

Errata from Miller, *Advanced Organic Chemistry, 2d Ed.*

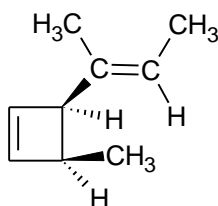
Chapter 1

p. 18, problem 1.1c. The product should not have a double bond: it is 1,1-dimethylcyclopentane, not 3,3-dimethylcyclopentane.

Chapter 2

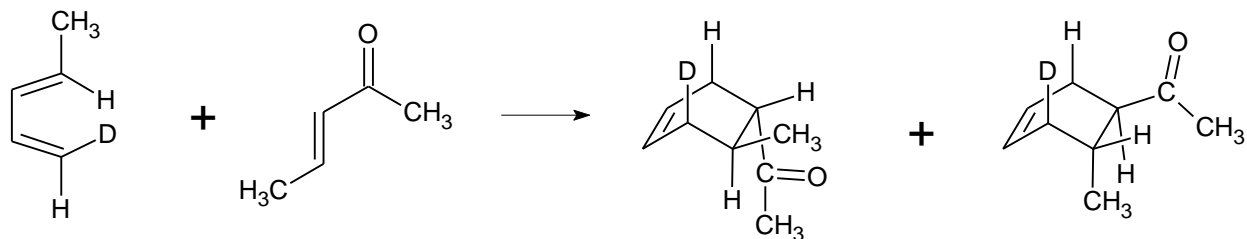
p. 49, problem 2.3b. The symbol $h\nu$ should be over the reaction arrow, that is, the reaction is photochemical.

p. 50, problem 2.4a. H substituted for C; methyl group is too small. The correct starting structure is

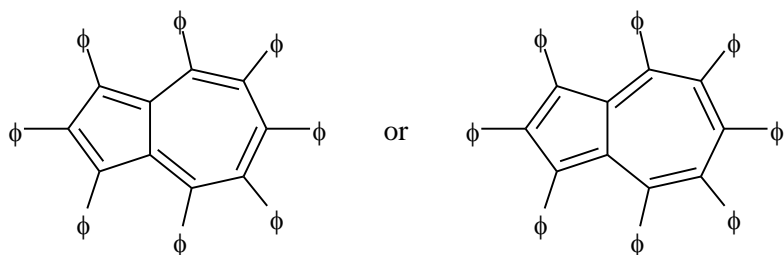


Chapter 3

p. 66, Eq. 18. The first structure has “H₃” when it means “H”. The correct reaction should be



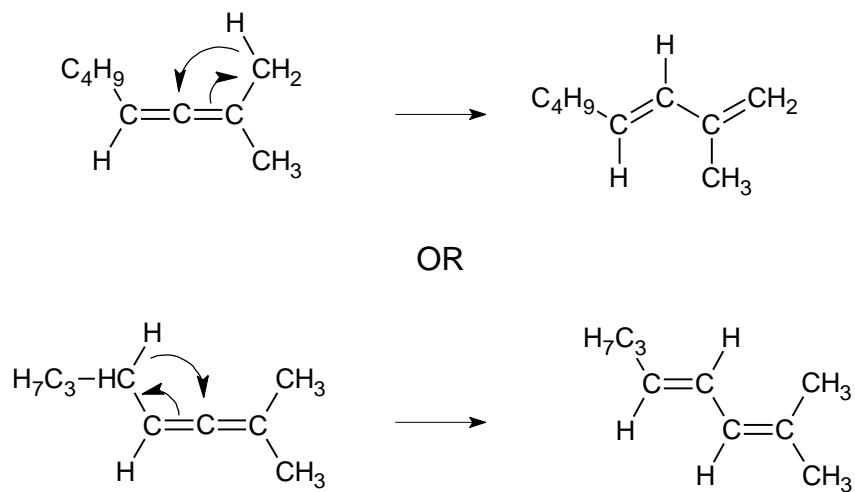
p. 76, Eq. 37. Double bonds did not get properly rearranged; the product should look like this:



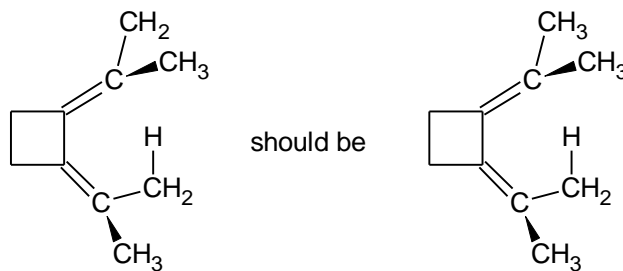
(ϕ stands for a phenyl group)

Chapter 4

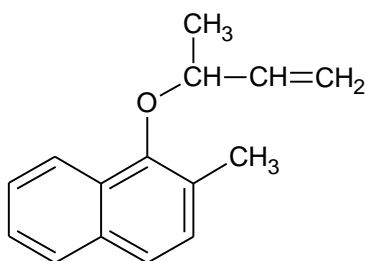
p. 94, Footnote. The final structure is not consistent with a [1,3]-H shift from the starting structure. The correct reaction is



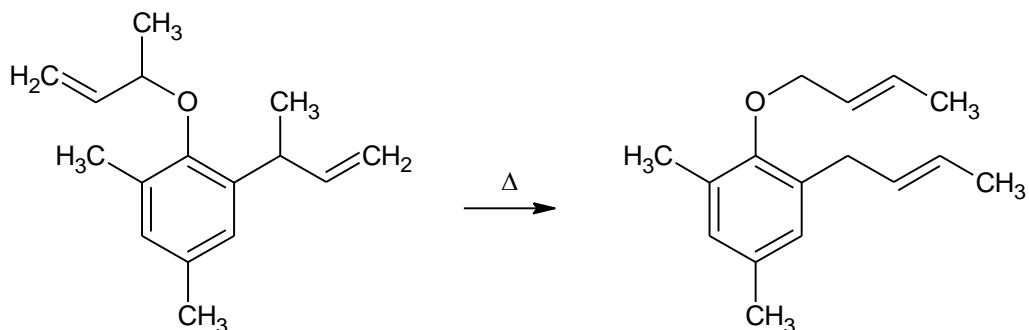
p. 99, Eq. 16. The starting structure (labeled **9**) is missing a hydrogen from the topmost methyl group:



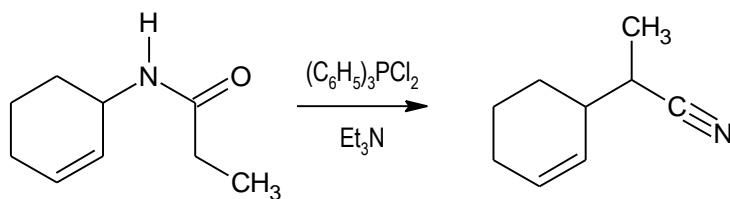
p. 126, problem 4.3b. There is an extra double bond in the naphthalene ring system. Just omit it. The correct structure is



p. 127, problem 4.4e. A methyl group is missing, but it doesn't affect the reaction; it's just a place marker. The correct reaction for this problem is

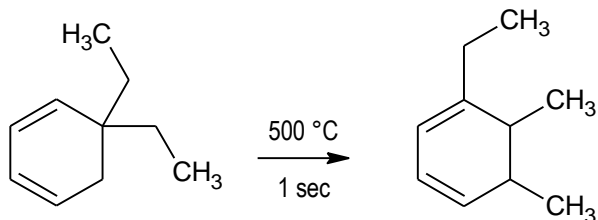


p. 128, problem 4.4g. The aromatic ring is WRONG, WRONG, WRONG. The correct reaction for this is



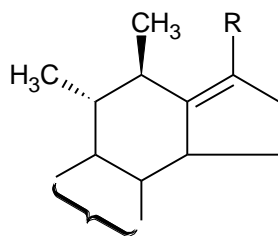
Incidentally, Ph_3PCl_2 is a dehydrating agent, used to remove the components of H_2O from a compound. The mechanism is for oxygen to replace a chlorine on phosphorus, making a phosphoroxy leaving group; this is similar to the way that PCl_3 works to replace an alcohol OH group with a chlorine.

p. 128, problem 4.4j. There IS NO aromatic ring in the product. The correct reaction is

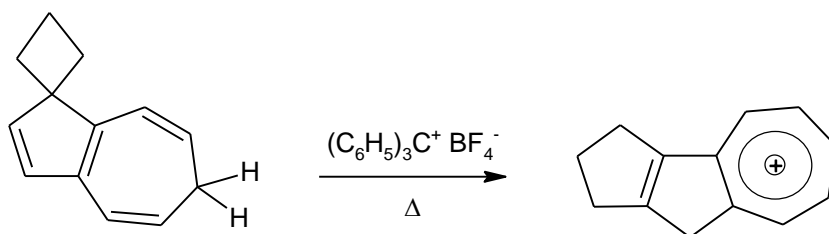


Chapter 6

p. 144, equation 3. The final product is NOT a cation; the carbon marked with \oplus is a normal carbon, with a hydrogen attached.

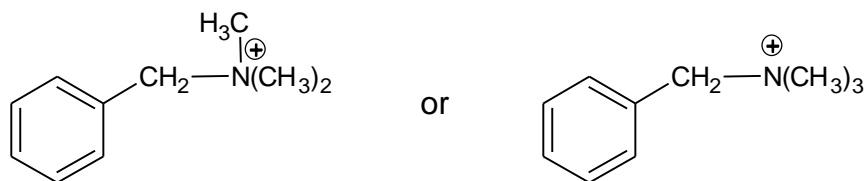


p. 180, problem 6.3g. The final product's positive aromatic ring is seven-membered, not six-membered. The correct reaction is

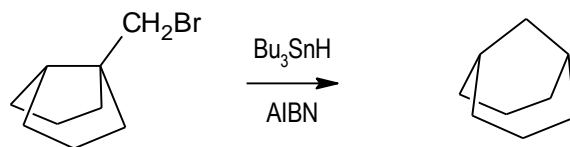


Chapter 8

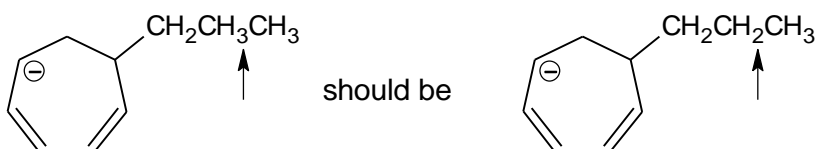
p. 228, equation 42. The starting material structure should have three methyl groups attached to nitrogen, not two:



p. 253, problem 8.2b. The product is missing a carbon atom. The correct reaction is:



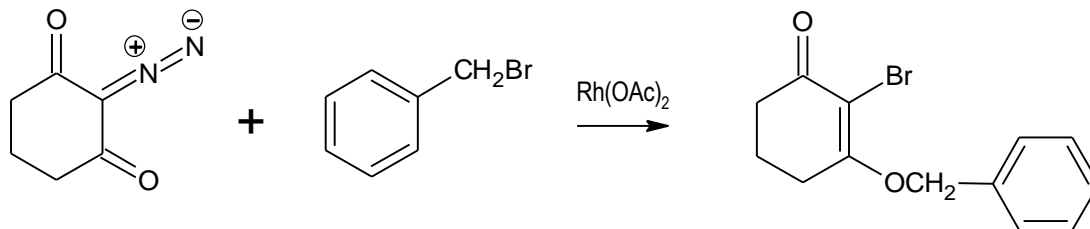
p. 254, problem 8.2h. The product has a subscript error.



Chapter 9

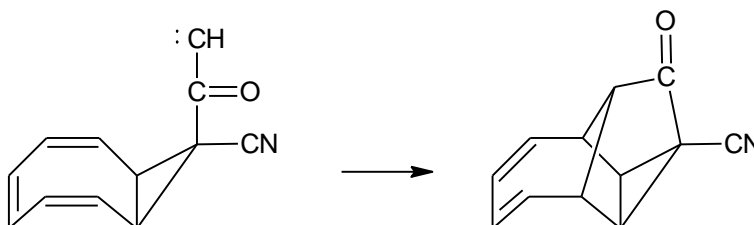
p. 265, equations 25a and 25b. The carbenes are, of course, dichlorocarbene. That is, they should be written " $\text{Cl}_2\text{C:}$ " rather than " $\text{ClC}_2\text{:}$ ".

p. 288, problem 9.3f. The starting structure is missing a bond. The correct reaction is:



p. 288, problem 9.3h. The first reagent is dimethoxycarbene, $(\text{CH}_3\text{O})_2\text{C:}$. The subscript is 2, not 3. There are two methoxy groups, not three.

p. 289, problem 9.4. The product has the cyano group in the wrong place. The reaction should be:



Chapter 10

p. 296, top, first paragraph. The text says that "if cycloheptene is irradiated in pentane at -78° , allowed to stand for several minutes, and acidic methanol is then added, cyclohexyl methyl ether can be isolated from the reaction." The source (ref. 6a, Kropp et al., *J. Am. Chem. Soc.* **1973**, 95, 7058) says that there are several things wrong with this statement.

- The product given is cycloheptyl methyl ether, not cyclohexyl methyl ether. There is no loss of a carbon atom from the ring.
- The point is that *trans* cycloheptene (see also the footnote, that page) has a lifetime of several seconds under these conditions.
- The methanol does not need to be acidified; methanol itself is acidic enough. Traces of acid help the reaction, of course.
- Cyclohexene and cyclooctene also react readily with methanol after irradiation, while cyclopentene does not; neither do cyclononene or higher-number cycloalkenes.
 - The point is that *trans*-cyclopentene is just not possible at all, and *trans*-cyclononene (and higher) are stable enough that they do not readily react with methanol.

p. 307, equation 35. The zwitterion intermediate (the third structure) has the positive charge misplaced. It should be:

