CHM 2211 - Ch 18 Homework

1. Show a synthesis, with the complete mechanism, which will convert phenol into anisole (methoxybenzene). Include all lone pairs and curved arrows in your mechanism. Explain the general type of mechanism and how it works. (2 pts)

2. Show how to convert propene and phenol into isopropyl phenyl ether. Refer to the alkoymercuration diagram from the class notes and include all reaction intermediates. (2 pts)

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 $S_N 2$. (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)