



Apr 17th, 1:30 PM - 2:30 PM

## Synthesis of Difunctional Amines and Subsequent Reaction with the Hexamolybdate Ion: Components for Supramolecular Architectures

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Brockman, Jonathan and Roesner, Faculty Advisor, Rebecca, "Synthesis of Difunctional Amines and Subsequent Reaction with the Hexamolybdate Ion: Components for Supramolecular Architectures" (1999). *John Wesley Powell Student Research Conference*. 17.

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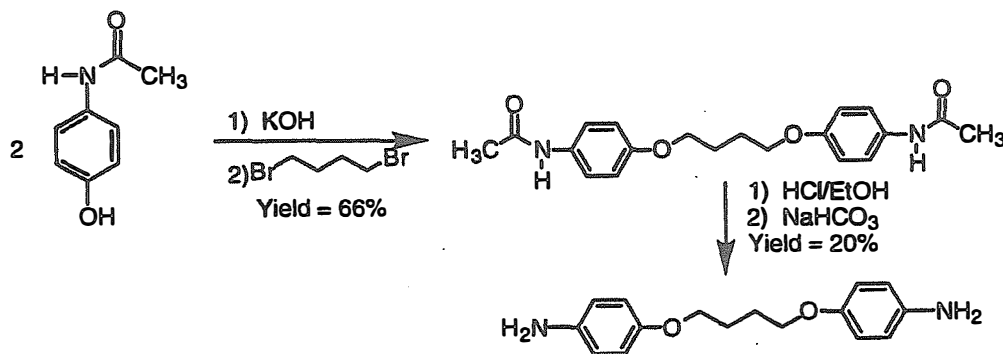
## Poster Presentation 4

**SYNTHESIS OF DIFUNCTIONAL AMINES AND SUBSEQUENT REACTION  
WITH THE HEXAMOLYBDATE ION:  
COMPONENTS FOR SUPRAMOLECULAR ARCHITECTURES**

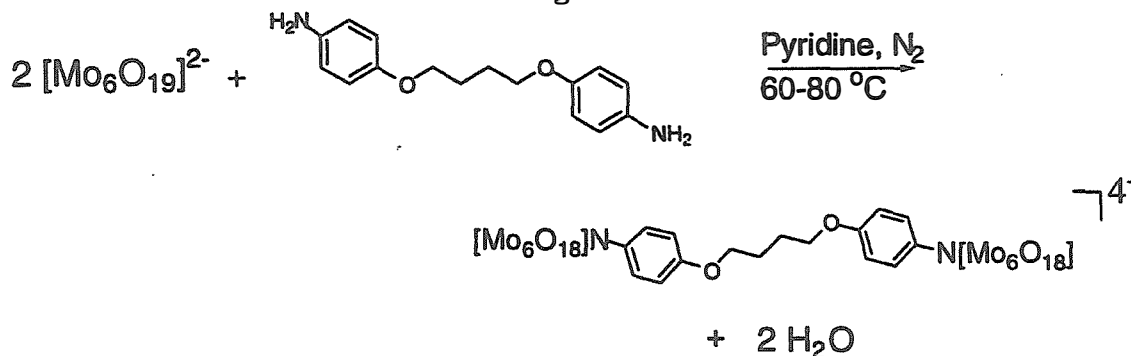
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The practical limits of manufacturing smaller and smaller electronic components is fast approaching, and scientists have been exploring the use of molecular and macromolecular electronic devices. Supramolecular systems have been designed and demonstrated to function as molecular switches, molecular wires or photoelectric devices. One supramolecular structure is the rotaxane which is composed of a linear molecular string (linker) threaded through a macrocyclic molecular ring with bulky blocking groups attached to the ends of the linker to prevent dethreading. Two possible routes to the synthesis of difunctional amine linkers have been compared.<sup>1,2</sup> Aspects of both procedures were combined to obtain highest purity (figure 1). Our current goal is reaction of one of the resultant difunctional amines with two equivalents of tetrabutylammonium hexamolybdate(VI) (figure 2).



**Figure 1**



**Figure 2**

<sup>1</sup>Bartulin, J.; Ramos, M. L.; Rivas, B. L. *Polymer Bulletin* 1986, 15, 405-409.

<sup>2</sup>Griffin, Anselm C.; Britt, Thomas R.; Hung, Robert S. L.; Steele, Marcus L. *Mol. Cryst. Liq. Cryst.* 1984, 105, 305-314.