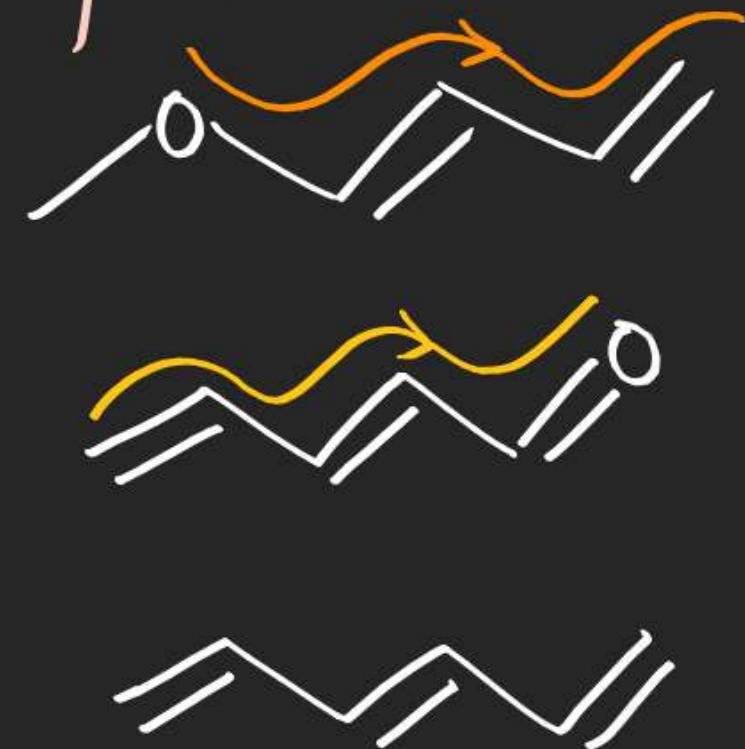


## Extended Conjugation

⇒ Compound must have at least "3" segments

⇒ Flow of  $e^-$ s in same direction

Ex:



## Cross Conjugation

⇒ Compound must have at least "3" segments

⇒ Flow of  $e^-$ s in opp. direction

Ex:



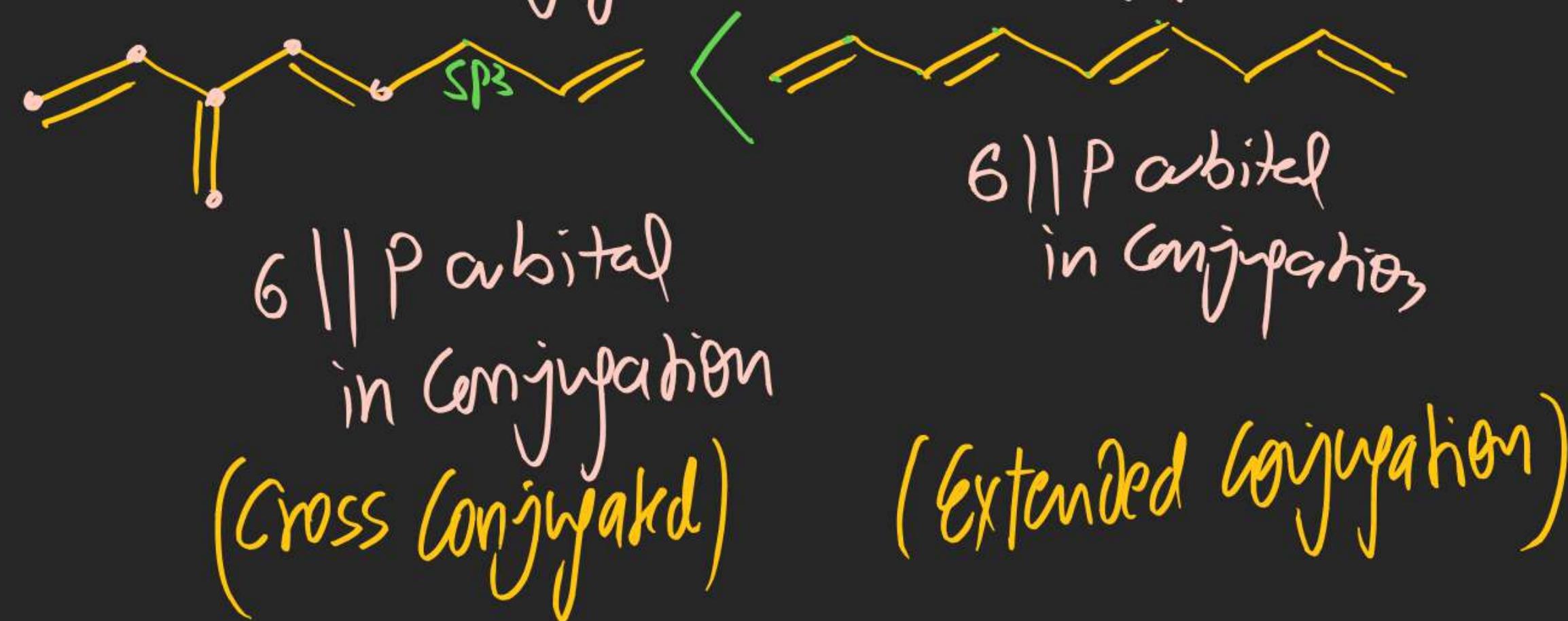
Note: Extended conjugation is more stable than Crooks longwakd system

(1) Stability order:

(a)



(b)

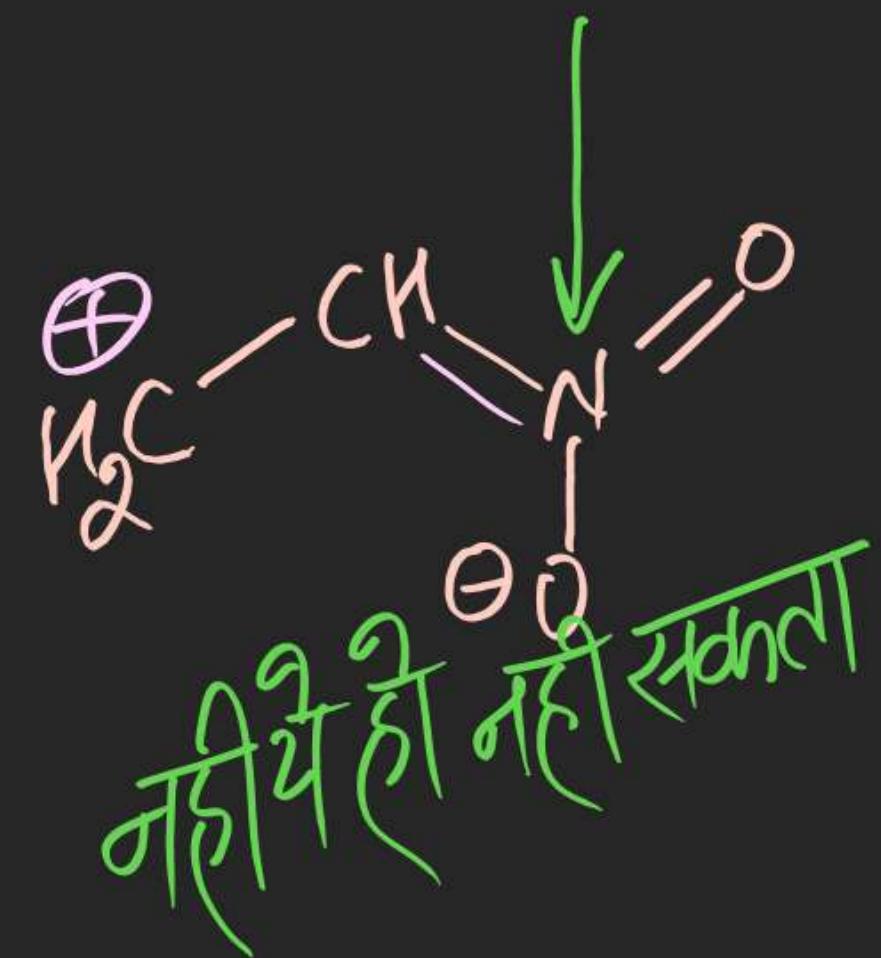
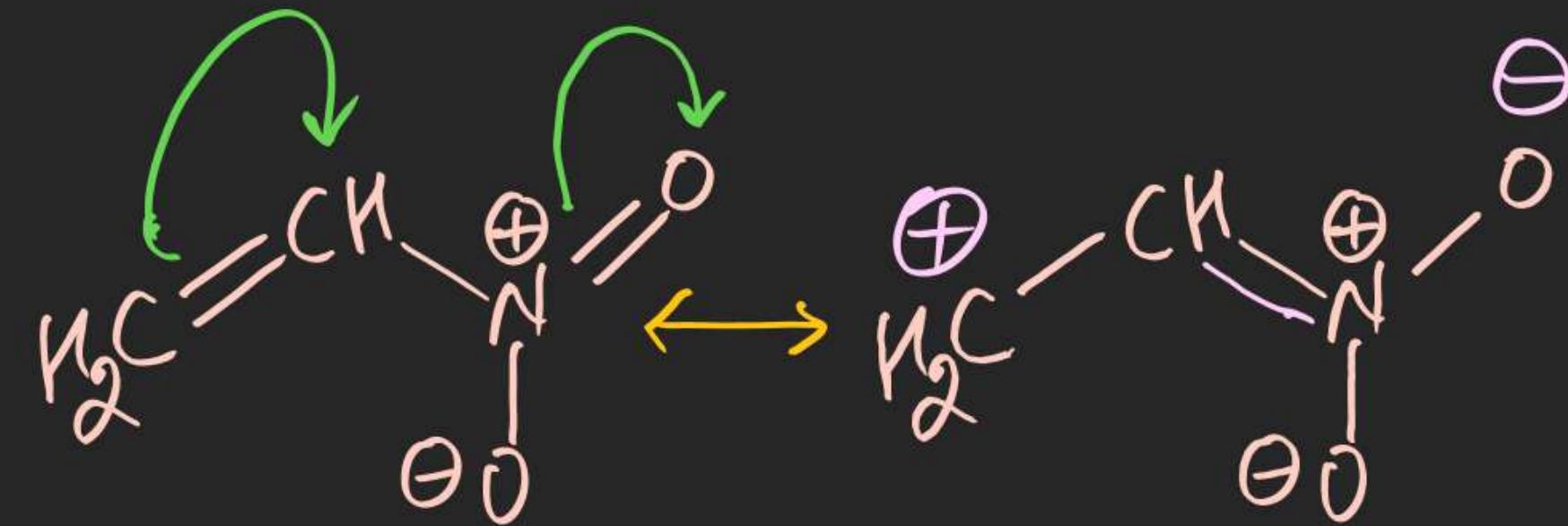


# (#) Rules for Drawing RS:-

Rule-1: Each RS must have valid str. ( don't violate octet Rule)

Ex-1:

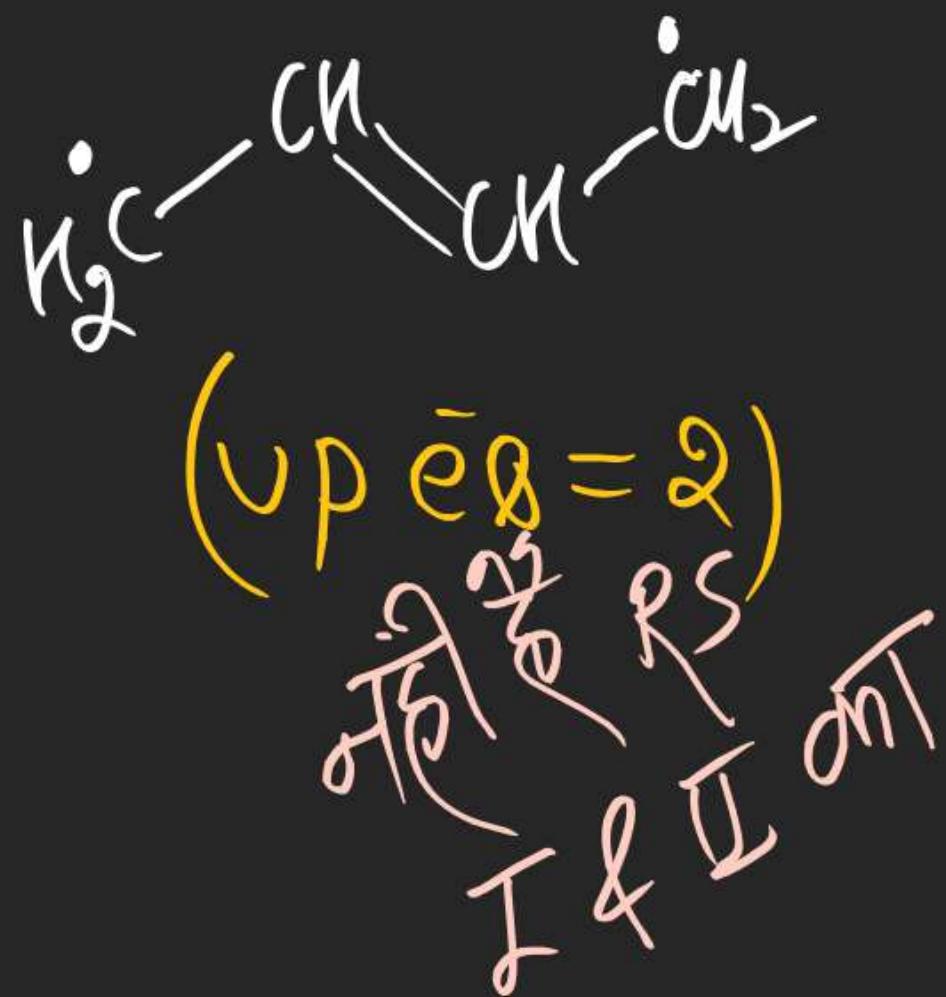
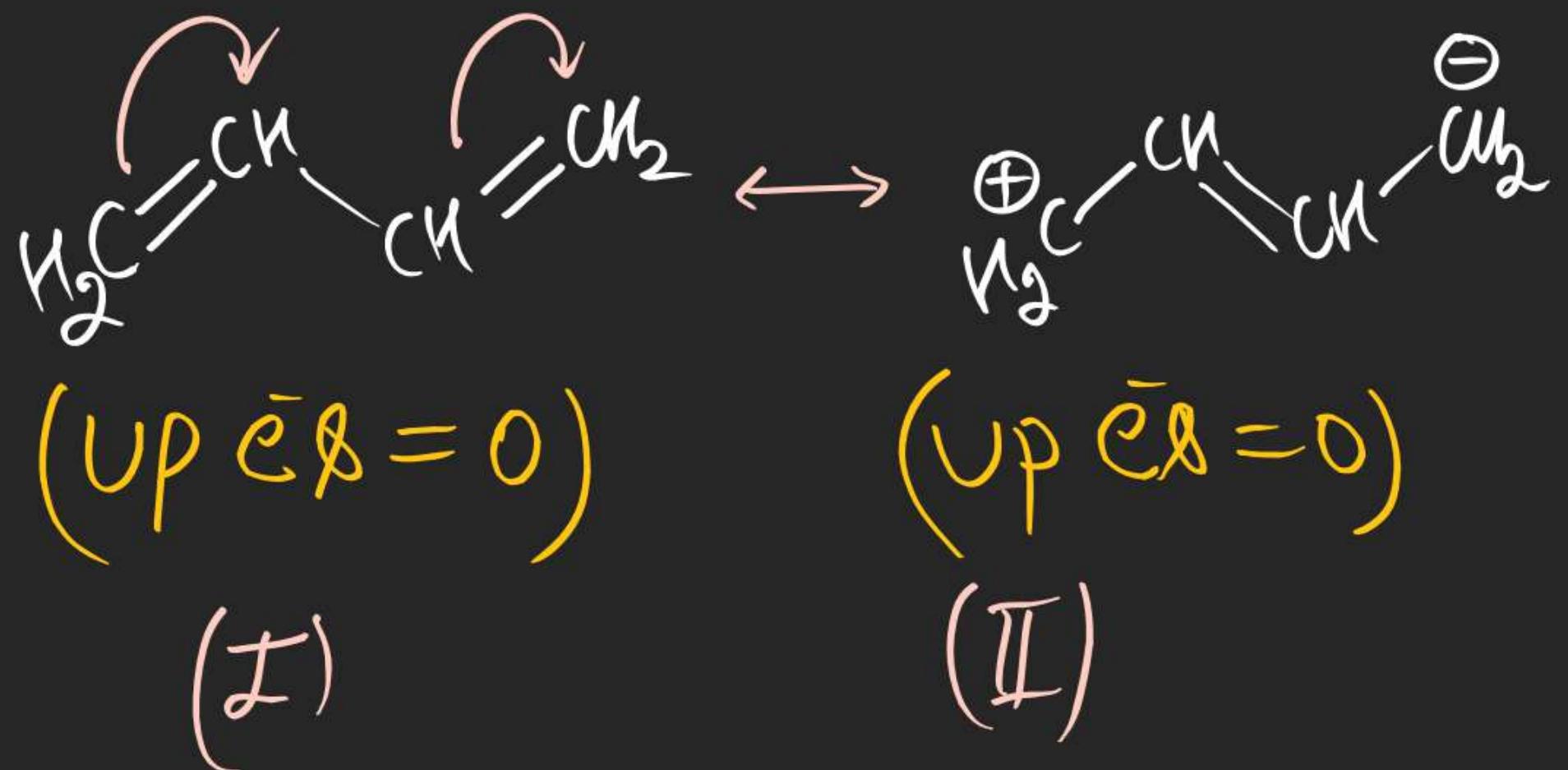
Nitro Ethene



Rule-2 :- Each RS must have same No. of unpaired e<sup>-</sup>s.

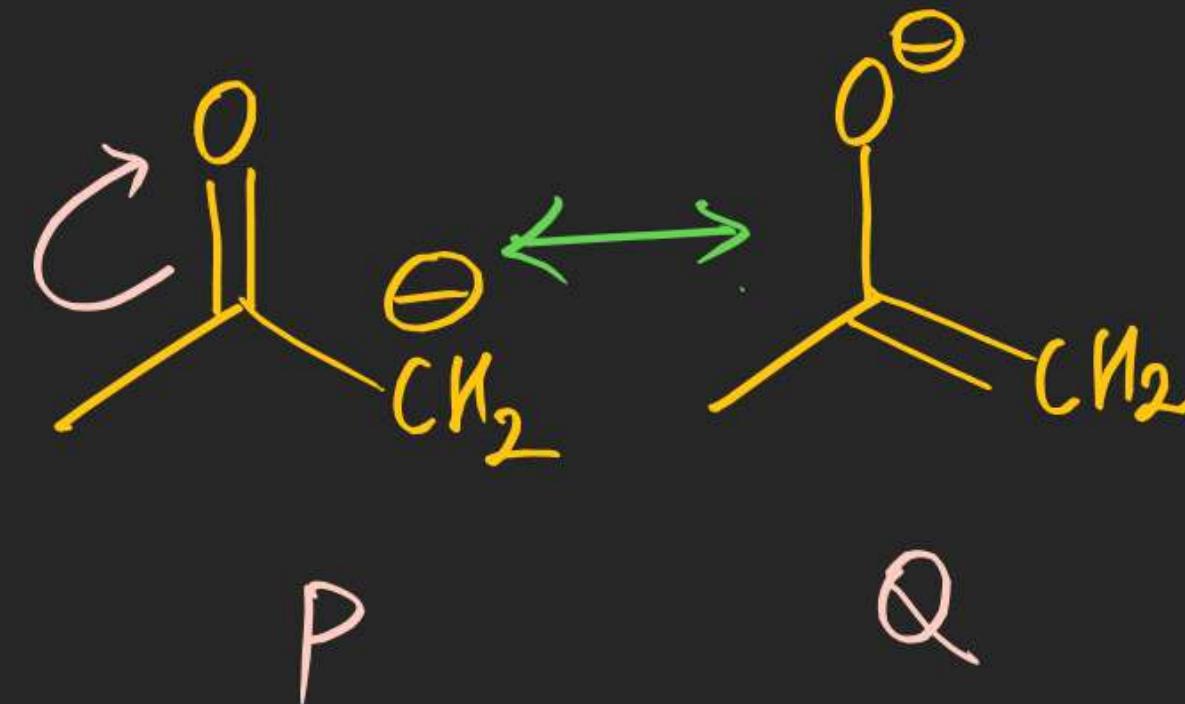
Ex-2 :

Buta-1,3-Diene



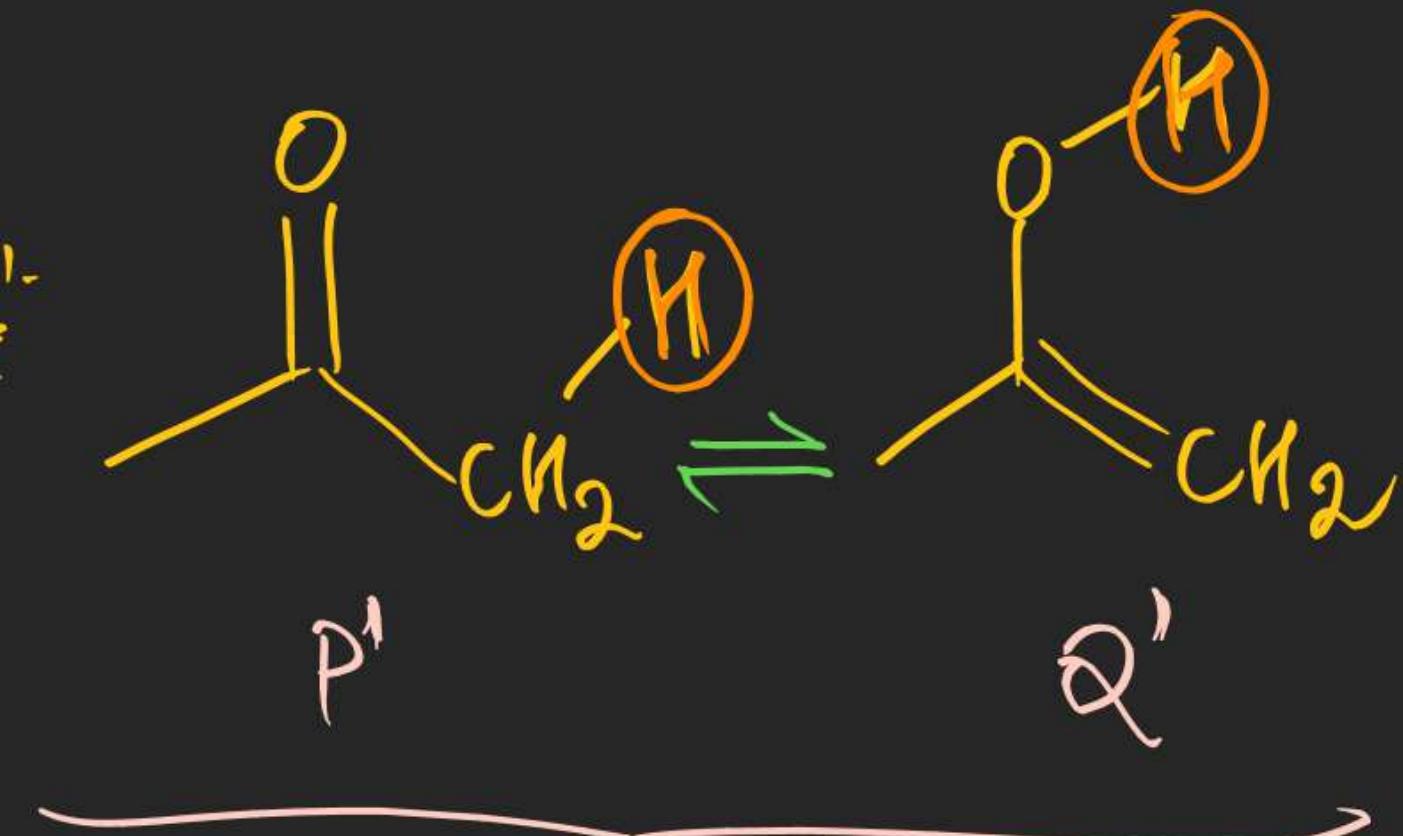
Rule-3:- Nuclei of each atom in R-S must be same .

Ex-3:



Resonating structures

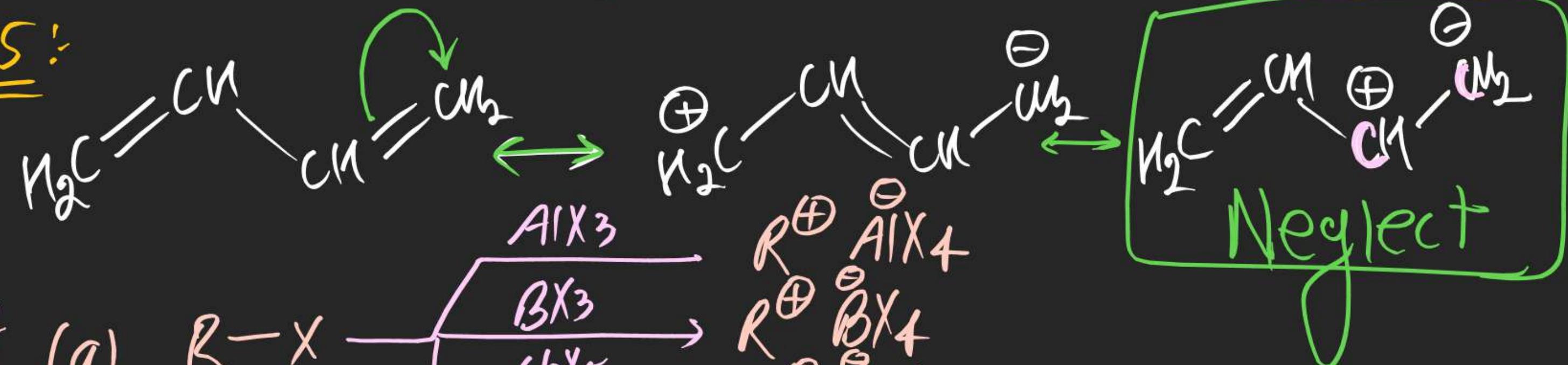
Ex-4:-



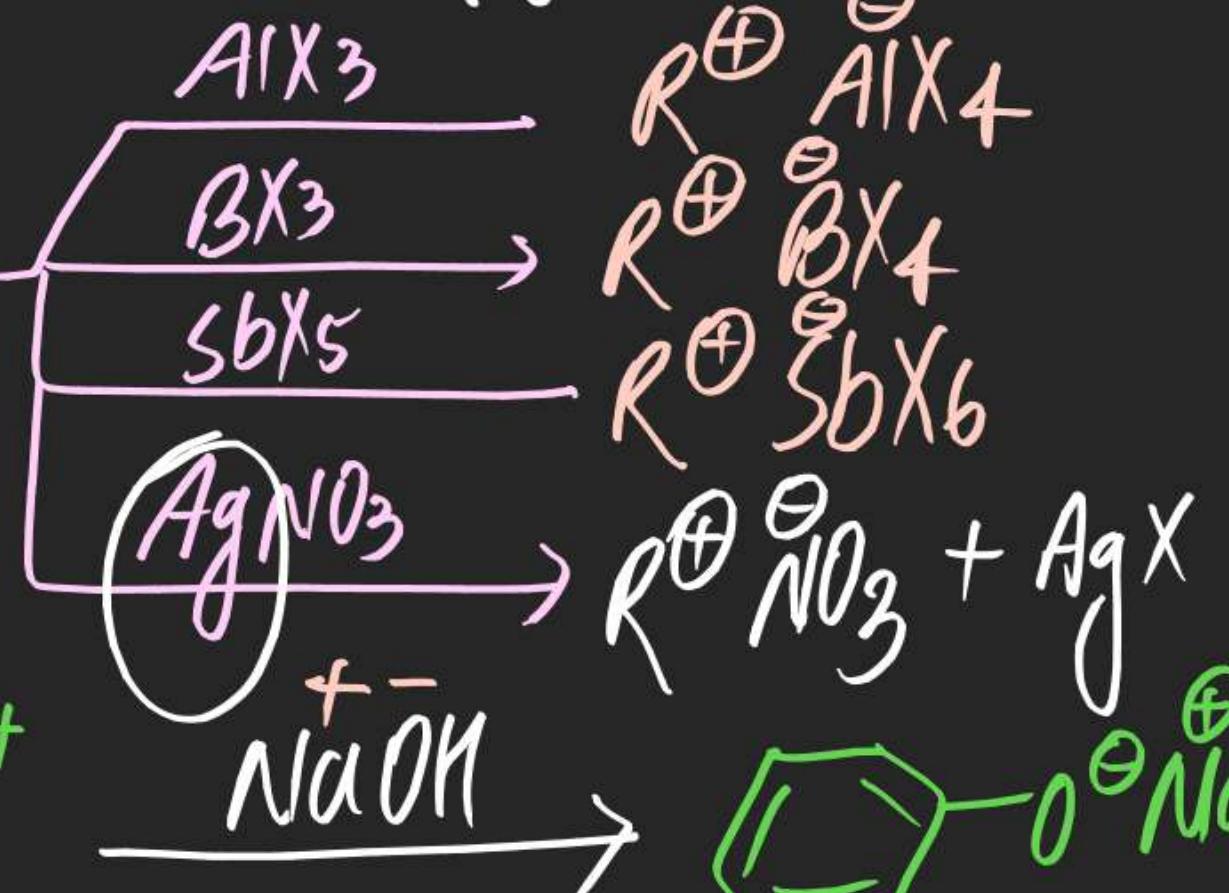
Not Resonating Structures  
(Tautomers)

Rule-4: RS having opp charges on adjacent atoms (which can form bond) is usually neglected.

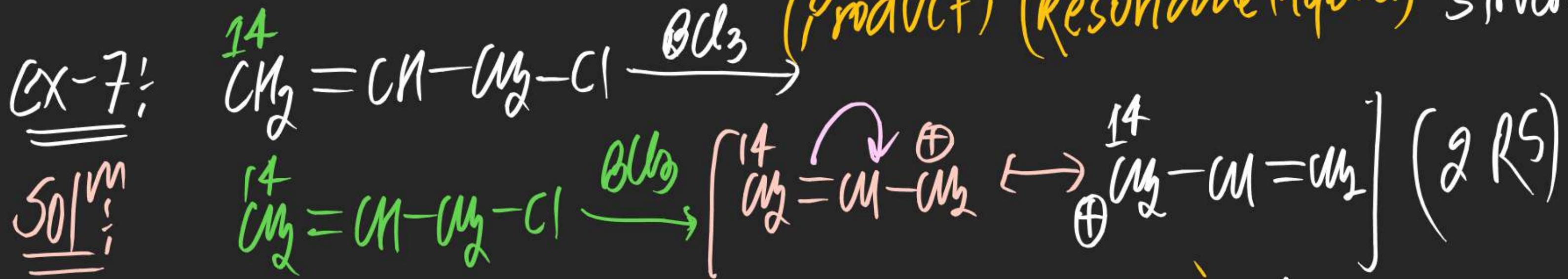
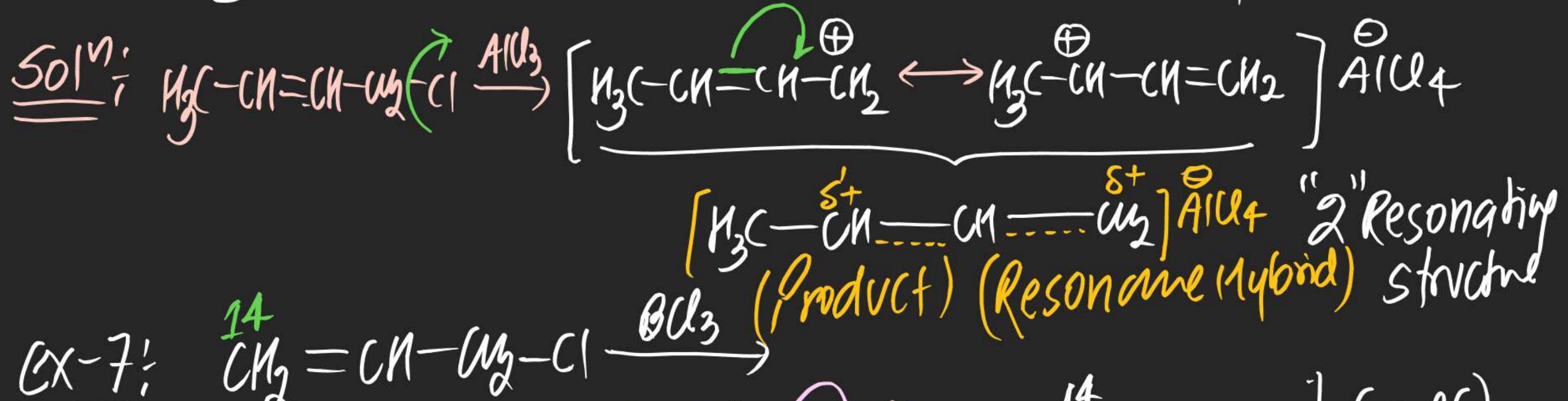
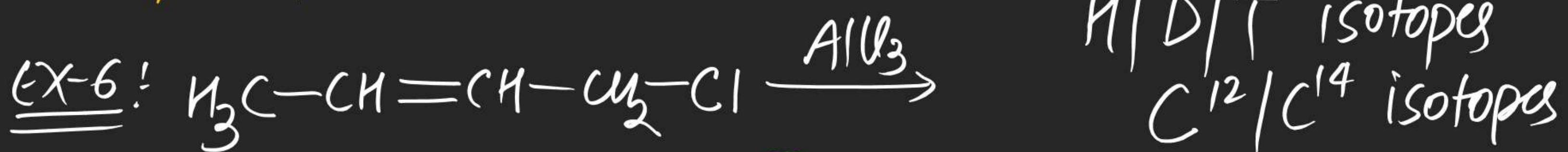
Ex-5:

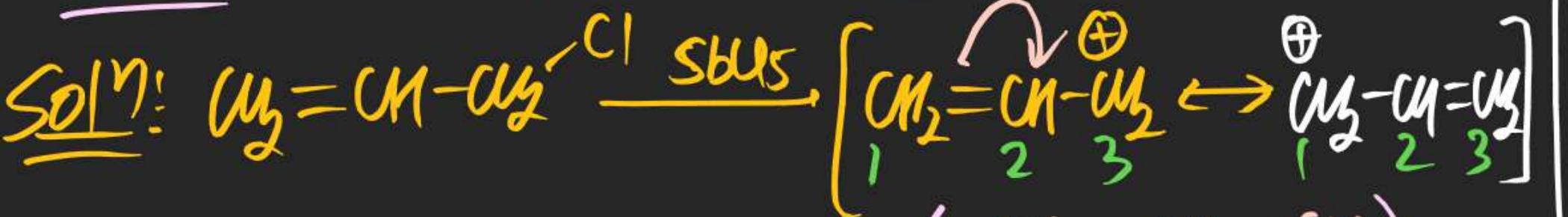
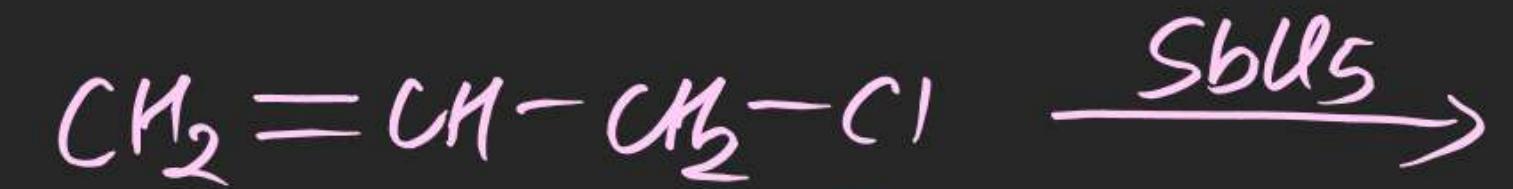
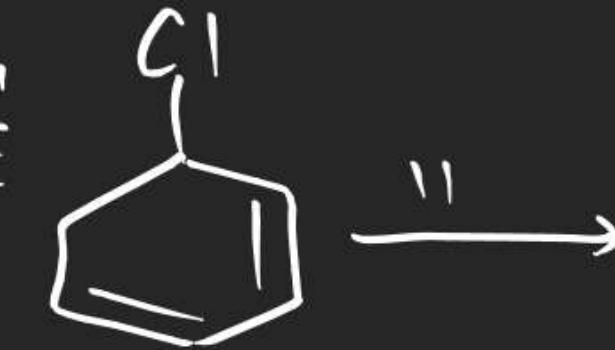


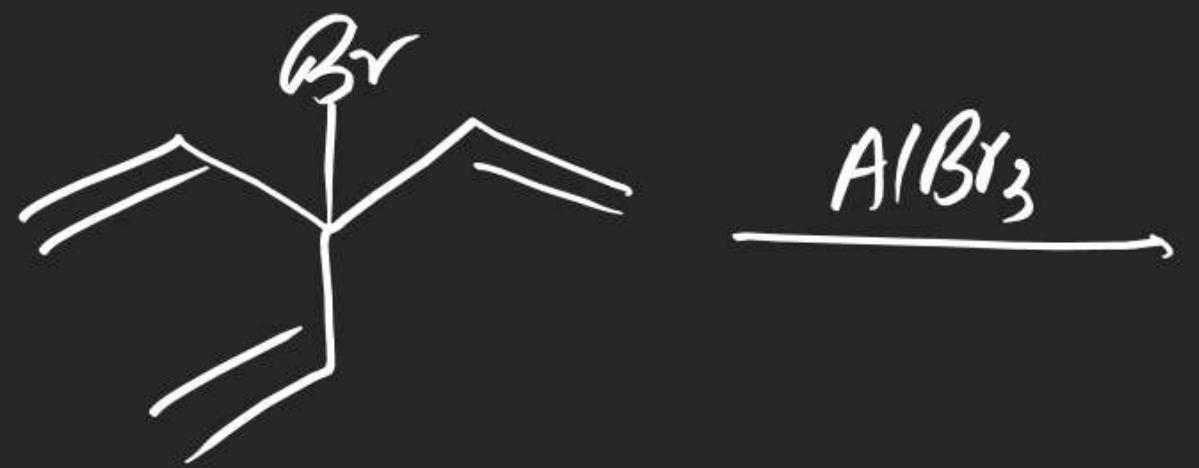
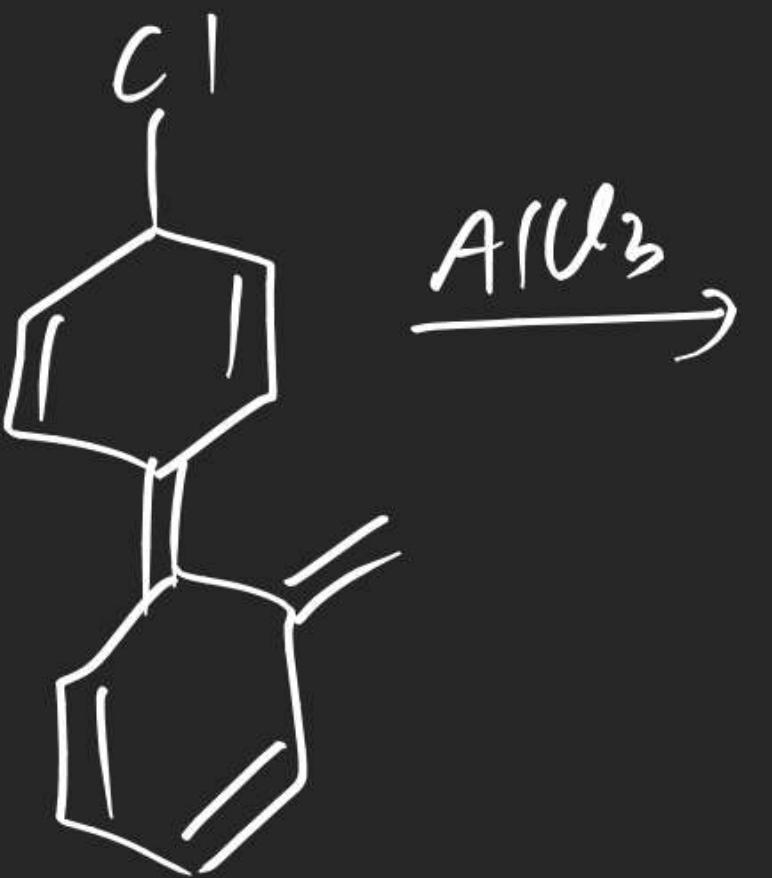
Note:



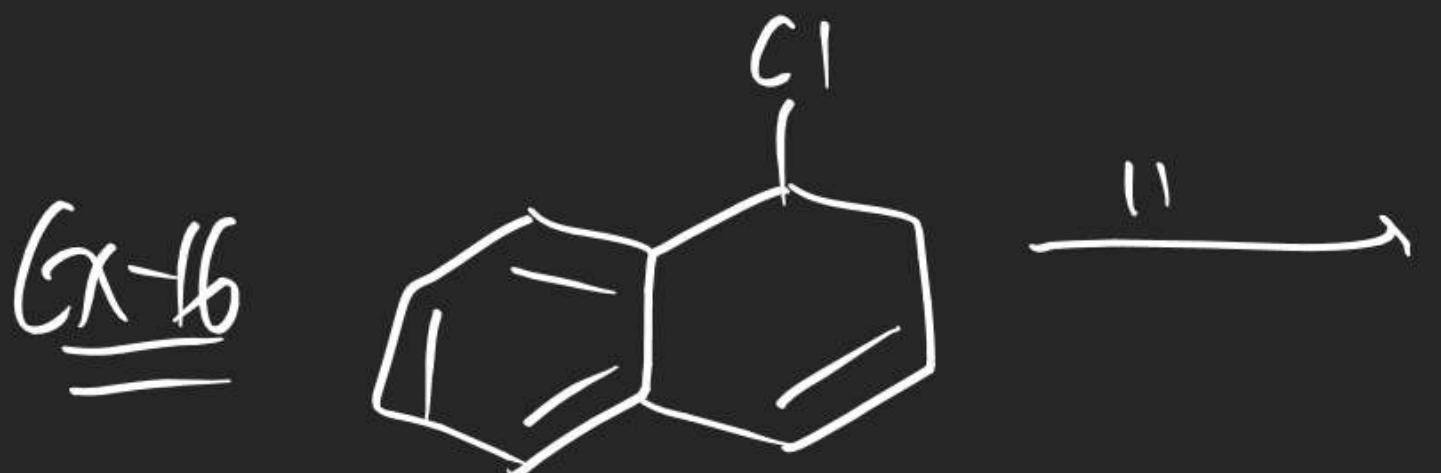
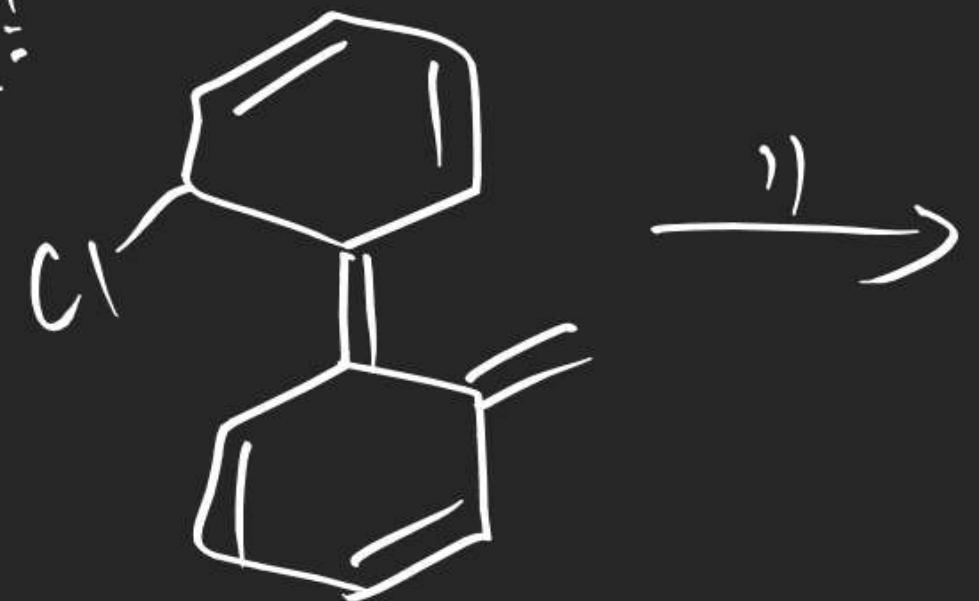
(#) Calculate total no. of RS of Product of following Reaction.

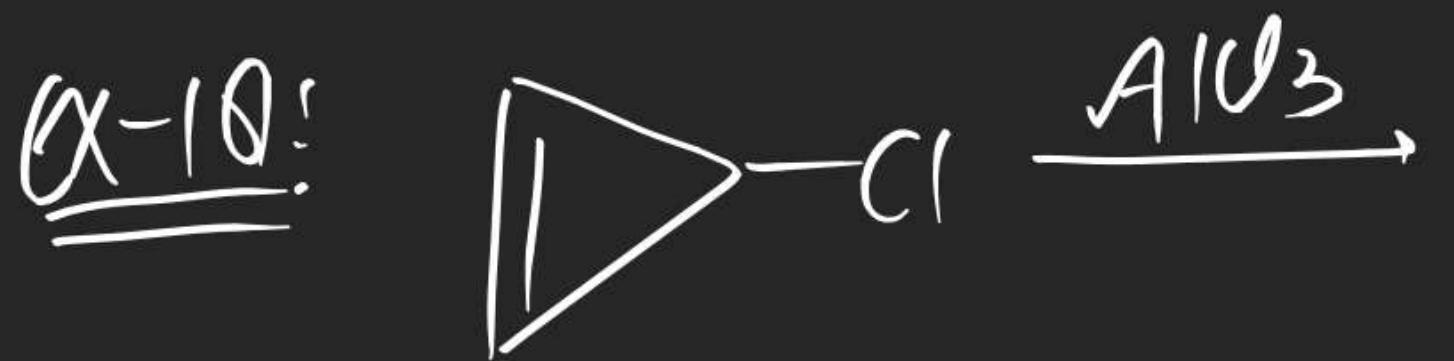


Ex-8:Ex-9:Ex-10:Ex-11:Ex-12:

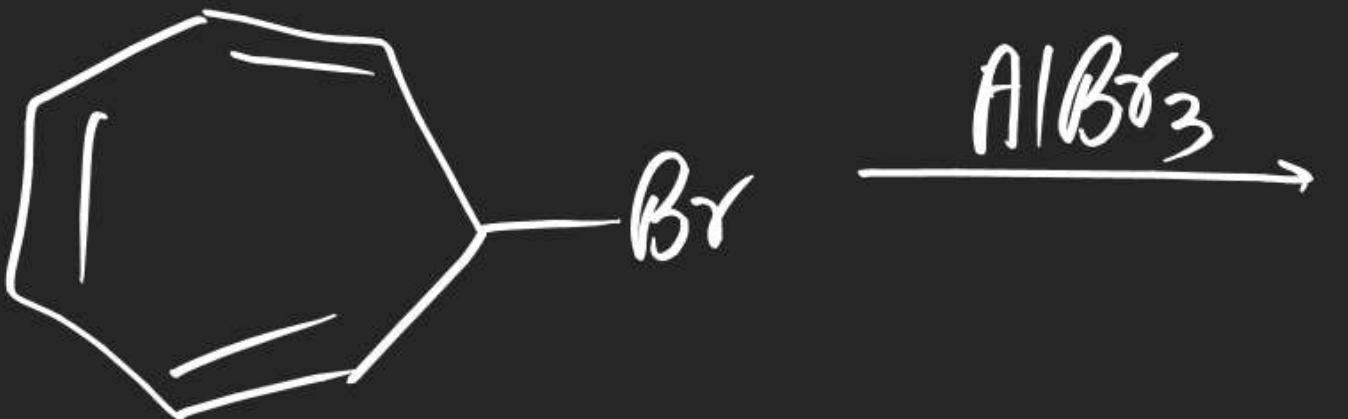
Ex-13:Ex-14:

QX-S!





Ex-19



Ex-20:

