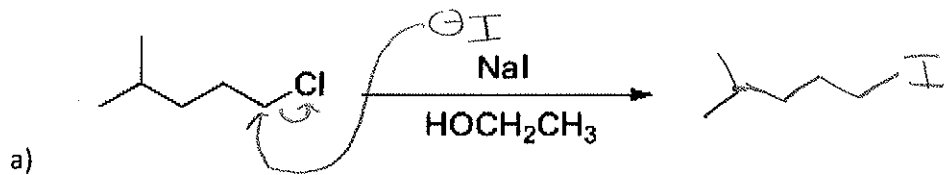
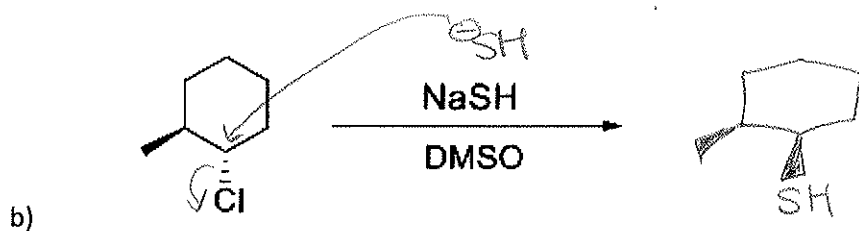


Summary of S_N1, S_N2, E1, E2

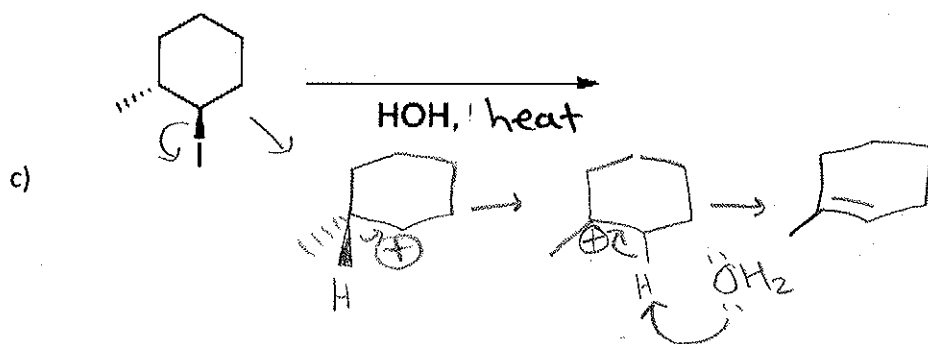
For the following reactions, identify if they are S_N1, S_N2, E1 or E2. Draw a mechanism and predict the major product. Include chair conformations or newman projections as needed.



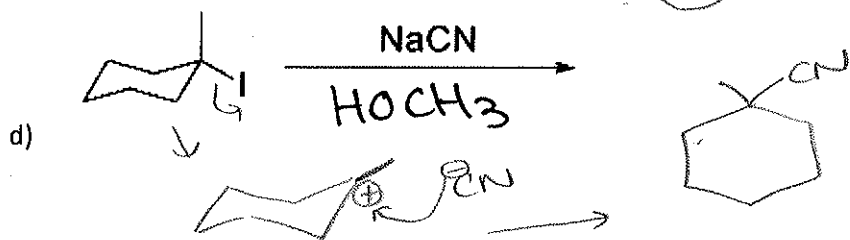
S_N2, because
1° α carbon,
strong Nu



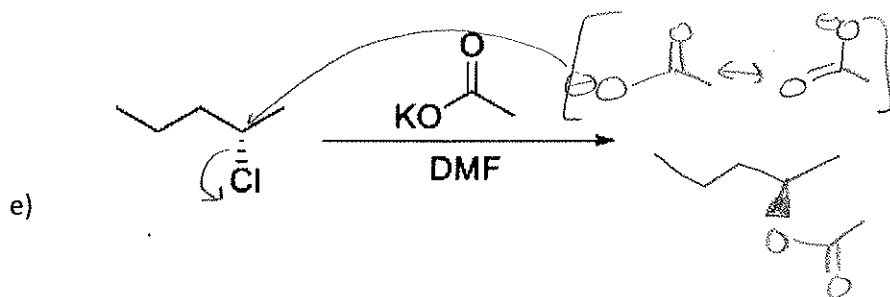
S_N2
- 2° α carbon
- strong Nu
- aprotic solvent



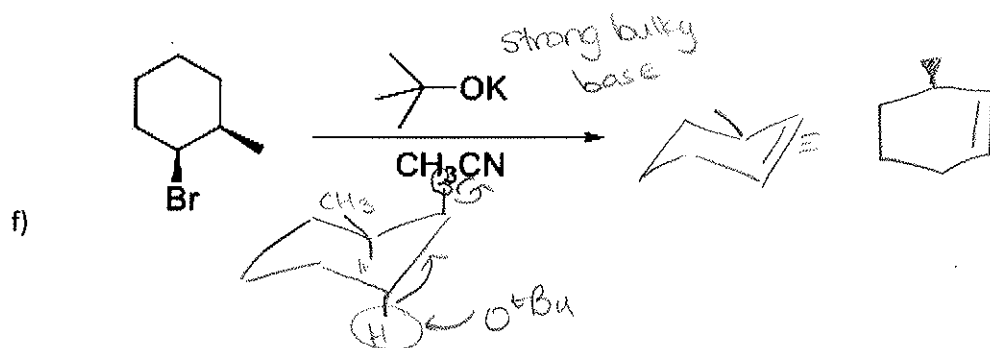
E1
- weak base
- good LG
- heat
careful: RR!



S_N1
- strong Nu
- 3° α carbon
- protic solvent



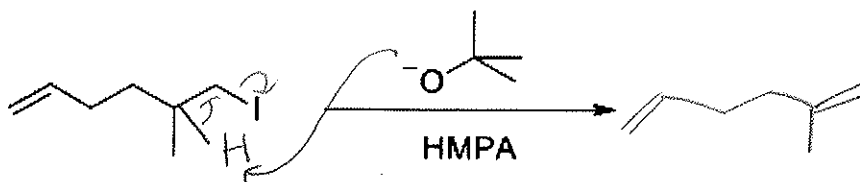
S_N2
- 2° α carbon
- strong Nu, weak B
(resonance)



E2
- big bulky base
- 2° α carbon

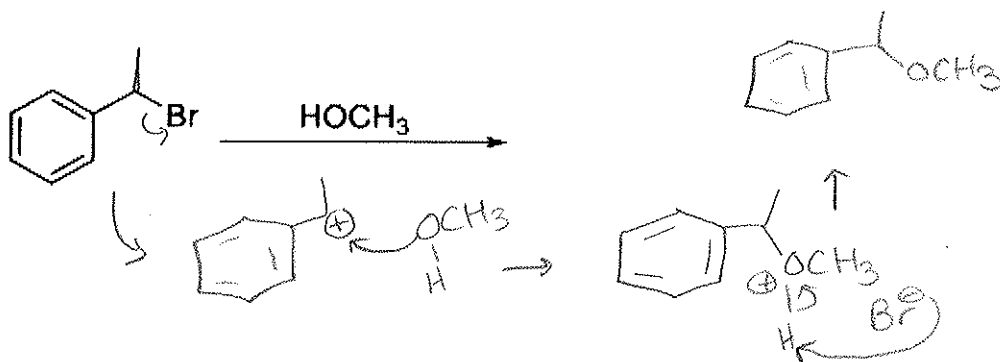
Summary of S_N1, S_N2, E1, E2

g)



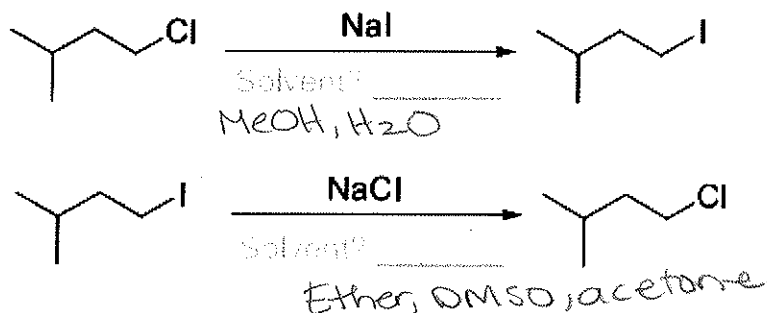
E2
- big, bulky base
- 1° α carbon

Changed the substrate h)



S_N1
- 2° α carbon
- weak Nu/B

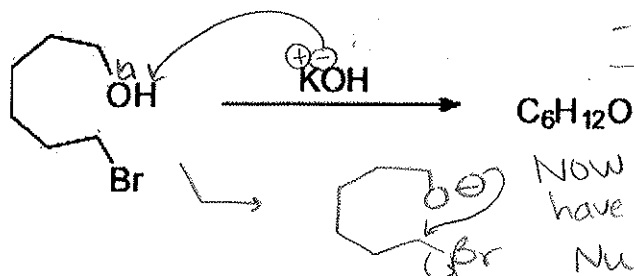
Determine the correct solvent for the following:



S_N2

- polar protic solvents prevent smaller halides from being good Nu

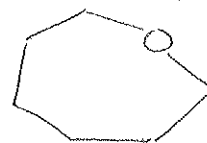
Draw a mechanism and the product:



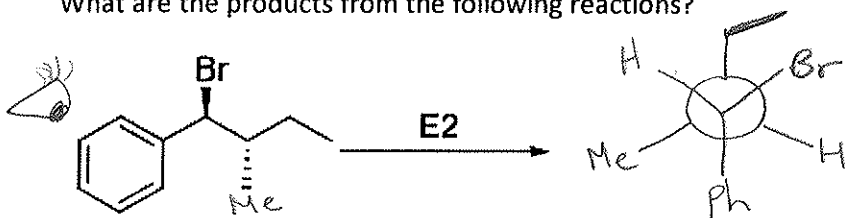
- Not losing any C's
- First: acid/base chemistry

Now we have a great Nu

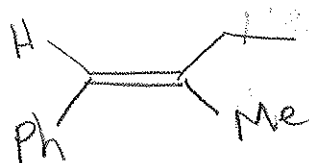
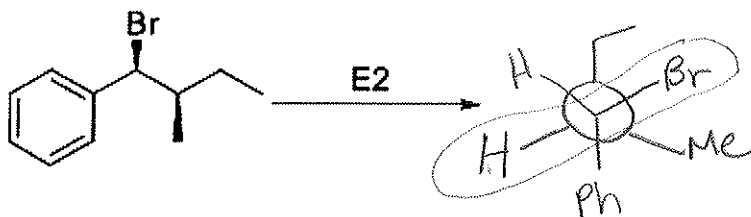
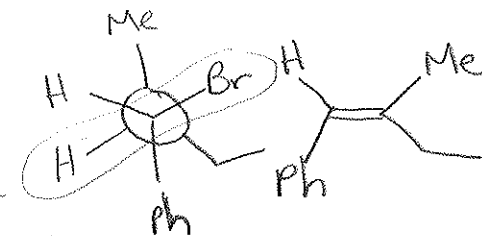
S_N2 because 1° α C



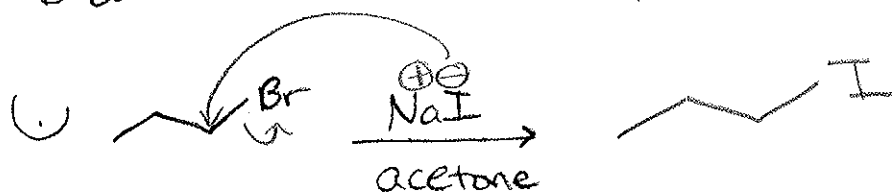
What are the products from the following reactions?



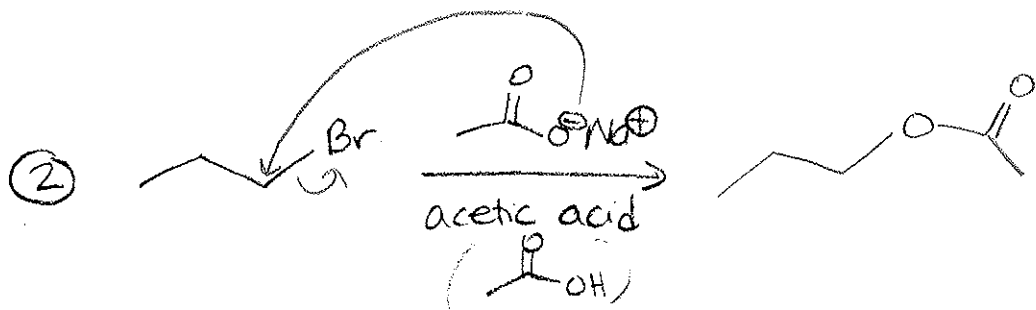
Rotate so H + Br antiperiplanar



For each reaction, identify if S_N1 , S_N2 , $E1$ or $E2$.
 Draw mechanism and predict the major product. acetone 



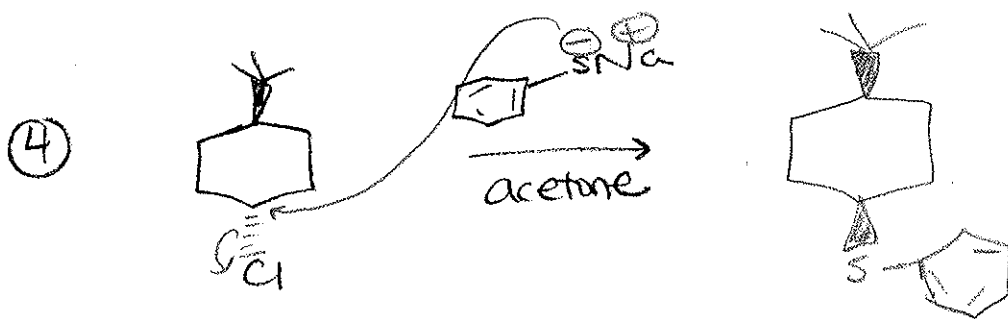
S_N2 Type
 - 1° α C
 - strong Nu
 - aprotic solvent



S_N2
 - strong Nu (weak B)
 - 1° α C



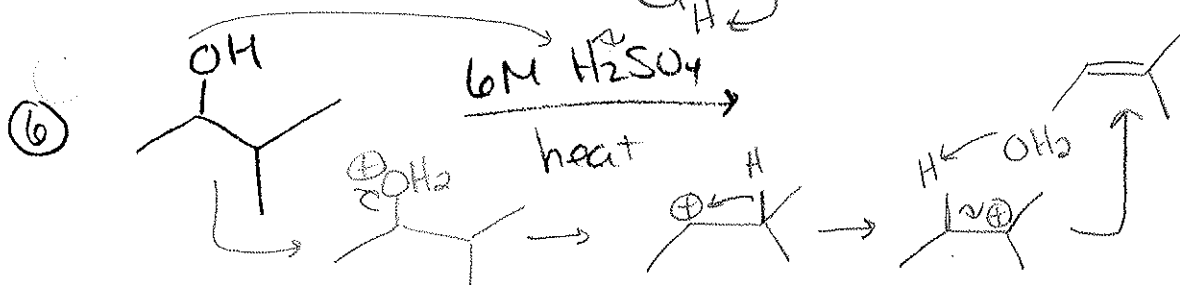
S_N2
 - 1° α C
 - strong Base, Nu
 - protic solvent



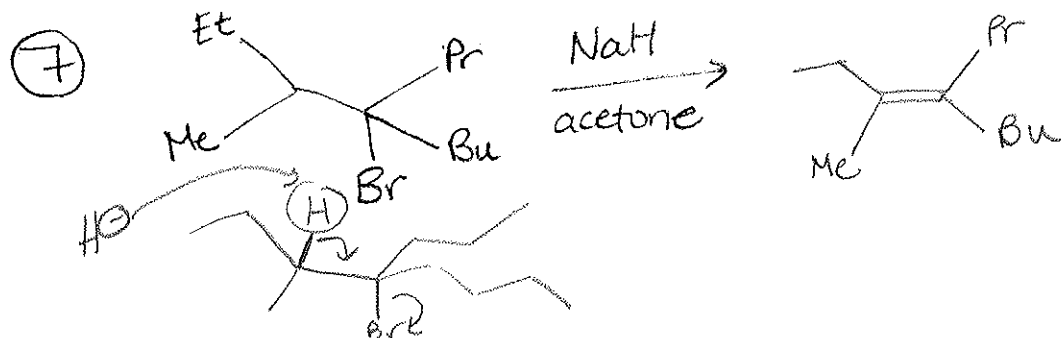
S_N2
 - 2° α C
 - strong Nu, weak B



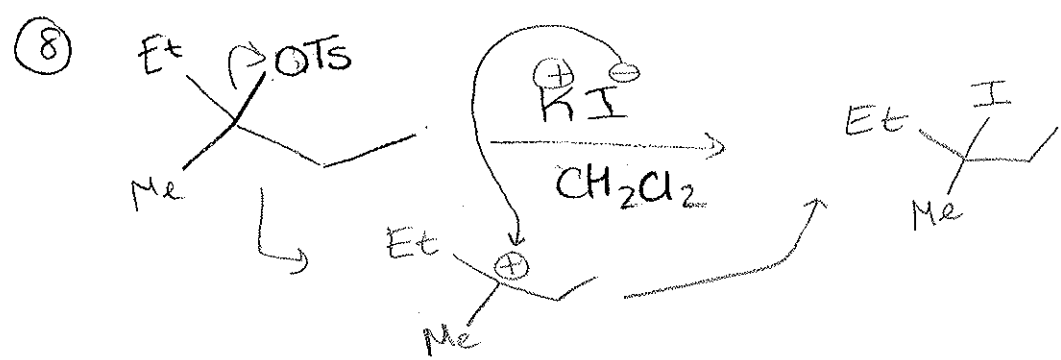
$E1$
 - weak Nu/B
 - 2° α C
 - heat



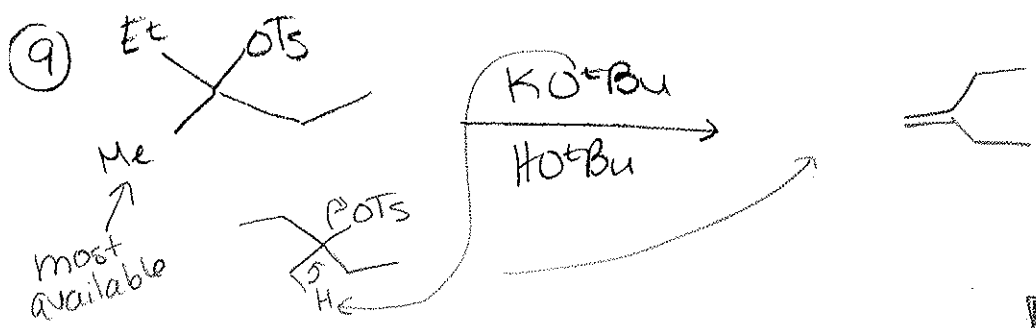
$E1$
 - weak Nu/B
 - 2° α C
 - heat



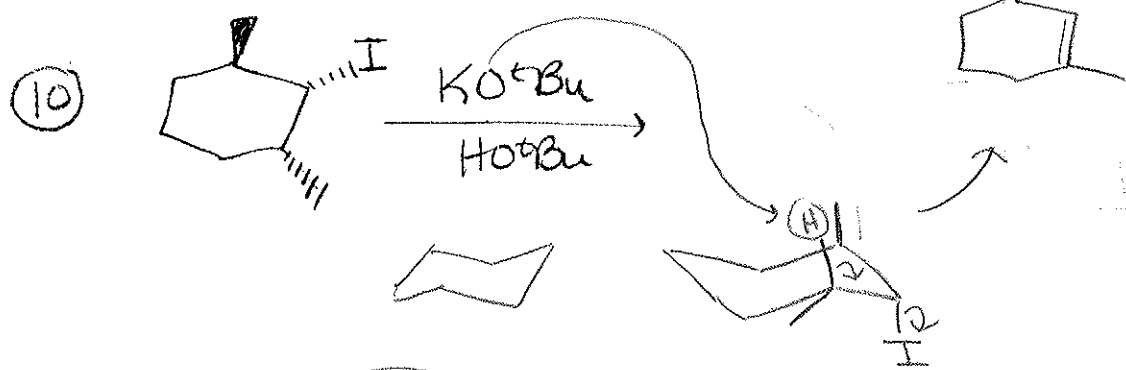
E2
 - strong B
 - small Nu:
 most stable
 ★ product



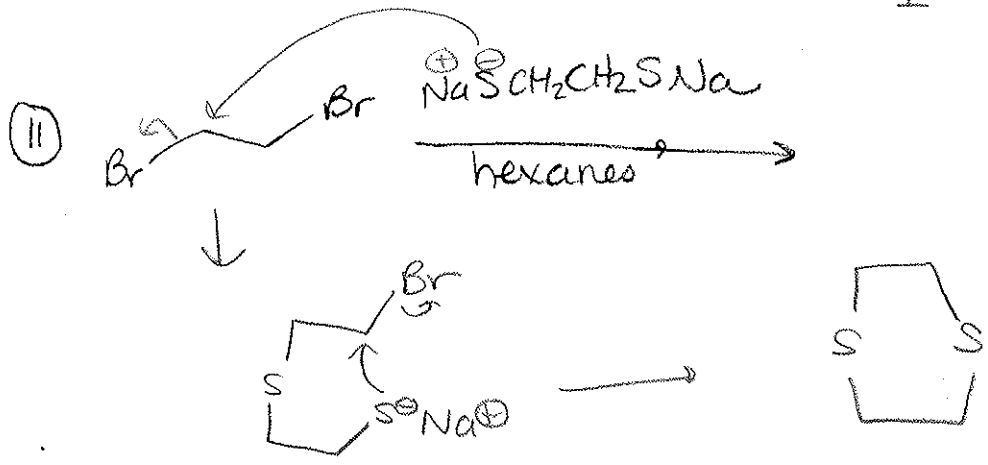
S_N1
 - 3° α C
 - strong Nu,
 weak B



E2
 - strong bulky B



E2
 - strong bulky B
 - needs antiperiplanar



S_N2
 - 1° α C
 - strong Nu
 weak B
 - aprotic solvent