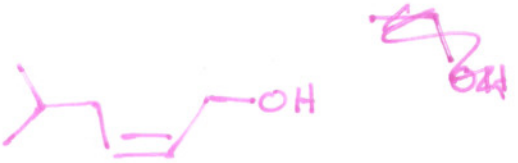
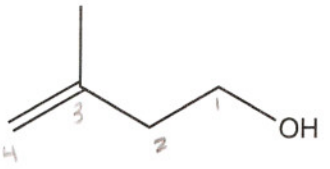
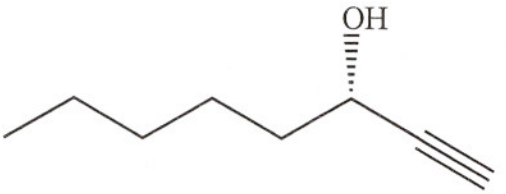
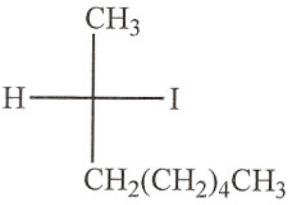
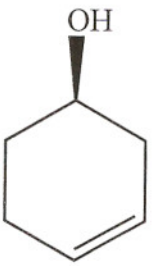
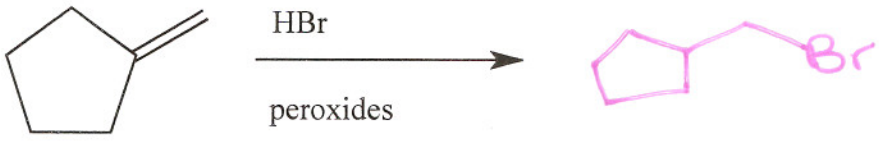
Name Steve Milczanowski

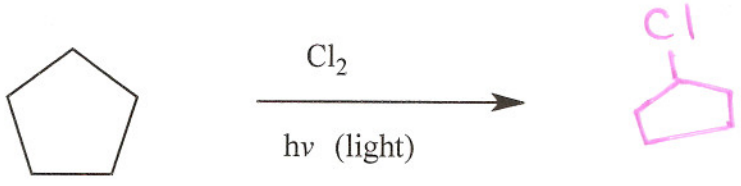
Organic Chemistry I, Test 3, November 5, 2015, Professor Milczanowski

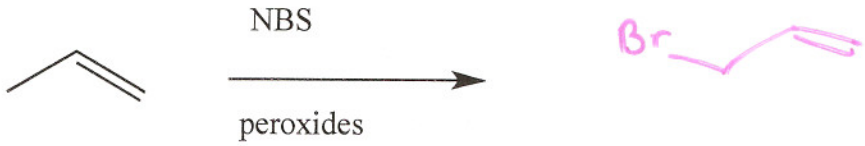
Naming: Please provide the unambiguous name for each of the following structures or provide the structure for the following names. Include stereochemistry where appropriate.

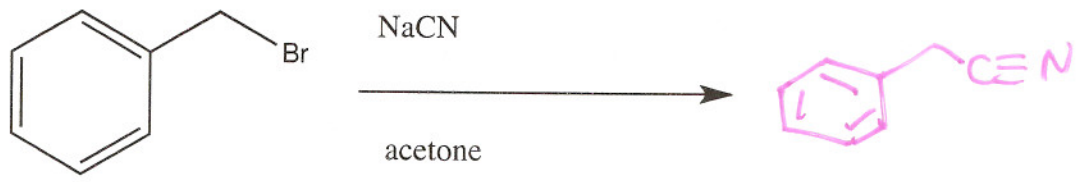
Structure	Name
	(Z)-5-methyl-2-hexen-1-ol
	3-methyl-3-buten-1-ol
 *include stereochemistry*	(S)- 1-octyn-3-ol
 *include stereochemistry*	(S)-2-iodo-octane
 *include stereochemistry*	(R)- 3- cyclohexen-1-ol

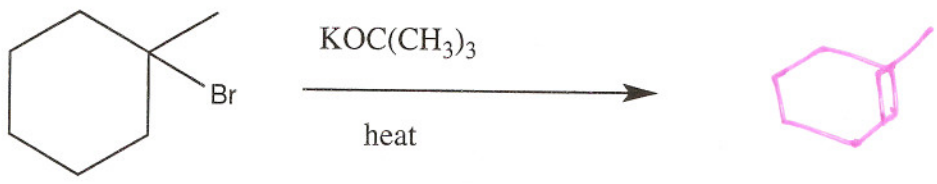
Reactions: Fill in the major product or products. Reactions may have 2 major products.

1. 

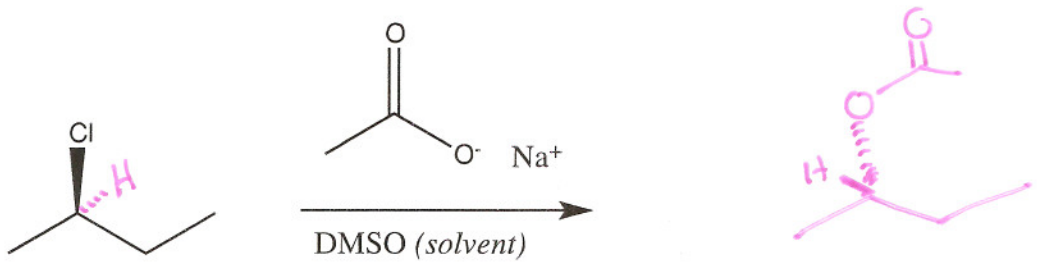
2. 

3. 

4. 

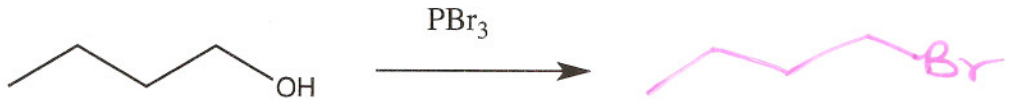
5. 

6. (R)-2-chloro butane

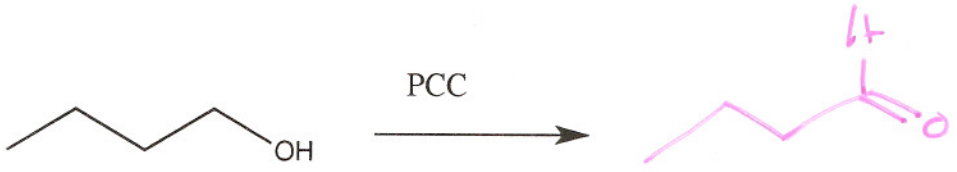


Show stereochemistry of product

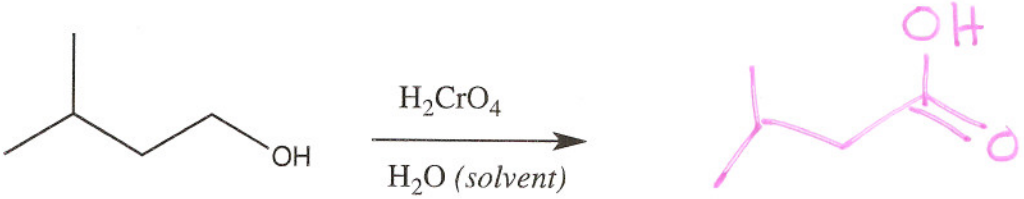
7.



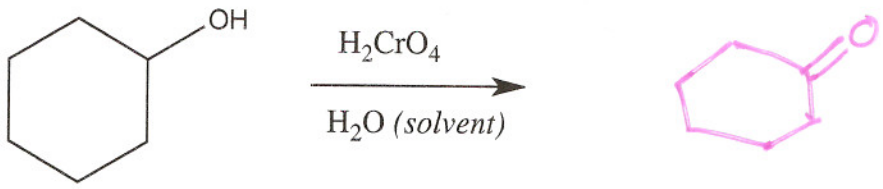
8.



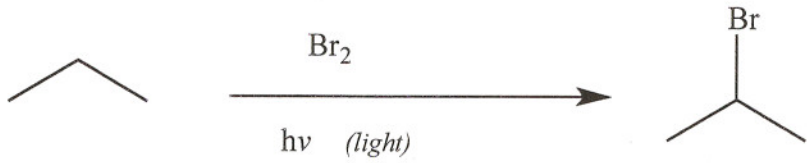
9.



10.

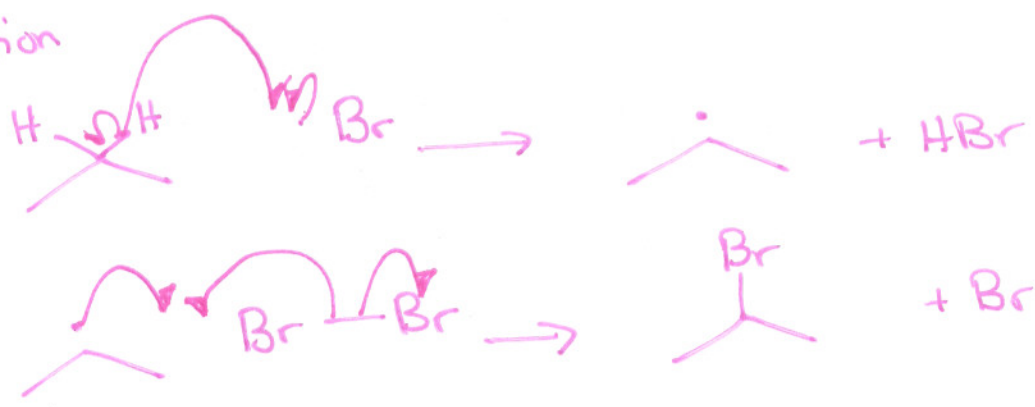


Mechanism 1: The alkyl bromide shown below is formed through a radical mechanism. Show the initiation, propagation and at least 3 termination steps for this reaction. Show all reactive intermediates and use curved arrows to show the movement of electrons.

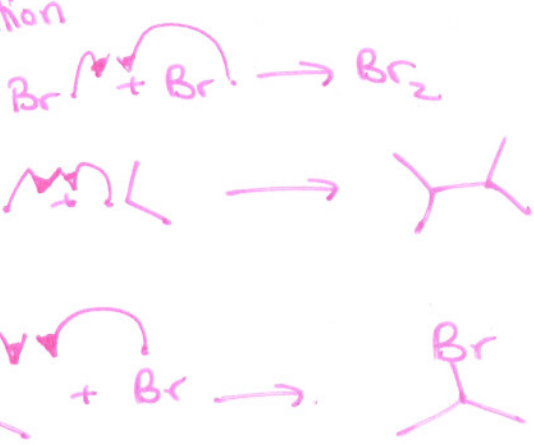


Initiation

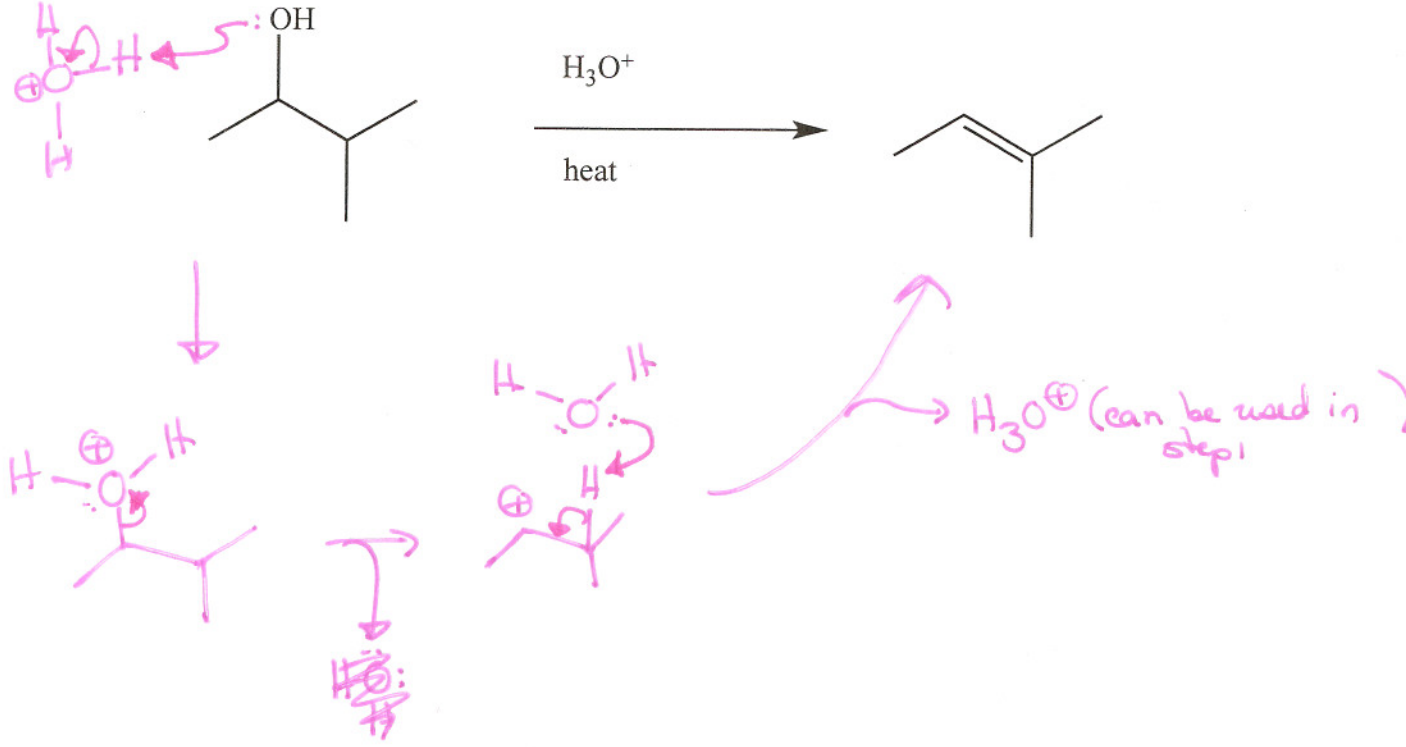
Propagation



Termination



Mechanism 2: The alcohol below can undergo acid catalyzed dehydration through an E1 mechanism. Draw a mechanism to show how the alkene is formed. Show all reactive intermediates and use curved arrows to show the movement of electrons.



Synthesis: Please fill in the necessary reagents for the following transformations