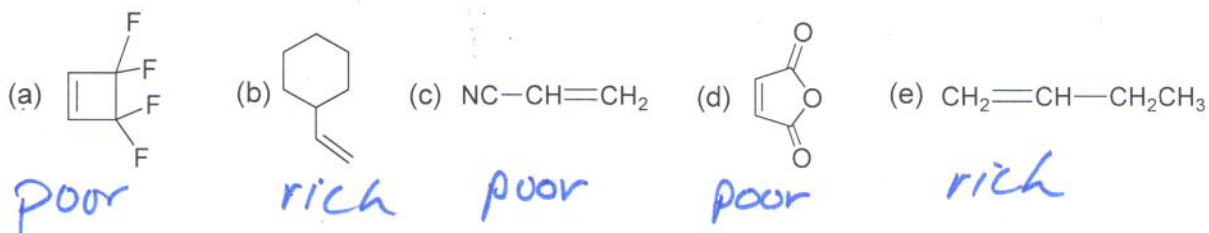


NAME KEY

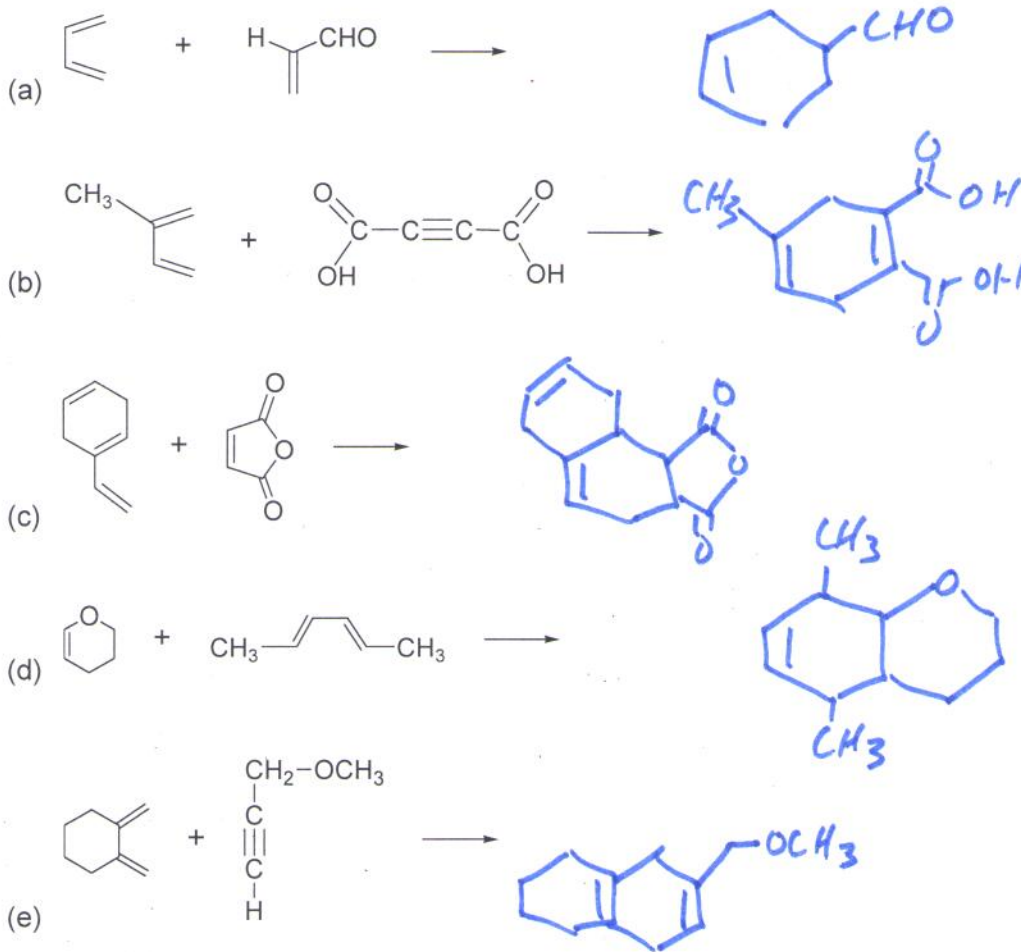
1. Classify the following alkenes as electron rich or electron poor, relative to ethene .

5



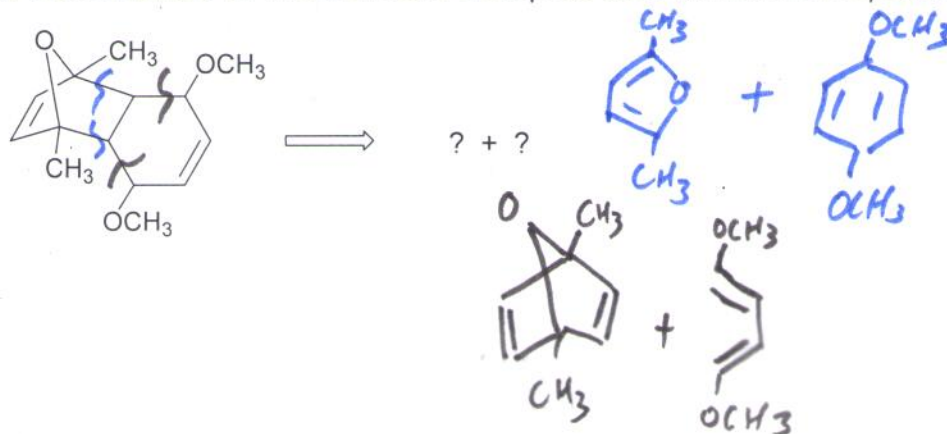
5

2. Draw the products from these Diels-Alder reactions:



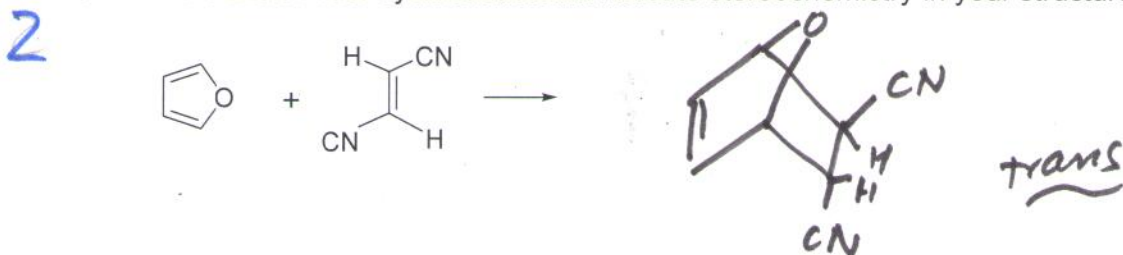
2

3. Draw the structure of the diene and dienophile used to make this cycloadduct:

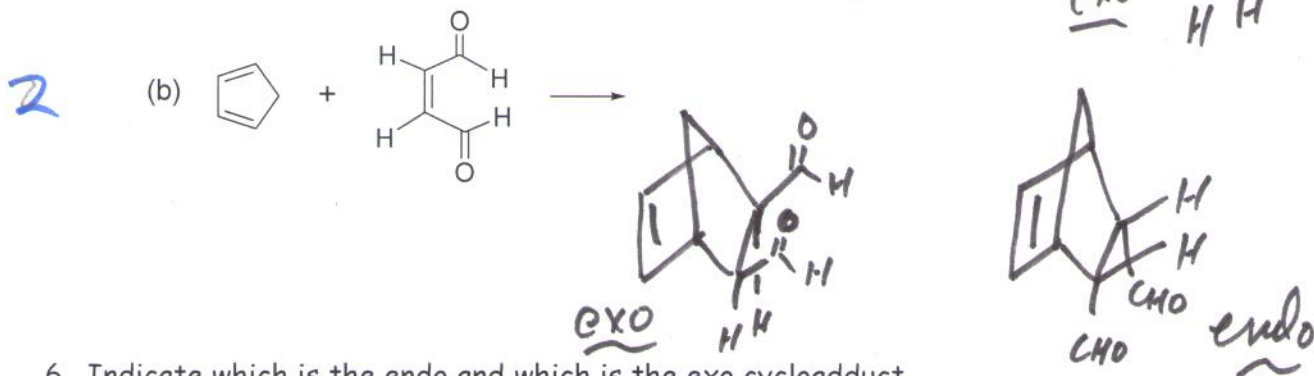
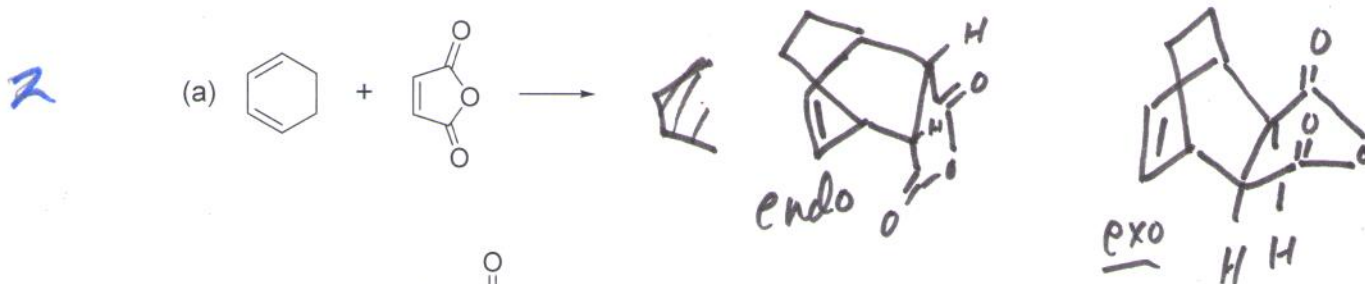


12

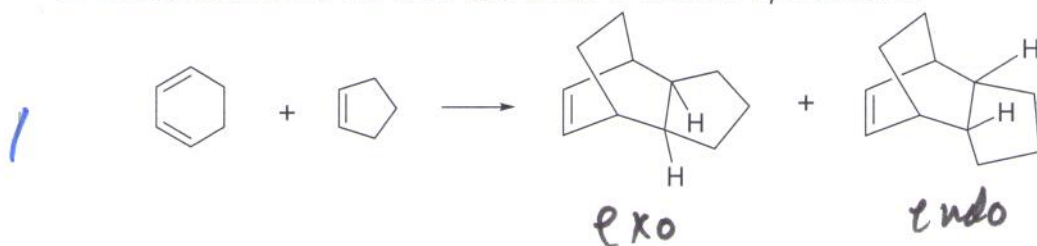
4. Draw the Diels-Alder cycloadduct and indicate stereochemistry in your structure.



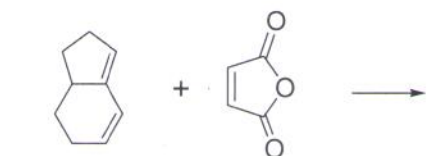
5. Draw both product isomers and indicate which is the endo and which is the exo cycloadduct.



6. Indicate which is the endo and which is the exo cycloadduct.



6. Explain why this Diels-Alder reaction will not work:



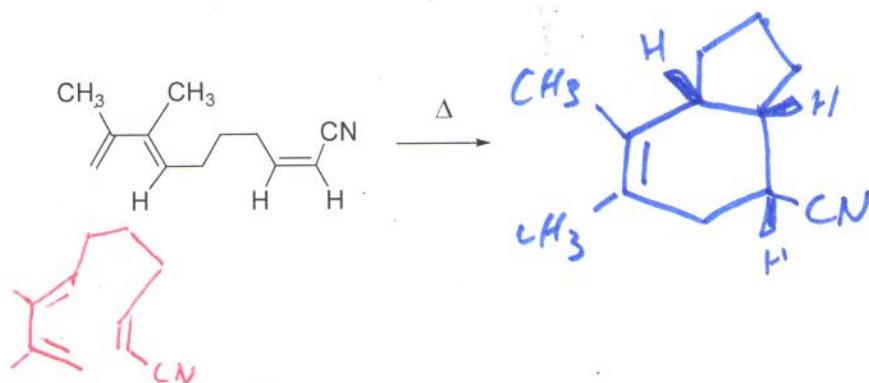
diene must be s-cis conformation

bicyclic ring system prevents this

8

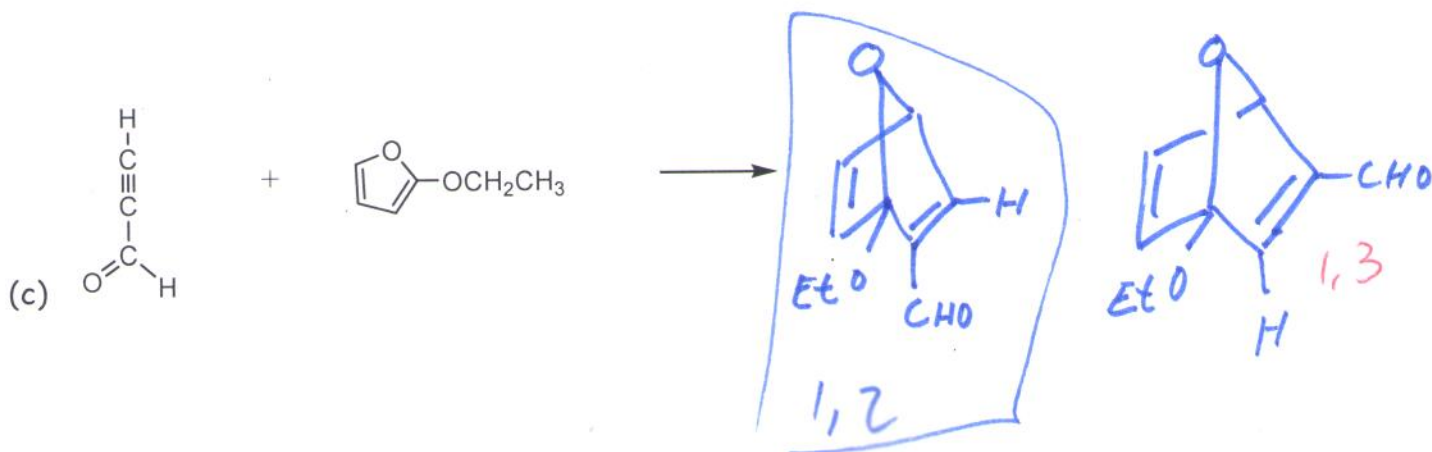
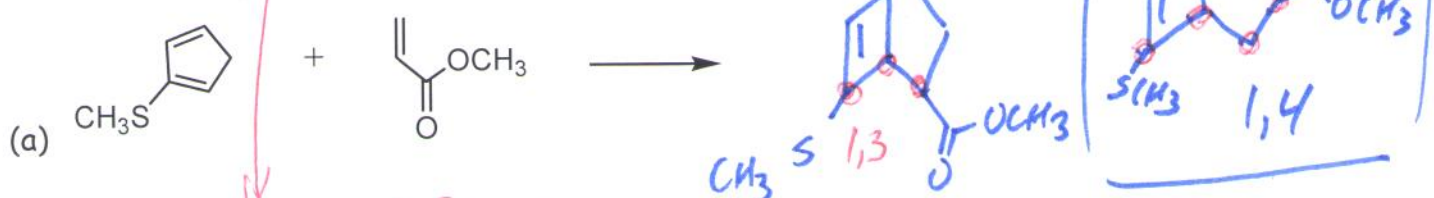
7. Draw the intramolecular DA cycloadduct. You may benefit from using a model for these cyclizations.

2



8. Predict which regio isomers will form using these unsymmetrical reagents:

3



5