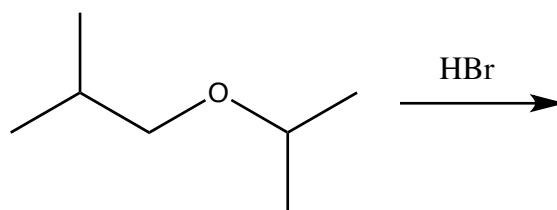
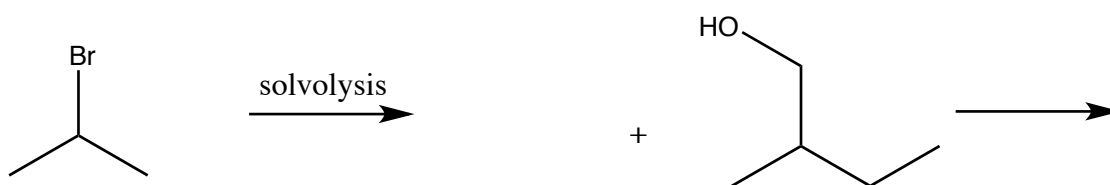
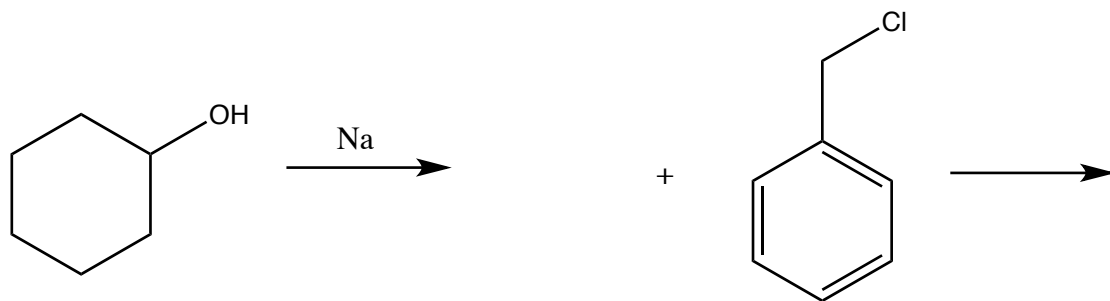
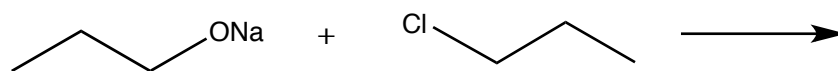


## Alcohol Derivatives #2: Ether Synthesis

Yo, yo, yo. So some of the last few worksheets have been intensely long and in depth. I'm sorry about that: I just want to make sure you guys have plenty of thorough practice to get sick nasty at O Chem. To make it up to you, this worksheet will be MUCH shorter and hopefully less intense. Today, we're making ethers, so let's get it.

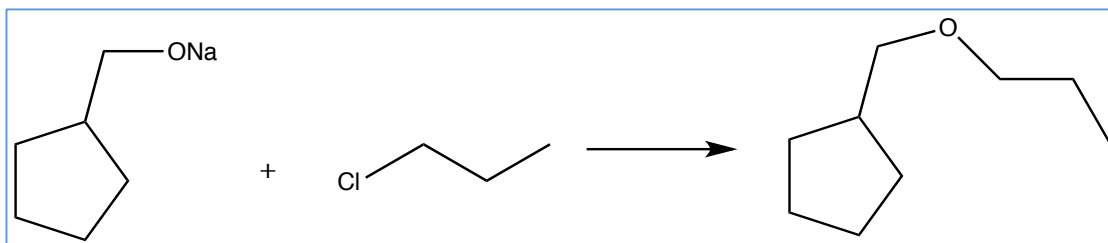
1.) Remember, we can make ethers through an  $S_N2$  pathway, so we need a good nucleophile, good leaving group, and limited steric hindrance. Also, remember we can use an  $S_N1$  pathway by making something into a good leaving group through protonation, and then we can attack (just watch out for shifts!!!).

Complete the Reactions below, you got this:

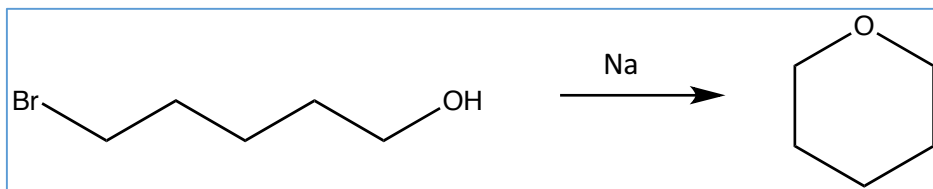


2.) Okay, so that's a little taste of making some ethers in a Completing the Reaction type setting. I have 2 quick mechanisms, and then we'll close the book on ethers and move on to epoxides ☺.

a.) Draw the following curved arrow mechanism for the following reaction:



b.) Draw the following curved arrow mechanism for the following reaction:



**\*\*BONUS QUESTION:** which reaction a.) or b.) is faster/more favorable?