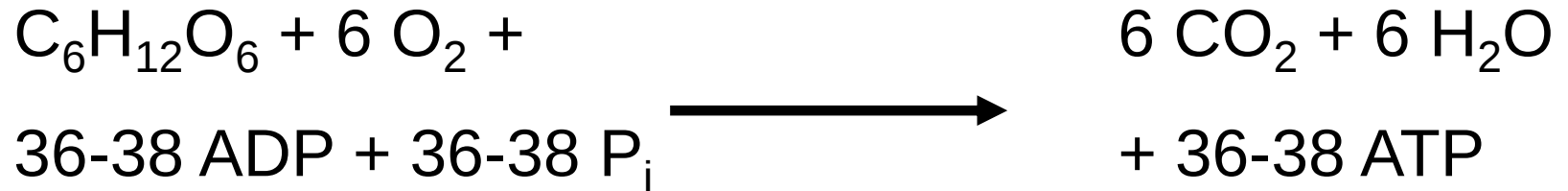


Oxidação Completa da Glicose



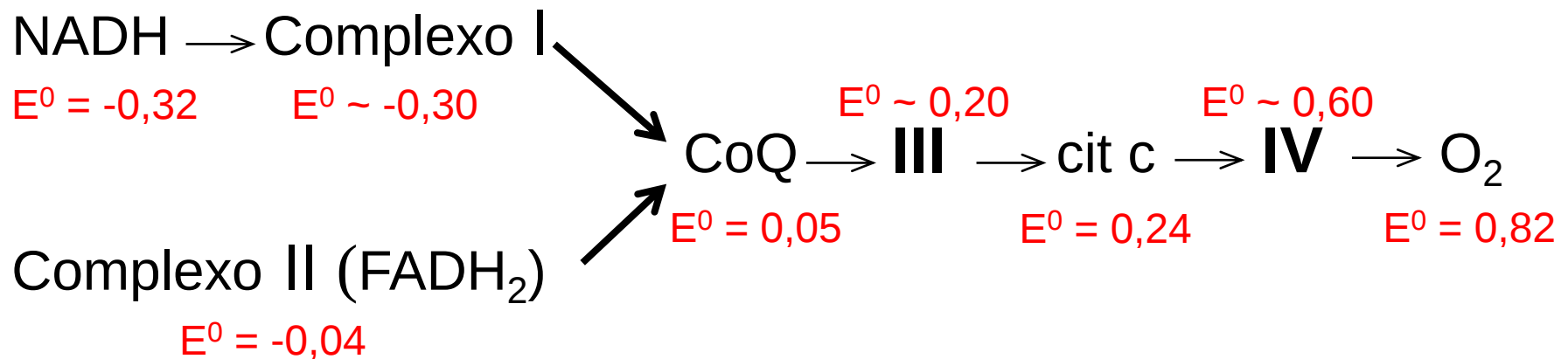
Via Glicolítica gastou: 1 glicose, 2 ADP, 2 P_i, 2 NAD⁺
gerou: 2 ATP, 2 NADH

Formação de Acetil-CoA gastou: 2 NAD⁺
gerou: 2 CO₂, 2 NADH

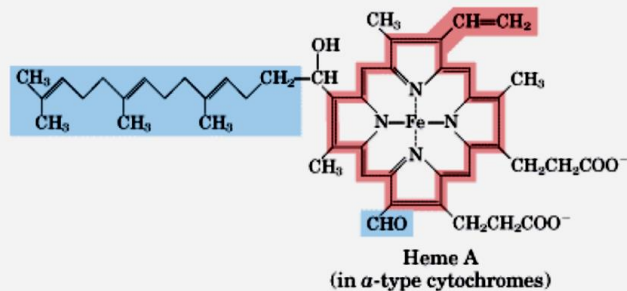
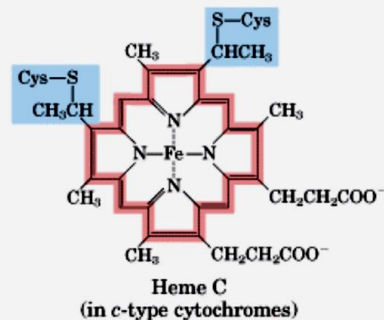
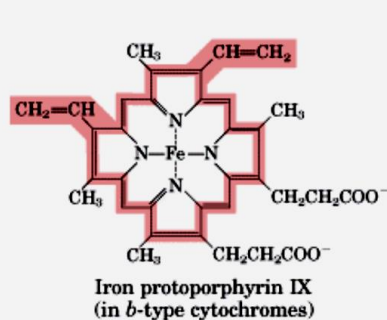
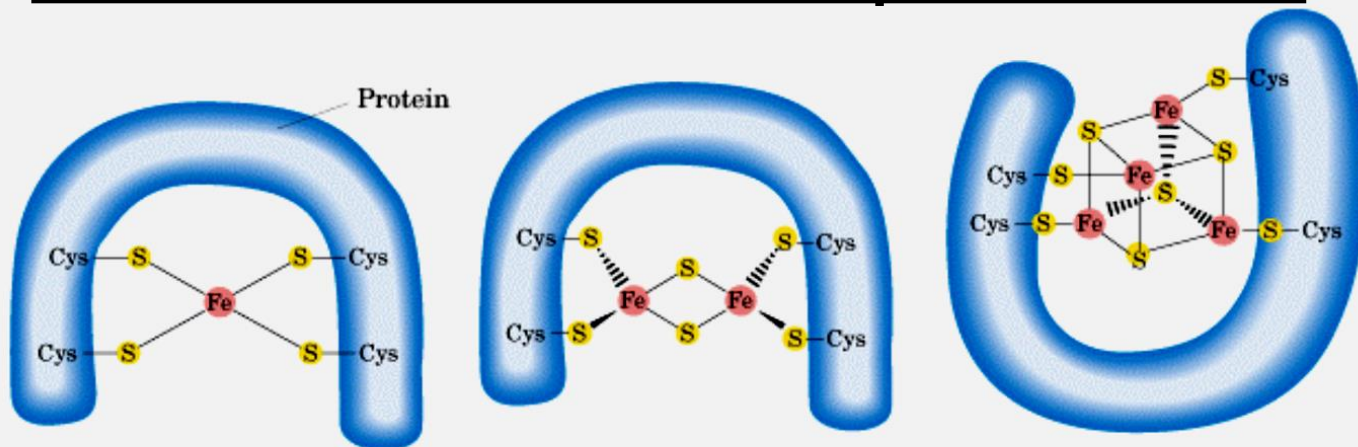
Ciclo Ac. Cítrico gastou: 6 NAD⁺, 2 FAD, 2 GDP, 2 P_i, 2 AcCoA
gerou: 4 CO₂, 6 NADH, 2 FADH₂, 2 GTP/ATP

Cadeia de Transporte de Elétrons

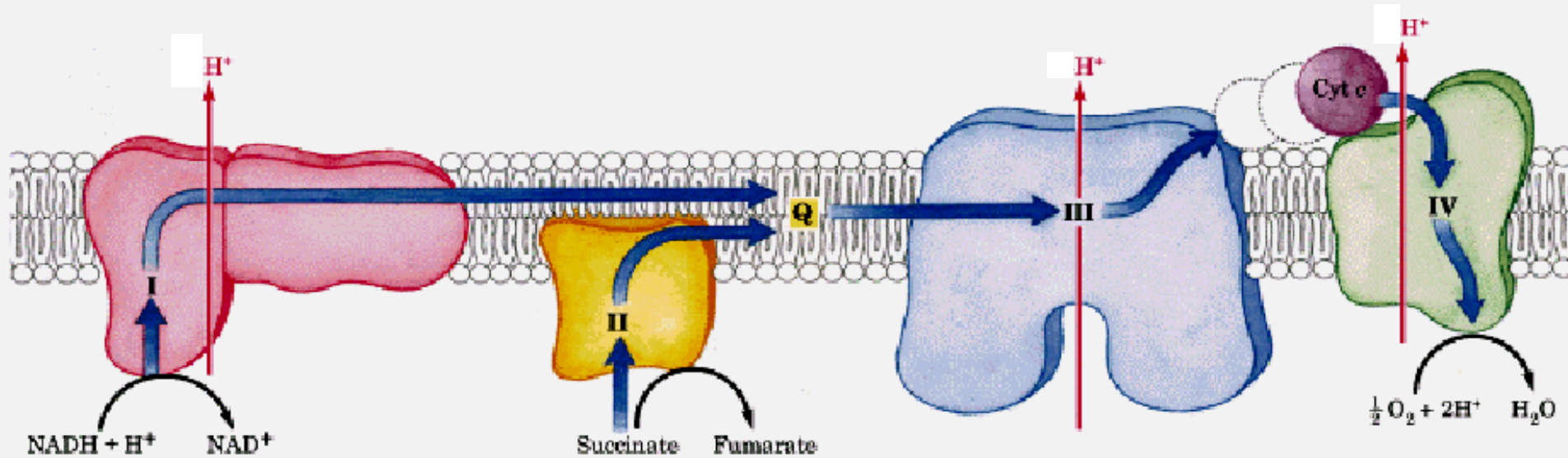
- $\text{NADH} \rightarrow \text{O}_2$
- Sequência de reações de óxido-redução
- Componentes da membrana mitocondrial interna



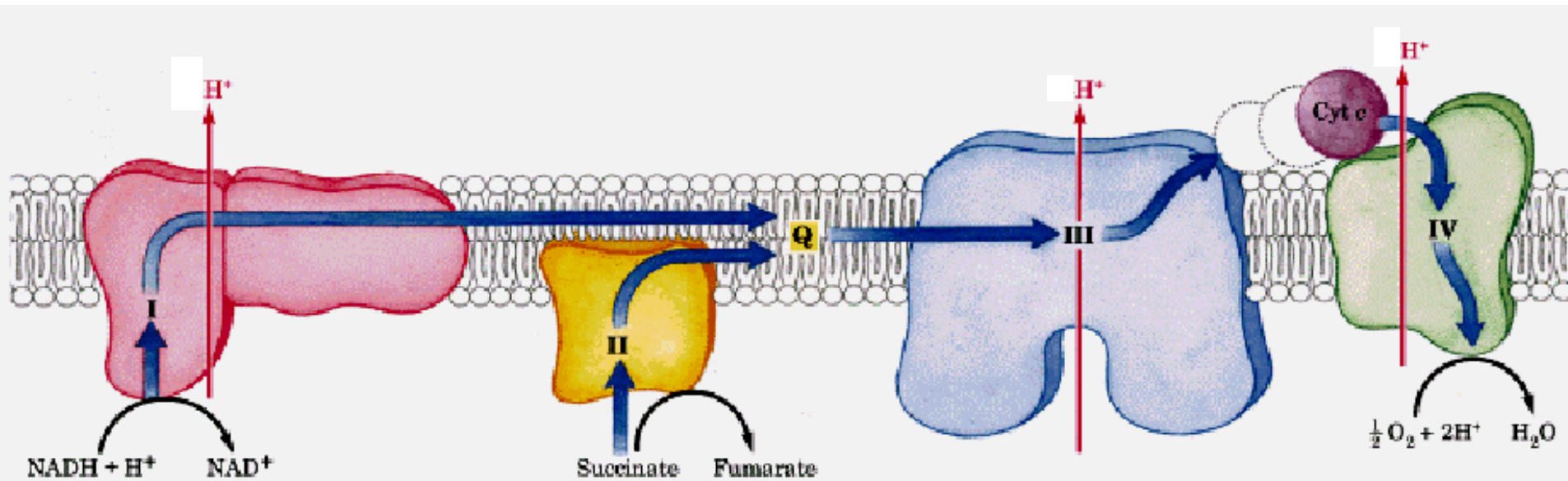
Centros Fe-S e Grupos Heme



Cadeia de Transporte de Elétrons



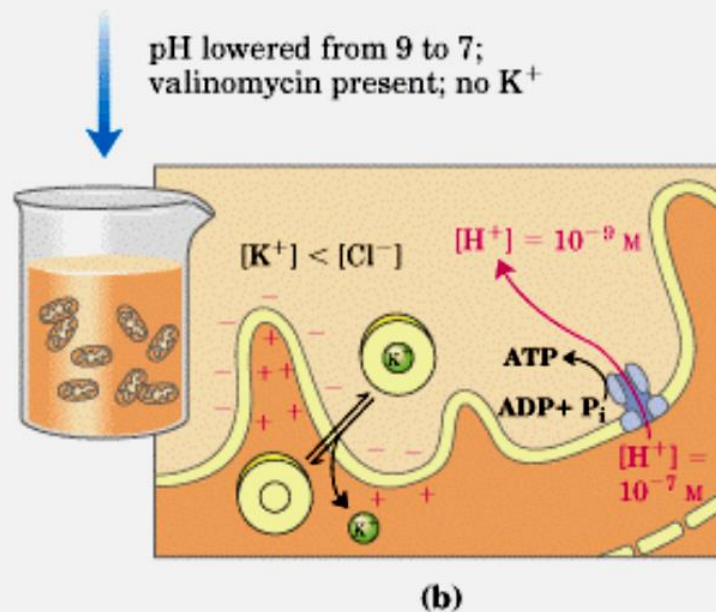
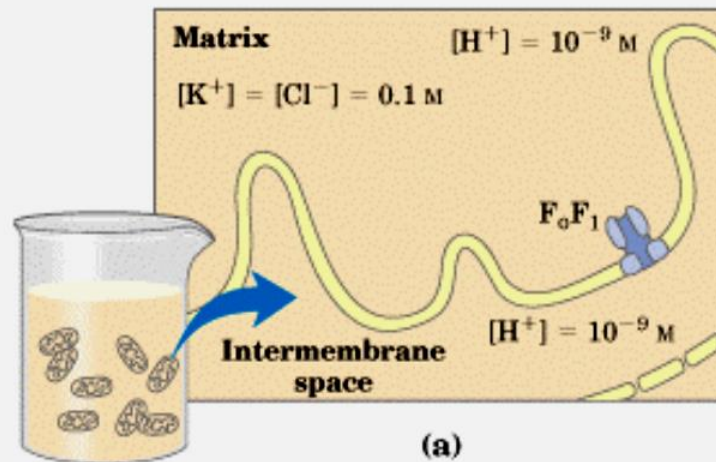
Cadeia de Transporte de Elétron



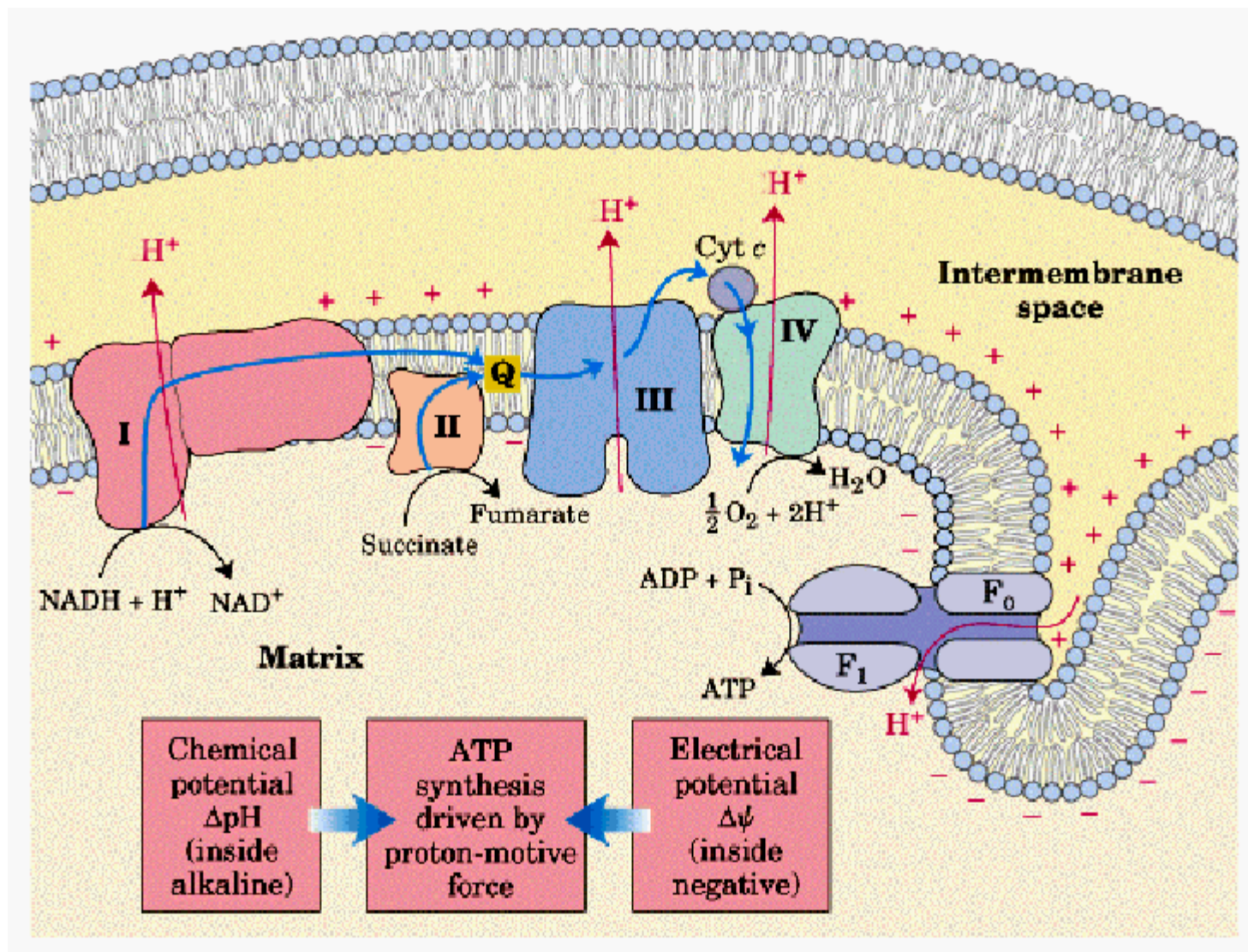
Peter Mitchell, Prêmio Nobel em Química, 1978

“Chemiosmotic hypothesis”

Gradiente de Prótons Mitochondrial



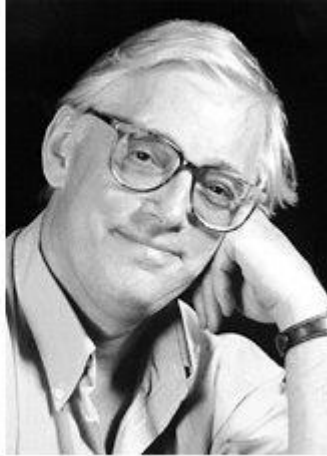
Gradiente de Prótons Mitocondrial



ATP sintase (ATPase)



Paul D. Boyer



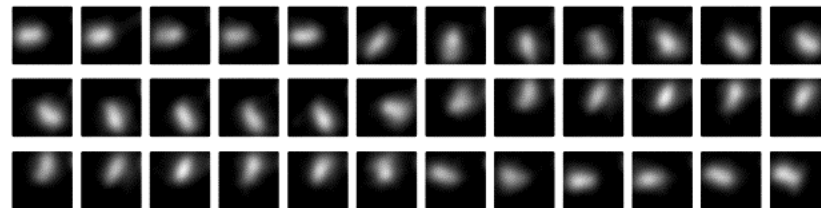
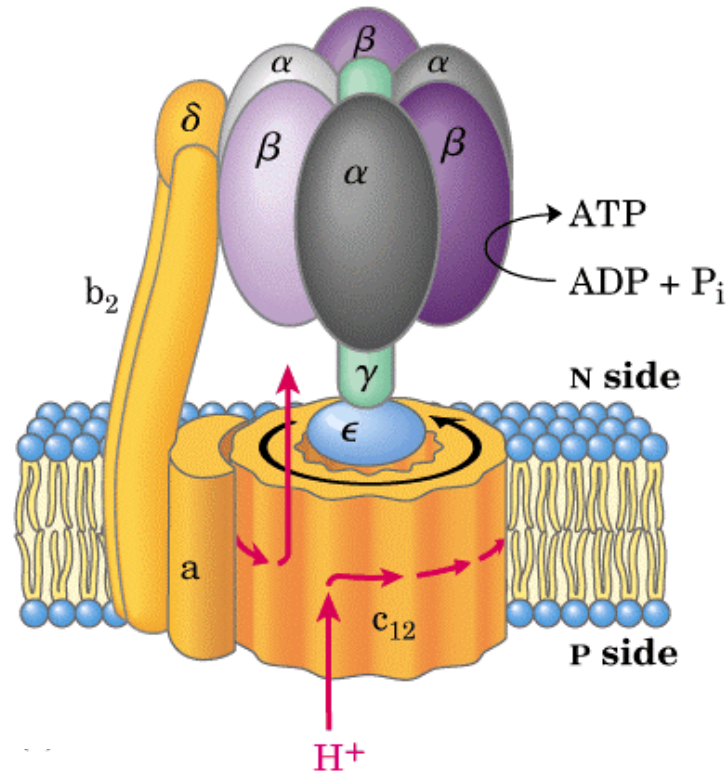
John E. Walker

Paul D. Boyer e John E. Walker

Prêmio Nobel em Química, 1997

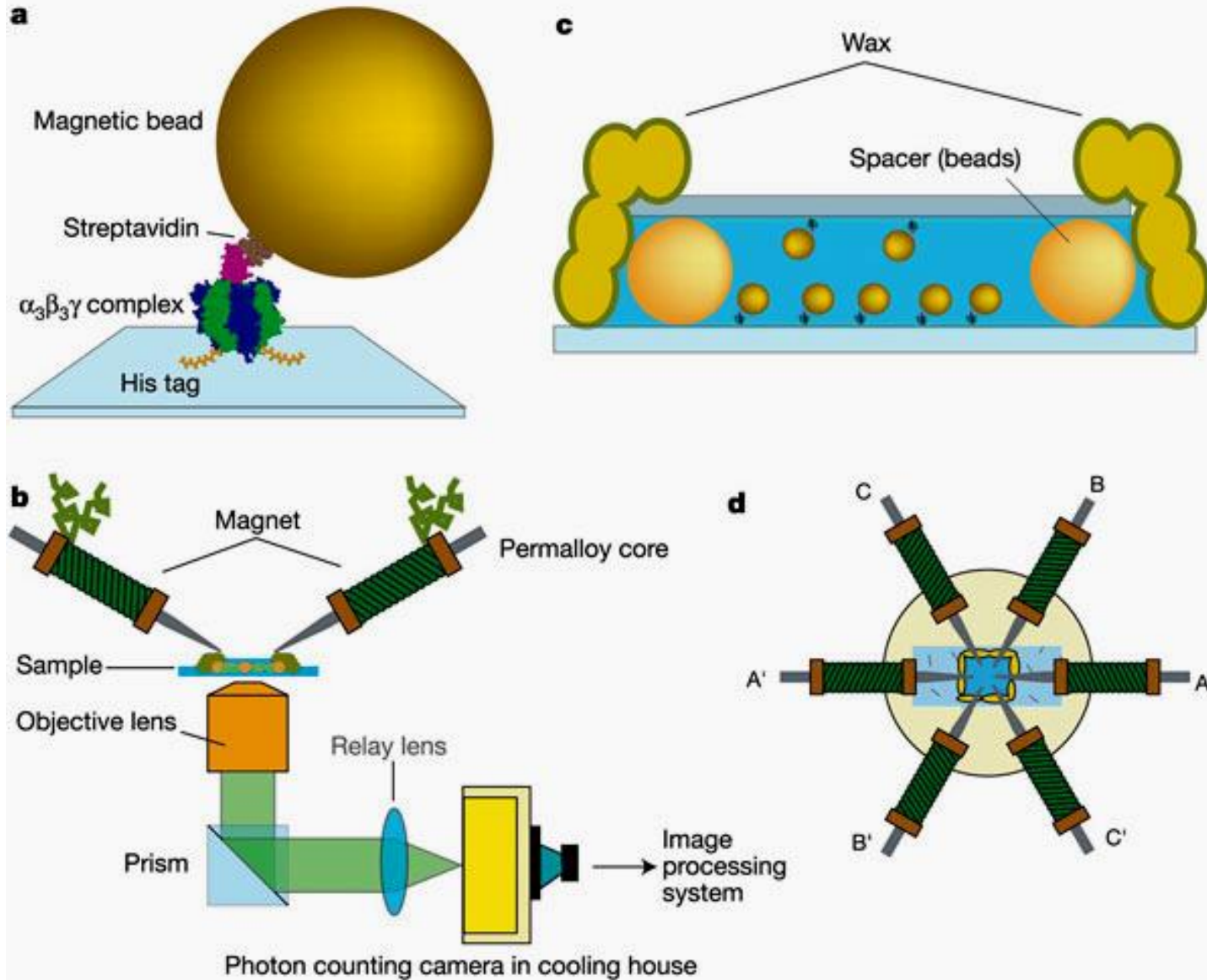
Estrutura e função da ATP sintase

ATP synthase (ATPase)

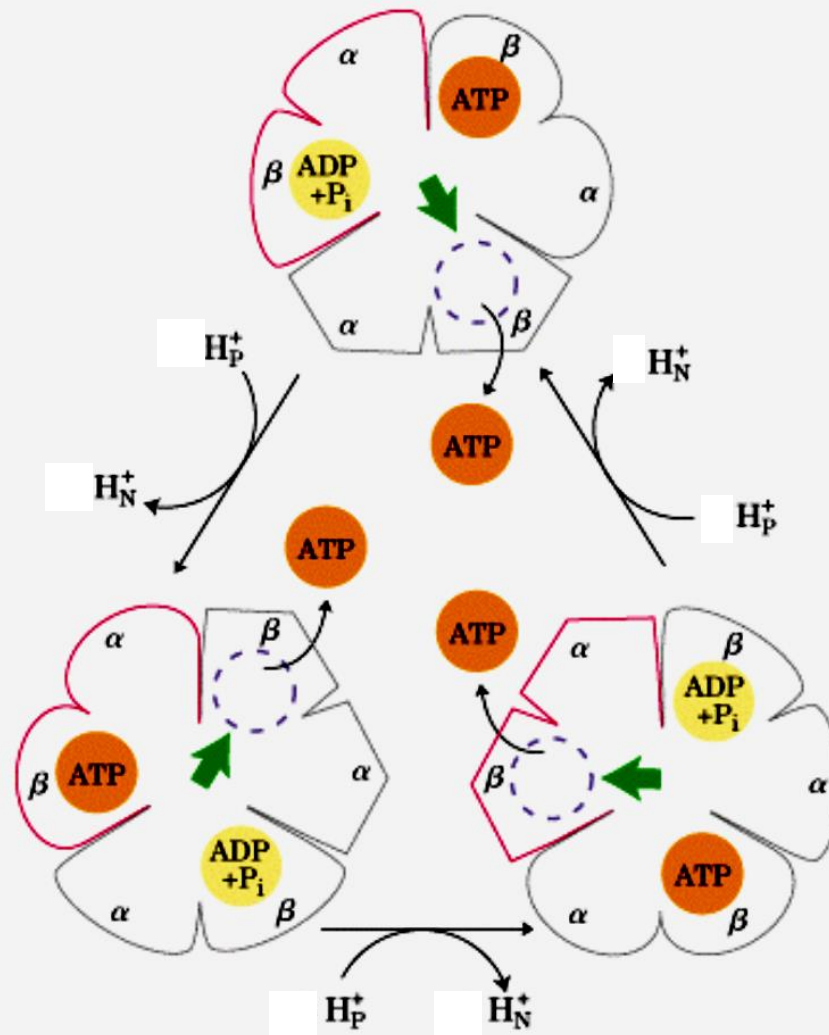


<https://www.youtube.com/watch?v=0y7n-vK1AJE>

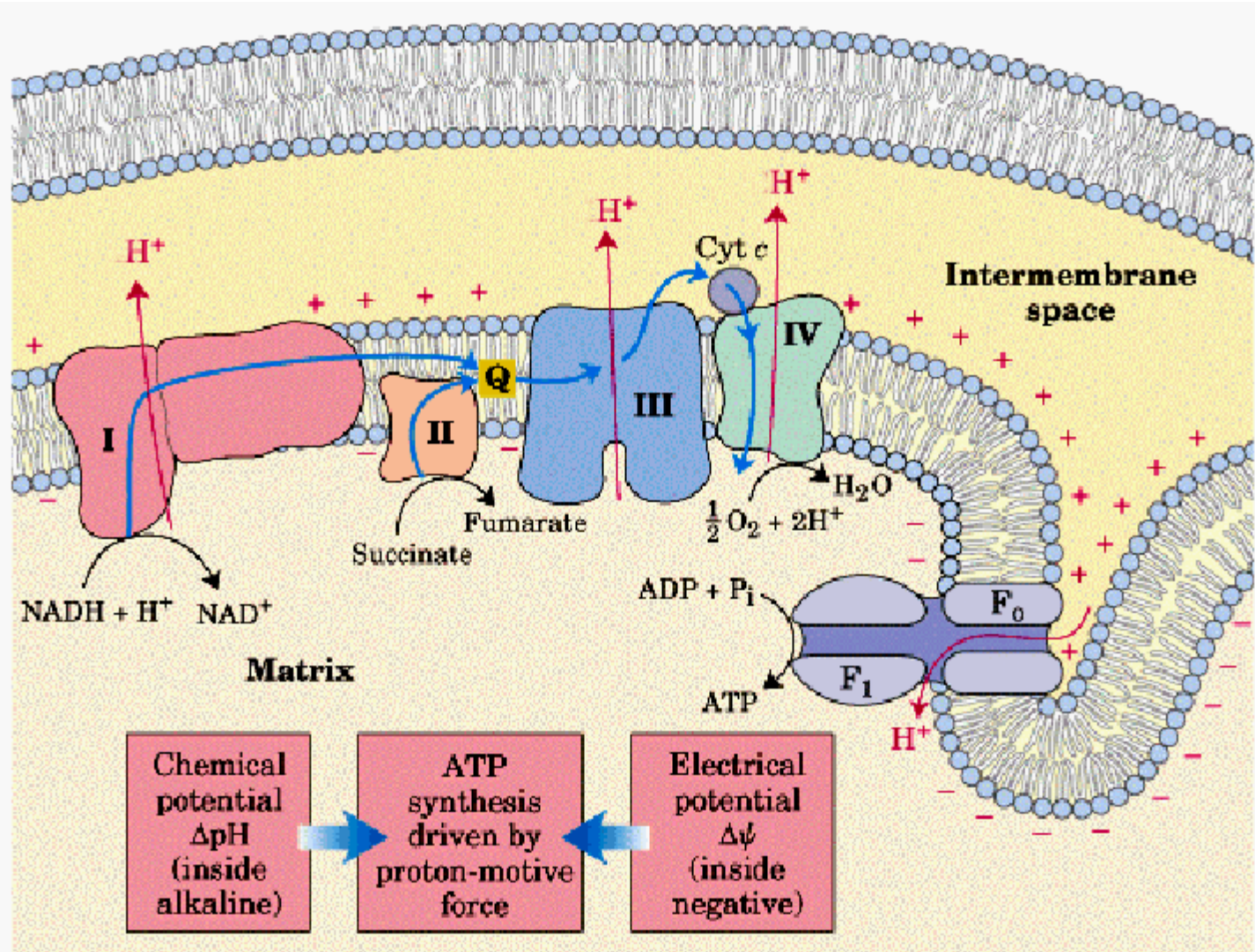
ATP synthase



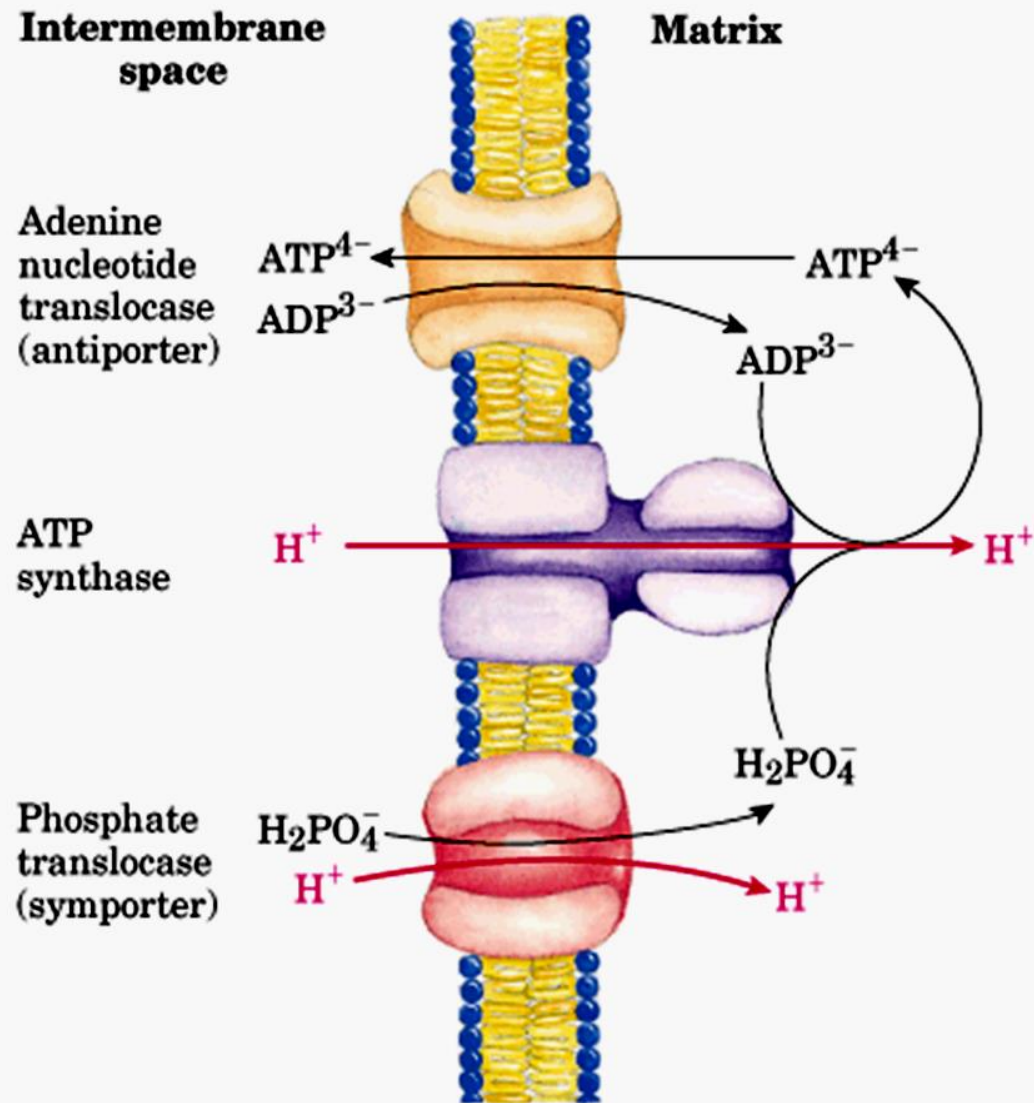
ATP synthase



Transformações de Energia



Transporte de ATP, ADP e Pi



Estequiometria?

