

Sample Exam 5 (Solutions)

Multiple Choice

Answers

1. Which colligative property measurement is best to use for compounds with a molar mass greater than 5000 g/mol?
 - a. osmotic pressure
 - b. freezing point depression
 - c. boiling point elevation
 - d. vapor pressure lowering
 - e. titration
2. Colligative properties are all similar in that they all
 - a. were discovered in college laboratories.
 - b. are due to solvent molecules linked together.
 - c. have no harmful side effects.
 - d. depend on the concentration of particles in solution.
 - e. involve pressure.
3. A crystal is placed in a solution and it dissolves. The solution must have been
 - a. unsaturated.
 - b. saturated.
 - c. supersaturated.
 - d. dilute.
 - e. concentrated.
4. Which intermolecular force is most important between a sodium ion and its neighbors in a dilute NaCl(aq) solution?
 - a. ion-ion
 - b. ion-dipole
 - c. dipole-dipole
 - d. London dispersion
 - e. hydrogen bonding
5. How many of the following forces are found in a model of the dissolution process?
Heat of solution, solvent viscosity, ionization energy, lattice energy, solvation energy
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5

1. a

2. d

3. a

4. b

5. c

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| 6. Which factor does not affect the solubility of a solid electrolyte in a liquid solvent? | 6. d |
| a. temperature | |
| b. nature of the solvent | |
| c. common ion | |
| d. pressure | |
| e. nature of the solute | |
| 7. Which of the following factors is important only for the solubility of gases in solvents? | 7. c |
| a. the nature of the solute. | |
| b. the nature of the solvent. | |
| c. the pressure of the gas. | |
| d. the temperature. | |
| e. the atmospheric pressure. | |