

COPPER (II) CATION AS A DRUG DELIVERY MECHANISM. TAXOL AND QUININE

Kaitlyn V. Ledwitch and Ryenne N. Ogburn, Department of Chemistry

Faculty Sponsors: Dr. Thomas Manning, Department of Chemistry, (Valdosta State University, Valdosta, GA) and Dennis Phillips and Greg Wylie, Department of Chemistry, (University of Georgia, Athens, GA)

New methods of delivering drugs are being developed. These include systems such as liposome's, different proteins and nanoparticles. In each case the medicinal agent, typically a small molecule drug (<1000 g/mol), is attached to a larger structure. This is done to enhance water solubility and to increase the drug's efficacy. This talk will focus on amine containing drugs, particularly taxol and quinine, and their increase in medical efficacy by binding to a copper (II) ion. The results include NMR (proton, carbon, nitrogen), IR, UV//Vis and LC-ESI-MS to study each complexes structure. The encouraging results from the National Cancer Institute's 60 cancer cell line panel for the different complexes synthesized in this lab will also be outlined in the presentation.