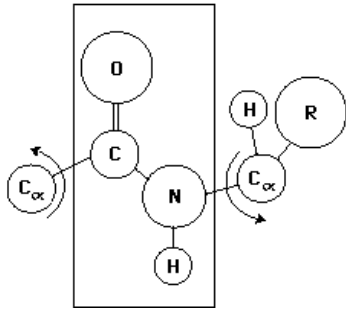


Week 3 Practice Problems Answer Key
MCB 102 Section
GSI: Nadia Taylor

1. In the diagram below, the plane drawn behind the peptide bond indicates the:



- A) **absence of rotation around the C—N bond because of its partial double-bond character.**
- B) plane of rotation around the C_α—N bond.
- C) region of steric hindrance determined by the large C=O group.
- D) region of the peptide bond that contributes to a Ramachandran plot.
- E) theoretical space between -180 and +180 degrees that can be occupied by the φ and ψ angles in the peptide bond.

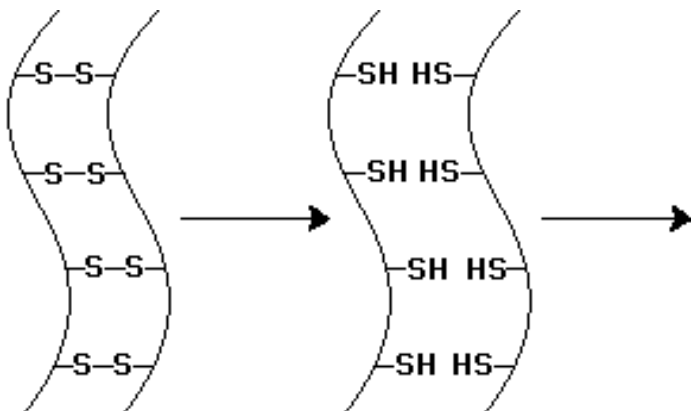
2. Which of the following pairs of bonds within a peptide backbone show free rotation around both bonds?

- A) **C_α—C and N—C_α**
- B) C=O and N—C
- C) C=O and N—C_α
- D) N—C and C_α—C
- E) N—C_α and N—C

3. Amino acid residues commonly found in the middle of β turn are:

- A) Ala and Gly.
- B) hydrophobic.
- C) **Pro and Gly.**
- D) those with ionized R-groups.
- E) two Cys.

4. The α-keratin chains indicated by the diagram below have undergone one chemical step. To alter the shape of the α-keratin chains—as in hair waving—what subsequent steps are required?



- A) Chemical oxidation and then shape remodeling
- B) Chemical reduction and then chemical oxidation
- C) Chemical reduction and then shape remodeling
- D) **Shape remodeling and then chemical oxidation**
- E) Shape remodeling and then chemical reduction