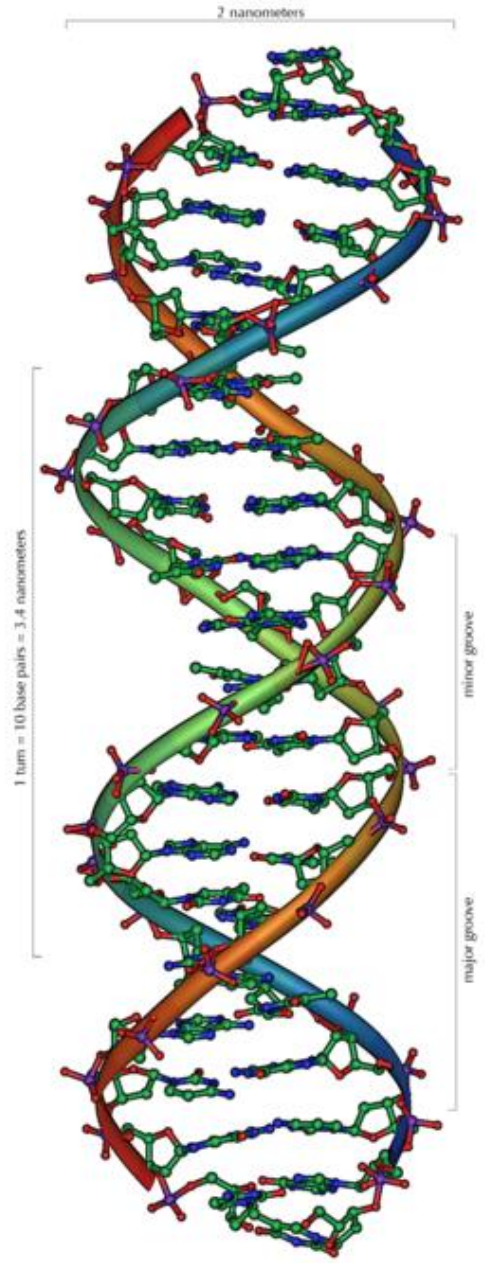


Ácidos nucleicos

formados por nucleotídeos

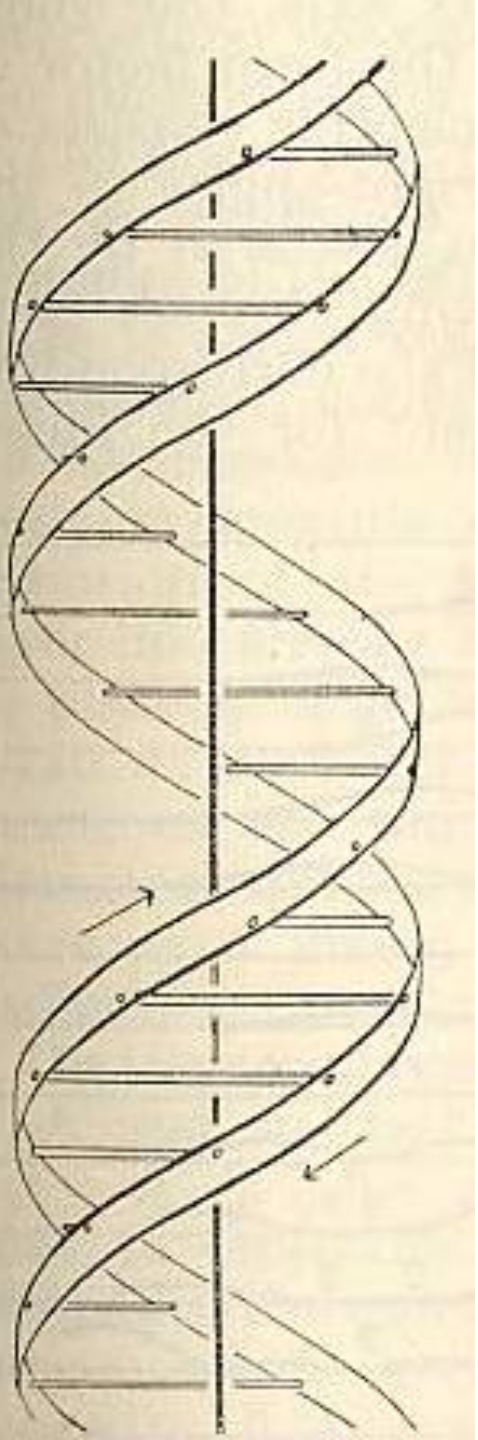
DNA e RNA

Informação sobre todo o organismo

TEM of DNA released from a baculovirus

False-colour Transmission Electron Micrograph (TEM) of DNA released from a baculo- virus.

(http://www.sciencephoto.com/media/209732/enlarge)



DNA

The DNA double helix
(Watson & Crick, 1953)

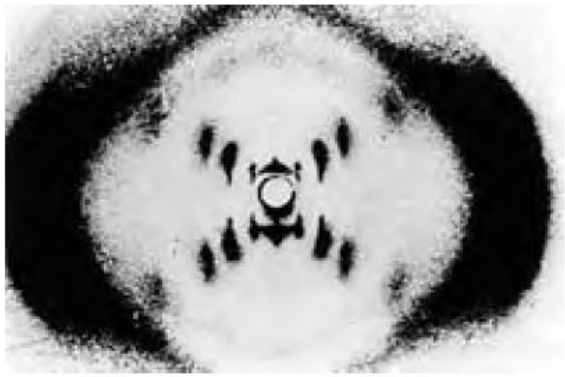
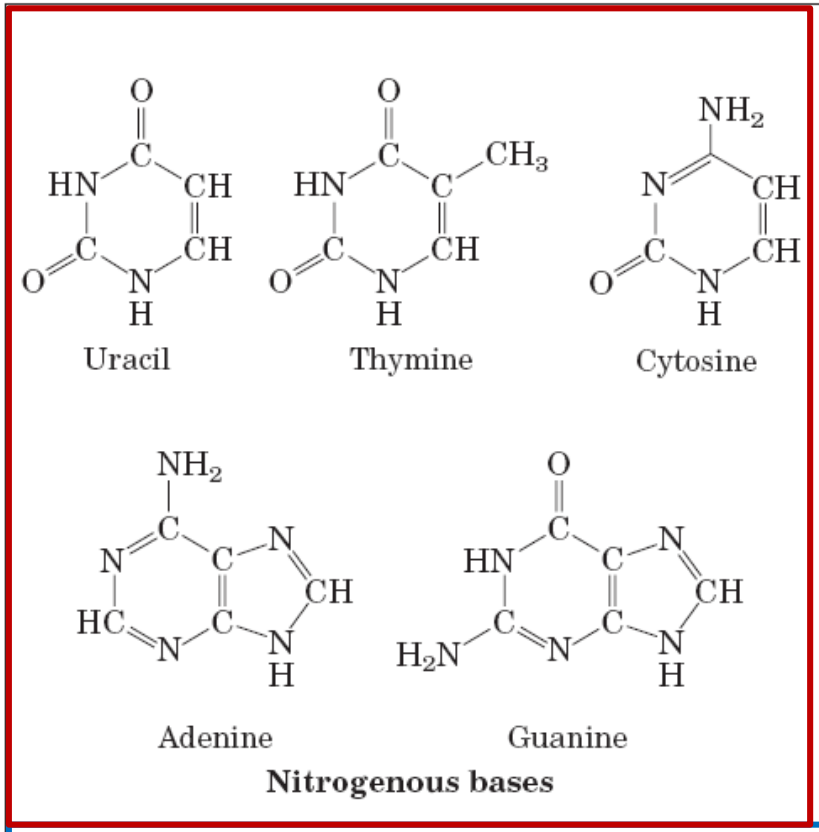


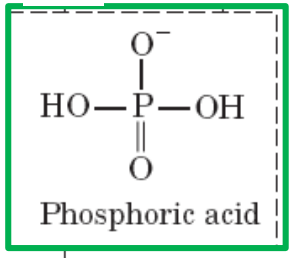
FIGURE 8–14 X-ray diffraction pattern of DNA. The spots forming a cross in the center denote a helical structure. The heavy bands at the left and right arise from the recurring bases.

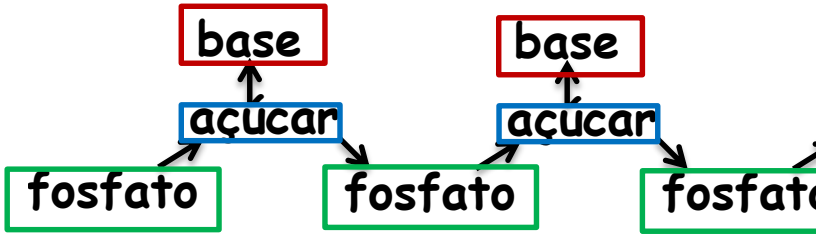
Rosalind Franklin,
Maurice Wilkins
(1950)

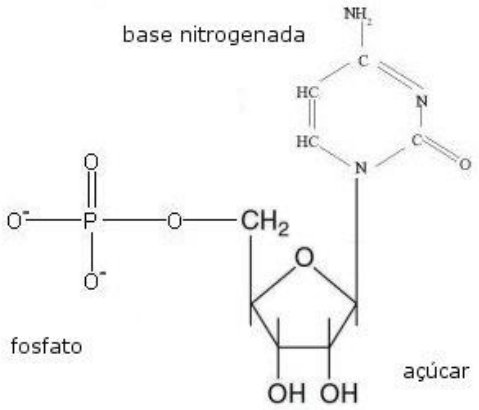
(Lehninger Biochemistry)

Principais componentes dos ácidos nucleicos









DNA: AT e CG, e desoxirribose

RNA: AU e CG e ribose

(Lehninger Biochemistry)

(www.biomol.org)

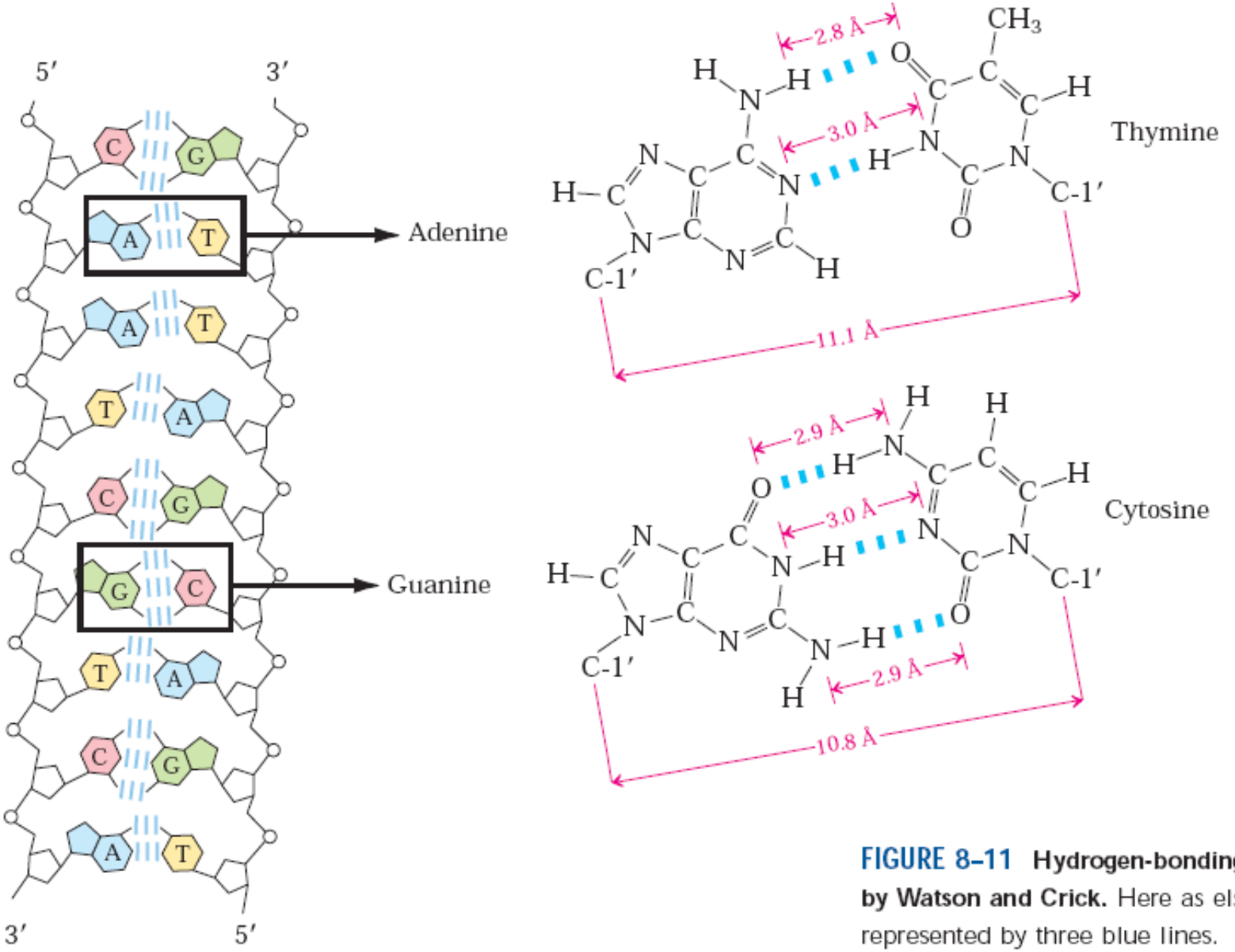
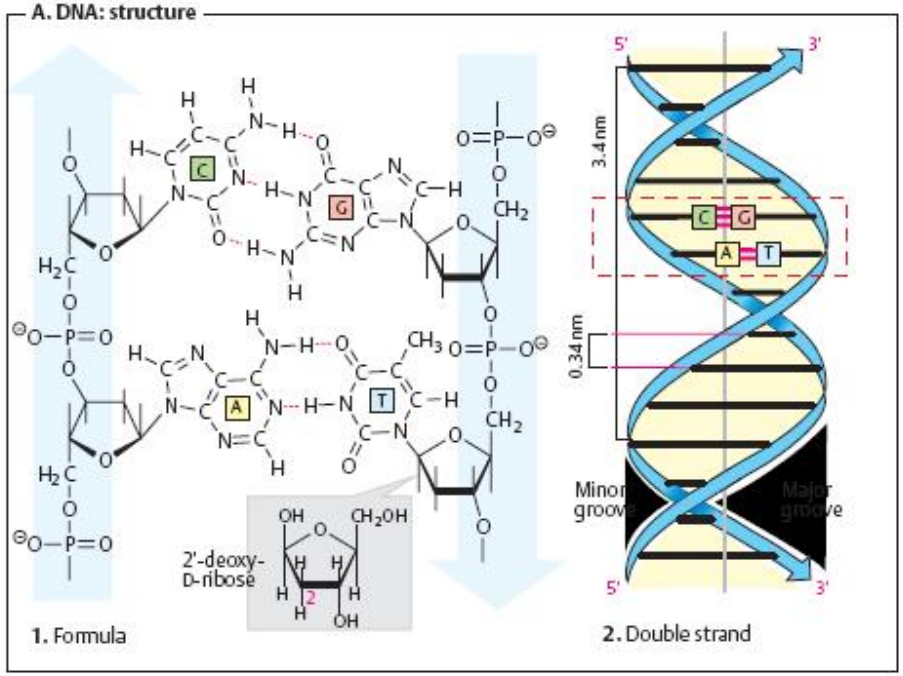
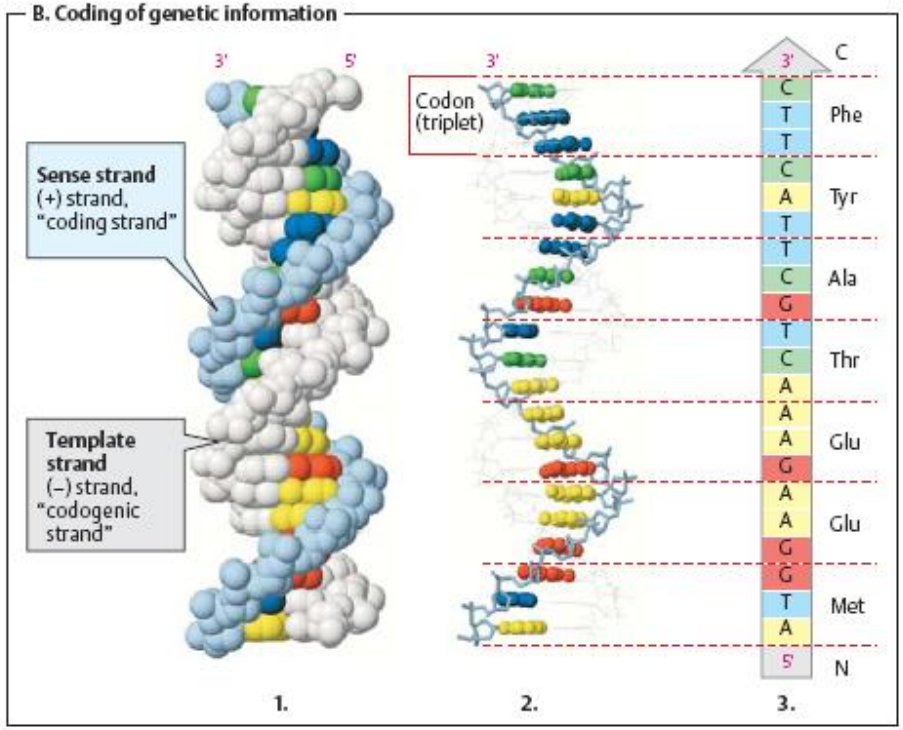


FIGURE 8–11 Hydrogen-bonding by Watson and Crick. Here as els represented by three blue lines.



- Um polímero fortemente aniônico
- 2 fitas entorno de um eixo, em direções opostas.
- Planos das bases, perpendiculares ao eixo da hélice.
- Ligações de H entre bases inter-fitas
- As bases ocupam o centro da hélice
- Sempre C-G e A-T



- Conjunto de 3 bases codifica 1 aminoácido
- Existem alguns conjuntos para um dado aminoácido (com 4 bases, 64 possibilidades, e somente 20 aa)
- Existem regiões que NÃO codificam proteínas: outras funções (p. ex. Ver trabalho Carla Goldman)

Replicação

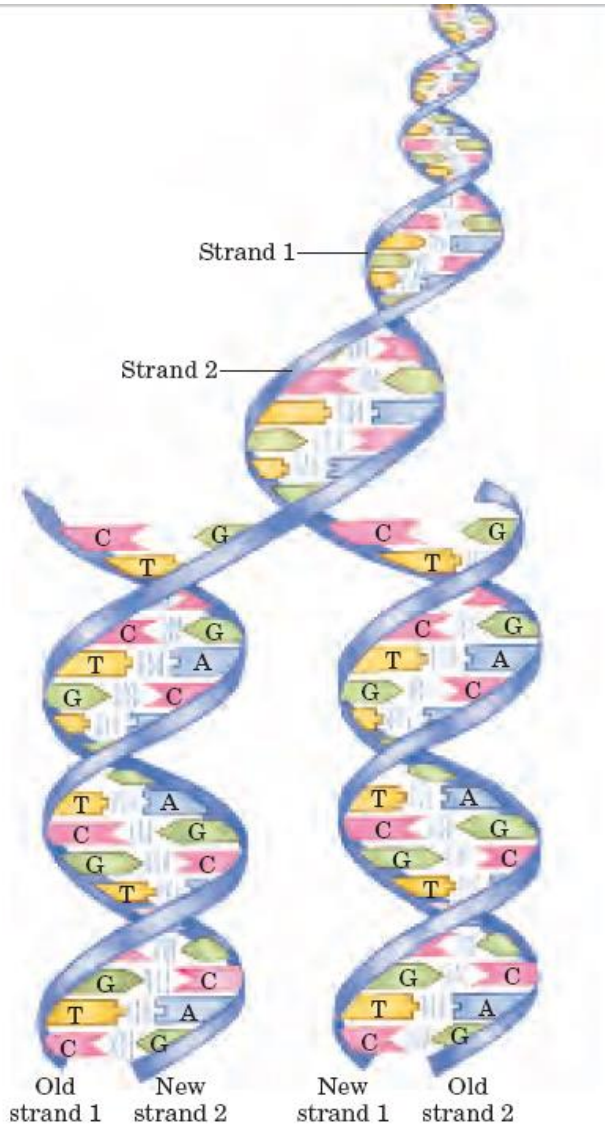


FIGURE 1-30 Complementarity between the two strands of DNA.

(Lehninger Biochemistry)

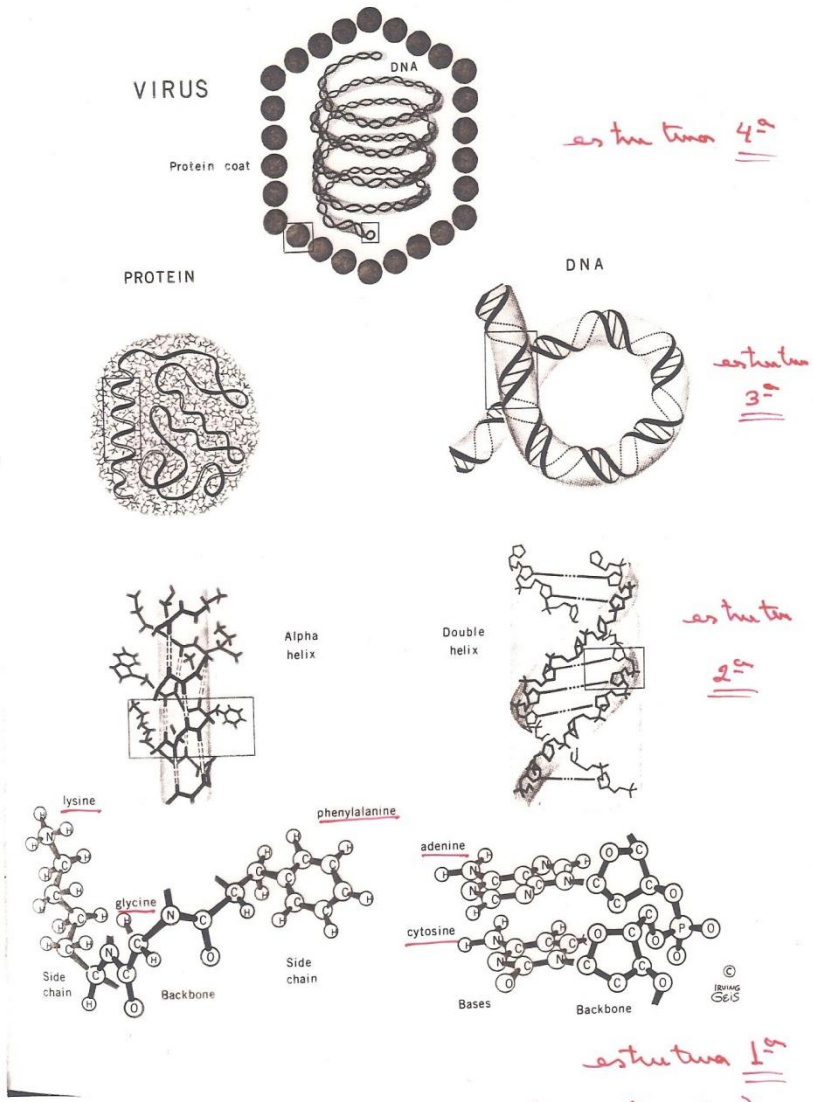
Estruturas

quaternária

terciária

secundária

primária



C. S. p. 5