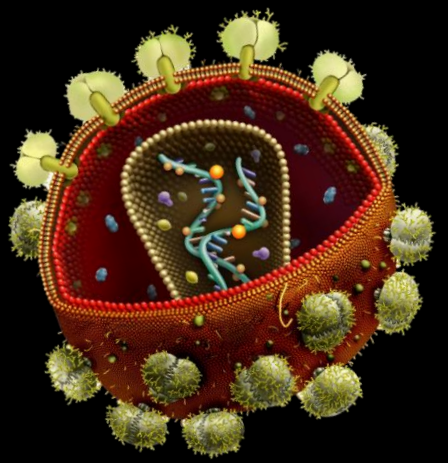
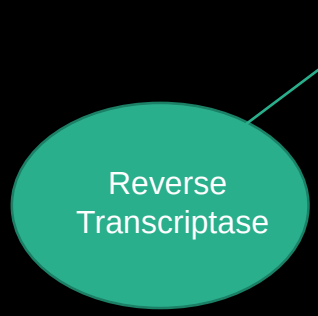


HIV Reverse Transcriptase

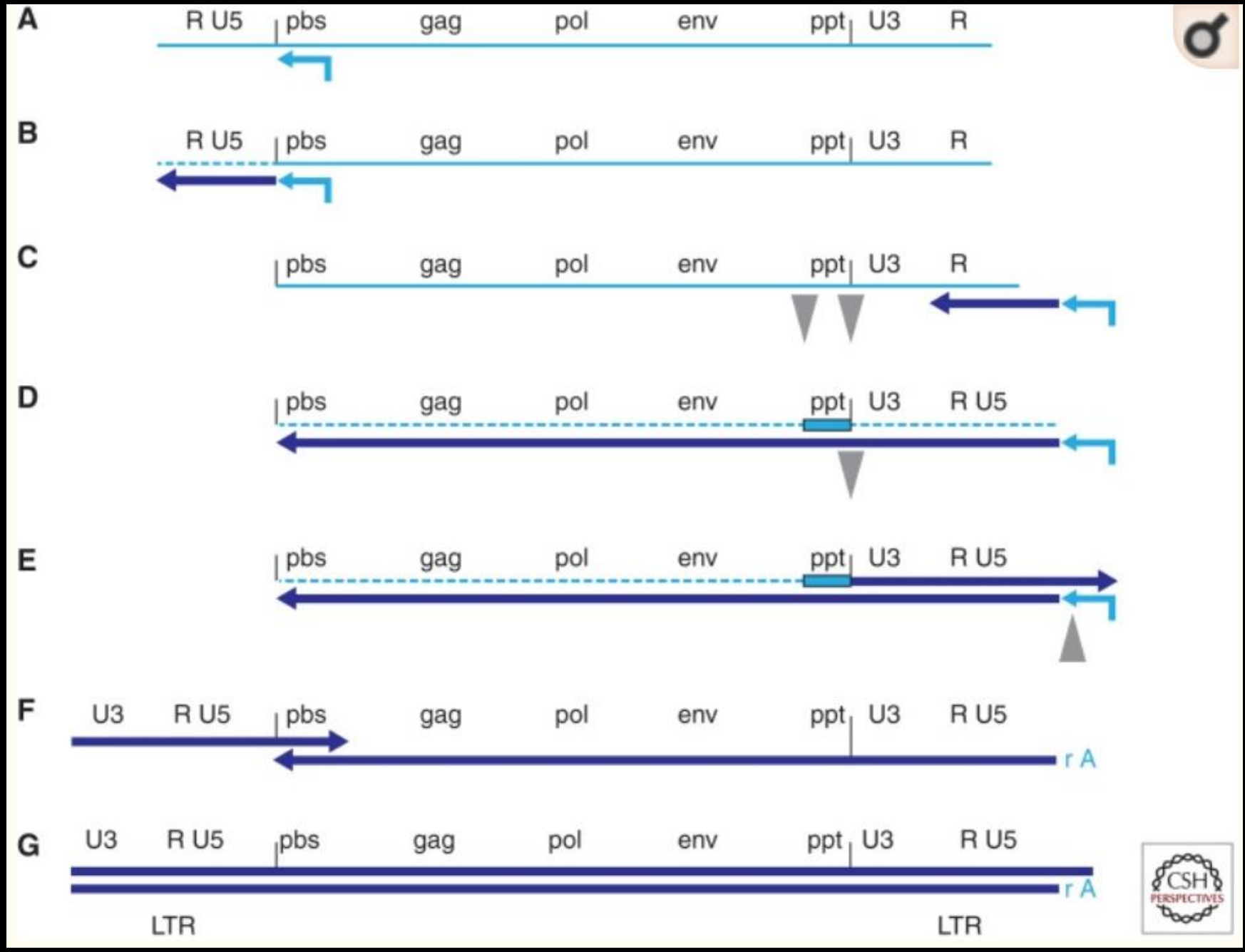
Δομική Βιολογία
6ο Εξάμηνο
Καρατάσος Χαράλαμπος

Biological function

- Viral genetic material ssRNA → dsDNA



- Heterodimer : i. Polymerase
  ii. RNase H
- Produced by Gag – Pol polyprotein by cleavage with the viral protease


A
R U5
pbs
gag
pol
env
ppt
U3
R
B
R U5
pbs
gag
pol
env
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C
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ppt
U3
R
D
pbs
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gag
pol
env
ppt
U3
R U5
F
U3
R U5
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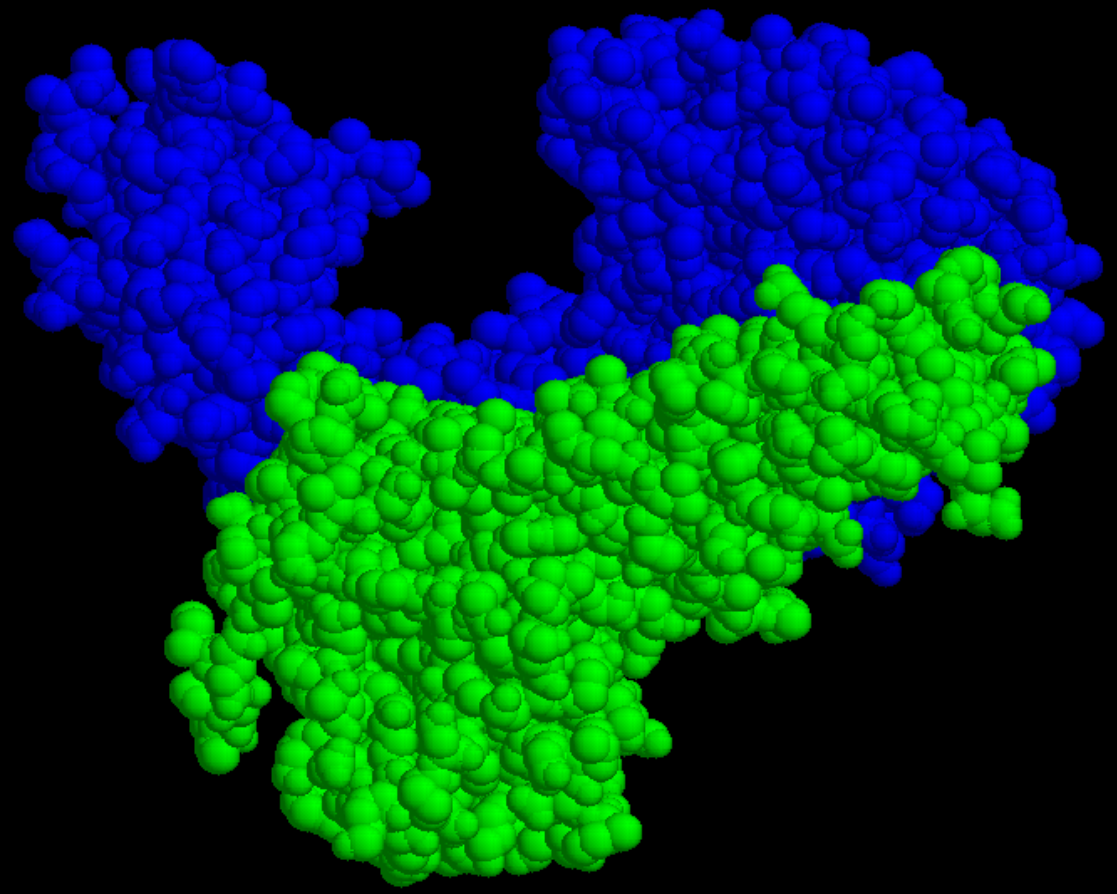
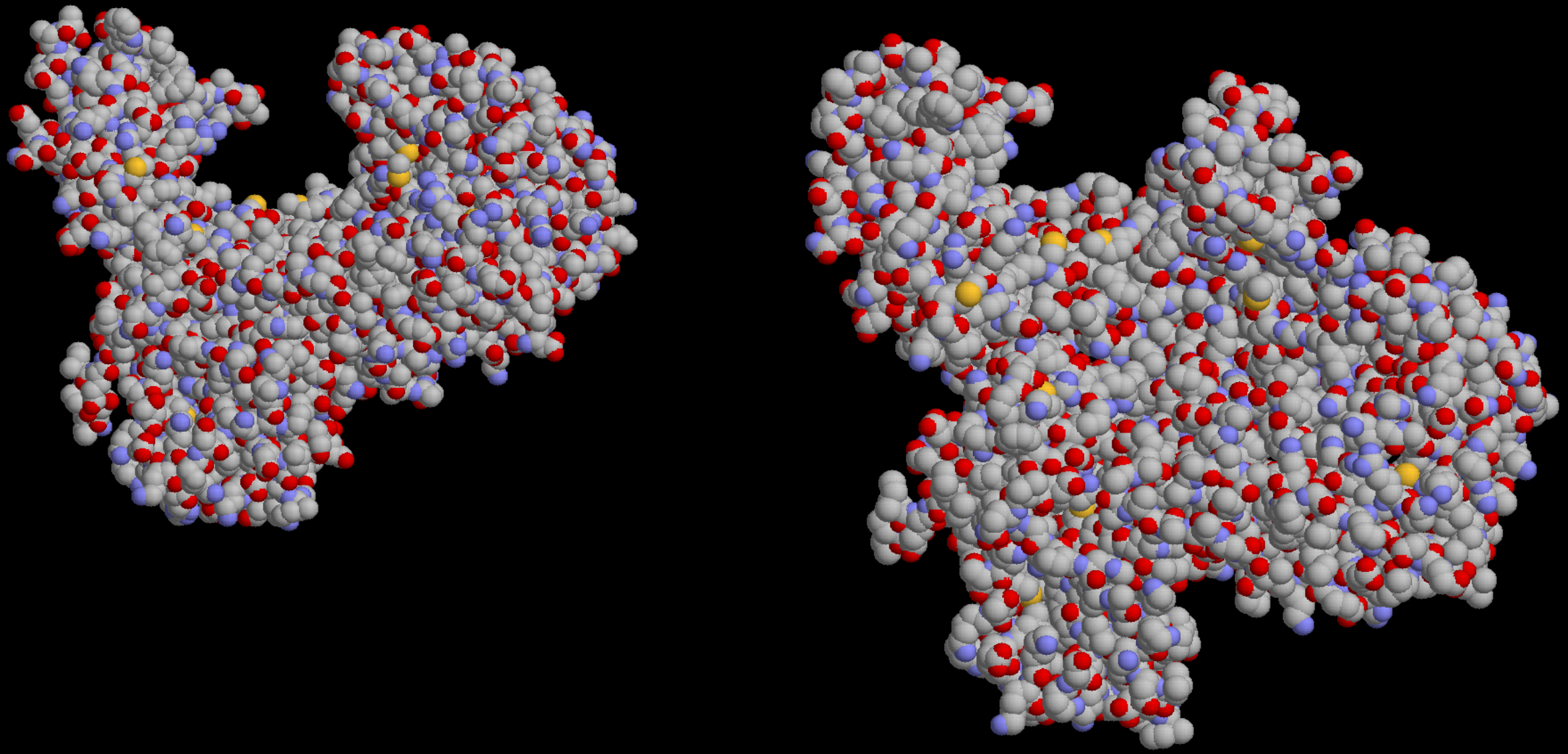
env
ppt
U3
R U5
r A
G
U3
R U5
pbs
gag
pol
env
ppt
U3
R U5
r A
LTR
LTR

Structure

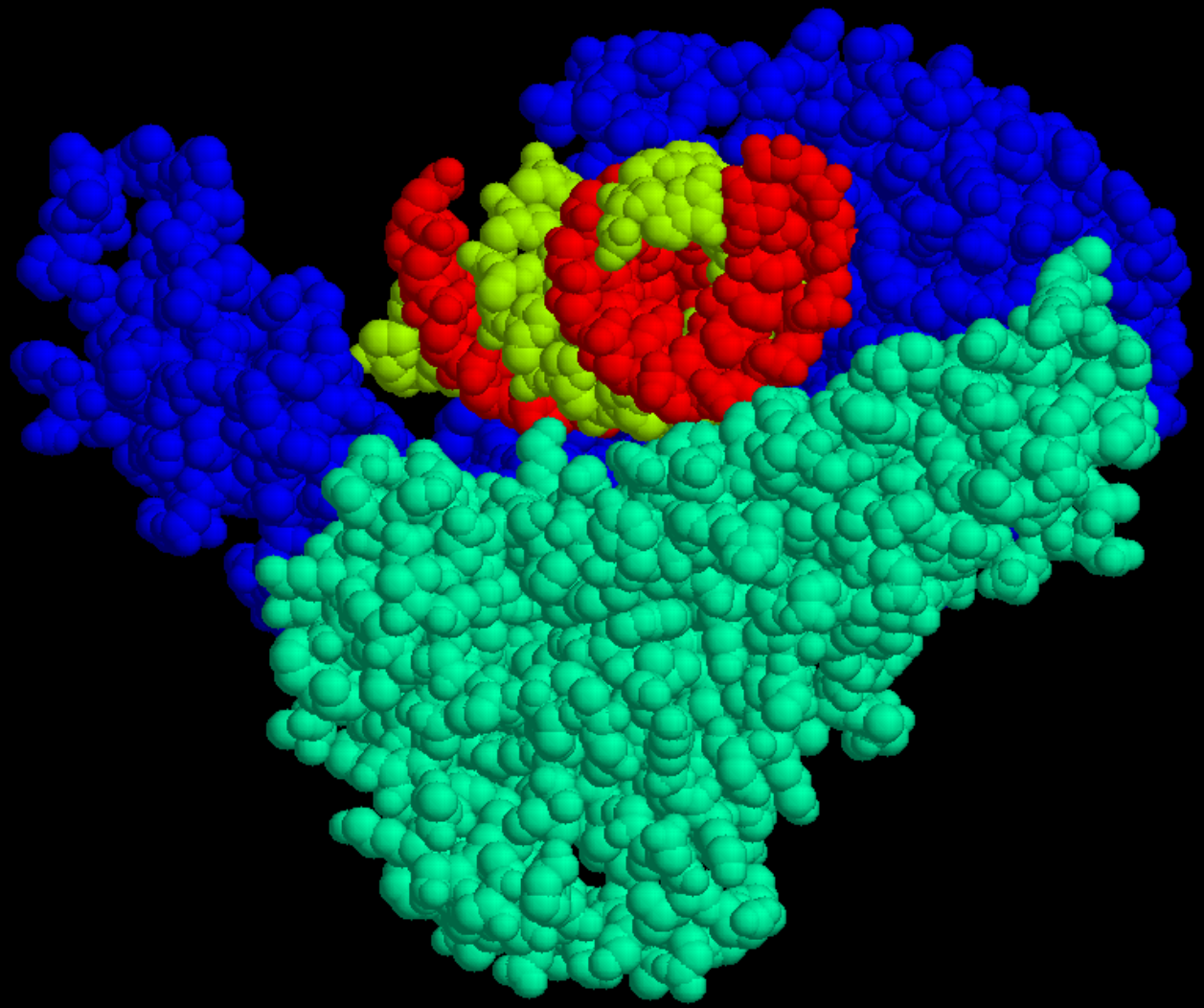
p66 subunit (blue) : → Polymerase active site
→ RNase H active site

p51 subunit (green) : Structural role





RT in complex with RNA - DNA

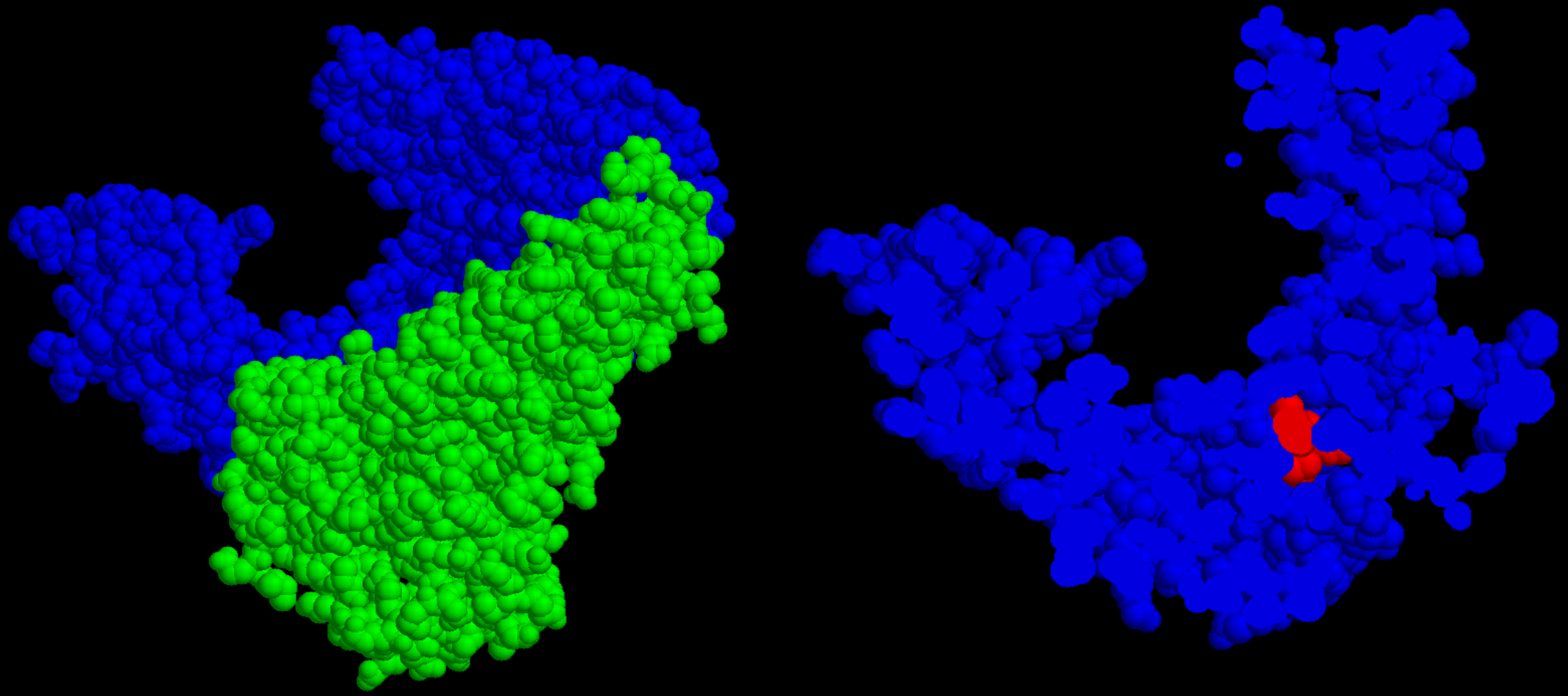


Drugs

- 26 drugs approved to treat HIV – 1 infections → 14 are RT inhibitors

❖Azidothymidine (AZT)
❖Nevirapine (NVP)

Nevirapine (NVP)



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