

# Syntheses and Characterization of Copper (II) Complexes Containing Cysteinyldopa Model Ligands

Yohannes Tesema, Kate Ciesiński, and Katherine J. Franz

*Department of Chemistry, Duke University*

Neuromelanin (NM), the dark-colored pigment produced in the dopaminergic neurons of the human substantia nigra, contains iron, copper, zinc, and other metal ions at concentrations higher than those found in unpigmented brain tissues. In our effort to understand the role of metals and their interaction with NM, we have synthesized copper complexes of the ligand 3-(2-aminethylthio)-4,6-di-tert-butylcatechol as a synthetic model of the NM biosynthetic precursor, 5-S-cysteinyldopa. The copper complexes were characterized by spectroscopic, magnetic, electrochemical, and X-ray crystallographic methods.

