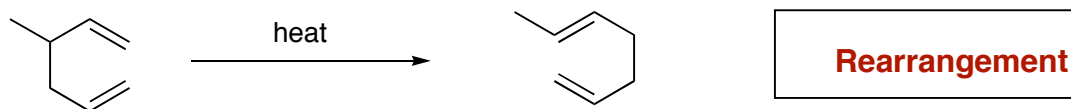
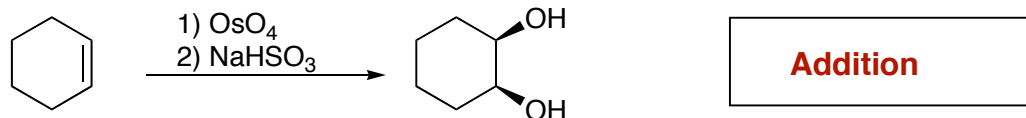
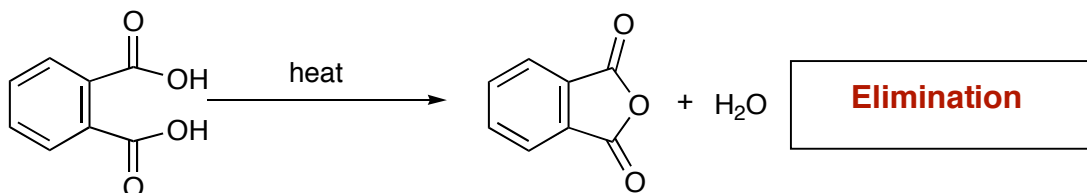
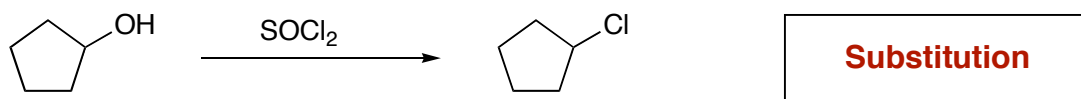
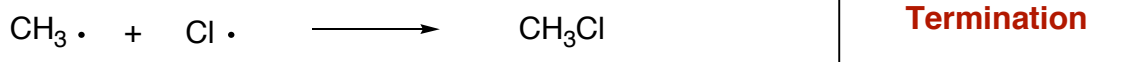
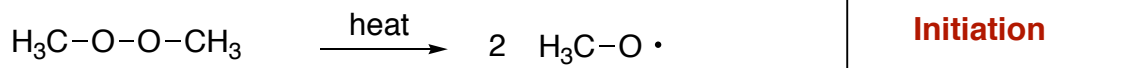
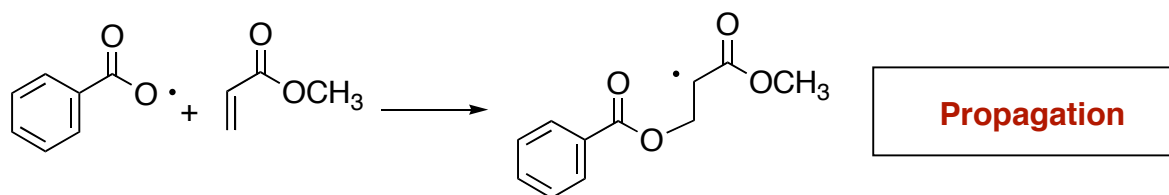


### Additional Practice Problems

1. Classify each reaction below as Addition, Elimination, Substitution or Rearrangement.



2. Indicate what type of free radical step each of the following is; Initiation, Propagation, or Termination.



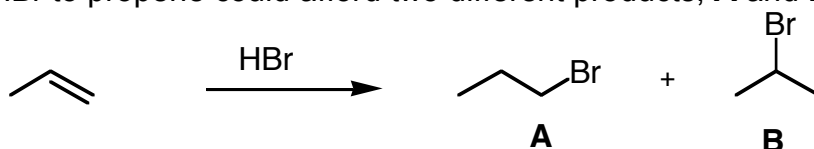
3. The rate of a reaction is determined by . . .

- A) the activation energy of the fastest step
- B) whether the reaction is exothermic or endothermic
- C) the energy of the highest transition state**
- D) how many intermediates are formed

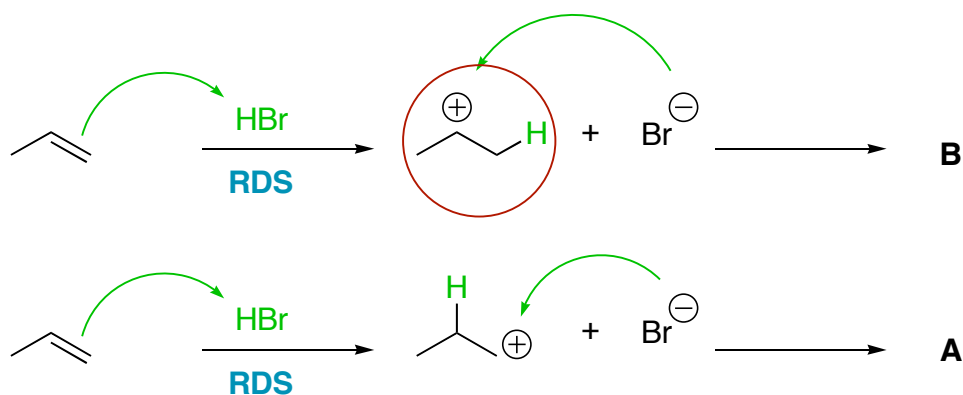
4. Bond Dissociation Energy is a measure of . . . .

- (a) Entropy -  $\Delta S$
- (b) Temperature
- (c) Enthalpy -  $\Delta H$**
- (d)  $K_{eq}$

5. The addition of HBr to propene could afford two different products, **A** and **B**.



(a) Write mechanisms (show electron movements and all intermediates) that shows how both products could be formed. Which step is rate determining? Circle the most stable of the two intermediates.



(b) The reaction diagram below describes this addition reaction. Label the products by putting an **A** or **B** in the appropriate box. (4 points)

