

The peptide linkage found in proteins is chemically the same as a(an) amide linkage

The secondary structure of a protein is defined as

- A the identity and order of its amino acids.
- B interactions such as ionic bonding and sulfide linkages.
- C hydrogen bonding between C=O groups and H atoms on amine groups, forming alpha helices or beta-pleated sheets.
- D the degree of interaction among separate protein subunits.

Monomers used to produce addition polymers usually contain how many bonds in their molecular structure?

Double bonds

The monosaccharide that is the monomer for glycogen, starch and cellulose is **Glucose**

Polyethylene terephthalate is produced by reaction between terephthalic acid and ethylene glycol

All polysaccharides consist of sugar monomers joined together by

Amide linkages

Polyamides can be produced from

- A. two monomers, one containing two amino groups, the other containing two carboxylic acid groups.
- B. one monomer, containing one amino and one carboxylic acid group.
- C. one monomer, containing two amide groups.
- D. either a or b.

The most abundant organic compound in living systems on earth is

Cellulose

The tertiary structure of a protein can be stabilized by

- A. disulfide bonds.
- B. hydrophobic interactions.
- C. electrostatic interactions between charged functional groups on side-chains.
- D. all of these choices.

The polymer used to make food and drink coolers and building insulation material is polystyrene

What substance serves the same function in plants that glycogen does in animals?

starch

What is the organic base found only in RNA?

uracil

Dicarboxylic acids react with diamines to produce

nylon

In terms of how its monomers are bonded together, to which synthetic polymer does a protein most closely correspond?

- A. polyethylene
- B. poly(vinyl acetate)
- C. Polyamide
- D. poly(ethylene terephthalate)

What is the primary function of cellulose?

- A. structural support for plants
- B. energy storage in plants
- C. catalysis of biochemical reactions
- D. transport of biologically important molecules

How many of these functions is/are carried out by proteins: catalysis, transport, protection against disease, physical motion?

4

If a polymer is said to be thermoplastic, this means that it

- A. will never become fluid upon heating.
- B. will become fluid only once upon heating.
- C. will not be brittle even at very low temperatures.
- D. will become fluid repeatedly upon heating.

Which group contains **no** examples of condensation polymers?

- A. polystyrene, polypropylene, polyvinylchloride
- B. polyamide, polyester, nylon
- C. polyester, polystyrene, polyisoprene
- D. polypropylene, polyamide, polysaccharide

Which group contains only examples of addition polymers?

- A. polyamide, polyester, polyvinylchloride
- B. polyamide, polyester
- C. polystyrene, polypropylene, polyvinylchloride
- D. polyester, polystyrene, polyisoprene

Polymer chains in high density polyethylene are in low density polyethylene they are .

Linear; highly branched

In 1839, Charles Goodyear discovered that heating natural rubber in the presence of _____ produces vulcanized rubber.

Sulfur

Diols react with dicarboxylic acids to produce

- A. polyamides and water.
- B. polyesters and water.

- C. condensation polymers and water.
- D. both b and c.

A peptide linkage forms when the group of one amino acid reacts with the carboxylate group of another amino acid in reaction.

Amino, condensation

A polymer that returns to its original size and shape after being stretched is said to be

- A. elastomeric.
- B. vulcanized.
- C. copolymerize d.
- D. rubberized.

The primary structure of a protein is determined by

- A. hydrogen bonding between C=O groups and H atoms on amine groups, forming alpha helices or beta-pleated sheets.
- B. interactions such as ionic bonding and sulfide linkages.
- C. the degree of interaction among separate protein subunits.
- D. the identity and order of its amino acids.