

LIFE 1010 01 SI Session #3

1) Complete the table below regarding macromolecules.

Macromolecule	Monomer	Bond Name
	Amino Acid	
Nucleic Acid		
		Glycosidic Linkage

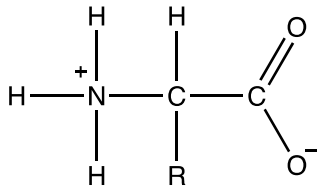
2) Match the following protein functions with each example.

Transport	Actin/Myosin
Catalysis	Insulin
Defense	Antibodies
Movement	Collagen
Signaling	Digestive Enzymes
Structure	Porin Proteins

3) Use the table to compare DNA and RNA.

	DNA	RNA
Strands		
Stability		
Bases		
Secondary Structure		

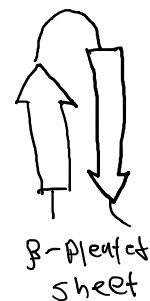
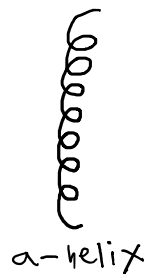
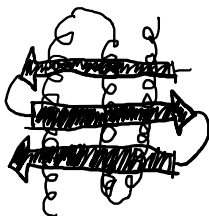
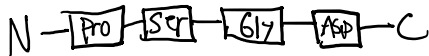
- 4) Reference the amino acid molecule to draw 2 amino acids bonded to each other. What kind of reaction involving water is taking place?



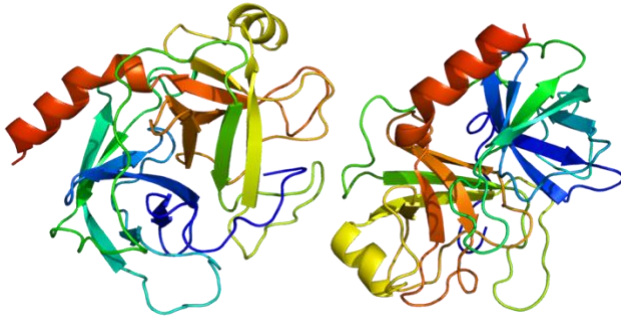
- 5) Use the strand of DNA below to create the other side of DNA (Complementary base pairing). Include directionality.

5' ATGCGTAGCTCTGA 3'

- 6) Observe the structures below and determine what level of protein structure they are along with what chemical interactions hold them together.



- 7) Catalysts are a function of many proteins in the body. Below is a model of Trypsin, which is found in the small intestines and aids with digestion. What is another name for catalysts?



Medical Matters

Prions are a type of protein that can trigger normal proteins to fold abnormally. Think of prions as infectious proteins. Prions are especially dangerous in that they are *virtually indestructible*; resistant to heat, radiation, and other sterilization techniques. Kuru is a prion disease commonly found in the people of New Guinea who practiced cannibalism by eating the brains of the dead. Observe the picture displayed on screen and determine 1) what changed about the protein and 2) level of structure the protein is at?