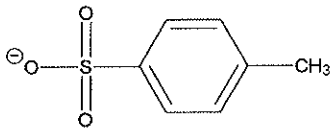
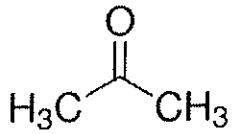
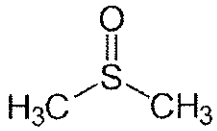
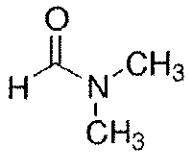
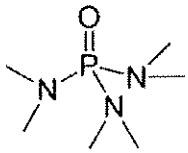
Summary of S_N1, S_N2, E1, E2

	Strong Base Weak Nu	Strong Base Strong Nu	Weak Base Strong Nu	Weak Base Weak Nu
Reagent	NaH, KO^tBu, LiN^iPr_2	^-OR	X^- RS^-, RSH	ROH
	Elim	Elim or Subst	Subst	Elim or Subst
1°	E2	S_N2E2	S_N2	Nothing
2°	E2	$E2/S_N2$	S_N2	S_N1
3°	E2	E2	S_N1	E1

^-OTs = 

In order of importance, they are:
1. The nucleophile/base (reagent)
2. The substrate
3. The solvent
4. The temperature

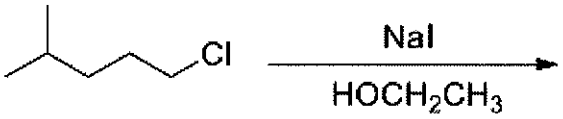
Solvents:

 Acetone	 DMSO	 DMF	 HMPA

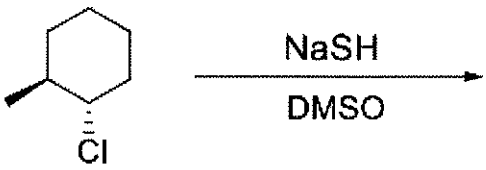
Summary of S_N1, S_N2, E1, E2

For the following reactions, identify if they are SN1, SN2, E1 or E2. Draw a mechanism and predict the major product. Include chair conformations or newman projections as needed.

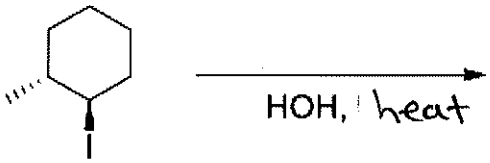
a)



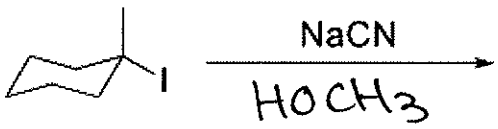
b)



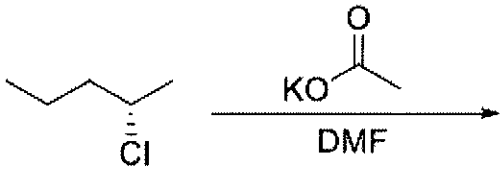
c)



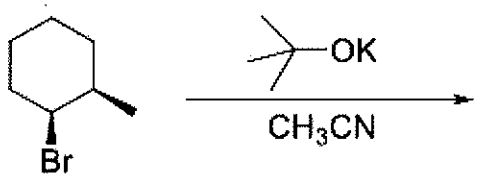
d)



e)

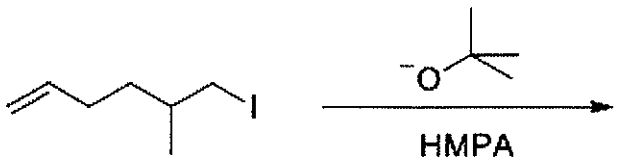


f)

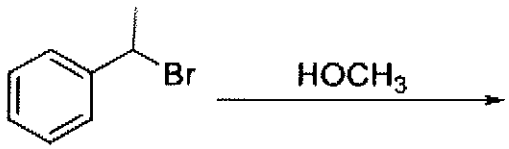


Summary of S_N1, S_N2, E1, E2

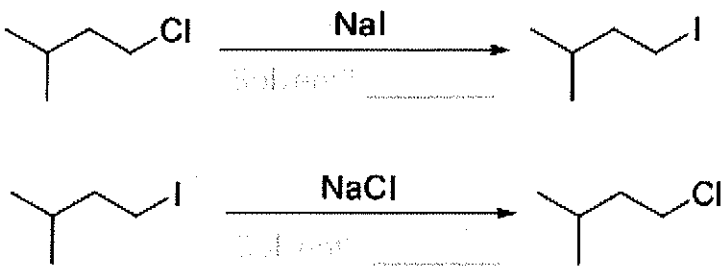
g)



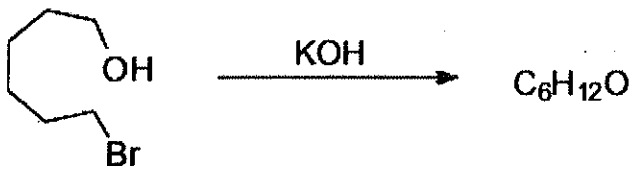
h)



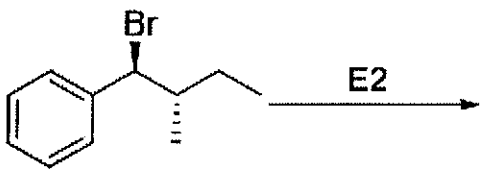
Determine the correct solvent for the following:

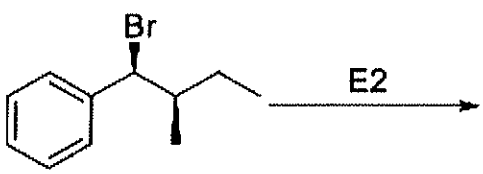


Draw a mechanism and the product:



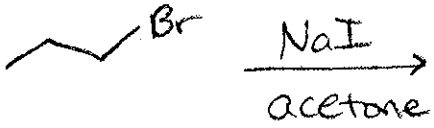
What are the products from the following reactions?

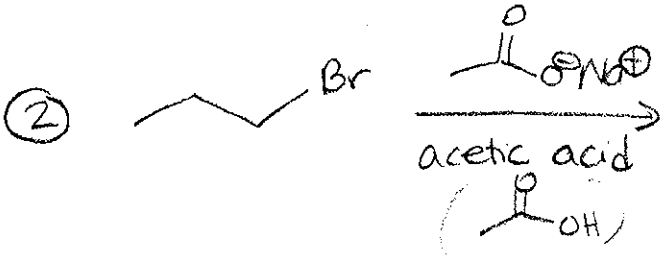


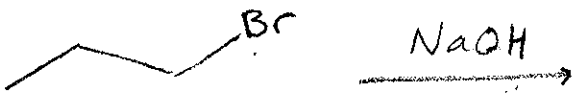


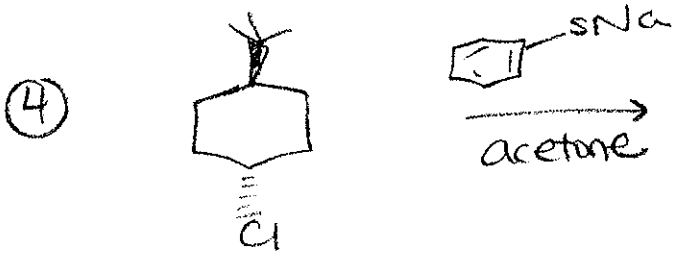
For each reaction, IDentify if S_N1, S_N2, E1 or E2. Draw mechanism and predict the major product. acetone

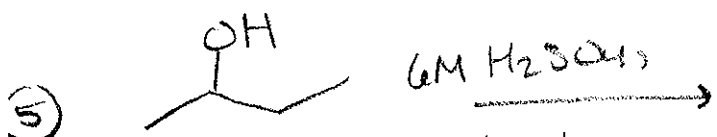
Type

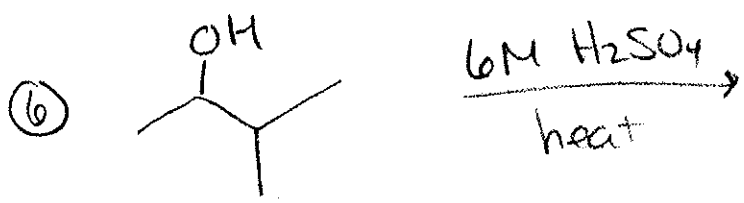
(1) 

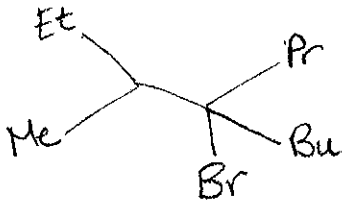
(2) 

(3) 

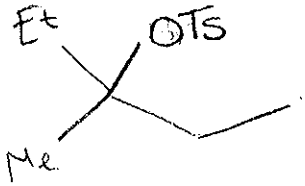
(4) 

(5) 

(6) 

(7) 

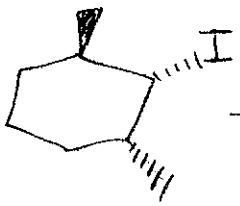
NaH
acetone

(8) 

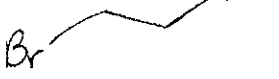
KI
CH_2Cl_2

(9) 

KO^tBu
HO^tBu

(10) 

$\cdot KO^tBu$
HO^tBu

(11) 

$NaSCH_2CH_2SNa$
hexanes