

Nucleic acid - Deakin - 1895.  
Friedrich Miescher - 1869  
→ Swiss Physician - Felix Hoppe -  
Seyler in Tübingen.

Isolate Nucleic acid - From the  
pus Cells obtain from the bondage  
of Franco-Prussian war  
soldiers.

Named it as Nuclein.

Richard Altman - 1889 →  
Protamine

Emil Fischer - 1880 - Identity  
Purine, Pyrimidine.

Biochemist - Albrecht Kossel  
⇒ Nitrogenous bases of Nuclein as  
well as - 5 carbon sugar + Phosphoric acid.

Nobel Prize - 1910.

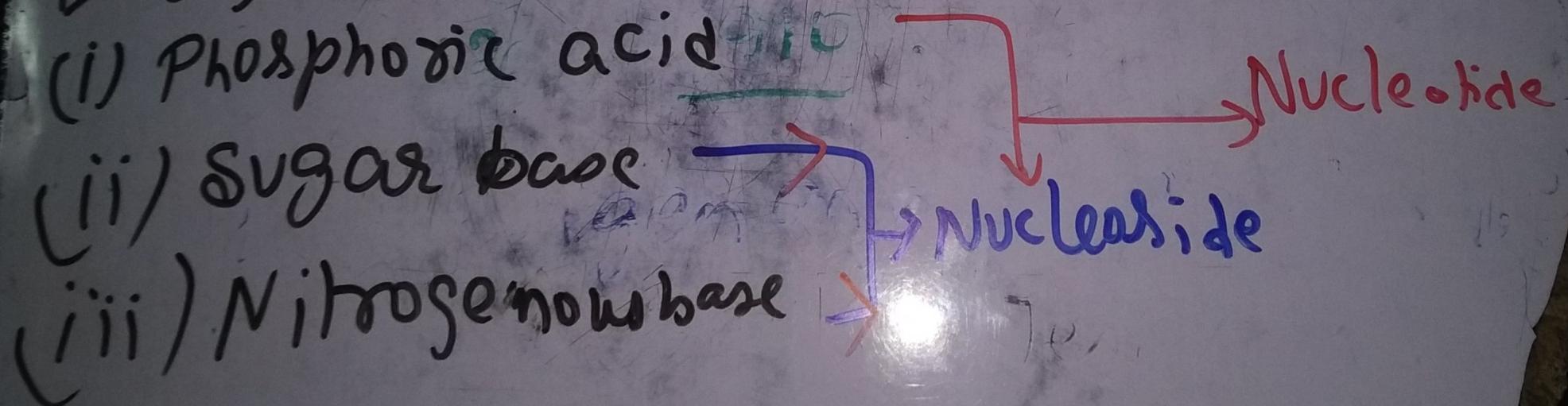
1924 - Feulgen and Rosenthal

⇒ 1937 - Feulgen Test.

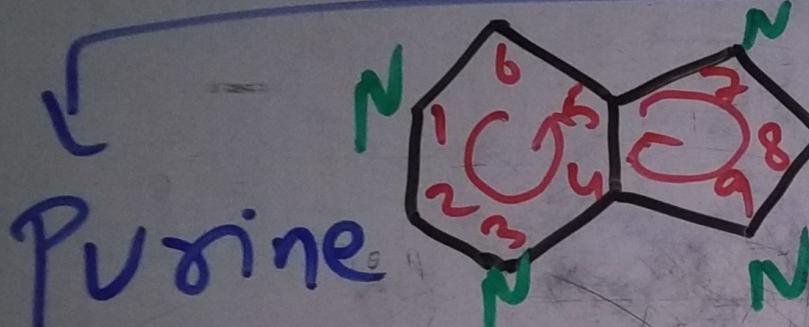
DNA isolation - Bileate Nucleic  
acid.

Altmann - 1899 → use the term:  
Nucleic acid →  $\begin{matrix} \text{DNA} \\ \text{RNA} \end{matrix}$

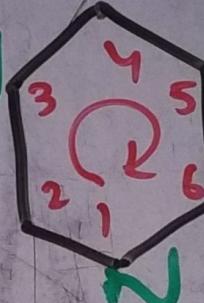
Deoxy Ribonucleic acid - Three moieties



# Nucleic acid



Purine



Pyrimidine

⇒ Bicyclic St.

⇒ 9 member

⇒ Imidazole ring

⇒ Position of Nitrogen

No (1, 3, 7, 9)

⇒ Imidocyclic RN.

⇒ 6 member

⇒ Remove imidazole  
ring then

Purine → Pyrimi

dine means  
Two - Nitrogen  
N - 1, 3.

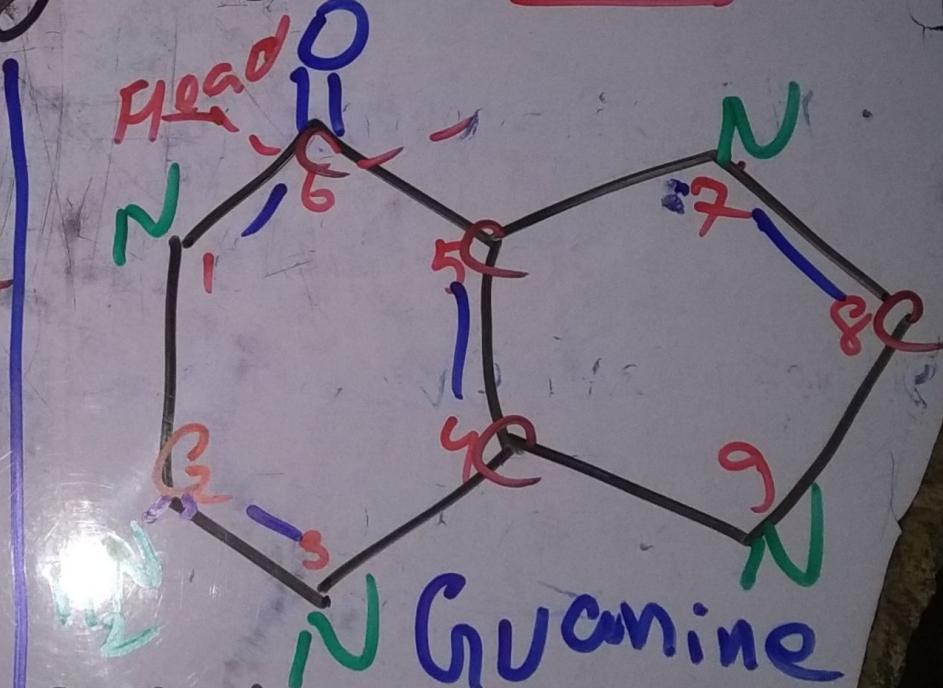
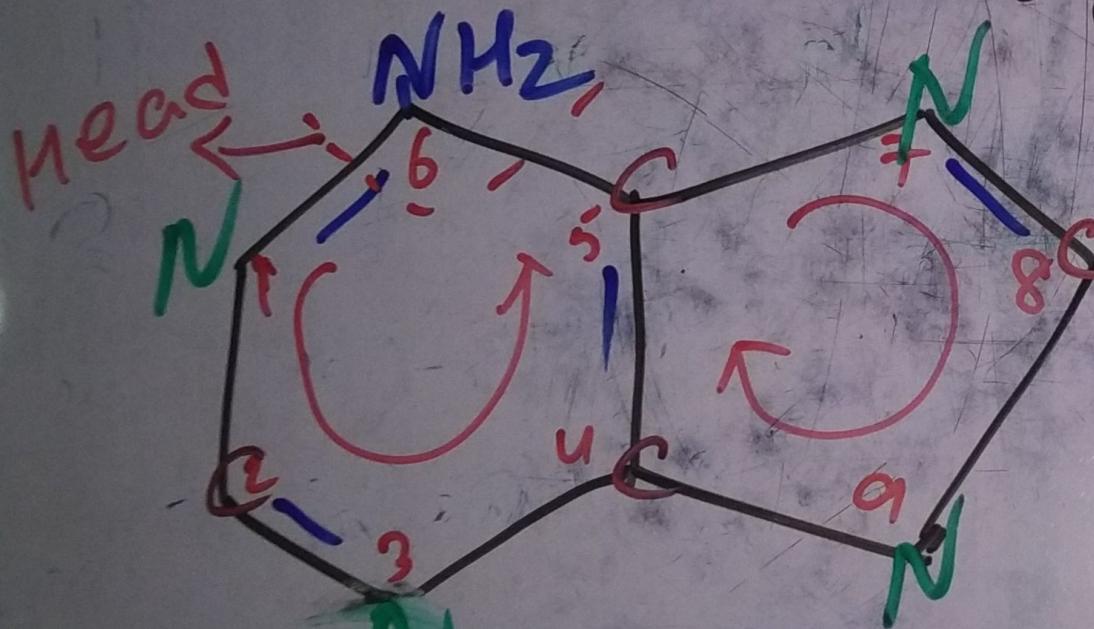
Purine - Types - 9 member

Note :- PU as Silver (Ag)

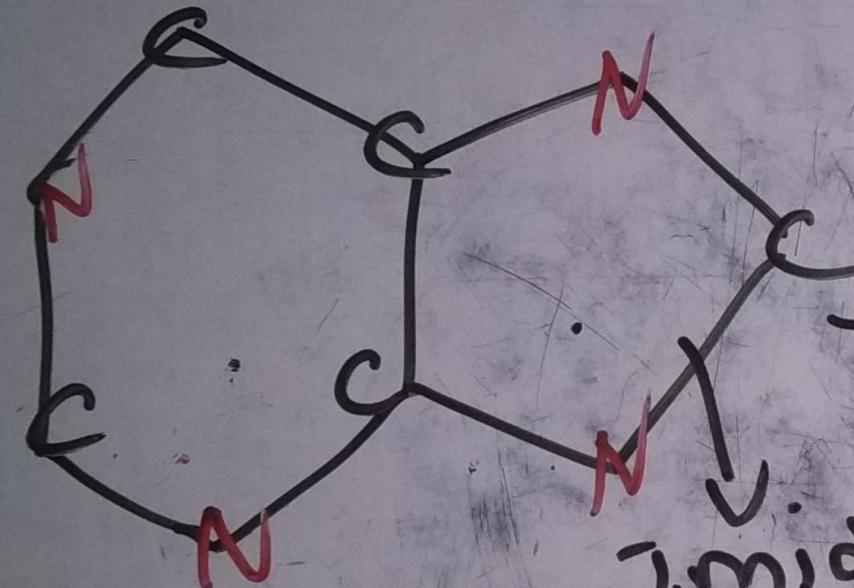
PU - Purine

A - Adenine

g - Guanine

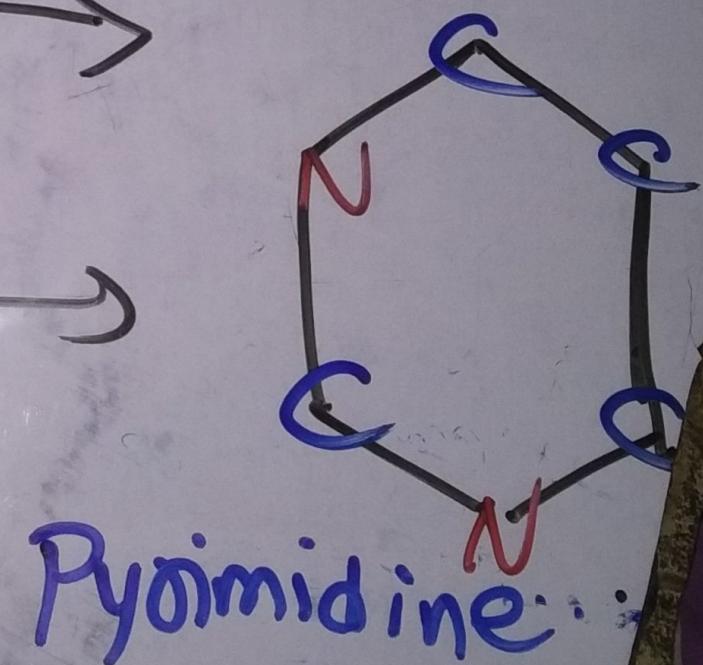
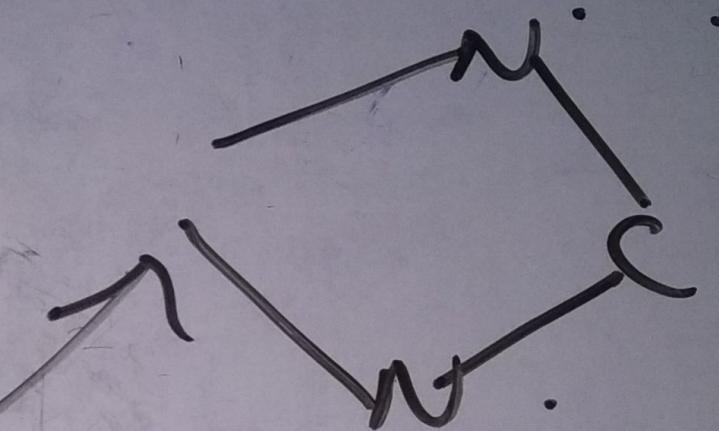


Facts :- Guanine  $\rightarrow$  Guano  $\rightarrow$  Faecal deposition of Birds.



Purine

Imidazole  
Remove



Pyrimidine

Pyrimidine :- When we CUT  
imidazole ring from Purine.

C - Cytosine → Present in both RNA &  
DNA

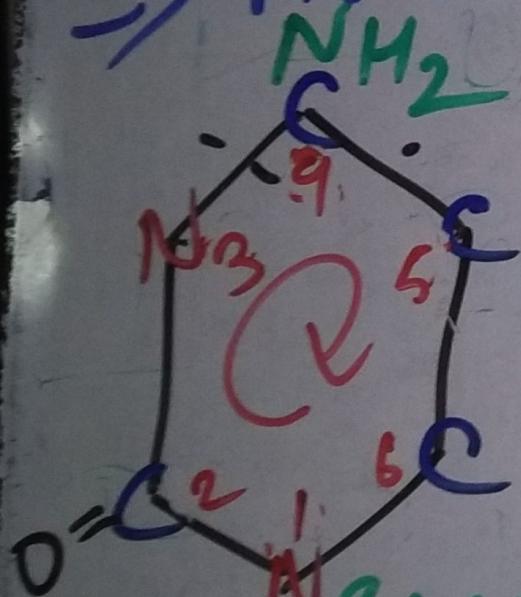
U - Uracil → Found only in RNA

T - Thymine → Present only in  
DNA

T - Thiamine ⇒ Vitamin B<sub>1</sub>

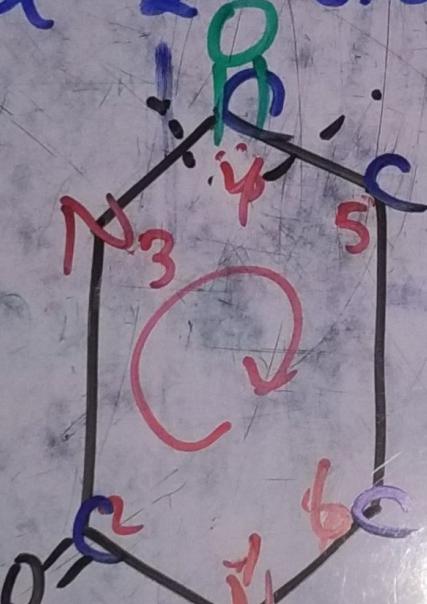
Pyrimidine :- When we CUT  
imidazole ring from Purine. Monocyclic

⇒ 2-Nitrogen member (-1, 3)  
⇒ At Position -2 lies -Oxy group



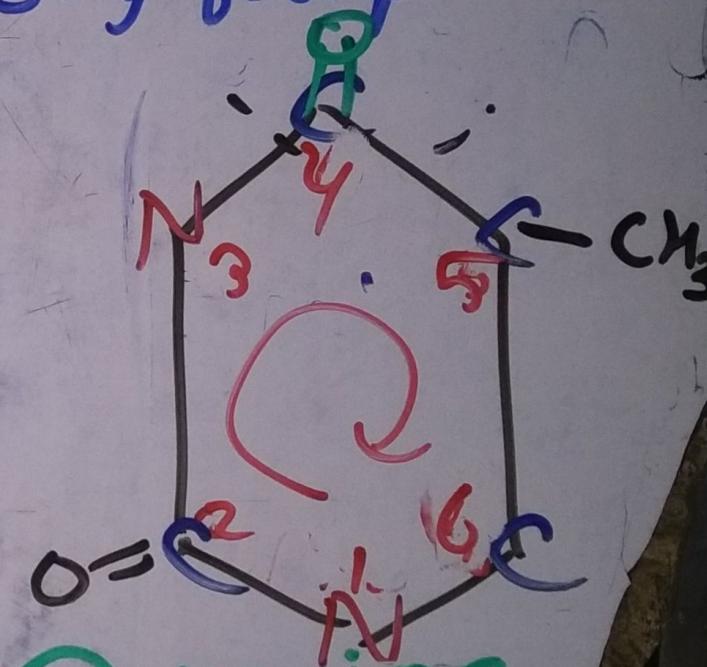
Cytidine

4-Amino-2-deoxy  
pyrimidine



Uracil

2,4-dioxyl  
pyrimidine

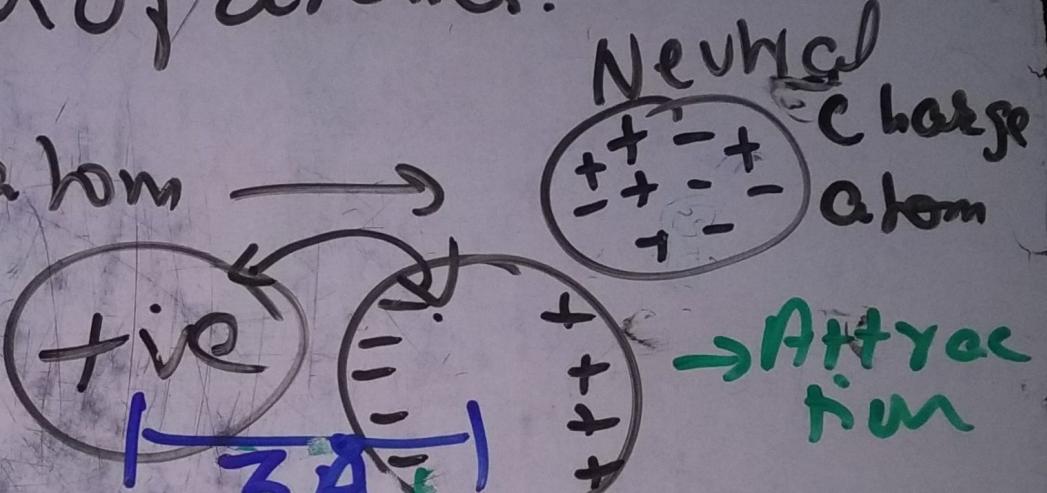


Thymine

5-methyl-2,4-dioxyl  
pyrimidine

Salt bridge :- Electric dipole due  
to interaction of atoms.

Positive charge atom

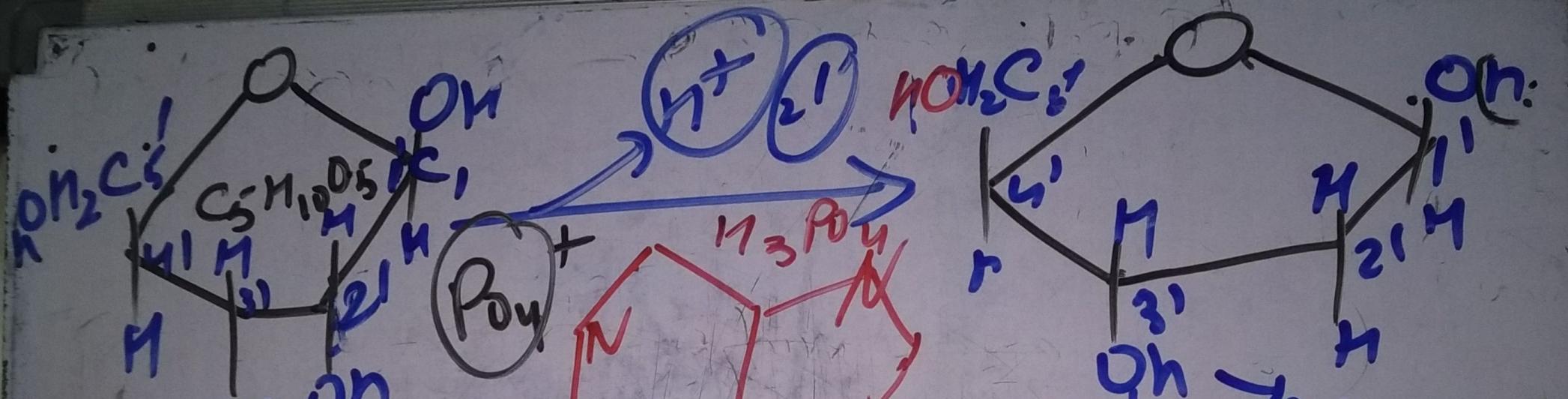


Electric  
induce

< Electric dipole

Covalent bond - Partial development  
of charge - H bond ; Vande V  
Waal's bond ; London

Bond length more than  $5\text{\AA}$  → Repulsion



Ribose sugar

Pyrimidine - 5<sup>th</sup> member

Purine - 9<sup>th</sup> member

Deoxyribose sugar

H<sub>2</sub>O

