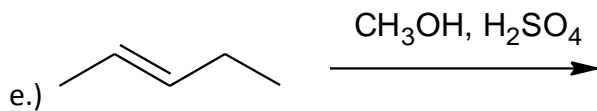
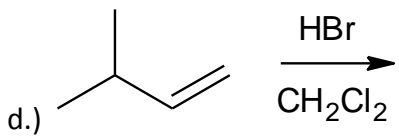
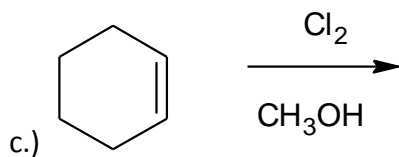
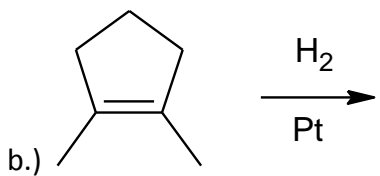
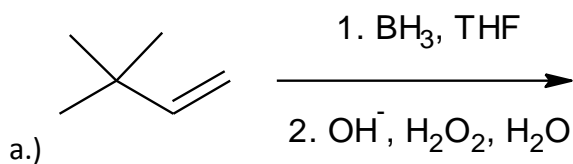
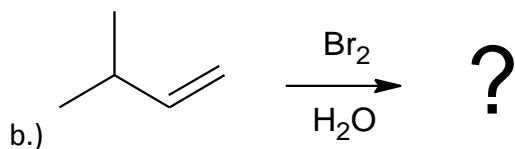
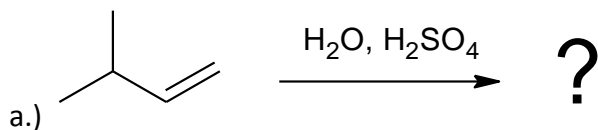


ChemV12A, Organic Chemistry I

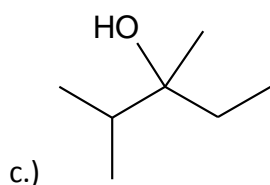
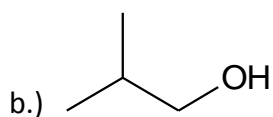
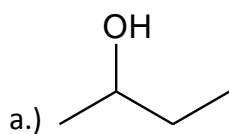
1.) Give the **major** product from each of the following reactions. If there is more than one likely isomer, draw **both**. Show stereochemistry (i.e., wedges and dashes) where applicable.



2.) Draw the arrow-pushing mechanisms for the following reactions. Show all formal charges, lone pairs, and compounds made or formed. (40 pts, 20 pts ea)

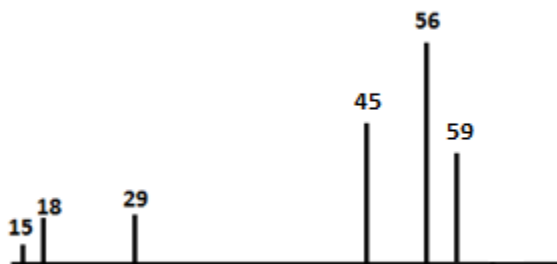


3.) Give ONE possible alkene and the reagents and conditions required to synthesize the following products. (27 pts)



4.) Identify the functional groups and fragments causing **all labeled** peaks from the following IR and MS data and determine the **most likely** structure(s). (50 pts, 25 pts ea)

- a.) IR Bands: 3400 cm^{-1} (strong)
 2900 cm^{-1} (strong)
 MS: molecular ion is 74 amu



- b.) IR Bands: 2900 cm^{-1} (strong)
 1700 cm^{-1} (strong)
 MS: molecular ion is 86 amu

