

FIXED CHARGE IONS

Silver Ag^+ Cadmium Cd^{2+} Zinc Zn^{2+} Hydrogen ion H^+ Hydride H^-

POLYATOMIC IONS

ClO_4^- perchlorate	FO_4^- perfluorate	BrO_4^- perbromate	HSO_4^- bisulfate
ClO_3^- chlorate	FO_3^- fluorate	BrO_3^- bromate	HSO_3^- bisulfite
ClO_2^- chlorite	FO_2^- fluorite	BrO_2^- bromite	OH^- hydroxide
ClO^- hypochlorite	FO^- hypofluorite	BrO^- hypobromite	HCO_3^- bicarbonate
IO_3^- iodate	$\text{C}_2\text{H}_3\text{O}_2^-$ acetate	OCN^- cyanate	BO_2^- borate
NO_3^- nitrate	NO_2^- nitrite	CN^- cyanide	MnO_4^- permanganate
SO_4^{2-} sulfate	CrO_4^{2-} chromate	HPO_4^{2-} hydrogen phosphate	$\text{C}_2\text{O}_4^{2-}$ oxalate
SO_3^{2-} sulfite	$\text{Cr}_2\text{O}_7^{2-}$ dichromate	CO_3^{2-} carbonate	SiO_3^{2-} silicate
$\text{S}_2\text{O}_3^{2-}$ thiosulfate	MoO_4^{2-} molybdate	SeO_4^{2-} selenate	$\text{C}_4\text{H}_4\text{O}_6^{2-}$ tartrate
PO_4^{3-} phosphate	PO_3^{3-} phosphite	AsO_4^{3-} arsenate	$\text{Fe}(\text{CN})_6^{3-}$ ferricyanide
	$\text{Fe}(\text{CN})_6^{4-}$ ferrocyanide	NH_4^+ ammonium	

CONVERSIONS

1m = 100cm = 1000mm = $10^6\mu\text{m}$ = 10^9nm 1in = 2.54cm 1kg = 1000g 1ml = 1cm³
 1atm = 760mm Hg = 760 torr = 101.3 kPa K = °C + 273.15 °C = 5/9(°F - 32) °F = 9/5°C + 32

BOND CHARACTER

ΔEN	
NPC	0 - 0.4
PC	0.4 - 1.9
I	2.0+

DIATOMIC MOLECULES

Br_2 I_2 F_2 Cl_2 O_2 H_2 N_2

GASES

H_2S , HF , HCl , HBr , HI , H_2
 CO_2 , SO_2 , SO_3 , NH_3 , NO
 N_2O , HCN , F_2 , Cl_2 , O_2 , N_2

PREFIXES FOR COVALENT COMPOUNDS

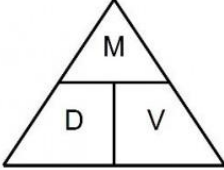
Mono- Di- Tri- Tetra- Penta- Hexa- Hepta- Octa- Nona- Deca-

PREFIXES FOR ORGANIC COMPOUNDS

Meth- Eth- Prop- But- Pent- Hex- Hept- Oct- Non- Dec-

ACTIVITY SERIES FOR METALS

K Ca Na Mg Al Zn Fe Ni Sn Pb H Cu Hg Ag

HELPFUL STUFF	CONSTANTS	EQUATIONS	ELECTRONEGATIVITY																																																																																				
<p>1s</p> <p>2s 2p</p> <p>3s 3p 3d</p> <p>4s 4p 4d 4f</p> <p>5s 5p 5d 5f</p> <p>6s 6p 6d 6f</p> 	<p>$c = 3.0 \times 10^8 \text{ m/s}$</p> <p>$h = 6.626 \times 10^{-34} \text{ Js}$</p> <p>mole = 6.022×10^{23}</p> <p>$R = 0.0821 \text{ Latm/molK}$ $= 62.4 \text{ Ltorr/molK}$ $= 8.31 \text{ Lkpa/molK}$</p> <p>$K_b = 0.512 \text{ }^\circ\text{C/m}$</p> <p>$K_f = -1.86 \text{ }^\circ\text{C/m}$</p> <p>$C_{p\text{H}_2\text{O}} = 4.18 \text{ J/g}^\circ\text{C}$</p> <p>$C_{p\text{H}_2\text{O}} = 1.0 \text{ cal/g}^\circ\text{C}$</p> <p>$K_w = 1 \times 10^{-14}$</p>	<p>$D = m/V$</p> <p>$c = \lambda f$ or $c = \lambda \nu$</p> <p>$E = hf$ or $E = h\nu$</p> <p>$PV = nRT$</p> <p>$P_1V_1/n_1T_1 = P_2V_2/n_2T_2$</p> <p>$\Delta T_b = K_b m_i$ $\Delta T_f = K_f m_i$</p> <p>$M = \text{mol/L}$</p> <p>$m = \text{mol/kg}$</p> <p>$M_1V_1 = M_2V_2$</p> <p>$\text{pH} = -\log[\text{H}^+]$</p> <p>$[\text{H}^+] = 1 \times 10^{\text{pH}}$</p> <p>$\% \text{Error} = \frac{(\text{exp-theo})}{\text{theo}} \times 100$</p> <p>$\% \text{Yield} = \frac{\text{exp}}{\text{theo}} \times 100$</p>	<p>Electronegativity Values for Selected Elements</p> <table border="1"> <tr> <td>H</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Li</td> <td>Be</td> <td>B</td> <td>C</td> <td>N</td> <td>O</td> <td>F</td> </tr> <tr> <td>1.0</td> <td>1.5</td> <td>2.0</td> <td>2.5</td> <td>3.0</td> <td>3.5</td> <td>4.0</td> </tr> <tr> <td>Na</td> <td>Mg</td> <td>Al</td> <td>Si</td> <td>P</td> <td>S</td> <td>Cl</td> </tr> <tr> <td>0.9</td> <td>1.2</td> <td>1.5</td> <td>1.8</td> <td>2.1</td> <td>2.5</td> <td>3.0</td> </tr> <tr> <td>K</td> <td>Ca</td> <td>Ga</td> <td>Ge</td> <td>As</td> <td>Se</td> <td>Br</td> </tr> <tr> <td>0.8</td> <td>1.0</td> <td>1.6</td> <td>1.8</td> <td>2.0</td> <td>2.4</td> <td>2.8</td> </tr> <tr> <td>Rb</td> <td>Sr</td> <td>In</td> <td>Sn</td> <td>Sb</td> <td>Te</td> <td>I</td> </tr> <tr> <td>0.8</td> <td>1.0</td> <td>1.7</td> <td>1.8</td> <td>1.9</td> <td>2.1</td> <td>2.5</td> </tr> <tr> <td>Cs</td> <td>Ba</td> <td>Tl</td> <td>Pb</td> <td>Bi</td> <td></td> <td></td> </tr> <tr> <td>0.7</td> <td>0.9</td> <td>1.8</td> <td>1.9</td> <td>1.9</td> <td></td> <td></td> </tr> </table>	H							2.1							Li	Be	B	C	N	O	F	1.0	1.5	2.0	2.5	3.0	3.5	4.0	Na	Mg	Al	Si	P	S	Cl	0.9	1.2	1.5	1.8	2.1	2.5	3.0	K	Ca	Ga	Ge	As	Se	Br	0.8	1.0	1.6	1.8	2.0	2.4	2.8	Rb	Sr	In	Sn	Sb	Te	I	0.8	1.0	1.7	1.8	1.9	2.1	2.5	Cs	Ba	Tl	Pb	Bi			0.7	0.9	1.8	1.9	1.9		
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