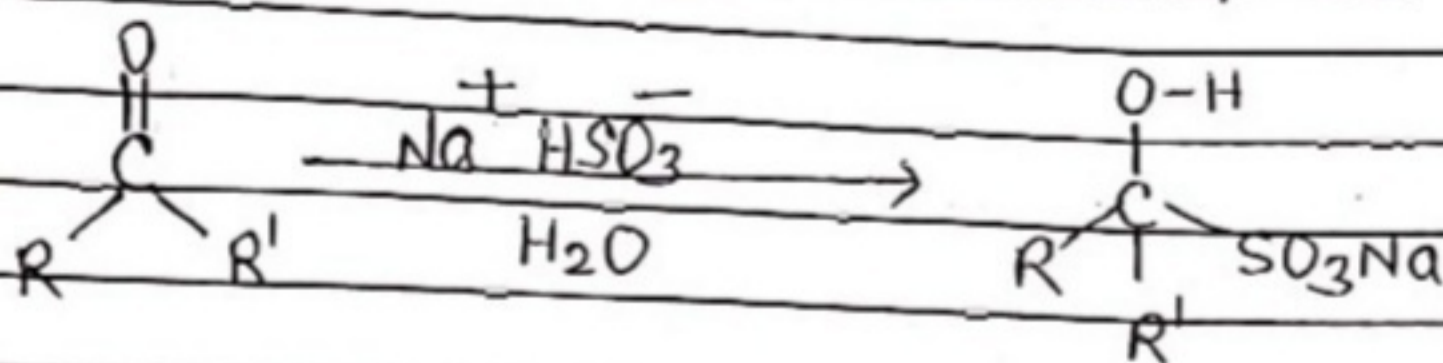


Chemical Properties continued...

4. Addition of Sodium Bisulphite (NaHSO_3)

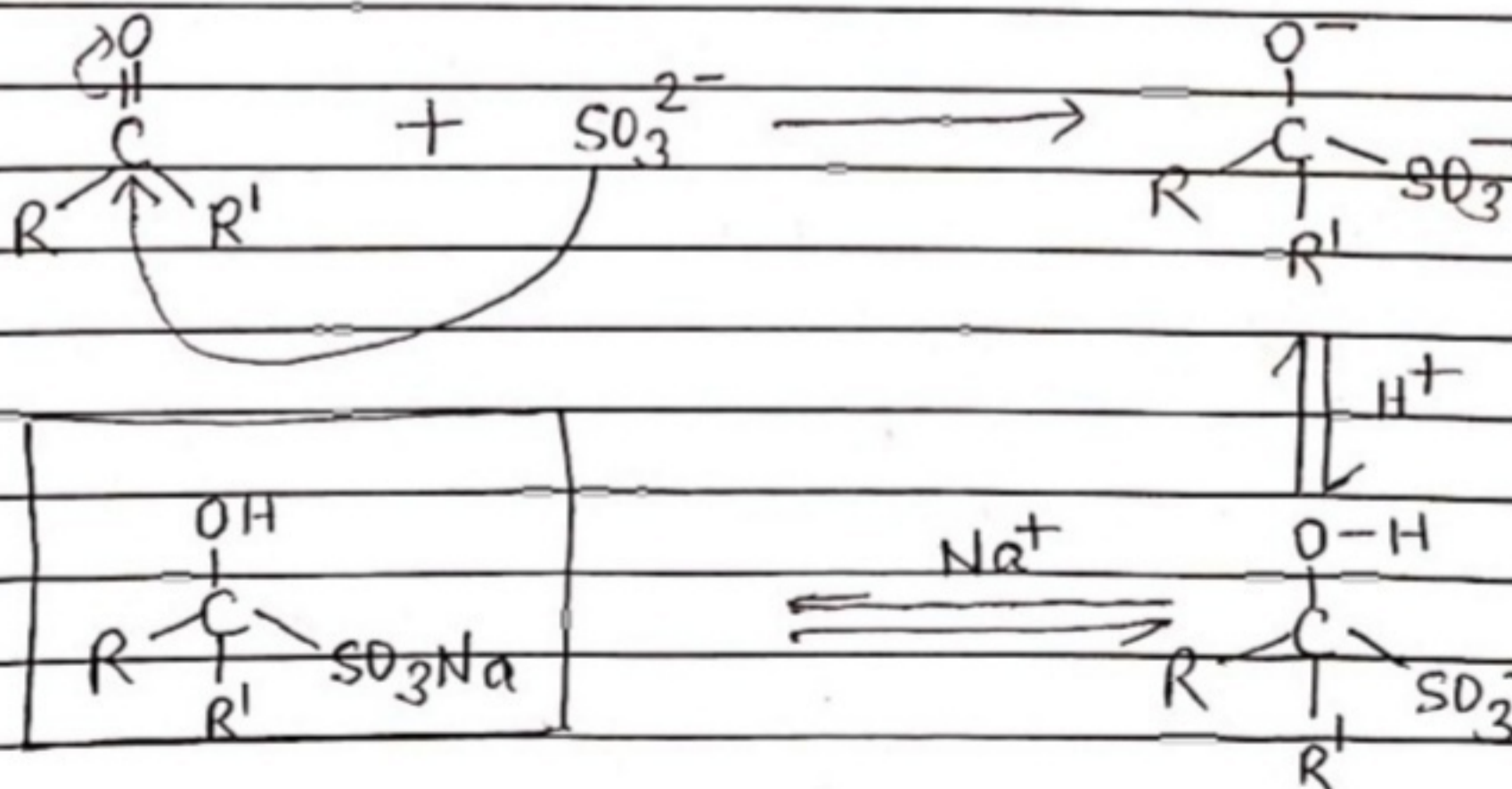
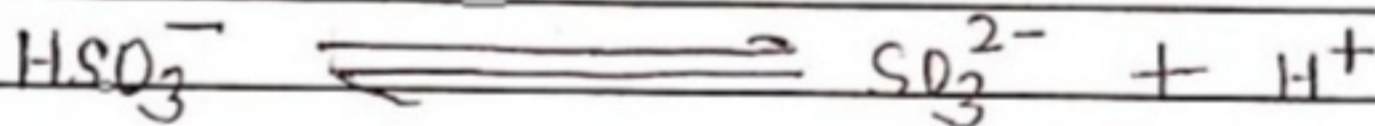


$\text{R}' = \text{H}$ or CH_3
(usually)

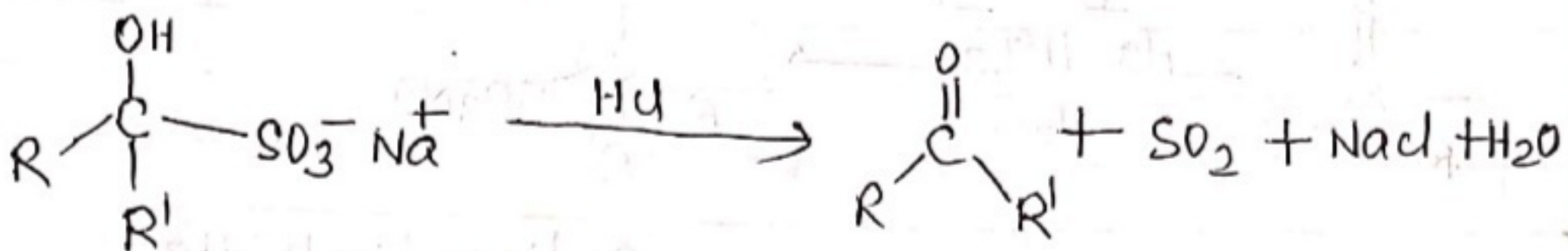
Sodium bisulphite

(addition compound)
(crystalline solid)
(soluble in water)

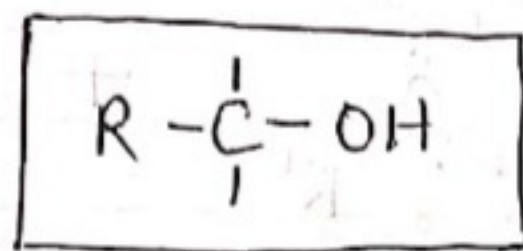
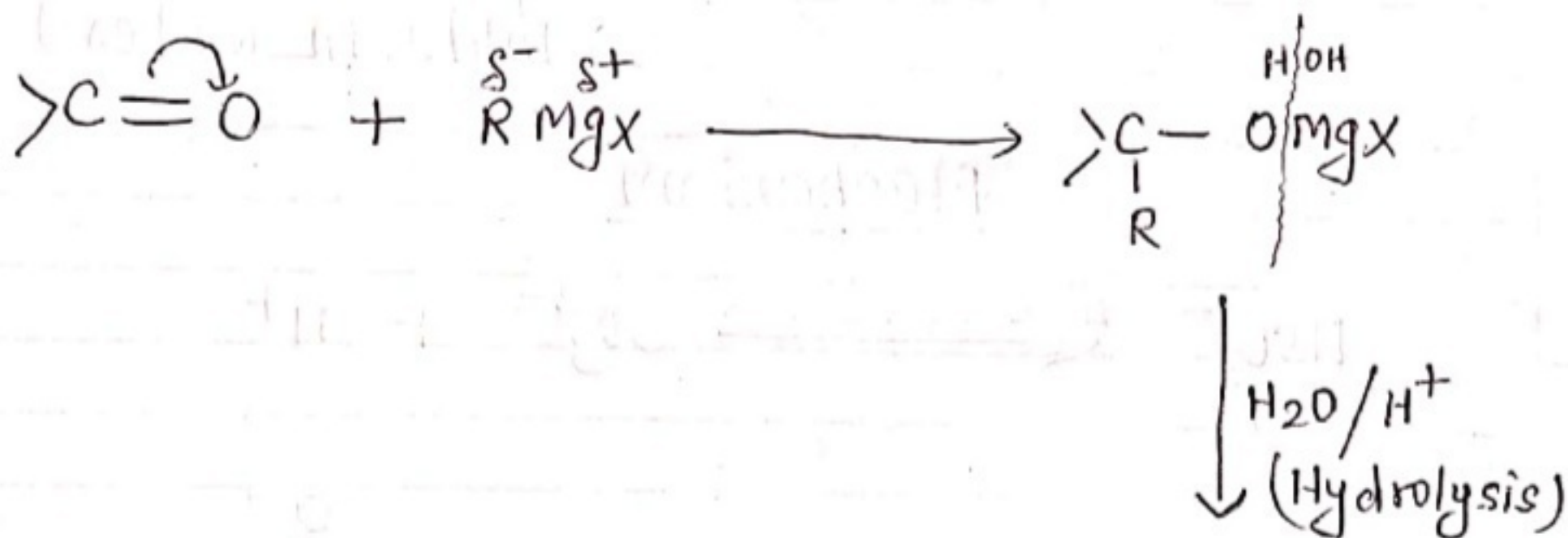
Mechanism



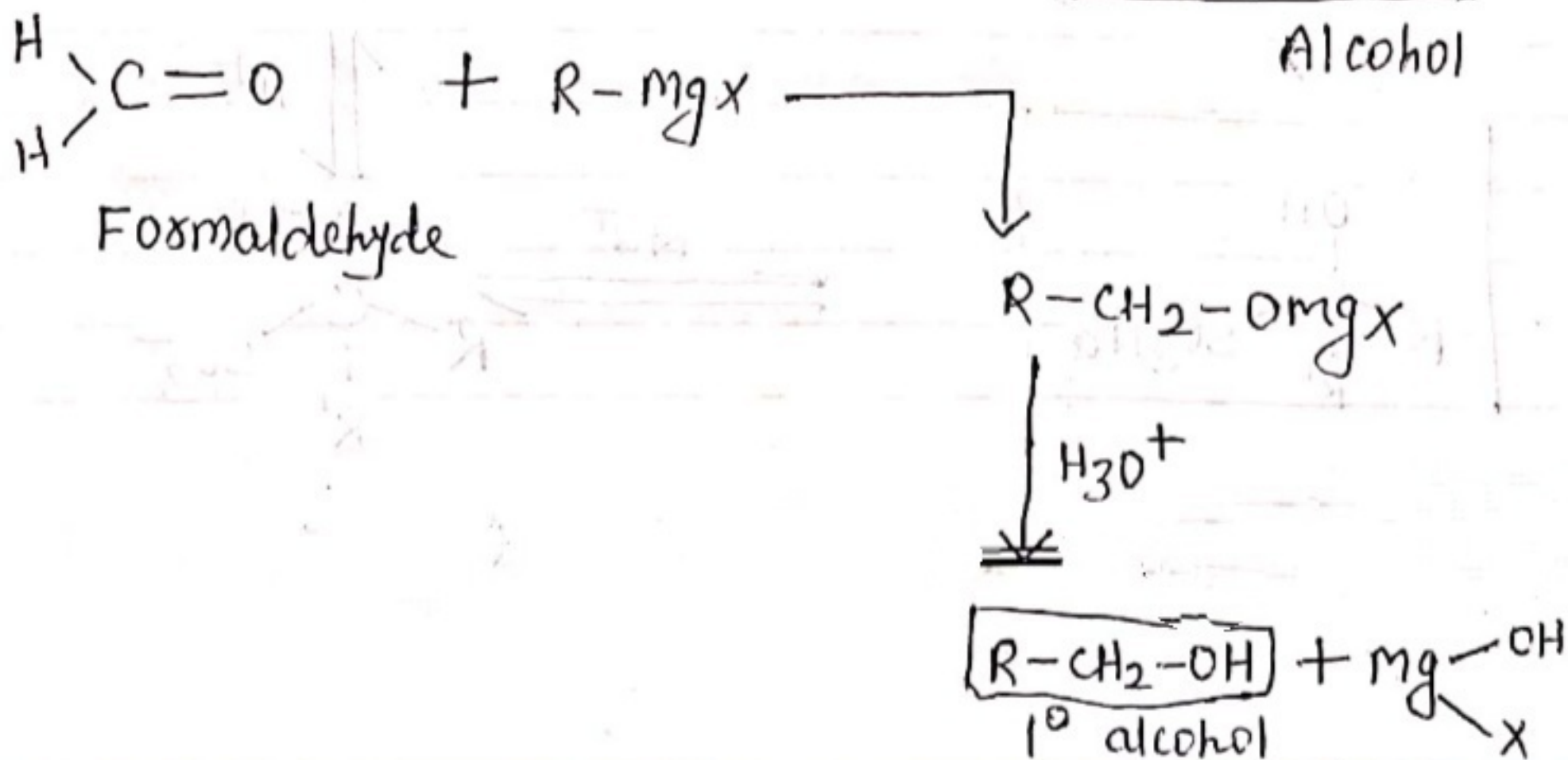
* Treatment of the Bisulphite addition compound with either strong acid or base regenerates aldehydes or ketones.

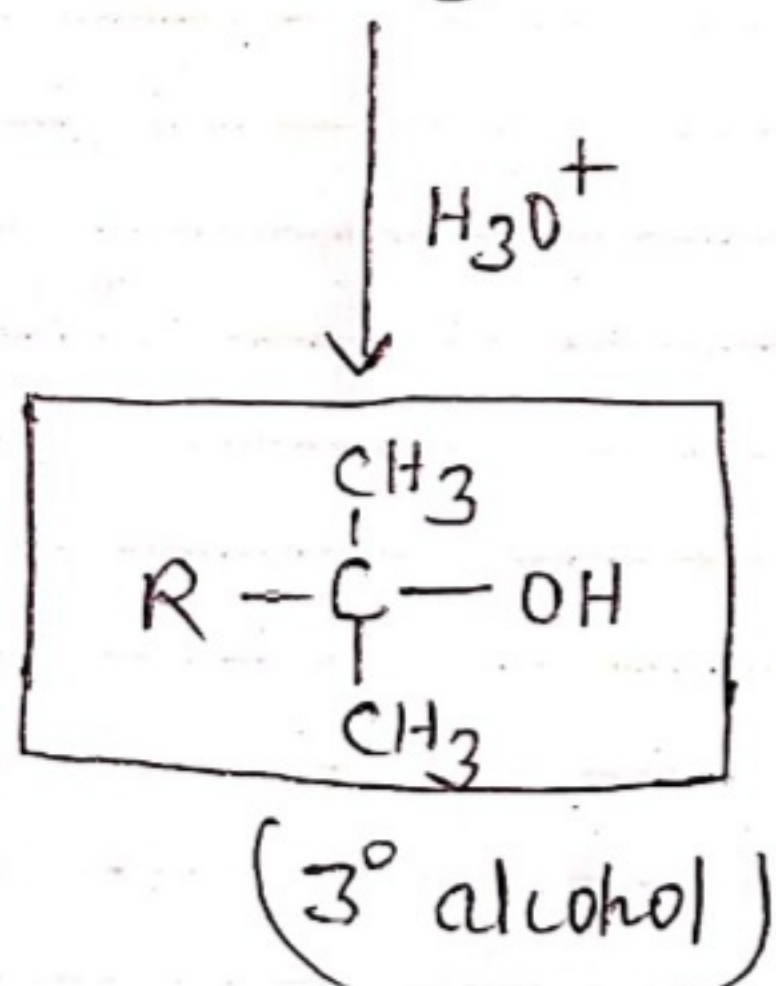
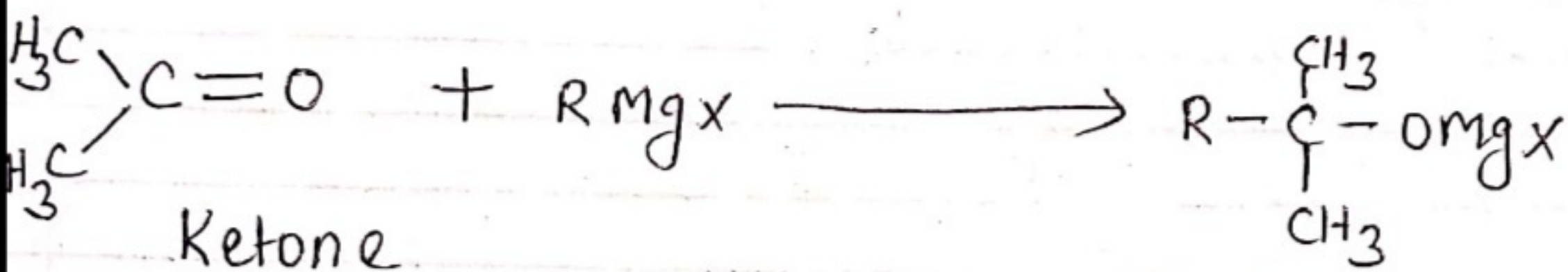
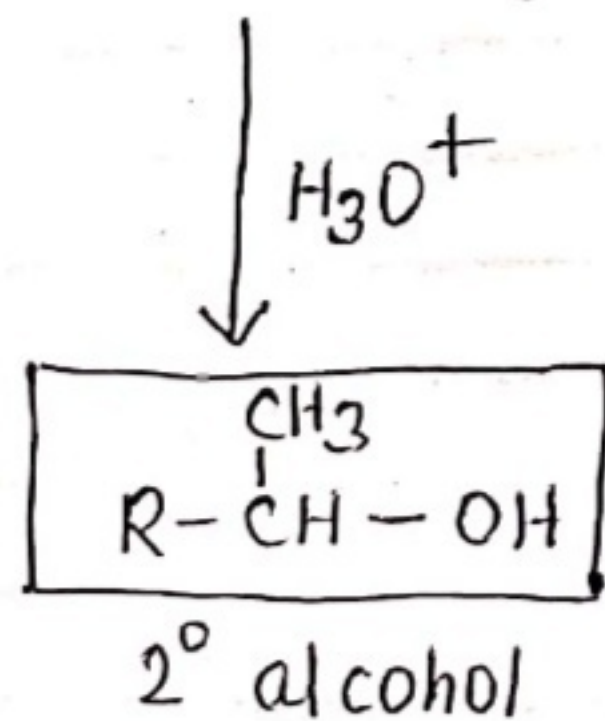
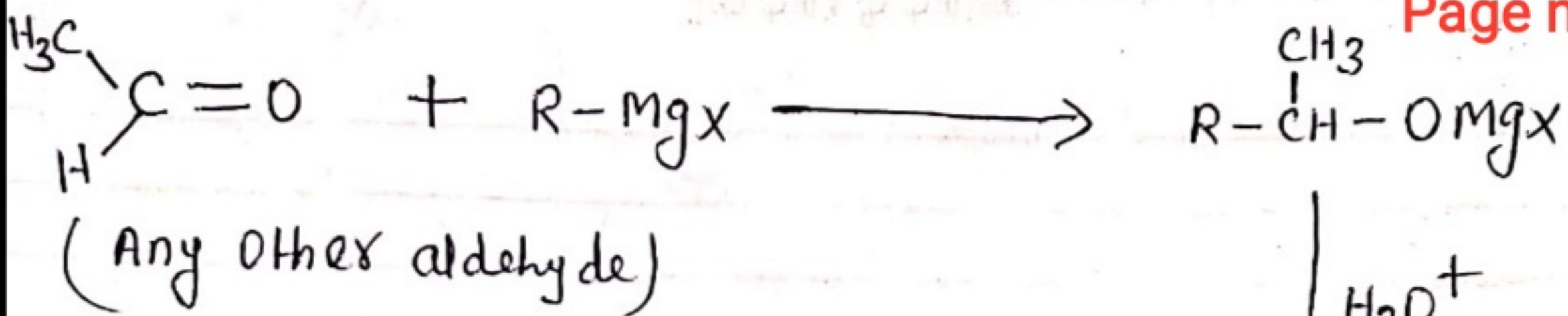


5. Addition of Grignard Reagent: - - -

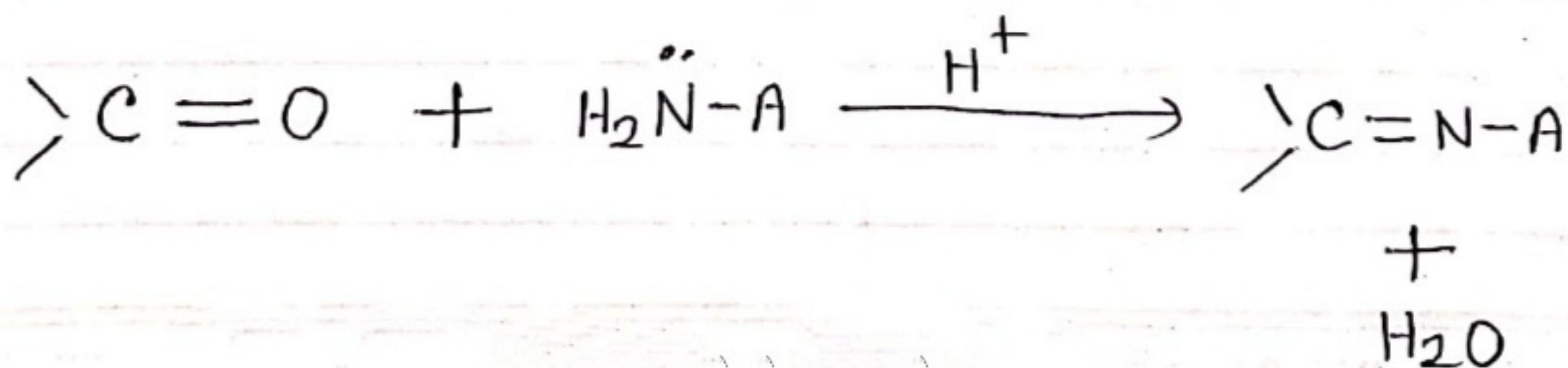


Alcohol

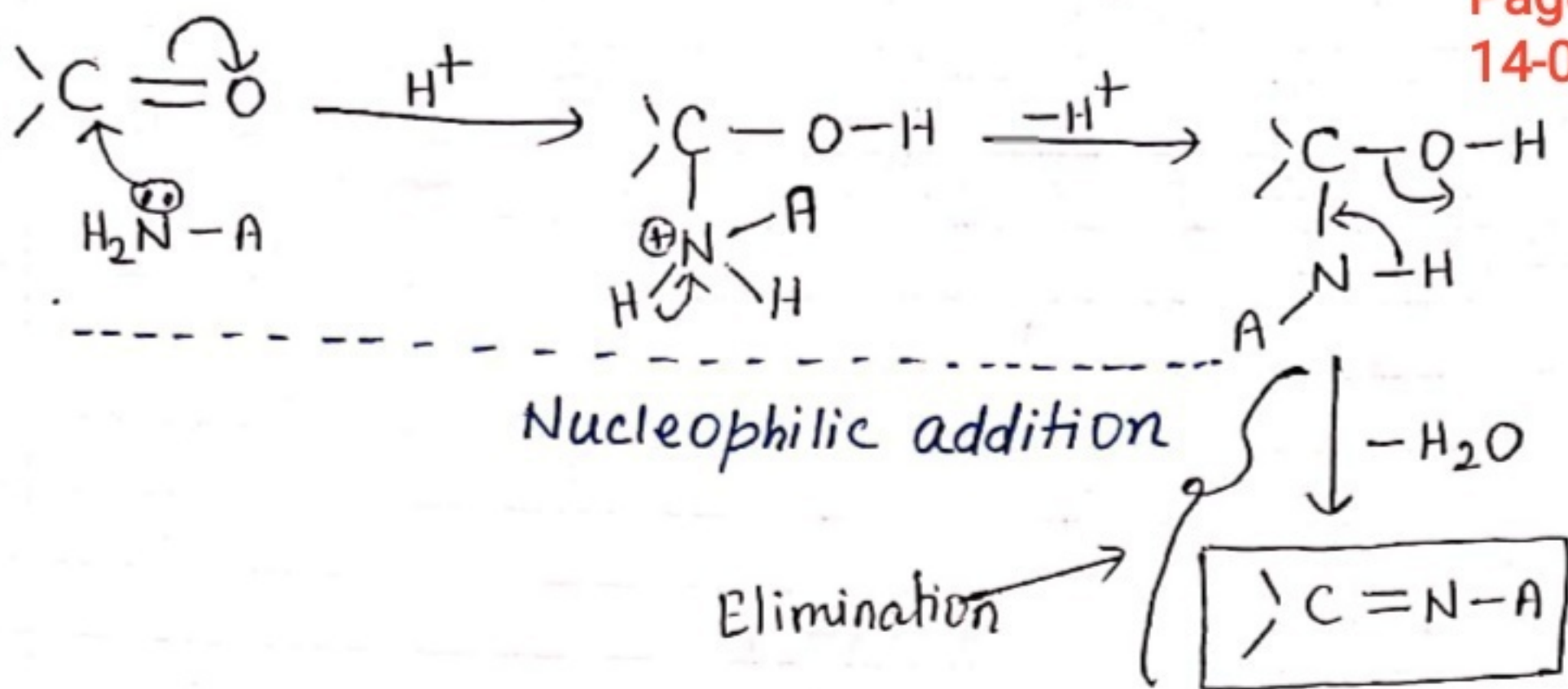




6. Reaction with Ammonia derivatives: - -



Continued....



A	$\text{H}_2\ddot{\text{N}}-\text{A}$	>C=N-A
-OH	$\text{H}_2\text{N-OH}$ (Hydroxyl amine)	>C=N-OH (Oxime)
-NH ₂	$\text{H}_2\text{N-NH}_2$ (Hydrazine)	>C=N-NH_2 (Hydrazone)
-NHPh	$\text{H}_2\text{N-NHPh}$ (Phenyl hydrazine)	>C=N-NHPh (Phenyl Hydrazone)
$-\text{NH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{NH}_2$	$\text{H}_2\text{N-NH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{NH}_2$ (Semicarbazide)	$\text{>C=N-NH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{NH}_2$ (Semicarbazone)
$-\text{NH}-\overset{\text{S}}{\parallel}{\text{C}}-\text{NH}_2$	$\text{H}_2\text{N-NH}-\overset{\text{S}}{\parallel}{\text{C}}-\text{NH}_2$ (Thiosemicarbazide)	$\text{>C=N-NH}-\overset{\text{S}}{\parallel}{\text{C}}-\text{NH}_2$ (Thiosemicarbazone)
R	$\text{H}_2\text{N-R}$ (1° amine)	>C=N-R (Schiff's base)

To be continued in next lecture...

