

A. Acidic Solution	$E^0(V)$		
$F_2(g) + 2H^+ + 2e^- \rightarrow 2HF(aq)$		$Sn^{2+} + 2e^- \rightarrow Sn(s)$	-0.136
$F_2(g) + 2e^- \rightarrow 2F^-$	3.06	$Ni^{2+} + 2e^- \rightarrow Ni(s)$	-0.250
$O_3(g) + 2H^+ + 2e^- \rightarrow O_2(g) + H_2O(l)$	2.87	$PbCl_2(s) + 2e^- \rightarrow Pb(s) + 2Cl^-$	-0.268
$S_2O_8^{2-} + 2e^- \rightarrow 2SO_4^{2-}$	2.07	$PbSO_4(s) + 2e^- \rightarrow Pb(s) + SO_4^{2-}$	-0.359
$H_2O_2(aq) + 2H^+ + 2e^- \rightarrow 2H_2O(l)$	2.00	$Cd^{2+} + 2e^- \rightarrow Cd(s)$	-0.403
$HClO_2(aq) + 2H^+ + 2e^- \rightarrow HClO(aq) + H_2O(l)$	1.776	$Cr^{3+} + e^- \rightarrow Cr^{2+}$	-0.408
$2HClO(aq) + 2H^+ + 2e^- \rightarrow Cl_2(g) + 2H_2O(l)$	1.645	$Fe^{2+} + 2e^- \rightarrow Fe(s)$	-0.440
$MnO_4^- + 8H^+ + 5e^- \rightarrow Mn^{2+} + 4H_2O(l)$	1.63	$Cr^{3+} + 3e^- \rightarrow Cr(s)$	-0.744
$Au^{3+} + 3e^- \rightarrow Au(s)$	1.51	$Zn^{2+} + 2e^- \rightarrow Zn(s)$	-0.763
$PbO_2(s) + 4H^+ + 2e^- \rightarrow Pb^{2+} + 2H_2O(l)$	1.498	$Mn^{2+} + 2e^- \rightarrow Mn(s)$	-1.185
$Cl_2(g) + 2e^- \rightarrow 2Cl^-$	1.455	$Al^{3+} + 3e^- \rightarrow Al(s)$	-1.662
$Cr_2O_7^{2-} + 14H^+ + 6e^- \rightarrow 2Cr^{3+} + 7H_2O(l)$	1.360	$H_2(g) + 2e^- \rightarrow 2H^-$	-2.25
$2HNO_2(aq) + 4H^+ + 4e^- \rightarrow N_2O(g) + 3H_2O(l)$	1.33	$Mg^{2+} + 2e^- \rightarrow Mg(s)$	-2.363
$MnO_2(s) + 4H^+ + 2e^- \rightarrow Mn^{2+} + 2H_2O(l)$	1.29	$Na^+ + e^- \rightarrow Na(s)$	-2.714
$O_2(g) + 4H^+ + 4e^- \rightarrow 2H_2O(l)$	1.23	$Ca^{2+} + 2e^- \rightarrow Ca(s)$	-2.866
$ClO_3^- + 3H^+ + 2e^- \rightarrow HClO_2(aq) + H_2O(l)$	1.229	$Sr^{2+} + 2e^- \rightarrow Sr(s)$	-2.888
$Pt^{2+} + 2e^- \rightarrow Pt(s)$	1.21	$Ba^{2+} + 2e^- \rightarrow Ba(s)$	-2.906
$2IO_3^- + 12H^+ + 10e^- \rightarrow I_2(s) + 6H_2O(l)$	~1.2	$K^+ + e^- \rightarrow K(s)$	-2.925
$ClO_4^- + 2H^+ + 2e^- \rightarrow ClO_3^- + H_2O(l)$	1.195	$Li^+ + e^- \rightarrow Li(s)$	-3.045
$Br_2(aq) + 2e^- \rightarrow 2Br^-$			
$Pd^{2+} + 2e^- \rightarrow Pd(s)$	1.19		
$NO_3^- + 4H^+ + 3e^- \rightarrow NO(g) + 2H_2O(l)$	1.087		
$NO_3^- + 3H^+ + 2e^- \rightarrow HNO_2(aq) + H_2O(l)$	0.987		
$2Hg^{2+} + 2e^- \rightarrow Hg_2^{2+}$	0.96		
$O_2(g) + 4H^+(pH = 7) + 4e^- \rightarrow 2H_2O(l)$	0.942		
$2NO_3^- + 4H^+ + 2e^- \rightarrow N_2O_4(g) + 2H_2O(l)$	0.942		
$Ag^+ + e^- \rightarrow Ag(s)$	0.942		
$Hg^{2+} + 2e^- \rightarrow Hg(l)$	0.920		
$Fe^{3+} + e^- \rightarrow Fe^{2+}$	0.83		
$O_2(g) + 2H^+ + 2e^- \rightarrow H_2O_2(aq)$	0.803		
$MnO_4^- + e^- \rightarrow MnO_4^{2-}$	0.803		
$I_2(s) + 2e^- \rightarrow 2I^-$	0.799		
$H_2SO_3(aq) + 4H^+ + 4e^- \rightarrow S(s) + 3H_2O(l)$	0.788		
$SO_4^{2-} + 8H^+ + 6e^- \rightarrow S(s) + 4H_2O(l)$	0.771		
$Cu^{2+} + 2e^- \rightarrow Cu(s)$	0.682		
$AgCl(s) + e^- \rightarrow Ag(s) + Cl^-$	0.564		
$SO_4^{2-} + 4H^+ + 2e^- \rightarrow H_2SO_3(aq) + H_2O(l)$	0.564		
$Cu^{2+} + e^- \rightarrow Cu^+$	0.536		
$Sb_2O_3(s) + 6H^+ + 6e^- \rightarrow 2Sb(s) + 3H_2O(l)$	0.536		
$Sn^{4+} + 2e^- \rightarrow Sn^{2+}$	0.450		
$S(s) + 2H^+ + 2e^- \rightarrow H_2S(aq)$	0.450		
$2H^+ + 2e^- \rightarrow H_2(g)$	0.357		
$Pb^{2+} + 2e^- \rightarrow Pb(s)$	0.337		
	0.222		
	0.172		
	0.153		
	0.152		
	0.15		
	0.142		
	0.000		
	-0.126		
B. Alkaline Solution	$E^0(V)$		
$O_3(g) + H_2O(l) + 2e^- \rightarrow O_2(g) + 2OH^-$		$O_3(g) + H_2O(l) + 2e^- \rightarrow O_2(g) + 2OH^-$	1.24
$ClO^- + H_2O(l) + 2e^- \rightarrow Cl^- + 2OH^-$	1.19	$ClO^- + H_2O(l) + 2e^- \rightarrow Cl^- + 2OH^-$	0.89
$MnO_4^- + 2H_2O(l) + 3e^- \rightarrow MnO_2(s) + 4OH^-$	1.087	$MnO_4^- + 2H_2O(l) + 3e^- \rightarrow MnO_2(s) + 4OH^-$	0.588
$NiO_2(s) + 2H_2O(l) + 2e^- \rightarrow Ni(OH)_2(s) + 2OH^-$	0.987	$NiO_2(s) + 2H_2O(l) + 2e^- \rightarrow Ni(OH)_2(s) + 2OH^-$	0.490
$O_2(g) + 2H_2O(l) + 4e^- \rightarrow 4OH^-$	0.96	$O_2(g) + 2H_2O(l) + 4e^- \rightarrow 4OH^-$	0.401
$ClO_4^- + H_2O(l) + 2e^- \rightarrow ClO_3^- + 2OH^-$	0.942	$ClO_4^- + H_2O(l) + 2e^- \rightarrow ClO_3^- + 2OH^-$	0.36
$ClO_3^- + H_2O(l) + 2e^- \rightarrow ClO_2^- + 2OH^-$	0.942	$ClO_3^- + H_2O(l) + 2e^- \rightarrow ClO_2^- + 2OH^-$	0.33
$PbO_2(s) + H_2O(l) + 2e^- \rightarrow PbO(s) + 2OH^-$	0.920	$PbO_2(s) + H_2O(l) + 2e^- \rightarrow PbO(s) + 2OH^-$	0.247
$HgO(s) + H_2O(l) + 2e^- \rightarrow Hg(l) + 2OH^-$	0.83	$HgO(s) + H_2O(l) + 2e^- \rightarrow Hg(l) + 2OH^-$	0.098
$NO_3^- + H_2O(l) + 2e^- \rightarrow NO_2^- + 2OH^-$	0.803	$NO_3^- + H_2O(l) + 2e^- \rightarrow NO_2^- + 2OH^-$	0.01
$MnO_2(s) + 2H_2O(l) + 2e^- \rightarrow Mn(OH)_2(s) + 2OH^-$	0.799	$MnO_2(s) + 2H_2O(l) + 2e^- \rightarrow Mn(OH)_2(s) + 2OH^-$	-0.05
$CrO_4^{2-} + 4H_2O(l) + 3e^- \rightarrow Cr(OH)_3(s) + 5OH^-$	0.788	$CrO_4^{2-} + 4H_2O(l) + 3e^- \rightarrow Cr(OH)_3(s) + 5OH^-$	-0.13
$Cu_2O(s) + H_2O(l) + 2e^- \rightarrow 2Cu(s) + 2OH^-$	0.771	$Cu_2O(s) + H_2O(l) + 2e^- \rightarrow 2Cu(s) + 2OH^-$	-0.358
$2S(s) + 2e^- \rightarrow S_2^{2-}$	0.682	$2S(s) + 2e^- \rightarrow S_2^{2-}$	-0.447
$Fe(OH)_3(s) + e^- \rightarrow Fe(OH)_2(s) + OH^-$	0.564	$Fe(OH)_3(s) + e^- \rightarrow Fe(OH)_2(s) + OH^-$	-0.56
$BrO_3^- + 3H_2O(l) + 6e^- \rightarrow Br^- + 6OH^-$	0.564	$BrO_3^- + 3H_2O(l) + 6e^- \rightarrow Br^- + 6OH^-$	0.61
$Ni(OH)_2(s) + 2e^- \rightarrow Ni(s) + 2OH^-$	0.536	$Ni(OH)_2(s) + 2e^- \rightarrow Ni(s) + 2OH^-$	-0.72
$Cd(OH)_2(s) + 2e^- \rightarrow Cd(s) + 2OH^-$	0.450	$Cd(OH)_2(s) + 2e^- \rightarrow Cd(s) + 2OH^-$	-0.809
$2H_2O(l) + 2e^- \rightarrow H_2(g) + 2OH^-(pH = 7)$	0.450	$2H_2O(l) + 2e^- \rightarrow H_2(g) + 2OH^-(pH = 7)$	-0.43
$2H_2O(l) + 2e^- \rightarrow H_2(g) + 2OH^-$	0.357	$2H_2O(l) + 2e^- \rightarrow H_2(g) + 2OH^-$	-0.828
$Fe(OH)_2(s) + 2e^- \rightarrow Fe(s) + 2OH^-$	0.337	$Fe(OH)_2(s) + 2e^- \rightarrow Fe(s) + 2OH^-$	-0.877
$Zn(OH)_2(s) + 2e^- \rightarrow Zn(s) + 2OH^-$	0.222	$Zn(OH)_2(s) + 2e^- \rightarrow Zn(s) + 2OH^-$	-1.245
$Al(OH)_3(s) + 3e^- \rightarrow Al(s) + 3OH^-$	0.172	$Al(OH)_3(s) + 3e^- \rightarrow Al(s) + 3OH^-$	-2.30
$Mg(OH)_2(s) + 2e^- \rightarrow Mg(s) + 2OH^-$	0.153	$Mg(OH)_2(s) + 2e^- \rightarrow Mg(s) + 2OH^-$	-2.690