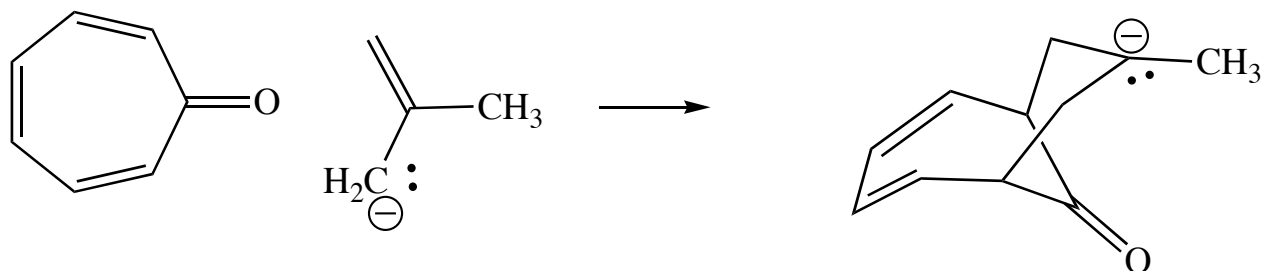
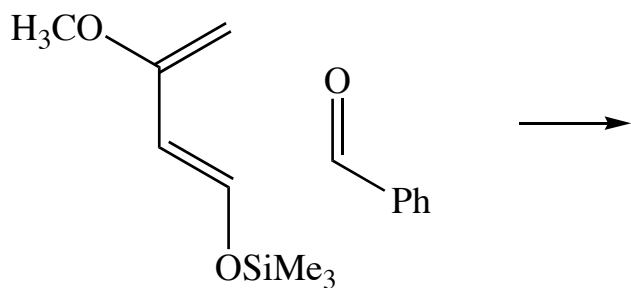
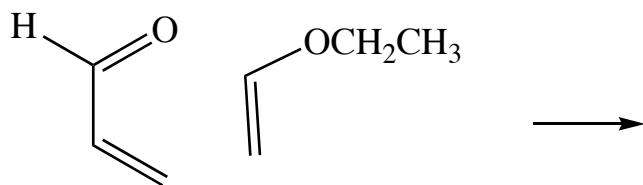
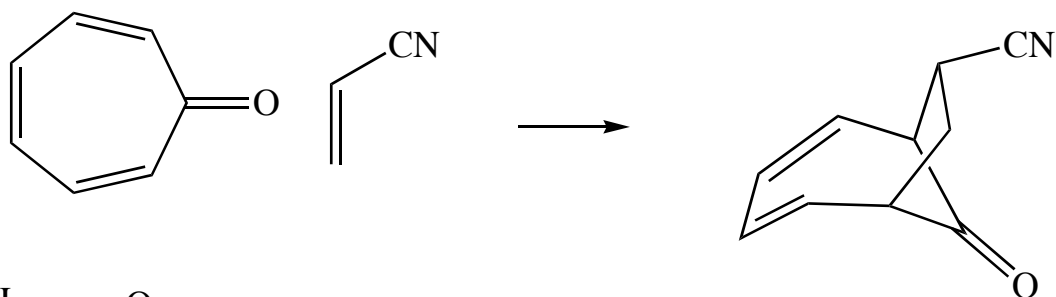
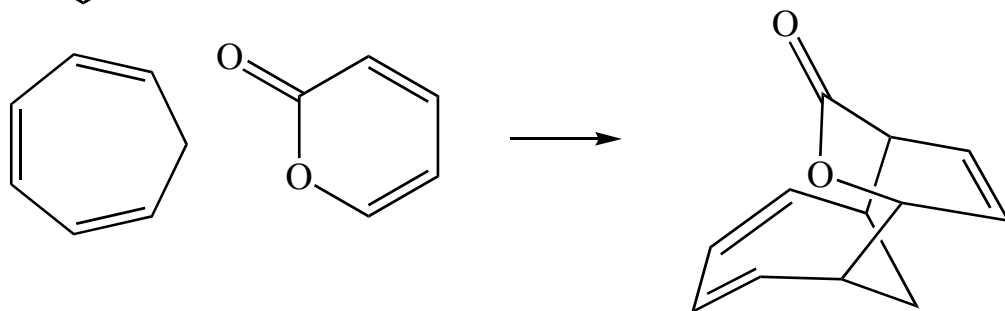
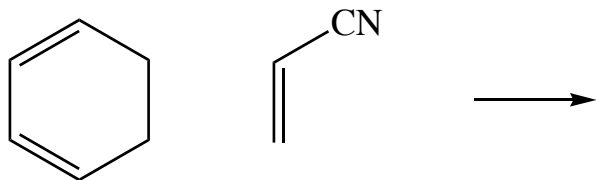


Exercise 83 - Orbital symmetry cycloaddn

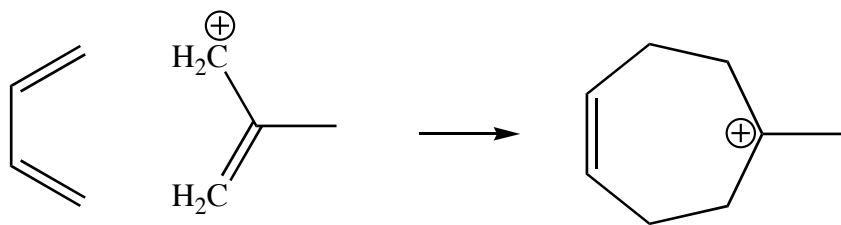
Question

Give the structure of the missing products (ignore stereochemistry) expected in the following cycloaddition reactions. Which of the following are orbital symmetry allowed reactions?



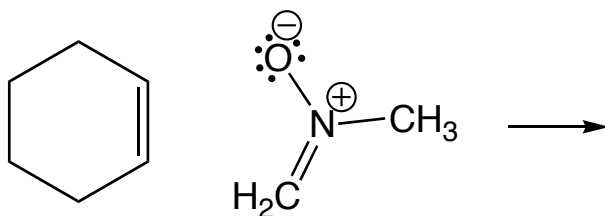
Question

The following is a cycloaddition reaction between butadiene and an allylic carbocation. By looking at both of the possible HOMO/LUMO interactions of the two species, show that the reaction is thermally allowed.



Question

Nitrones, such as the one shown below, are isoelectronic with ozone. Give the structure of the product of this reaction, show that it is symmetry allowed and add arrows to show electron movement.



Question

Would you expect the following reaction to be symmetry allowed? This is a $14\pi + 2\pi$ electron process. I realize your tables don't extend to a 14 pi electron polyene, but you can still figure this out.

