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## Synthesis of Phenanthrocyanines

Peggy Huang  
*Illinois Wesleyan University*

John Goodwin, Faculty Advisor  
*Illinois Wesleyan University*

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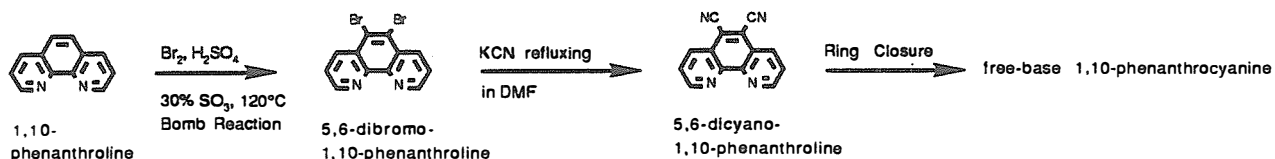
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## SYNTHESIS OF PHENANTHROCYANINES

Peggy Huang, Dept. of Chemistry, IWU, John Goodwin\*

The focus of this study is on the synthesis of phenanthrocyanines, a new class of multinuclear phthalocyanine derivatives. The anticipated structure of the pentanuclear metal derivatives of 1,10-phenanthrocyanine and 4,7-phenanthrocyanine are shown. The identical coordination environment of each of the four metals,  $M'$ , suggests that these complexes may show a simultaneous four-electron transfer at  $M'$ . The following is the synthetic scheme for 1,10-phenanthrocyanine :



4,7-Phenanthrocyanine will be synthesized by the same method as shown above.

The dibromo derivatives of 1,10- and 4,7-phenanthrolines were synthesized previously by J. Mlochowski, and the results were reproduced. Currently, the analysis of products from the reaction of 5,6-dibromo-1,10-phenanthroline with KCN in *N,N*-dimethylformamide is in progress.

