The Periodic Table of the Elements

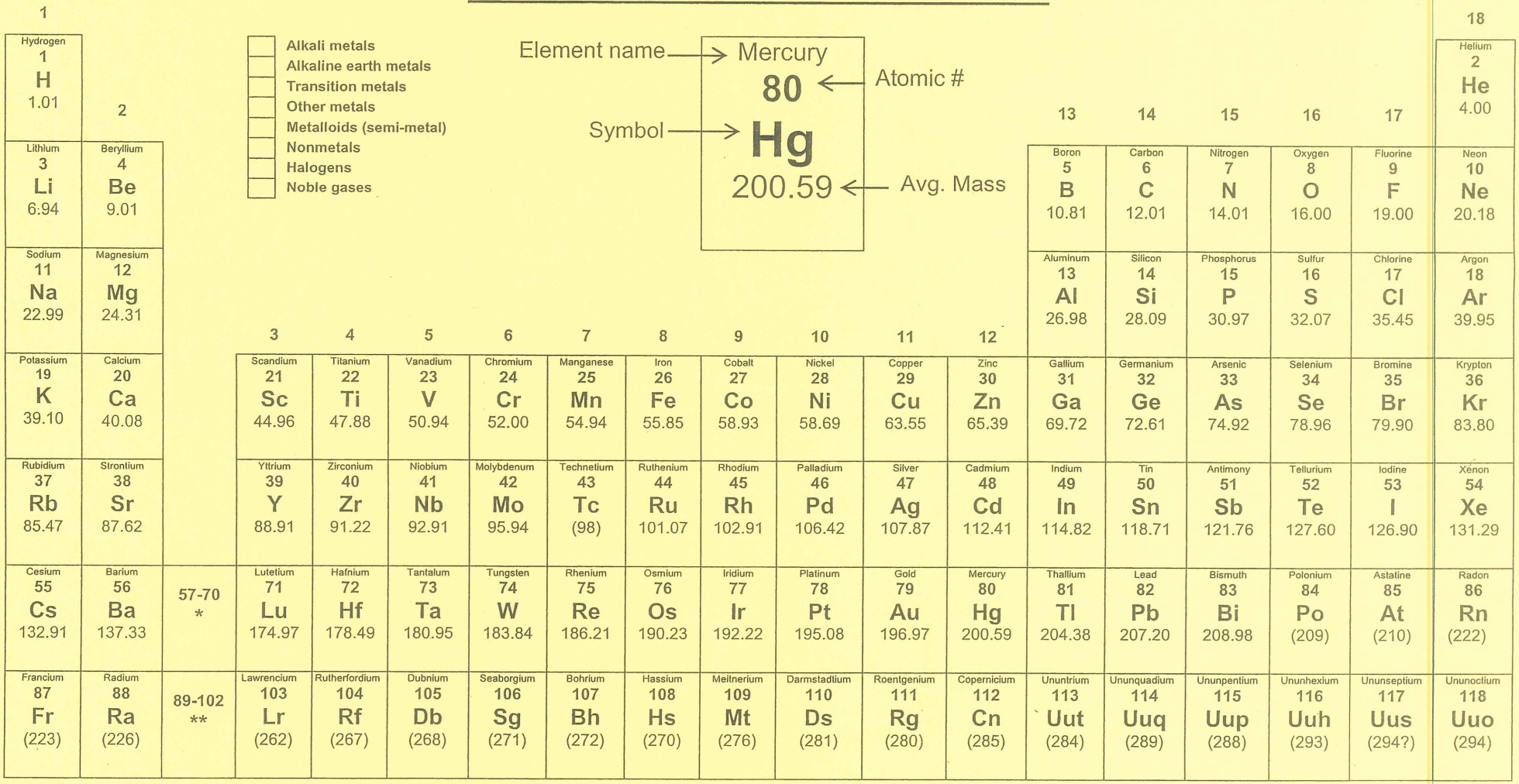

Table A-6

Oxidation Numbers of Monatomic Ions

1+	2+	3+
cesium, Cs^{+}	barium, Ba^{2+}	aluminum, Al^{3+}
copper(I), Cu^{+}	beryllium, Be^{2+}	antimony(III), Sb^{3+}
hydrogen, H^{+}	cadmium, Cd^{2+}	bismuth(III), Bi^{3+}
indium(I), In^{+}	calcium, Ca^{2+}	boron, B^{3+}
lithium, Li^{+}	chromium(II), Cr^{2+}	cerium(III), Ce^{3+}
potassium, K^{+}	cobalt(II), Co^{2+}	cobalt(III), Co^{3+}
rubidium, Rb^{+}	copper(II), Cu^{2+}	chromium(III), Cr^{3+}
silver, Ag^{+}	iridium(II), Ir^{2+}	gallium(III), Ga^{3+}
sodium, Na^{+}	iron(II), Fe^{2+}	indium(III), In^{3+}
thallium(I), Tl^{+}	lead(II), Pb^{2+}	iridium(III), Ir^{3+}
	magnesium, Mg^{2+}	iron(III), Fe^{3+}
	manganese(II), Mn^{2+}	phosphorus(III), P^{3+}
	mercury(II), Hg^{2+}	rhodium(III), Rh^{3+}
	nickel(II), Ni^{2+}	thallium(III), Tl^{3+}
	platinum(II), Pt^{2+}	titanium(III), Ti^{3+}
	strontium, Sr^{2+}	uranium(III), U^{3+}
	tin(II), Sn^{2+}	vanadium(III), V^{3+}
	titanium(II), Ti^{2+}	
	tungsten(II), W^{2+}	
	vanadium(II), V^{2+}	
	zinc, Zn^{2+}	
	zirconium(II), Zr^{2+}	

4+		5+
cerium(IV), Ce^{4+}	titanium(IV), Ti^{4+}	antimony(V), Sb^{5+}
germanium(IV), Ge^{4+}	tin(IV), Sn^{4+}	bismuth(V), Bi^{5+}
iridium(IV), Ir^{4+}	tungsten(IV), W^{4+}	phosphorus(V), P^{5+}
lead(IV), Pb^{4+}	uranium(IV), U^{4+}	tungsten(V), W^{5+}
platinum(IV), Pt^{4+}	vanadium(IV), V^{4+}	uranium(V), U^{5+}
thorium(IV), Th^{4+}	zirconium(IV), Zr^{4+}	vanadium(V), V^{5+}

1−	2−	3−	4−
bromide, Br^{-}	oxide, O^{2-}	nitride, N^{3-}	carbide, C^{4-}
chloride, Cl^{-}	selenide, Se^{2-}	phosphide, P^{3-}	
fluoride, F^{-}	sulfide, S^{2-}		
hydride, H^{-}			
iodide, I^{-}			

Table A-7

Charges of Common Polyatomic Ions

1+	2+
ammonium, NH_4^{+}	mercury(I), Hg_2^{2+}

1-	2−	3−	4−
acetate $C_2H_3O_2^{-}$	carbonate, CO_3^{2-}	arsenate, AsO_4^{3-}	hexacyanoferrate(II), $Fe(CN)_6^{4-}$
-or-	chromate, CrO_4^{2-}	citrate, $C_6H_5O_7^{3-}$	diphosphate, $P_2O_7^{4-}$
acetate CH_3COO^{-}	dichromate, $Cr_2O_7^{2-}$	hexacyanoferrate(III), $Fe(CN)_6^{3-}$	
amide NH_2^{-}	hexachloroplatinate(IV), $PtCl_6^{2-}$	phosphate, PO_4^{3-}	
azide N_3^{-}	hexafluorosilicate, SiF_6^{2-}	phosphite PO_3^{3-}	
benzoate $C_6H_5COO^{-}$	molybdate, MoO_4^{2-}		
bicarbonate HCO_3^{-}	oxalate, $C_2O_4^{2-}$		
bisulfate HSO_4^{-}	peroxide, O_2^{-2}		
bromate BrO_3^{-}	peroxydisulfate, $S_2O_8^{2-}$		
chlorate ClO_3^{-}	selenate, SeO_4^{2-}		
chlorite ClO_2^{-}	silicate, SiO_3^{2-}		
cyanate CNO^{-}	sulfate, SO_4^{2-}		
cyanide CN^{-}	sulfite, SO_3^{2-}		
formate $HCOO^{-}$	tartrate, $C_4H_4O_6^{2-}$		
hydroxide OH^{-}	tellurate, TeO_4^{2-}		
hypochlorite ClO^{-}	tetraborate, $B_4O_7^{2-}$		
hypophosphite $H_2PO_2^{-}$	thiosulfate, $S_2O_3^{2-}$		
iodate IO_3^{-}	tungstate, WO_4^{2-}		
metaphosphate PO_3^{-}			
nitrate NO_3^{-}			
nitrite NO_2^{-}			
perchlorate ClO_4^{-}			
periodate IO_4^{-}			
permanganate MnO_4^{-}			
peroxyborate BO_3^{-}			
thiocyanate SCN^{-}			
vanadate VO_3^{-}			