

Announcements

Monday, February 23, 2009

Exam 1 average 71% - you will have trouble getting a C in the course if your exams are below 60%. You should probably see me and/or a tutor if that's the case.

Exp 9 this week - have the prelab done!

Ch 6 MC will be available tomorrow - it will contain some of the last bit of chapter 5 as well (naming compounds containing polyatomic ions and naming acids)

Polyatomic ions

Polyatomic ions are multi-atom ions (charged molecules)

You must have these memorized for quiz 2 (Mar 9)
(Memorize their names, formulas, and charges!)

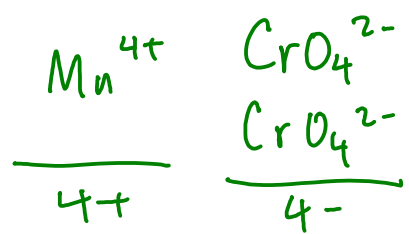
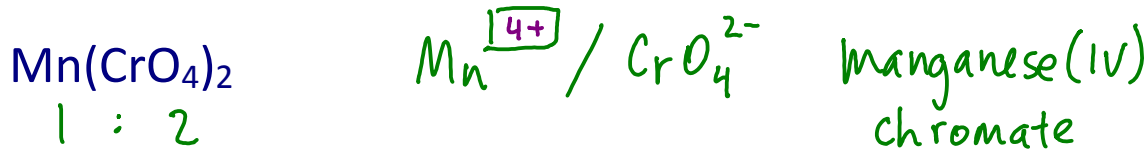
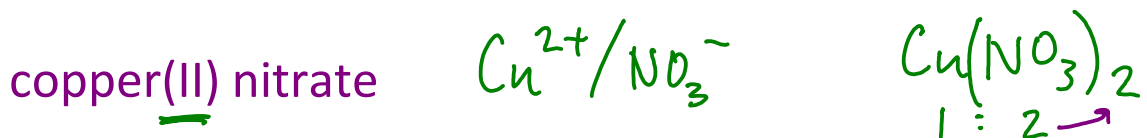
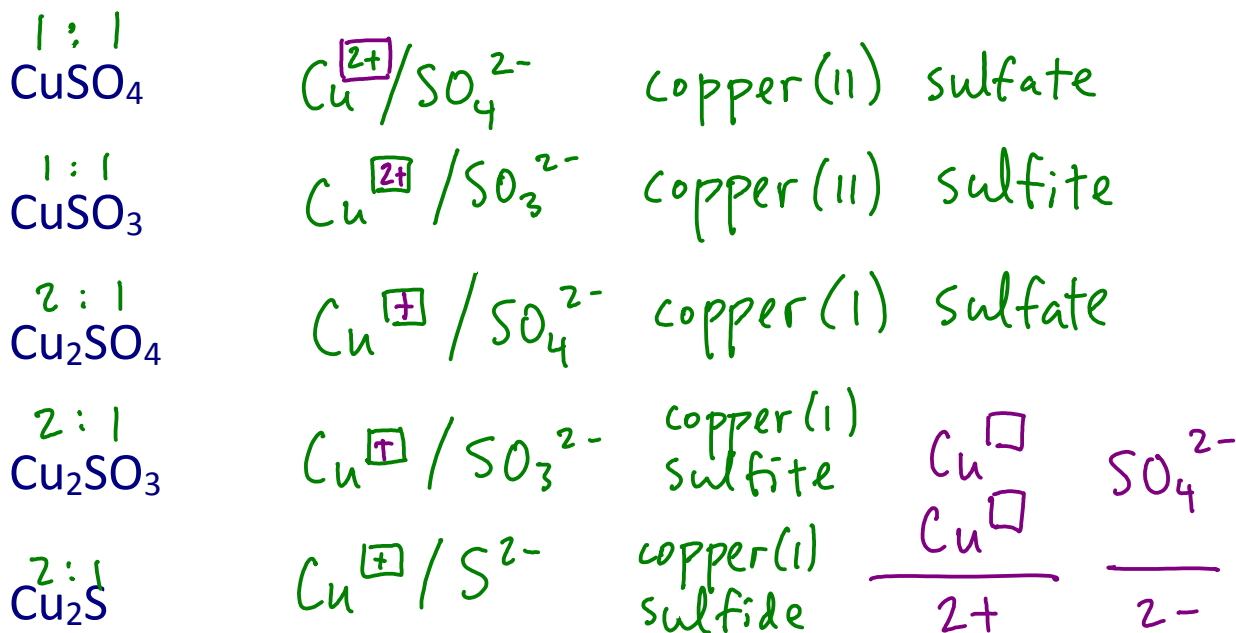
ammonium	<i>only positive</i>	NH_4^+	<i>(NH_3 = ammonia) neutral molecule</i>
acetate		$\text{C}_2\text{H}_3\text{O}_2^-$	
carbonate		CO_3^{2-}	
hydrogen carbonate (or bicarbonate)		HCO_3^-	
nitrite		NO_2^-	<i>ite \rightarrow ate adds 1 oxygen</i>
nitrate		NO_3^-	<i>P^{3-} = phosphide</i>
phosphate		PO_4^{3-}	<i>adding H decreases \ominus charge</i>
hydrogen phosphate		HPO_4^{2-}	
<i>below</i> hypochlorite		ClO^- (chlorine and oxygen)	
chlorite		ClO_2^-	
chlorate		ClO_3^-	
perchlorate		ClO_4^-	<i>Cl^- chloride</i>
permanganate		MnO_4^-	
sulfite		SO_3^{2-}	<i>S^{2-} sulfide</i>
sulfate		SO_4^{2-}	
hydrogen sulfate (or bisulfate)		HSO_4^-	
hydrogen sulfite (or bisulfite)		HSO_3^-	
chromate		CrO_4^{2-}	
dichromate		$\text{Cr}_2\text{O}_7^{2-}$	
cyanide		CN^-	
hydroxide		OH^-	
peroxide		O_2^{2-}	

Fixed-charge transition metals:

zinc Zn^{2+}

silver Ag^+

Compounds with polyatomic ions



~~AlClO₃~~



Naming acids

For now, we'll call an **acid** an ionic compound with H^+ as its cation. *formula starts w/ H*

$H_2SO_4(aq)$	H^+ / SO_4^{2-} sulfate	<u>sulfuric acid</u>
$HNO_3(aq)$	H^+ / NO_3^- nitrate	<u>nitric acid</u>
$HClO_3(aq)$	H^+ / ClO_3^- chlorate	<u>chloric acid</u>
$HClO_4(aq)$	H^+ / ClO_4^- perchlorate	<u>perchloric acid</u>
$H_2SO_3(aq)$	H^+ / SO_3^{2-} sulfite	<u>sulfurous acid</u>
$HNO_2(aq)$	H^+ / NO_2^-	<u>nitrous acid</u>
$HCl(aq)$	H^+ / Cl^- chloride	<u>hydrochloric acid</u>
$HBr(aq)$	H^+ / Br^-	hydrobromic acid
$HI(aq)$	H^+ / I^-	hydroiodic acid

<u>anion</u>		<u>acid</u>
-ate	→	-ic acid
-ite	→	-ous acid
-ide	→	hydro- -ic acid

HCN : H^+ / CN^- cyanide
hydrocyanic acid
 $HC_2H_3O_2$ $H^+ / C_2H_3O_2^-$
acetic acid