.00011
Liposome-FPN + 1.25 mM $CaCl_2$ (internal)		
$CoCl_2$	6.10 +/- 1.55	-0.00246 +/- 0.000065
Liposome-FPN-Fab45D8.1		
$CoCl_2$	4.68 +/- 0.537	-0.00240 +/- 0.000075