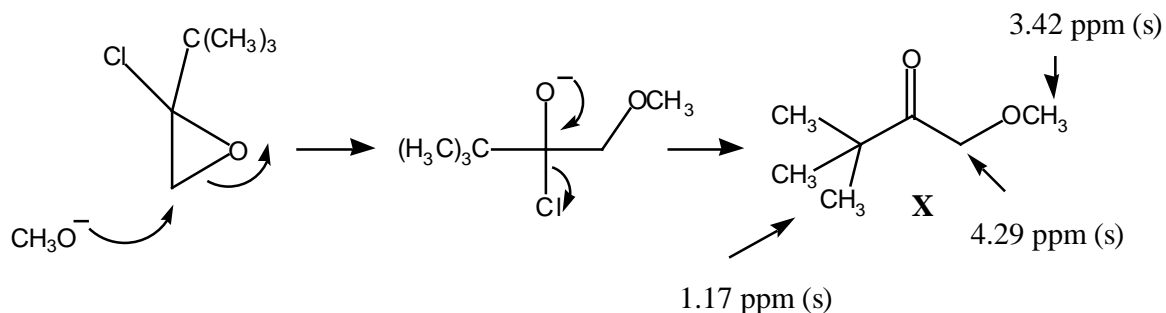


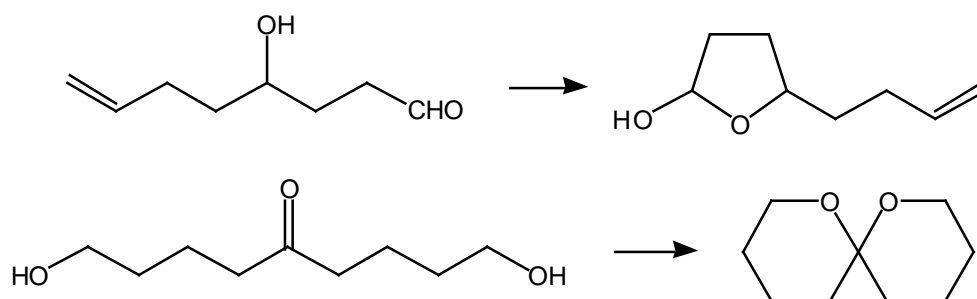
Answers to Problem Set #6
CH242-2002S

- [1] Compound **X** is a ketone. The epoxide is opened up by an S_N2 attack by methoxide at the less hindered carbon. The carbonyl group is then regenerated with the ejection of chloride as shown below.



MS: m/z 130 parent ion; 85 $[(CH_3)_3CC=O]^+$; 57 $[(CH_3)_3C^+]$; 45 $[CH_3OCH_2^+]$
IR: strong signal at 1720 cm^{-1} corresponds to the carbonyl stretch.

- [2] The cyclic forms have the following structures.



- [3] Some ideas are given below. Notice the use of a protecting group in problem (a).

