Quiz 7

Section\_\_\_\_\_

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

1. The electrophile in the Williamson ether synthesis is:

bromide

ethoxide

sodium bromide

1-bromobutane

- 2. The mechanism of this reaction is  $S_N$ 2. Why does the reaction not proceed via  $S_N$ 1, even in a polar, protic solvent like ethanol?
- 3. The procedure mentions the formation of a solid as the reaction proceeds. What is this solid?
- 4. 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

e ethanol

residual 1-bromobutane

residual ethoxide ion

the product

5.	We are using reflux during this reaction. Tell me why.
6.	If you use 21.1 mL of the prepared 21% sodium ethoxide solution (by weight; density is 0.868 g/mL) in ethanol, how many mmol are you using in the reaction? (MW=68.04 g/mol)