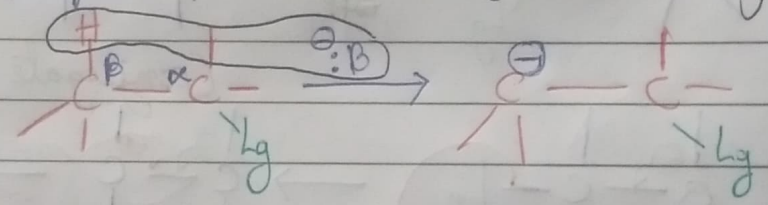
E1cB v/s E2

- Both uses strong base
- E1cB → 2 step reaction , E2 → 1 step reaction
- ~~Both uses~~
- E1cB → Carbanion intermediate , E2 → No intermediate
- E1cB → poor leaving group , E2 → ~~good~~ leaving group

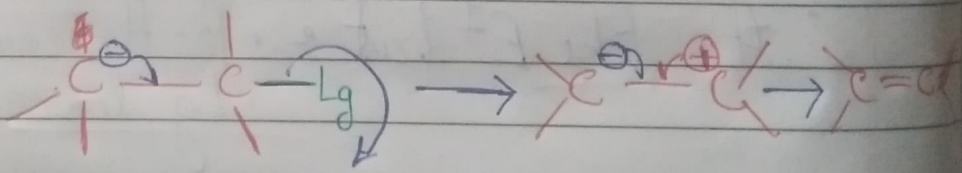
E1cB poor leaving group :. Its 2 step reaction even with strong base attacking / taking away the ~~leaving group~~ β hydrogen & leaving group leaves 2nd

E2 strong leaving group :. Its a 1 step reaction with strong base attacking the ~~poor side~~ β-carbon's hydrogen

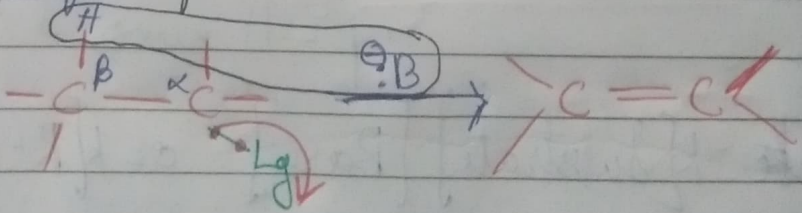
For E1cB:- Step 1:- β-H removal (∵ Poor leaving group)



Step 2 :- Lg removal (∵ Lg is poor, it leaves last)



For E2 :- Step 1 : β-H removal



∵ Lg leaves readily in E2, its one step

But, ∵ Lg is poor in E1cB, its unwilling to leave even with presence of strong base

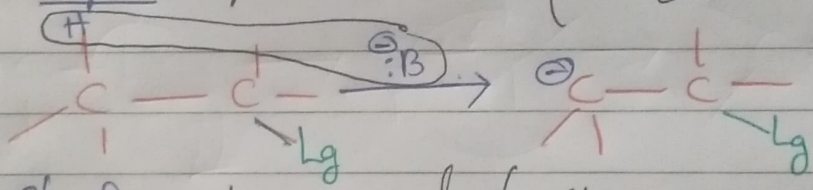
E1cB v/s E1

- E1cB → strong base, E1 → weak base
- E1cB & E1 are 2 step reaction
-
- E1cB → Carbanion intermediate, E1 → Carbocation intermediate
- E1cB → poor leaving group, E1 → good leaving group

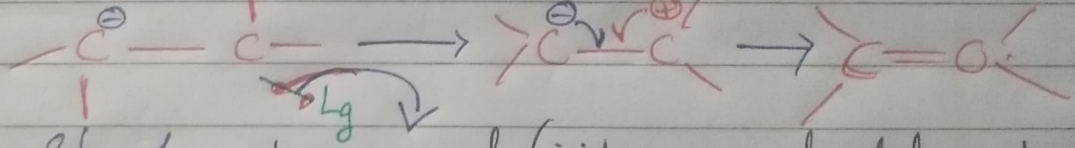
E1cB poor leaving group :- It is a 2 step reaction where the leaving group leaves 2nd after β-hydrogen is taken away by strong base in 1st step

E1 good leaving group :- It is a 2 step reaction where the leaving group leaves 1st and β-hydrogen is taken away by weak base in 2nd step

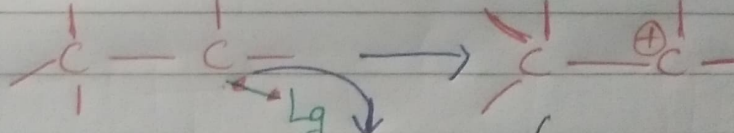
For E1cB :- Step 1 :- β-H removal (∵ Poor leaving group & strong base)



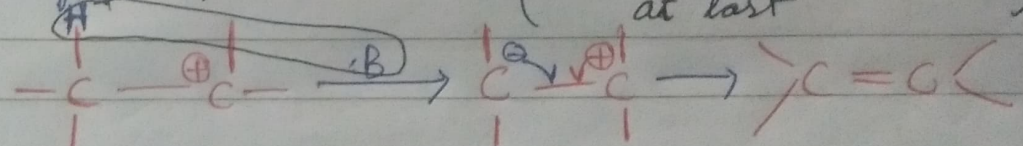
Step 2 :- Lg removal (∵ Lg is poor, it leaves last)



For E1 :- Step 1 :- Lg removal (∵ Lg is good, it leaves first)



Step 2 :- β-H removal (∵ Weak base takes away β-H at last)



∴ E1cB is a inverse of E1