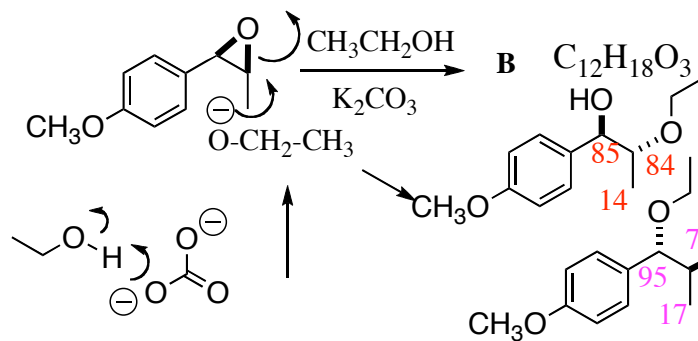


Fall 2007

Homework #9

due: 10 a.m. Monday, November 12th

1. (10 points) Deduce the structure of **B**, and draw an arrow-pushing mechanism for the transformation. Stereochemistry is important!

 ^{13}C NMR:

15.5, q

15.6, q

55.2, q

64.4, t

77.8, d

80.1, d

113.6, d (2)

128.3, d (2)

132.6, s

159.2, s

 ^1H NMR:0.97, d, $J = 6.1$ Hz, 3H1.26, t, $J = 7.0$ Hz, 3H

3.5, m, 2H

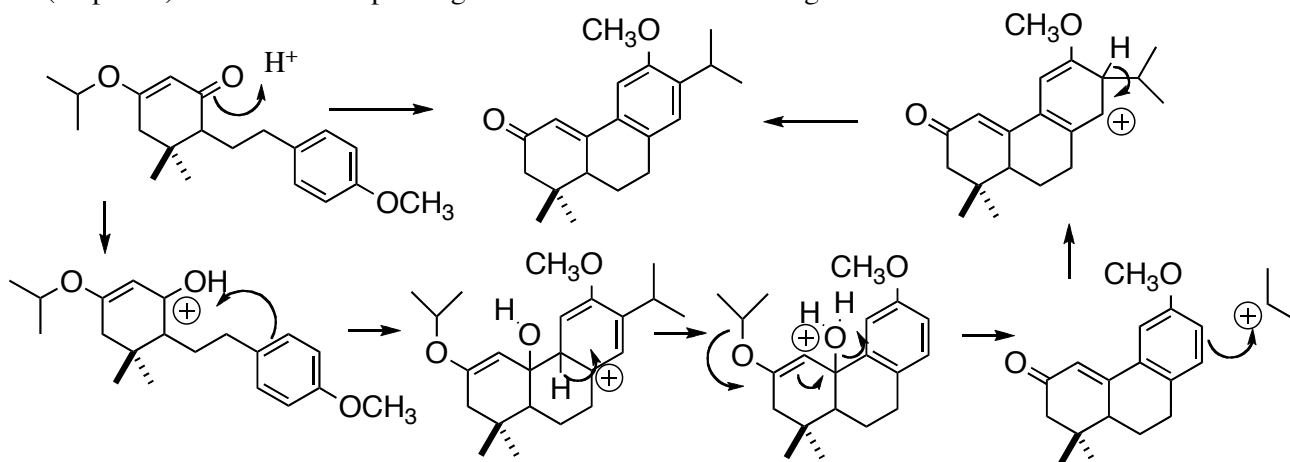
3.71, dq, $J = 9.3, 6.1$ Hz, 1H

3.80, s, 3H

4.33, d, $J = 9.3$ Hz, 1H6.90, d, $J = 8.1$ Hz, 2H7.28, d, $J = 8.1$ Hz, 2H

does not fit the data as well - note the calculated ^{13}C chemical shifts

2. (10 points) Draw an arrow-pushing mechanism for the following transformation:



3. Outline a synthetic route to **D**. Show all reagents. You may use any starting material that incorporates three or fewer carbons in the final product. Absolute configuration does not matter, but you must show how to control relative configuration.

