

CHEM 1411 Nomenclature Homework - Answers
Part I

1. The following are a list of binary and pseudobinary ionic compounds. Write the name when the formula is given. Write the formula when the name is given.

(a) $AlCl_3$	aluminum chloride	(k) rubidium oxide	Rb_2O
(b) $AuBr_3$	gold (III) bromide	(l) chromium (III) selenide	Cr_2Se_3
(c) Na_2S	sodium sulfide	(m) barium iodide	BaI_2
(d) Cu_3P_2	copper (II) phosphide	(n) copper (I) fluoride	CuF
(e) $Fe(OH)_2$	iron (II) hydroxide	(o) copper (II) fluoride	CuF_2
(f) NH_4OH	ammonium hydroxide	(p) strontium cyanide	$Sr(CN)_2$
(g) $Co(CH_3COO)_3$	cobalt (III) acetate	(q) mercury (II) bromide	$HgBr_2$
(h) $Zn(SCN)_2$	zinc thiocyanate	(r) mercury (I) bromide	Hg_2Br_2
(i) $CaCrO_4$	calcium chromate	(s) magnesium permanganate	$Mg(MnO_4)_2$
(j) $K_2Cr_2O_7$	potassium dichromate	(t) lithium nitride	Li_3N

2. The following are lists of covalent compounds. Write the name when a formula is given. Write the formula when given a name.

(a) CSe_2	carbon diselenide	(h) dichlorine heptoxide	Cl_2O_7
(b) SF_6	sulfur hexafluoride	(i) xenon tetrafluoride	XeF_4
(c) BrF_5	bromine pentafluoride	(j) carbon monoxide	CO
(d) P_4O_{10}	tetraphosphorous decoxide	(k) oxygen	O_2
(e) Cl_2O	dichlorine oxide	(l) diboron trioxide	B_2O_3
(f) NH_3	ammonia	(m) arsenic trifluoride	AsF_3
(g) N_2	dinitrogen or nitrogen	(n) diiodine	I_2

3. The following are lists of acids or acid-forming compounds. Write the name when the formula is given. Write the formula when the name is given.

(a) H_3PO_2	hypophosphorous acid	(k) hydrogen cyanide	$HCN_{(g)}$
(b) H_2SO_4	sulfuric acid	(l) periodic acid	HIO_4
(c) $HClO$	hypochlorous acid	(m) hypochlorous acid	$HClO$
(d) H_3PO_4	phosphoric acid	(n) nitric acid	HNO_3
(e) $HBrO_4$	perbromic acid	(o) acetic acid	CH_3CO_2H
(f) HIO_2	iodous acid	(p) chloric acid	$HClO_3$
(g) $HI_{(g)}$	hydrogen iodide	(q) perbromic acid	$HBrO_4$
(h) $HI_{(aq)}$	hydroiodic acid	(r) hydrofluoric acid	$HF_{(aq)}$
(i) $HCN_{(aq)}$	hydrocyanic acid	(s) phosphorous acid	H_3PO_3
(j) $HBrO$	hypobromous acid	(t) hydrosulfuric acid	$H_2S_{(aq)}$

4. The following are a list of more pseudobinary ionic compounds. Write the name when the formula is given. Write the formula when the name is given.

(a) $(NH_4)_3PO_4$	ammonium phosphate	(k) manganese (III) hypoiodite	$Mn(IO)_3$
(b) $NaNO_2$	sodium nitrite	(l) cesium hypophosphite	Cs_3PO_2
(c) Ag_2SO_4	silver sulfate	(m) nickel (II) sulfite	$NiSO_3$
(d) $CuClO$	copper (I) hypochlorite	(n) magnesium hydrogen carbonate	$Mg(HCO_3)_2$
(e) $FeCO_3$	iron (II) carbonate	(o) aluminum sulfate	$Al_2(SO_4)_3$
(f) $Fe_2(CO_3)_3$	iron (III) carbonate	(p) barium perchlorate	$Ba(ClO_4)_2$
(g) $Hg_2(IO_4)_2$	mercury (I) periodate	(q) sodium hydrogen sulfite	$NaHSO_3$
(h) Na_2HPO_3	sodium hydrogen phosphite	(r) tin (II) nitrate	$Sn(NO_3)_2$
(i) NaH_2PO_4	sodium dihydrogen phosphate	(s) chromium (III) nitrite	$Cr(NO_2)_3$
(j) $Hg(IO_4)_2$	mercury (II) periodate	(t) tin (IV) phosphate	$Sn_3(PO_4)_4$

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Part II

The following are lists of covalent compounds. Write the name when a formula is given. Write the formula when given a name.

1. N_2	nitrogen or dinitrogen	7. diiodine pentoxide	I_2O_5
2. P_2Br_4	diphosphorous tetrabromide	8. diselenium dibromide	Se_2Br_2
3. P_4S_3	tetraphosphorous trisulfide	9. iodine heptoxide	IO_7
4. IBr_3	iodine tribromide	10. diphosphorous decoxide	P_2O_{10}
5. XeF_6	xenon hexafluoride	11. bromine	Br_2
6. $SeBr_4$	selenium tetrabromide	12. diboron trioxide	B_2O_3
		13. tetraphosphorous pentasulfide	P_4S_5

The following are lists of acids or acid-forming compounds. Write the name when the formula is given. Write the formula when the name is given.

1. H_3PO_2	hypophosphorous acid	9. hypobromous acid	$HBrO$
2. H_2SO_4	sulfuric acid	10. sulfurous acid	H_2SO_3
3. $HClO$	hypochlorous acid	11. hydrocyanic acid	$HCN_{(aq)}$
4. H_3PO_4	phosphoric acid	12. hydrosulfuric acid	$H_2S_{(aq)}$
5. $HBrO_4$	perbromic acid	13. acetic acid	CH_3CO_2H
6. HIO_2	iodous acid	14. hydrochloric acid	$HCl_{(aq)}$
7. $HI_{(g)}$	hydrogen iodide	15. nitric acid	HNO_3
8. $HI_{(aq)}$	hydroiodic acid	16. perchloric acid	$HClO_4$
		17. carbonic acid	H_2CO_3

The following are a list of ionic compounds. Write the name when the formula is given. Write the formula when the name is given.

1. $AgCH_3CO_2$	silver acetate	19. strontium permanganate	$Sr(MnO_4)_2$
2. $Ca(ClO_3)_2$	calcium chlorate	20. chromium (II) iodide	CrI_2
3. Fe_2O_3	iron (III) oxide	21. cobalt (III) nitrate	$Co(NO_3)_3$
4. FeO	iron (II) oxide	22. potassium sulfide	K_2S
5. $NaHCO_3$	sodium hydrogen carbonate	23. ammonium cyanide	NH_4CN
6. $Zn(BrO_4)_2$	zinc perbromate	24. iron (III) hypoiodite	$Fe(IO)_3$
7. Ag_2S	silver sulfide	25. ammonium sulfate	$(NH_4)_2SO_4$
8. $Al_2(SO_3)_3$	aluminum sulfite	26. potassium hydrogen phosphite	K_2HPO_3
9. $Cu_3(PO_4)_2$	copper (II) phosphate	27. lead (II) fluoride	PbF_2
10. NH_4NO_2	ammonium nitrite	28. manganese (II) chloride	$MnCl_2$
11. $NaBr$	sodium bromide	29. lithium phosphide	Li_3P
12. Na_2CrO_4	sodium chromate	30. copper (II) iodate	$Cu(IO_3)_2$
13. Mg_3N_2	magnesium nitride	31. mercury (II) bromide	$HgBr_2$
14. $K_2Cr_2O_7$	potassium dichromate	32. mercury (I) bromide	Hg_2Br_2
15. CrO_3	chromium (VI) oxide	33. potassium dihydrogen phosphate	KH_2PO_4
16. $NaBrO_2$	sodium bromite	34. gold (III) oxide	Au_2O_3
17. $Hg_2(OH)_2$	mercury (I) hydroxide		
18. $Ca(H_2PO_2)_2$	calcium dihydrogen hypophosphite		