

PROTEÍNAS DE UNIÓN AL OXÍGENO

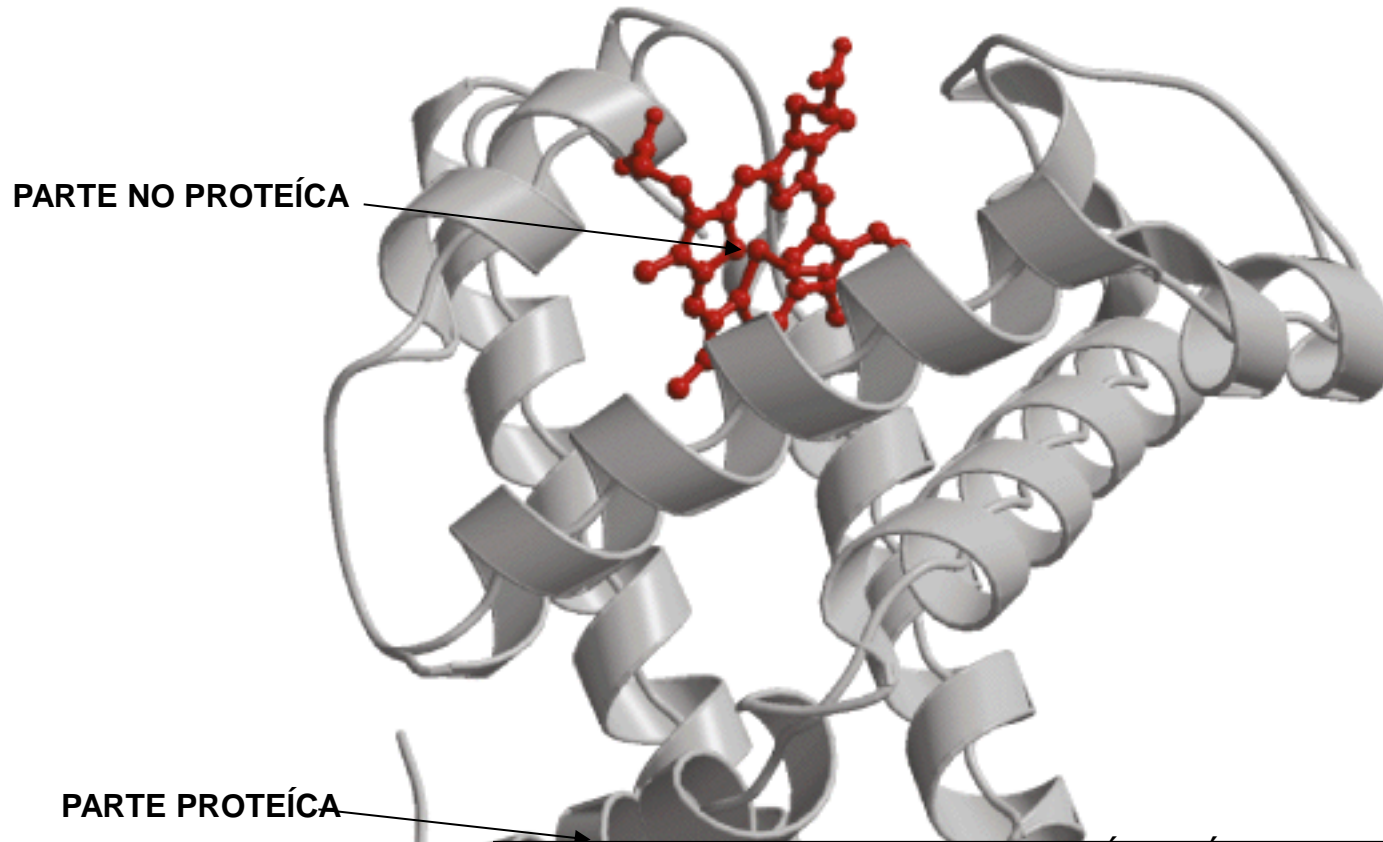
1. CARACTERÍSTICAS GENERALES DE LAS PROTEÍNAS DE UNIÓN A OXÍGENO.
2. MIOGLOBINA:
 1. ESTRUCTURA.
 2. CINÉTICA DE UNIÓN Y CESIÓN DE OXÍGENO.
3. HEMOGLOBINA:
 1. ESTRUCTURA
 2. CINÉTICA DE UNIÓN Y CESIÓN DE OXÍGENO
 3. CICLO RESPIRATORIO

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1. ESTRUCTURA GENERAL



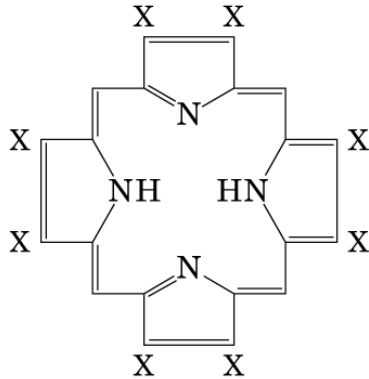
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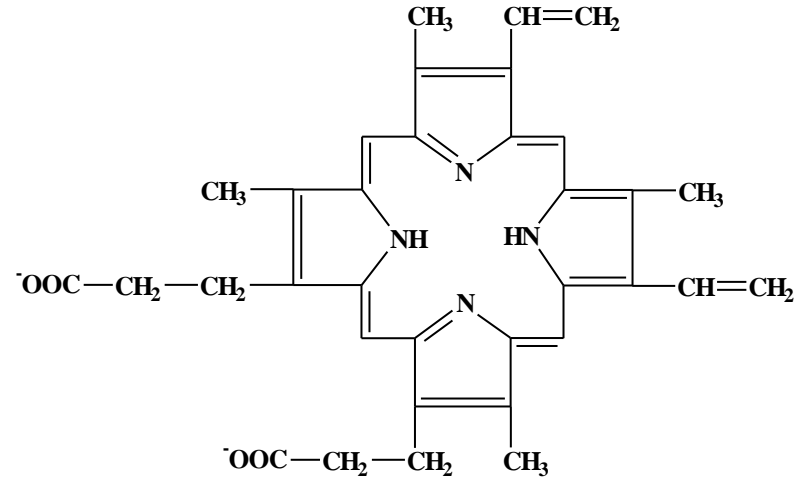
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1. ESTRUCTURA GENERAL: Grupo prostético

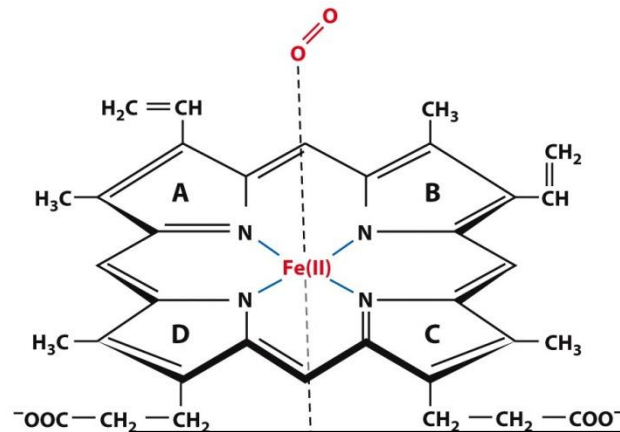
ANILLO TETRAPIRRÓLICO



PROTOPORFIRINA IX



(Lehninger. Principles of Biochemistry. 3th ed. Nelson DL. Cox MM. Worth Publishers. 2000)



GRUPO HEMO

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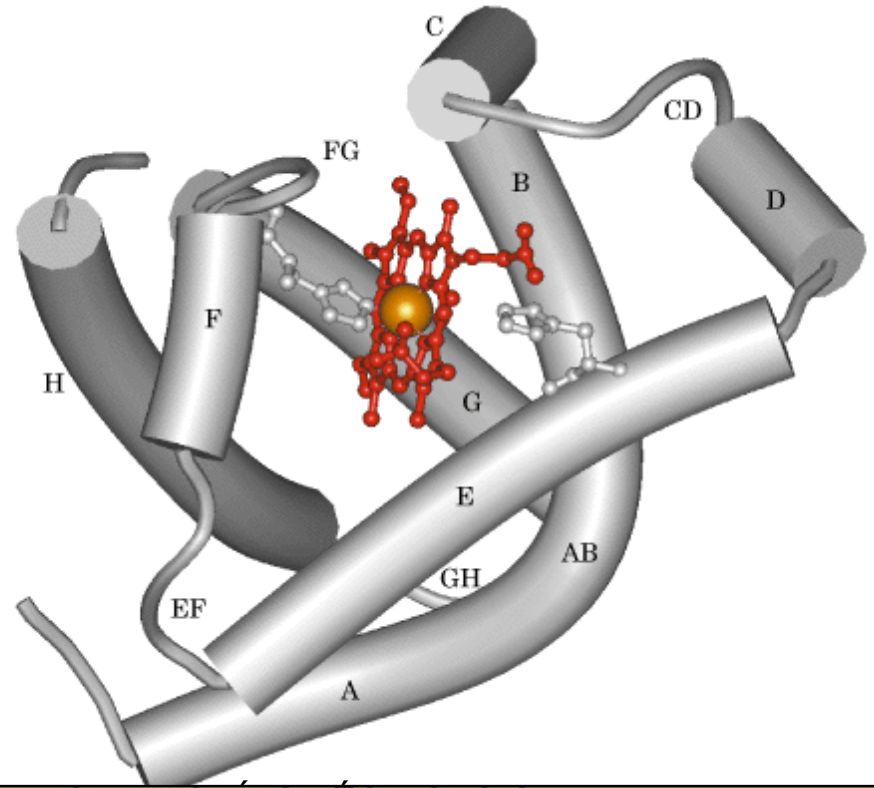
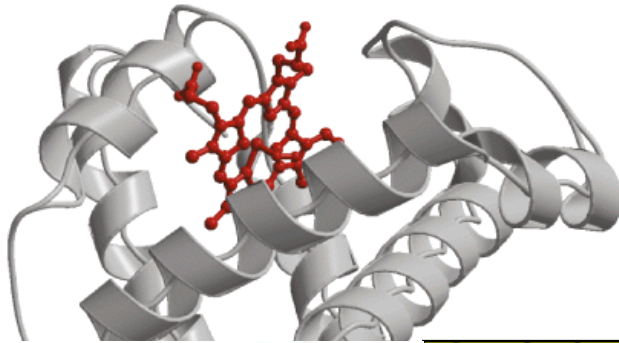
1. ESTRUCTURA GENERAL: Apoproteína

Approximate Amounts of α Helix and β Conformation in Some Single-Chain Proteins*

Protein (total residues)	Residues (%)	
	α Helix	β Conformation
Chymotrypsin (247)	14	45
Ribonuclease (124)	26	35
Carboxypeptidase (307)	38	17
Cytochrome <i>c</i> (104)	39	0
Lysozyme (129)	40	12
Myoglobin (153)	78	0

Source: Data from Cantor, C.R. & Schimmel, P.R. (1980) *Biophysical Chemistry, Part I: The Conformation of Biological Macromolecules*, p. 100, W.H. Freeman and Company, New York.

Portions of the polypeptide chains that are not accounted for by α helix or β conformation consist of bends and irregularly coiled or extended stretches. Segments of α helix and β conformation sometimes deviate slightly from their normal dimensions and geometry.

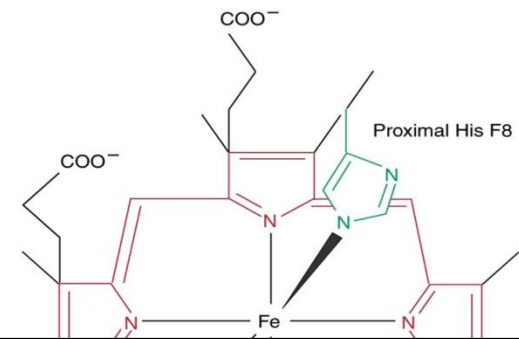
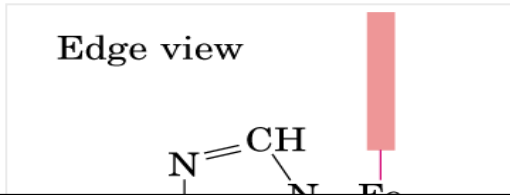
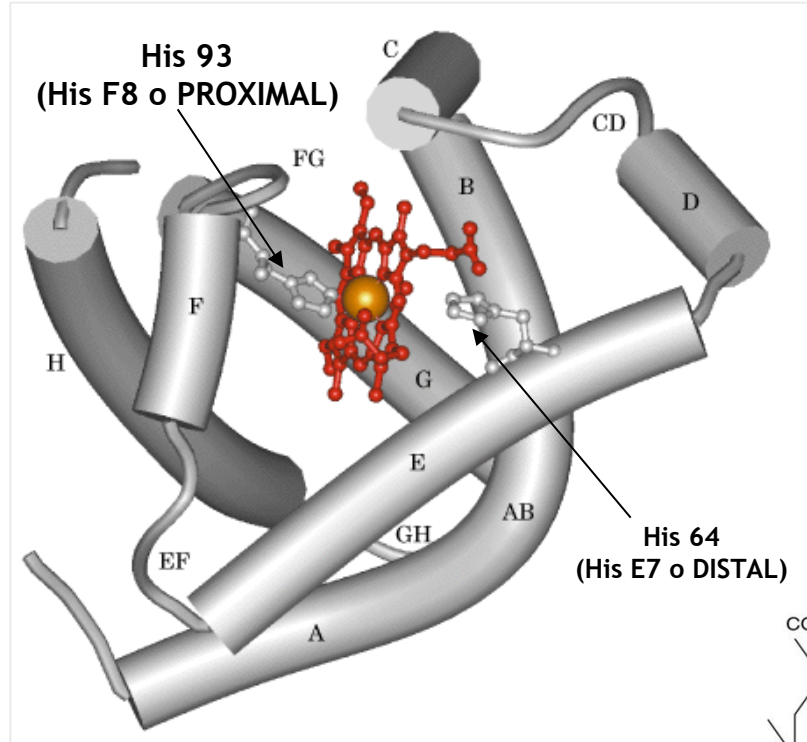
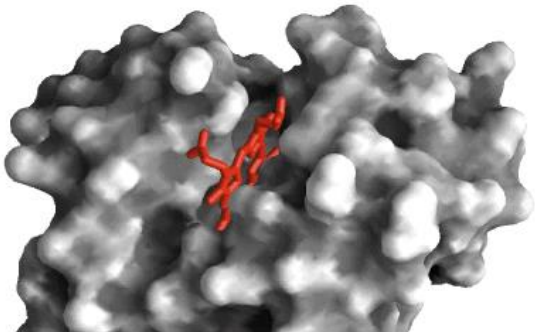
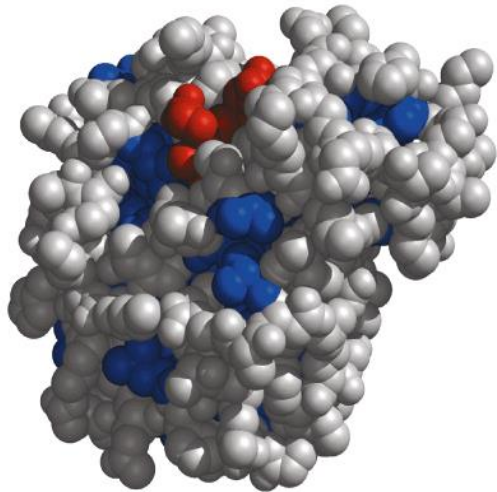


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1. ESTRUCTURA GENERAL: Interacción apoproteína-Hemo



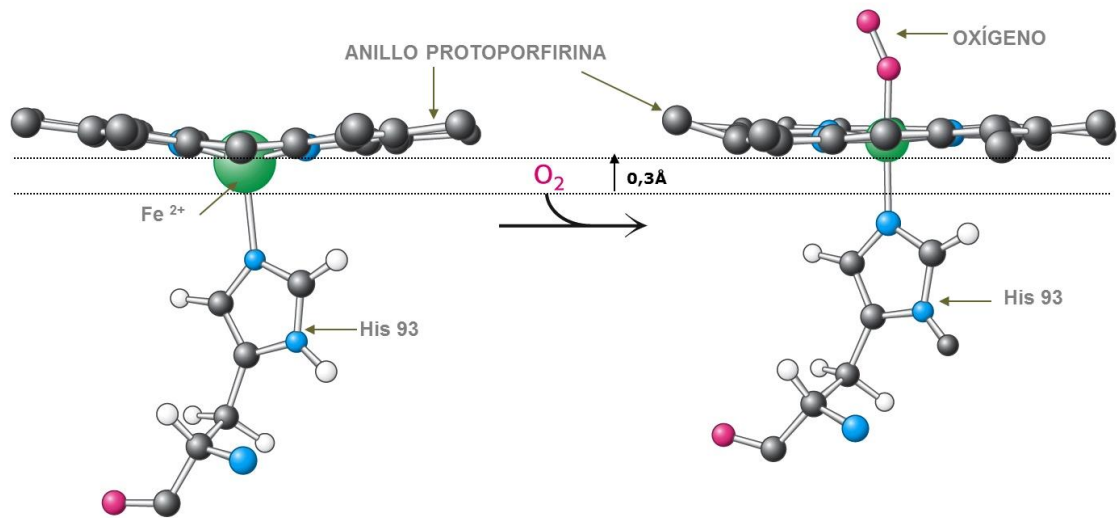
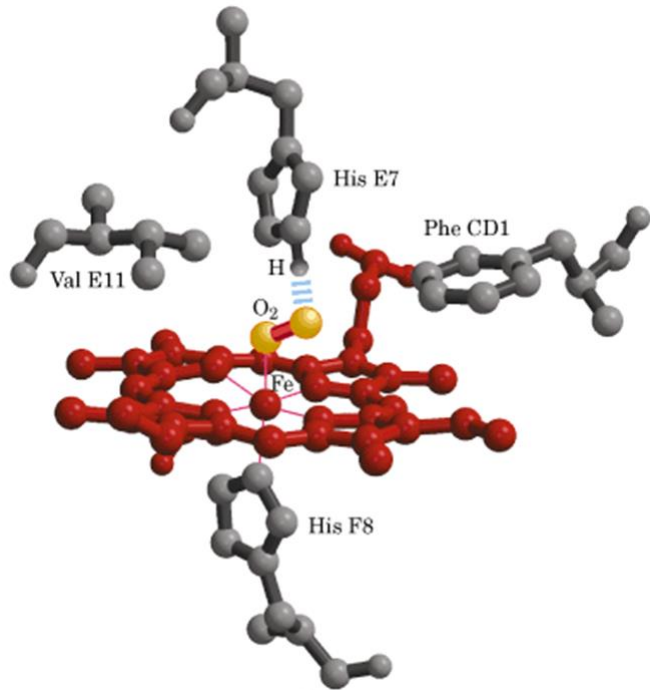
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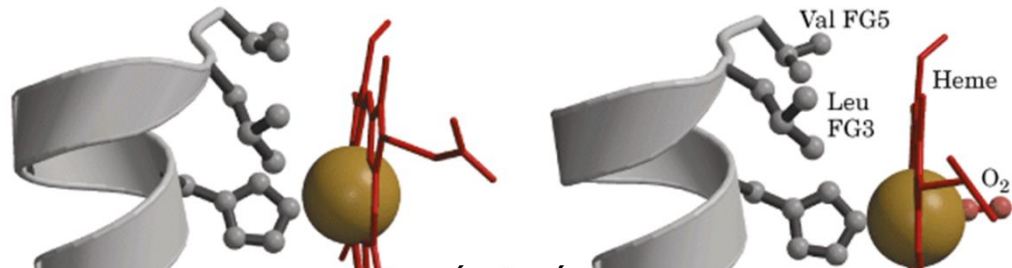
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Histidine Plane of
 residue porphyrin

1. ESTRUCTURA GENERAL: Interacción O₂-globina



Stryer, Berg, Tymoczko. Biochemistry 7th ed. Freeman & Co (2012)



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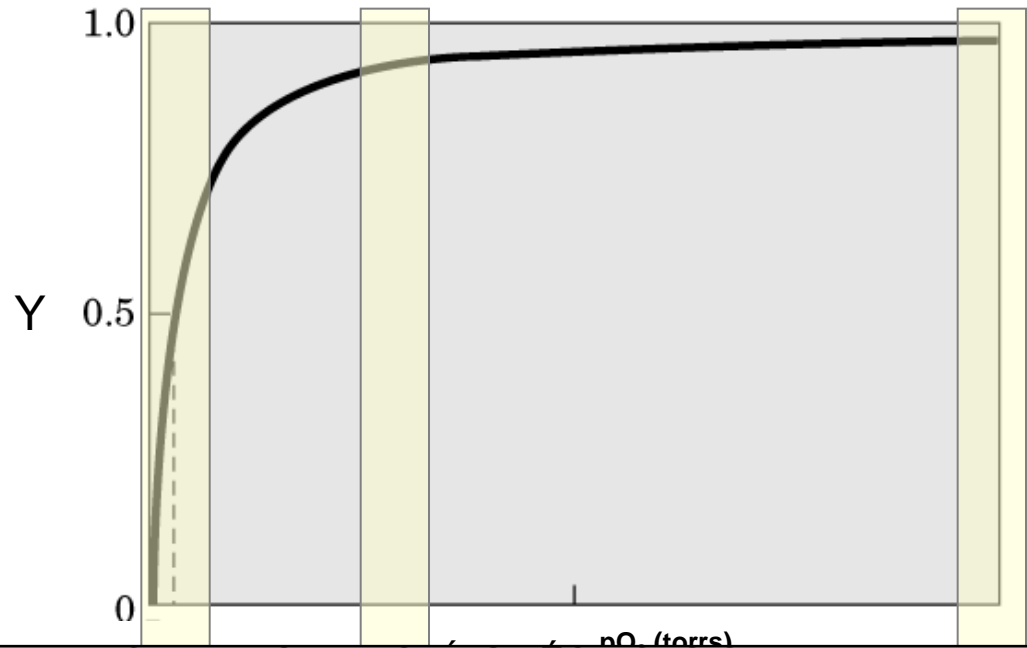
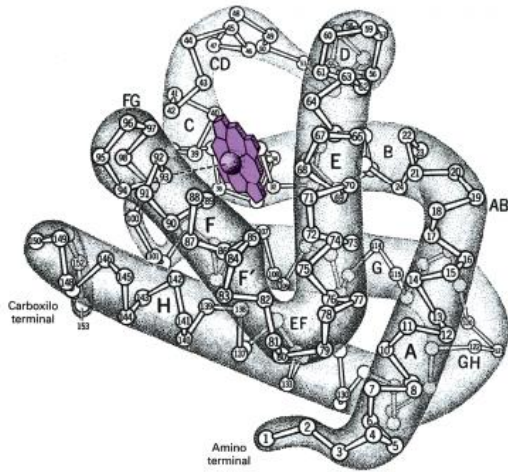
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2. MIOGLOBINA

MIOGLOBINA



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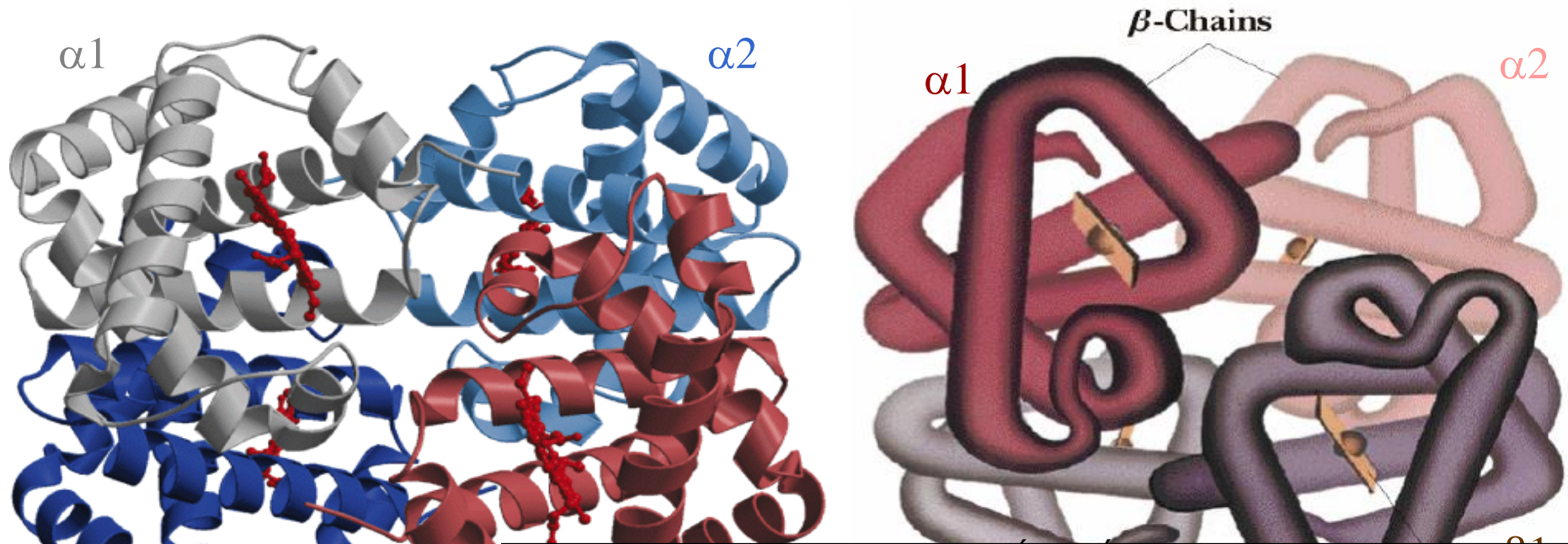
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Figure 7.7

3. HEMOGLOBINA

PROTEÍNA OLIGOMÉRICA.
2 CADENAS ALFA (141 aa)
2 CADENAS BETA (146 aa)

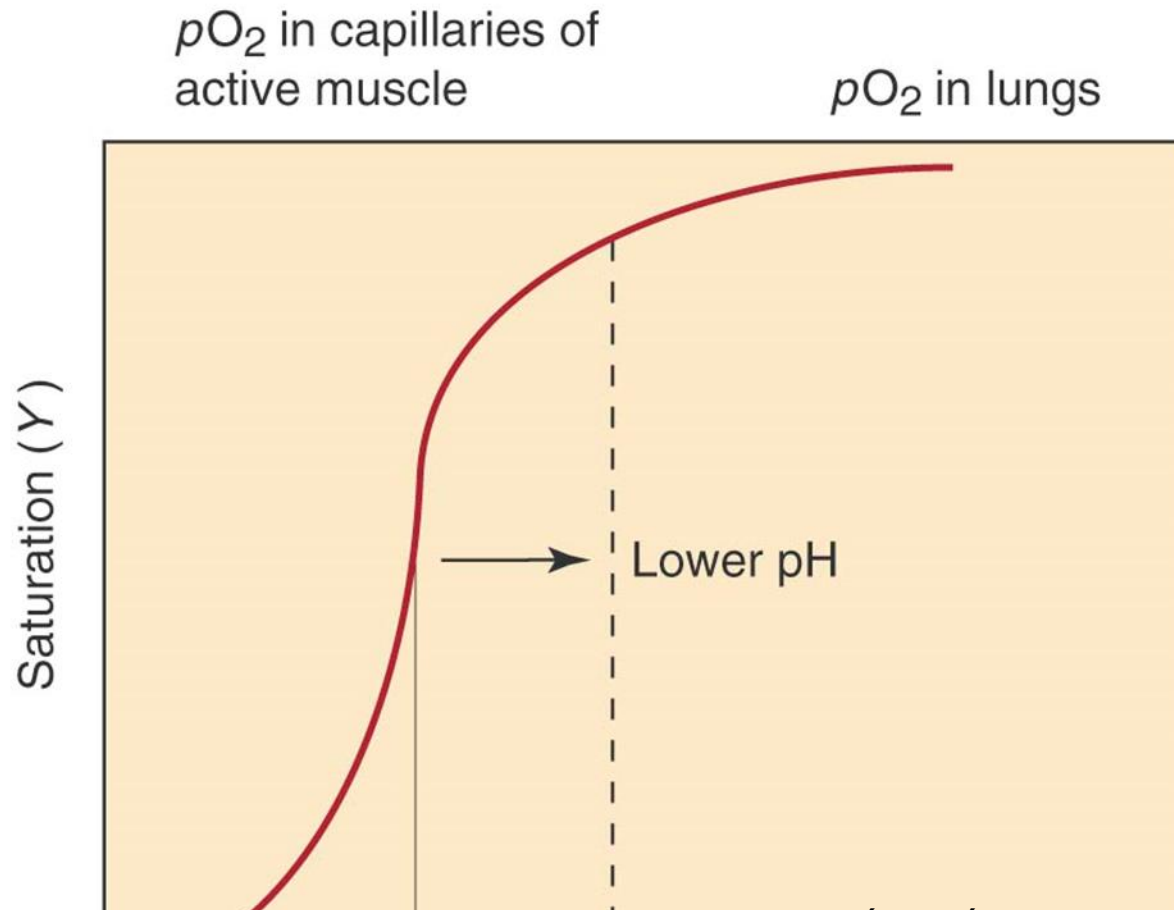


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3. HEMOGLOBINA A: cinética de unión/cesión de O₂



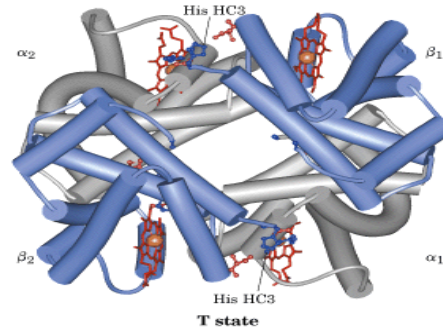
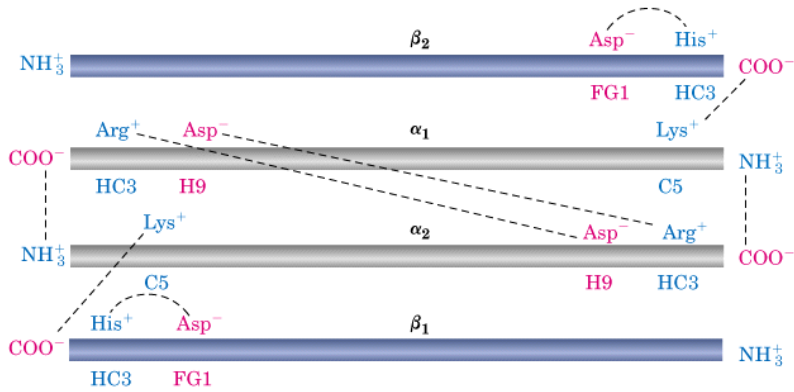
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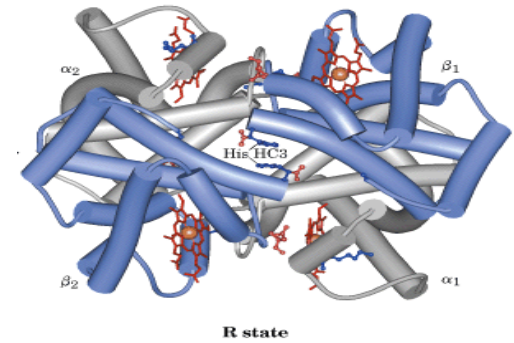
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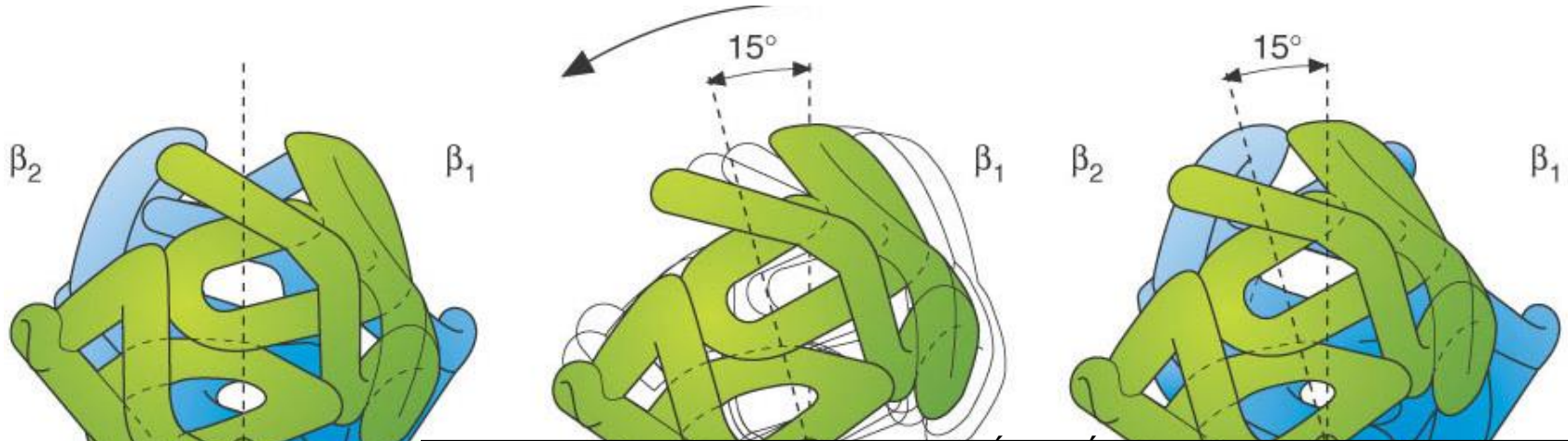
3. HEMOGLOBINA A: Interacciones homotrópicas



DESOXI-HEMOGLOBINA
Estado tenso



OXI-HEMOGLOBINA
Estado relajado



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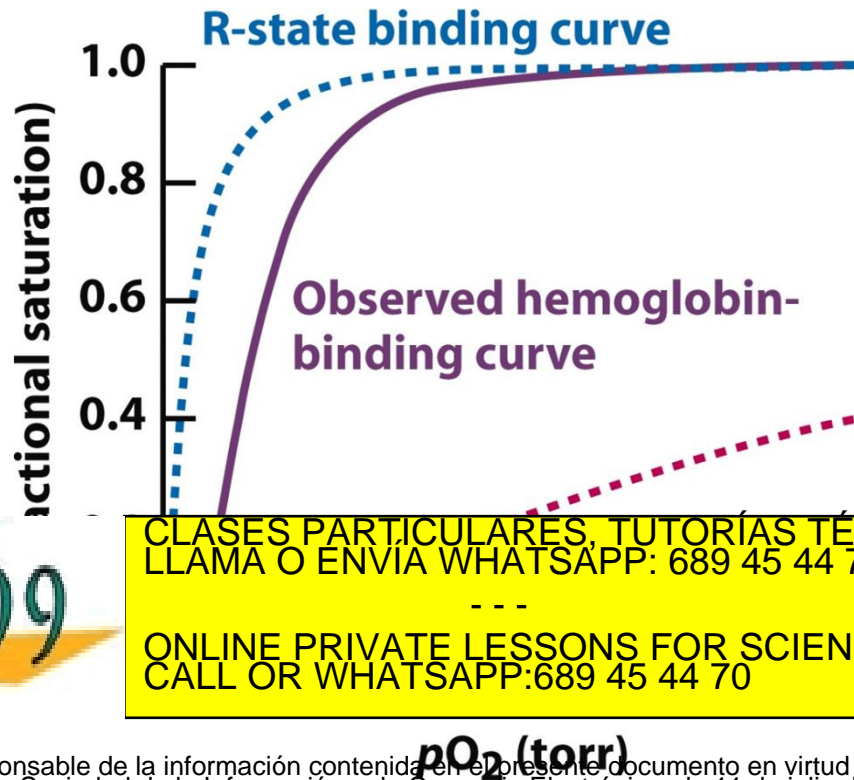
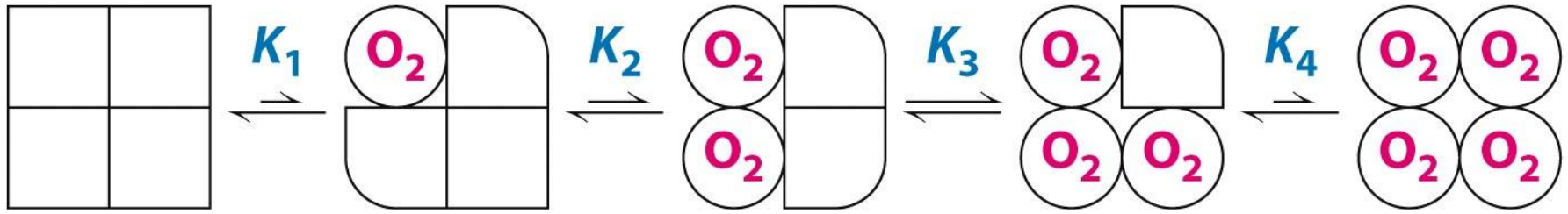
DESOXI-HEMOGLOBINA

OXI-HEMOGLOBINA

Estado tenso

Estado relajado

3. HEMOGLOBINA A: Interacciones homotrópicas



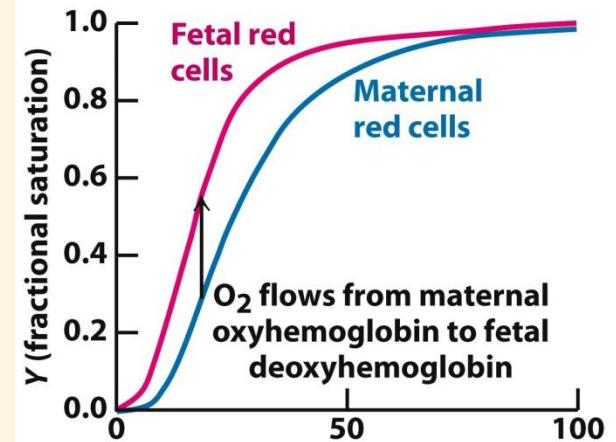
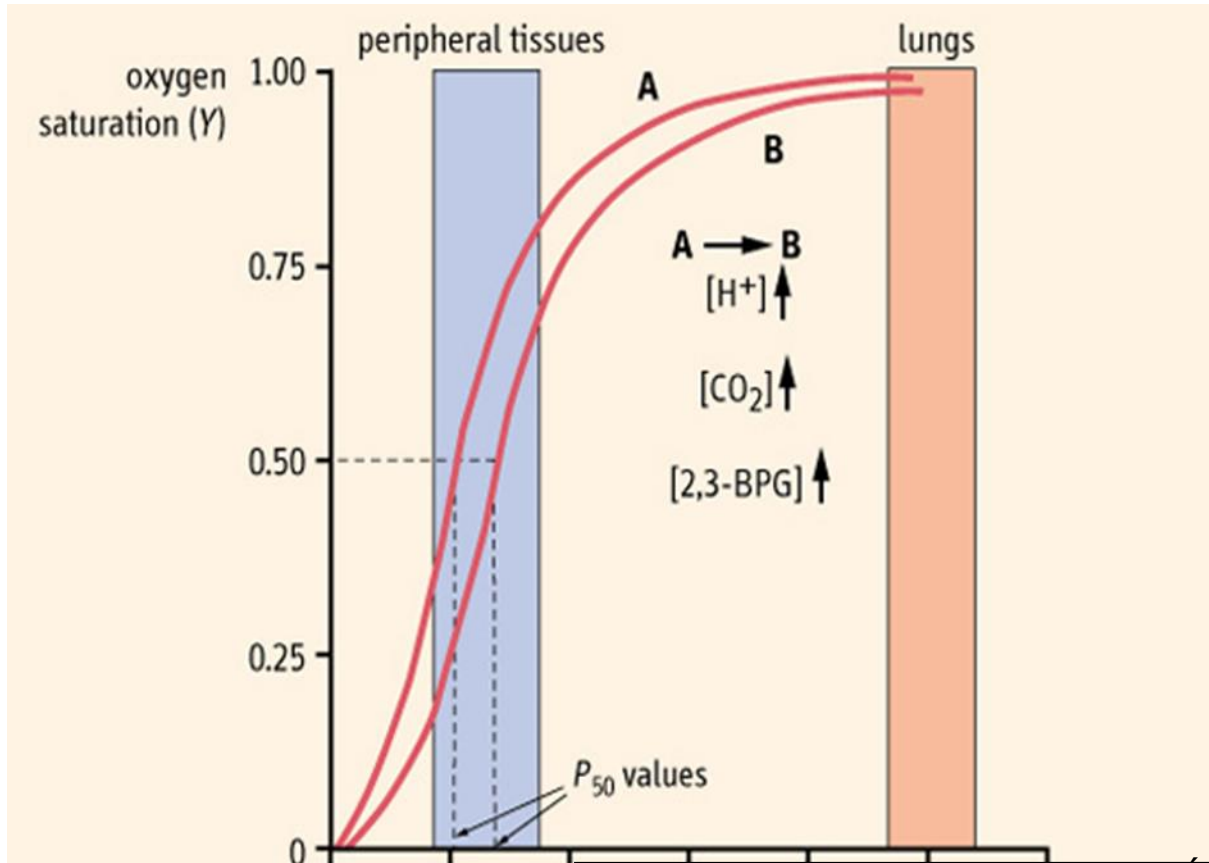
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3. HEMOGLOBINA A: Interacciones heterotrópicas

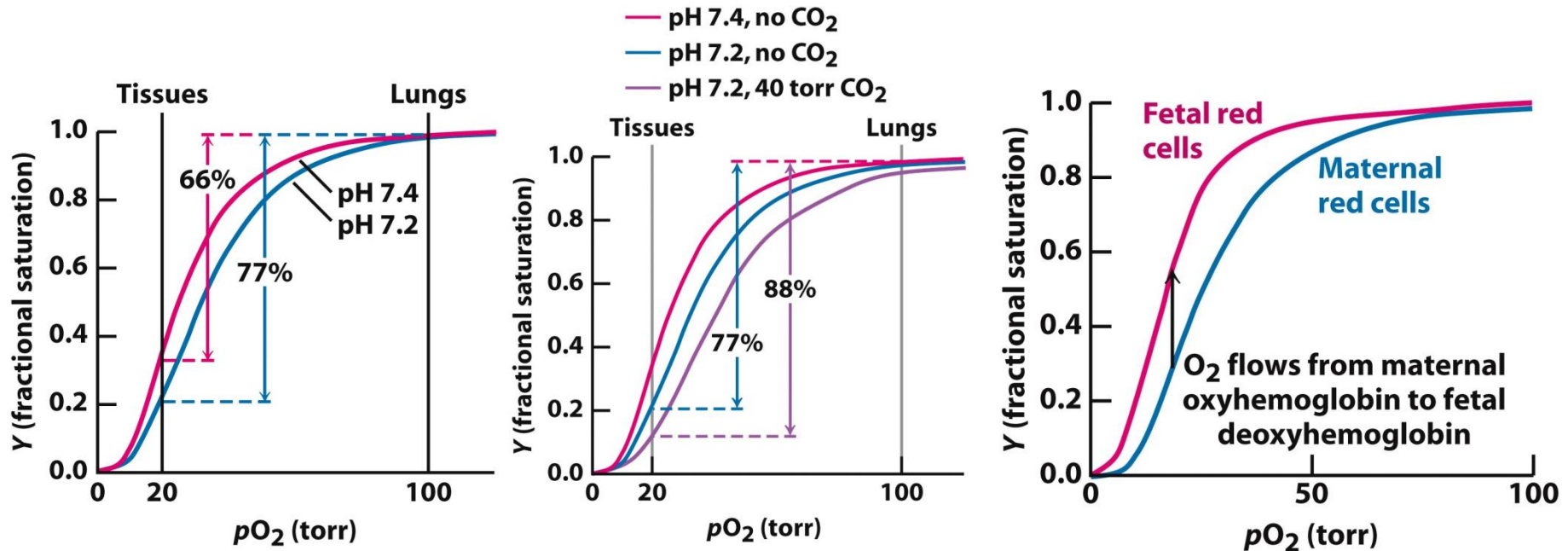


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3. HEMOGLOBINA A: Interacciones heterotrópicas

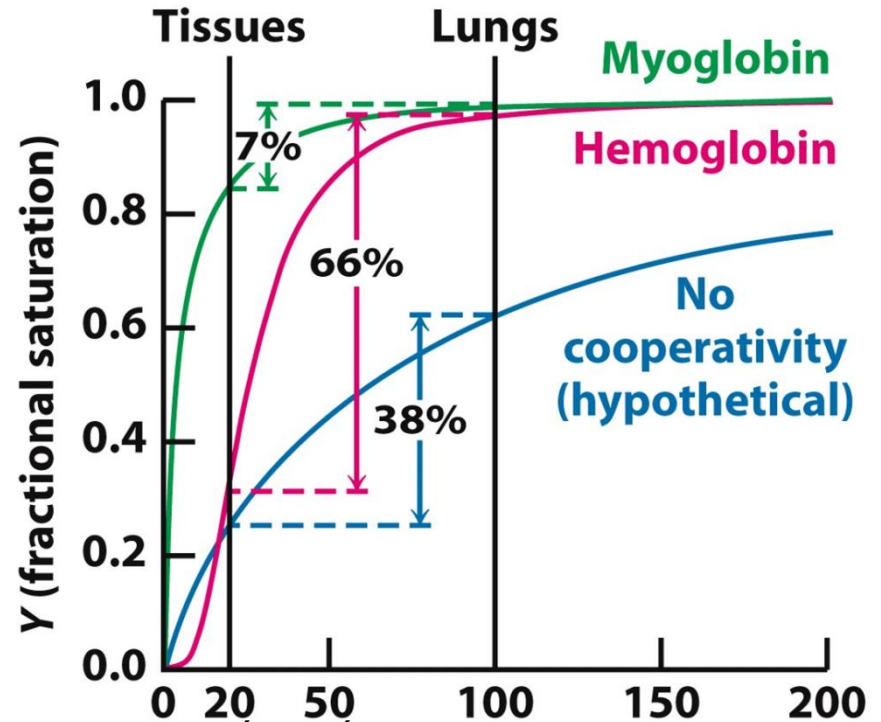
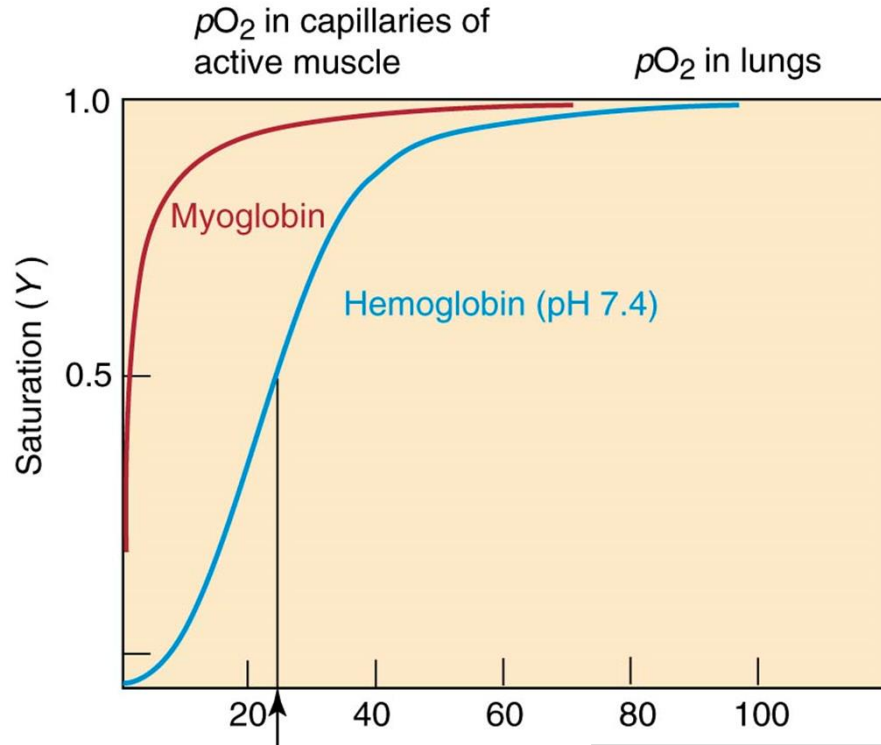


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3. INTERCAMBIO CELULAR DE O₂

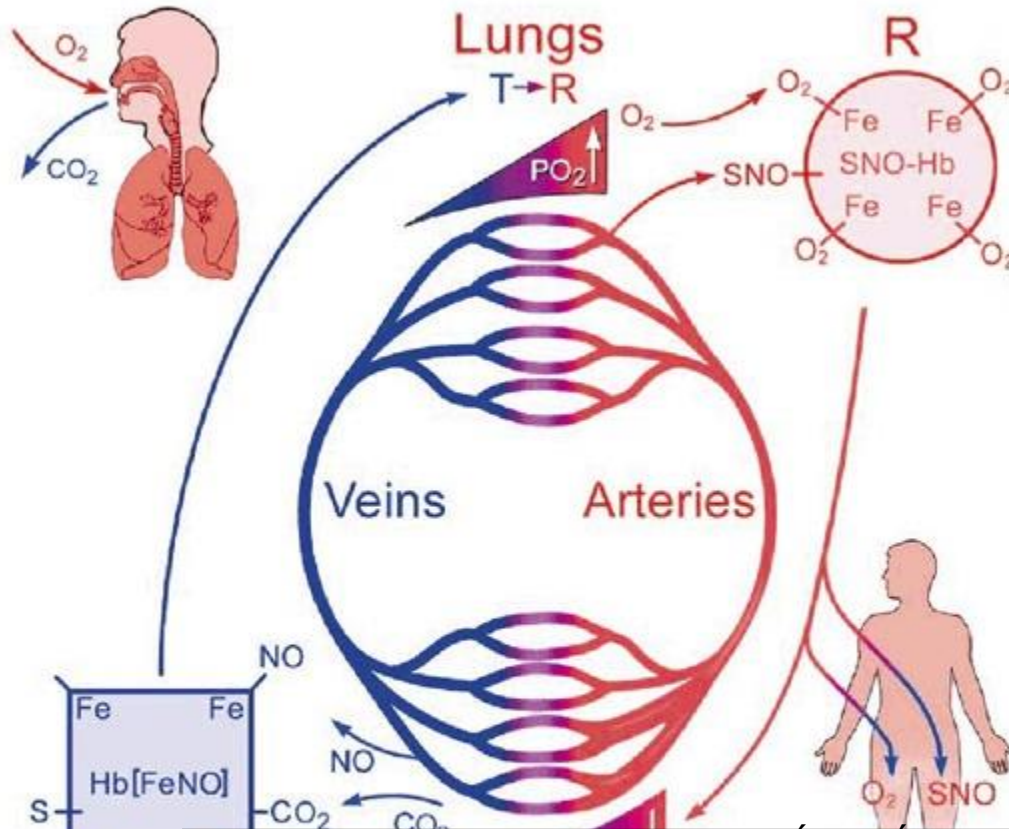


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4. CICLO RESPIRATORIO



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