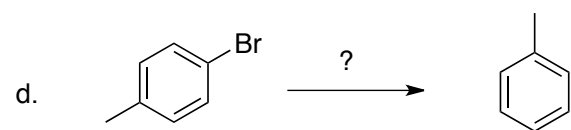
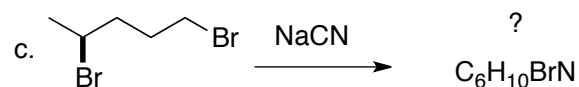
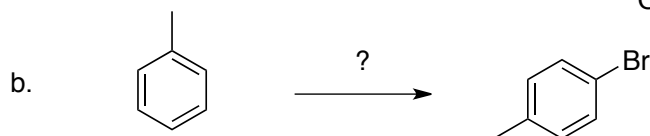
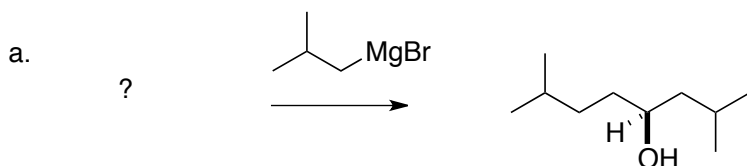


Chem 332
 Spring 2013
 Exam #2
 March 22, 2013

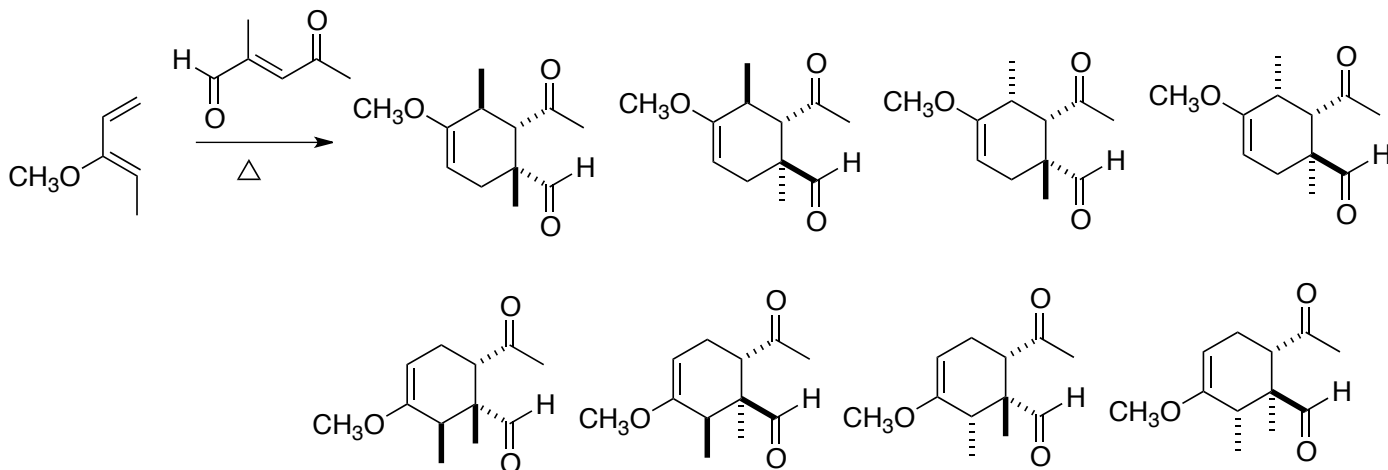
Name _____

This is an open-book, open notes exam. No electronic devices are allowed.

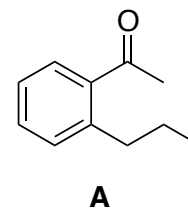
1. (5 points each) Fill in the missing reagent, product or starting material. Stereochemistry is important!



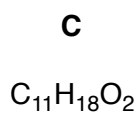
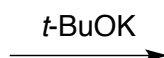
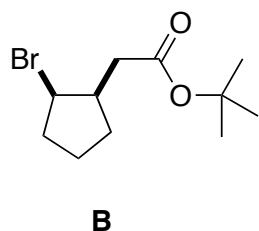
2. (20 points) Which product would be formed, and why? Explain in detail.



3. (20 points) Using any monosubstituted benzene that contributes six carbons to the final product, and any other pieces that contribute three or fewer carbons to the final product, outline a synthesis of **A**.



4. (20 points) Deduce the structure of **C**, and draw an arrow-pushing mechanism for the conversion of **B** to **C**.



IR: 3051, 2977, 2934, 2853, 1729, 1367 cm^{-1}

^{13}C NMR:

172.3, s

133.9, d

131.2, d

80.1, s

42.3, d

41.8, t

31.8, t

29.5, q (3)

28.1, t

^1H NMR:

5.7, m, 2H

3.05, m, 1H

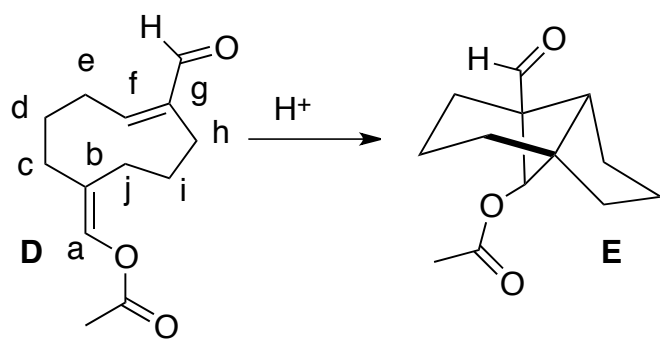
2.55, dd, $J = 6.5, 15.1$ Hz, 1H

2.42, dd, $J = 5.4, 15.1$ Hz, 1H

2.2, m, 4H

1.46, s, 9H

5. (20 points) Outline a mechanism for the transformation of **D** to **E**.



bb	bf
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