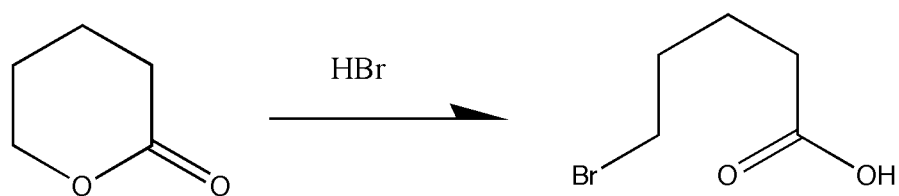
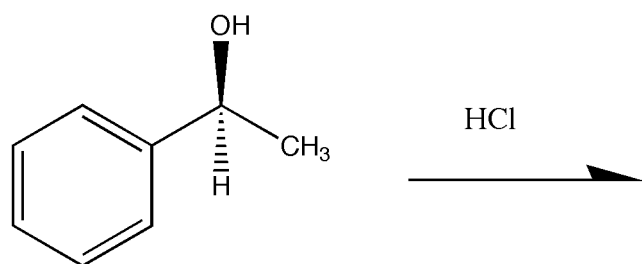


## Exercise 7: Alcohol-related reactions

1. Give the steps in the mechanism:

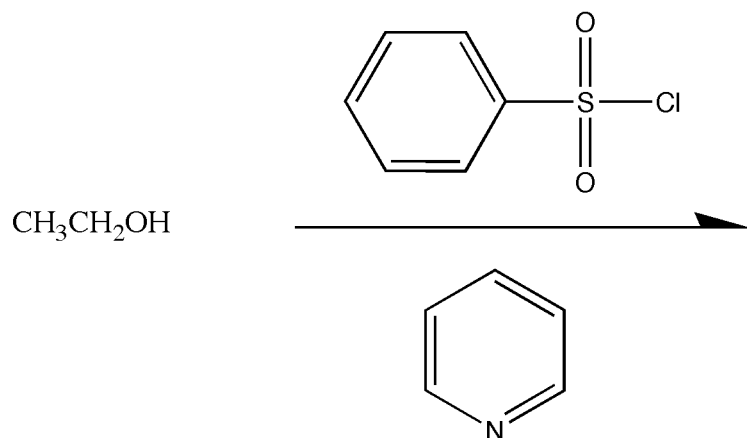


2. Predict the intermediate and then the product.



3. Thionyl chloride (and its analogs benzenesulfonyl chloride and methanesulfonyl chloride) is an excellent reagent for “gently” (that is, without extreme temperature or pH conditions) converting an alcohol into a good leaving group. It is used often in conjunction with a pyridine solvent, which acts as a base.

a. Predict the product:



b. Now that you have a good leaving group on the molecule, what is the result of adding each of the following reagents to the product in part a?

i. NaI

ii.  $\text{RC}\equiv\text{C}^-$

iii. the acetate ion