

Discussion Quiz #6 Chem 101 2017(7 minutes)

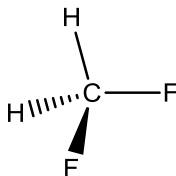
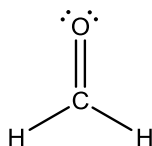
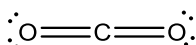
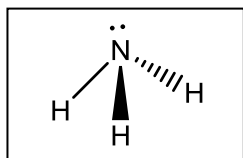
Your Name: _____

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1. (5 points) For the molecules below write in the appropriate boxes. Circle the molecule that will have the highest boiling point.

Lewis Structure



All Intermolecular forces

H-bond, Dipole-dipole,
ID-ID(L.Dispersion F)

ID-ID(Dispersion)

Dipole-dipole,
ID-ID(Dispersion)

Dipole-dipole,
ID-ID(Dispersion)

2. (3 points) Carbon tetrachloride (CCl_4), a common organic solvent, boils at 75°C and has a specific heat capacity of $0.90\text{ J}/(\text{g K})$. Chloroform (CHCl_3), also a common solvent, boils at 61°C and has a specific heat capacity of $1.05\text{ J}/(\text{g K})$. Water, sometimes referred to as the *universal* solvent, has a density of 1 g/mL and specific heat capacity of $4.2\text{ J}/(\text{g K})$.

- a) Rank the three solvents (CCl_4 , CHCl_3 , H_2O) in order of increasing equilibrium vapor pressure.

(lowest) $\text{H}_2\text{O} < \text{CCl}_4 < \text{CHCl}_3$ (highest)

3. (2 points) Calculate the maximum number of hydrogen bonds that can form in 1.5 mols of solid HF. Express your answer in moles.



H-bonds = 1.5 mol

- a) Calculate the number of moles of hydrogen bonds in 2 mols of gaseous HF.

H-bonds = 0 mol

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