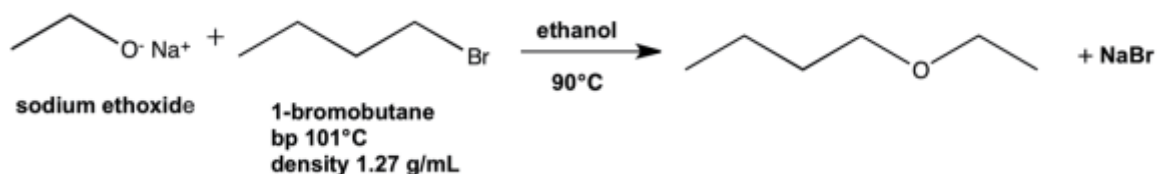


The Williamson ether synthesis that we perform in 343 is shown below:



- The electrophile in the Williamson ether synthesis is:
 bromide ethoxide sodium bromide 1-bromobutane
- The mechanism of this reaction is S_N2 . Why does the reaction not proceed via S_N1 , even in a polar, protic solvent like ethanol?
- The procedure mentions the formation of a solid as the reaction proceeds. What is this solid?
- The first step in the work-up is to add both water and ether to the reaction mixture, transfer to a separatory funnel, and drain off the aqueous layer. Which of the following species should be in the organic layer? (Circle any that apply)
 sodium ion bromide ethanol residual 1-bromobutane
 residual ethoxide ion the product

