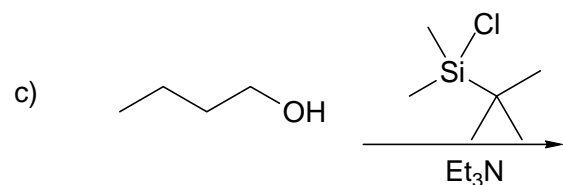
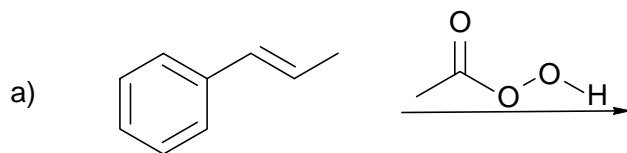
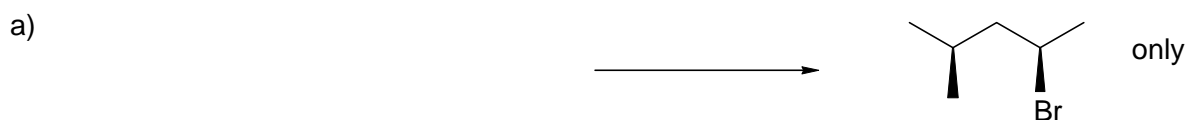


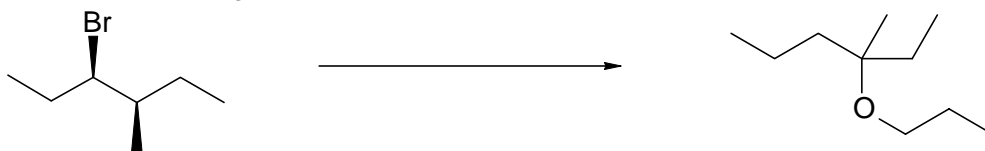
- 3** 1. Give the major product(s) of the following reactions showing stereochemistry in 3-dimensions where necessary and including all stereoisomers.



- 3** 2. Give starting materials and reagents over the arrow for the following reactions. Number the reagents if they cannot be mixed.



- 2** 3. Show how you would accomplish the following synthesis. Include all isolated intermediate compounds and reagents over the arrows.



- 2** 4. Give the mechanism of the following reaction. Show all intermediates and electron-pushing arrows.

