

Quiz 1. 3.034



Using amino acids as basic building blocks construct a 3 amino acid polypeptide chain that contains from 1-3 different amino acid residues with the following properties. Unless otherwise noted assume the polymer is at physiological pH. You may use an amino acid more than once in each question.

- A) Draw an isotactic isomer that contains a side group that would form a benzylic radical when exposed to ionizing radiation. Indicate the benzylic carbon.
- B) Draw a polymer that would be either overall ^{acidic} neutral or ^{slightly basic} negatively charged at slightly acidic or slightly basic pH relative to physiological pH.
- C) Draw a polymer that has a side group that is capable of forming hydrogen bonds with the side group of another chain of the same type. Show the hydrogen bonding between the side groups.
- D) Draw a polymer where the side group interactions would be based solely on hydrophobic, or van der Waals interactions.
- E) Draw a polymer that contains at least one optically active and one non optically active side group.
- F) Draw a polymer that would have a high degree of stiffness (justify your choice)
- G) Draw a polymer that would be more flexible (justify your choice)
- H) Draw a polymer that could form ionic bonds with poly(acrylic acid). Show the ionic bond.

