Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

A study of the stability of the DNA double helix in complexes of DNA with the bipyridyl-(ethylenediamine)platinum(II) molecular ion. ATTILA SZABO, SCOTT LEE, University of Toledo — The DNA double helix is usually stabilized by the formation of a complex with a ligand. However, the exact nature of the complex can destabilize the double helix, as is well known in complexes of DNA with diaminedichloroplatinum(II). We report the results of our study of the complex of DNA with bipyridyl-(ethylenediamine)platinum(II), abbreviated $[(\text{bipy})\text{Pt}(\text{en})]^{2+}$, via ultraviolet melting experiments. We find that the DNA double helix is stabilized by the formation of the complex: the temperature of the onset of melting of the DNA double helix increases with increasing amounts of $[(\text{bipy})\text{Pt}(\text{en})]^{2+}$. The onset temperature is increased by about 14 ^{o}C for a ligand content of one $[(\text{bipy})\text{Pt}(\text{en})]^{2+}$ for every three DNA base pairs.

Scott Lee
University of Toledo

Date submitted: 26 Nov 2007 Electronic form version 1.4