



Apr 16th, 1:15 PM - 2:30 PM

Polydentate Macrocyclic Complexes as Potential Oxidation Catalysts

Phillip Butler
Illinois Wesleyan University

Rebecca Roesner, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

Butler, Phillip and Roesner, Faculty Advisor, Rebecca, "Polydentate Macrocyclic Complexes as Potential Oxidation Catalysts" (2005). *John Wesley Powell Student Research Conference*. 8.

<https://digitalcommons.iwu.edu/jwprc/2005/posters2/8>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation P16

**POLYDENTATE MACROCYCLIC COMPLEXES AS
POTENTIAL OXIDATION CATALYSTS**

Phillip Butler and Rebecca Roesner*
Chemistry Department, Illinois Wesleyan University

The chemotherapeutic agent bleomycin is believed to oxidize its substrates through an iron-hydroperoxo intermediate. In efforts to mimic the bleomycin active site, we have prepared a series of polydentate macrocyclic ligands through the condensation of 2,6-pyridinedicarboxylic acid dimethyl ester with various linear tri- and tetra-amines. In several cases, the secondary amino groups of the macrocyclic ring were subsequently alkylated with methyl, ethyl, or picolyl groups. Another method of synthesis is now being used by the group to first alkylate linear tetra-amines and then condense them with 2,6-pyridinediacidchloride for formation of the desired macrocycles. Ongoing work includes optimizing this alternate method of synthesis for the preparation and characterization of iron complexes.