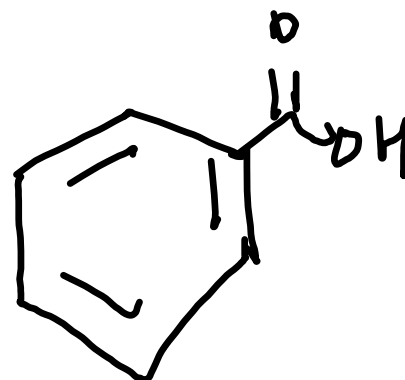
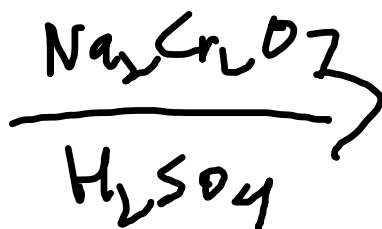
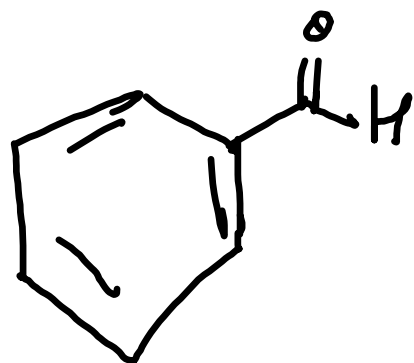


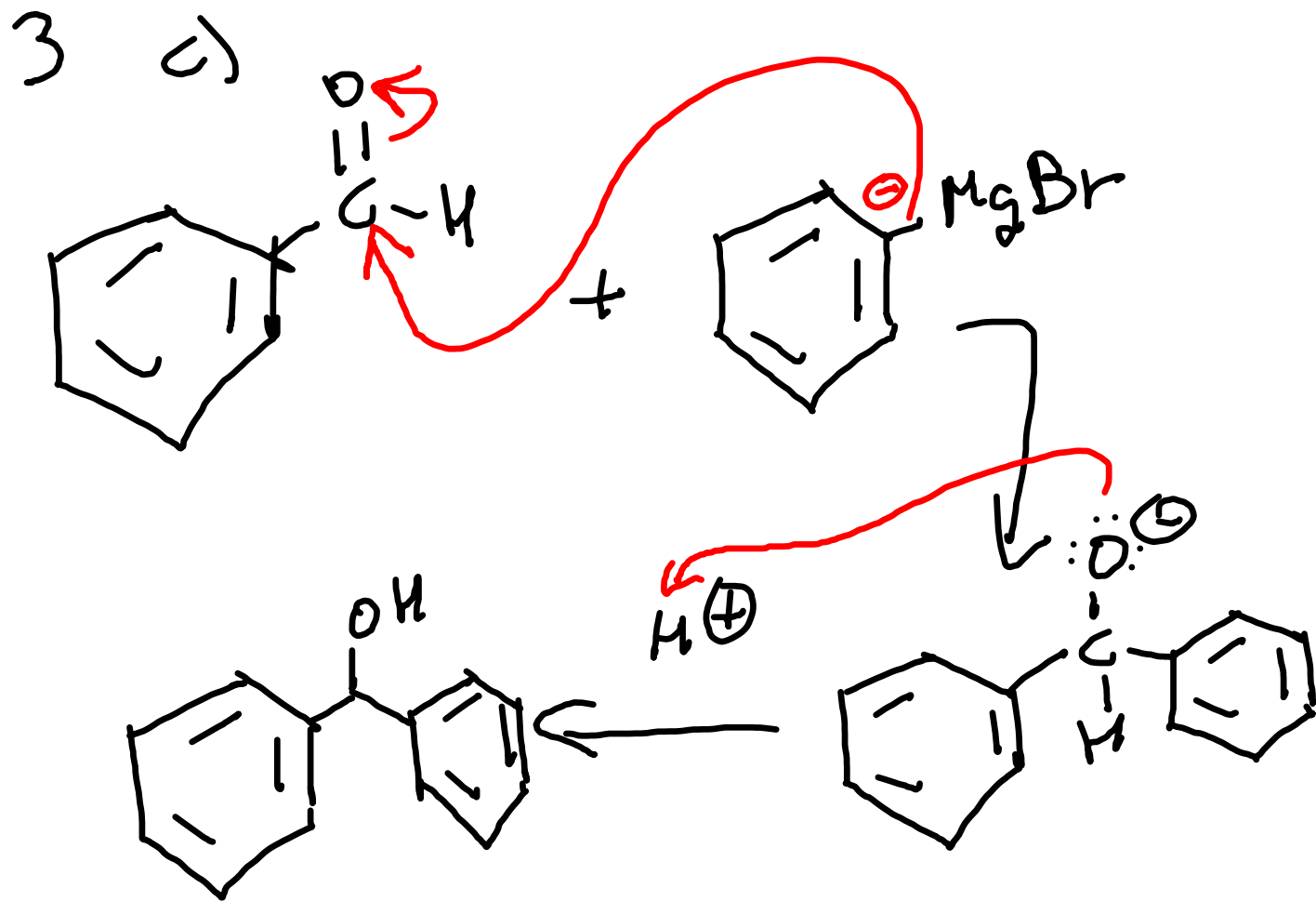
PROBLEM 3

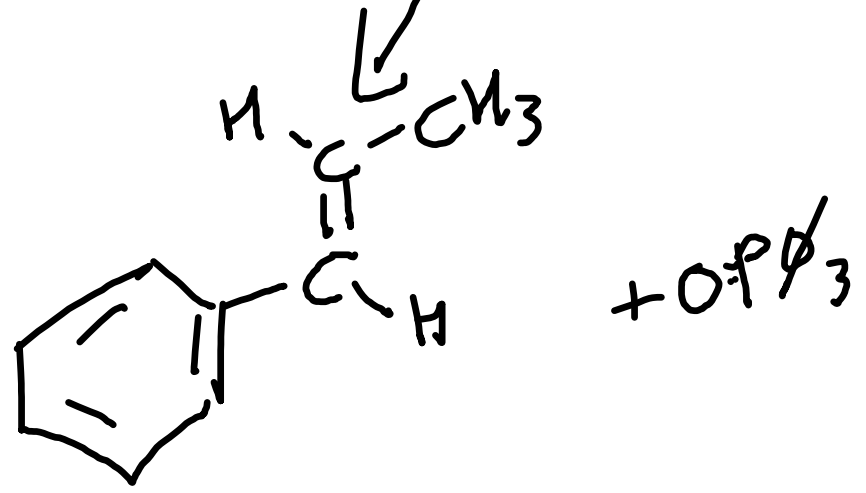
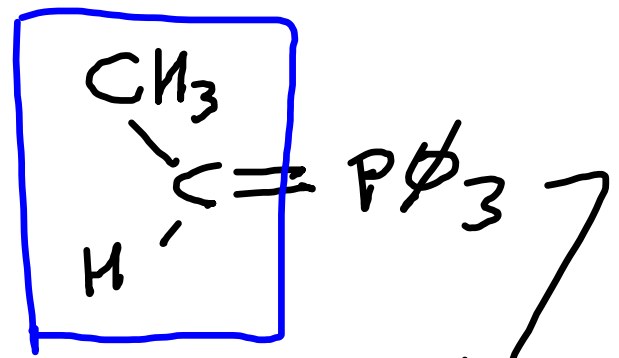
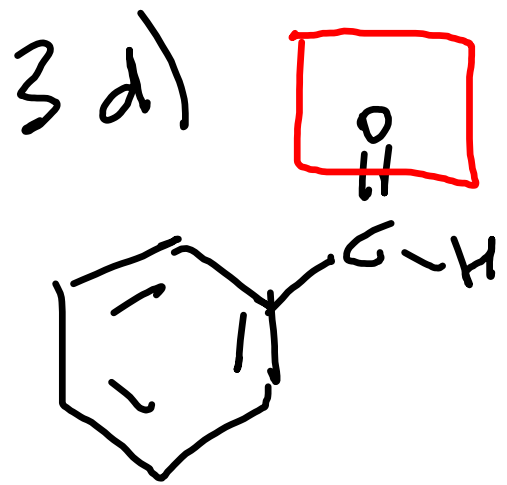
a)



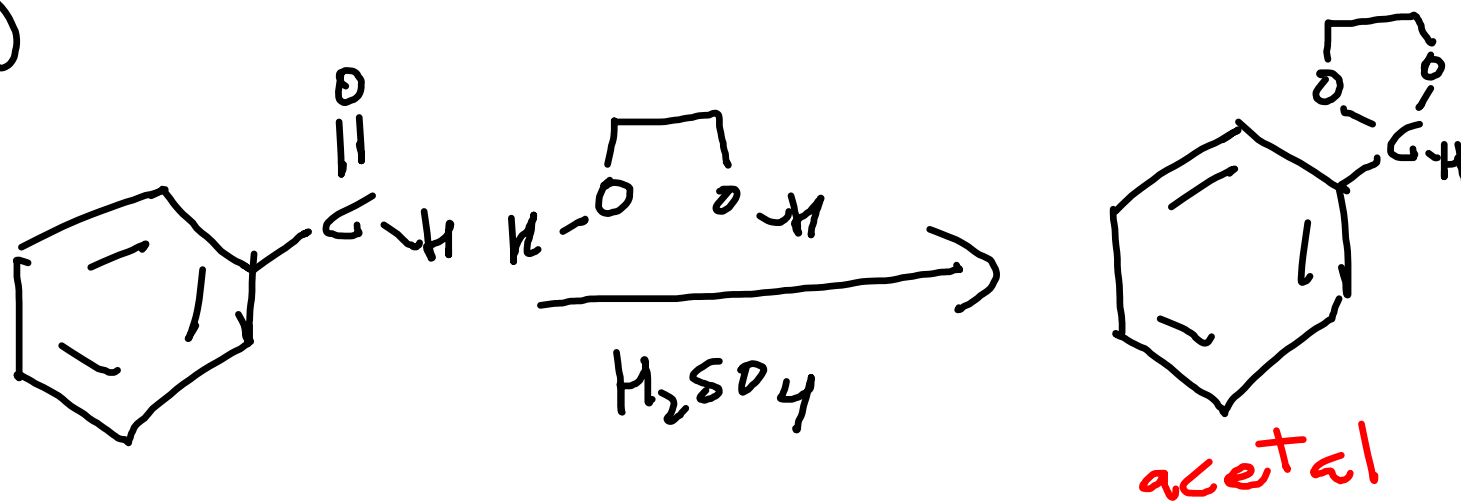
b)



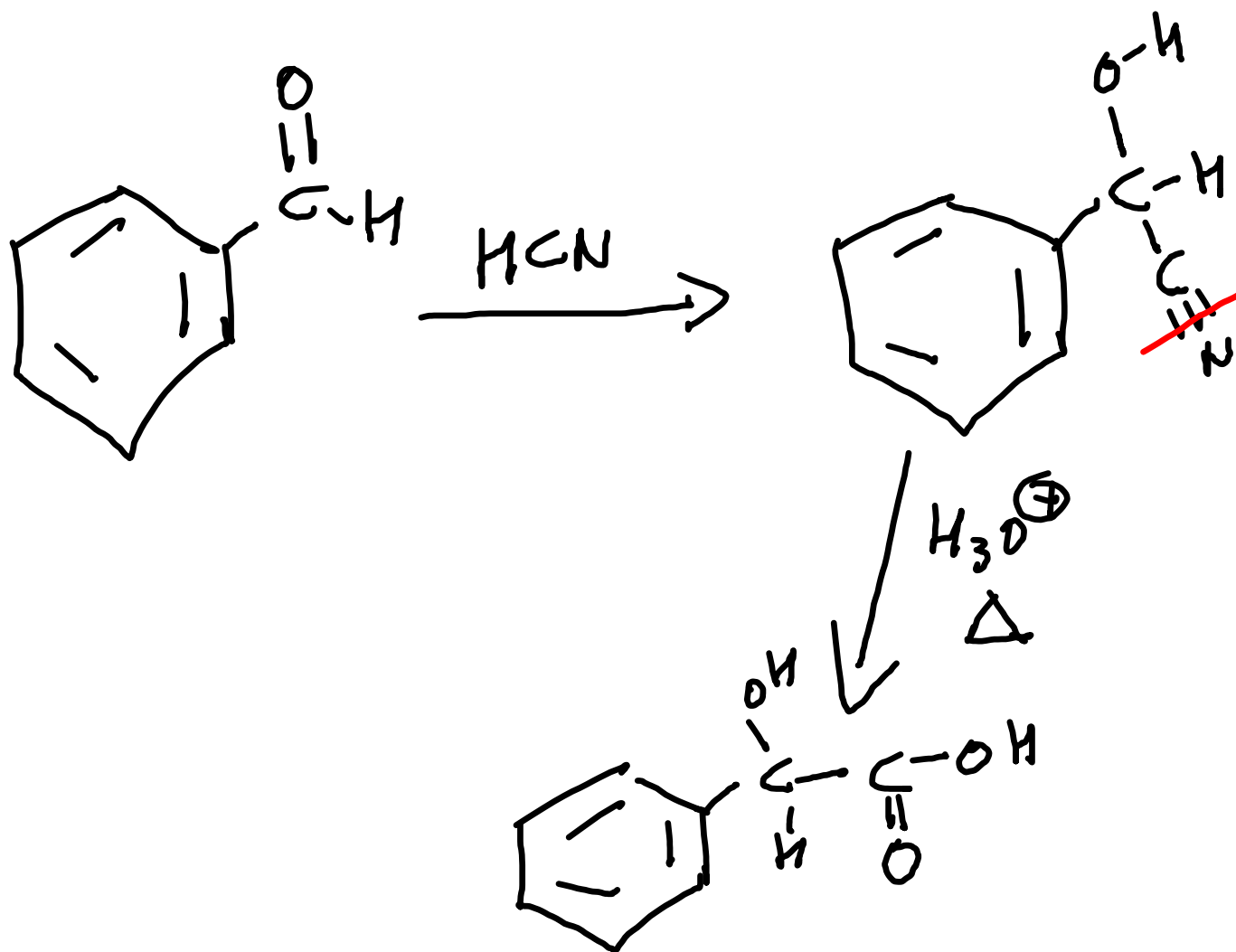


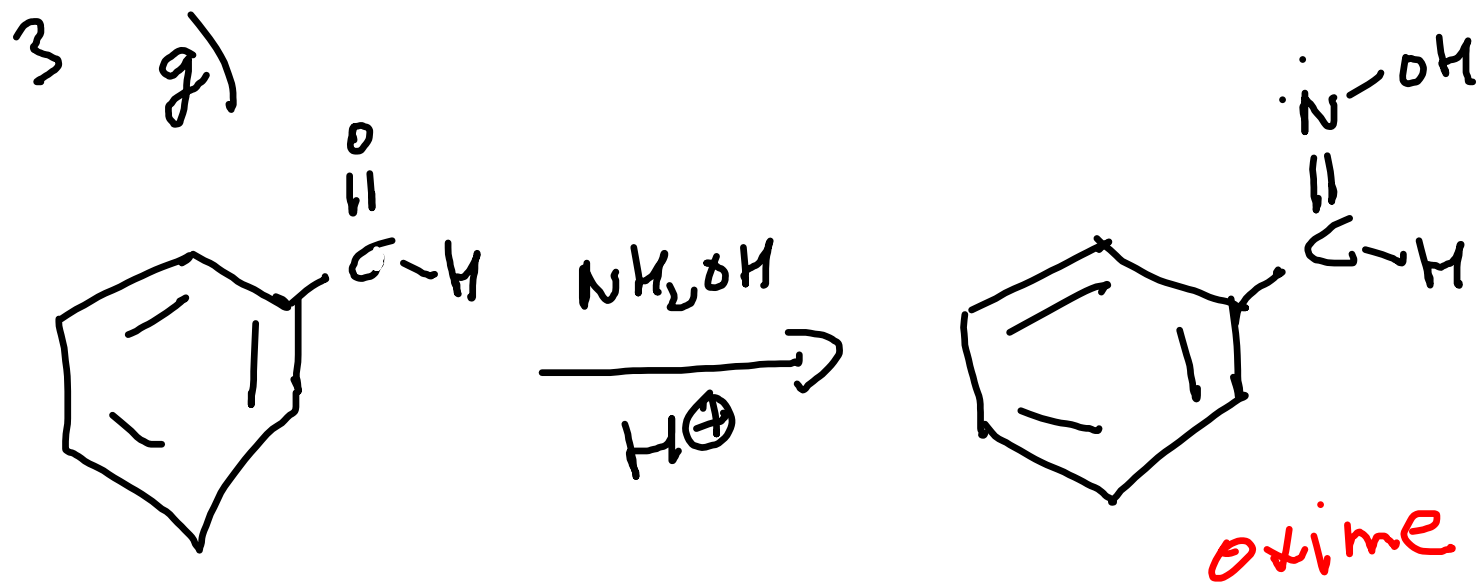


3 e)

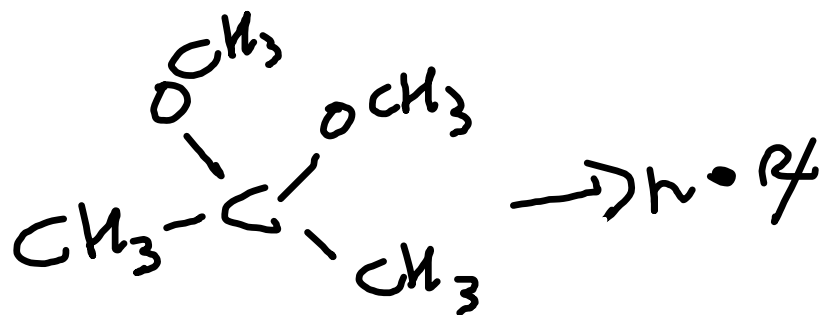
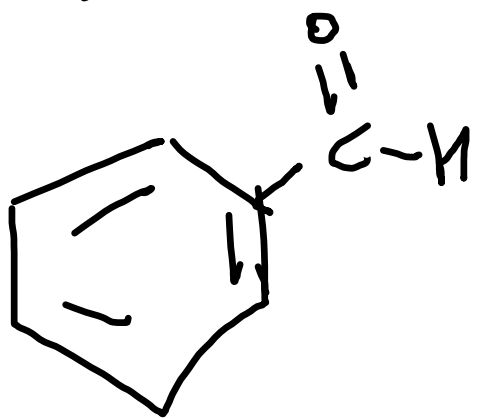


3 f)





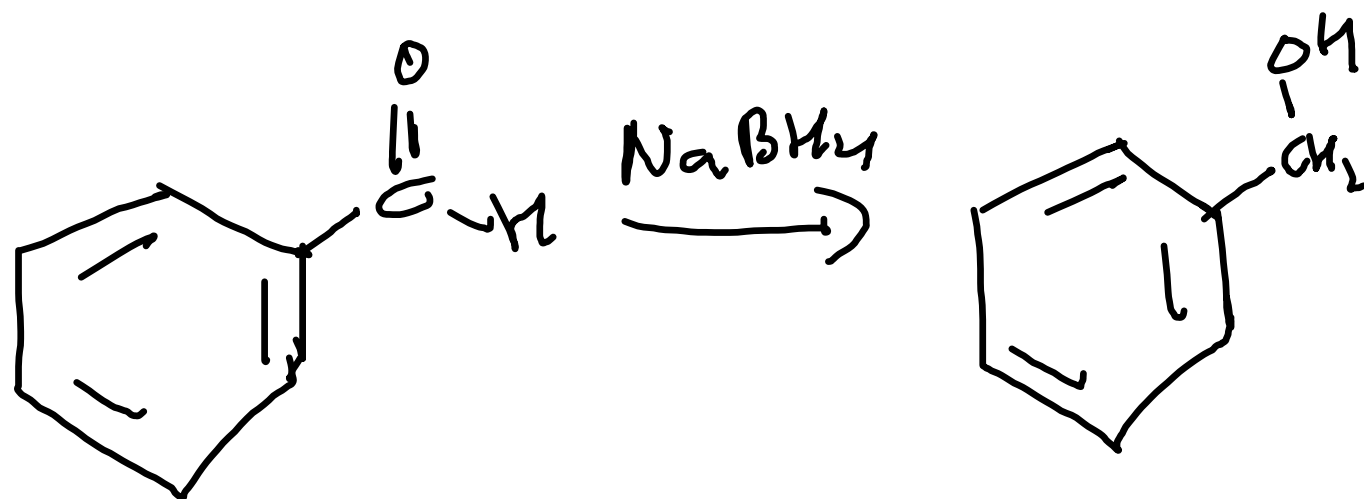
3 h)



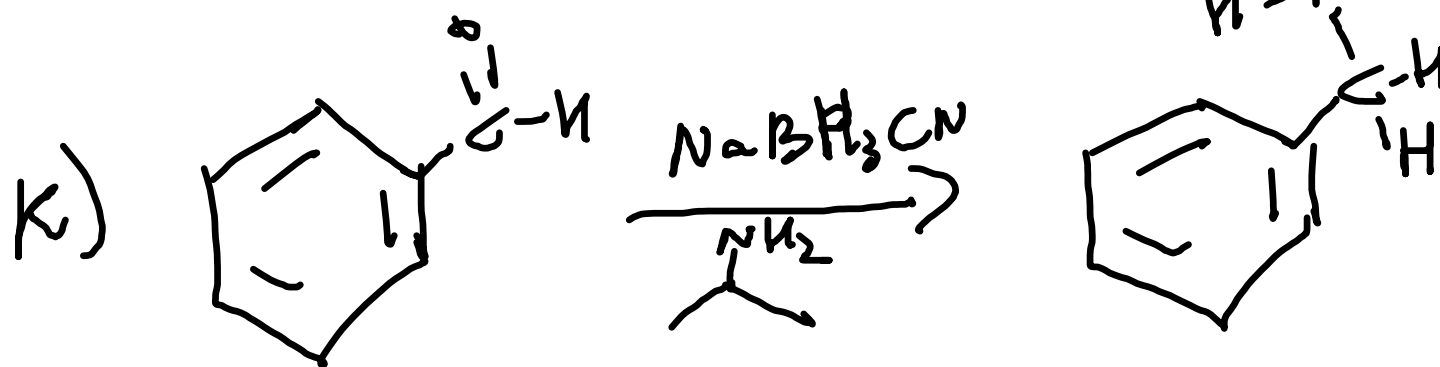
acetone
dimethyl
ketal



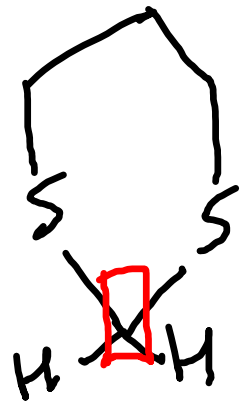
3 i)



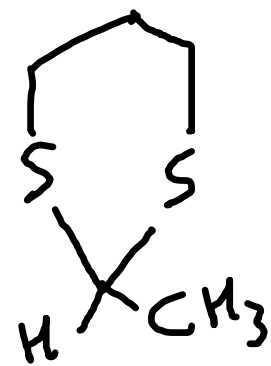
j) NaBH_3CN \rightarrow no rx



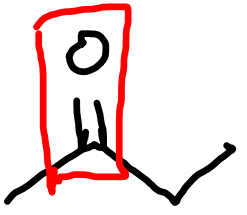
4) a)



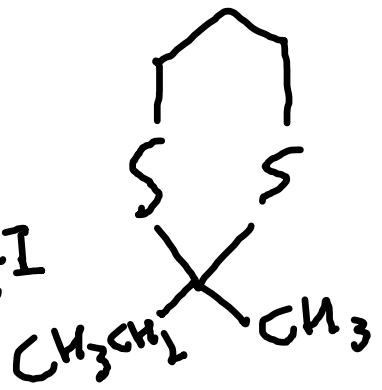
$\downarrow n\text{-BuLi}$

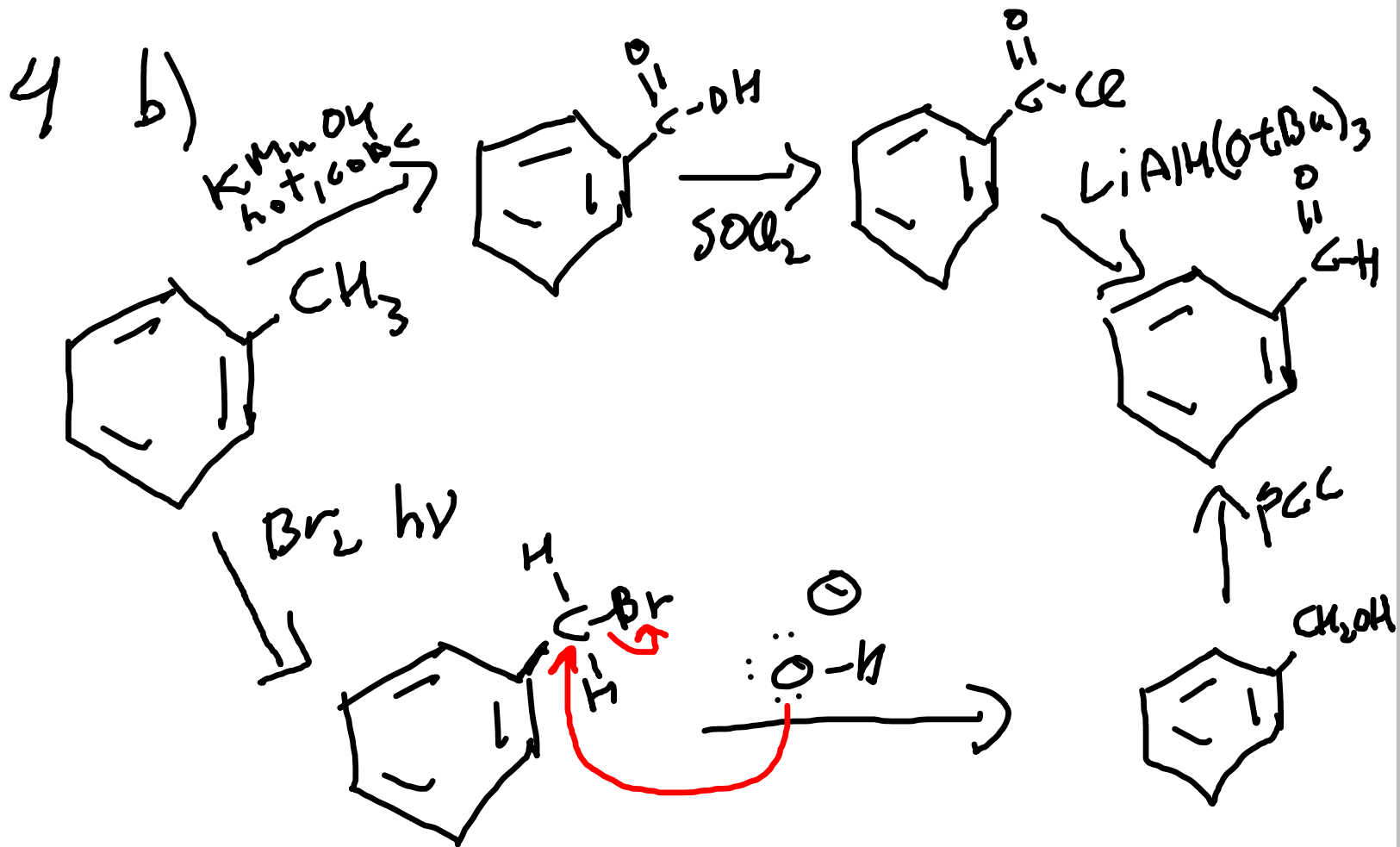


1) $n\text{-BuLi}$
2) $\text{CH}_3\text{CH}_2\text{-I}$

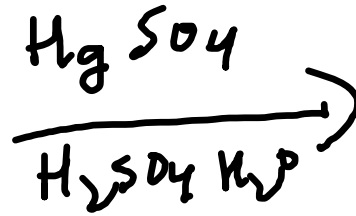
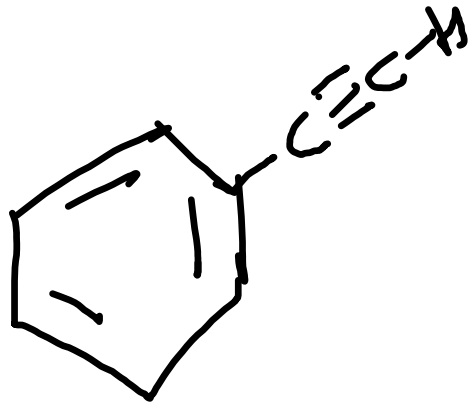


$\uparrow \text{HgCH}_2$
 $\downarrow \text{H}_3\text{O}^{\oplus}$

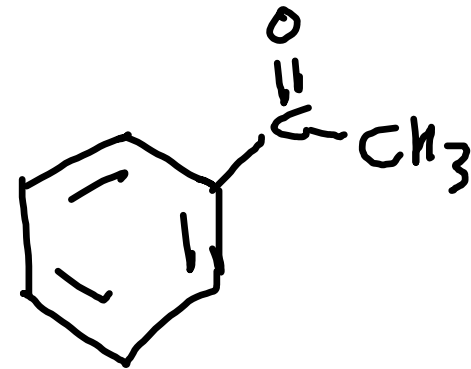




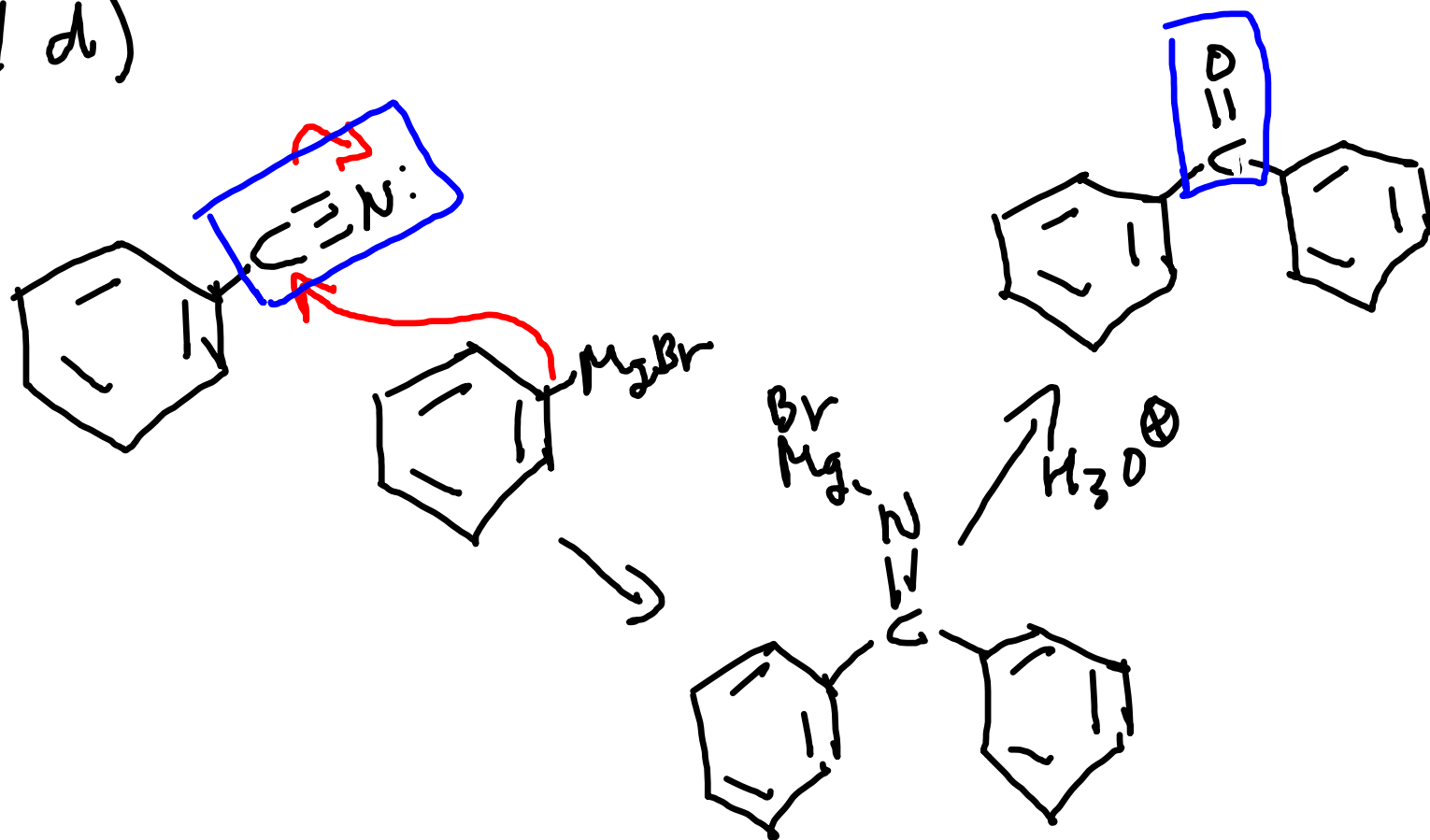
4 c)



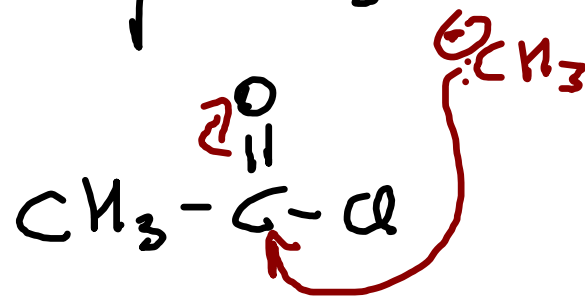
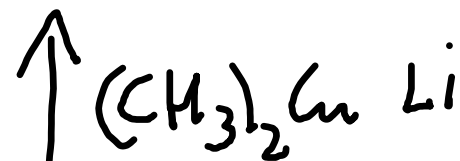
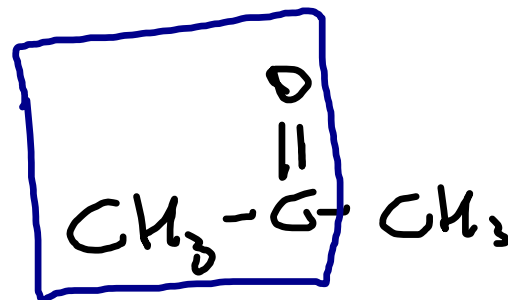
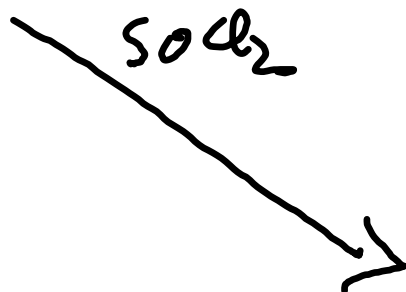
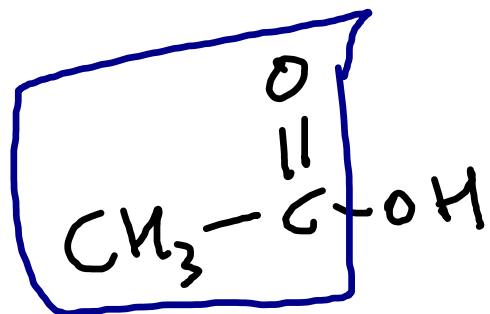
MARK
ADD
 H_2O



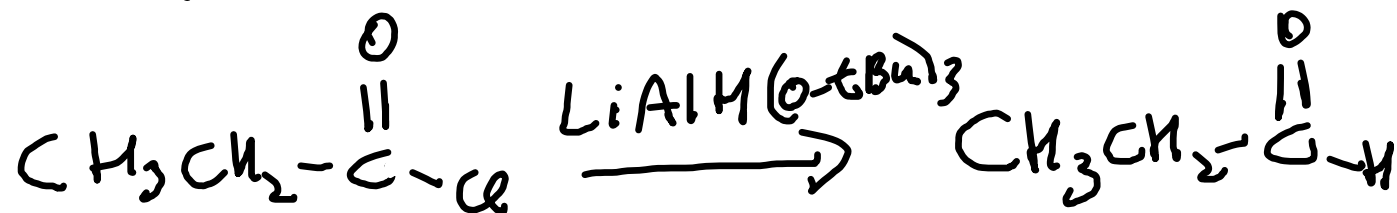
4 d)



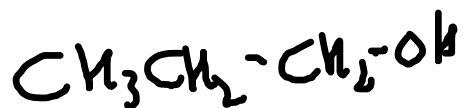
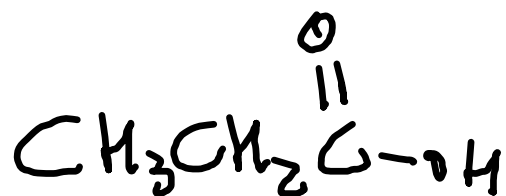
4 e)



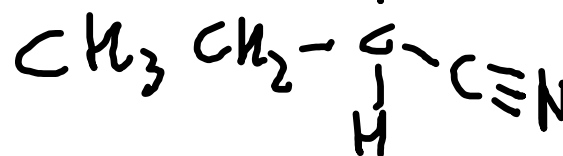
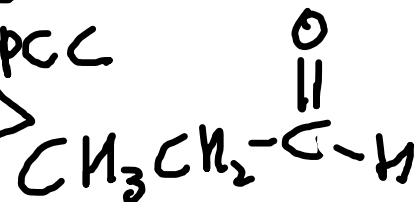
4 f)



4 g



PCC



α-hydroxy acid

