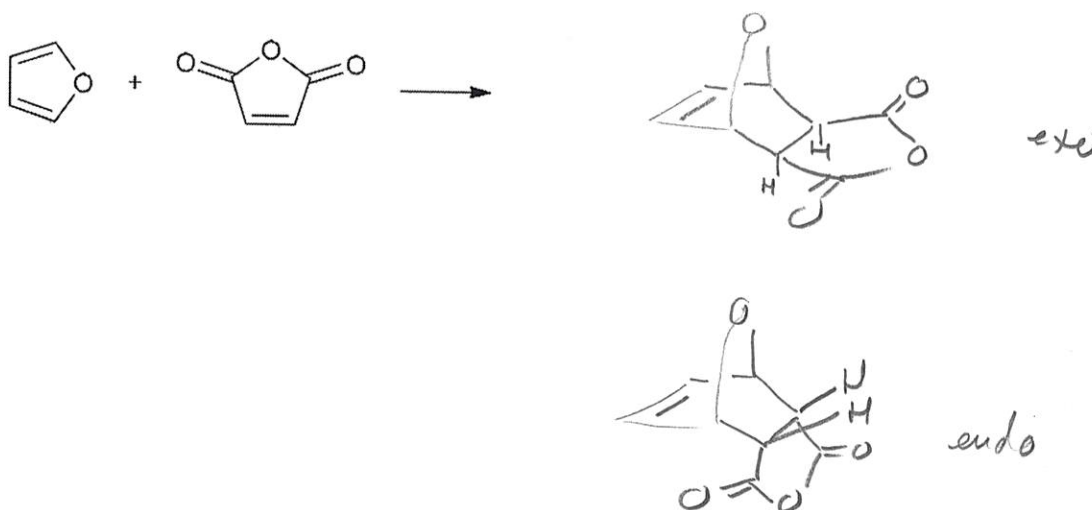


Quiz 3 (50 points)

Name Key

1. Show both the *endo* and *exo* products from this Diels-Alder Reaction. (20 points)

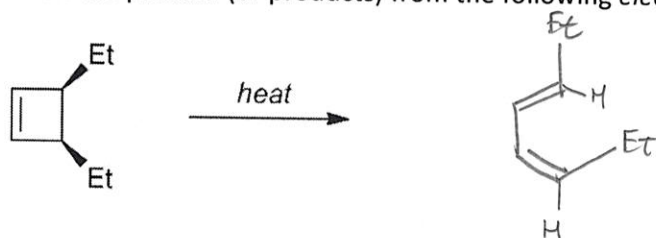


2. The textbook is wrong about the favored product from this reaction. In this case (which is rare) the *exo* product is favored. Suggest a reason. (Hint: recall the discussion on kinetic vs. thermodynamic products) (10 points)

The *endo* product is always formed faster than the *exo* since it has a lower TS energy (secondary orbital interactions). The *exo* product is almost always more thermodynamically stable.

In this case the formation of the *endo* product is "reversible" so, that means the *endo* and *exo* product are in equilibrium and thus favors *exo* product.

3. Show the product (or products) from the following electrocyclic reaction. (10 points)



HOMO can rotatory movement leads to orbital overlap!