**Exercise 11: Facts and mechanistic details about RX syntheses**

**Organic Chem I Alfred State College**

1. What is a step common to both SN1 and SN2 alkyl halide synthesis mechanisms ?
2. Which mechanism likes aprotic polar solvents ? \_\_\_\_\_\_\_
3. Give an example of a modern halogenation reaction that use a gas phase reagent

 when reacting with alcohols.



1. In the halohydrin addition, which side does the OH add

 to if we start with the compound on the right:

1. what solvent is common to the above reaction and addition of Br2 to form a dibromo compound from alkenes ? \_\_\_\_\_\_\_\_
2. Which mechanism involves a 5-coordinate activated complex ? \_\_\_\_\_\_\_\_\_\_\_
3. Which mechanism inverts the starting alcohol’s `handedness’ ?\_\_\_\_\_\_\_\_\_\_
4. Which reacts faster to from alkyl halides: 1-butanol or 2- butanol ?
5. Give an example of a modern halogenation reaction that is done in solvents
6. Which mechanism is indifferent to the concentration of HX ? \_\_\_\_\_\_
7. What is the order of reactivity of alcohols to HX as function of X ?
8. Which mechanism can produce more than one final halide product ?
9. What is the name of the key intermediate in the SN2 mechanism?
10. What is the term used to describe a scrambling of the initial `handedness’ of a molecule after reaction ? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Which mechanism applies in the halogenation of 1-butanol ?
12. What is the `nucleophilic’ agent in either SN1 or SN2 mechanisms ? \_\_\_\_\_\_\_\_
13. Which reaction below represents a Markovnikoff addition ?

