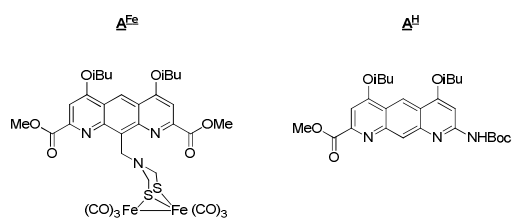
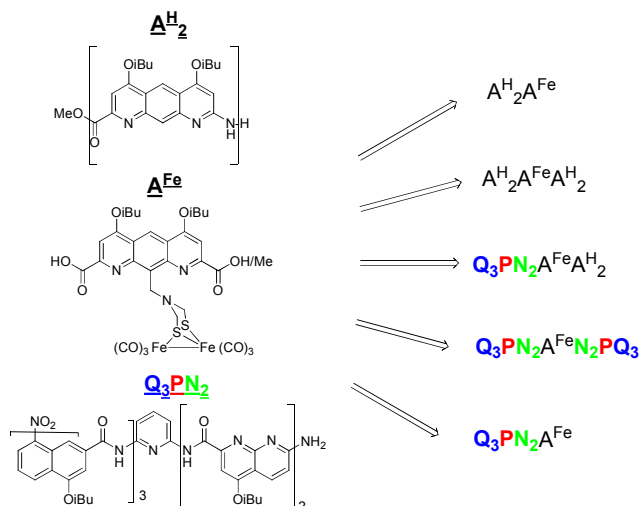


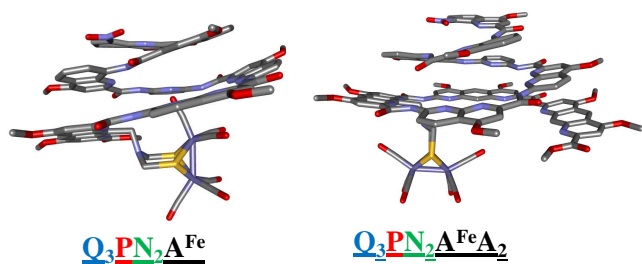
**Figure 1.** Graphical representation of the project. By using the foldamers to mimic a protein environment around a small molecule catalyst, the goal is to combine the positive qualities of both systems and produce catalytically active foldamers. Monomers are shown in different colors that correspond with the letter code for the sequence.



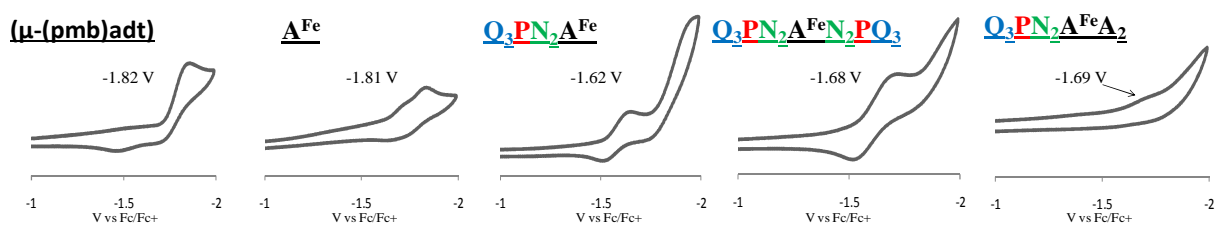
**Figure 2.** New monomer units required for foldamer synthesis



**Figure 3.** By using the three molecules shown on the left in different combinations, the oligomers shown on the right were synthesized via PyBOP couplings and studied.



**Figure 4.** Solid state structures of two of the oligomers synthesized showing different orientations of the iron complex relative to the helix.



**Figure 5.** Cyclic voltammograms of complexes (2 mM) in DCM with Bu<sub>4</sub>NPF<sub>6</sub> (100mM). All values are referenced to Fc/Fc<sup>+</sup>.