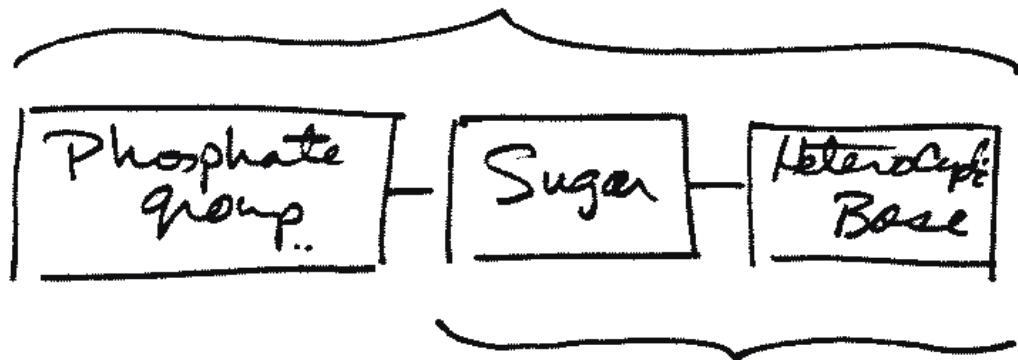


TG 23.1

Nucleotide

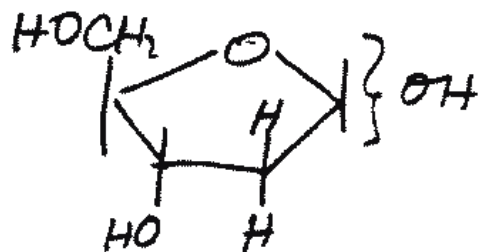
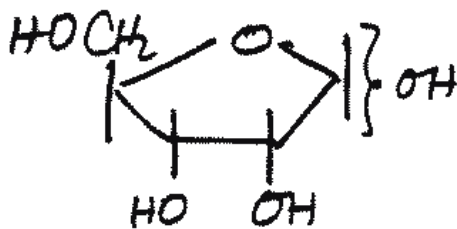


TG 23.2

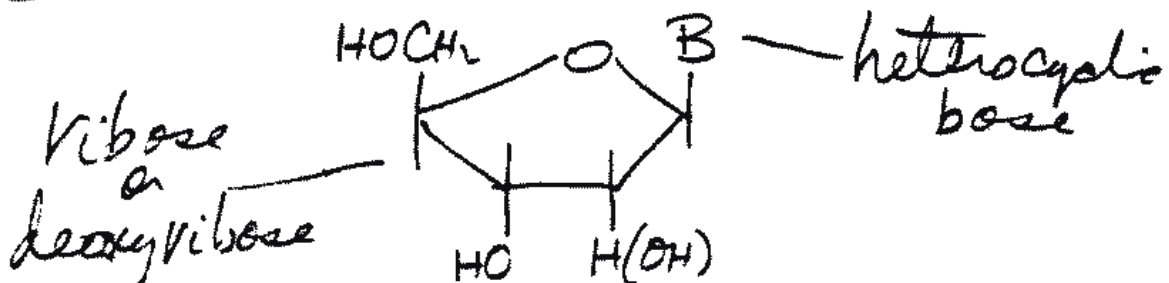
Nucleoside

Ribose

2'-Deoxyribose

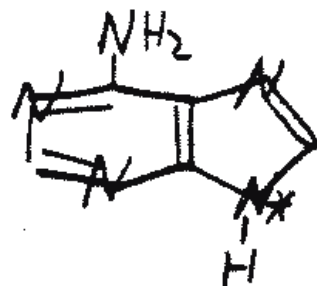


TG 23.3

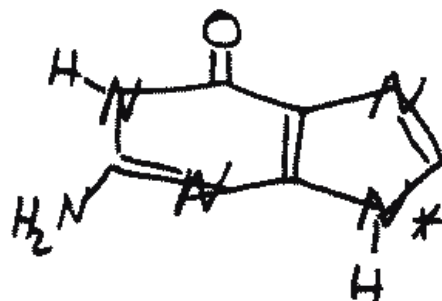


TG 23.4 Heterocyclic Bases

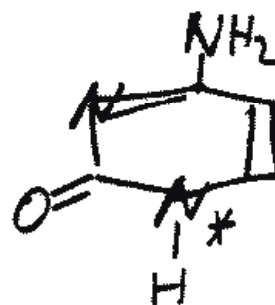
Adenine (A)



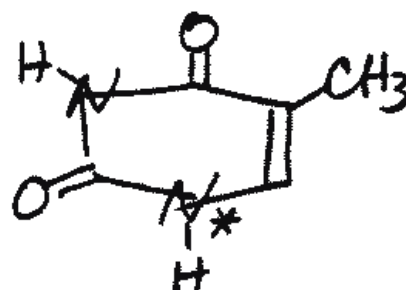
Guanine (G)



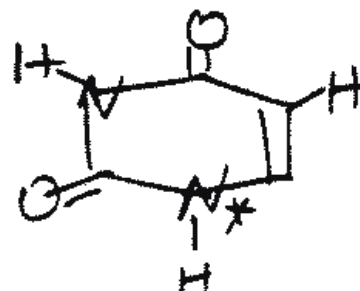
Cytosine (C)



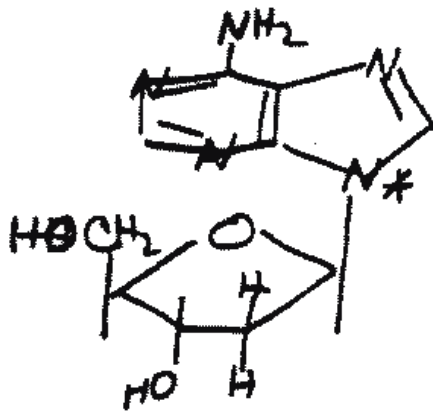
Thymine (T)



Uracil (U)



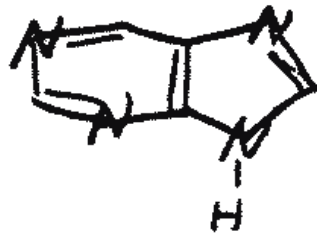
TG23.5



ADNA
Nucleoside
Containing
Adenine (A)

TG23.6

Purine

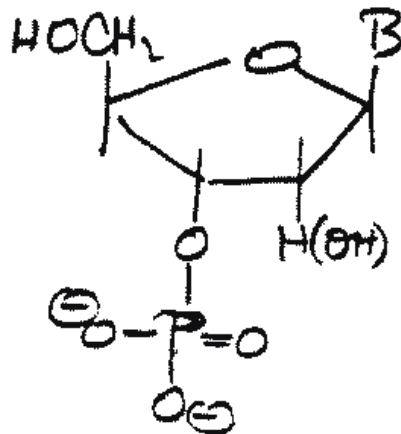


Pyrimidine

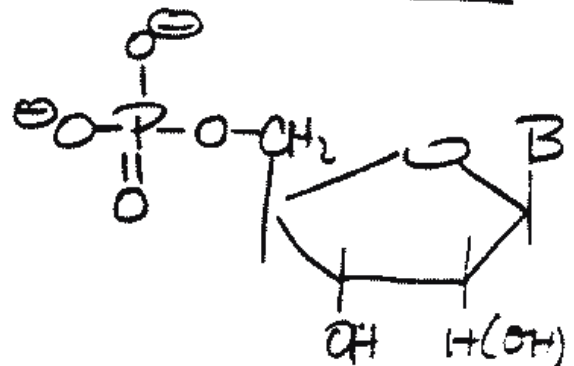


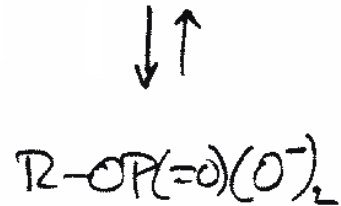
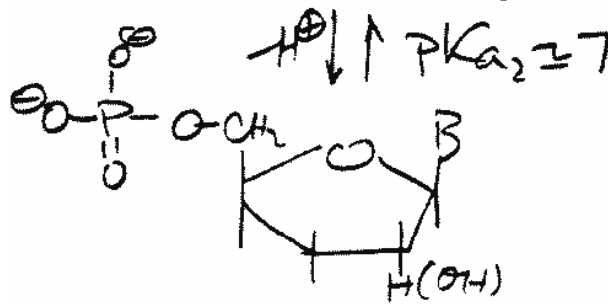
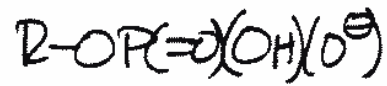
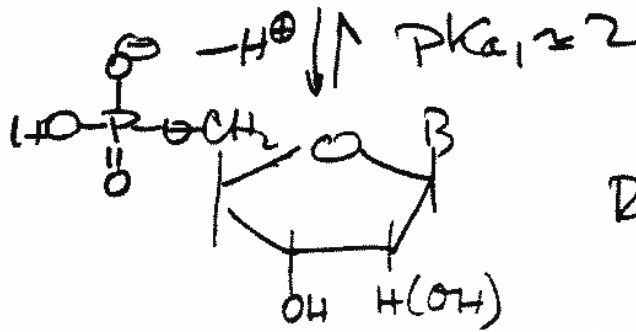
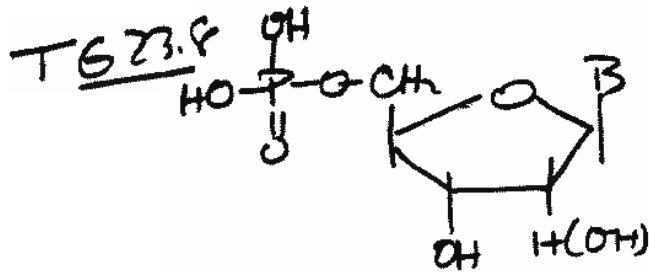
TG23.7

3'-Phosphate
Nucleotide



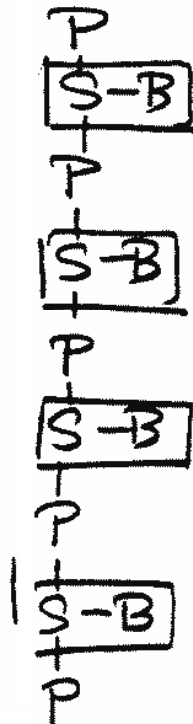
5'-Phosphate
Nucleotide





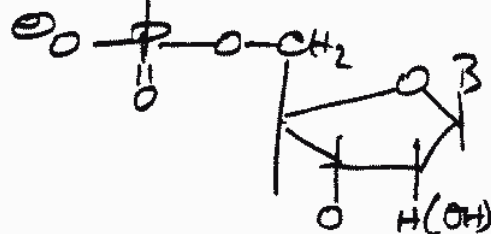
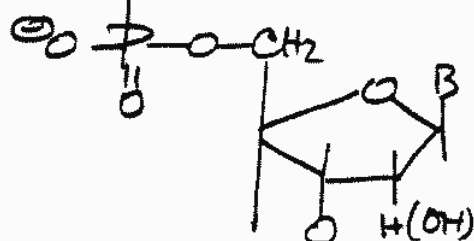
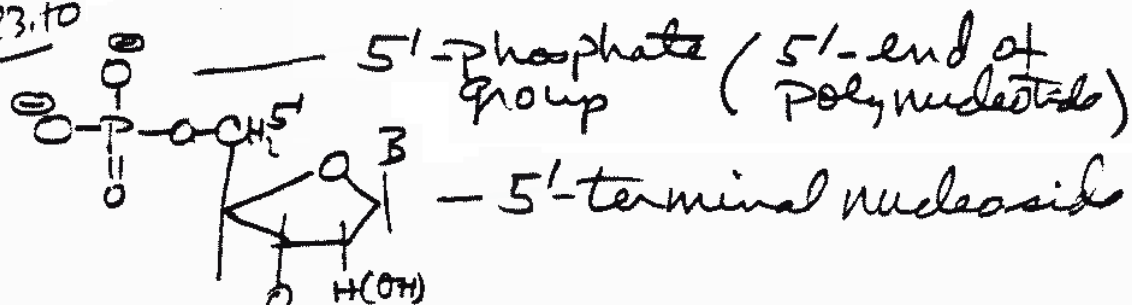
TG 23.9

Sugar-phosphate backbone

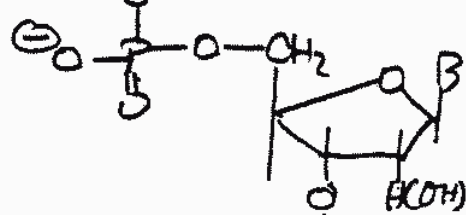
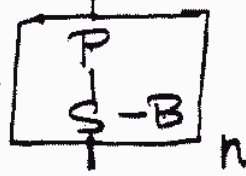


> nucleoside

TG 23.10

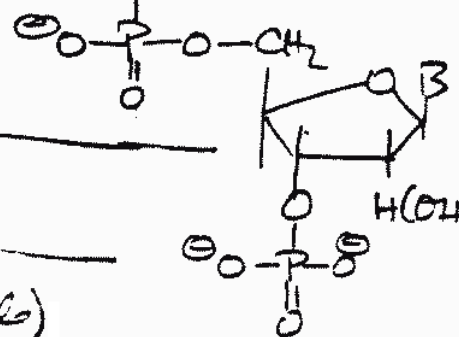


large number of repeating units

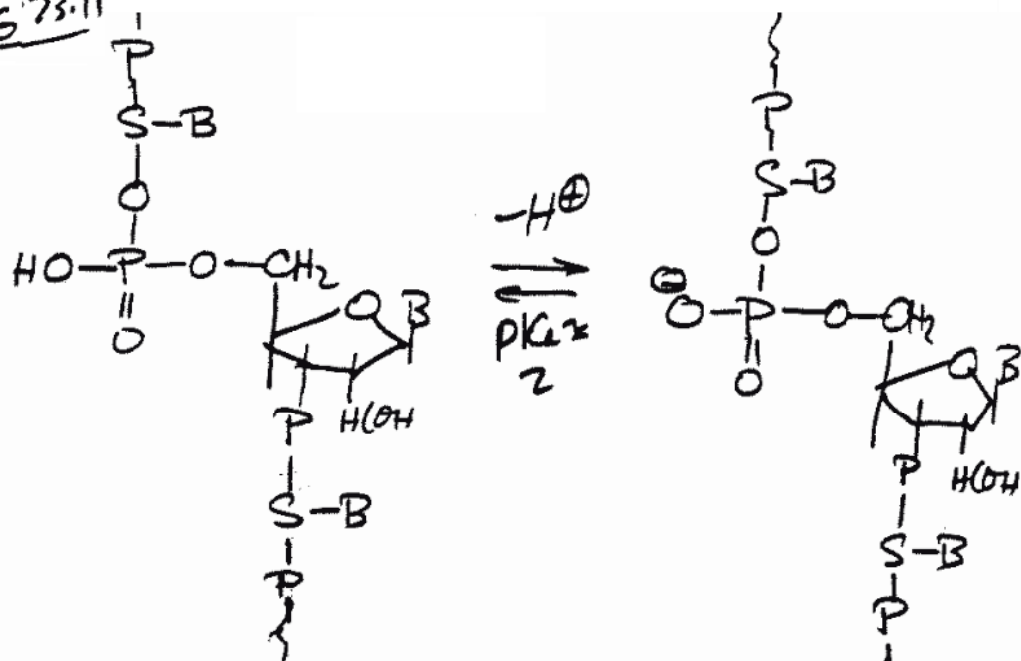


3'-terminal nucleoside

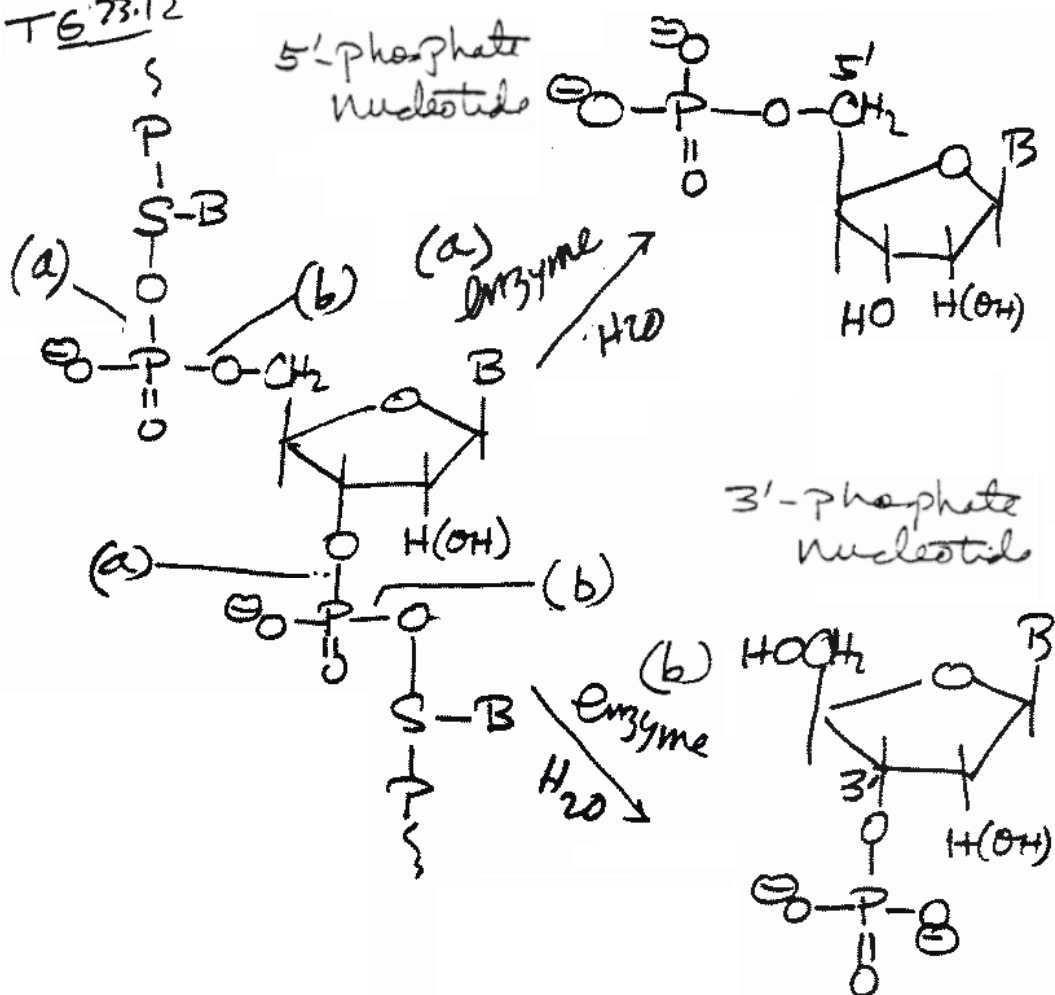
3'-phosphate group
(3'-end of polynucleotide)



T6.73.11

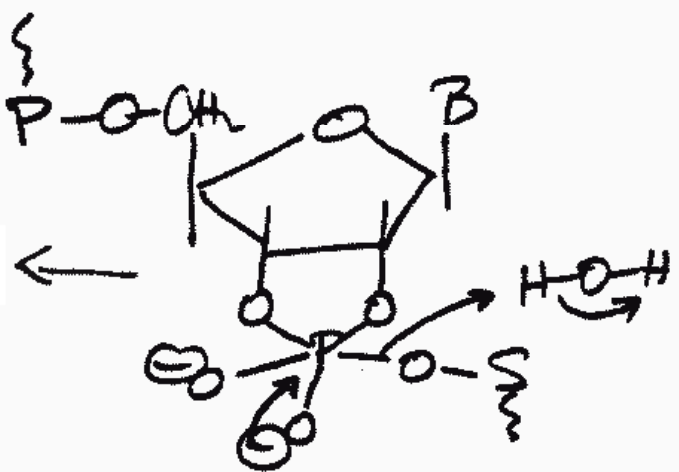
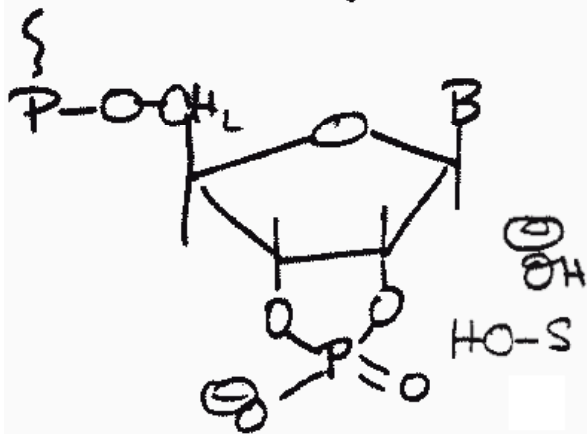
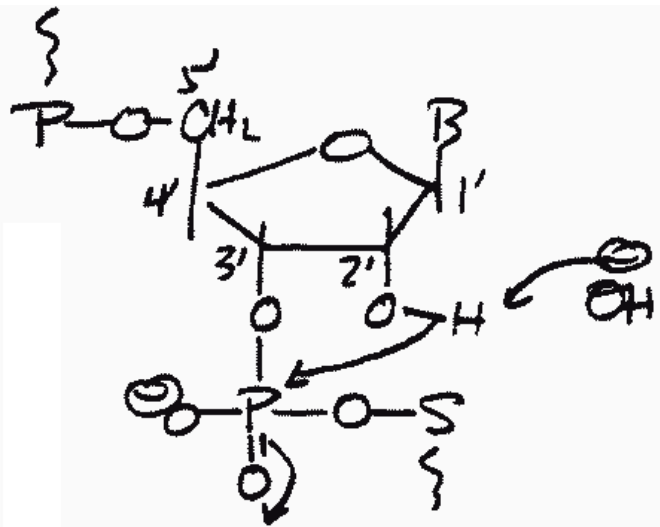


T6.73.12

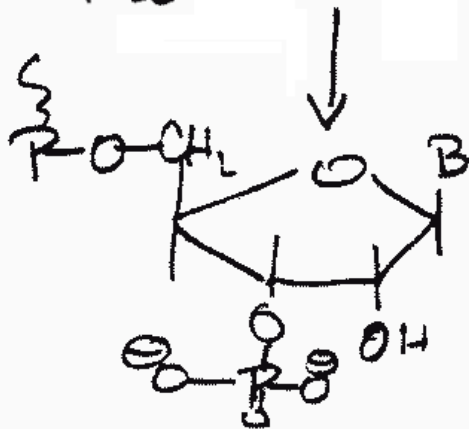


TG 23.13

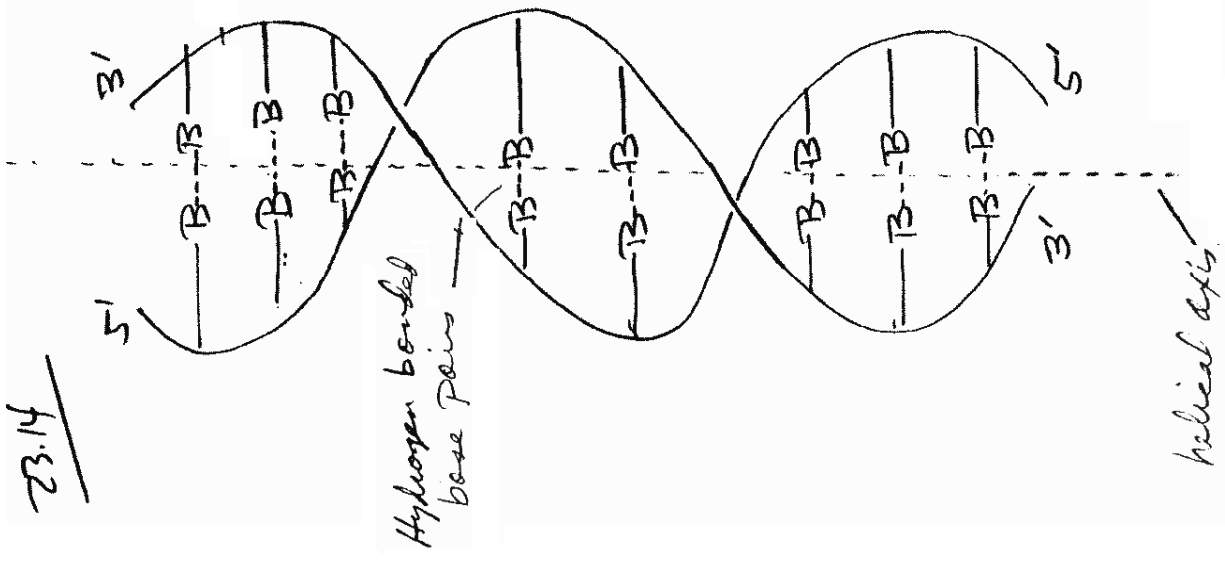
Base Catalyzed
Hydrolysis
of RNA



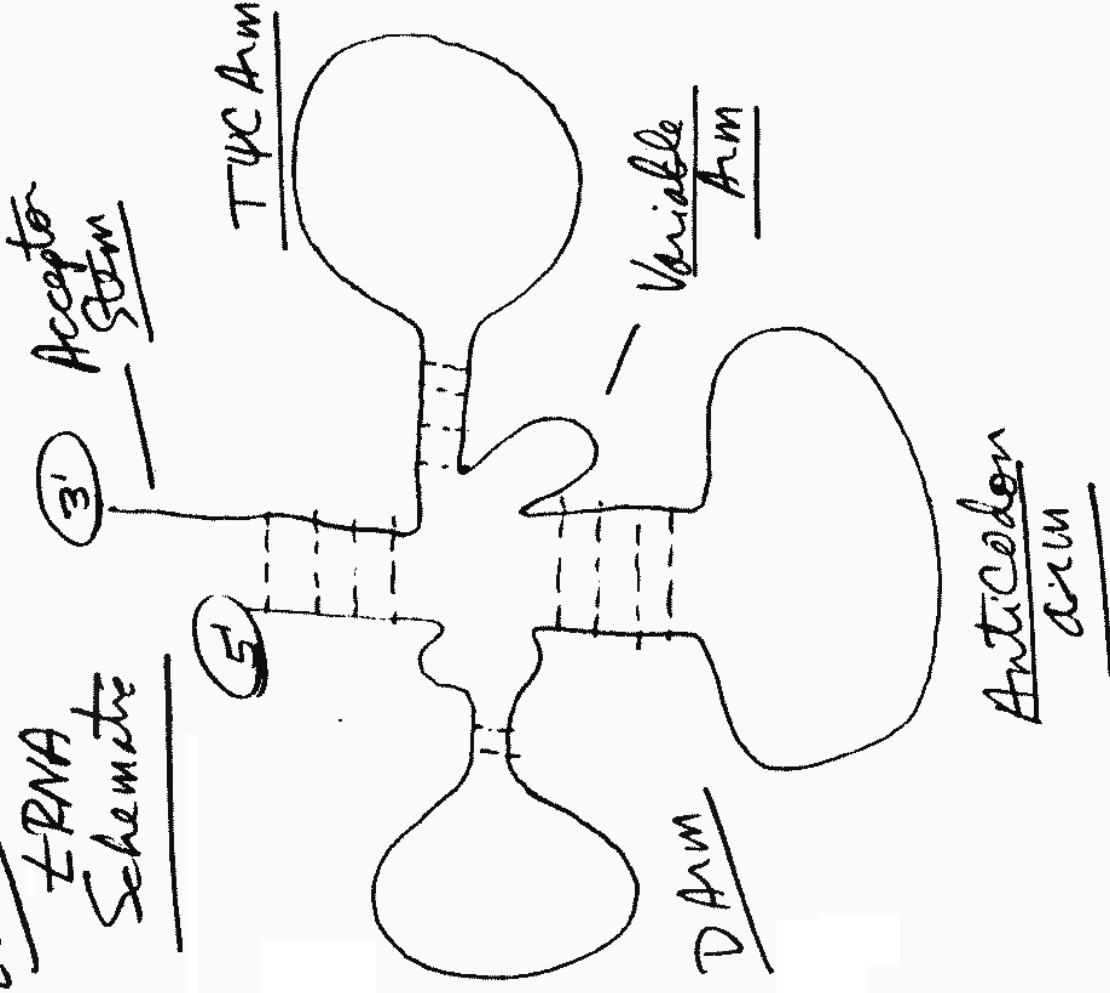
H₂O



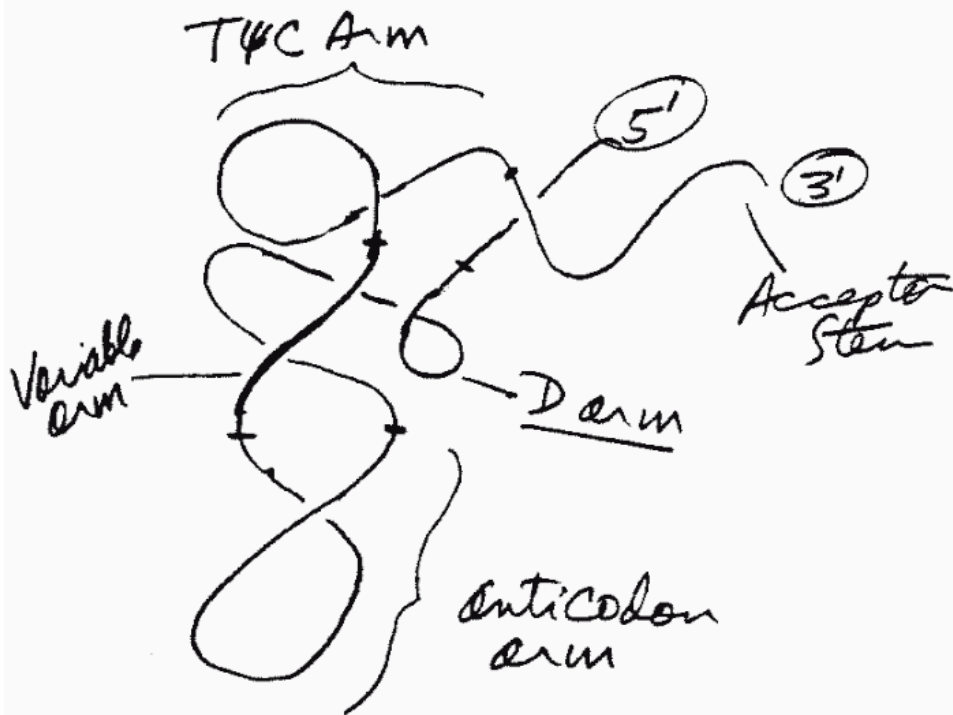
23.14



23.15
tRNA
Schematic

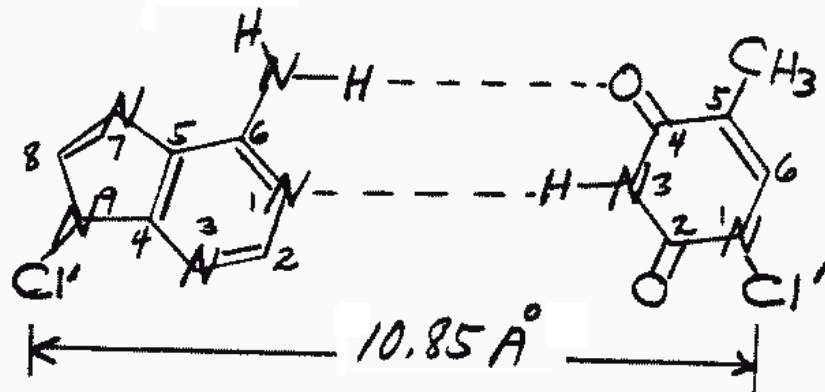


23.16 3° Structure of a tRNA

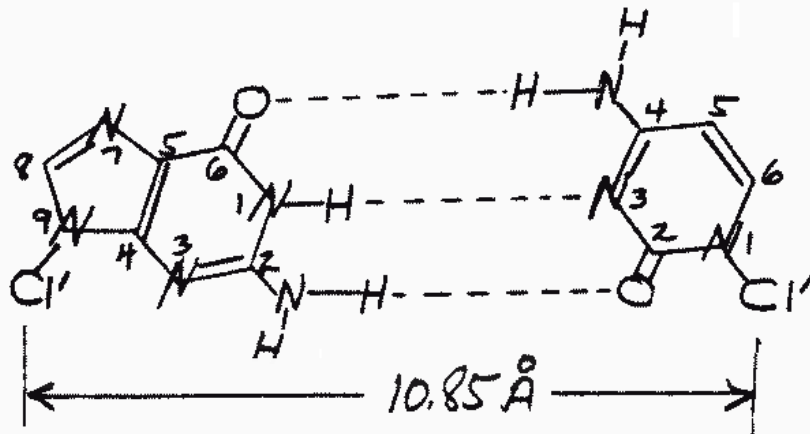


23.17

A-T
Base
Pair



G-C
Base
Pair

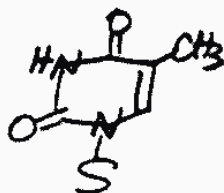


23.18

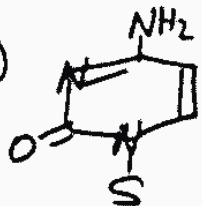
Modified Nucleosides

Nucleoside

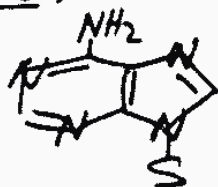
Uridine (U)



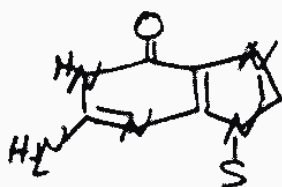
Cytidine (C)



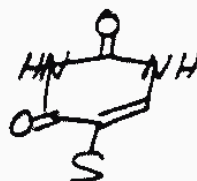
Adenosine (A)



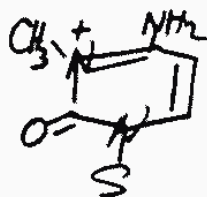
Guanosine (G)



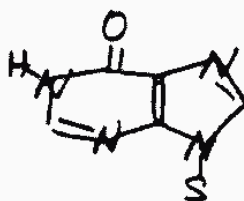
Modified Nucleoside



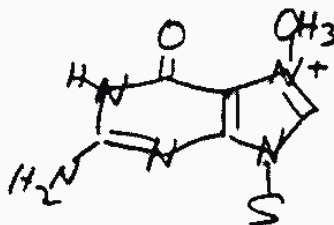
pseudouridine (U)



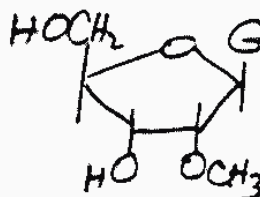
3-methylcytidine (m³C)



inosine (I)



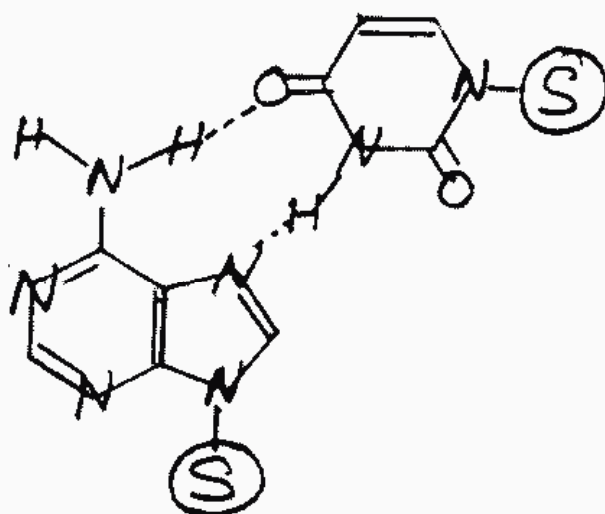
N⁷-methylguanosine (m⁷G)



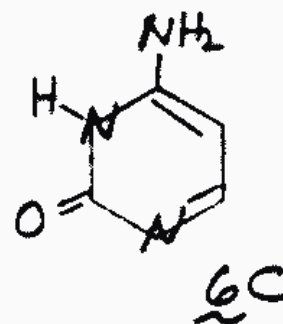
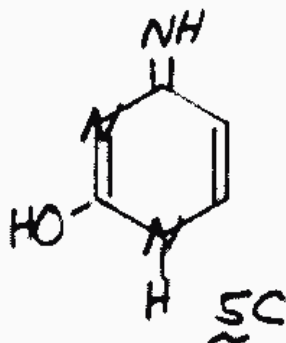
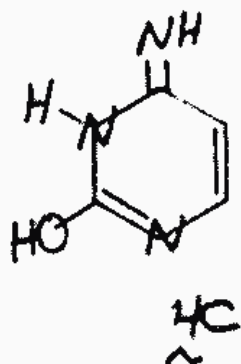
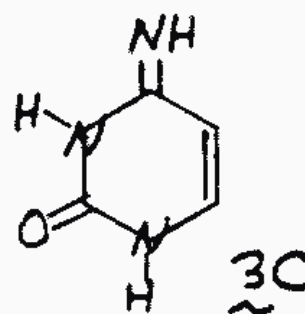
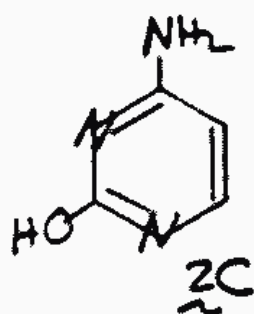
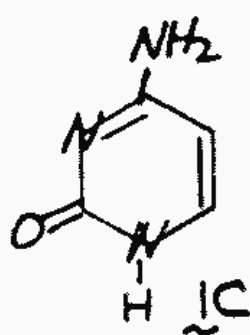
2'-methylguanosine (G_m)

↖ ?

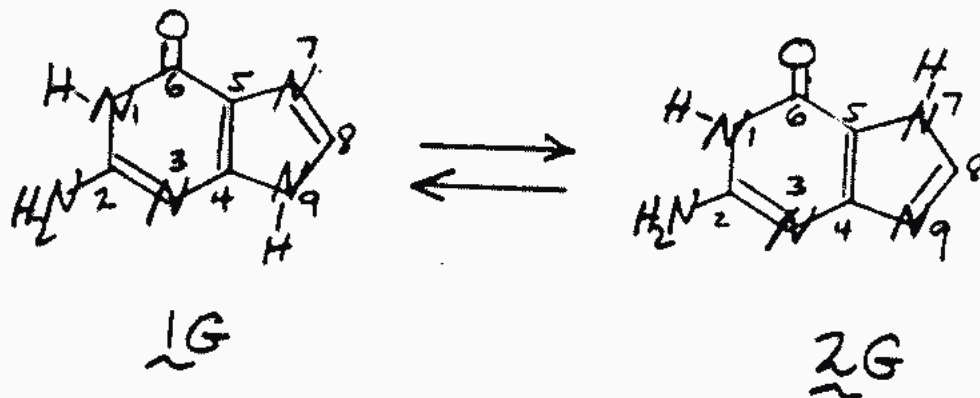
23.19 Hoogsteen A-U Base Pair



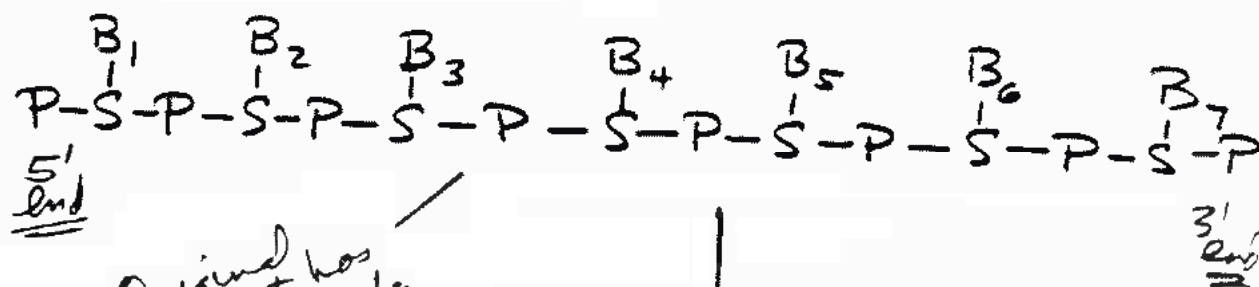
23.20 Tautomeric Forms of Cytosine



23.21 Stable Tautomers of Guanine

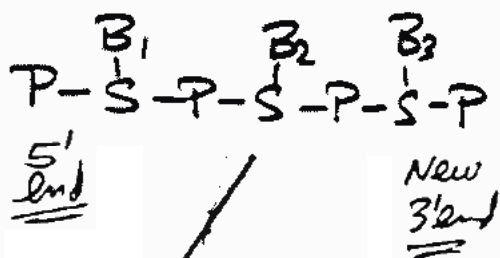


23.22

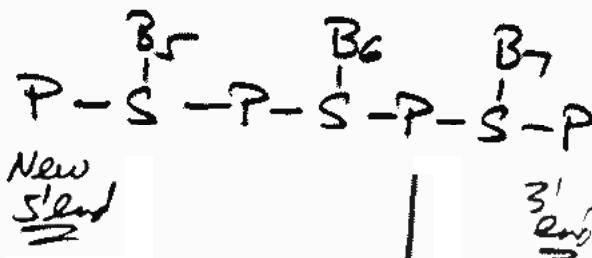


Original fragment has 7 nucleosides

Cleavage Reagent $\downarrow$ (Remove S-B₄)



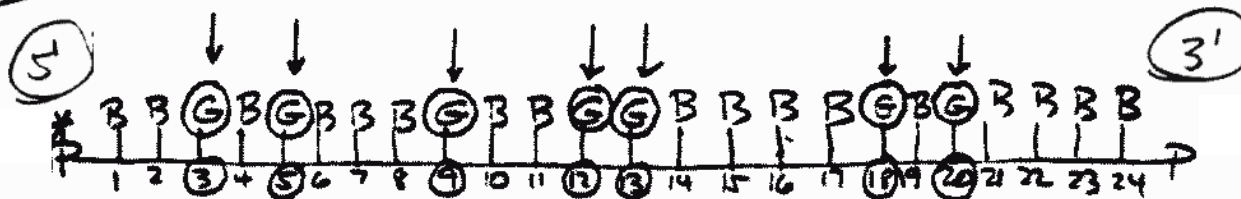
New fragment with 3 nucleosides



New fragment with 3 nucleosides

Fragment removed was at "position 4"

23.23

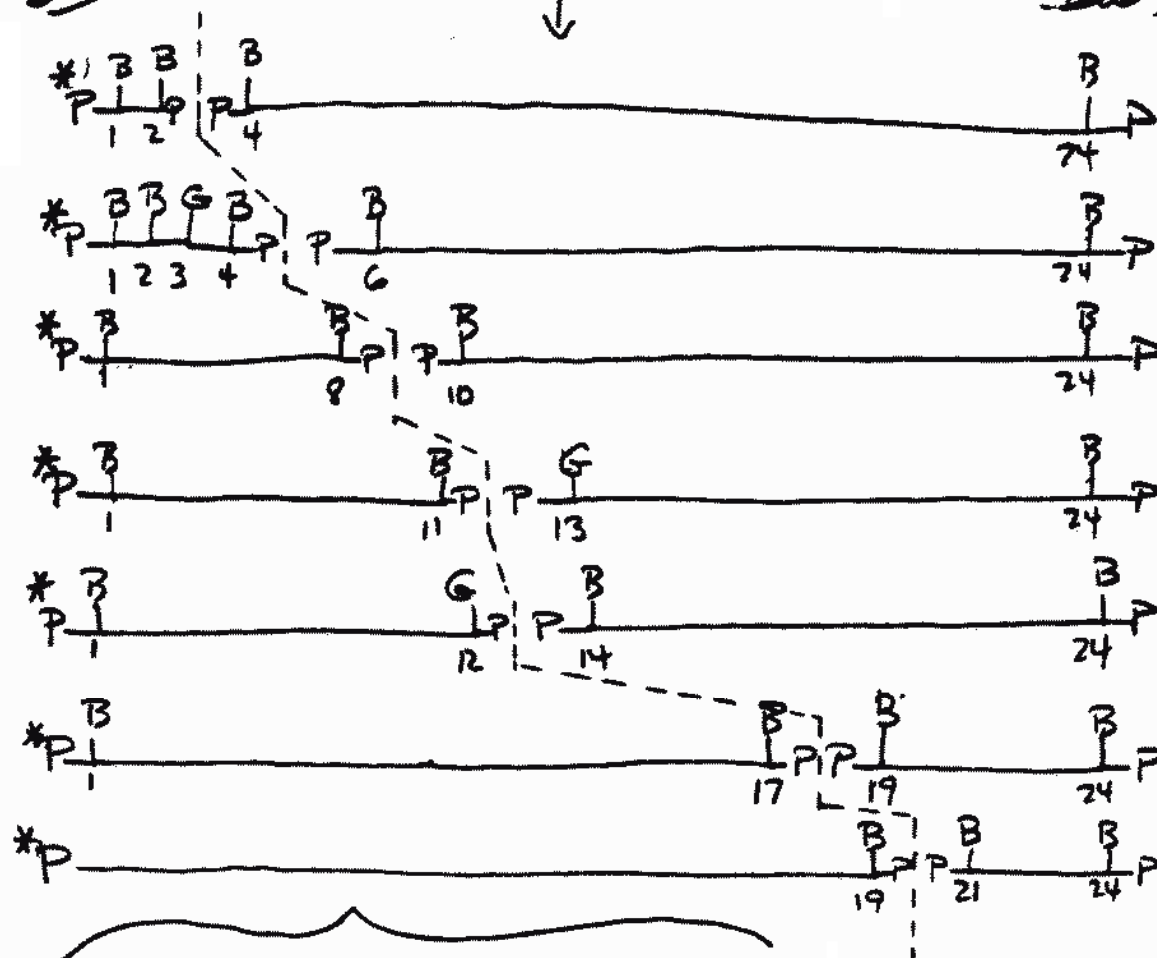


Original
5' ends

Cleavage
Reagent

Specific
for
G Nucleoside

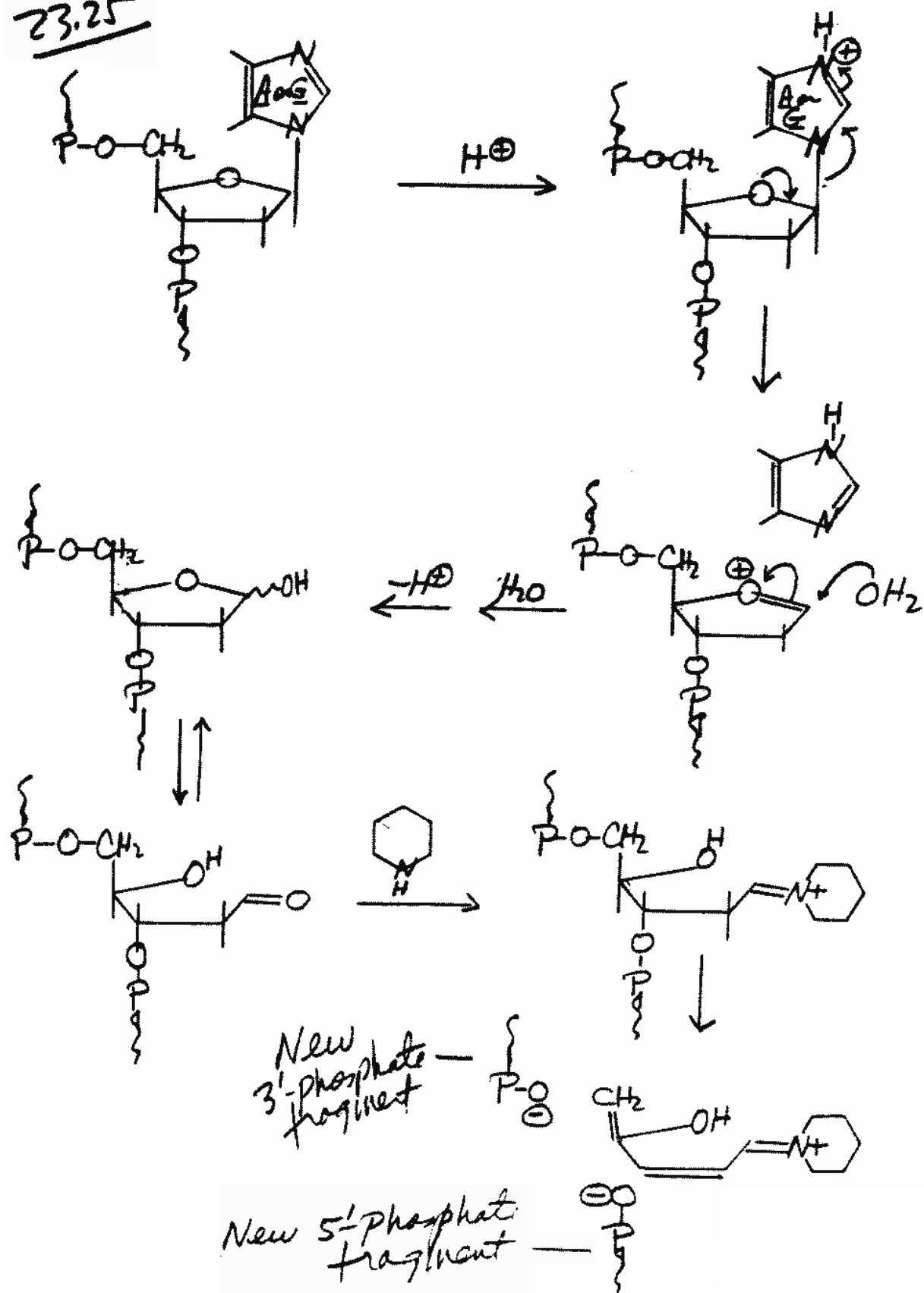
Original
3' ends



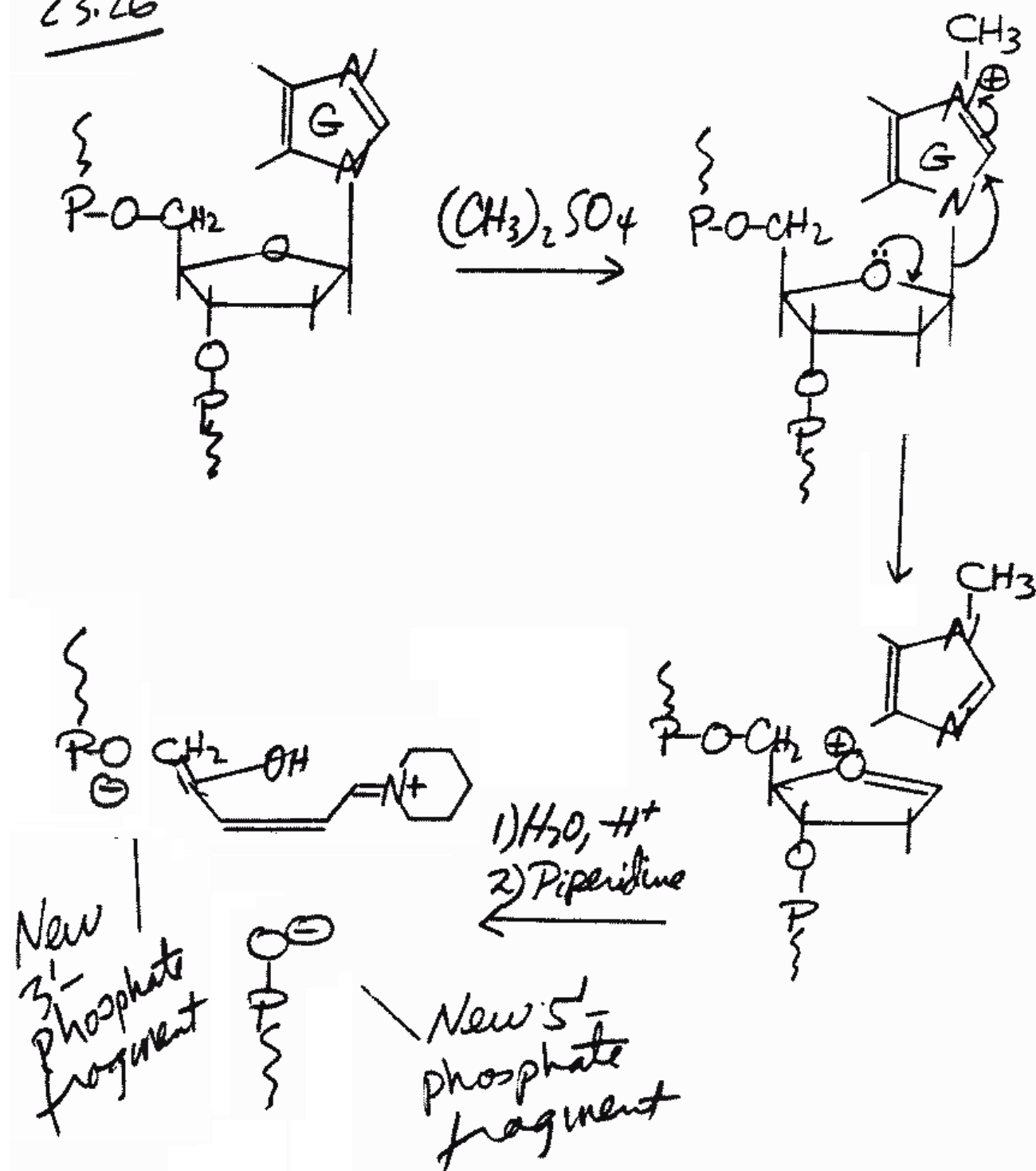
Fragment with
radioactive 5'-Phosphate (P*)

Figure 23.24 to be added

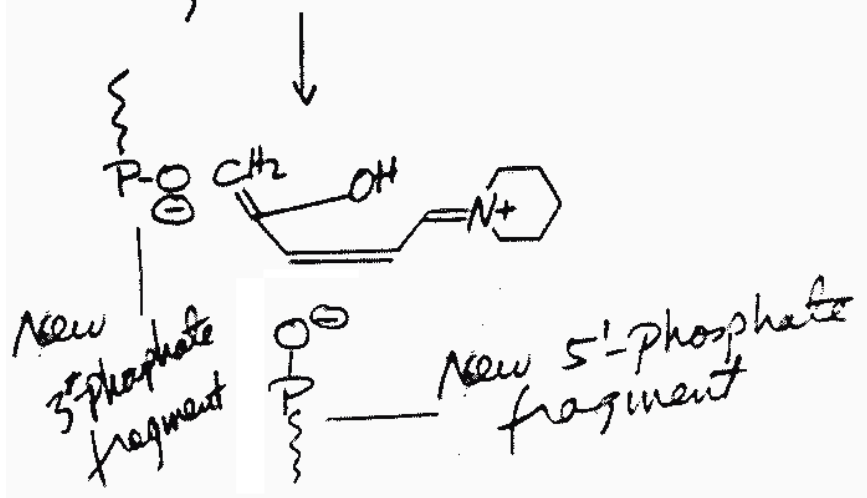
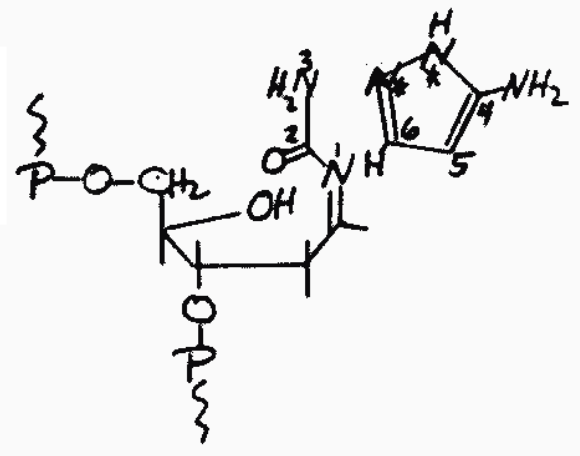
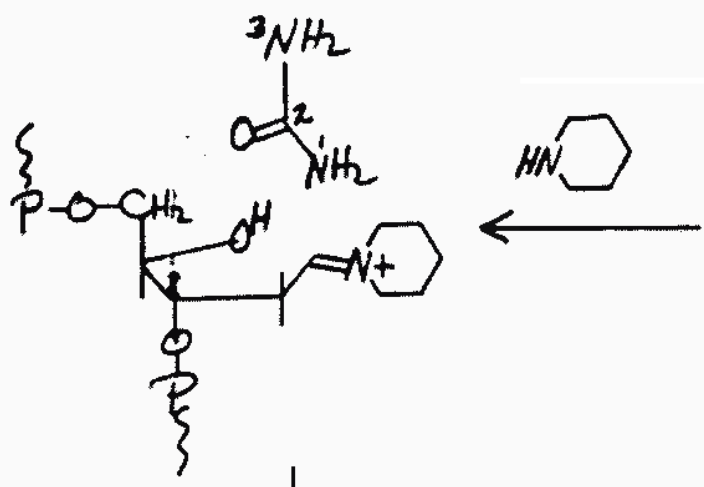
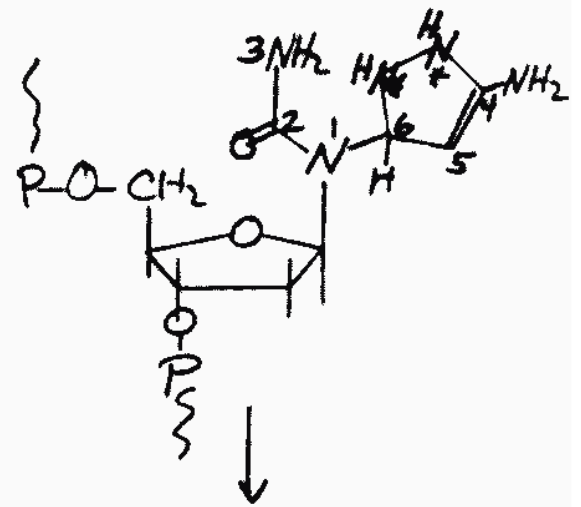
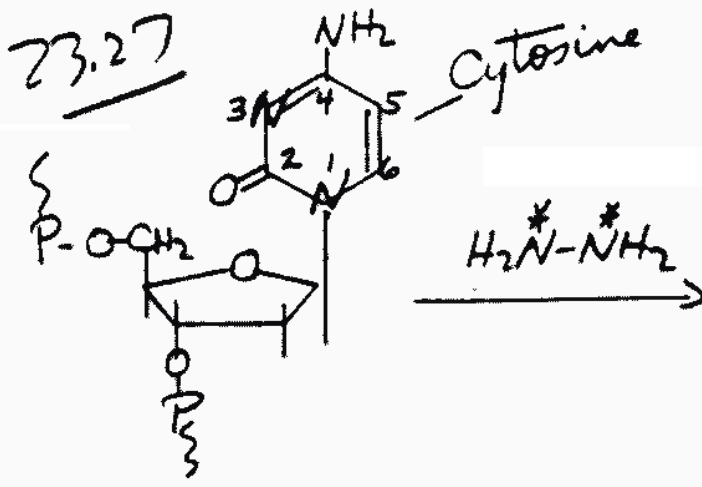
23.25



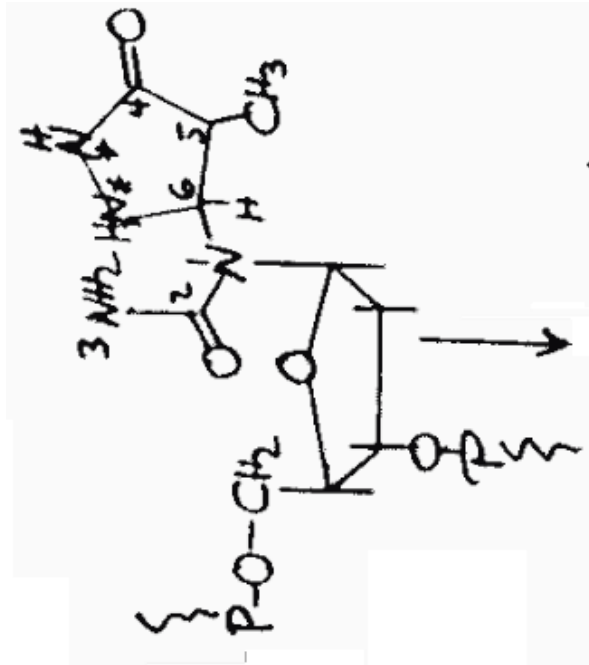
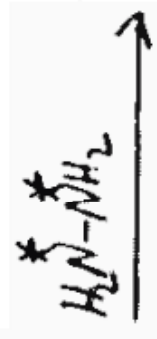
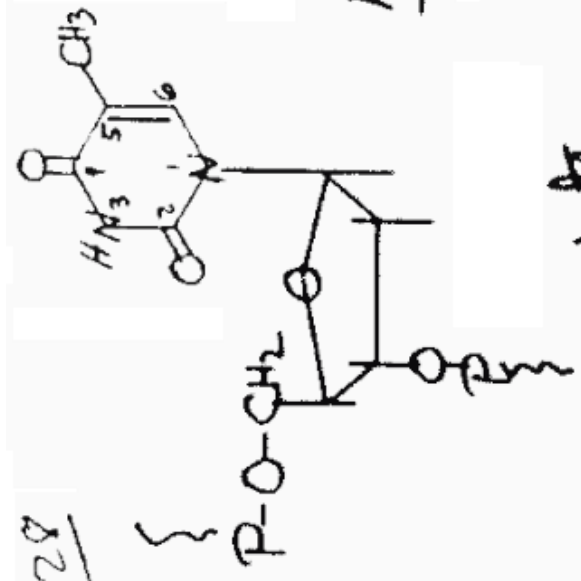
23.26



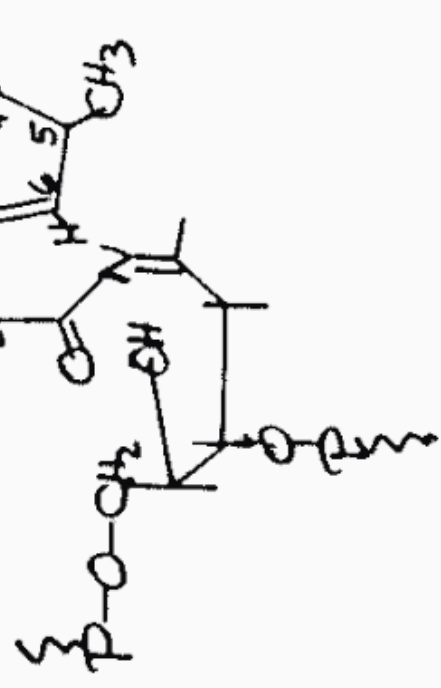
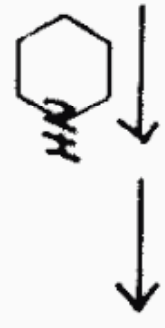
23.27



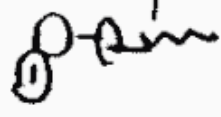
23.28

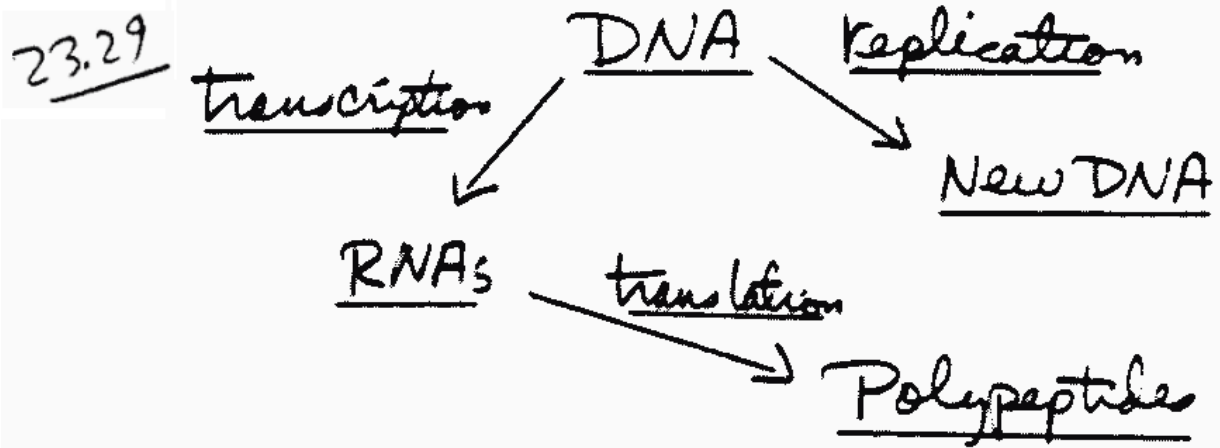


New 3'-phosphate fragment

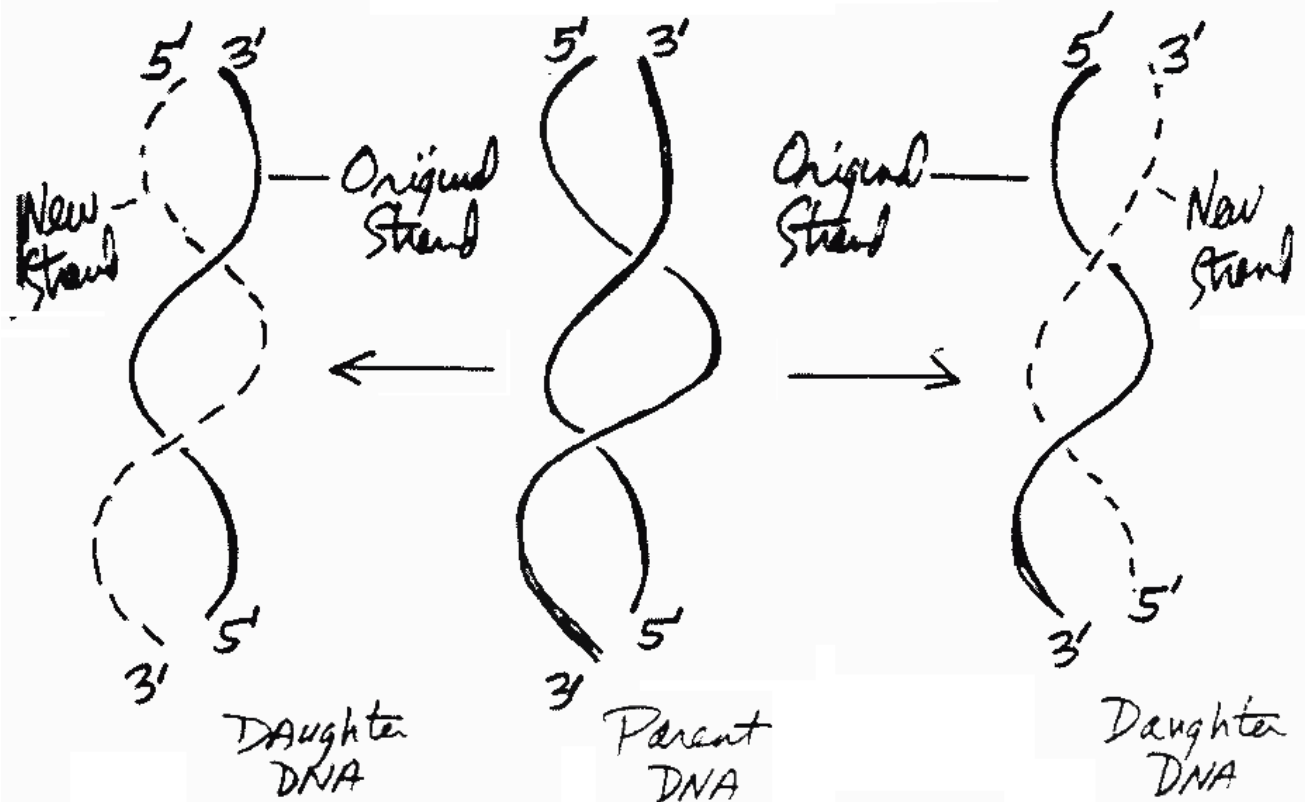


New 5'-phosphate fragment

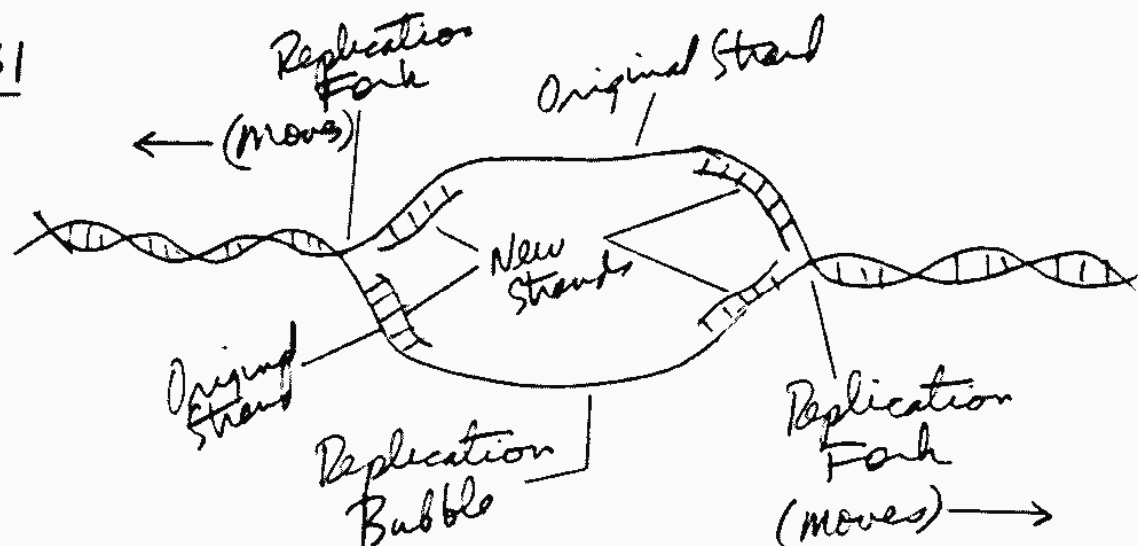




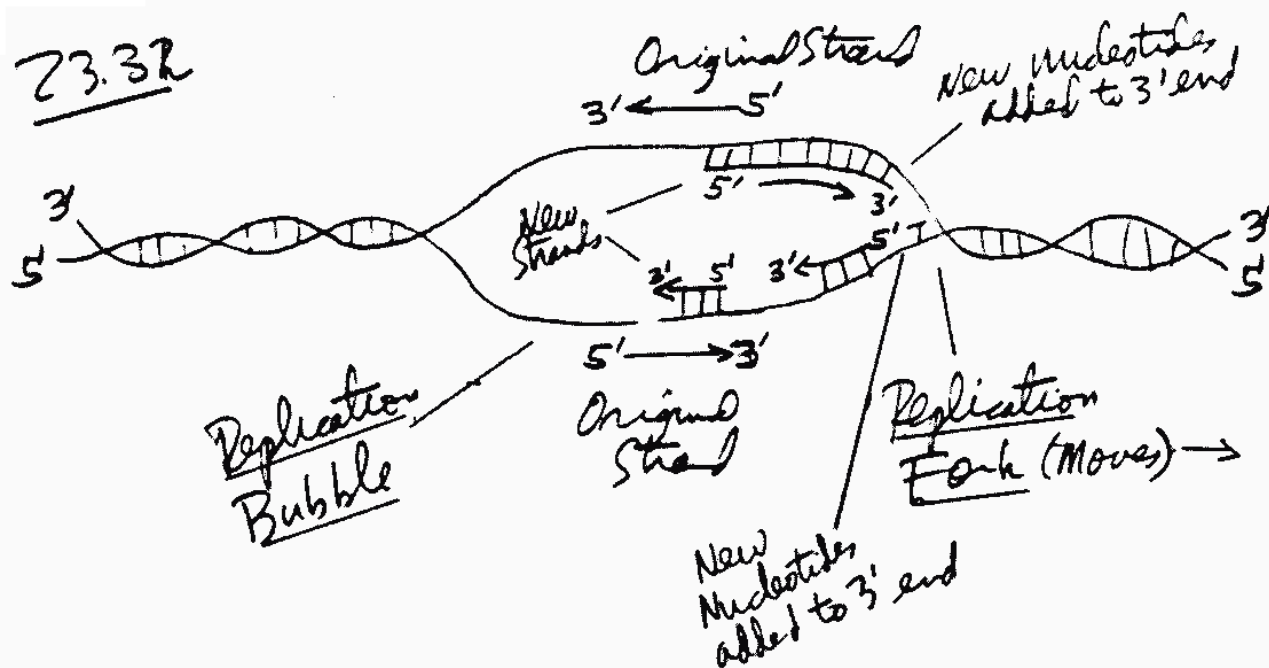
23.30 Semi-Conservative Replication



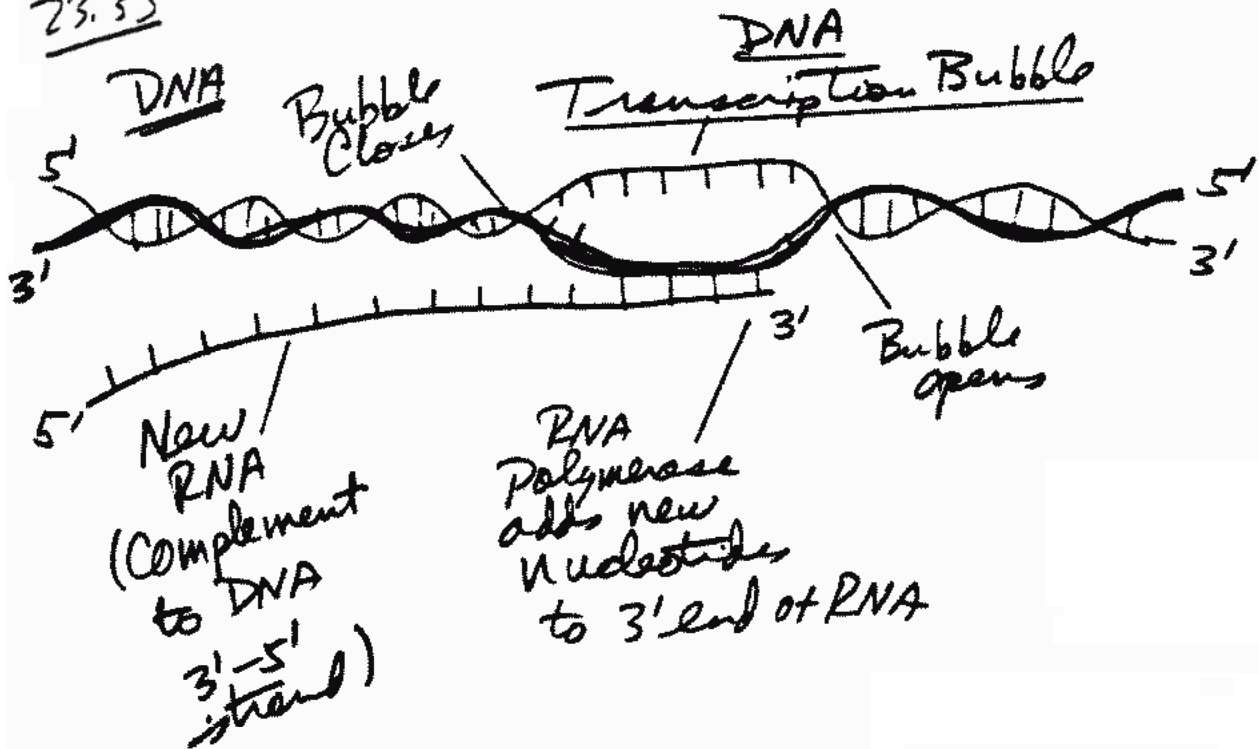
23.31



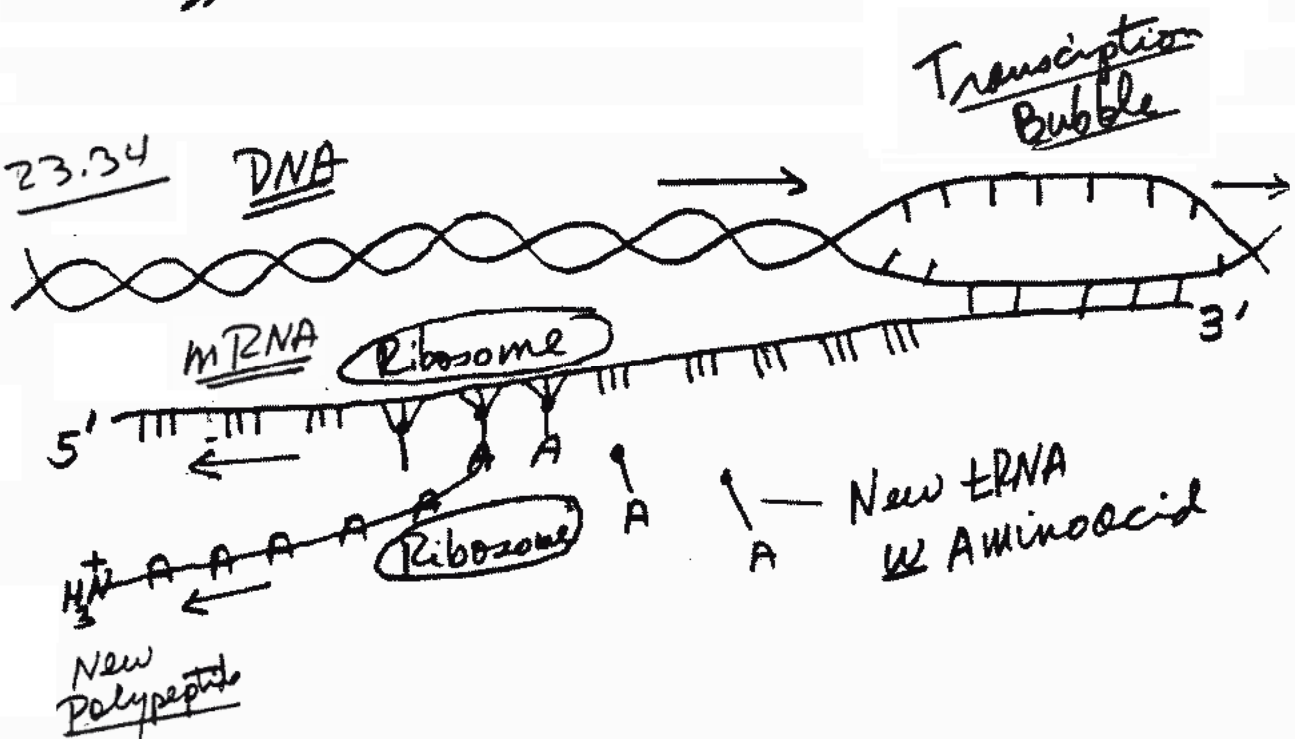
23.32



23.33

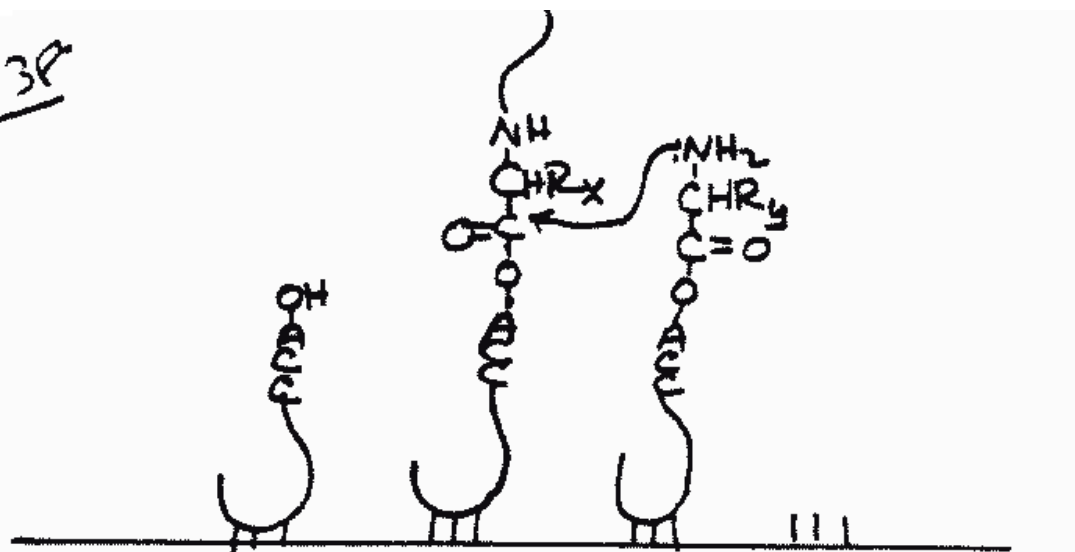


23.34

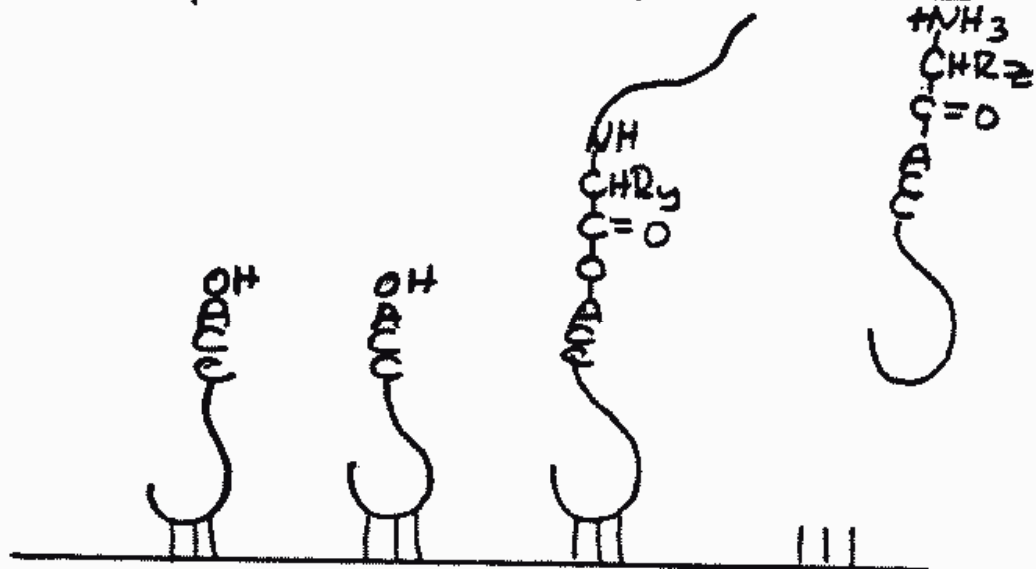


23.38

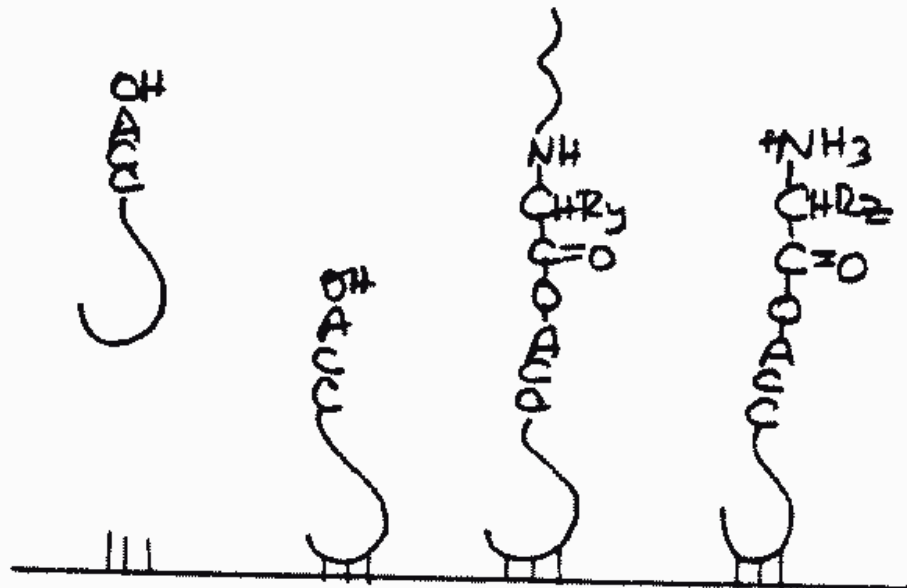
(A)



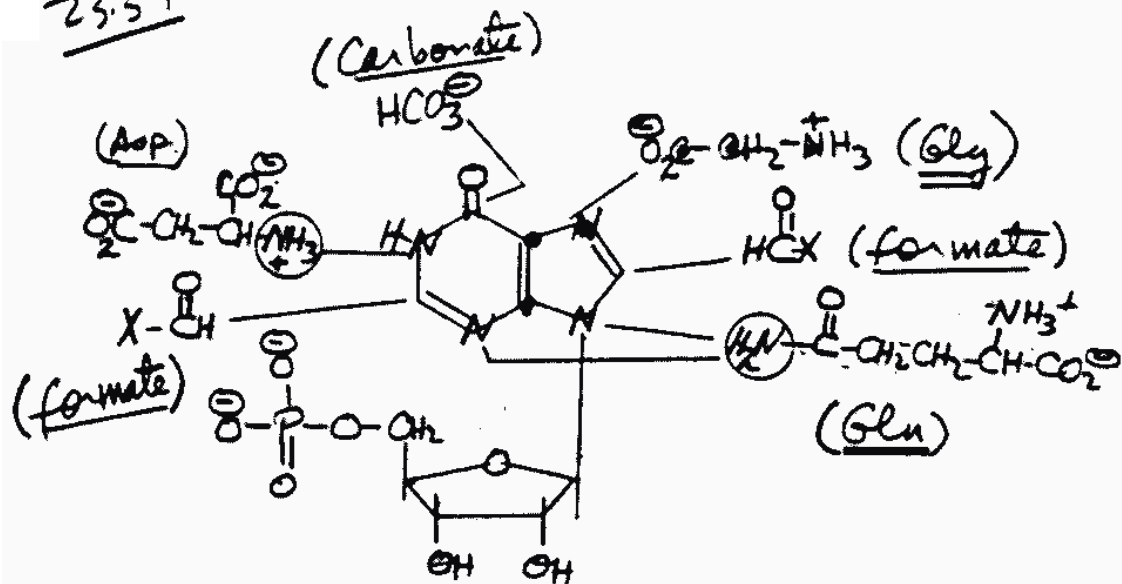
(B)



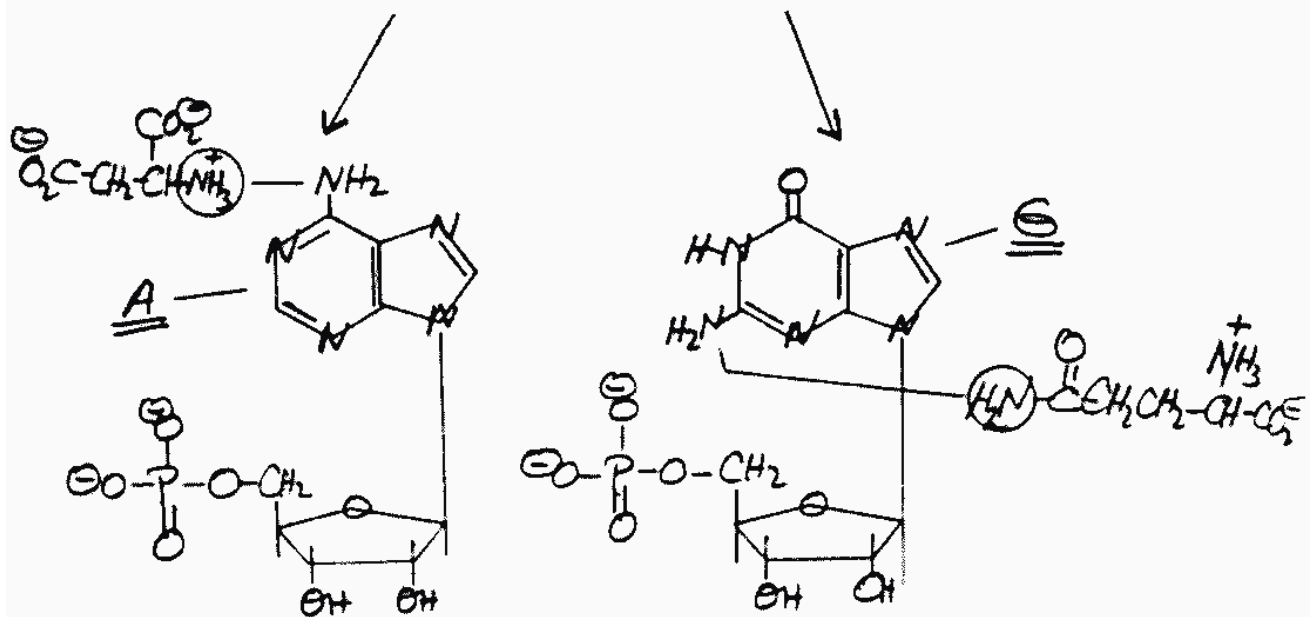
(C)



23.39



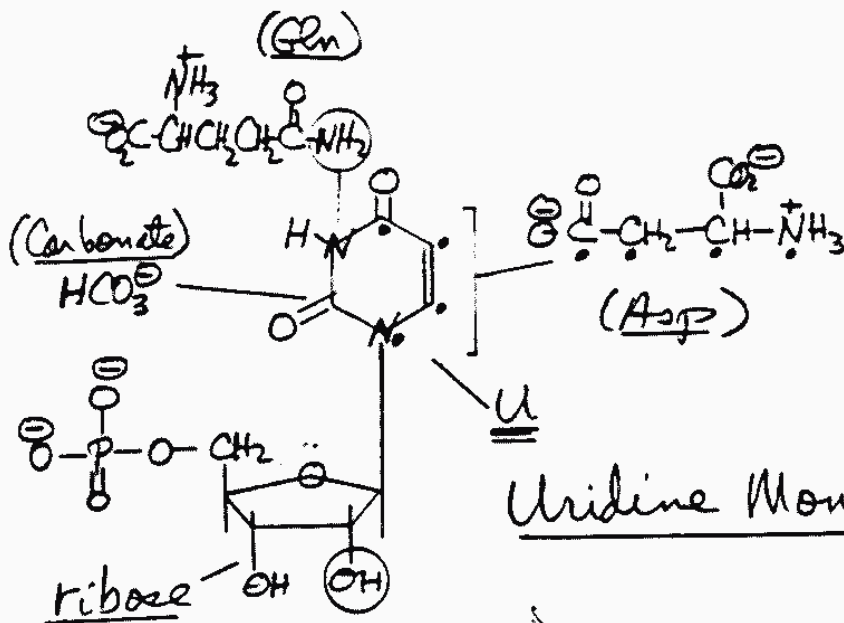
Inosine Monophosphate



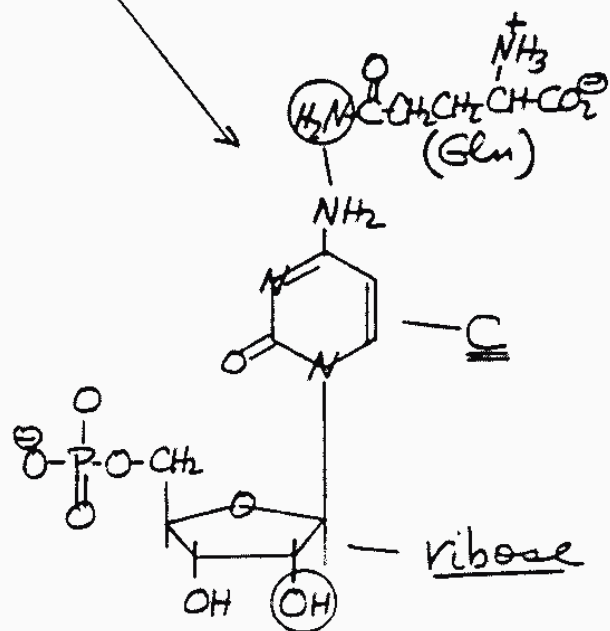
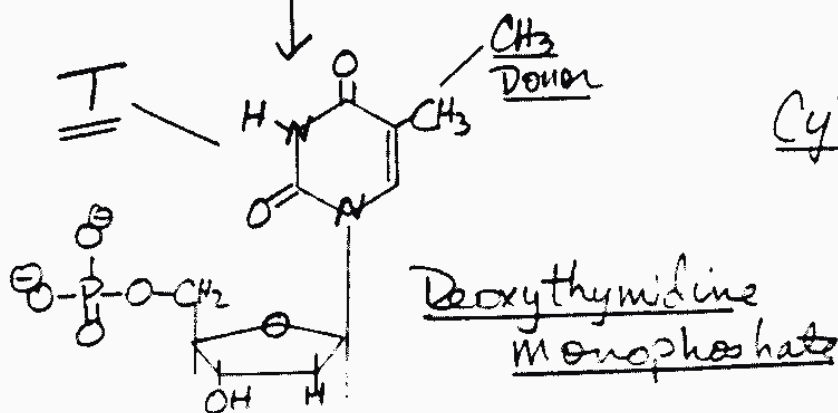
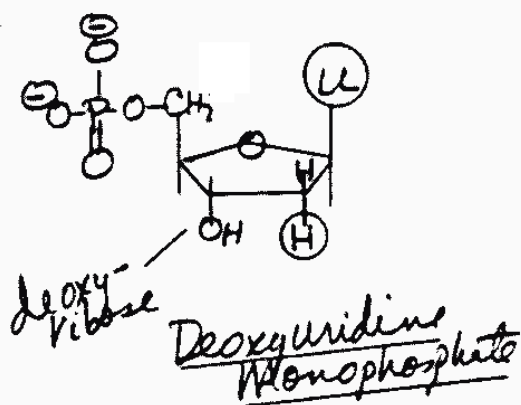
Adenosine Monophosphate

Guanosine Monophosphate

23.40

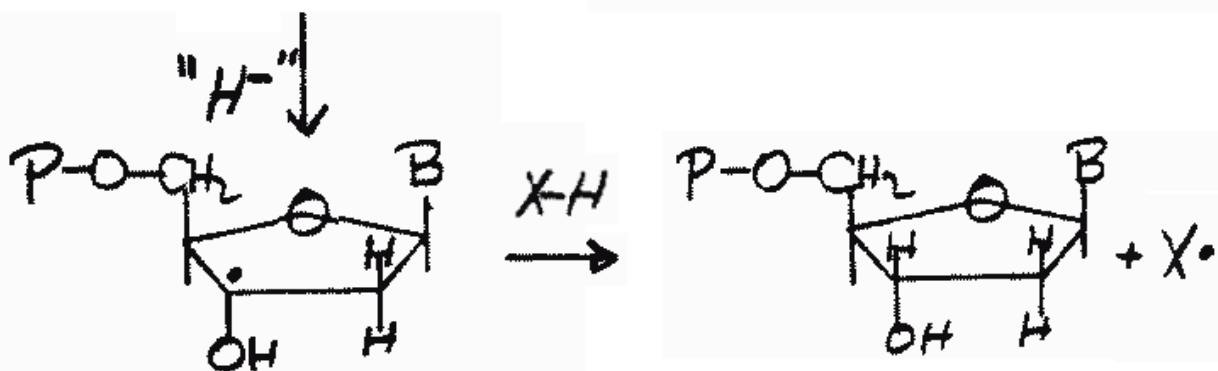
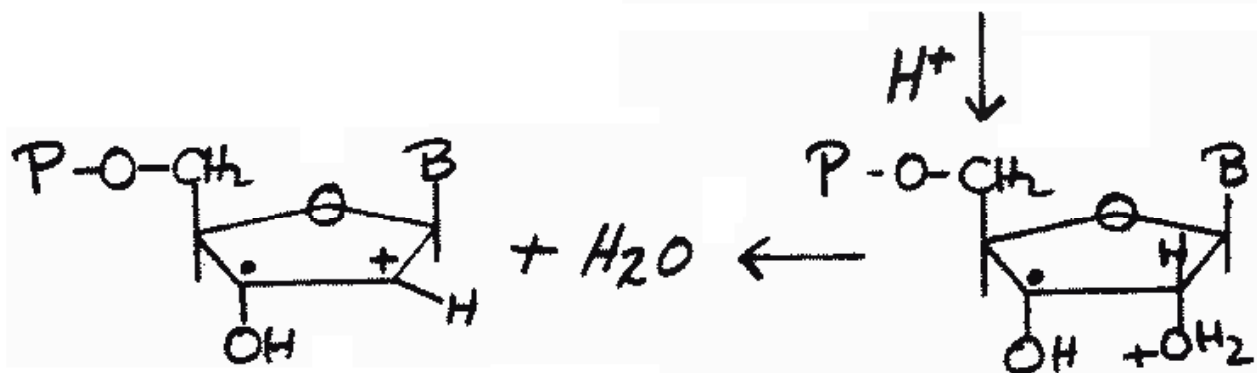
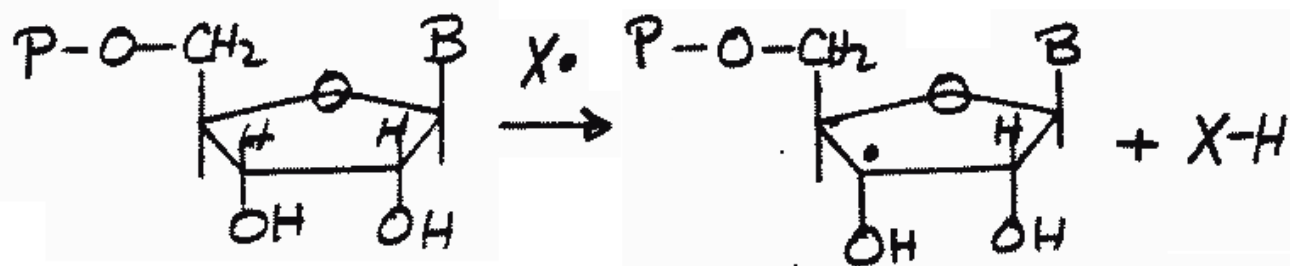


Reduction
[H] (23.41)

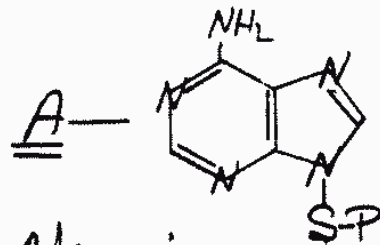


Cytidine Monophosphate

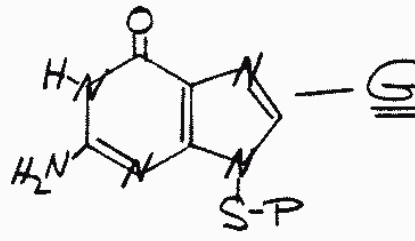
23,4)



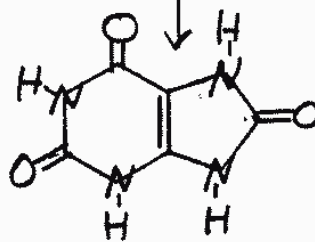
23.42



Adenosine
Monophosphate

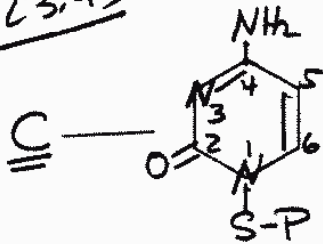


Guanosine
Monophosphate

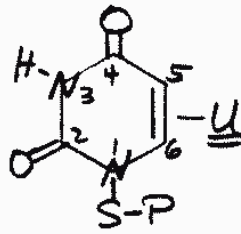


Uric Acid

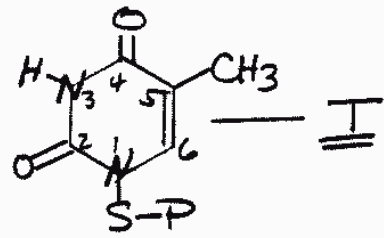
23.43



Cytidine
Monophosphate



Uridine
Monophosphate



Deoxythymidine
Monophosphate

