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Polydentate Macrocyclic Complexes as Potential Oxidation Catalysts

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Poster Presentation P16

**POLYDENTATE MACROCYCLIC COMPLEXES AS
POTENTIAL OXIDATION CATALYSTS**

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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.