

$H_f = \frac{6.01 \text{ KJ}}{\text{Mole}}$, $c = \frac{75.2 \text{ J}}{\text{Mole} \cdot \text{K}}$, 50 g ice (KJ)?
 $0^\circ \text{C} \rightarrow 22^\circ \text{C}$

①	6.01 KJ	Mole H ₂ O	50 g H ₂ O
	Mole	18 g H ₂ O	

16.7 KJ to melt

②	75.2 J	Mole H ₂ O	22 K
	Mole · K	18 g H ₂ O	

4600 J
4.6 KJ

H_f (1) 16.7 KJ + $MC\Delta T$ (2) 4.6 KJ = ANS
 $= 21.3 \text{ KJ}$

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(26) $\frac{46 \text{ g ETHOH}}{\text{mole}}$, $FP = -114.6^\circ \text{C}$, $K_f = \frac{2^\circ \text{C}}{m}$, **Find FP ?**
 $50 \text{ g glycerine} + 200 \text{ g ETHOH}$

$\Delta T = (K_f \times m)$
 $= (2 \times 2.717)$
 $\Delta T = 5.4^\circ \text{C}$

$m = \frac{\text{moles Solute}}{\text{Kg Solvent}} = \frac{\frac{50}{92}}{0.2} = 2.717 \text{ m}$

New FP = Normal FP - ΔT
 $120 = -114.6 - 5.4$

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(EC1) $M = \frac{\text{moles solute}}{\text{l solution}}$ 3% H_2O_2 in H_2O

$d = \frac{1\text{g}}{1\text{ml}}$

3g H_2O_2	1mole H_2O_2	1g	1000ml
100g soln	34g H_2O_2	1g	1l

$\underline{18}$

Annotations: "mass of solute" points to the top row of the table. "mass of soln" points to the bottom row of the table.

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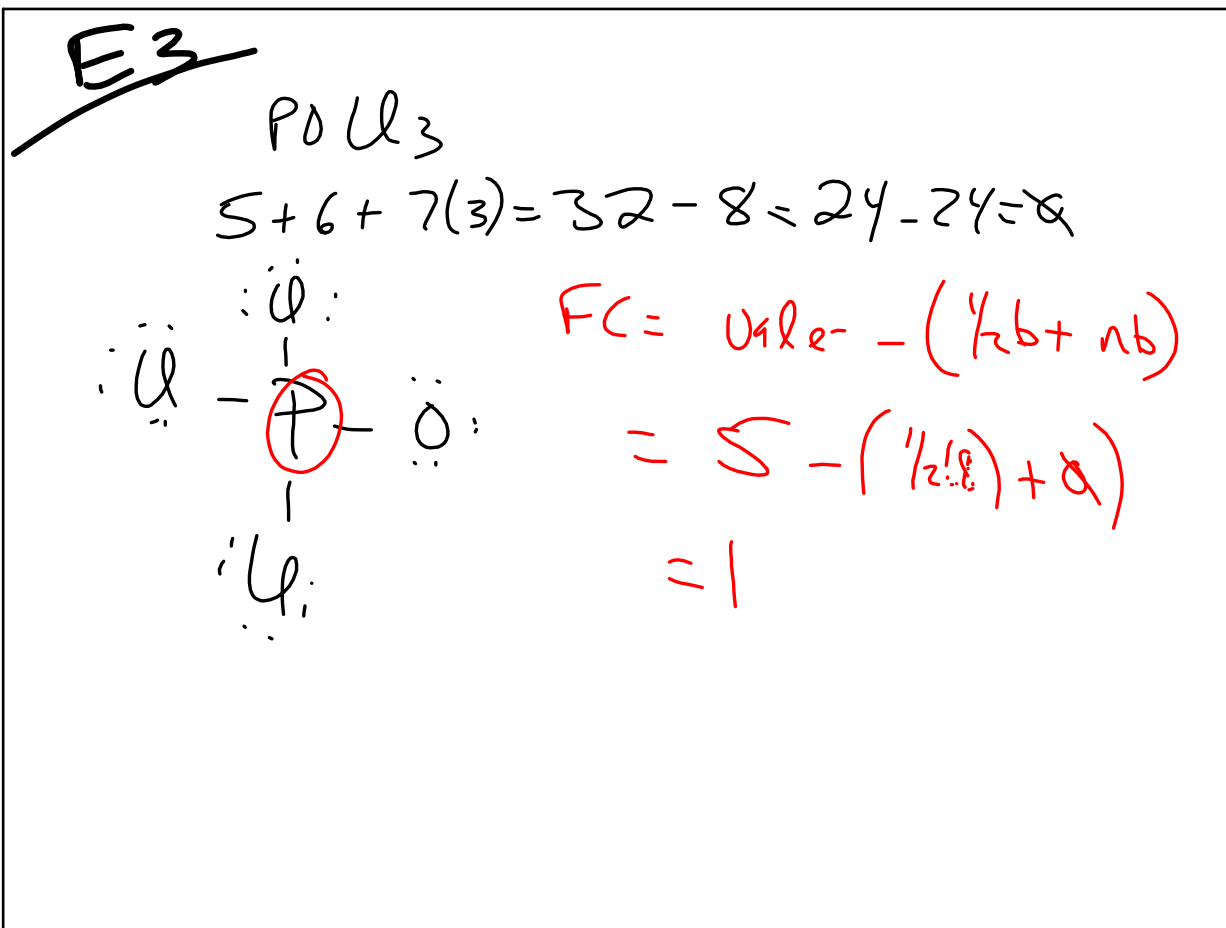
(EC2) $M = \frac{\text{moles solute} \frac{55}{60}}{\text{l soln} \frac{1.0734}}{\text{60g}} \quad \left(55\% \text{ HAc } \frac{60\text{g}}{\text{mole}} \right)$

$d = \frac{1.07\text{g}}{\text{ml}}$

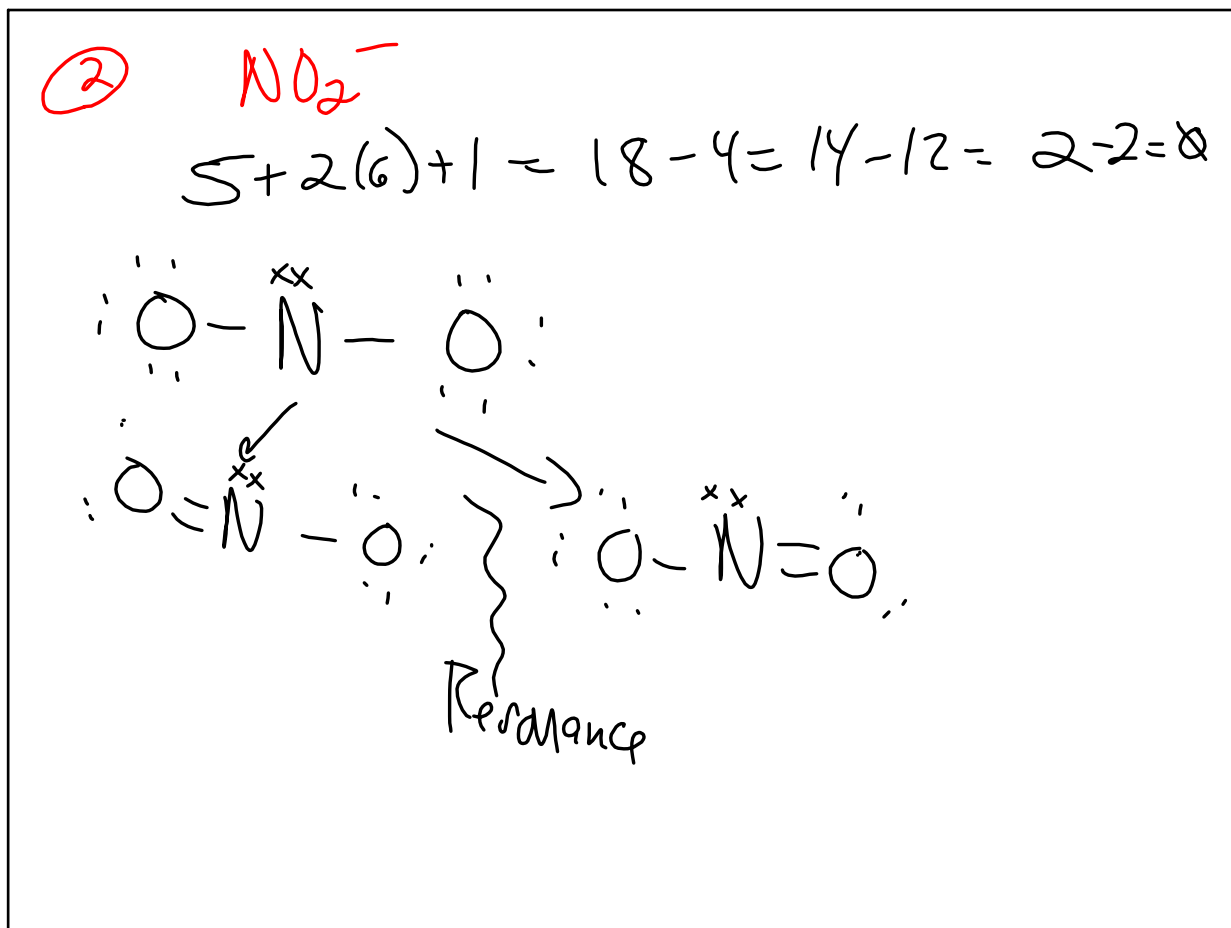
55g HAc	1mole HAc	1.07g	1000ml
100g soln	60g HAc	1ml	1l

$= 9.81 \text{ M}$

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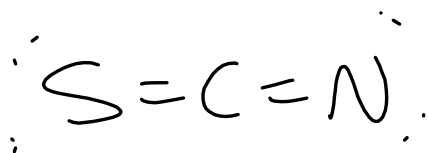


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③



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