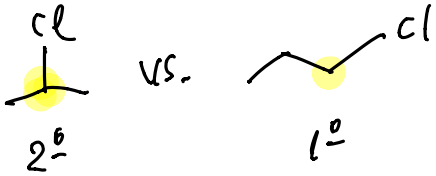
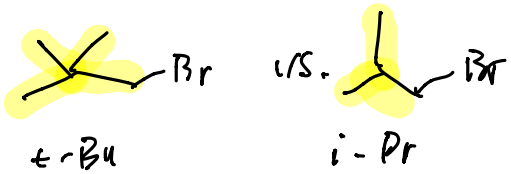
Gabarito, Lista 1, S_N

1. a) 

2° vs. 1°

melhor

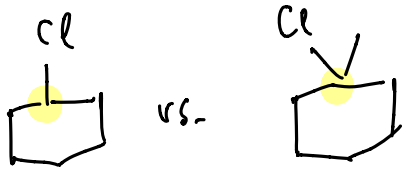
menos impedido

b) 

t-Bu vs. i-Pr

melhor

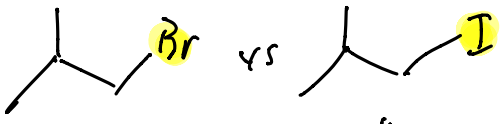
menos impedido

c) 

2° vs. 3°

melhor

menos impedido

d) 

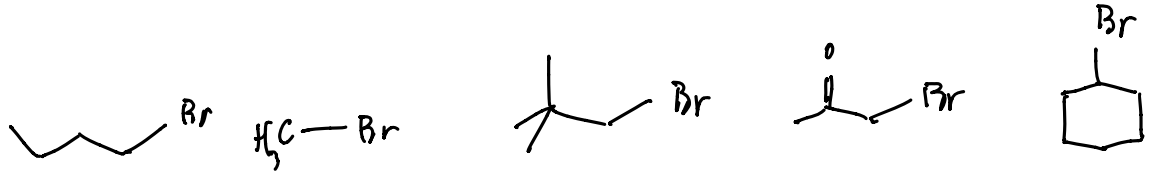
melhor

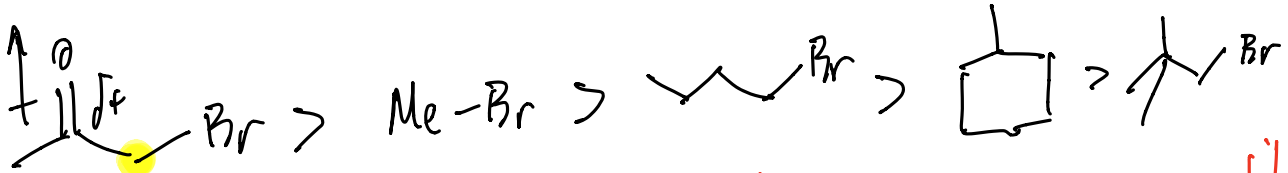
melhor LG

2. a) $HS^{\ominus}$ melhor que H_2S

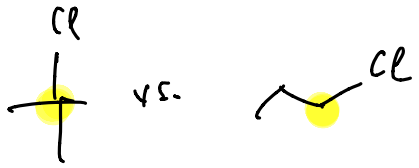
b) $HO^{\ominus}$ melhor que H_2O

c) MeO^- em MeOH é pior que MeO^- em DMSO aprótico polar

3. 



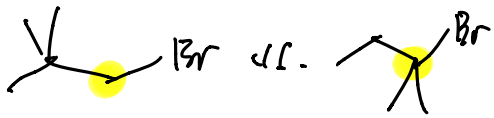
ativado pelo C=O | descimpedido | 1° | 2° | neopentil impedido

4. a) 

3° vs 1°

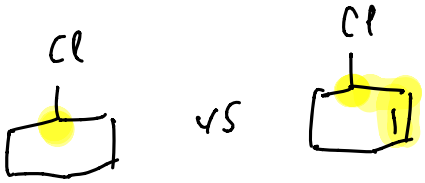
melhor

estabiliza Carbocátion

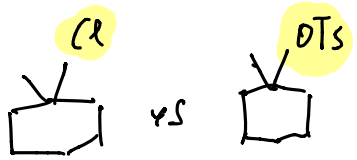
b) 

1° vs. 3°

melhor

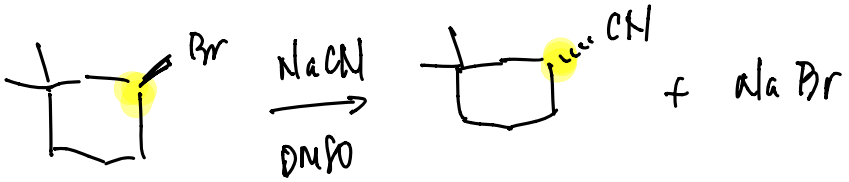
c) 

sistema alílico estabiliza mais o Carbocátion por ressonância.

d) 

melhor

melhor L

5. 

2°

Bom L

Solvente polar aprótico

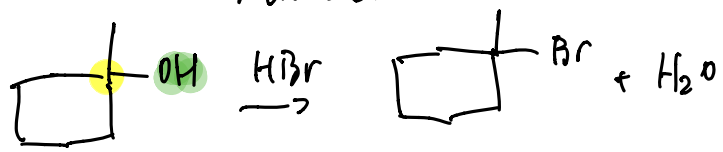
Inversão de Configuração $= S_N2$

CN^-, bom nucleófilo

a) $v = k[Nu][R\text{-}L] \therefore 2x\,[R\text{-}L] = 2x\,v$

b) $2x\,[Nu] = 2x\,v$

6. meio ácido



= SN1

3°

Grupo de partida ruim

a) $v = k[R\text{-}L]$ ∴ $2x\,[R\text{-}L] = 2x\,v$

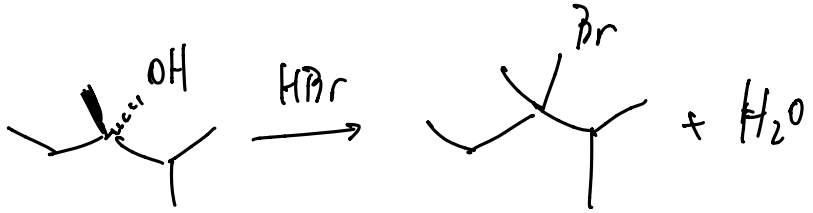
b) $2x\,[HBr]$ = nada, sem efeito.

7. a) aprótico b) prótico c) aprótico

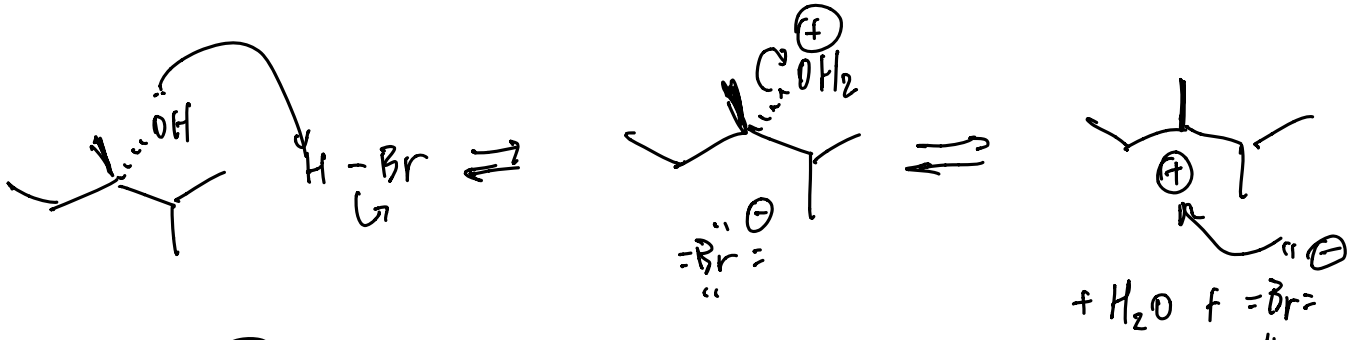
d) prótico e) prótico

pq a lig N-H é polarizada e doa ligação de H

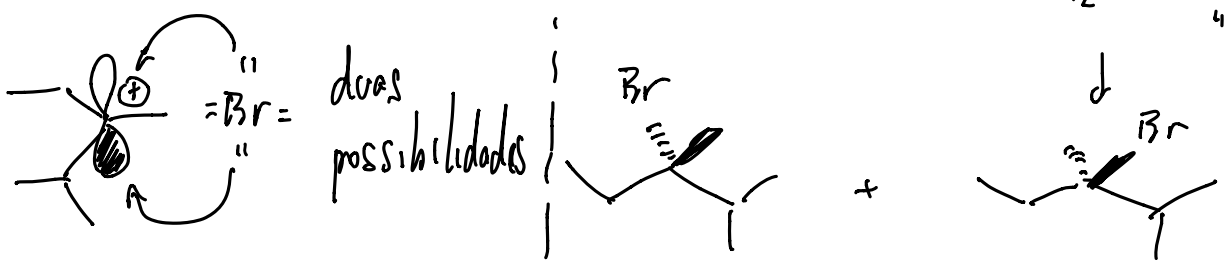
8.



a)

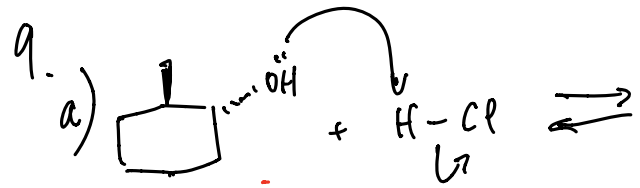


b)



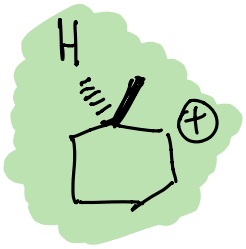
9.

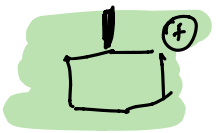
a)

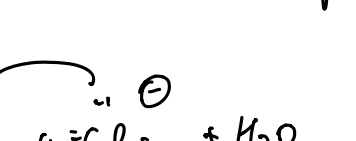


↳ ruim

meio ácido



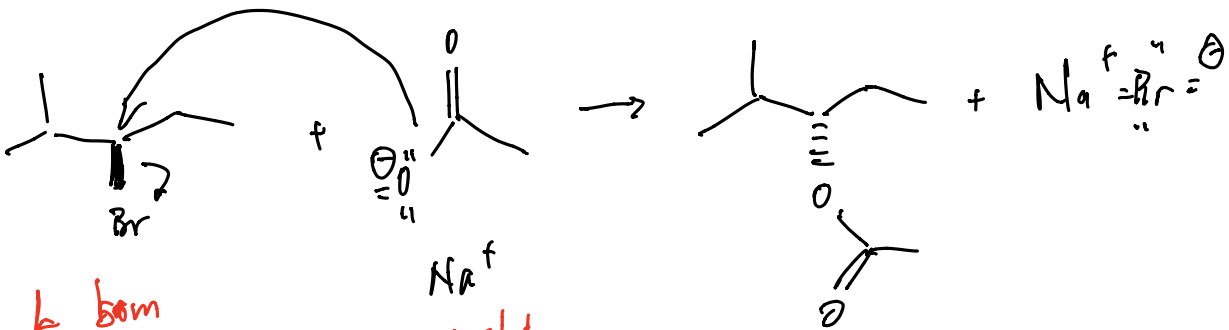




1,2-H, rearranjo

mistura racêmica.

b)



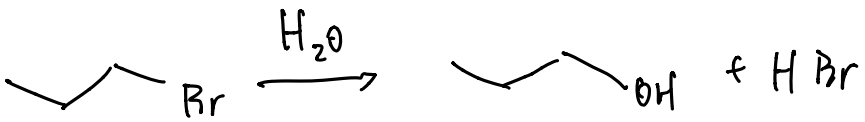
↳ bom

carbono 2°

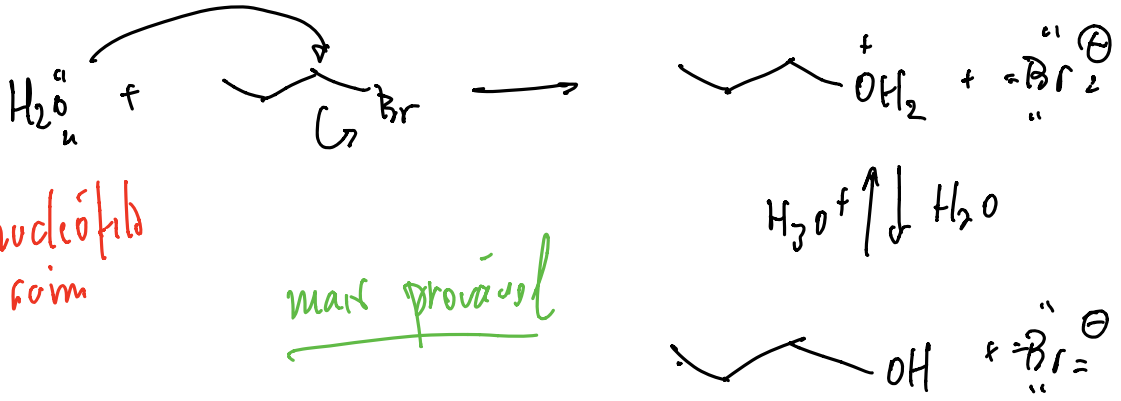
nucleófilo razoável

inversão de configuração.

10.



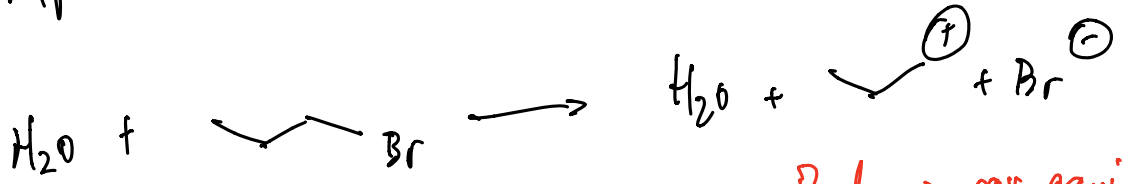
a) Hipótese 1: S_N2, problemas em vermelho



nucleófilo ruim

mais provável

Hipótese 2: S_N1



Pode parar aqui

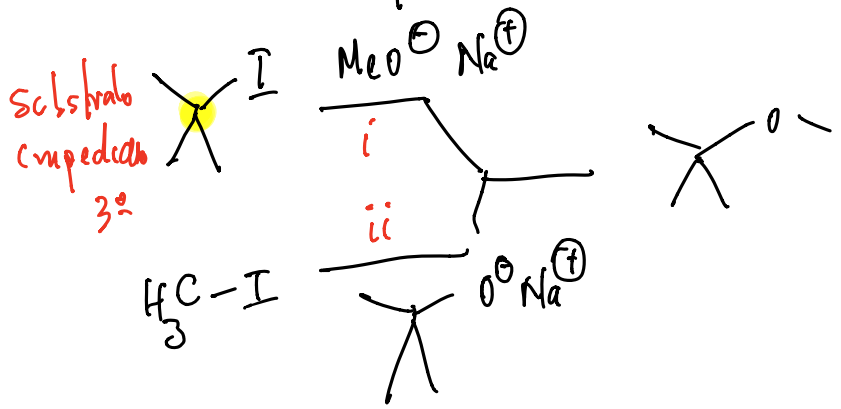
carbocátion primário

b) Nucleófilo ruim.

c) $^{\ominus}OH$ é melhor nucleófilo que $H_2\ddot{O}$!

mecanismo é simples, descubra.

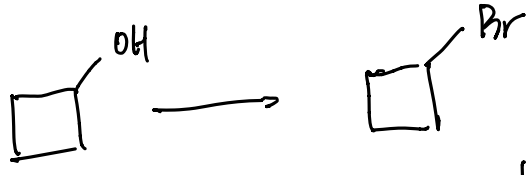
11. Impossível fazer, faltam os I_s! mas ...



ii é favorecido!

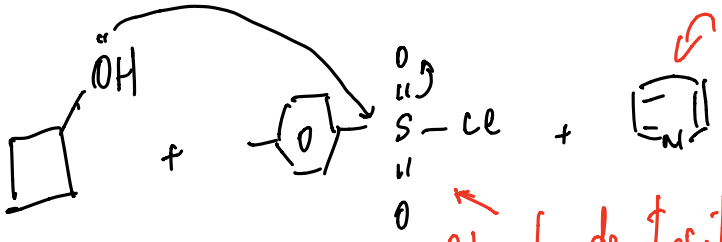
i é 3° o substrato ... mas fat S_N2 faria uma E_2 na verdade

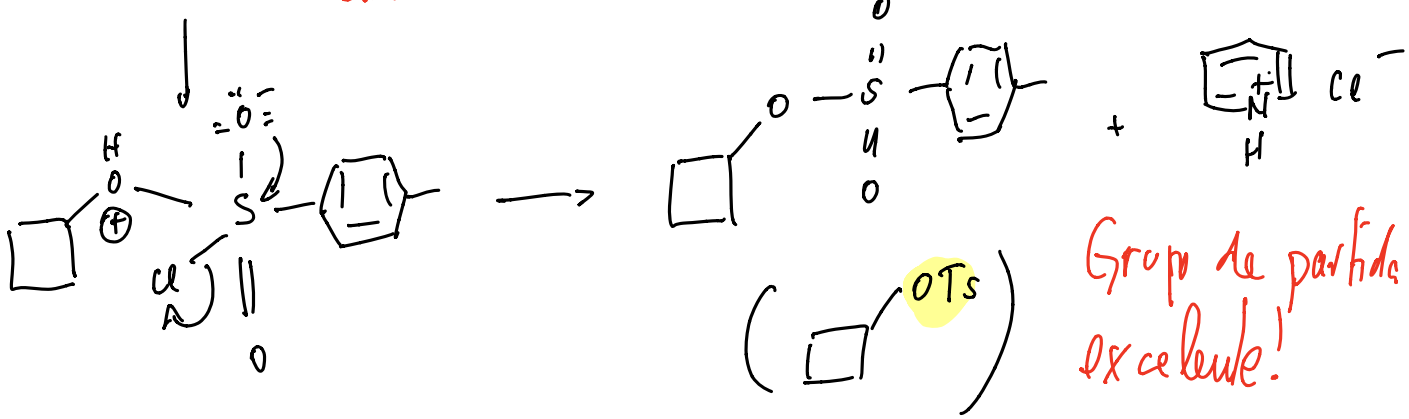
12.

a) 

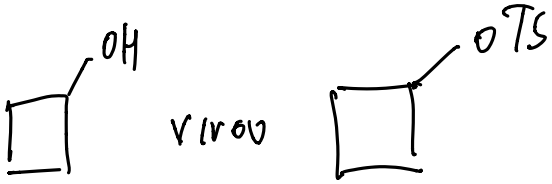
Parece fácil, mas é difícil.

Se você pensou em S_N1 com HBr, muito bom. Contudo, a formação de carbocátion secundário é lento. Qual fal'em método melhor?



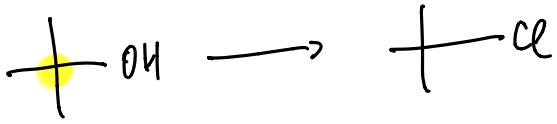


então o

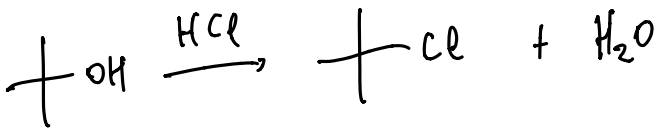


e agora:

Solvente polar aprótico, favorece SN2!

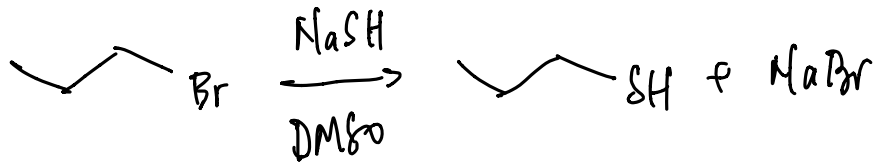
b) 

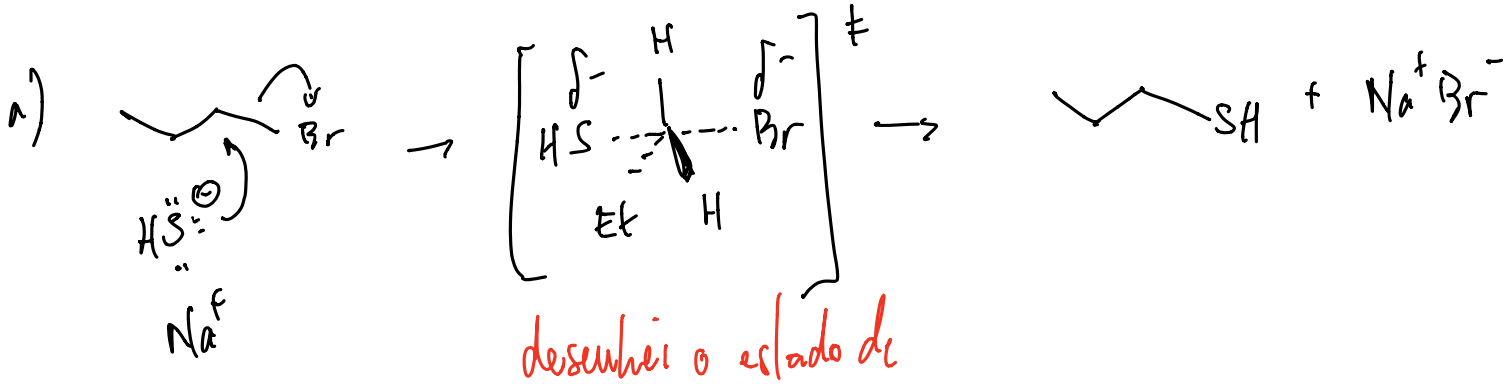
3°, fácil .. SN1



c) 

1°, fácil, SN2

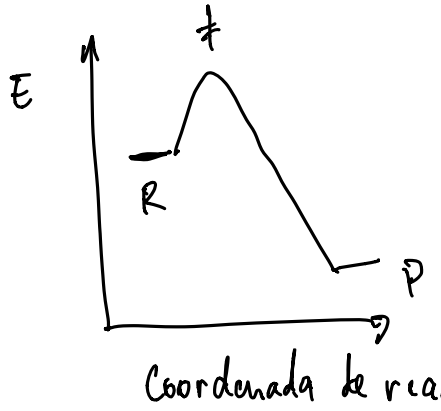
13. 

a) 

desenhei o estado de transição pq pede o mecanismo detalhado

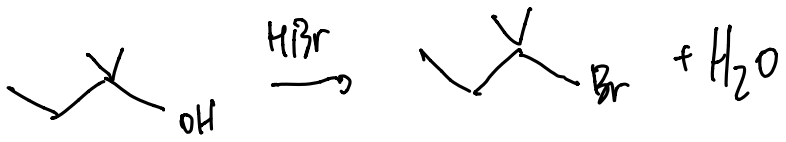
b) $v = \frac{d[n\text{-PrSH}]}{dt} = k_2 [n\text{-PrBr}][NaSH]$

c) Etanol é polar prótico, desacelera a S_N2.

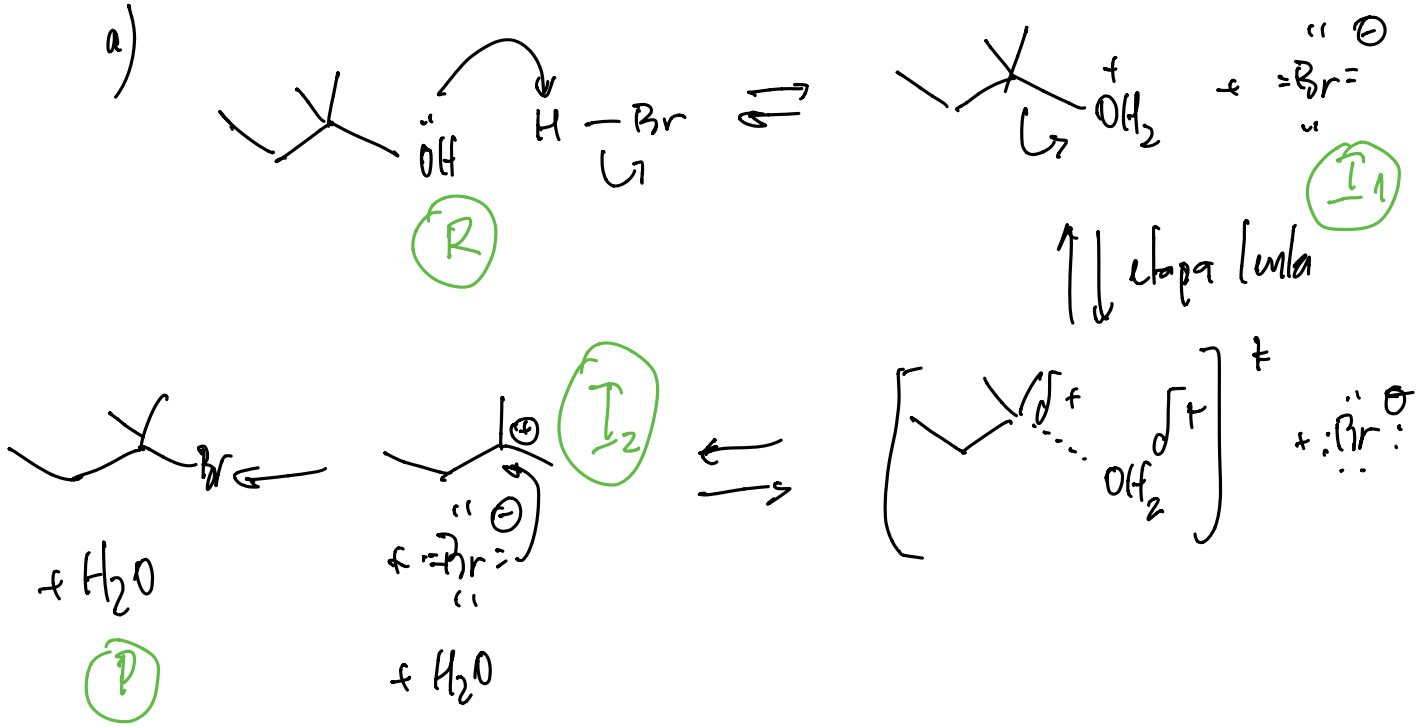
d) 

Estruturas vide (a)

14.



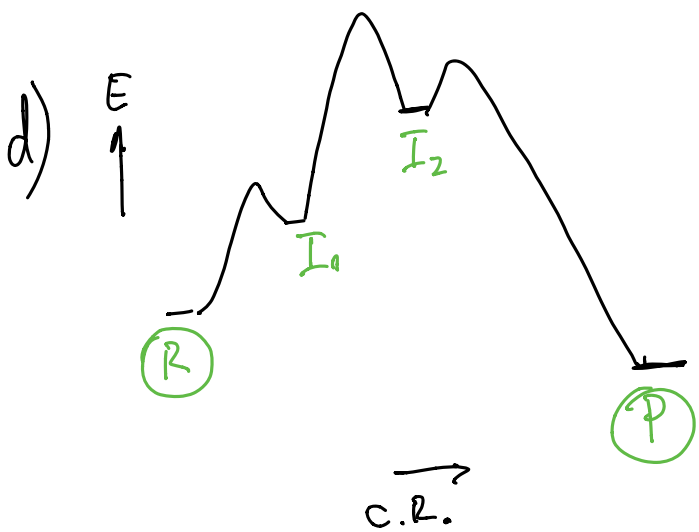
a)



b) $\frac{d[\text{R-Br}]}{dt} = k\,[\text{R-OH}]$

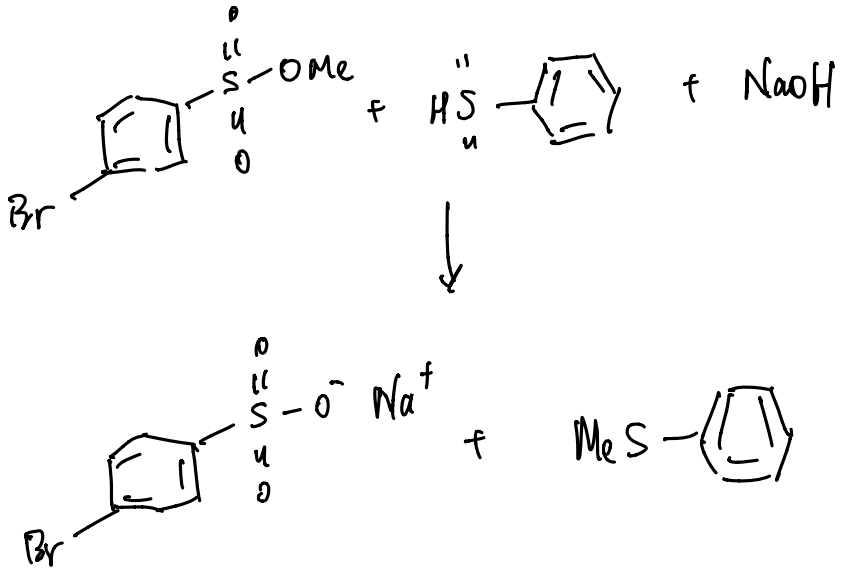
c) Não, NaBr seria acumular a [nucleófilo] ($Br^{\ominus}$).
Não tem efeito sobre a velocidade.

d)



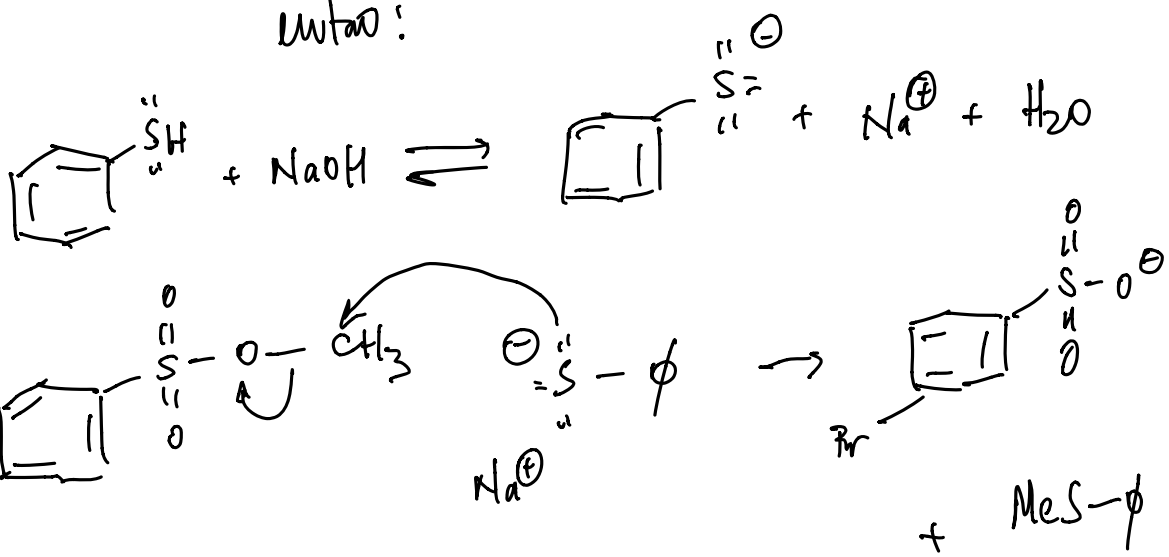
15.

(a)

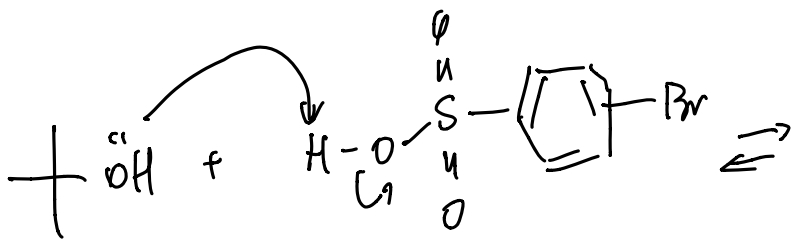


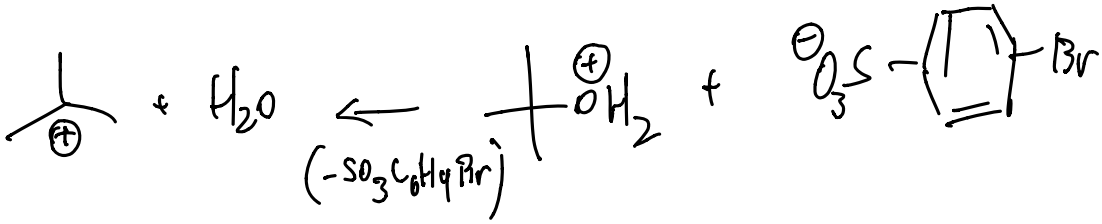
ϕ =  = Ph

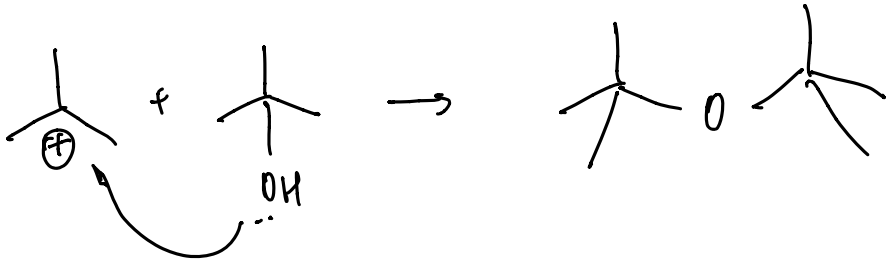
Mutan:



(b)

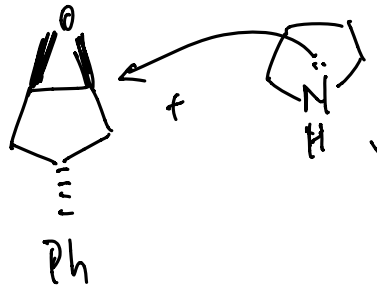




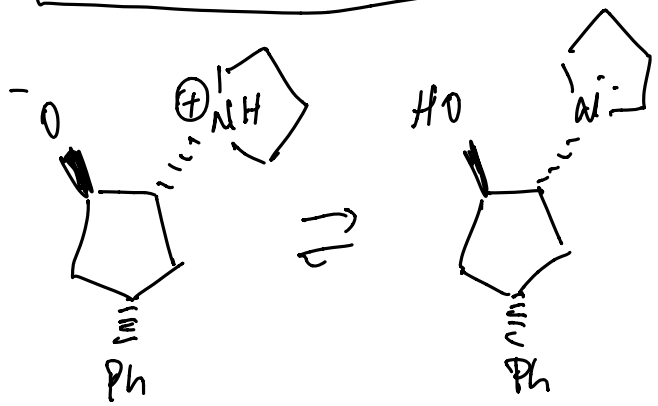


11.

(a)



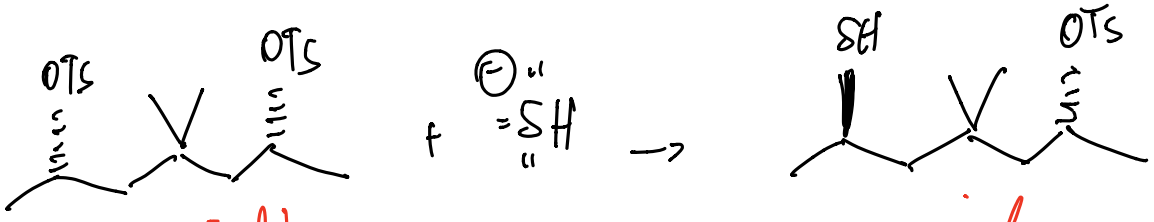
S_N2 | sentido oposto a L!



aquiral!

tem plano de simetria

(b)

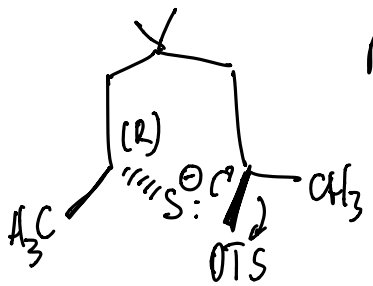


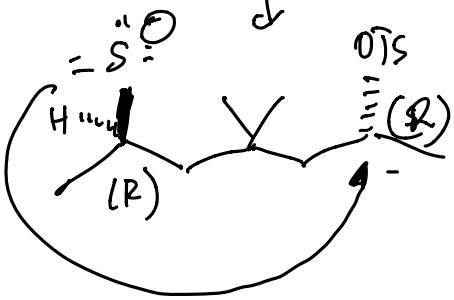
aquiral!

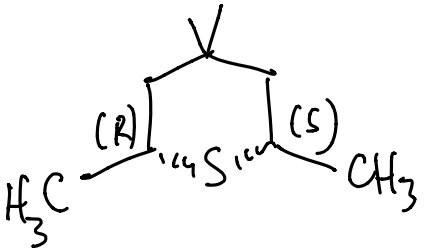
quiral

mesobásico

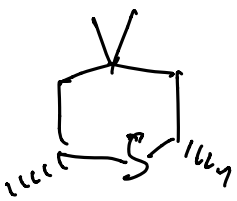
redesenhando



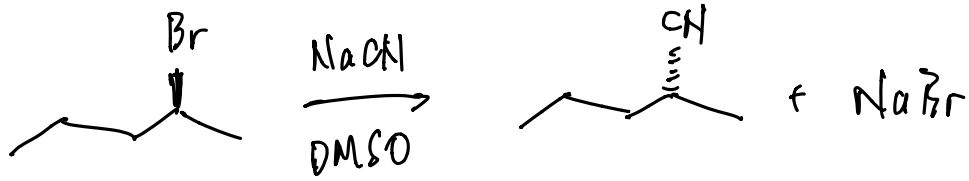


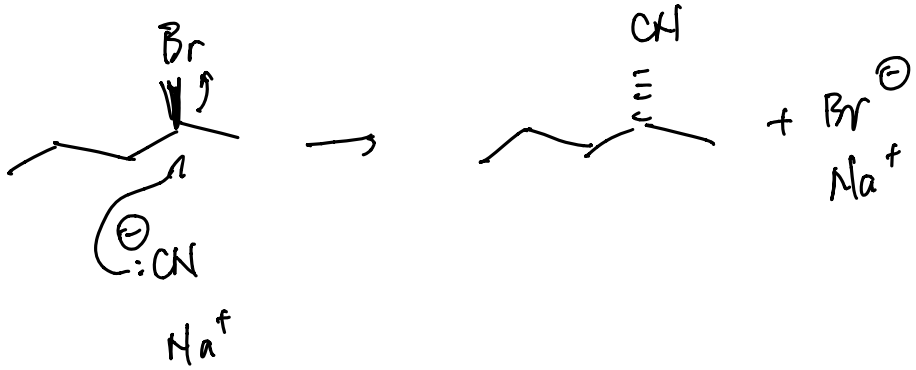


ou seja



Metilas em cis

17. 

(a) 

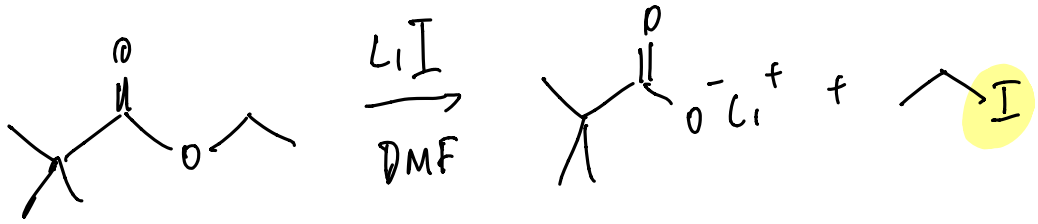
Faça o ≠!

(b) $\frac{d[P]}{dt} = v = k[R\text{-}L][Nu]$

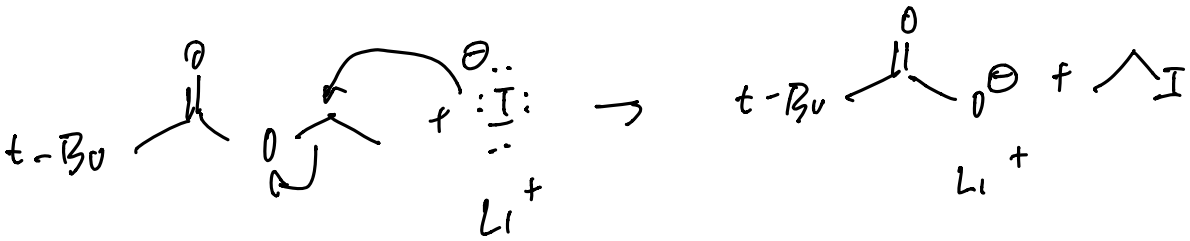
(c) sim, v dobra

(d) 

vide a

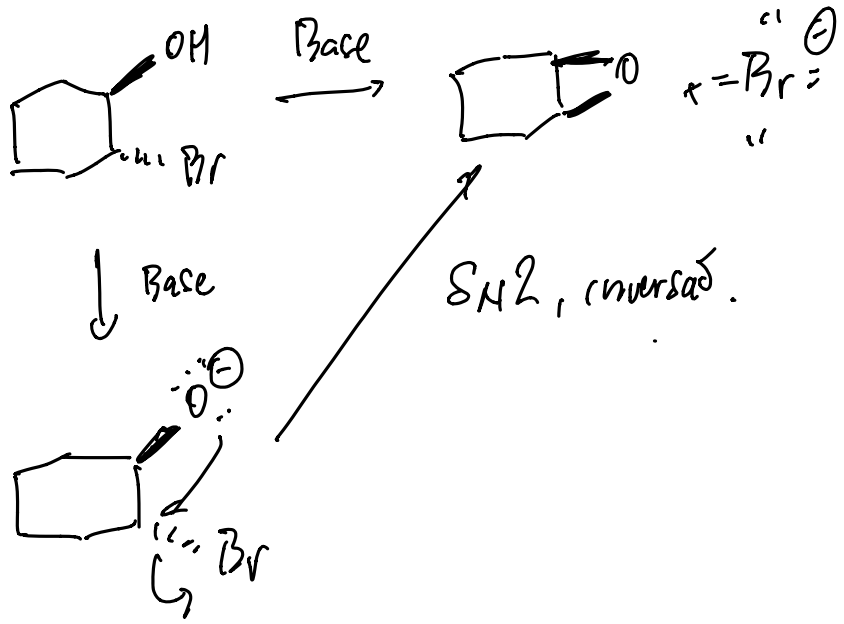
18. 

Faltando

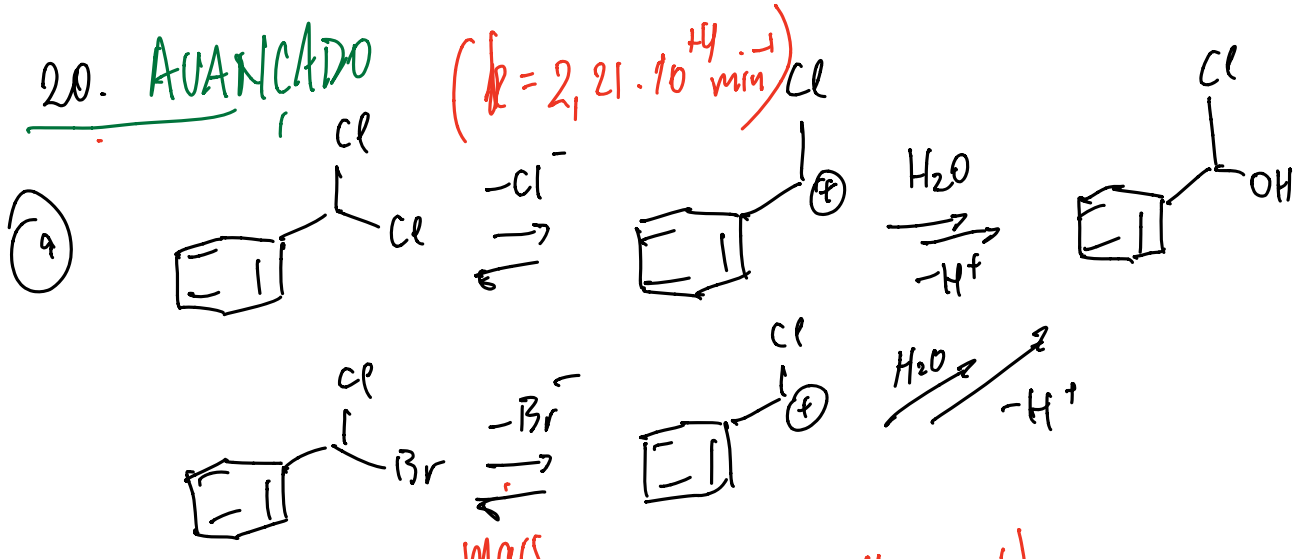
(a) 

(b) Impedimento. aromatia com a efila.

19.

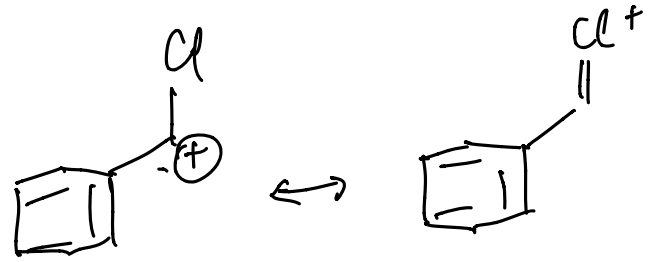


20. AVANÇADO



$Br^{\ominus}$ é melhor L que $Cl^{\ominus}$

b)



estabilização por efeito +M

mais doro estabiliza mais +M mais comportante que -I

(c) Cloro parece estabilizar mais o carbocátion confirma os resultados da tabela.

(d) Br ser melhor L parece ser mais importante que a estabilização do carbocátion pelo Cl.