Chem 51C Quiz 5 (10 points; 10 minutes) May 29, 2012

**Academic Honesty Policy.** Academic honesty is strictly enforced on quizzes, exams, and other aspects of this course. Academic dishonesty will result in a failing grade in the class and a letter in the student's file. Activities constituting academic dishonesty include:

*Cheating:* Copying from others during an examination. Communicating exam answers with other students during an examination. Offering another person's work as one's own. Taking an examination for another student or having someone take an examination for oneself. Tampering with an examination after it has been corrected, then returning it for more credit. Using unauthorized materials, prepared answers, written notes, or concealed information during an examination.

*Dishonest Conduct:* Stealing or attempting to steal an examination or answer key from the instructor. Allowing another student to copy off of one's own work during a test.

*Collusion:* Any student who knowingly or intentionally helps another student perform any of the above acts is subject to discipline for academic dishonesty.

I understand and will abide by this academic honesty policy: ____________________________ (signature) Seat: ______

1. Synthesize the following from simpler compounds. (2 pts)

   ![Chemical structure](image1)

2. Synthesize the following from simpler compounds. (2 pts)

   ![Chemical structure](image2)

3. What two organic starting materials are needed to synthesize the following compound using a Robinson annulation? (Smith 24.45a, 2 pts)

   ![Chemical structure](image3)

4. Draw the product formed when the following dicarbonyl compound undergoes an intramolecular aldol reaction followed by dehydration? (Smith 24.30a, 2 pts)

   ![Chemical structure](image4)

5. Devise a synthesis of the following from cyclopentanone and any other organic or inorganic compounds that you require. (Smith 24.63a, 2 pts)

   ![Chemical structure](image5)