Week 5 Worksheet

1. The following reaction sequence is a viable way to synthesize the target shown.

\[ \text{Br-CH}_2\text{-OH} \xrightarrow{\text{H}^+} \text{Br-CH}_2\text{-O-} \xrightarrow{\equiv \text{Na}} \]

\[ \equiv\text{CH-CH}_2\text{-O-} \xrightarrow{\text{H}^+} \equiv\text{CH-CH}_2\text{-OH} \]

a. Why was a t-butyl group added as a protection and then removed later in the synthesis?

b. Show the mechanism for the deprotection step above
2. The Williamson ether synthesis could be used to make the molecule shown below. The ether can be disconnected at either of two bonds. Describe why one disconnection is preferred over the other.