## **Ch. 10 Extra Practice Questions**

1. The nonpolar compound naphthalene,



is reported to melt at 78.2 °C and to boil at 217.97 °C, at significantly higher temperatures than water. That is because:

- A) the C-H bonds become hydrogen bonding because of the aromatic ring they are attached to
- B) it has  $\pi$  bonding
- C) it has enough electrons to make its dispersion forces larger than the forces between water moleculess
- D) the data is actually false, since a compound with intensive hydrogen bonding such as water must have stronger intermolecular forces than one with only dispersion forces
- E) it develops a strong dipole moment when heated
- 2. List the following compounds in increasing (from low to high) order in terms of their solubility in water.



- A) 2, 1, 3
- B) 3,1,2
- C) 2,3,1
- D) 1,2,3
- E) 3, 2, 1

- 3.  $C_2H_5OH$  has a higher boiling point than  $CH_3$ -O- $CH_3$ . This is because
  - A) dipole-dipole forces are larger in  $C_2H_5OH$
  - B)  $C_2H_5OH$  has hydrogen bonding interactions but  $CH_3$ -O-CH<sub>3</sub> does not
  - C) dispersion forces are larger in  $C_2H_5OH$
  - D)  $C_2H_5OH$  has ionic bonding
  - E)  $C_2H_5OH$  has stronger chemical bonds
- 4. CH<sub>3</sub>Br has a higher boiling point than CH<sub>3</sub>F. This is because
  - A) dipole-dipole forces are larger in CH<sub>3</sub>Br
  - B) CH<sub>3</sub>F has hydrogen bonding interactions
  - C) dispersion forces are larger in CH<sub>3</sub>F
  - D) dipole-dipole forces are larger in CH<sub>3</sub>F
  - E) dispersion forces are larger in CH<sub>3</sub>Br
- 5. CO<sub>2</sub> is a gas at room temperature whereas SiO<sub>2</sub> melts at 1710 °C. What is the reason for this difference?
  - A) SiO<sub>2</sub> is polar molecule with dipole-dipole forces whereas CO2 is a noonpolar molecule
  - B)  $SiO_2$  has stronger dispersion forces than  $CO_2$
  - C) SiO<sub>2</sub> is a covalent network solid whereas  $CO_2$  forms a molecular solid
  - D) CO<sub>2</sub> molecules are diamagnetic, therefore repel each other whereas SiO<sub>2</sub> molecules are paramagnetic and attract one another.
  - E) SiO<sub>2</sub> is an ionic crystal whereas  $CO_2$  has covalent bonds

## Ch. 10 Practice Questions Answer Section

1.	ANS:	С	PTS:	1
2.	ANS:	В	PTS:	1
3.	ANS:	В	PTS:	1
4.	ANS:	E	PTS:	1
5.	ANS:	С	PTS:	1