**Protein Structure**

**Identify the 20 amino acids that occur in proteins.**

* amino acid structure: side chains, functional groups
  + general structure
  + hydrophobic
  + polar
  + charged
  + net charge of polypeptide (calc. 4.1)
* four levels of protein structure
  + primary
  + secondary
  + tertiary
  + protein folding
  + quaternary

**Explain how misfolded proteins cause disease.**

* possible fates of misfolded proteins

**Describe the techniques for purifying and analyzing proteins.**

* chromatography
  + size (size exclusion)
  + charge (ion exchange)
  + specific binding behavior (affinity)

