

CHEM105 Announced Quiz 5

1. Identify all types of intermolecular forces of attraction that are present between like molecules of each of the following substances:
 - a. HCl
 - b. CH_3OCH_3
 - c. Ar
2. Compare the vapor pressures for each of the following pairs; fully support your answer.
 - a. HCl and NaCl
 - b. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ and $\text{CH}_3\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}_3$
 - c. NH_3 and AsH_3
 - d. For your answer to part c, draw a diagram clearly showing the strongest interaction between two molecules of the substance with the lower vapor pressure. Show each of the atoms in each of the two molecules along with the proper orientation with respect to each other.
3. Sand and dry ice are two solid substances most people are familiar with. Clearly explain why sand does not rapidly sublime into a gas while dry ice does. Use fundamental scientific principles to completely and to clearly explain the underlying reasons for these observed physical properties.