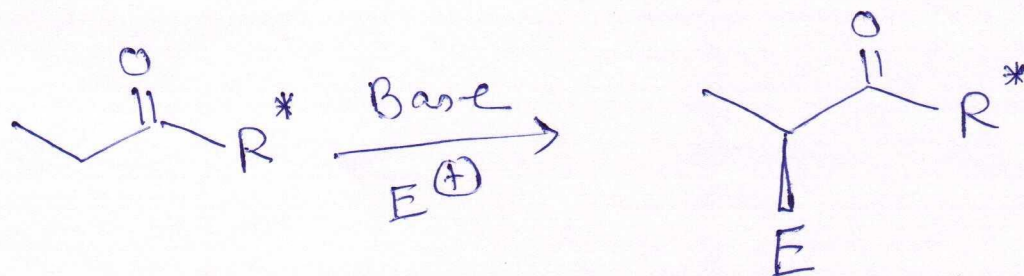
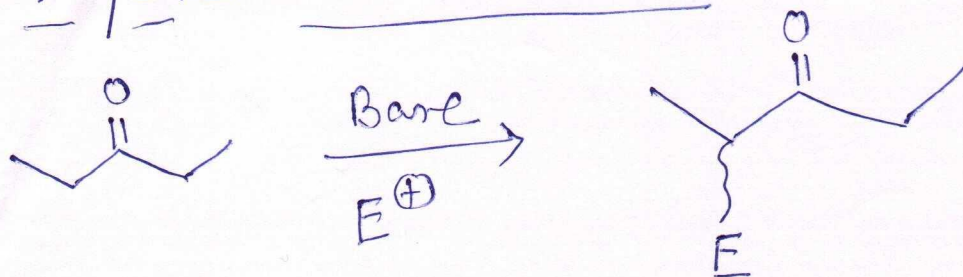
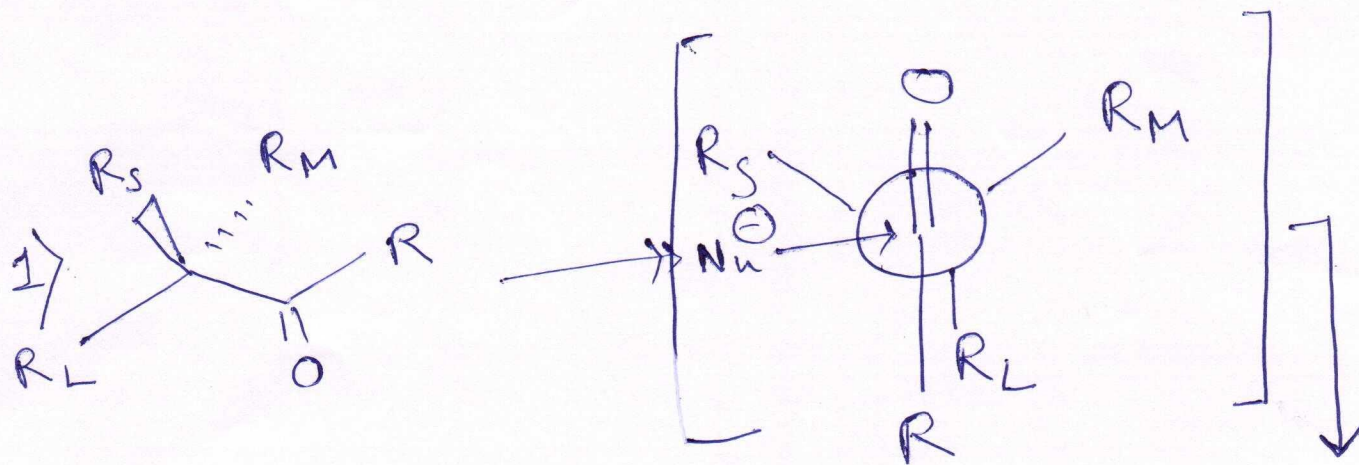


Acyclic stereocontrol

①



$R^* = \text{chiral group}$

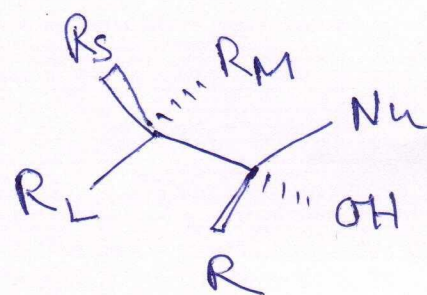


$R_L \Rightarrow \text{Large grp}$

$R_M \Rightarrow \text{Medium "}$

$R_S \Rightarrow \text{Small "}$

Cram
Model
1952

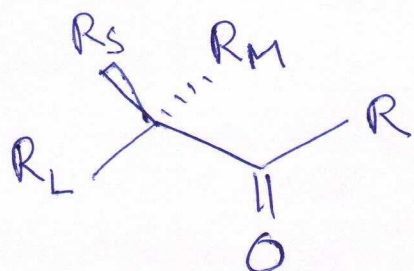




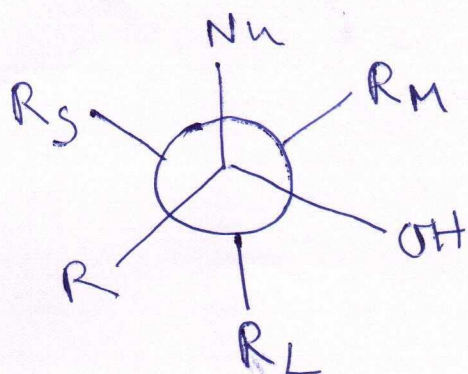
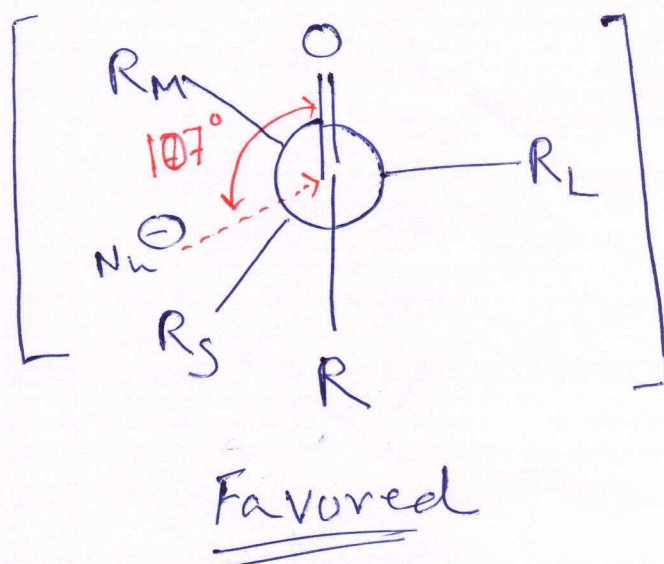
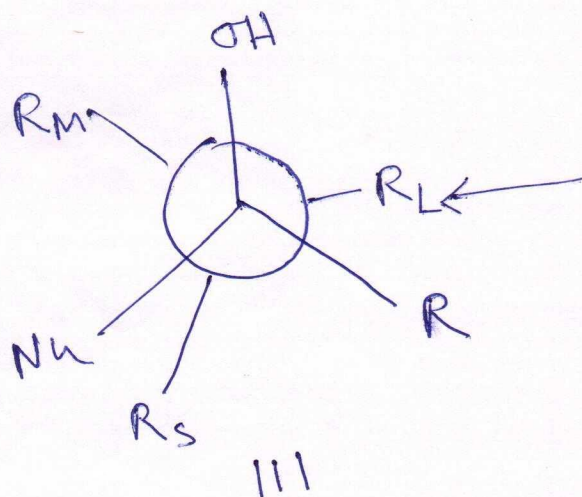
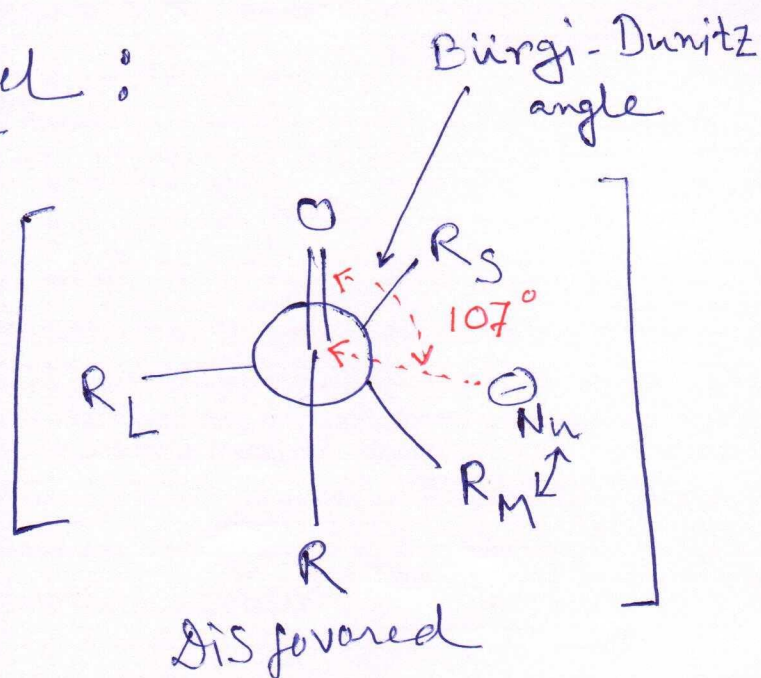
X [Eclipsed conformations
Perpendicular approach]

2

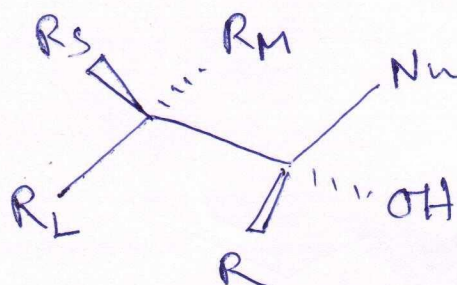
2) Felkin-Anh Model:



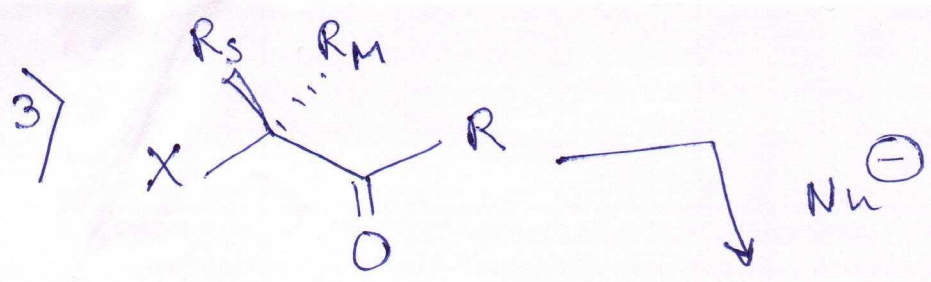
Considering only sterics



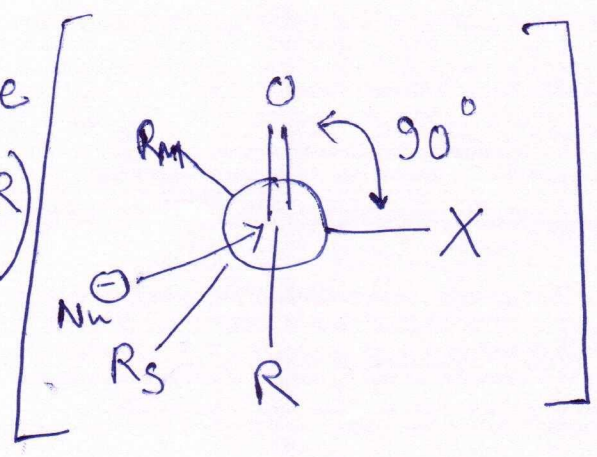
≡



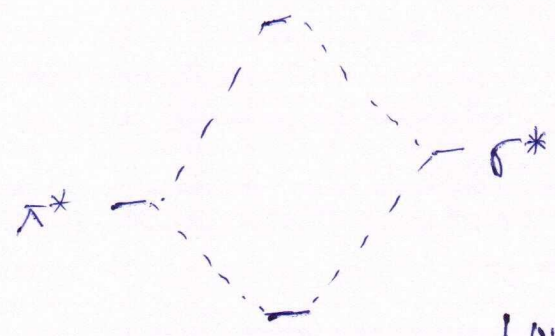
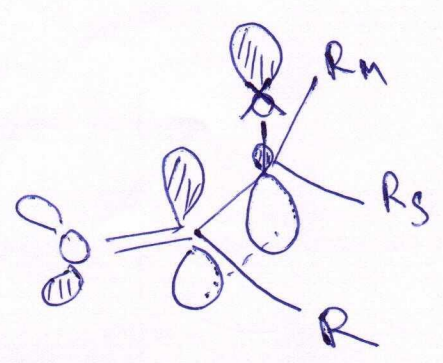
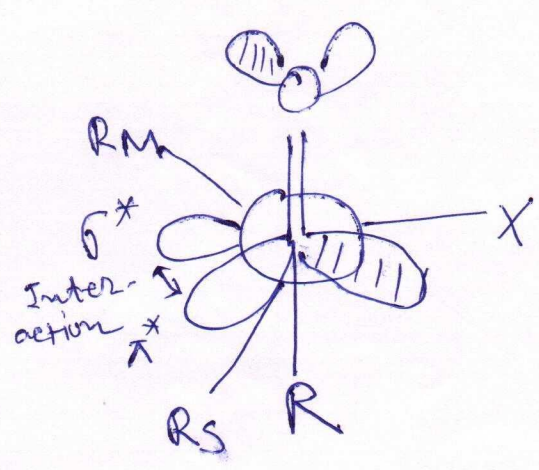
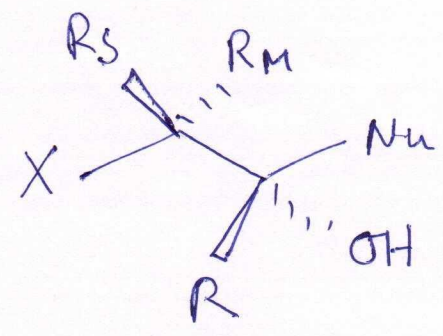
1,2-Syn (Major)



X = Electronegative group (OR, NR₂, SR) etc

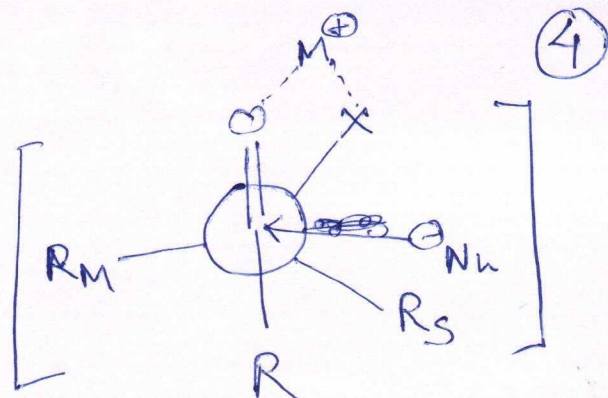
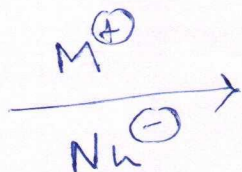
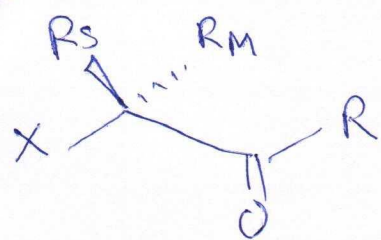


Polar Felkin-Anh model

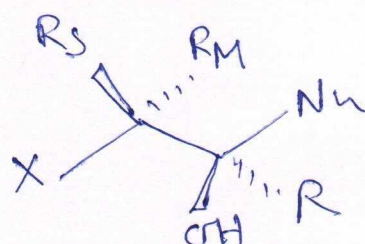


Low energy LUMO [π* + σ*] more reactive

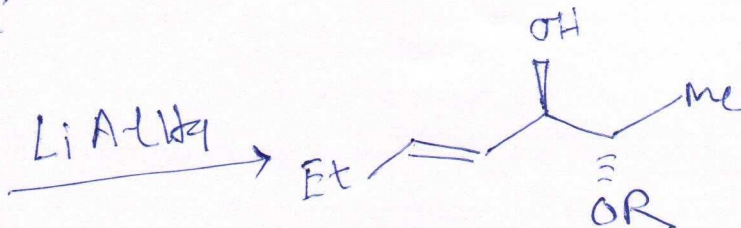
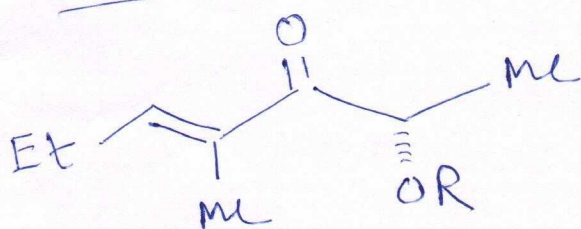
4) Cram-Chelate Model:



X = chelating group



a) Substituent effect:

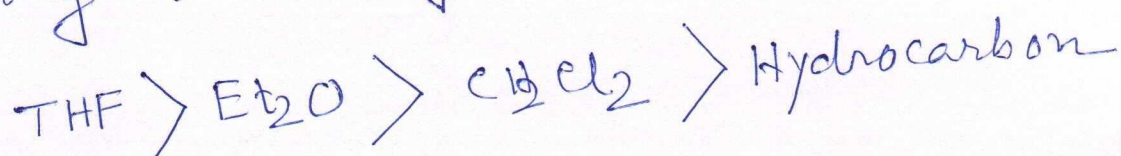


via-chelate

R	dr
Bn	98:2
TBDPS	5:95

b) Solvent effect:

Strong coordinating solvent \Rightarrow Less chelation



c) Metal ion effect:

Metal ions involved in chelation

Li (only sometimes)

Mg⁺²

Zn⁺²

Ti⁺³

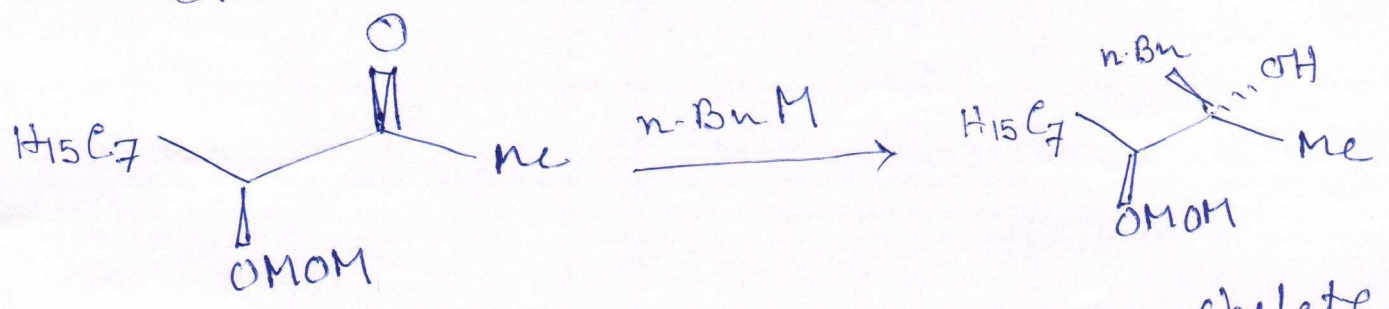
etc.

metal ions not usually involved in chelation

Na⁺

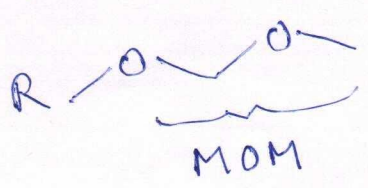
K⁺

etc.



via - cram - chelate

R-OMOM



Solvent	<u>dr</u> M=Li	M=Mg
Et ₂ O	1:1	9:1
CH ₂ Cl ₂	3:1	14:1

