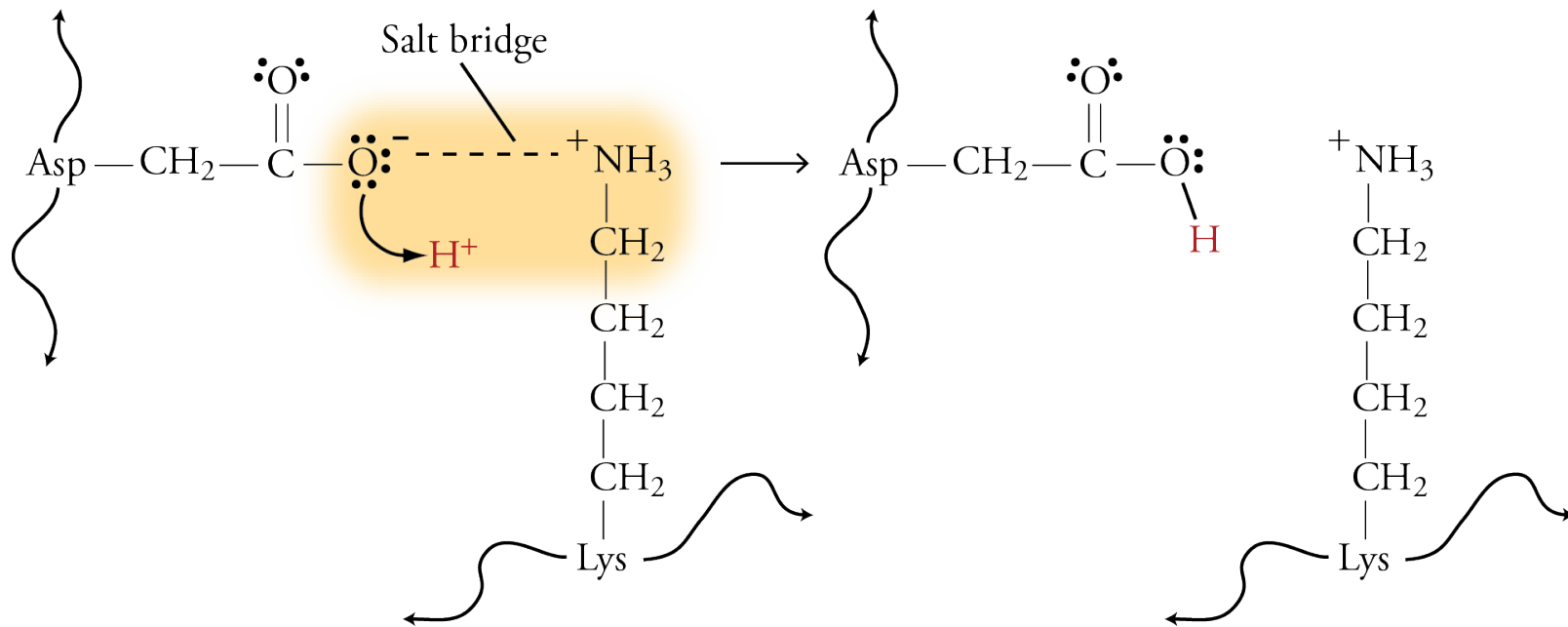


Digestion

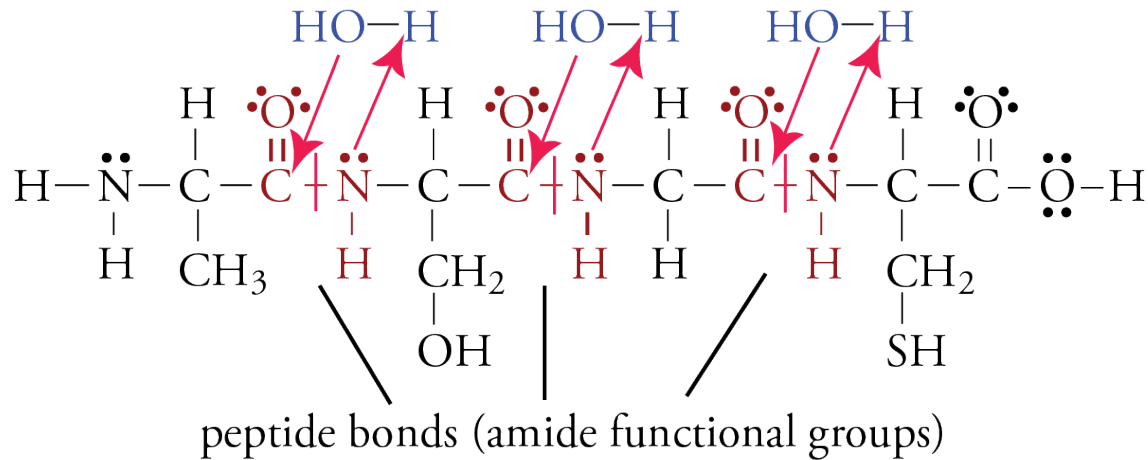


- **Digestion** is the process of converting large molecules into small molecules capable of passing into the bloodstream to be carried throughout the body and used for many different purposes.
- In one part of the digestion process, enzymes in your small intestines convert large water-insoluble molecules into small water-soluble molecules that can migrate through the lining of the intestines and dissolve in the blood, which is about 92% water.

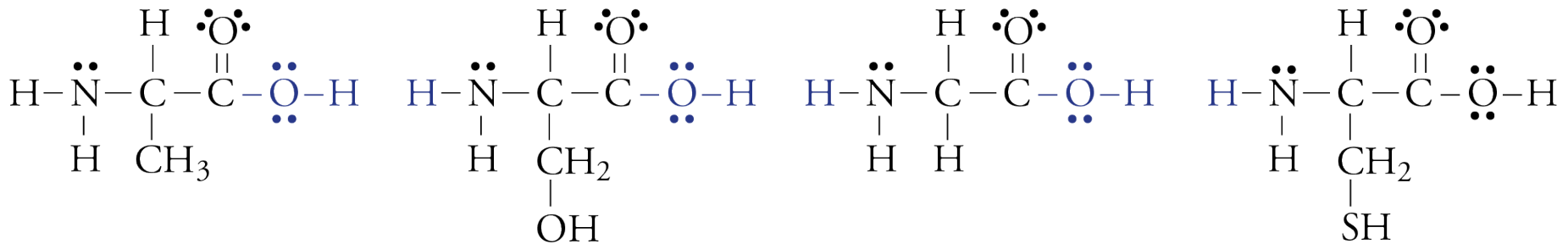
Disruption of Salt Bridge



Protein Hydrolysis



↓ Hydrolysis



Enzymes



- ***Catalysts*** speed chemical changes without being permanently altered themselves.
- ***Enzymes*** are naturally occurring catalysts.
- The chemicals that they act on are called ***substrates***.

Enzymes



- Very specific due to
 - Shape – “Lock and Key”
 - Positions of binding groups, which attract substrates to the active site, the portion of the enzyme where the reaction occurs.
 - Positions of the catalytic groups that speed the reaction.

Enzymes Speed Chemical Reactions

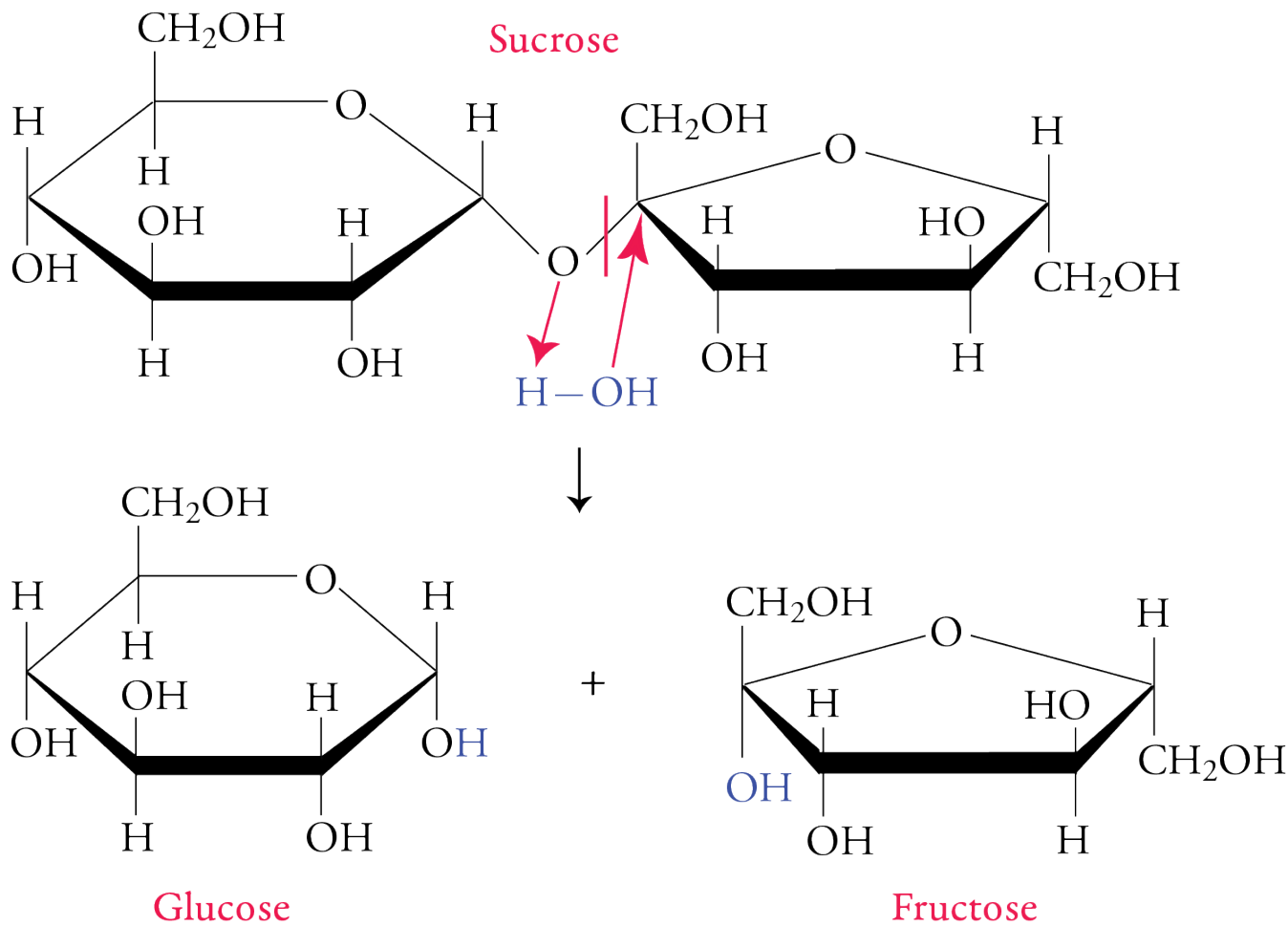


- Provide a different path to products that has more stable intermediates and therefore requires less energy.
- Give the correct orientation every time.

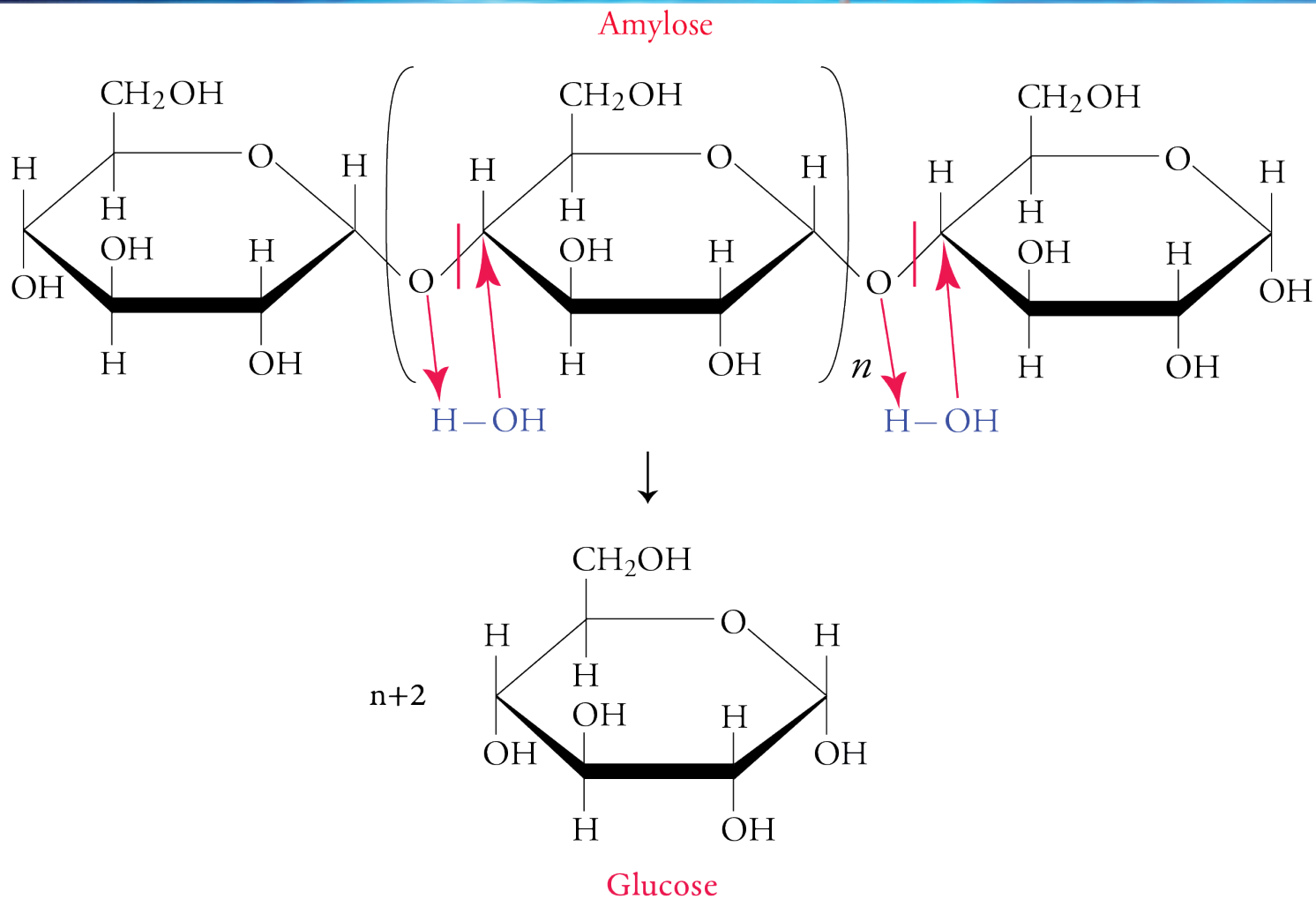
Digestion Products

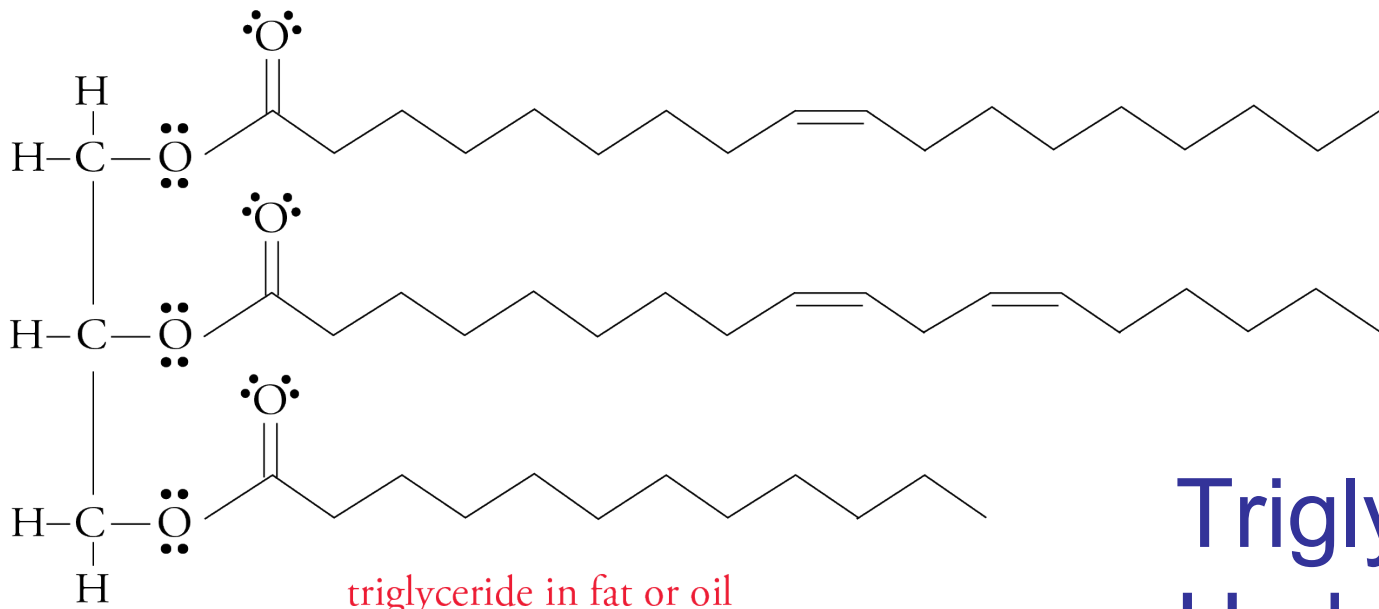
Substance in Food	Products of Digestion
disaccharides	monosaccharides
polysaccharides	glucose
protein	amino acids
Triglycerides (fats and oils)	glycerol and fatty acids

Sucrose Hydrolysis



Amylose Hydrolysis





triglyceride in fat or oil

Triglyceride Hydrolysis

