

## Assignment 6 (1530964)

Question 1234567891011121314


**Description**

Number of submissions has been reduced to 3 unless otherwise noted!!!


1. Question DetailsLairdUChem1 4.EOCP.051. [1003667]

Which member of the following pairs would you expect to have the highest boiling point?


(a)

-  Cl<sub>2</sub>
- O<sub>2</sub>

(b)

-  SO<sub>2</sub>
- CO<sub>2</sub>

(c)


-  HF
- HI

2. Question DetailsLairdUChem1 4.PracticeEx.10. [1063663]



**Practice Exercise 4.10**

Name the type(s) of intermolecular forces that exists between molecules (or basic units) in each of the following species. (Select all that apply.)



(a) CCl<sub>4</sub>

- dipole-dipole
-  dispersion
- ion-dipole
- ion-ion

(b) SeO<sub>2</sub>

-  dipole-dipole
-  dispersion
- ion-dipole
- ion-ion

(c) PCl<sub>3</sub>

-  dipole-dipole
-  dispersion
- ion-dipole
- ion-ion

**HINTS**  
[I'm Stuck](#)

3. Question DetailsLairdUChem1 4.PracticeEx.11. [1063713]

## Practice Exercise 4.11



Which of the following species are capable of hydrogen bonding among themselves? (Select all that apply.)

- NH<sub>3</sub>
- H<sub>2</sub>S
- CH<sub>3</sub>OH

**HINTS**  
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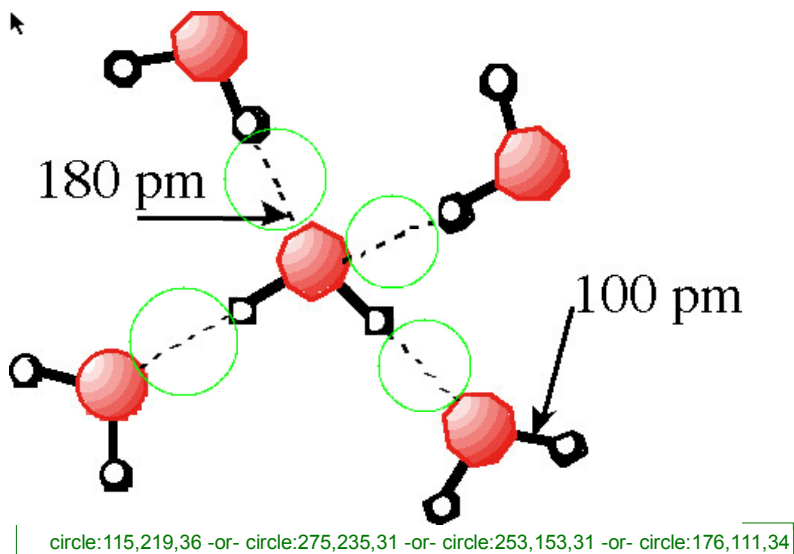
## 4. Question Details11 extra 55 [652416]

Indicate which molecule (a or b) in each pair has the **higher boiling point**. Also indicate which force, hydrogen bonding (H), dipolar (P), or dispersion (D) is responsible for the difference.

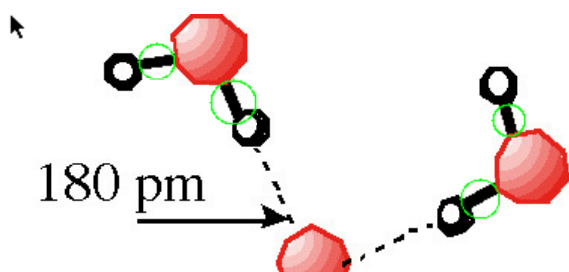
	a	b	Molecule (a or b)	Force (H,P, or D)
1.	NH <sub>3</sub>	PH <sub>3</sub>	<input type="checkbox"/> a	<input checked="" type="checkbox"/> H
2.	C <sub>2</sub> H <sub>5</sub> OH	CH <sub>3</sub> OCH <sub>3</sub>	<input type="checkbox"/> a	<input checked="" type="checkbox"/> H
3.	C <sub>4</sub> H <sub>8</sub>	C <sub>10</sub> H <sub>20</sub>	<input type="checkbox"/> b	<input checked="" type="checkbox"/> D
4.	HCl	F <sub>2</sub>	<input type="checkbox"/> a	<input checked="" type="checkbox"/> P

## 5. Question Details040615f [355946]

Consider this representation of covalent bonds and hydrogen bonds in water: (a) Click on any of the hydrogen bonds




(b) Click on one of the covalent bonds



circle:32,241,12 -or- circle:68,284,12 -or- circle:296,311,13 -or- circle:347,285,14 -or- circle:170,187,13 -or- circle:229,195,13 -or- circle:331,70,11 -or- circle:3

6. Question DetailsChang10 11.Supp.2.06. [1132258]

Hydrogen bonds are NOT important in which of the following cases?


-  The solubility of iodine in hexane ( $\text{CH}_3(\text{CH}_2)_4\text{CH}_3$ ).
- The solubility of ethanol ( $\text{CH}_3\text{CH}_2\text{OH}$ ) in water.
- The shape of protein molecules.
- The density of water.

Solution or Explanation

Hydrogen is not bonded to a N, O, or F atom here.

7. Question DetailsChang10 11.Supp.2.07. [1132420]

Which of the following molecules would display the least hydrogen bonding?


-   $\text{H}_2\text{C}=\text{O}$
- HCl
- $\text{H}_2\text{O}$
- H-N=O

Solution or Explanation

Hydrogen is bonded to a carbon, which contains no nonbonding electrons. In HCl, chlorine has some nonbonding electrons.

8. Question DetailsChang10 11.Supp.2.08. [1131913]

The forces of attraction between molecules of  $\text{H}_2$  are


-  London forces (dispersion forces)
- covalent bonds
- dipole-induced dipole interactions
- dipole-dipole interactions

Solution or Explanation

Only London forces are present since  $\text{H}_2$  is non-polar molecule.

9. Question DetailsChang10 11.Supp.2.09. [1132017]

Which noble gas has the highest boiling point?

-  Xe
- Ar
- Kr
- Ne


Solution or Explanation

Use molar mass as a criteria; highest MW strongest intermolecular force.

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**10.** Question DetailsChang10 11.Supp.2.10. [1133622]

Helium atoms do NOT combine to form He<sub>2</sub> molecules, yet He atoms do attract one another weakly through:

- ion-dipole interactions
- dipole-dipole interactions
- hydrogen bonding
-  dispersion forces


Solution or Explanation

All atoms can exhibit dispersions between themselves.

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**11.** Question DetailsChang10 11.Supp.2.17. [1133809]

The ability of neon gas to condense would be due to

- dipole-dipole-dipole forces
-  London dispersion forces
- covalent bonding
- ionic bonding


Solution or Explanation

To condense the particles must get very close together and this would involve London forces.

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**12.** Question DetailsChang10 11.Supp.2.24. [1133263]

In C<sub>6</sub>H<sub>5</sub>Cl (chlorobenzene), which of the intermolecular forces present in the liquid phase? (1) ion-ion (2) ion-dipole (3) dipole-dipole (4) London dispersion

- (1) and (3)
-  (3) and (4)
- (1) and (2)
- (2) and (4)


Solution or Explanation

Dipole-dipole due to C-Cl and all compounds have London forces.

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**13.** Question DetailsChang10 11.Supp.2.26. [1133802]

Which of the following represents the correct order of increasing boiling points for CCl<sub>4</sub>, Cl<sub>2</sub>, ClNO, N<sub>2</sub>?


-   $N_2 < Cl_2 < ClNO < CCl_4$
- $Cl_2 < N_2 < CCl_4 < ClNO$
- $CCl_4 < N_2 < Cl_2 < ClNO$
- $CCl_4 < ClNO < Cl_2 < N_2$

## Solution or Explanation

Use molecular weight and polarity as criteria.

14. Question Details Chang10 11.Supp.2.27. [1132843]

What intermolecular force is most important between  $CH_3Cl$  molecules in a pure sample of the compound?

- ion-dipole interaction
- ion-ion
- dipole-induced dipole interaction
-  dipole-dipole interaction

## Solution or Explanation

C-Cl indicate dipole-dipole interactions due to the polarity of the molecule.

## Assignment Details

Name (AID): **Assignment 6 (1530964)**

Submissions Allowed: **3**

Category: **Homework**

Code:

Locked: **Yes**

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