Chem 332
Exam #1
March 2, 2011

Name Key

This is an open-book, open notes exam.

1. (20 points) The reactions shown would not proceed as indicated. Draw the actual products. You do<u>not</u> need to draw mechanisms.

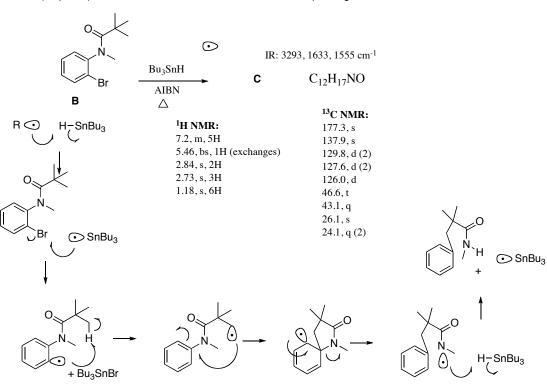
a. 
$$\frac{BH_{3};}{NaoH/H_{2}O_{2}}$$
b. 
$$\frac{NaCN}{EtOH}$$

$$NH_{4}CI$$
c. 
$$\frac{CH_{3}MgBr}{excess}$$
d. 
$$\frac{MCPBA}{O}$$

2. (20 points) Circle the expected product. Explain your answer in detail. Stereochemistry is important!

3. (20 points) Outline a synthesis of **A** using only starting materials that contribute three or fewer carbons to the final product.

4. (20 points) Deduce the structure of **C** and draw an arrow-pushing mechanism for its formation.



5. (20 points) Draw the letters on the product where they belong. Make a list of bonds formed and bonds broken, and draw the mechanism in detail.

