

Chem 667-51  
April 25, 2006

### Exam #2

This is an open-book, open notes exam. You may take up to three hours. For each transformation shown, draw detailed arrow-pushing mechanisms for each step, including the explicit chemical structure of every reactant and reagent (show every heavy atom - H's not required), all stereochemistry, and all the organic products of each reaction. The abbreviations are exactly as they appear in the publication.

Each problem is worth twenty points.

