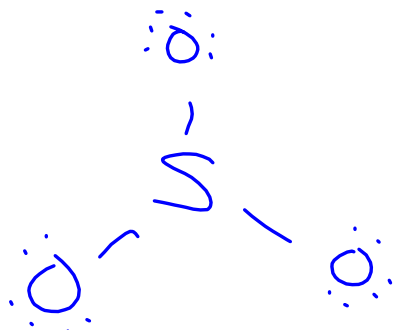


Fall Exam 3

(10) SO_3

$$6 + 3(6) = 24 - 6 = 18$$

$$\frac{-18}{6}$$



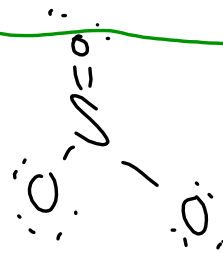
Formal charge on S

$$FC = \text{val e} - \left(\frac{1}{2}b + nb \right)$$

$$= 6 - (4 + 0)$$

$$= 2$$

Resonance



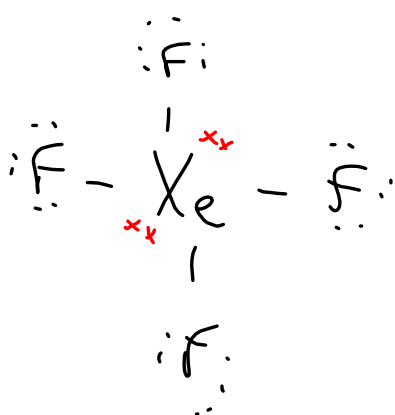
Dec 19-7:40 AM

(13) XeF_4

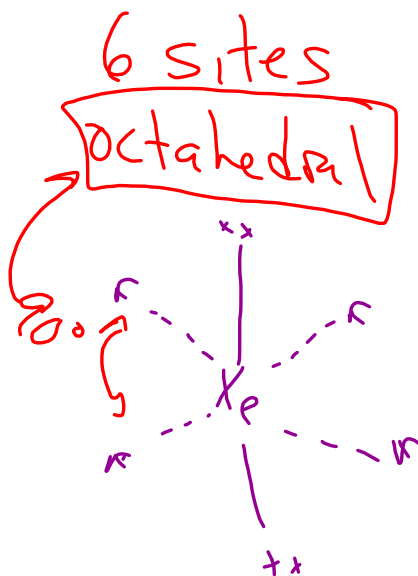
$$8 + 4(7) = 36 - 8 = 28$$

$$\frac{-24}{4}$$

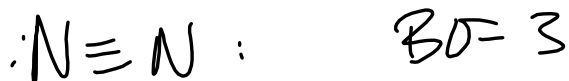
$$\frac{-4}{4}$$



$F - Xe - F$ ~~$=$~~ ?
adjacent.

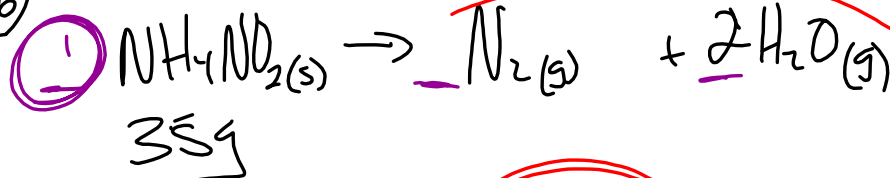


Dec 19-7:59 AM



Dec 19-8:03 AM

(26)



35g NH_4NO_2	1 mole NH_4NO_2	3 mole gas	2 gas 525°C 1.5 atm
64g NH_4NO_2	1 mole NH_4NO_2	1.64 mole gas	

$$V = \frac{nRT}{P} = \frac{(1.64)(0.08206)(298)}{1.5} = 71.6 \dots l$$

Dec 19-8:05 AM

(27) $N_2O + NO \rightarrow P_{1.32 atm}$
 $0.924g$ $0.825g$

$P_{N_2O} = X_{N_2O} P_T$
 $= \frac{0.021}{0.0485} (1.32)$

$P_{NO} = X_{NO} P_T$
 $= \frac{0.0275}{0.0485} (1.32)$

$0.924g N_2O$	$1 \text{ mole } N_2O$	$0.021 \text{ mole } N_2O$
	$44g N_2O$	

$0.825g NO$	$1 \text{ mole } NO$	$0.0275 \text{ mole } NO$
	$30g NO$	

Dec 19-8:10 AM

(E) $2 Ag_2O(s) \rightarrow 4 Ag(s) + O_2(g)$

$? g$ $81.2 ml$
 $23^\circ C$
 $751 torr$

$n = \frac{PV}{RT} = \frac{(0.96)(81.2 \times 10^{-3} l)}{(0.08206)(296)}$

$n = 0.0032 \text{ mole } O_2$

$0.0032 \text{ mole } O_2$	$2 \text{ mole } Ag_2O$	$231.7g Ag_2O$	$= 1.47g Ag_2O$
	$1 \text{ mole } O_2$	$115.8g Ag_2O$	

$P_{H_2O} = 21.2 \text{ torr @ } 23^\circ C$

$751 - 21.2 = 729.8 \text{ mmHg}$
 0.969 atm
 dry O_2

Dec 19-8:16 AM

Chp 11 IMF of l + s

Gas → insignificant IMF

≈ non measurable.

Dec 19-8:24 AM

IMF

Strong

① Ion-Ion ~ crystal lattice

$\text{Na}^+ \cdots \cdots \text{Cl}^-$

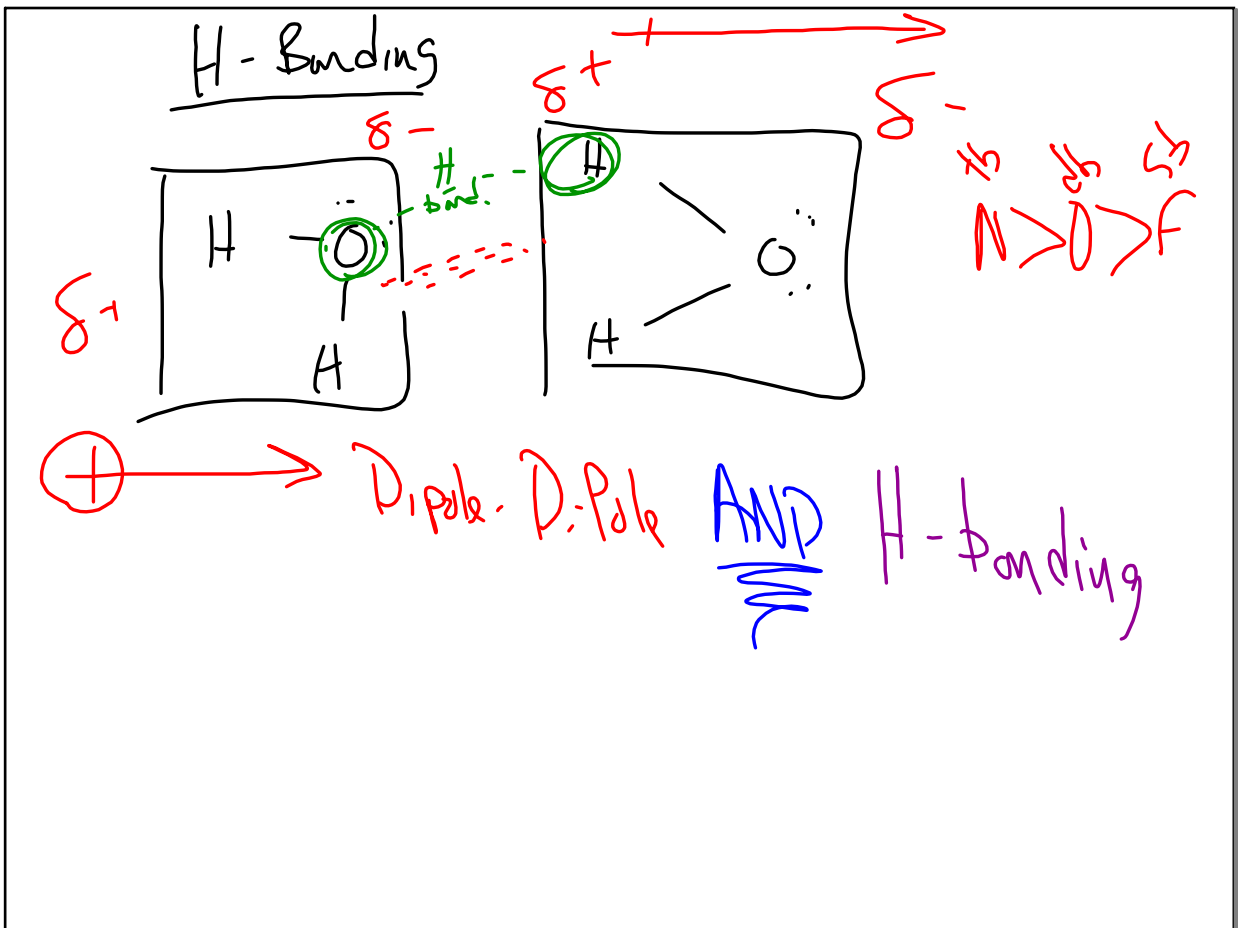
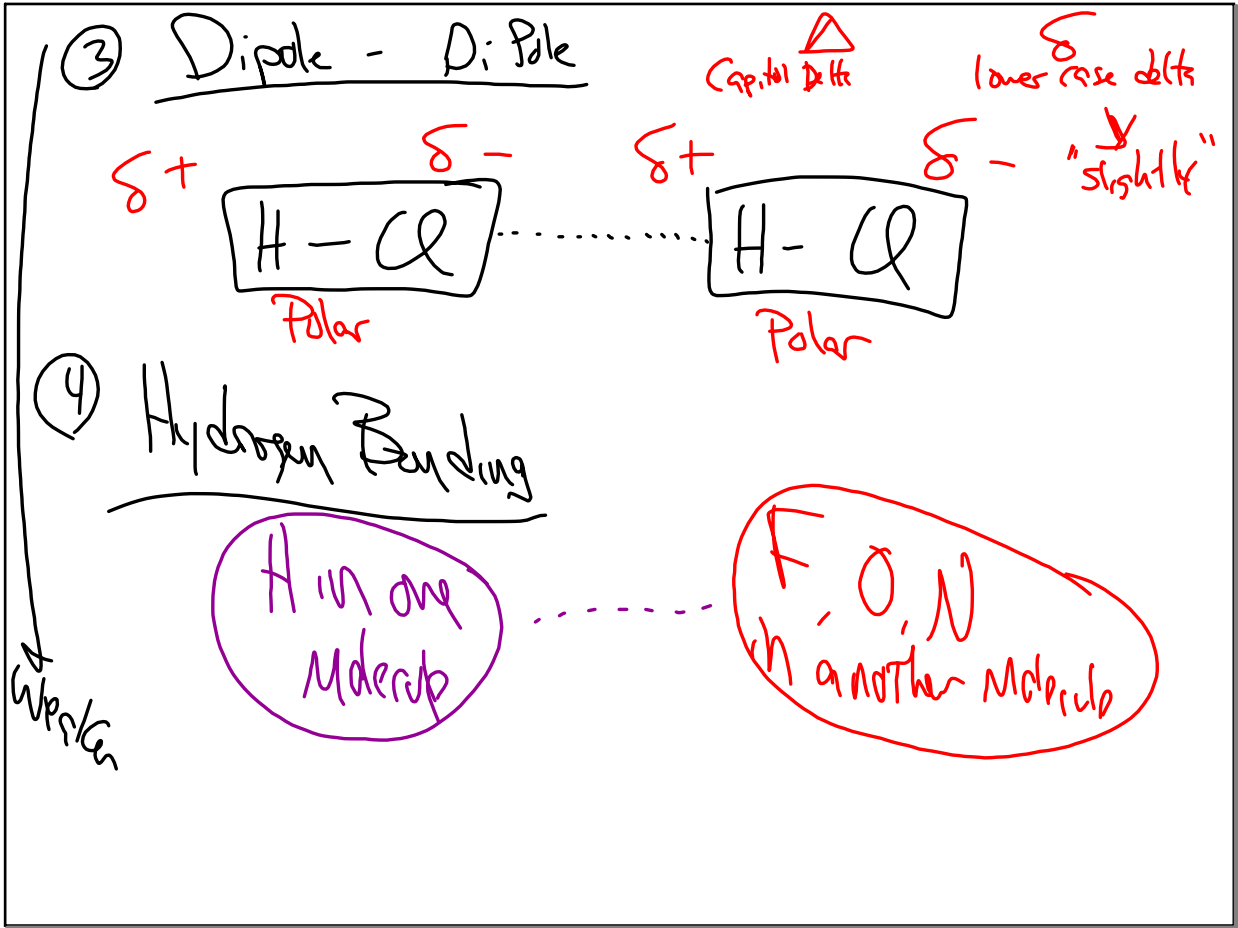
② Ion ↔ Dipole ← Polar (2 poles)

NaCl (aq) → Ions → Cl^-

Water → Dipole

Diagram showing a water molecule (H-O-H) with a partial positive charge (⊕) on the hydrogen and a partial negative charge (⊖) on the oxygen. A dashed line represents a hydrogen bond between the oxygen of one water molecule and the hydrogen of another. A sodium ion (Na^+) is shown nearby, with a dashed line indicating its interaction with the water molecule.

Dec 19-8:53 AM



(4.1) London Dispersion Forces

Everything!
electrostatic

Van der Waals

London (accidentally)
"The Clash"

MASS
Distance

Weak

Dec 19-9:09 AM

Polarizability

ex He He

δ^+ instantaneous Dipole Moment δ^-

δ^- δ^+ δ^-

Dec 19-9:13 AM

P446 chart

!! / 20, 26, 30

Dec 19-9:17 AM