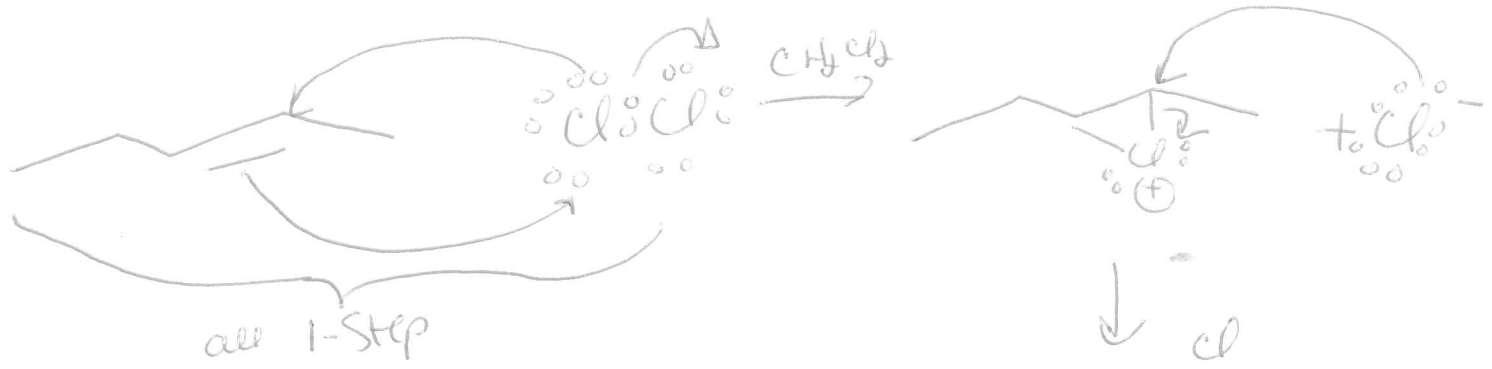
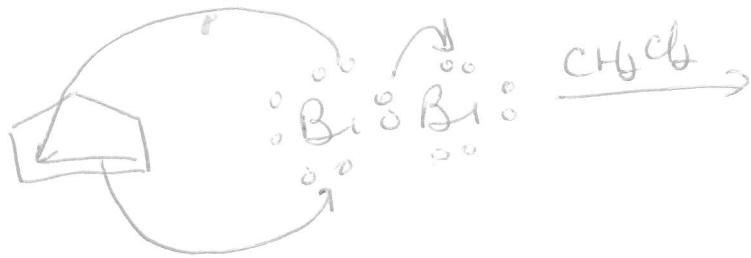


Group 1: Halogenation



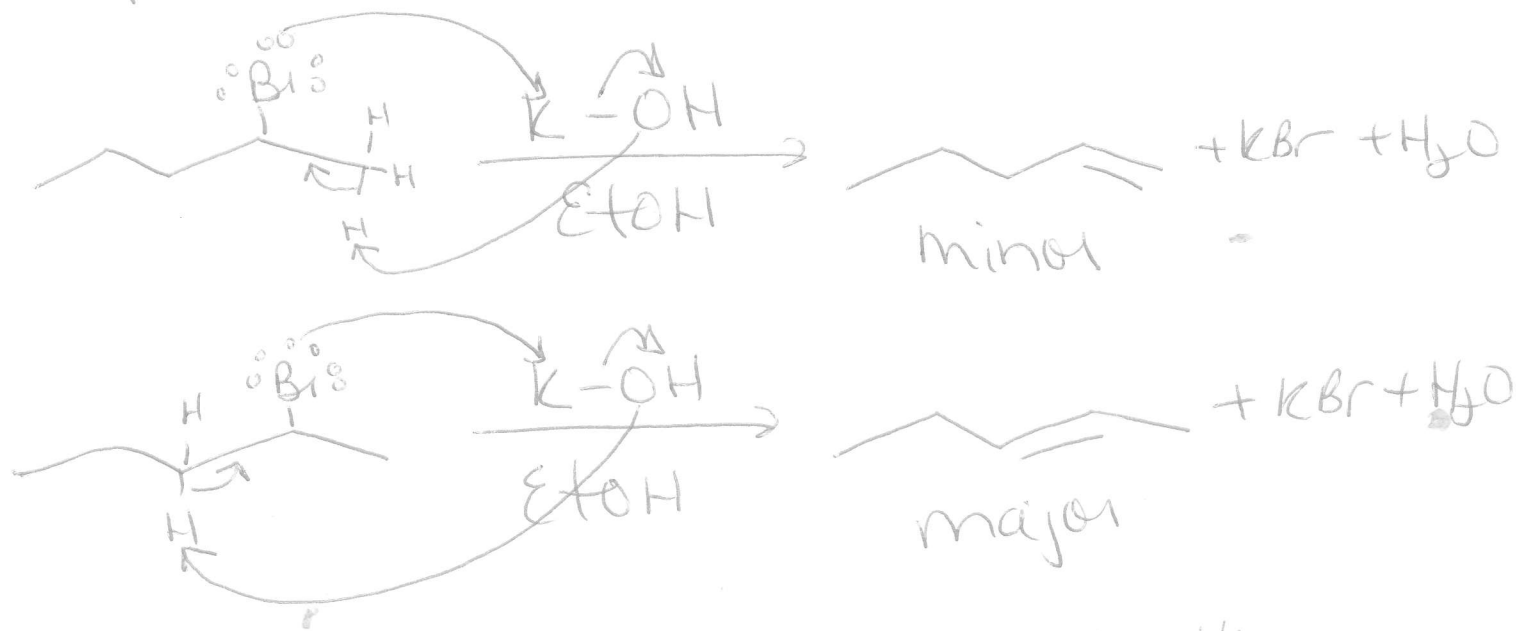
Regioselective in that it will always be anti-addition



Regioselective in that always anti-addition, if cyclic, always trans product.

Anti-addition Due to Bromonium/Chloronium ion intermediates. Causes steric hindrance so Br^-/Cl^- must attack from opposite side.

Group 2: Dehydrohalogenation



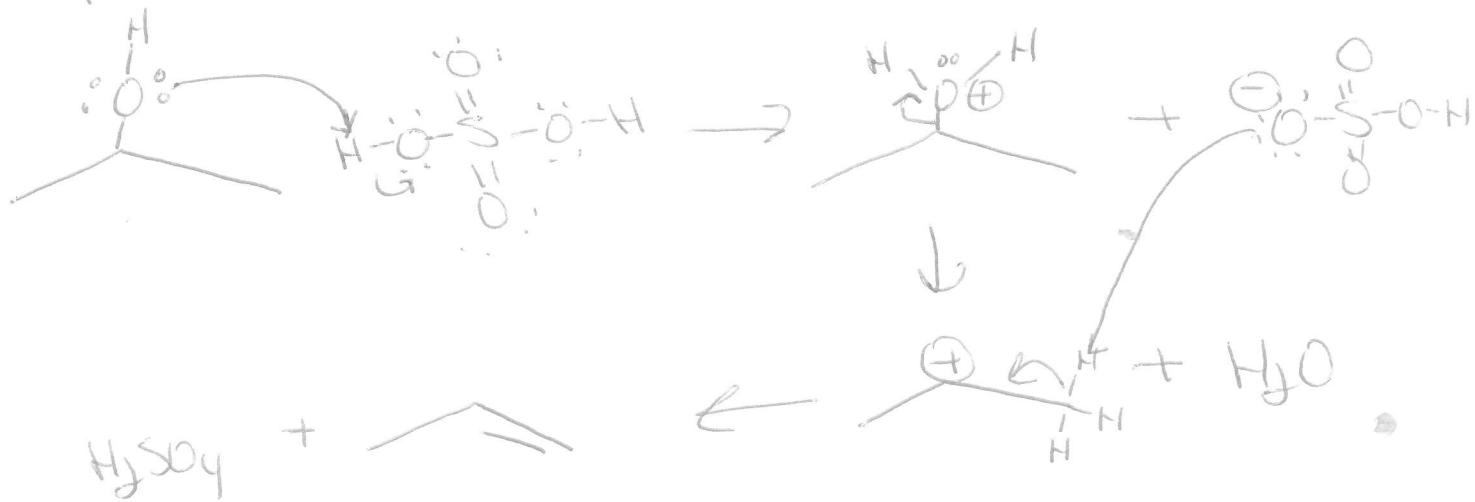
regioselective due to stability of alkene products, based on hyperconjugation.

The major prod. has more electron rich adjacent σ bonds to donate electron density to the π^* p orbitals of the =

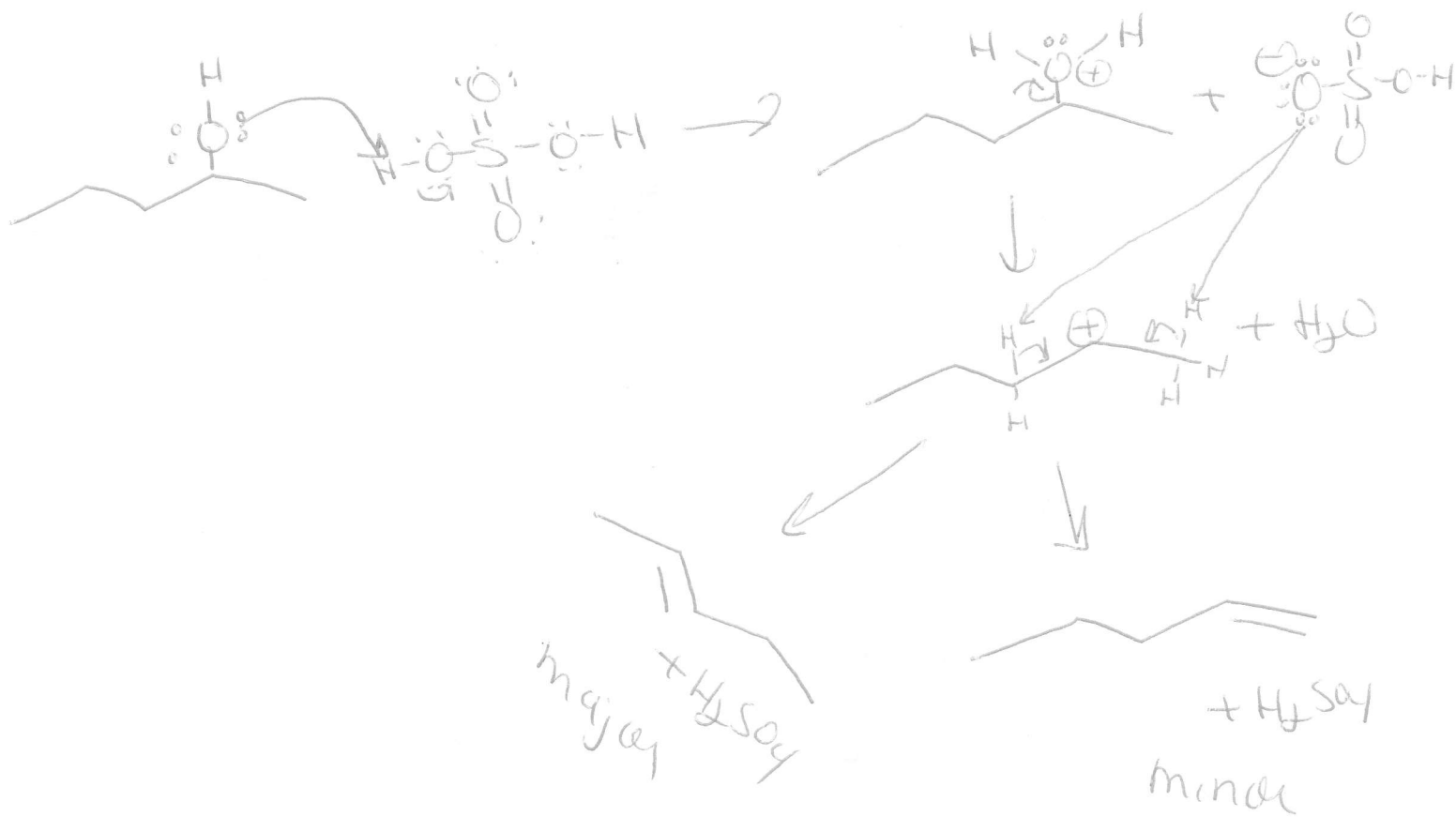


not regioselective due to symmetry of bromocyclohexane, rxn could be regio. if you have a major + minor product. (See 1st example)

group 3:

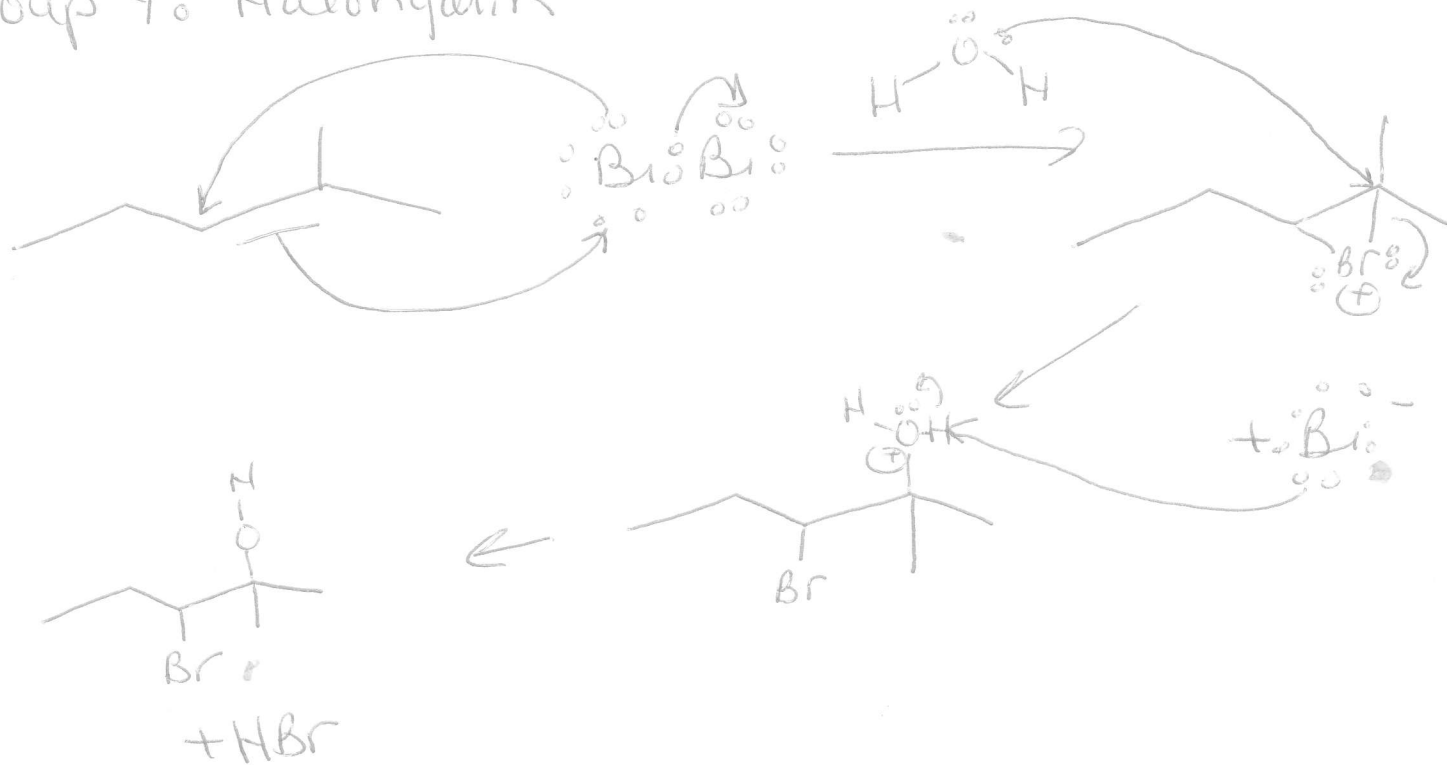


1 product, not regio, due to Symmetry.

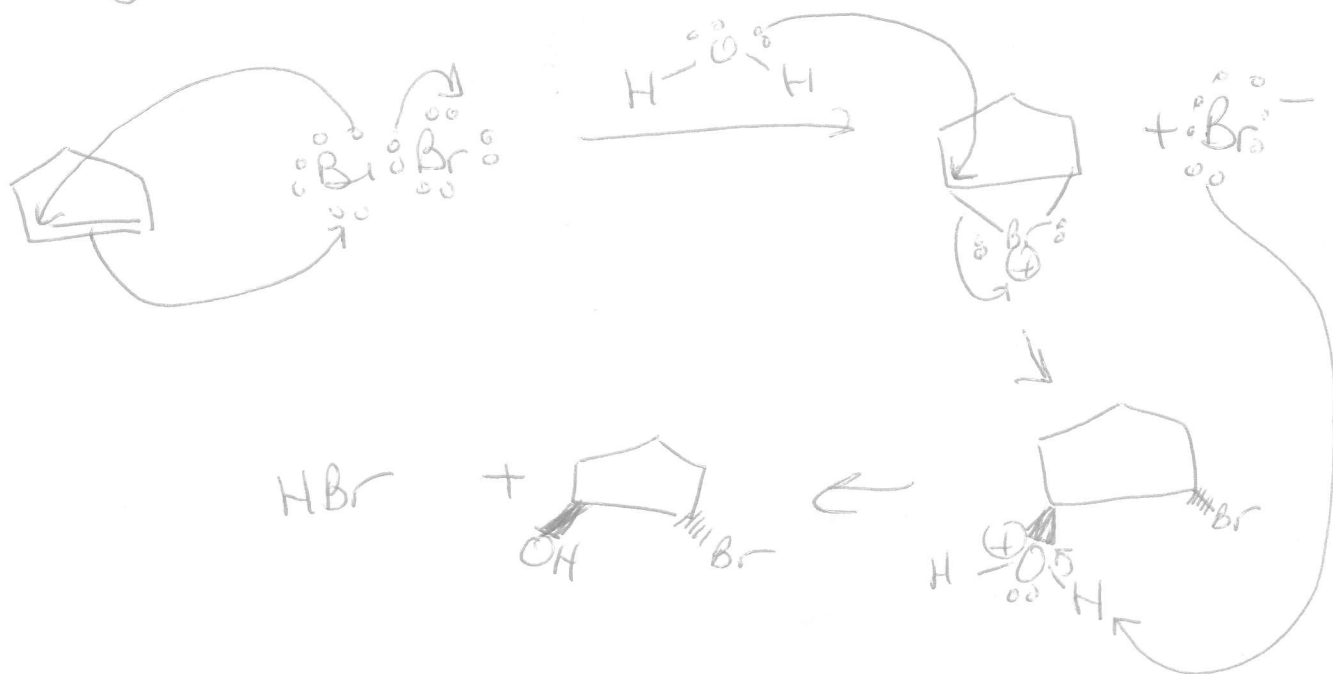


regio. due to stability of 2-pentene over 1-pentene,
 Hyperconjug.

group 4: Halohydrin

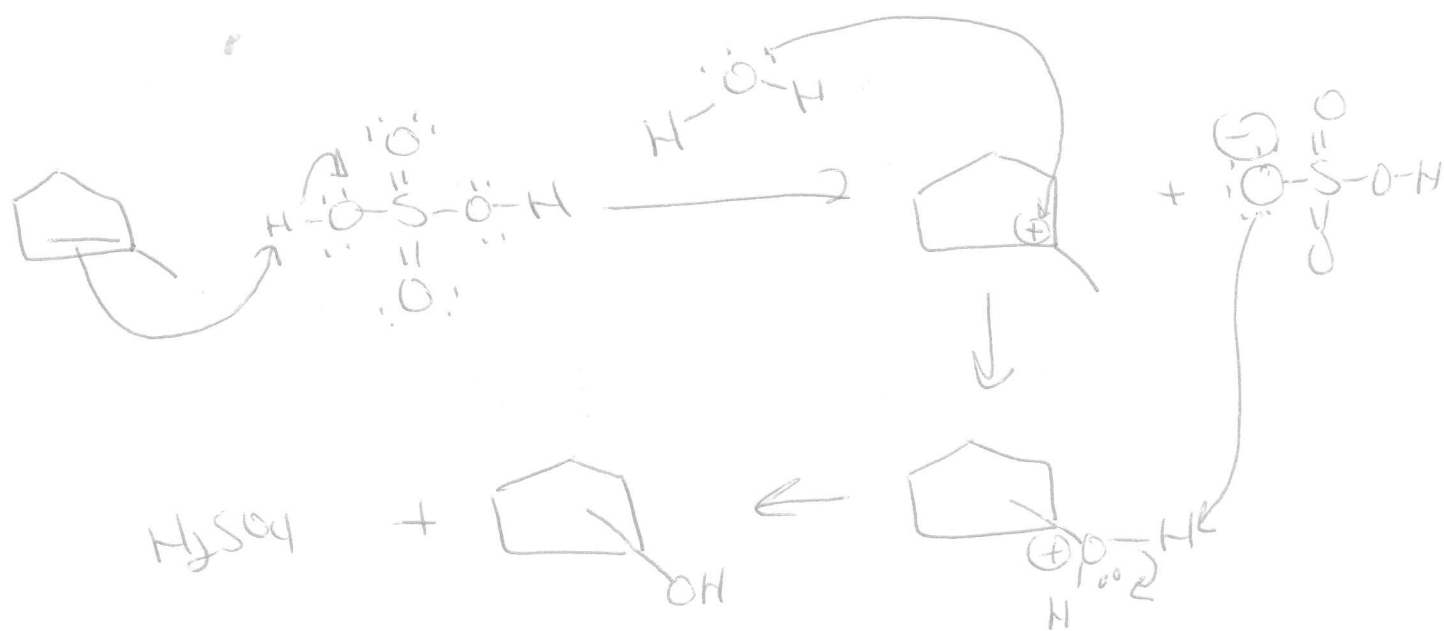
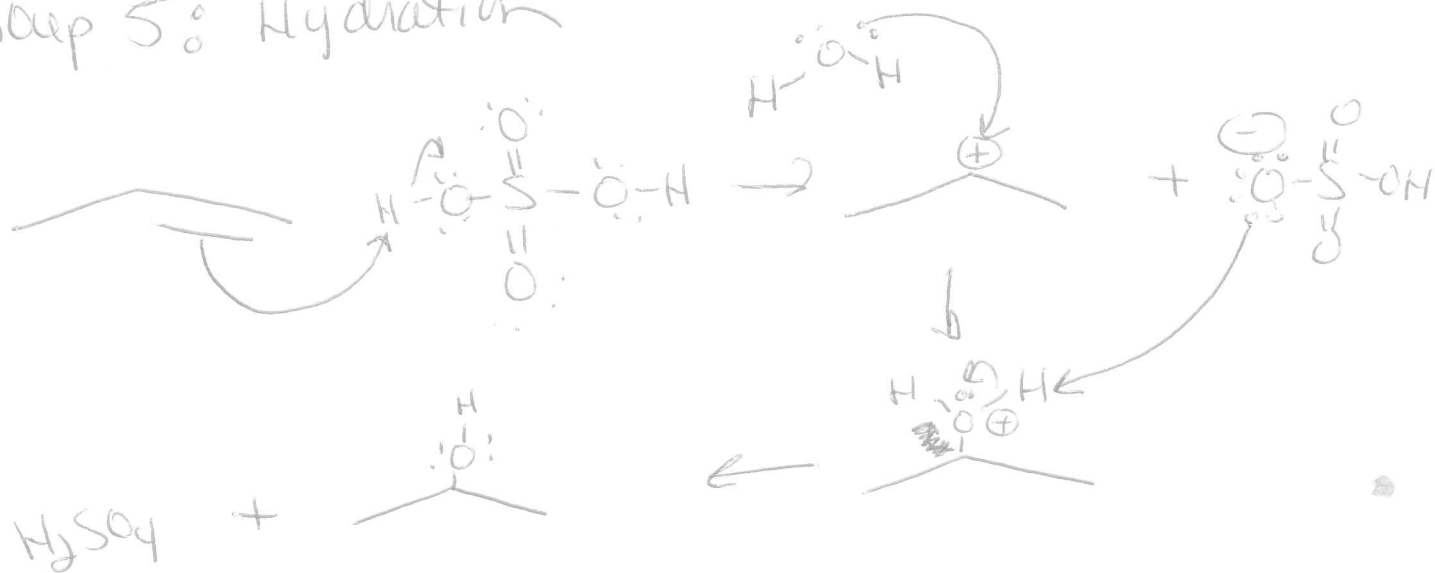


Regio, markov. anti-addition



Regio in that always anti addition
cyclo products will always be trans

group 5: Hydration



regio, need to have most stable carbocation intermediates
 markov! H goes to C w/ more H to form most stable intermediate