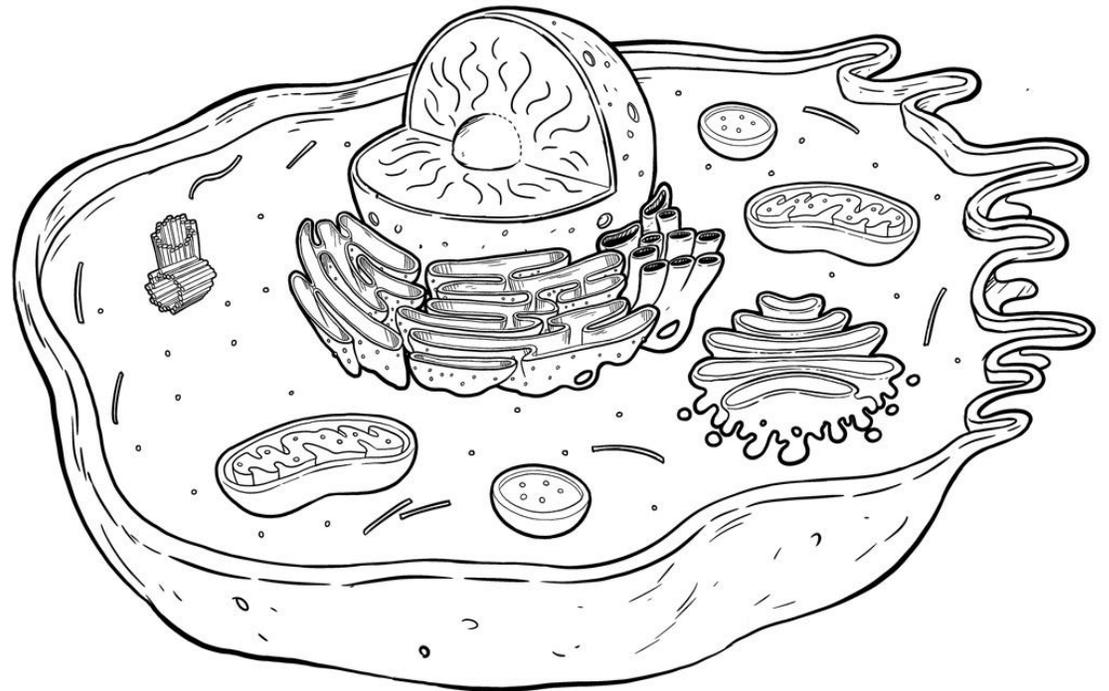


Label and state the function of the following parts of the cell:

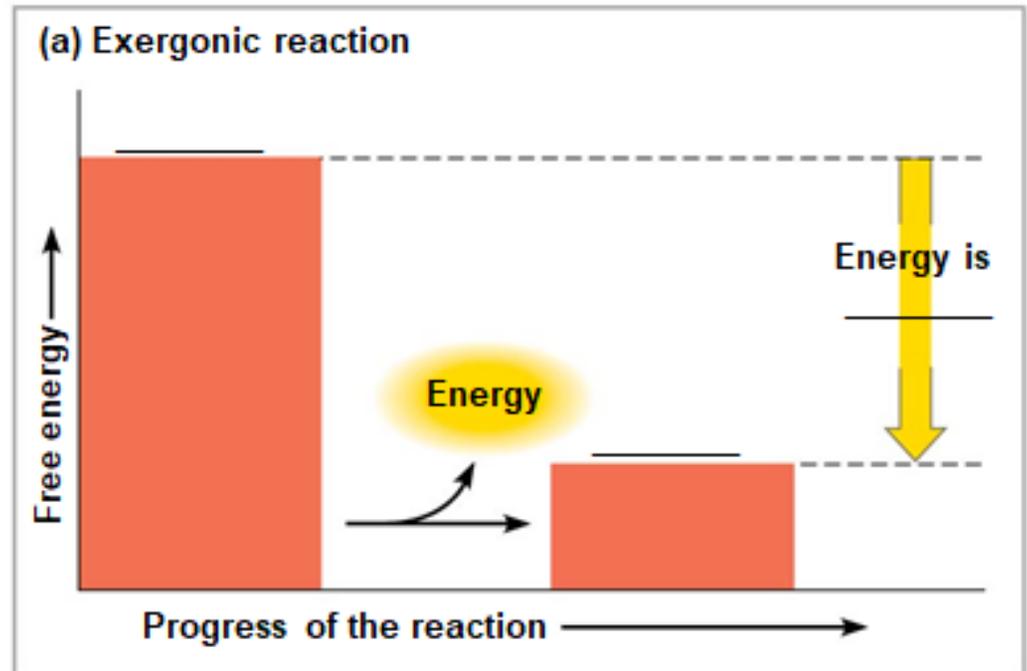
Nucleus	
Ribosome	
Mitochondrion	
Smooth ER	
Rough ER	
Golgi apparatus	
Plasma membrane	
Centrosome	
Lysosome	

## Chap 6: Parts of the Cell

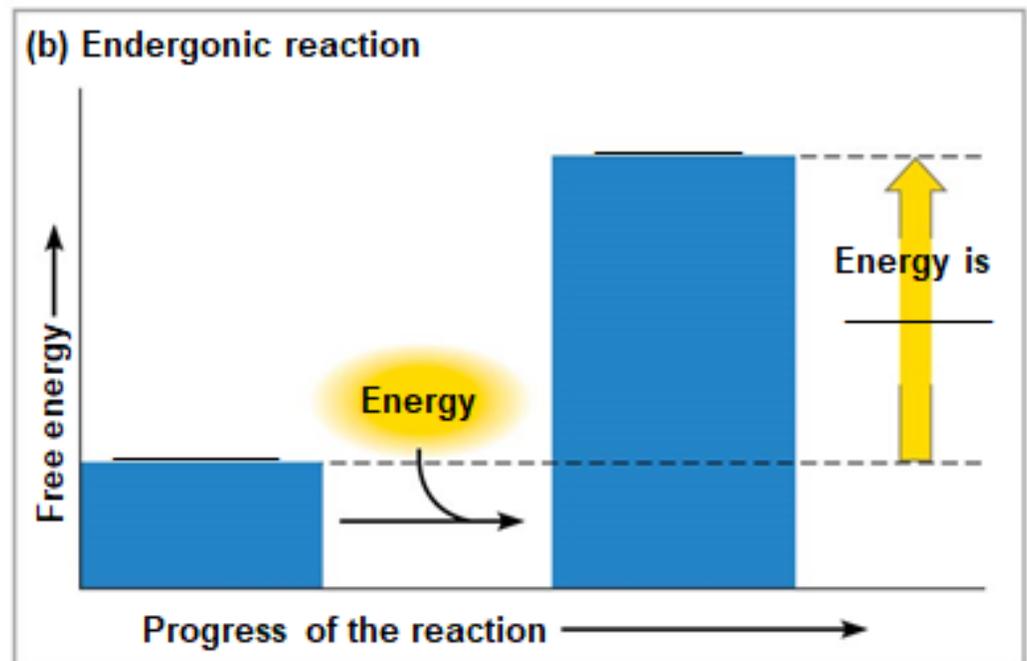


# Chap 8: Energy and Chemical Reactions

- 1) Label the reactants and products.
- 2) Indicate whether energy is released or required for the reaction.
- 3) Define free energy.
- 4) Which reaction gains free energy? Which reaction loses free energy?



- 5) Which reaction is a catabolic process? Which is an anabolic process?

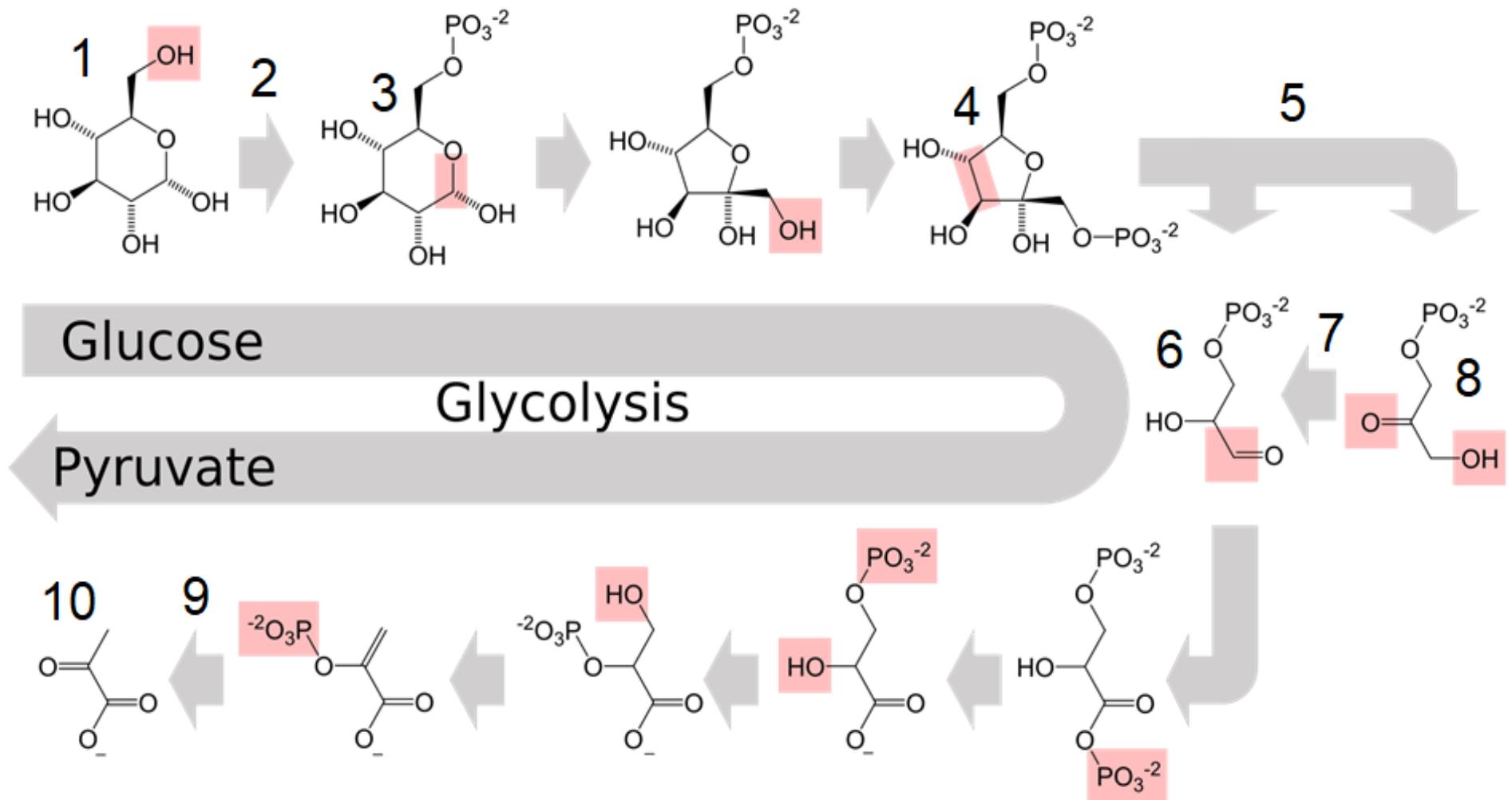


- 6) Which reaction is spontaneous? Which is not spontaneous? How can you determine which is which?

# Chap 9: Glycolysis

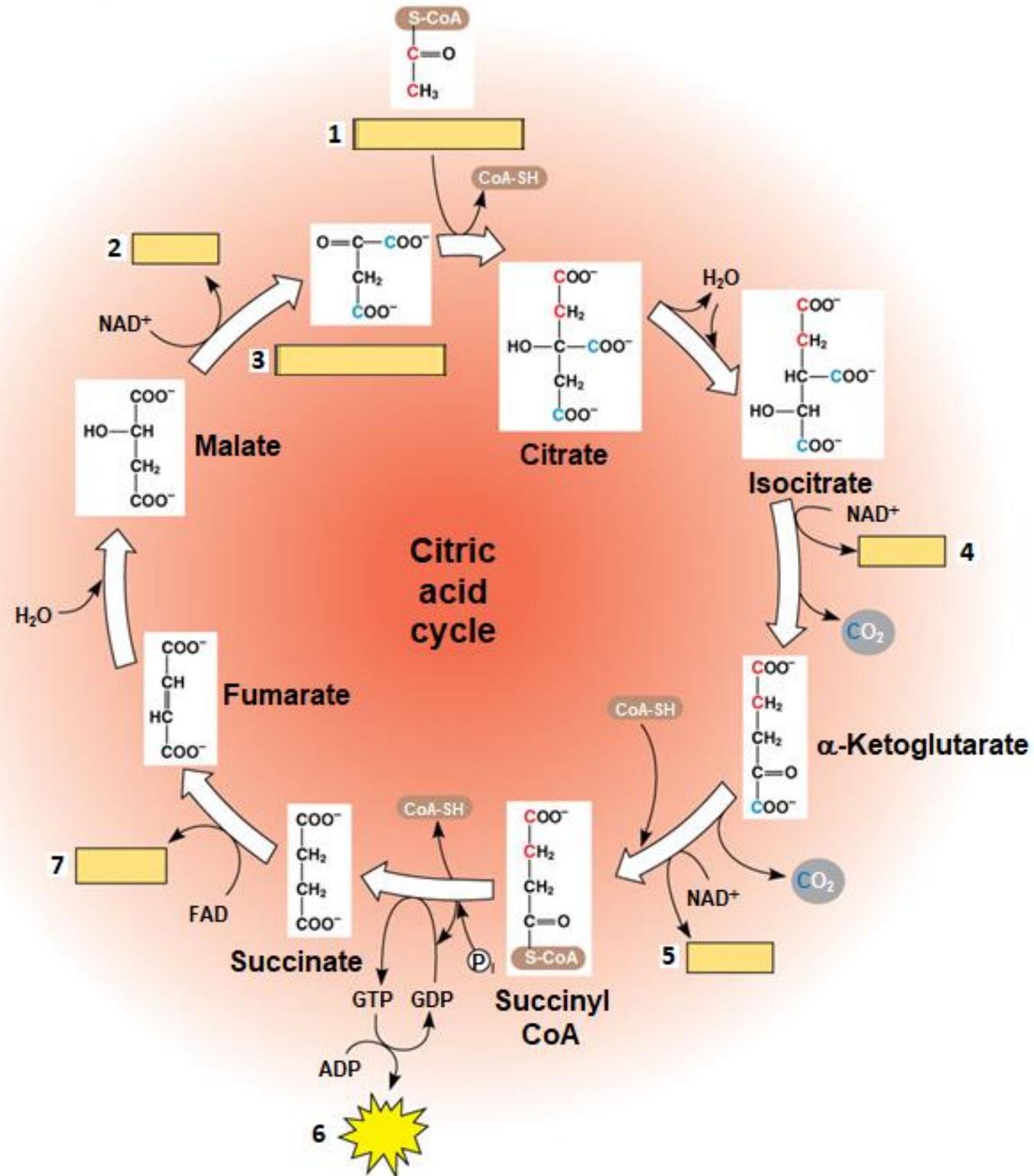
Label the energy investment and energy payoff phases. Label the compounds produced and enzymes used at the numbered stages of glycolysis. Indicate where ATP is used and produced during the reactions as well as the points along the pathway where  $\text{NAD}^+$  is reduced to  $\text{NADH}$ . Note the total amount of ATP used and produced as well as the total amount of  $\text{NADH}$  produced. Where does that  $\text{NADH}$  get used?

**Note: Pay close attention to the direction of the arrows.**



# Chap 9: Citric Acid Cycle

- Fill in spaces 1-7 in the diagram.
  - Label the ATP, NADH, and FADH<sub>2</sub>.
  - Label the molecule that enters the cycle after pyruvate oxidation.
  - Label the molecule that is regenerated by the cycle.



# Chap 9: Oxidative Phosphorylation

- Fill in the blank spaces.
  - Label the  $H^+$ ,  $NAD^+$ ,  $FAD^+$ ,  $H_2O$ , and ATP.
  - Label the two stages of Oxidative Phosphorylation.

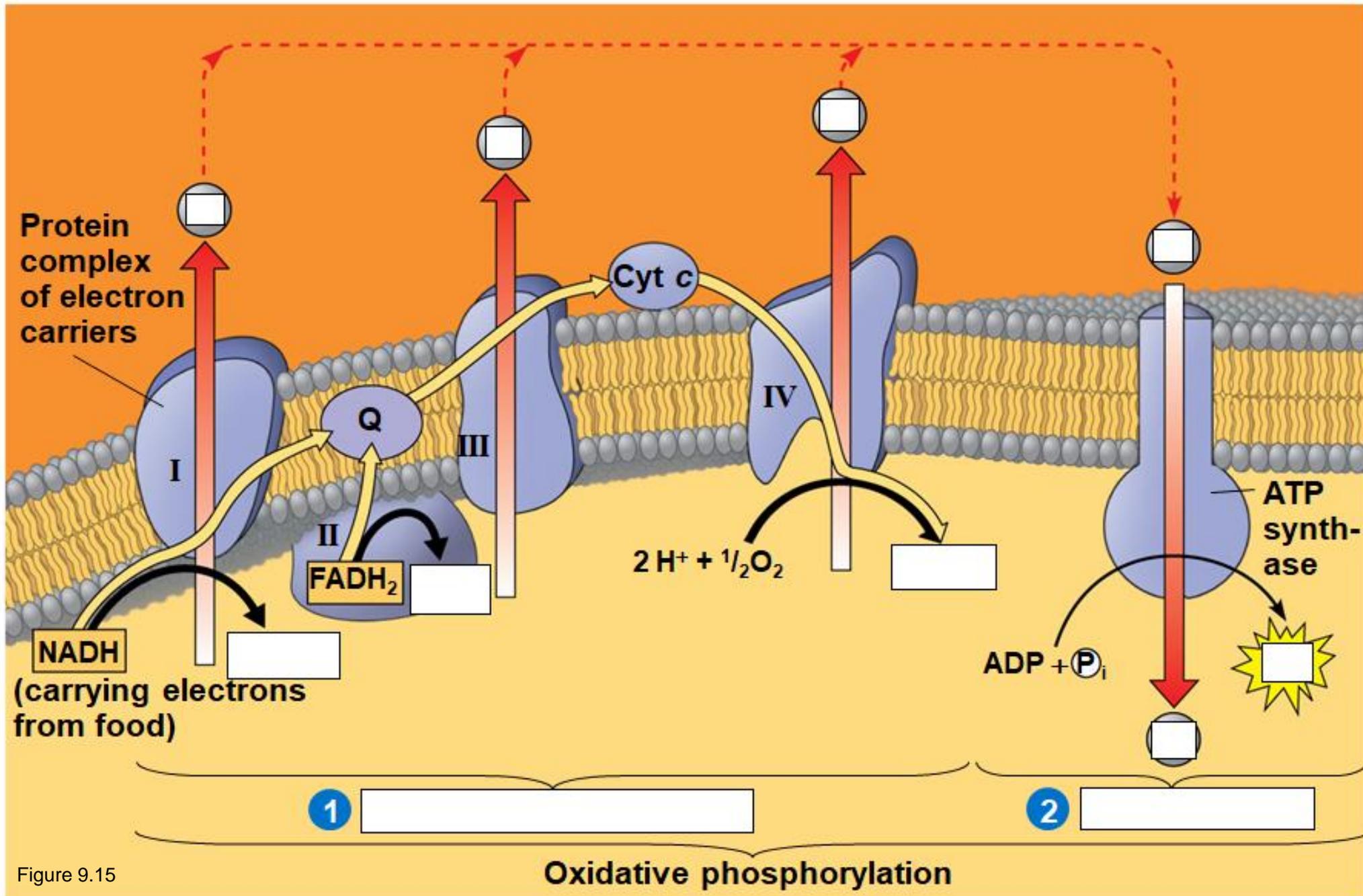


Figure 9.15