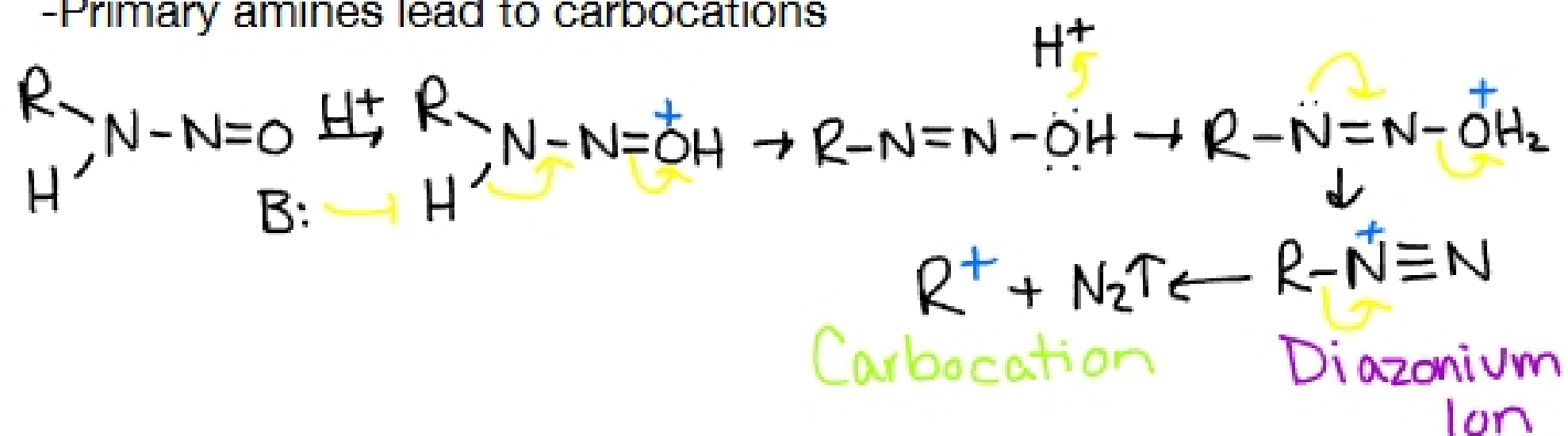
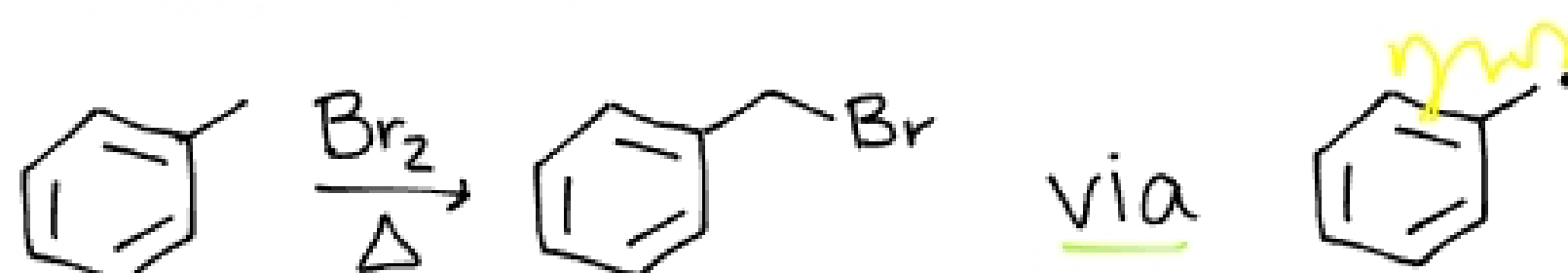


-Primary amines lead to carbocations

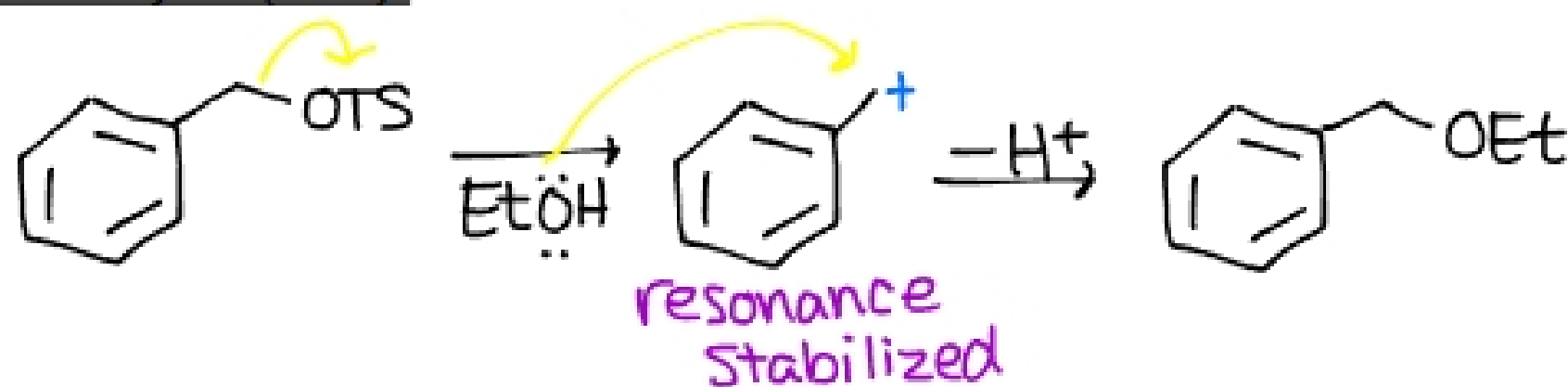


Chapter 22: Benzene Substituents

Radical Halogenation



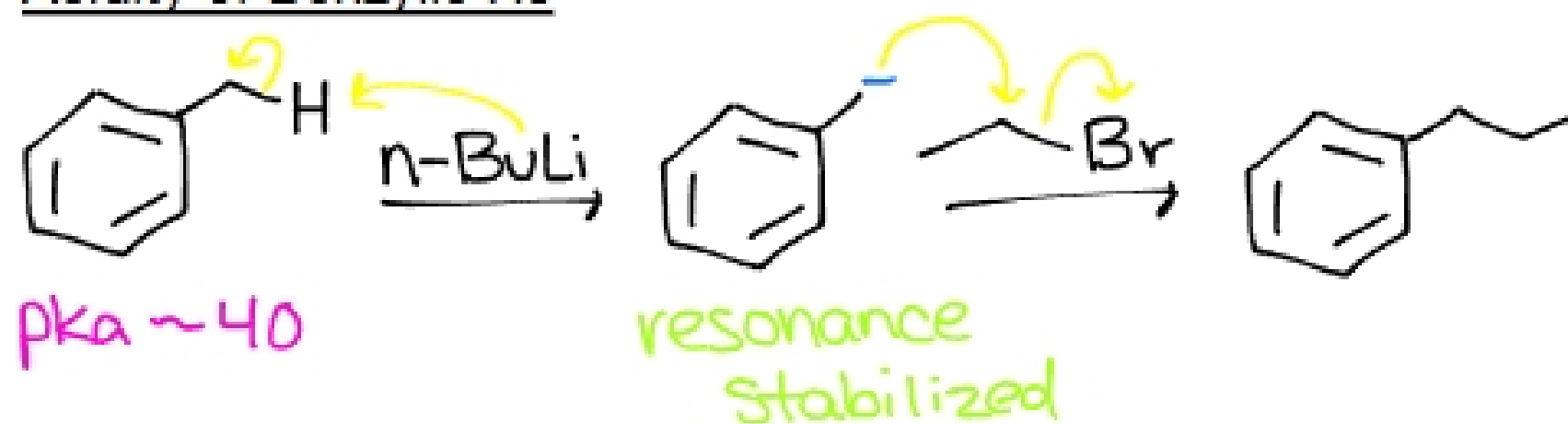
Solvolysis (SN1)



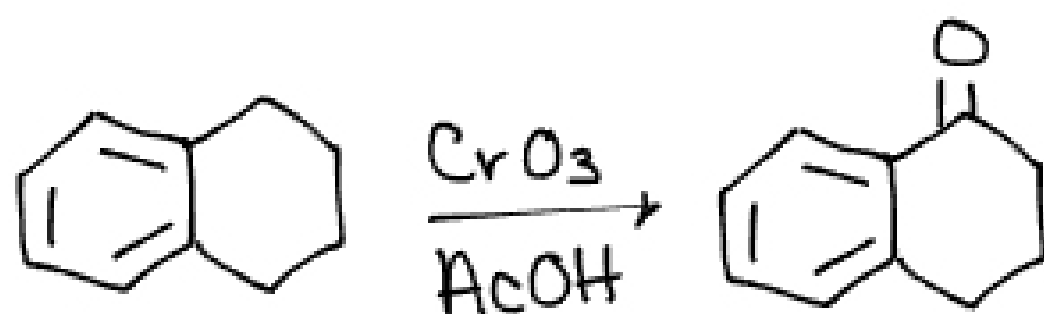
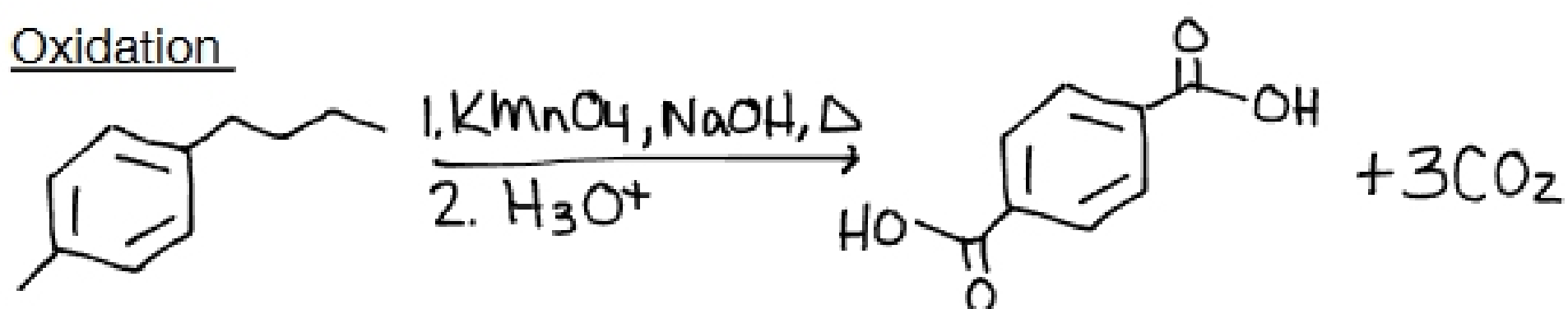
SN2



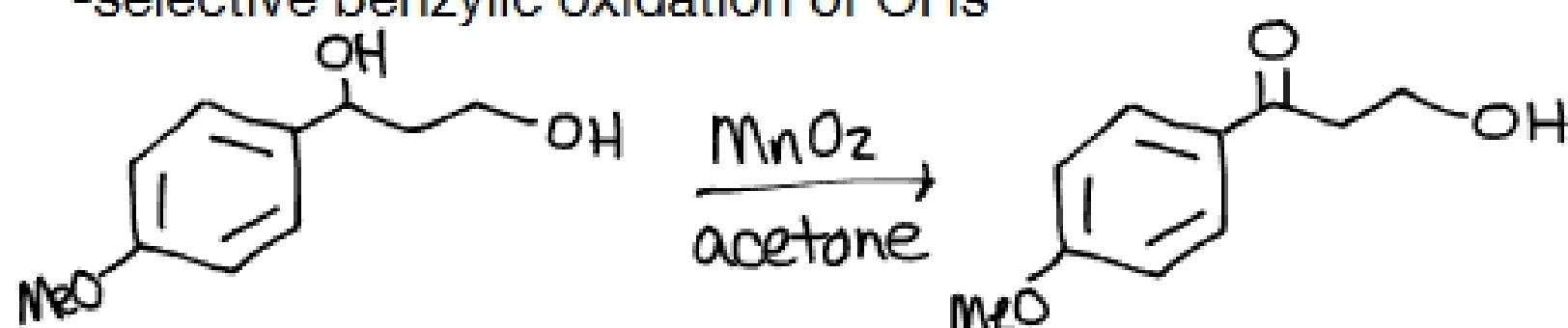
Acidity of Benzylic Hs



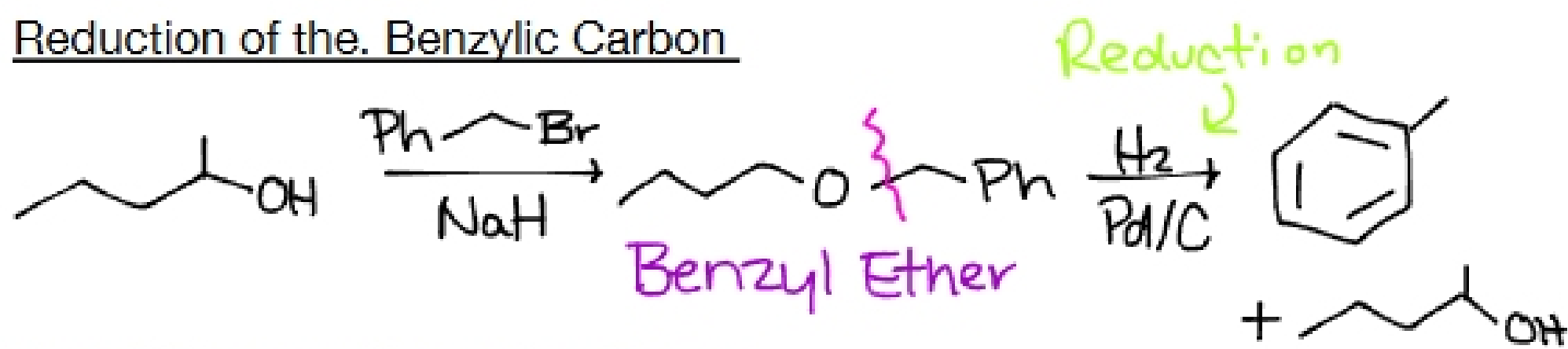
Oxidation



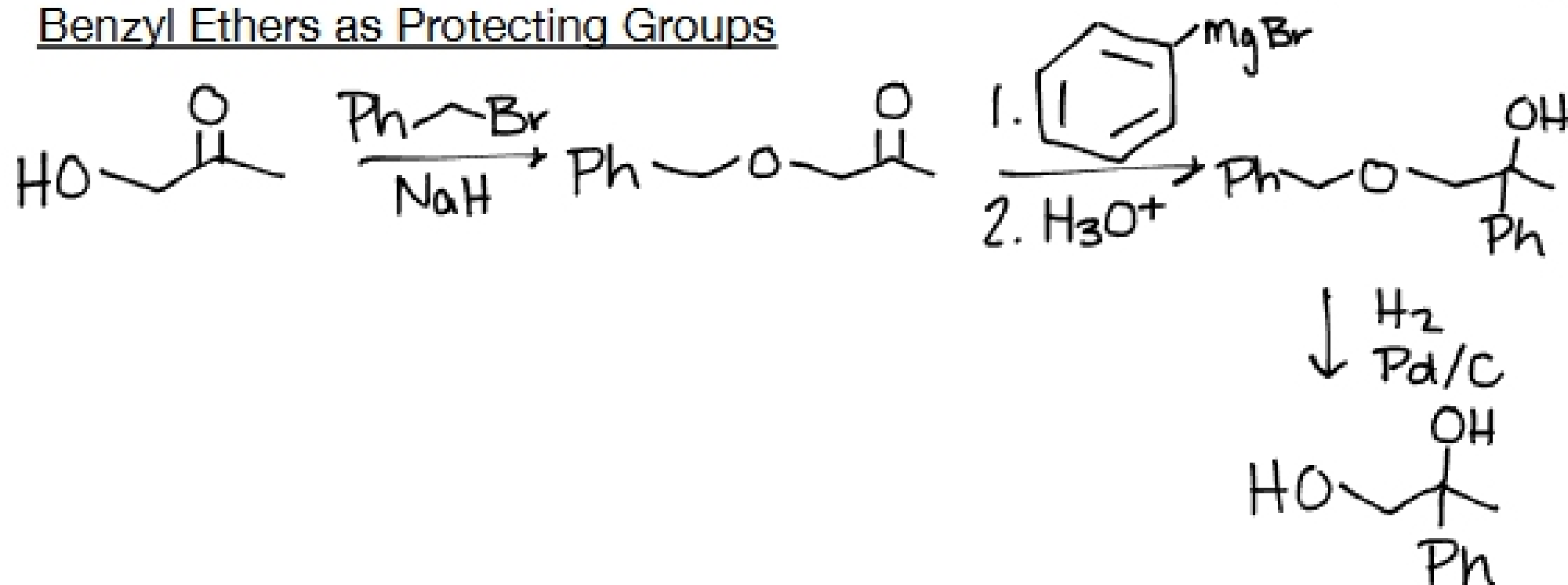
-selective benzylic oxidation of OHs



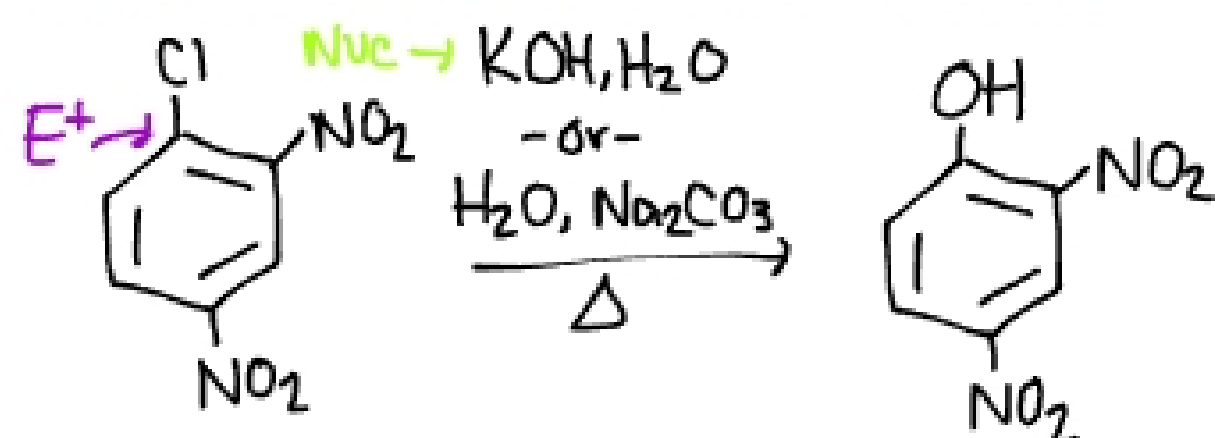
Reduction of the Benzylic Carbon



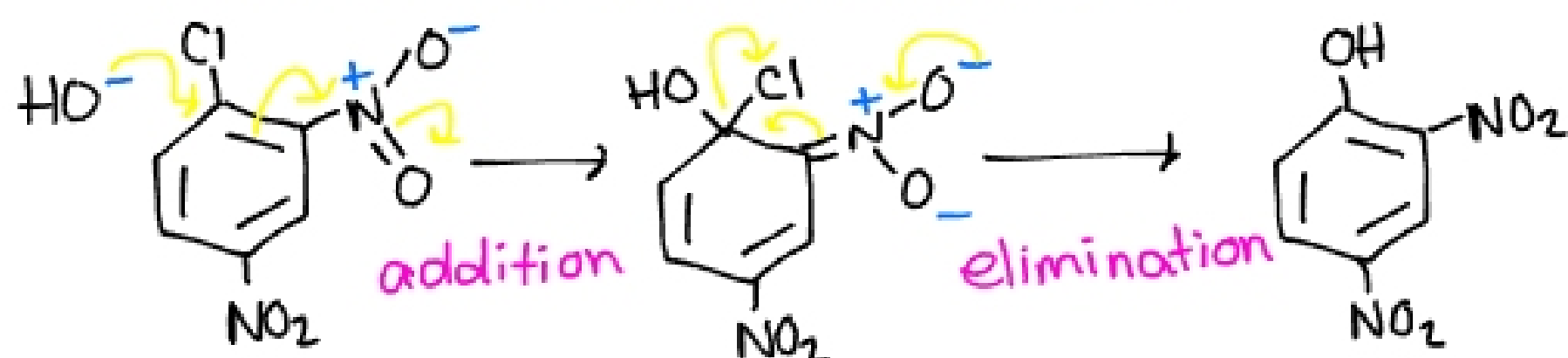
Benzyl Ethers as Protecting Groups



Nucleophilic Aromatic Substitution (NAS)



- NO₂ is a strong deactivating group and electron withdrawing
- this reaction will not go through S_N2 because there is no backside attack available and it will not go through S_N1 because the ring is very high in energy
- would go by addition-elimination mechanism



Rate of Formation

F = 312 (small and electronegative)

Cl = 1.0

Br = 0.8

I = 0.4 (best LG)

NAS-Benzyne (elimination/addition)

- do not need electron withdrawing groups
- need very extreme conditions for reaction to occur

