

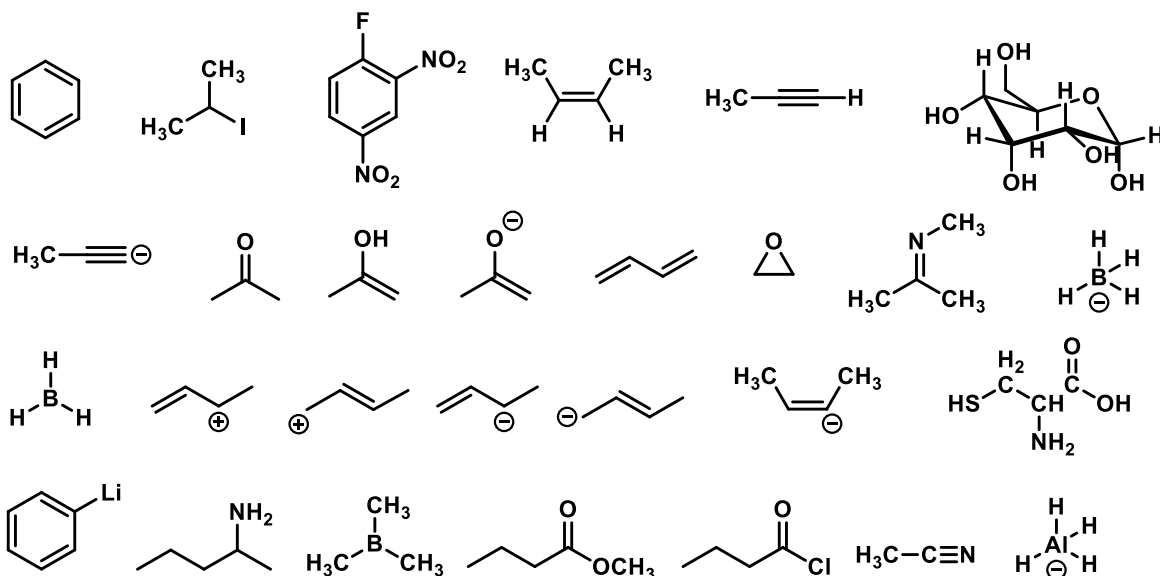
Extra problems

1) a) Nucleophile or electrophile?

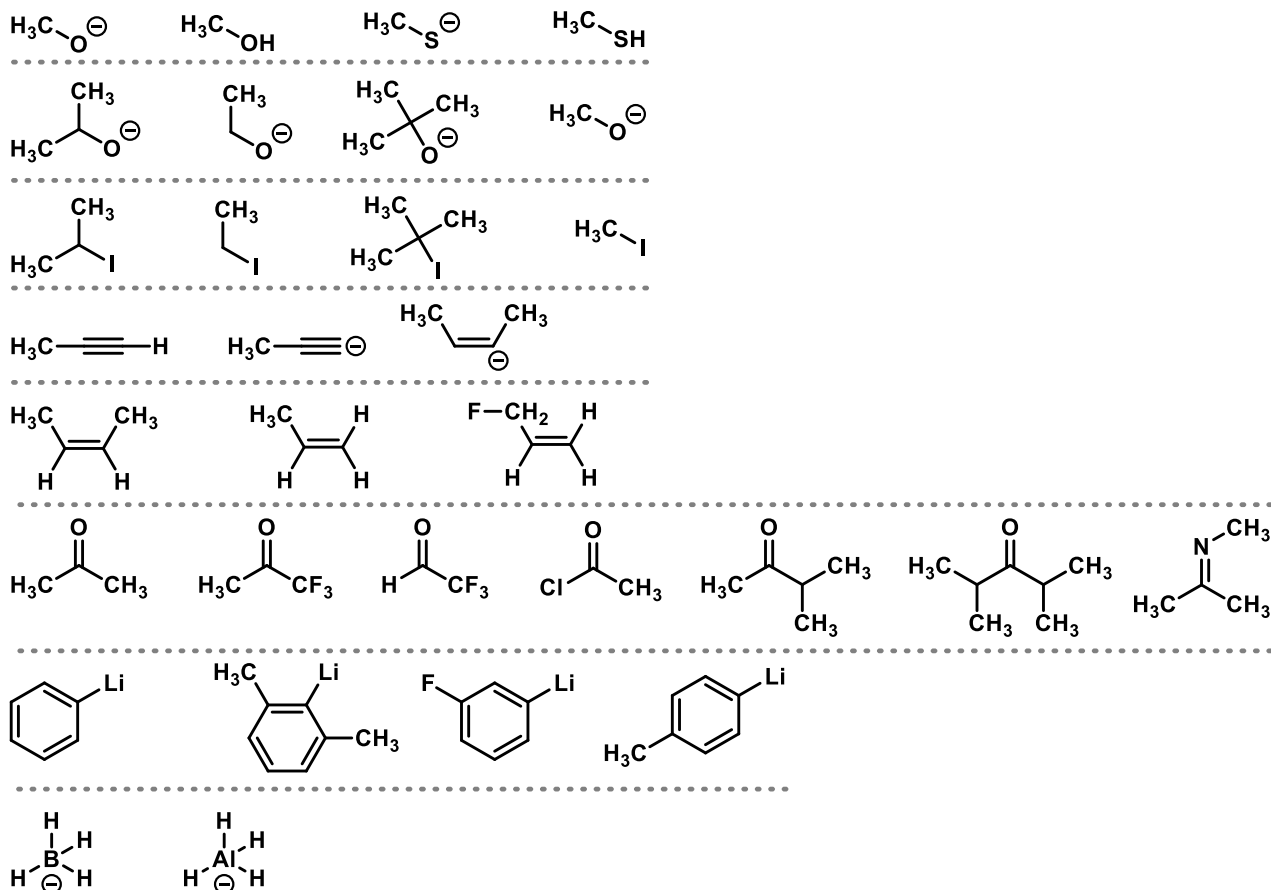
b) In the nucleophiles, identify the highest-energy electron pair in each nucleophile (i.e. the one it will use to do nucleophilily* stuff with). (*not and actual word, don't quote me on this, plz)

c) Where do you expect the electrophiles to be attacked (atom, bond, etc)?

H_3O^+ , OH^- , H_2O , CH_3OH , H_2S , PPh_3 , F^- , H^- , I^- , Cl^- , Br_2 , $\text{CH}_3\text{CH}_2\text{MgBr}$, CH_3I , N_3^- , $^t\text{BuBr}$, $(\text{CH}_3)_3\text{C}^+$

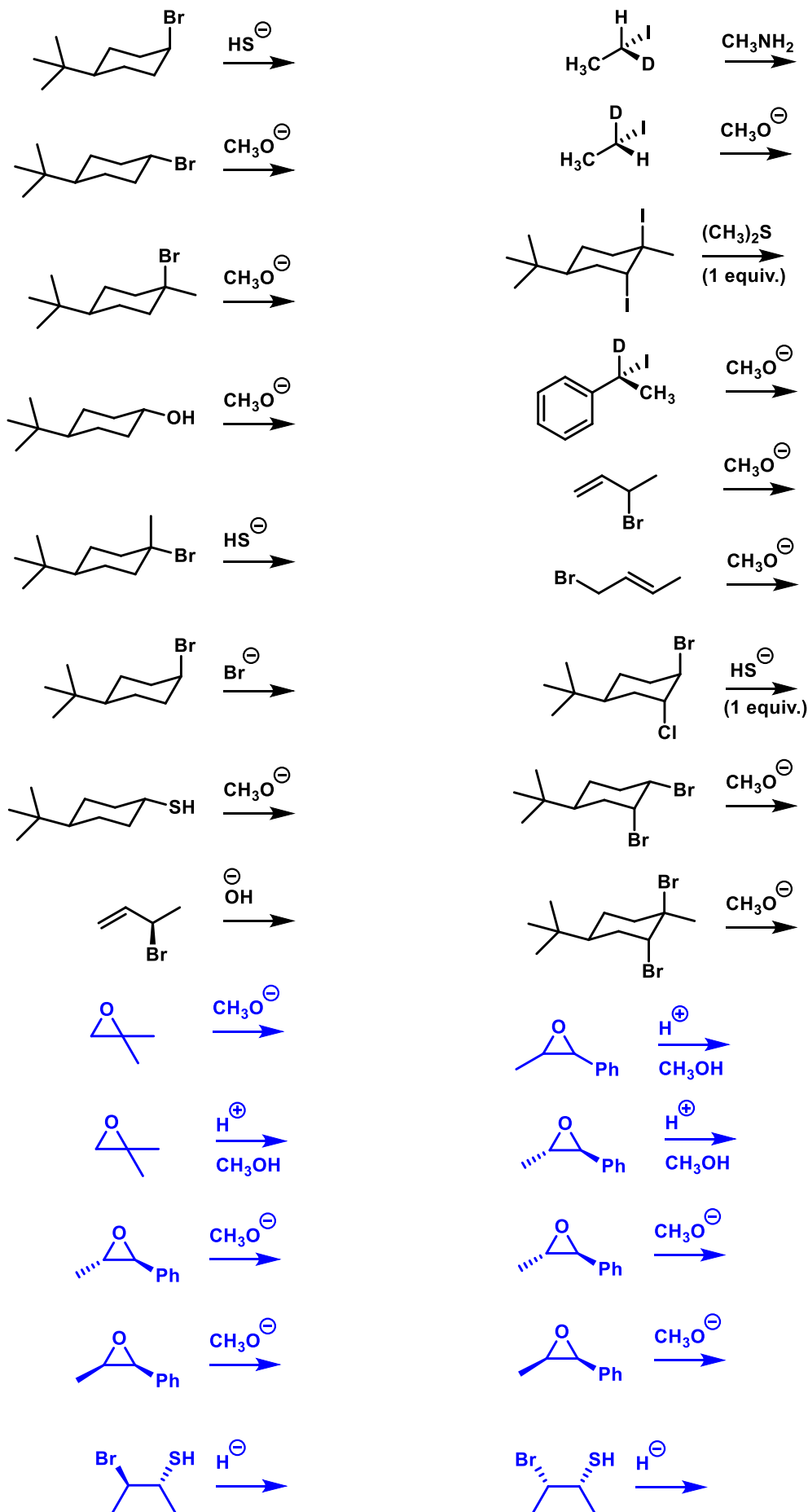


2) Place the compounds in the groups in order of increasing nucleophilicity/electrophilicity.

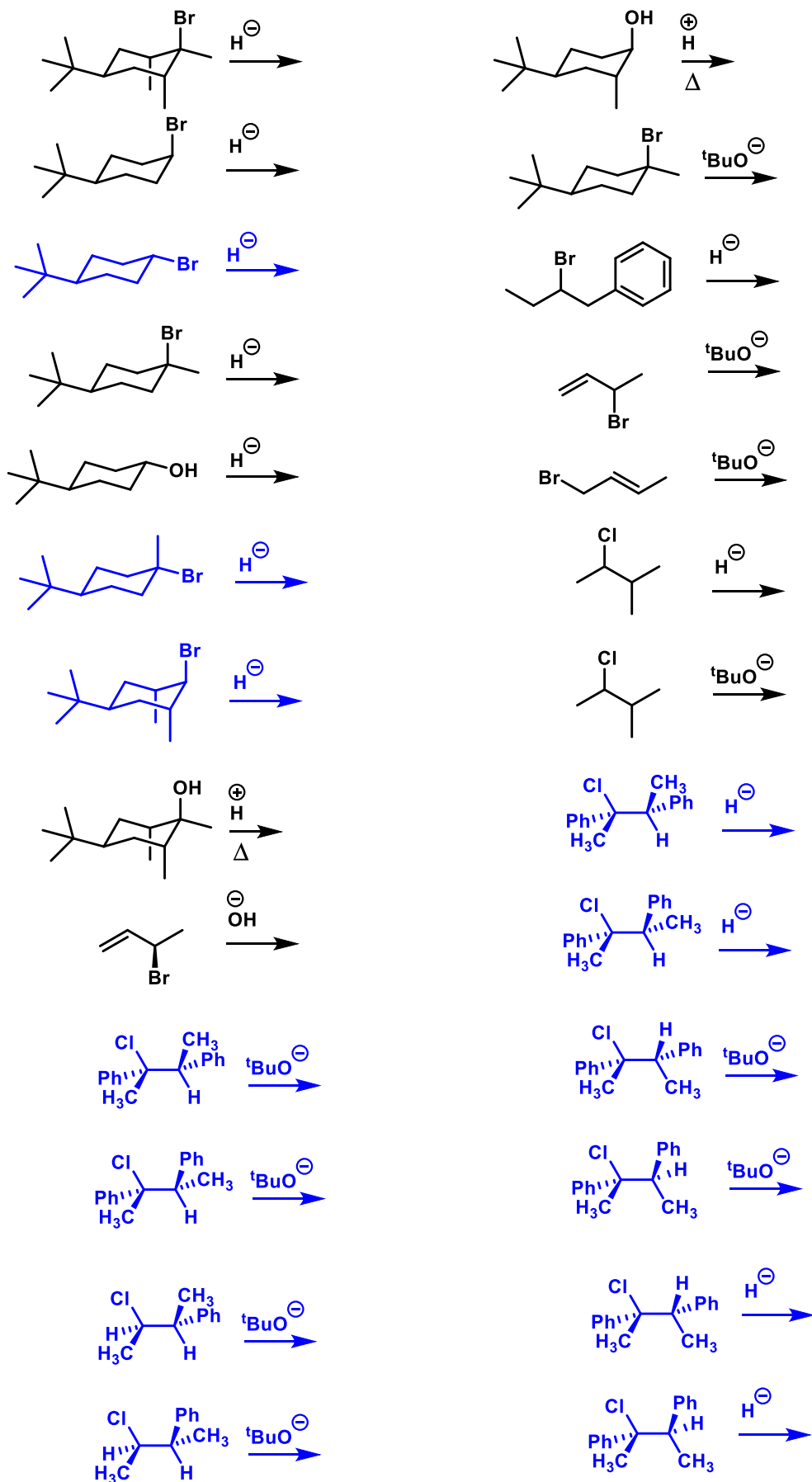


Extra problems

3) Draw the curly arrows and the **substitution** products! Is it an S_N1 or S_N2 mechanism? Pay attention to the product stereochemistry when relevant. **Blue** indicates slightly more challenging problems.

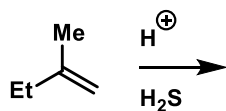
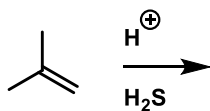
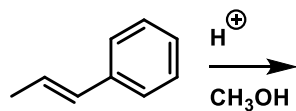
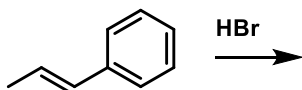
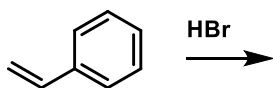


4) Draw the curly arrows and the **elimination** products! If there are multiple possible products, state which one is major. Is the mechanism E1 or E2? **Blue** indicates slightly more challenging problems.

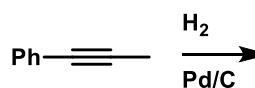
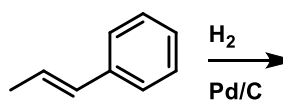
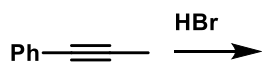


Extra problems

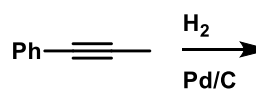
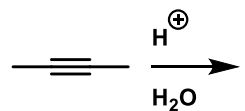
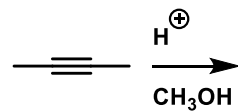
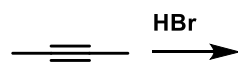
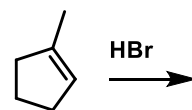
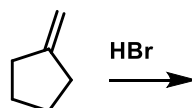
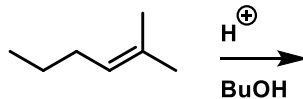
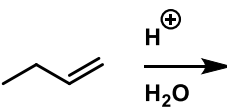
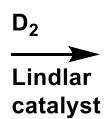
5) Draw the mechanism and the product(s). If there are several possible products, which one is the major, and why?



how many stereoisomers does the major product have?

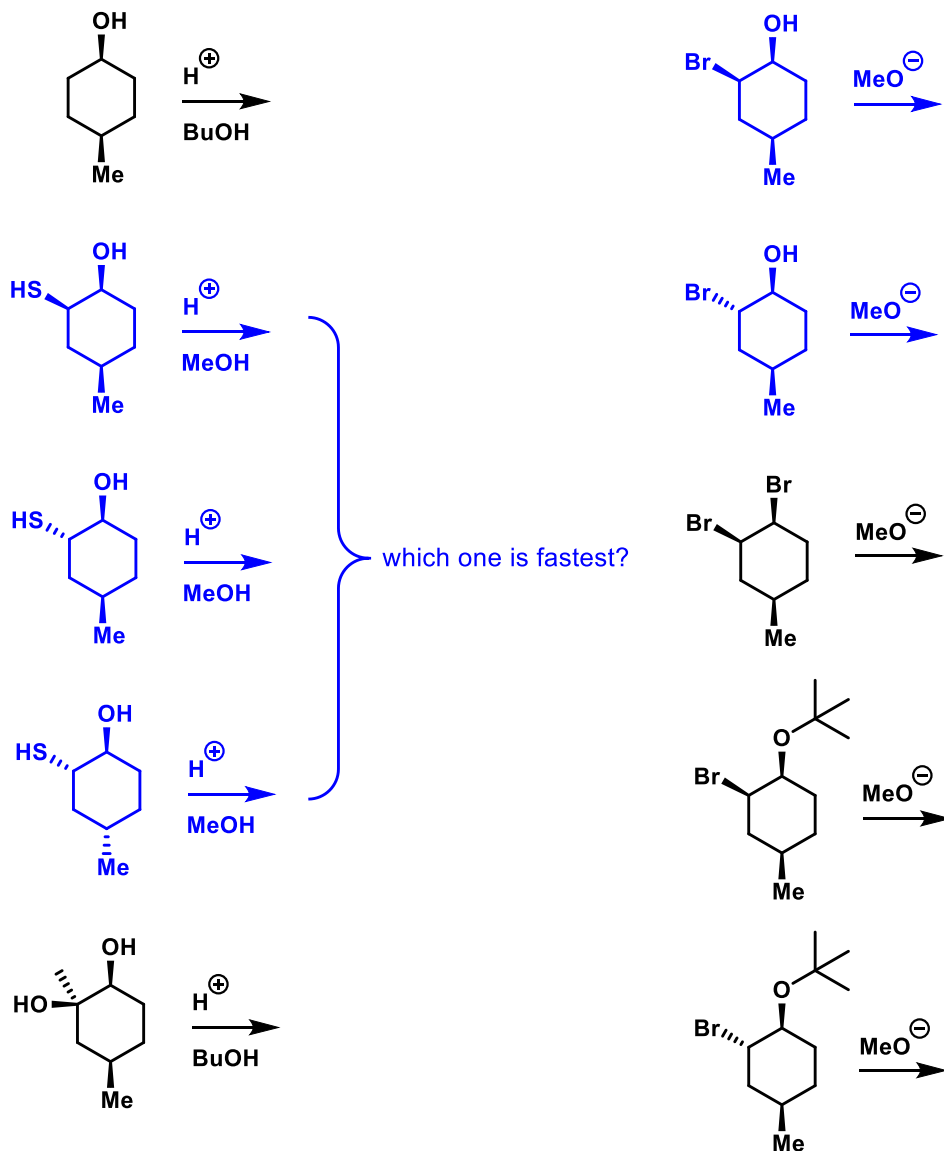


product 1



product 2

6) Mechanism, product and stereochemistry, please.



7) Mechanism, product and stereochemistry, please. Name of these reactions? **Blue** indicates slightly more challenging problems.

