



Figure S1. ¹H NMR spectra (in D_2O) of product of reaction (upper panel) between fourarmed PEG (lower panel) and dopamine hydrochloride. The presence of new peaks between 6.6-6.8 ppm (circled in tracing) for the protons of the phenol ring (circled in structure) documented the successful synthesis of PEG₄-dopamine.





Figure S2: UV/Vis spectra for the oxidation of 5 mg PEG₄-dopamine with 1.5 μ L of various Fe³⁺ concentrations after 30 min, and an inset plot showing the correlation between the absorption peak at 267 nm (shown by arrows) and Fe³⁺ concentration. The peaks at 267 are attributable to the covalent dopamine-dopamine conjugate 5,5'-di(3,4-dihydroxyphenylalanine).





Figure S3: NIH 3T3 fibroblast cell viability 48 hours after exposure to various Fe^{3+} concentrations. MTS assay was used to assess cell viability. Data are means \pm SD; n=3.