Characterization of Tau Protein Films on Surfaces

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The tau protein stabilizes the microtubules in neuronal cells and is one of the Alzheimer's disease biomarkers [1]. The tau pathology is related to the presence of tau oligomers and tangles, which are hyperphosphorylated. The mechanism of tau aggregation is not well understood and is typically studied by spectroscopic and microscopic techniques. We used electrochemical methods to probe the interactions of tau films on surfaces with guest molecules, which have been shown to induce tau aggregation *in vitro*. Electrochemical properties of tau films were modulated as a function of time, temperature, and guest concentration and will be discussed.

1) (a) I. Grundke-Iqbal, K. Iqbal, Y. C. Tung, M. Quinlan, H. M. Wisniewski, L. I. Binder, Proc. Natl. Acad. Sci. U. S. A. 1986, 83, 4913-4917. (b) V. M.-Y. Lee, B. J. Balin, L. Otvos Jr, J. Q. Trojanowski, Science 2002, 1912-1934.