Chemistry, 10th Edition

General Chemistry 107: 1 &5 Taught by Abdullah Saleh

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## Resources

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Chapter 1	
Chapter 2	Question 1
Chapter 3 (free)	Argon atoms do not combine to form species such as Ar <sub>2</sub> , yet argon atoms do attract one another weakly through:
Chapter 4	(A) dipole-dipole forces
Chapter 5	OB) dipole-induced dipole forces
Chapter 6	C) ion-dipole forces
Chapter 7 (free)	<ul><li>○ D) dispersion forces</li><li>○ E) hydrogen bonding</li></ul>
Chapter 8	
Chapter 9	Question 2
Chapter 10	Which of the following substances is not likely to exhibit hydrogen bonding?
Chapter 11	○ <b>A</b> ) CH <sub>3</sub> CH <sub>2</sub> OH ○ <b>B</b> ) CH <sub>3</sub> NH <sub>2</sub>
Quizzes	○ <b>c</b> ) HOCH <sub>2</sub> CH <sub>2</sub> OH
Self Assessment A	OD) (CH <sub>3</sub> ) <sub>3</sub> N
Self Assessment B	○ E) NH <sub>2</sub> OH
Interactive Exercises	
More Resources	Question 3
Chapter 12	Which of the following liquids would have the highest viscosity at 25°C?  ⚠ A) HOCH₂CH₂OH
Chapter 13	○ <b>B</b> ) CH <sub>3</sub> CH <sub>2</sub> OH
Chapter 14	○ <b>C)</b> CH <sub>3</sub> CH <sub>2</sub> Cl
Chapter 15	OD) CH <sub>3</sub> COOCH <sub>3</sub>
Chapter 16	OE) CH <sub>3</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>3</sub>
Chapter 17	
Chapter 18	Question 4
Chapter 19	Lithium metal has a body-centered cubic unit cell. How many lithium atoms are there in one unit cell?  • A) 1
Chapter 20	○B) 2
Chapter 21	OC) 3
	○ D) 4 ○ E) 8
Chapter 22	
Chapter 23	Question 5
Chapter 24	Osmium tetraoxide, OsO <sub>4</sub> is a molecular crystal. Which of the following general properties would you NOT expect it to possess:
Chapter 25	<ul><li>○ A) being a poor conductor of electricity</li><li>○ B) having soft rather than brittle crystals</li></ul>
Study Tools	○ c) having a melting point around 40°C
Study on the Fly	Op) having a melting point around 1600°C
	Overtion 6
	Question 6
	Which of the following substances should have the highest heat of vaporization?  • A) H <sub>2</sub> O
	○ B) H <sub>2</sub> S
	○ <b>c</b> ) C <sub>6</sub> H <sub>6</sub>
	( <b>D</b> ) CH <sub>3</sub> OH
	○ E) CH <sub>3</sub> OCH <sub>3</sub>
	Question 7
	Which of the following gases would have the highest critical temperature?
	<b>○ A)</b> NH <sub>3</sub>
	○ B) CH <sub>3</sub> OH
	O C) H <sub>2</sub>
	OD) C <sub>6</sub> H <sub>6</sub>
	○ E) H <sub>2</sub> O

Question 8
How much energy (heat) is required to convert 248 g of water from 0°C to 154°C? Assume that the water begins as a liquid, that the specific heat of water is 4.184 J/g.°C over the entire liquid range, that the specific heat of steam is 1.99 J/g.°C, and the heat of vaporization of water is 40.79 kJ/mol.  A) 562 kJ B) 130 kJ C) 692 kJ D) 589 kJ E) 639 kJ
Question 9
Diethyl ether has a heat of fusion of 6.90 kJ/mol and a heat of vaporization of 26.0 kJ/mol. Estimate the heat of sublimation of diethyl ether.
Question 10
Between 20 and 80°C, the enthalpy of vaporization of benzene is 31.0 kJ/mol. At 26°C, the vapor pressure of benzene is 100 torr. Calculate the vapor pressure of benzene at 45°C. R = 8.314 J/K·mol.  A) 18.1 torr B) 633 torr C) 47.6 torr D) 211 torr E) None of the above
Question 11
Which of the following in incorrectly paired?  (A) ionic crystals; cesium chloride (B) covalent crystals; diamond (C) molecular crystals; ice; sucrose (D) metallic crystals; sodium chloride
Question 12
Which substance would have the higher normal boiling point?  A) CH <sub>4</sub> B) SiH <sub>4</sub>
Question 13
If the atomic radius of a calcium crystal is 180 pm, what is the length of the edge of the unit cell?  A) 509 pm B) 552 pm C) 600 pm D) 624 pm
Question 14
Naphthalene sublimes at room temperature and 1 atmosphere pressure; which statement is true concerning the triple point of naphthalene   A) The triple point is lower than room temperature.

- B) The triple point is higher than room temperature.
- C) The triple point is equal to room temperature.

## **Question 15**

Which of the following statements is false?

- A) Phase change; energy (heat) is removed or added.
  B) Amorphous solids; lack a regular three-dimensional atomic arrangement.
  C) Molar heat of vaporization; energy required to vaporize one mole of a liquid.
  D) Critical temperature; regardless of the amount of pressure applied, the substance is a gas.

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