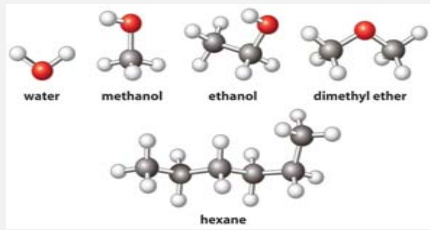


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[TP] Identify the compound with the **smallest** energy of vaporization (kJ/mol).

25% 1. water
25% 2. ethanol
25% 3. dimethyl ether
25% 4. hexane



water methanol ethanol dimethyl ether
hexane

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Response Counter 10 1

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Monday, October 16, 2017

For today ...

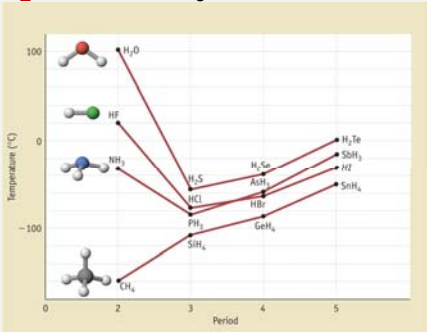
- Complete: Putting it all together: Relative boiling points
- Practice: Intermolecular forces
- Dissolving ionic solids

Next lecture: Solubility rules (memorize solubility guidelines fig 6.28, p 181); Precipitation reactions; concentrations after precipitation; ionization of molecular solutes; self-ionization of water

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Why is $\text{OH}_2 > \text{FH} > \text{NH}_3$?



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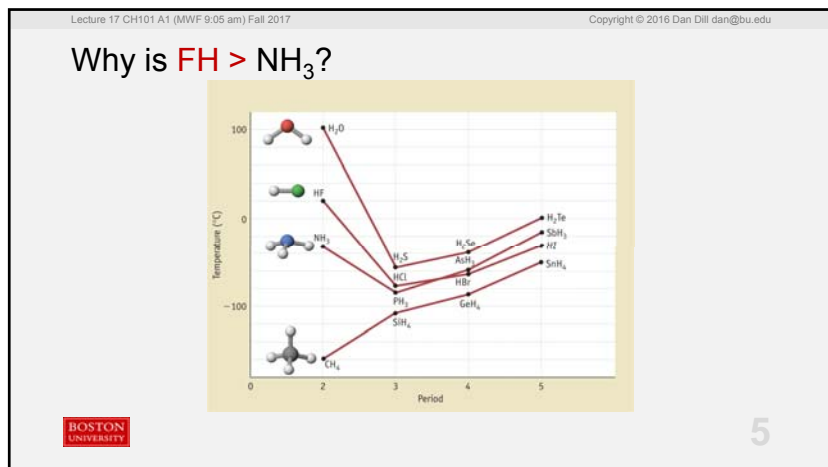
3

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Why is $\text{OH}_2 > \text{FH} > \text{NH}_3$?

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[TP] Identify the compound with the **smallest** energy of vaporization (kJ/mol).

25% 1. water
25% 2. ethanol
25% 3. dimethyl ether
25% 4. hexane

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[TP] Identify the compound with the **largest** energy of vaporization (kJ/mol).

33% 1. Ethane, CH_3CH_3
33% 2. Propane, $\text{CH}_3\text{CH}_2\text{CH}_3$
33% 3. Dimethyl ether, CH_3OCH_3

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[TP] The correct order of **boiling point** of CH_3OH , CH_4 , $\text{S}=\text{C}=\text{O}$, and Xe is (**lowest to highest**) ...

17% 1. $\text{CH}_3\text{OH} < \text{CH}_4 < \text{S}=\text{C}=\text{O} < \text{Xe}$
17% 2. $\text{Xe} < \text{S}=\text{C}=\text{O} < \text{CH}_4 < \text{CH}_3\text{OH}$
17% 3. $\text{Xe} < \text{CH}_4 < \text{S}=\text{C}=\text{O} < \text{CH}_3\text{OH}$
17% 4. $\text{CH}_4 < \text{Xe} < \text{CH}_3\text{OH} < \text{S}=\text{C}=\text{O}$
17% 5. $\text{CH}_4 < \text{Xe} < \text{S}=\text{C}=\text{O} < \text{CH}_3\text{OH}$
17% 6. some other order

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[Quiz] The correct order of **boiling point** of CH_3Br , CH_2Br_2 , CH_3Cl and CH_2Cl_2 is (**lowest to highest**) ...

- 17% 1. $\text{CH}_2\text{Br}_2 < \text{CH}_2\text{Cl}_2 < \text{CH}_3\text{Br} < \text{CH}_3\text{Cl}$
- 17% 2. $\text{CH}_2\text{Cl}_2 < \text{CH}_2\text{Br}_2 < \text{CH}_3\text{Cl} < \text{CH}_3\text{Br}$
- 17% 3. $\text{CH}_3\text{Br} < \text{CH}_3\text{Cl} < \text{CH}_2\text{Br}_2 < \text{CH}_2\text{Cl}_2$
- 17% 4. $\text{CH}_3\text{Cl} < \text{CH}_3\text{Br} < \text{CH}_2\text{Br}_2 < \text{CH}_2\text{Cl}_2$
- 17% 5. $\text{CH}_3\text{Cl} < \text{CH}_3\text{Br} < \text{CH}_2\text{Cl}_2 < \text{CH}_2\text{Br}_2$
- 17% 6. some other order

Response
Counter

10

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Dissolving ionic salts

$\text{Na}^+(\text{aq})$ and $\text{Cl}^-(\text{aq})$ disperse throughout water



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Demonstration: Conductivity of water

Pure water



Charles D. Winters

 $\text{Na}^+(\text{aq}) + \text{Cl}^-(\text{aq})$ 

Charles D. Winters



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