Electrochemistry of Cytochrome *c* Mutants at Functionalized Self-Assembled Monolayers.

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Electrochemistry of cytochrome *c* (cyt. *c*) bound to carboxylate-terminated alkanethiol SAMs provides a simple molecular assembly for investigating both long-range electron transfer (ET) and intermolecular protein interactions [1-3]. ET gating has been observed at short alkanethiol-modified surfaces, and has been attributed to dynamic interactions between the charged protein and the carboxylate terminus of the SAMs [3]. We have developed a theoretical model for ET in these systems, and have proposed that electrostatic interactions between lysine-13 and the negatively charged monolayer provide an efficient pathway for electron transfer [3]. Our present study involves determining the dynamics of ET between functionalized alkanethiol SAMs and a series of cyt. *c* mutants in which lysine-13 has been replaced by alanine; these data should provide a more detailed picture of the protein/SAM interface, as well as its effect on the ET pathway.

References:

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