

PS 11-1(A)  $\text{Ar} < \text{HI} < \text{HCl}$  ← smaller distance between

③ ↑ BP. → stronger IMF

$\text{Ar}$ LDF Weakest	}	$\text{HI}$ LDF Dipole-Dipole ?	}	$\text{HCl}$ LDF Dipole-Dipole ? Smaller Radius!
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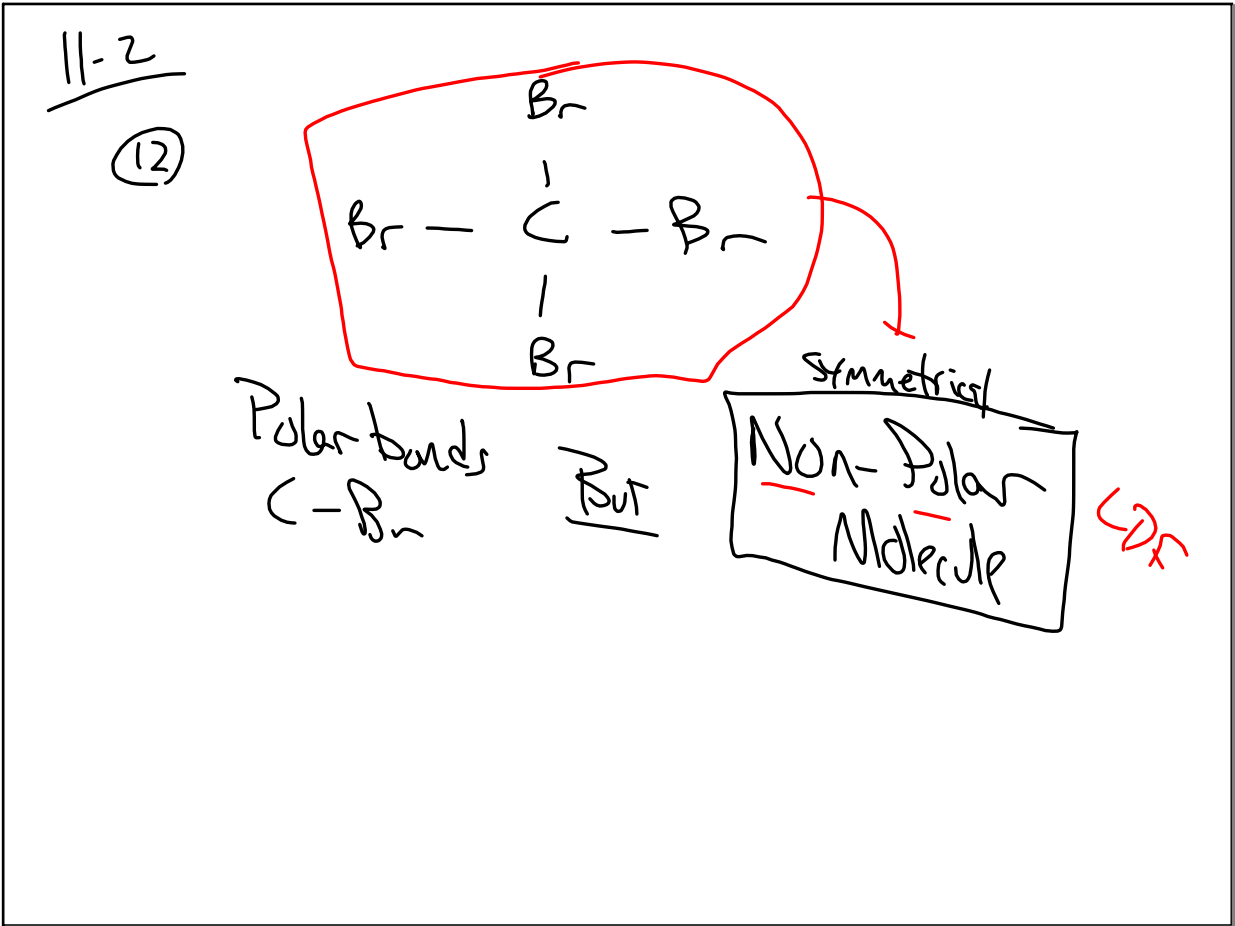
Jan 11-8:03 AM

⑤ Ion - Dipole

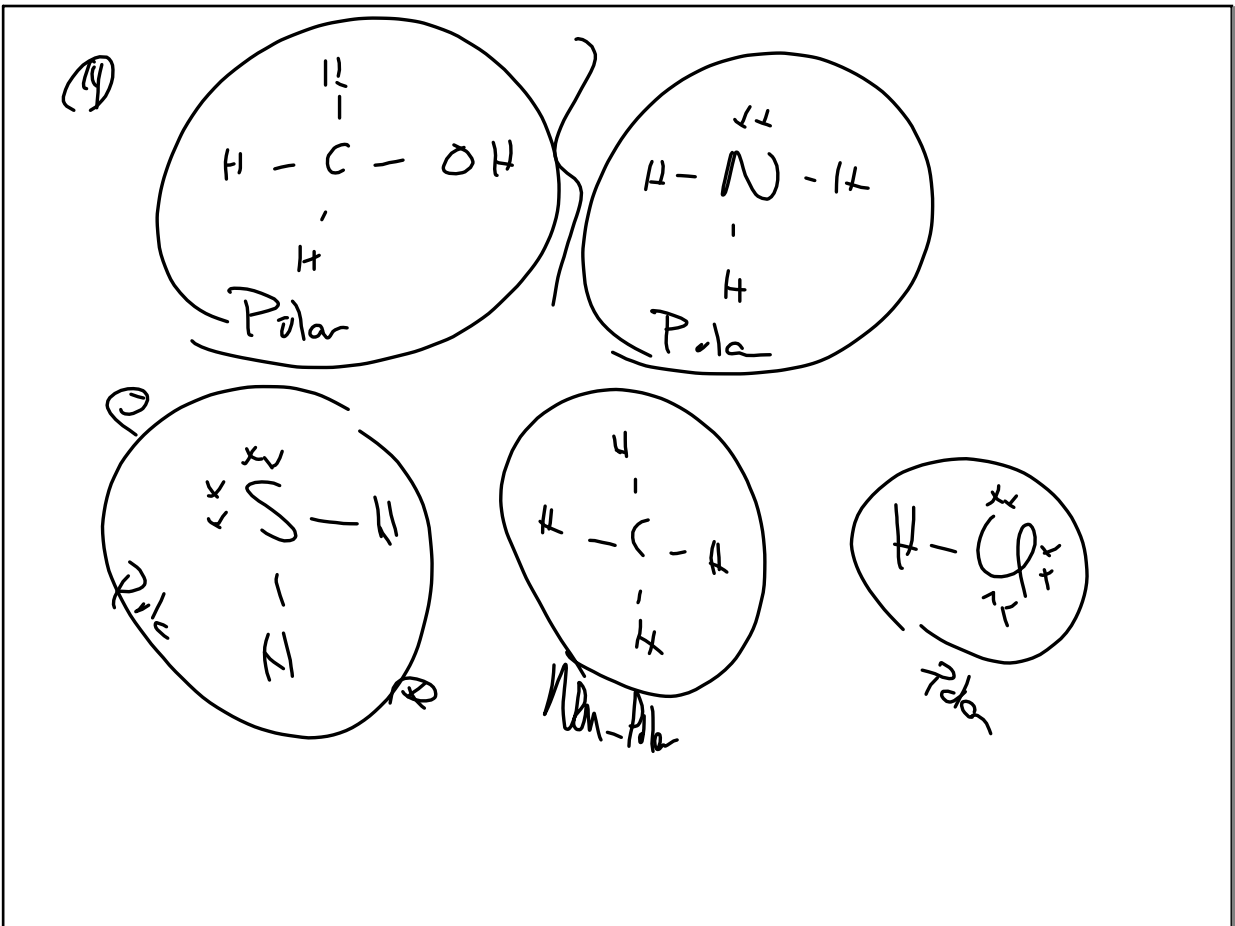
$\begin{matrix} \swarrow & \searrow \\ \text{Cation } (+) & \text{Anion } (-) \\ \text{ion} & \rightarrow \text{in} & \rightarrow & \text{Polar covalent} \end{matrix}$

$\text{NaCl} \longrightarrow \text{H}_2\text{O} \text{ (a) hydration}$

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Jan 11-9:01 AM



Jan 11-9:03 AM

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$Q = mH_f$  (circled),  $6.01 \text{ KJ} / \text{mole}$  (circled),  $H_f$  (circled)

$Q = m \cdot c \cdot \Delta T$  (circled),  $75.2 \text{ J} / \text{mole} \cdot \text{K}$  (circled),  $\Delta T$  (circled)

50g ice  $\text{H}_2\text{O}(s)$  at  $0^\circ\text{C}$   
 $\rightarrow \text{H}_2\text{O}(l)$  at  $22^\circ\text{C}$

21.31 KJ

50g $\text{H}_2\text{O}$	$\frac{\text{mole } \text{H}_2\text{O}}{18 \text{g } \text{H}_2\text{O}} = 2.78 \text{ mole } \text{H}_2\text{O}$
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6.01 KJ	2.78 mole	16.71 KJ	to melt at $0^\circ\text{C}$
<del>75.2 J</del>	<del>2.78 mole</del>	<del>22 K</del>	<del>4.60 KJ</del>
			<del>4.6 KJ</del>

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10 KJ,  $0.32$  (circled),  $9.67 \text{ KJ}$  (circled)

15.5g ice  $0.86 \text{ mole}$  (circled),  $-5^\circ\text{C}$ ,  $\text{H}_2\text{O}(s)$

Final T: ?

① -  $5^\circ\text{C}$  to  $0^\circ\text{C}$

75.2 J	0.86 mole	5 K	= 323.4 J
<del>mole · K</del>			<del>0.32 KJ</del>

② Melt at  $0^\circ\text{C}$

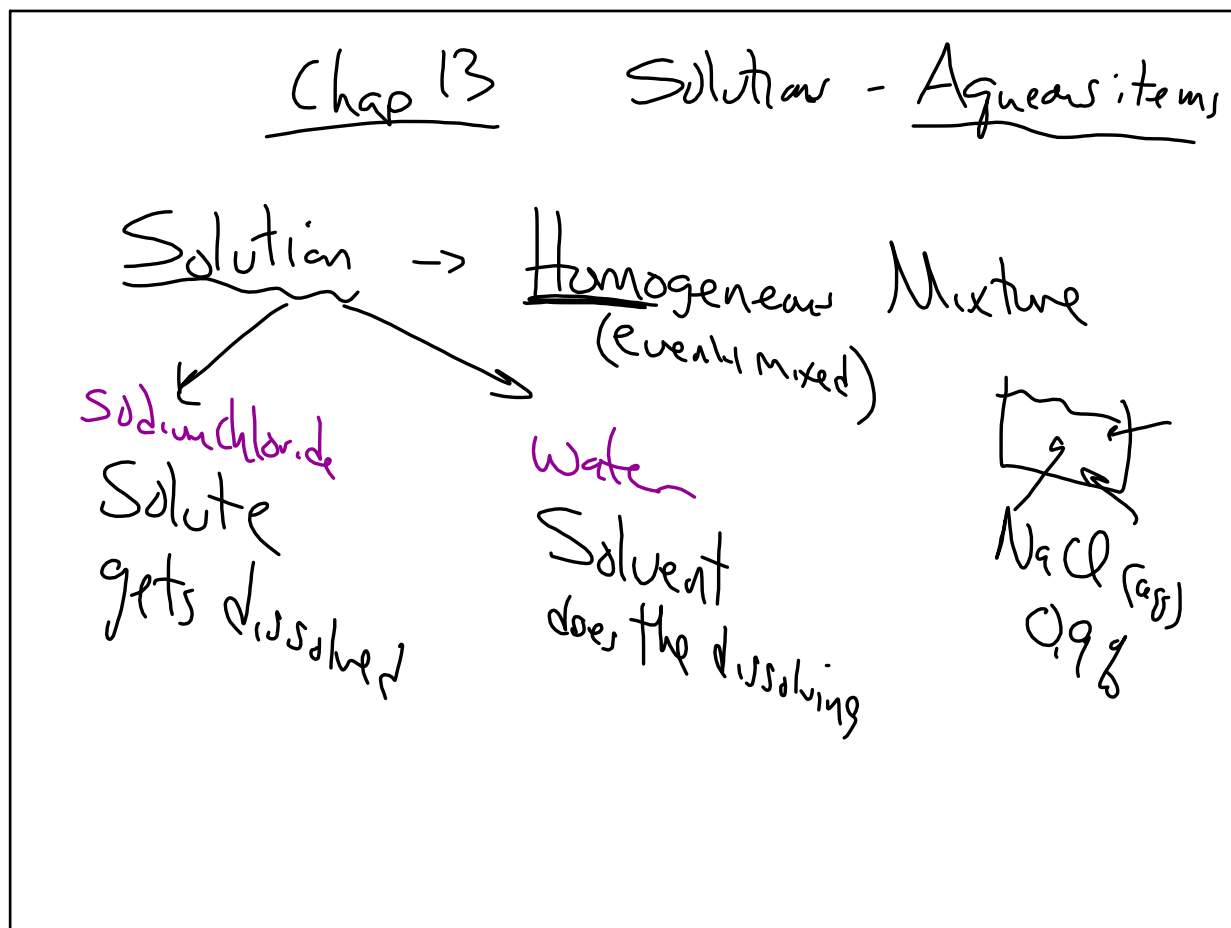
6.01 KJ	0.86 mole	= 5.17 KJ
<del>mole</del>		

③  $75.2 \text{ J} / \text{mole} \cdot \text{K}$  (circled)

9.68  
 $9.68 - 5.17 = 4.51$

<del>mole · K</del>	<del>4.51 x 10<sup>3</sup> J</del>	<del>69.74</del> °C
75.2 J	0.86 mole	69.74 °C

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Jan 11-9:28 AM