

3. Show the mechanism of cleavage for t-butyl cyclohexyl ether with hydrobromic acid. Explain the general type of mechanism that forms the 3° alkyl halide. (1 pt)

4. Show the mechanism of cleavage for t-butyl cyclohexyl ether with trifluoroacetic acid. Explain the general type of mechanism that forms the alkene. (1 pt)

5. Show how to convert cyclohexene into a halohydrin, and the halohydrin into an epoxide. Show all intermediates structures, including the curved arrows. Explain how the last reaction works by S_N2 . (2 pts)
6. Show how H_3O^+ and H_2O can convert epoxycyclohexane into 1,2-cyclohexanediol. Indicate the stereochemistry of the product, and explain whether the mechanism is more like either S_N1 or S_N2 . (2 pts)