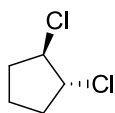


1. Name the following compounds (3 points each, 6 total)



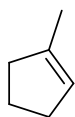
(1*R*,2*R*)-1,2-dichlorocyclopentane

Include cis/trans



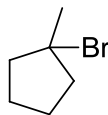
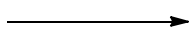
cycloocta-1,3-diene

2. Complete to following addition reaction (3 Points).



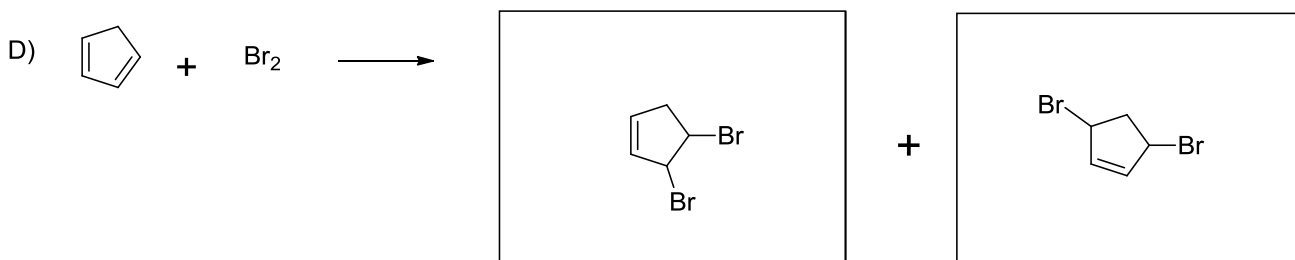
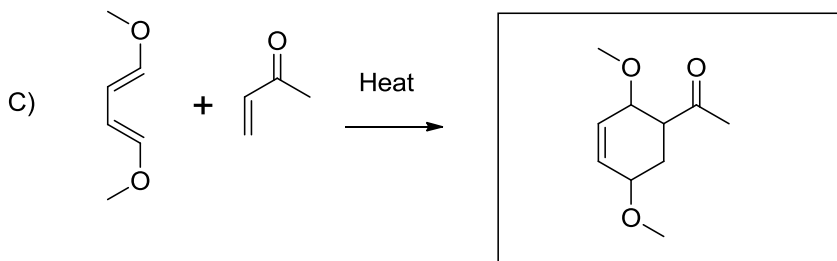
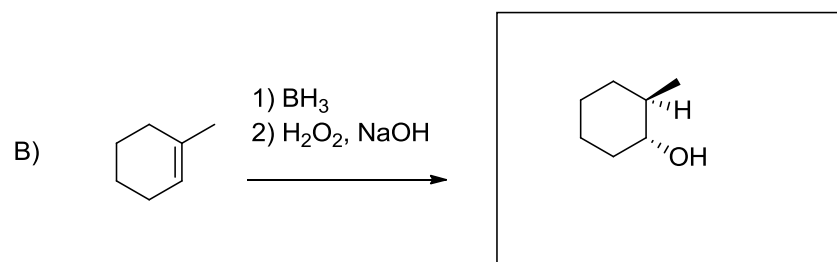
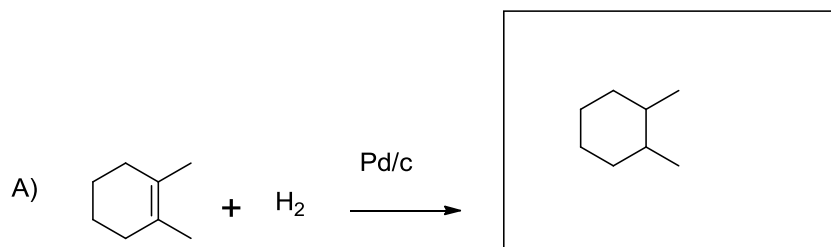
+

H-Br



3. Draw the energy diagram for the above reaction. Include the following; transition states, ΔH , reactants, products, and activation energies assuming an exothermic reaction (6 points).

4. Fill in the products for the following reactions (2 points each, 10 points total).



1,2 addition product

1,4 addition product