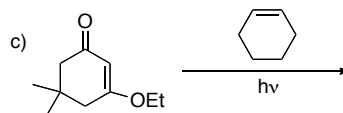
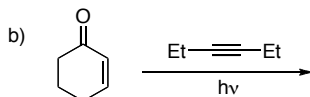
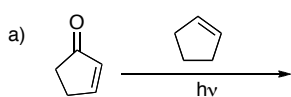


Problem set 3 (for discussion on May 6, 2009)

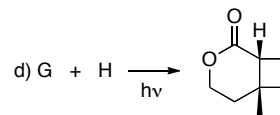
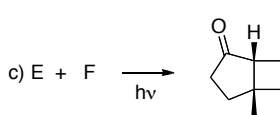
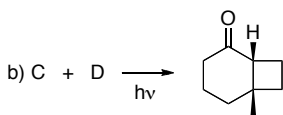
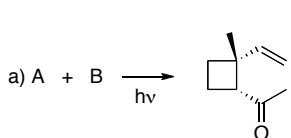
Exercises 4 - 6 from Problem set 2

Exercise 1

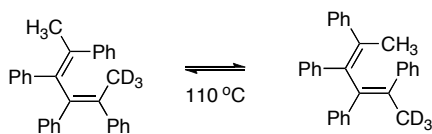
Predict product(s)

**Exercise 2**

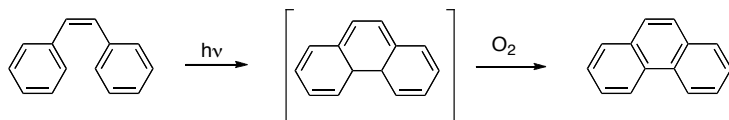
Write structures for the two reagents used in the following [2+2] cycloaddition reactions. [In a) none of the reagents are ethene]

**Exercise 3**

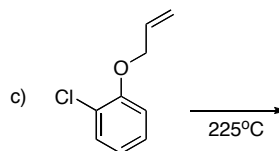
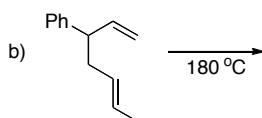
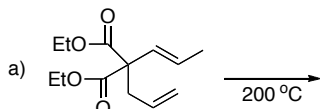
The following equilibrium has been observed. How do you account for this isomerization? Note that no other stereoisomers are formed.

**Exercise 4**

How would you classify this reaction according to the Woodward-Hoffmann rules? What is the expected stereochemistry of the intermediate?

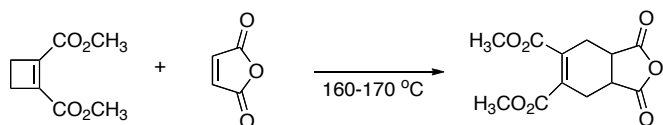
**Exercise 5**

Predict product(s)



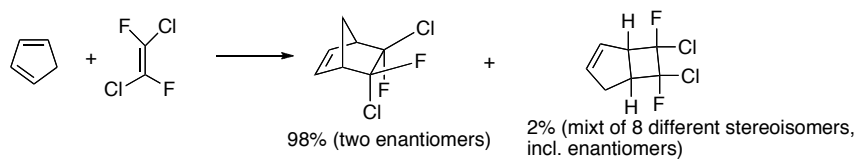
Exercise 6

Write a mechanism for the following observed transformation



Exercise 7

How do you explain the following results



Exercise 8

Write structures of reagents and products designated by letters

