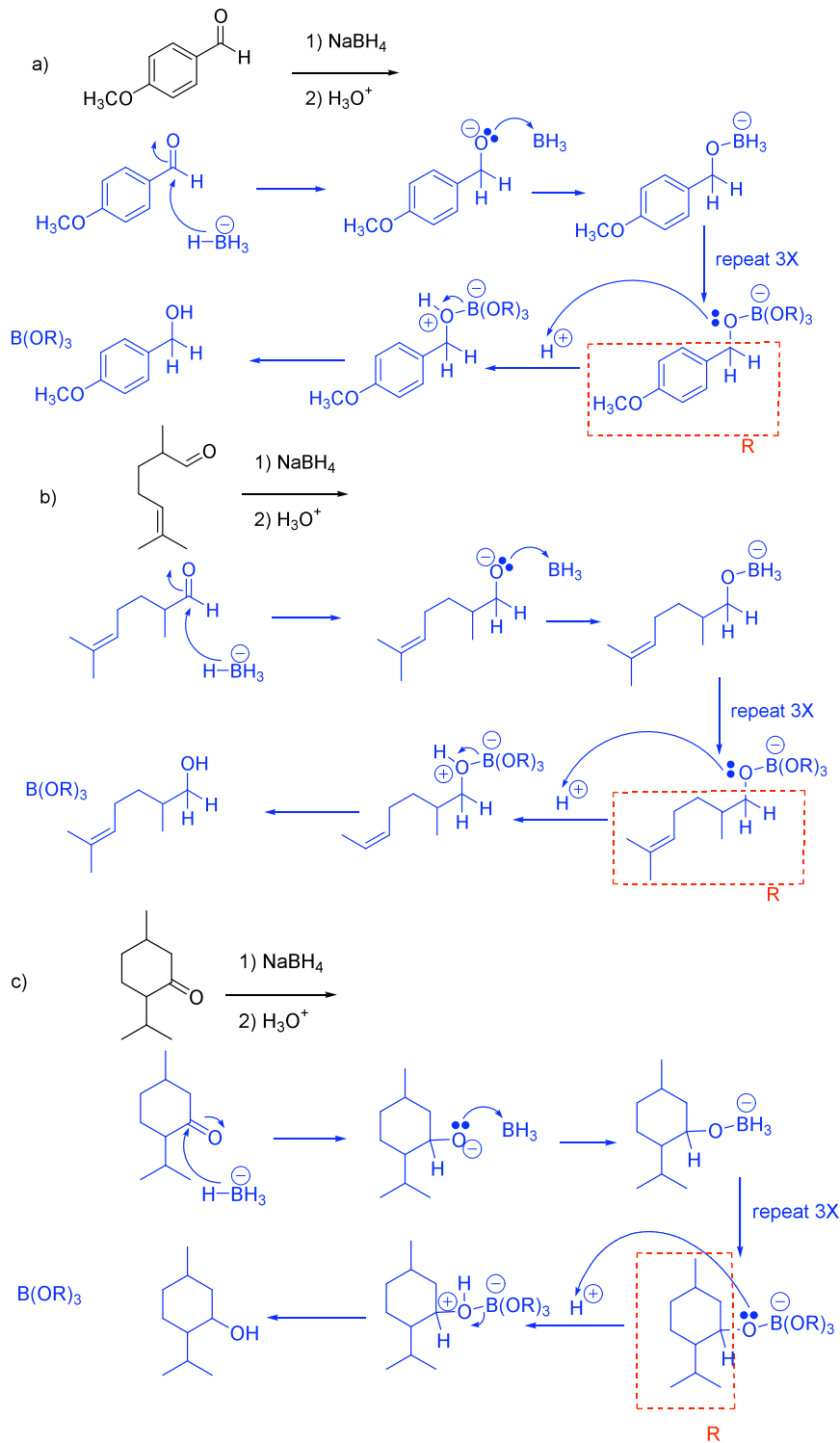
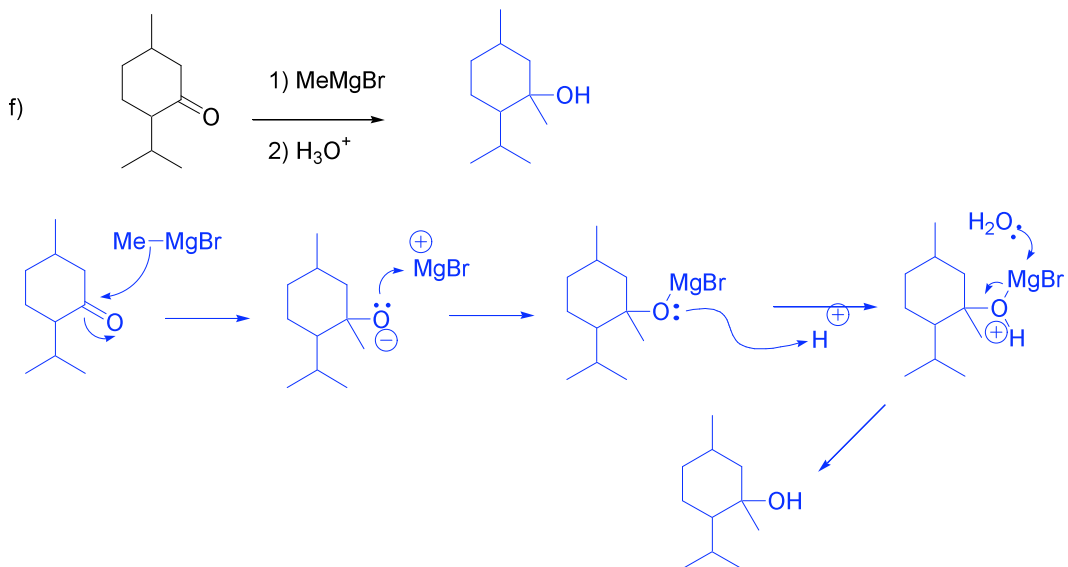
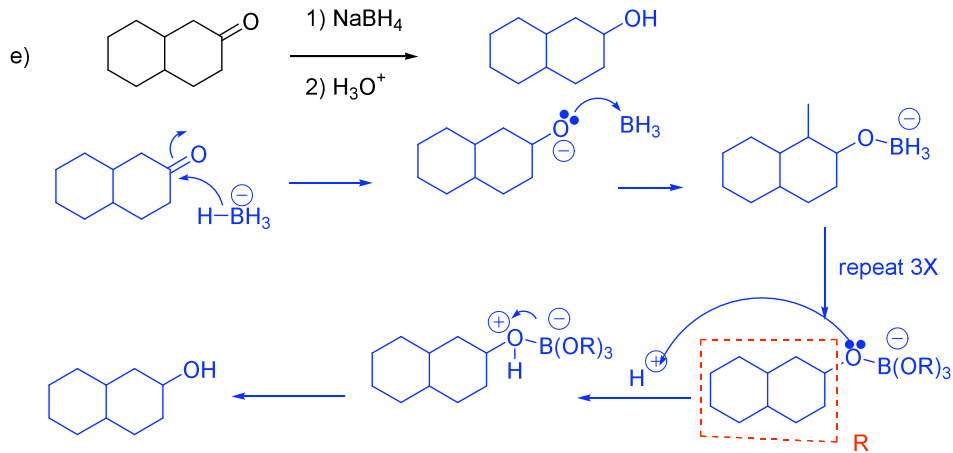
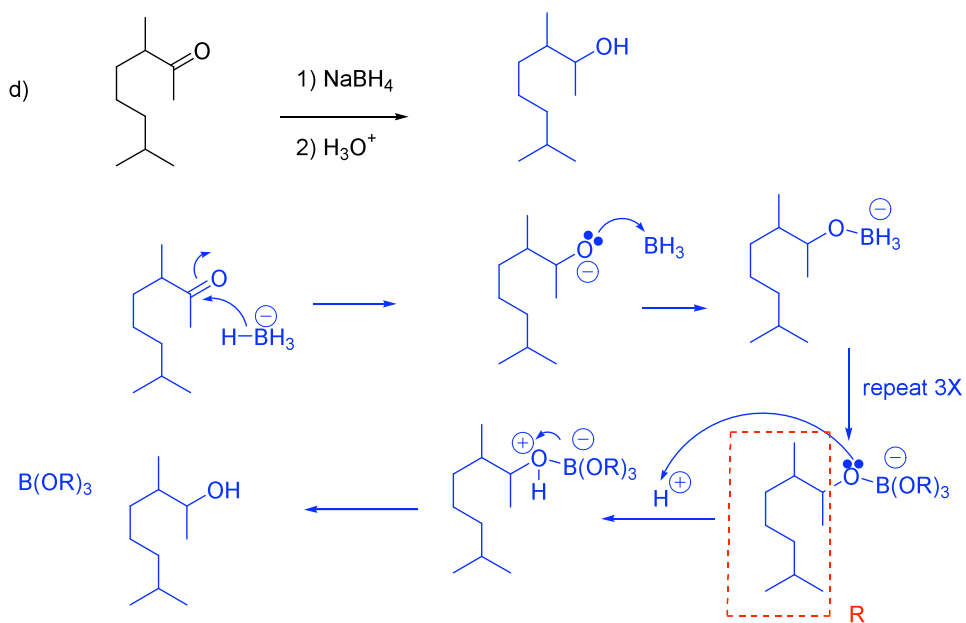
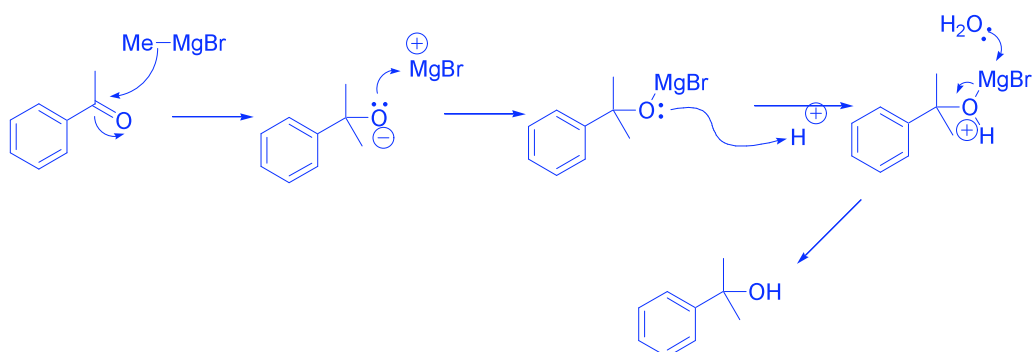
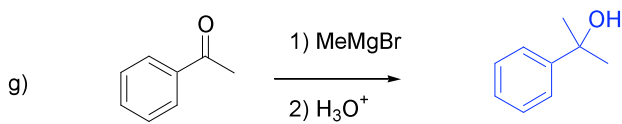


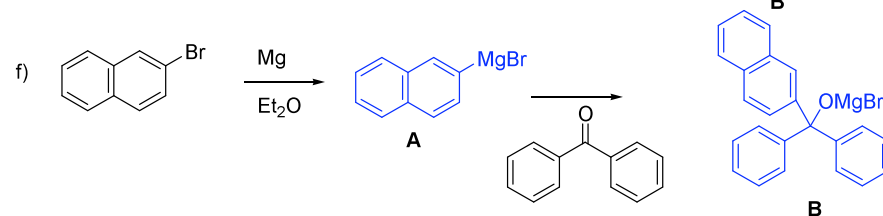
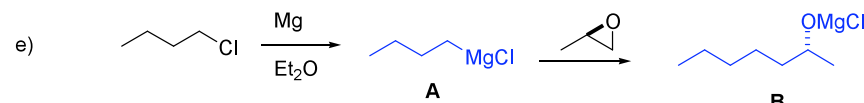
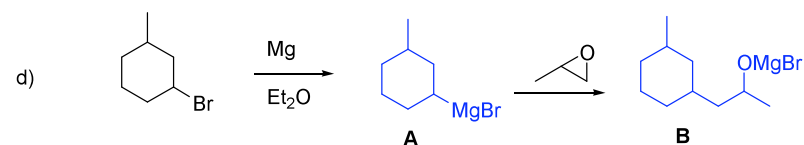
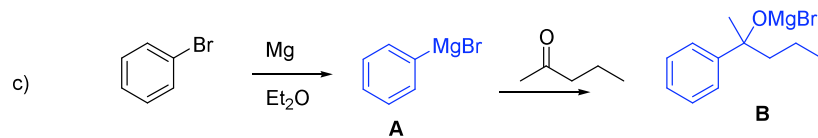
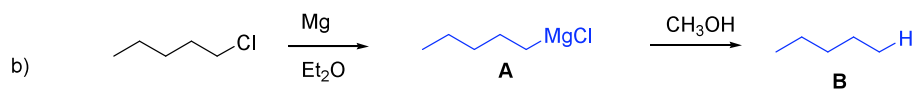
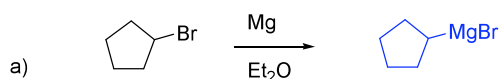
1. Give the products of the following reactions and mechanisms to show how they are formed:



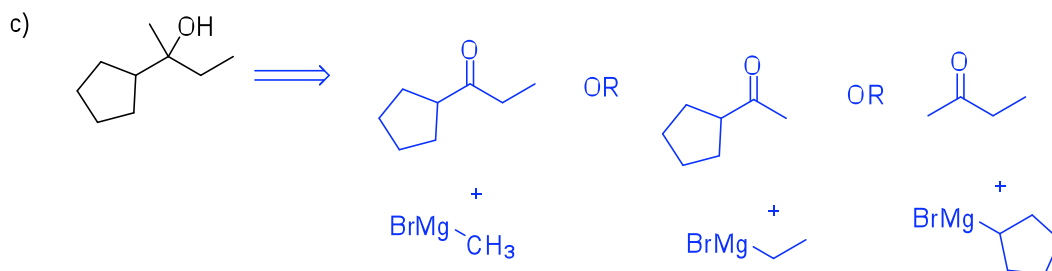
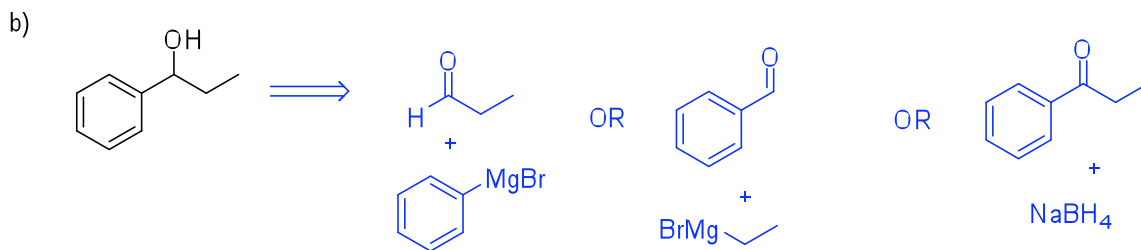
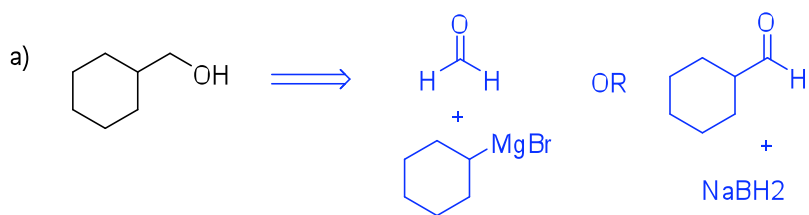




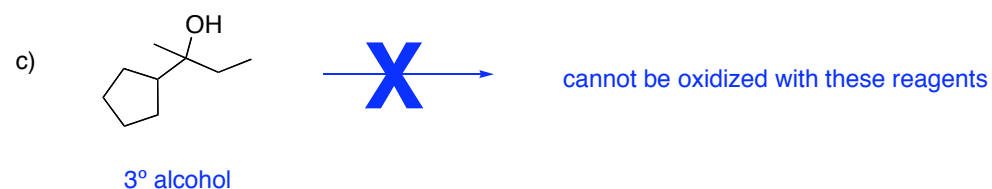
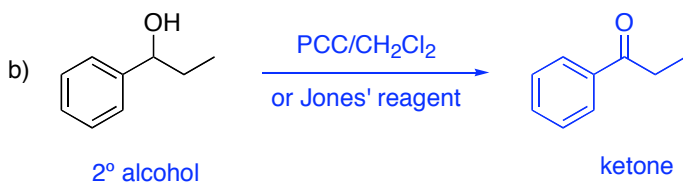
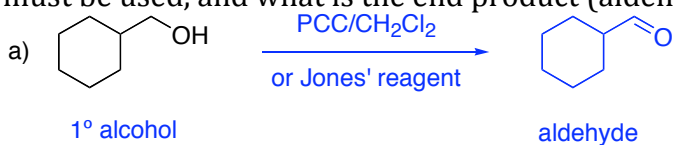
2. Predict the major products of the following reactions.



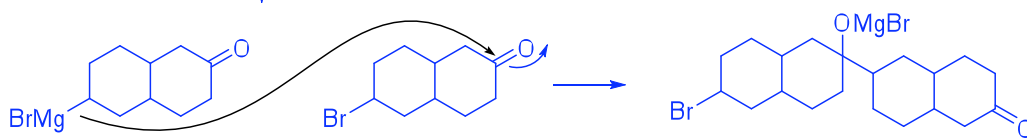
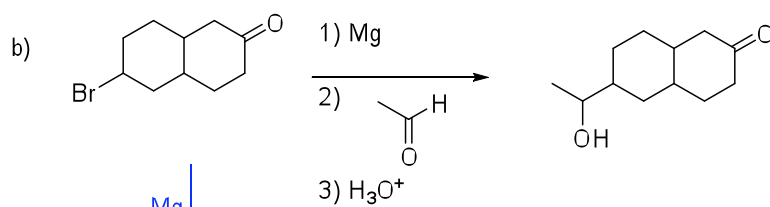
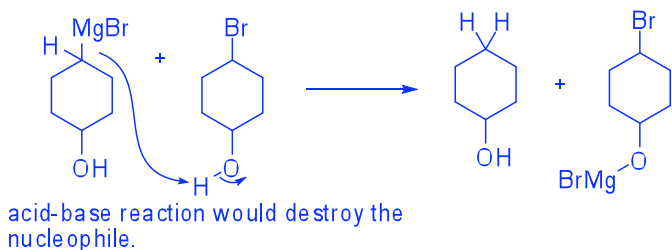
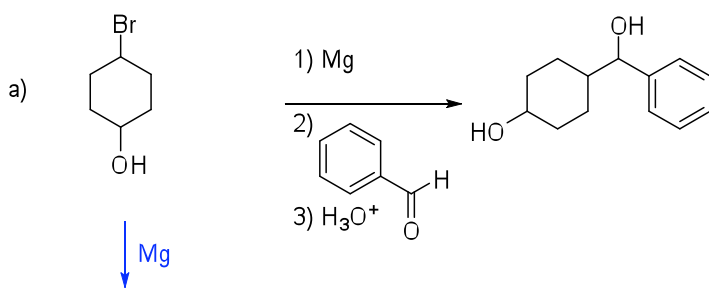
3. Give all the different carbonyl-containing starting materials and the Grignard reagent or reducing reagent that could be used to form each of the following compounds.



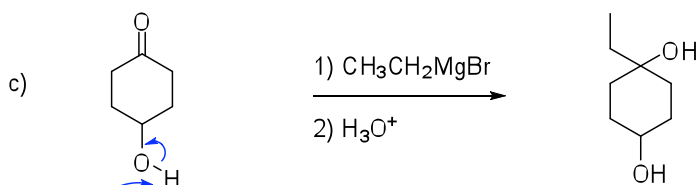
4. Can the alcohols formed in Question #3 be oxidized to carbonyls? If so, which reagent must be used, and what is the end product (aldehyde or ketone)?



5. The following reactions would not work as shown. Explain why (look for a more favorable reaction that would occur instead).



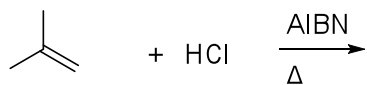
Grignard reagent would react with another molecule of starting material instead of "waiting" to react with the aldehyde



acid/base reaction faster than Grignard reaction

6. Give the major products of the following reactions and mechanisms to show how they are formed:

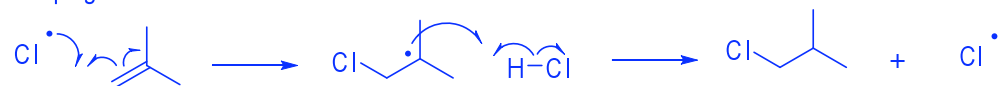
a.



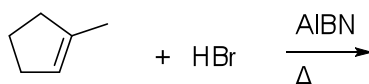
Initiation:



Propagation



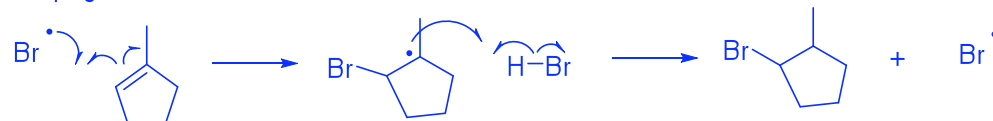
b.



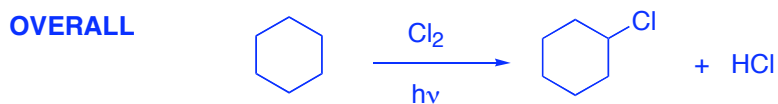
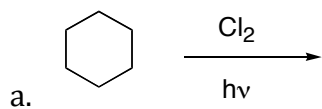
Initiation:



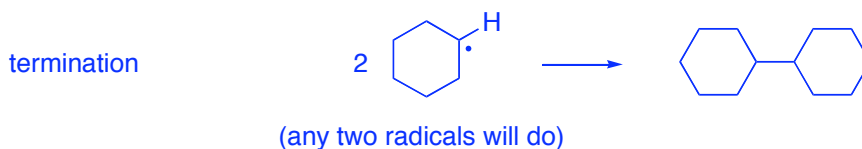
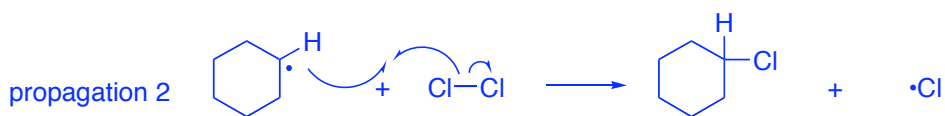
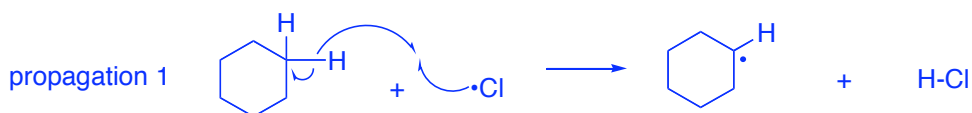
Propagation

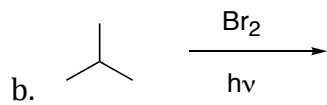


7. Give the major products of the following reactions and mechanisms to show how they are formed:

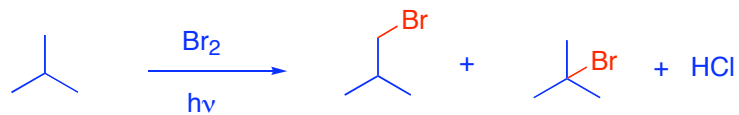


CHAIN REACTION MECHANISM

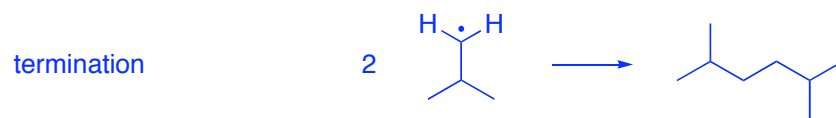
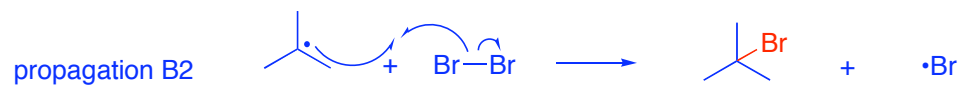
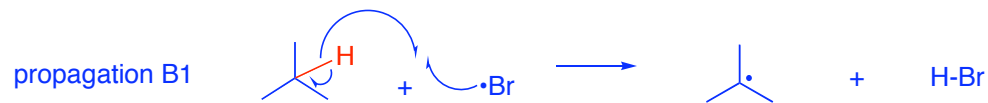
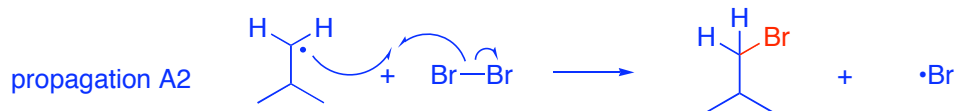
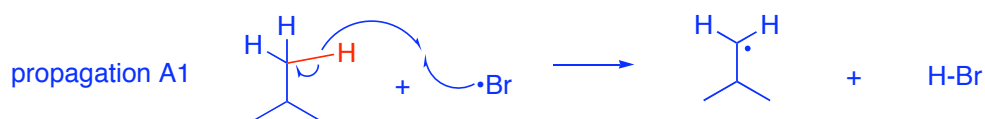




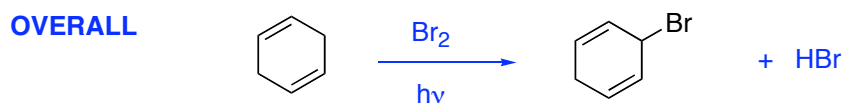
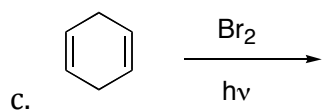
OVERALL



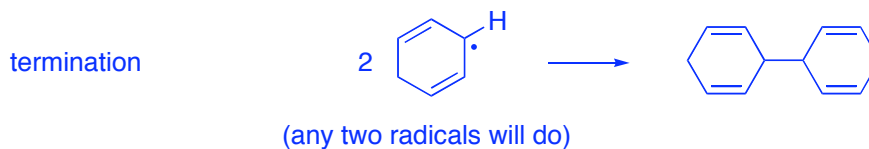
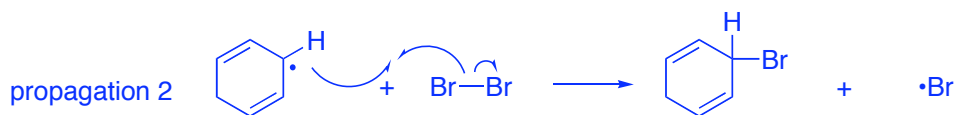
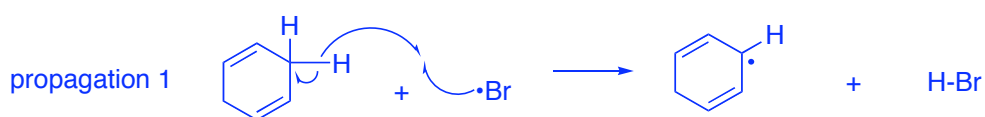
CHAIN REACTION MECHANISM



(any two radicals will do)



CHAIN REACTION MECHANISM



Note: only one product is formed because the carbon-centered radical is resonance-stabilized (in fact, it is doubly allylic)

8. Determine the structures of compounds **A** through **G**.

