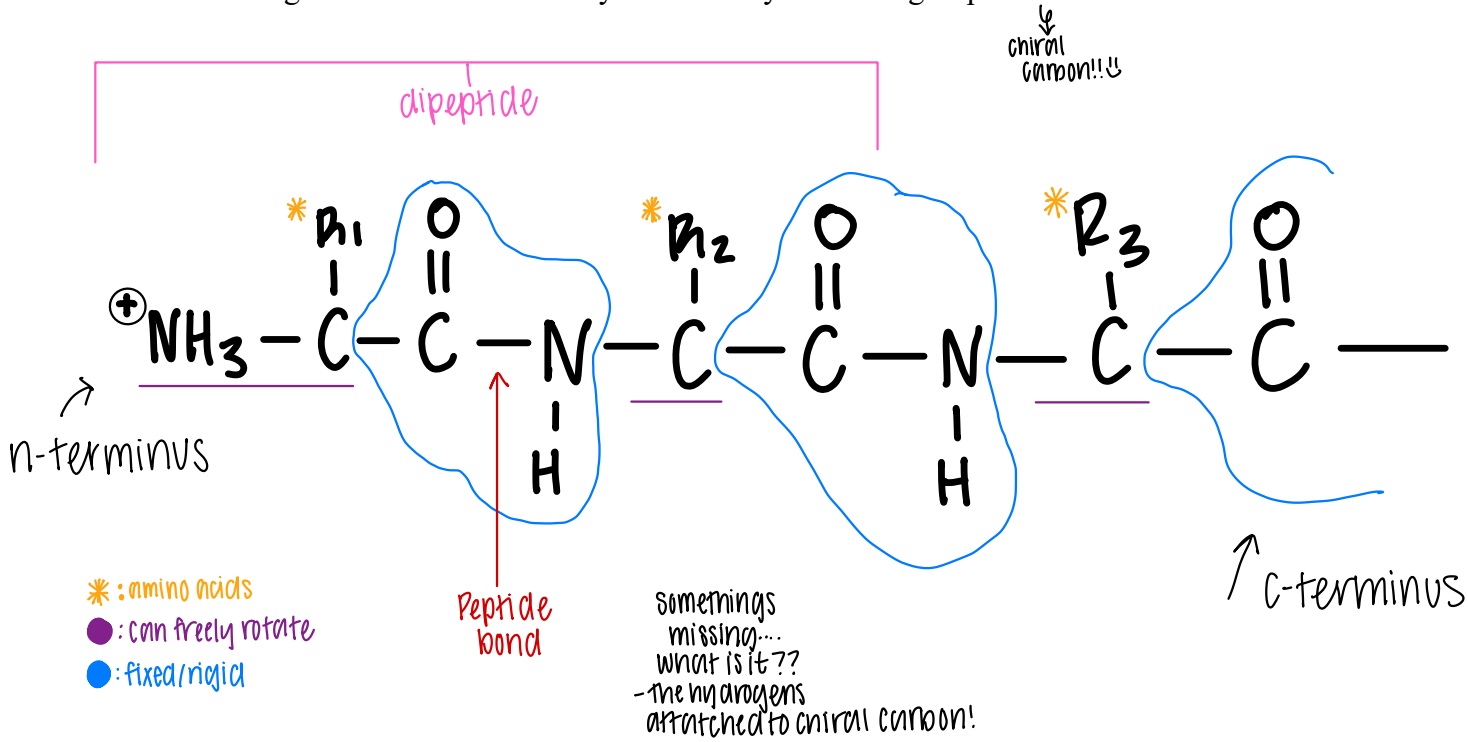
Session 5

09/17

1. Label the following on the image below: Peptide bond, Dipeptide, Amino Acid(s), Peptide Backbone, C-Terminus, and N-Terminus. Also, circle the groups that are "fixed/rigid" and which can freely rotate? Why are these groups able to rotate?

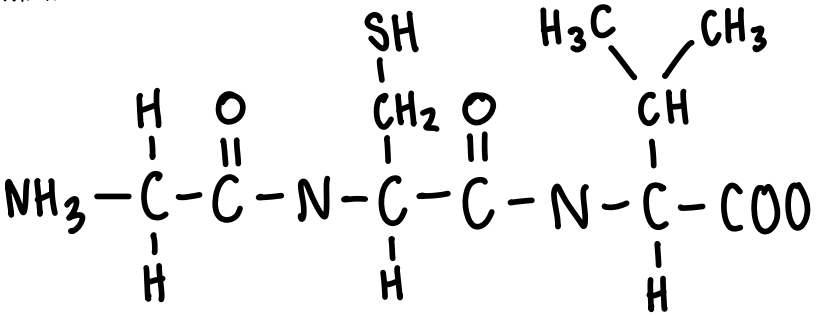


2. What amino acid is special in regard to the rules above? Why is it special and is its "nickname"?

Proline!!
- its CH_2 group bonds to the peptide backbone twice! its now "locked" into place.
- "the destroyer of seconclary structures

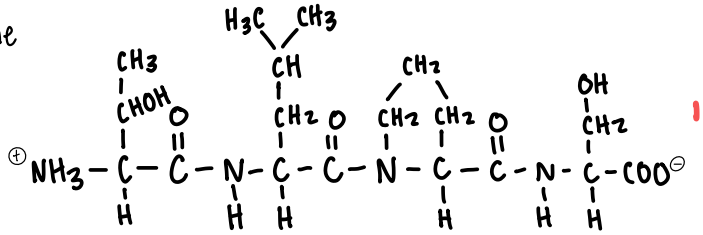
3. Provide the name of the following image using its full name, their 3 letter codes, and their 1 letter codes.

glycylcysteylvaline
GlyCysVal
GCV



4. Draw the following amino acid sequence. Give it it's additional names.

TLPS
ThrLeuProSer
Threonylleucylprolylserine

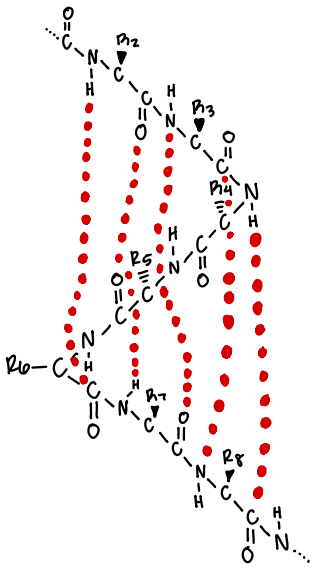


5. Define what a primary structure is.
- Simple amino acid sequence

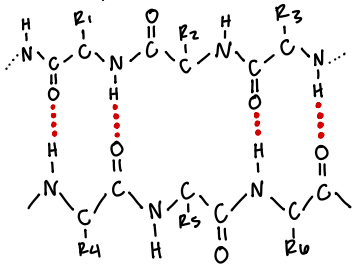
6. Define what a secondary structure is. Give examples learned in class.

– Hydrogen bonds between >N-H and >C=O of peptide backbone on same polypeptide (amine group, carbonyl group)

1) alpha helix



2) beta pleated sheets



7. What interactions are present in a secondary structure?
   - Hydrogen Bonding