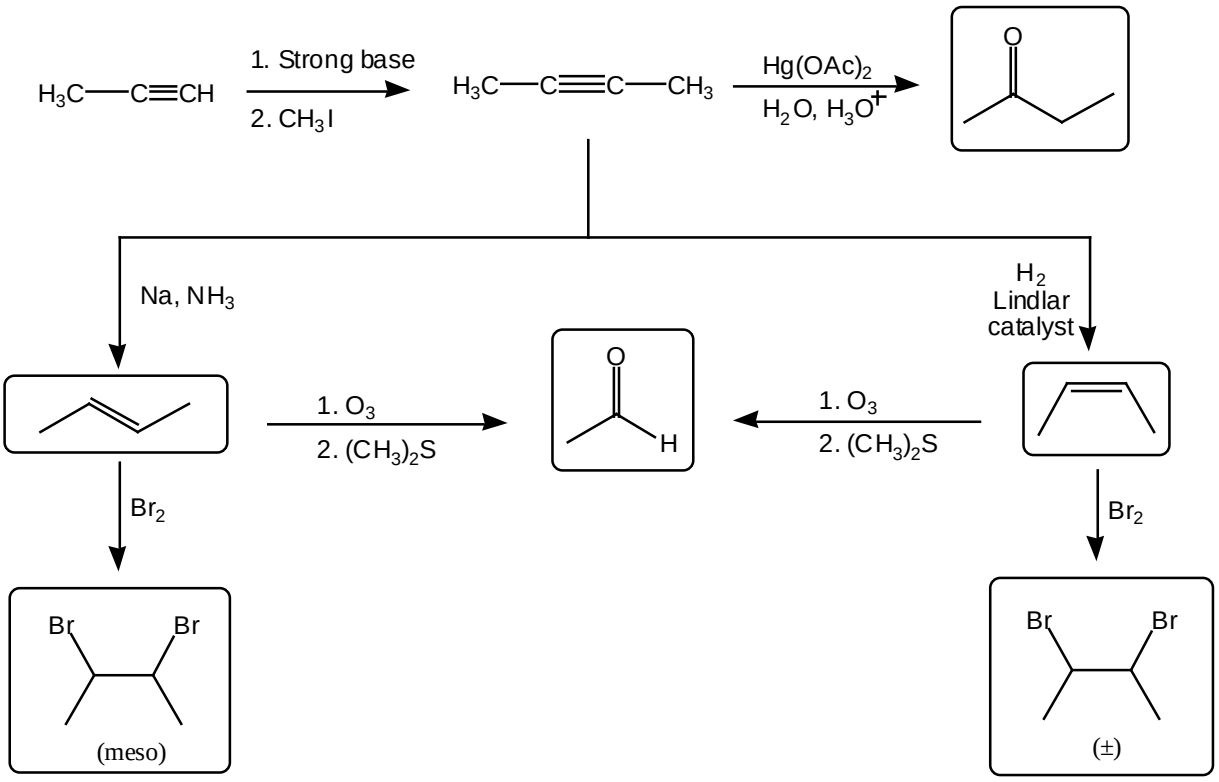
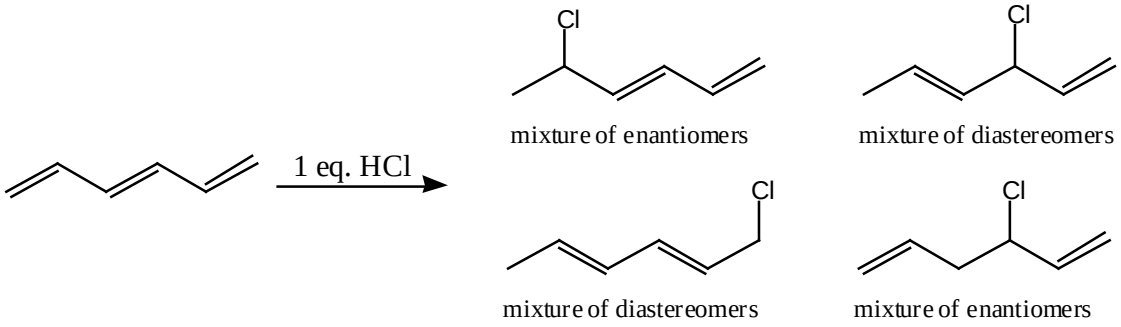
Answers to Problem Set #1
CH242-2002S

[1] Some ideas are given below. Also, see problem 9.51 on p 415 in your text.

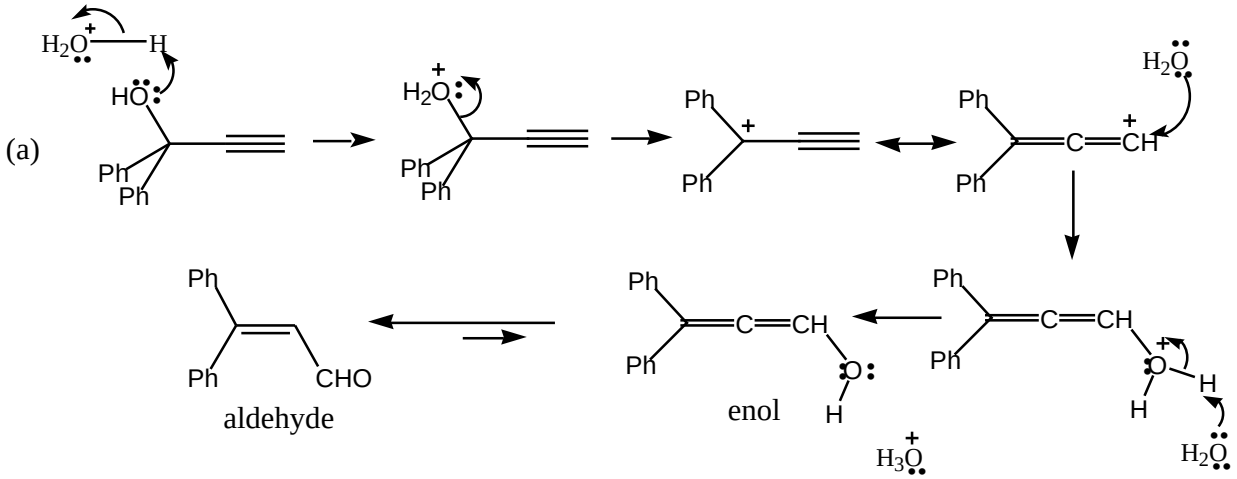


[2] A number of products may be obtained as shown below. Can you see how each is formed?

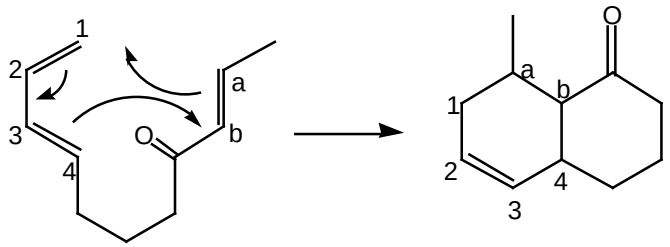


[3]

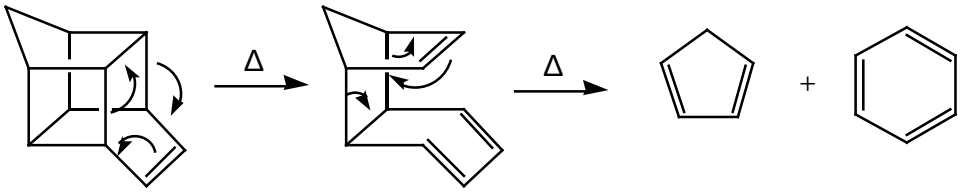
(a)



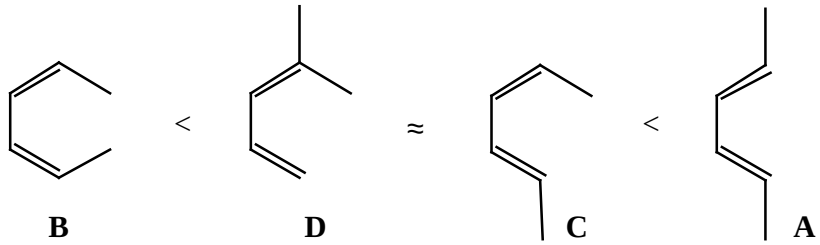
(b) A simple intramolecular Diels-Alder reaction does the trick.



(c) Two reverse Diels-Alder reactions get the job done. The first reverse Diels-Alder sets you up for the next one. The key is to spot the cyclohexene rings that you can then take apart. There are two cyclohexene rings in the starting material and you could start with either one.



[4] Since the *s*-cis conformation is required for the Diels-Alder reaction, you need to look at the relative ease with which the dienes can assume that conformation.



B **D** **C** **A**