

Study of Ligand Binding Reactions of Bis-AmineMetalloporphyrins

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Porphyrins are molecular complexes that are critical for the proper functioning of many important biological macromolecules such as hemoglobin and myoglobin. The goal of this research is to monitor the transformations and differences that occur with the addition of metals and ligands to a model porphyrin compound called tetraphenylporphyrin (TPP). During this work, a series of metalloporphyrin complexes were prepared, with changes to both metal centers and ligand attachments at those centers. Specifically, iron, zinc, cobalt and manganese metalloporphyrins have been synthesized and identities verified via electronic absorption spectroscopy. Ligand binding studies have begun with the addition of piperidine and will continue with additional molecules such as pyrrolidine, imidazole, as well as secondary amines.

Information about the Author:

Frank is a senior biochemistry major who plans on attending graduate school followed by medical school after his time at Valparaiso University.

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