

## Chapter 2

1. Be able to explain these different types of intermolecular forces.

Intermolecular Force	Relative strength	Description	Example
London dispersion			
Dipole- dipole  Hydrogen bonding			
Ion- dipole			
Ionic			

2. How does the strength of a hydrogen bond compare to the strength of a covalent bond? Compare the enthalpy of bond breaking between O-H in water vs the breaking of a hydrogen bond in water.

3. What is a hydrophobic interaction? Give a biochemical example of a hydrophobic interaction.

4. What do osmosis, boiling point elevation and freezing point depression have in common? Which of these is the most relevant in biochemistry? Give a full description of why it is the most relevant.

5. Terms to know:

amphipathic

micelle

hydrophobic

hydrophilic

hypotonic

isotonic

hypertonic

6. Help! Our biochemistry text has the  $K_a$  for dihydrogen phosphate as  $1.38 \times 10^{-7}$  and Dr. Stone's favorite Quantitative Analysis book has the  $K_a$  for dihydrogen phosphate as  $6.2 \times 10^{-8}$ . Explain this apparent discrepancy. Which value should Dr. Stone use on her exams? Why?