

<u>Half-reaction</u>	E° (V)
$\text{Li}^+(\text{aq}) + \text{e}^- \rightarrow \text{Li}(\text{s})$	-3.05
$\text{Rb}^+(\text{aq}) + \text{e}^- \rightarrow \text{Rb}(\text{s})$	-2.98
$\text{K}^+(\text{aq}) + \text{e}^- \rightarrow \text{K}(\text{s})$	-2.93
$\text{Cs}^+(\text{aq}) + \text{e}^- \rightarrow \text{Cs}(\text{s})$	-2.92
$\text{Ba}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Ba}(\text{s})$	-2.91
$\text{Sr}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Sr}(\text{s})$	-2.89
$\text{Ca}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Ca}(\text{s})$	-2.76
$\text{Na}^+(\text{aq}) + \text{e}^- \rightarrow \text{Na}(\text{s})$	-2.71
$\text{Mg}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Mg}(\text{s})$	-2.38
$\text{H}_2 + 2\text{e}^- \rightarrow 2\text{H}^-$	-2.25
$\text{Be}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Be}(\text{s})$	-1.85
$\text{Al}^{3+}(\text{aq}) + 3\text{e}^- \rightarrow \text{Al}(\text{s})$	-1.68
$\text{Ti}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Ti}(\text{s})$	-1.63
$\text{TiO}(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{Ti}(\text{s}) + \text{H}_2\text{O}$	-1.31
$\text{Ti}_2\text{O}_3(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow 2\text{TiO}(\text{s}) + \text{H}_2\text{O}$	-1.23
$\text{Ti}^{3+}(\text{aq}) + 3\text{e}^- \rightarrow \text{Ti}(\text{s})$	-1.21
$\text{Mn}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Mn}(\text{s})$	-1.18
$\text{V}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{V}(\text{s})$	-1.13
$\text{Sn}(\text{s}) + 4\text{H}^+ + 4\text{e}^- \rightarrow \text{SnH}_4(\text{g})$	-1.07
$\text{SiO}_2(\text{s}) + 4\text{H}^+ + 4\text{e}^- \rightarrow \text{Si}(\text{s}) + 2\text{H}_2\text{O}$	-0.91
$\text{B}(\text{OH})_3(\text{aq}) + 3\text{H}^+ + 3\text{e}^- \rightarrow \text{B}(\text{s}) + 3\text{H}_2\text{O}$	-0.89
$\text{TiO}^{2+}(\text{aq}) + 2\text{H}^+ + 4\text{e}^- \rightarrow \text{Ti}(\text{s}) + \text{H}_2\text{O}$	-0.86
$2\text{H}_2\text{O}(\text{l}) + 2\text{e}^- \rightarrow \text{H}_2(\text{g}) + 2\text{OH}^-(\text{aq})$	-0.83
$\text{Zn}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Zn}(\text{s})$	-0.76
$\text{Cr}^{3+}(\text{aq}) + 3\text{e}^- \rightarrow \text{Cr}(\text{s})$	-0.74
$\text{Au}(\text{CN})_2^-(\text{aq}) + \text{e}^- \rightarrow \text{Au}(\text{s}) + 2\text{CN}^-(\text{aq})$	-0.60
$2\text{TiO}_2(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{Ti}_2\text{O}_3(\text{s}) + \text{H}_2\text{O}$	-0.56
$\text{Ga}^{3+}(\text{aq}) + 3\text{e}^- \rightarrow \text{Ga}(\text{s})$	-0.53

$\text{H}_3\text{PO}_2(\text{aq}) + \text{H}^+ + \text{e}^- \rightarrow \text{P}(\text{s}) + 2\text{H}_2\text{O}$	-0.51
$\text{H}_3\text{PO}_3(\text{aq}) + 3\text{H}^+ + 3\text{e}^- \rightarrow \text{P}(\text{s}) + 3\text{H}_2\text{O}$	-0.50
$\text{H}_3\text{PO}_3(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_3\text{PO}_2(\text{aq}) + \text{H}_2\text{O}$	-0.50
$\text{Fe}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Fe}(\text{s})$	-0.44
$2\text{CO}_2(\text{g}) + 2\text{H}^+(\text{aq}) + 2\text{e}^- \rightarrow \text{HOCCOOH}(\text{aq})$	-0.43
$\text{Cr}^{3+}(\text{aq}) + \text{e}^- \rightarrow \text{Cr}^{2+}(\text{aq})$	-0.42
$2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2$	-0.41
$\text{Cd}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Cd}(\text{s})$	-0.40
$\text{PbSO}_4(\text{s}) + 2\text{e}^- \rightarrow \text{Pb}(\text{s}) + \text{SO}_4^{2-}(\text{aq})$	-0.36
$\text{GeO}_2(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{GeO}(\text{s}) + \text{H}_2\text{O}$	-0.37
$\text{In}^{3+}(\text{aq}) + 3\text{e}^- \rightarrow \text{In}(\text{s})$	-0.34
$\text{Tl}^+(\text{aq}) + \text{e}^- \rightarrow \text{Tl}(\text{s})$	-0.34
$\text{Ge}(\text{s}) + 4\text{H}^+ + 4\text{e}^- \rightarrow \text{GeH}_4(\text{g})$	-0.29
$\text{Co}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Co}(\text{s})$	-0.28
$\text{H}_3\text{PO}_4(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_3\text{PO}_3(\text{aq}) + \text{H}_2\text{O}$	-0.28
$\text{V}^{3+}(\text{aq}) + \text{e}^- \rightarrow \text{V}^{2+}(\text{aq})$	-0.26
$\text{Ni}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Ni}(\text{s})$	-0.25
$\text{As}(\text{s}) + 3\text{H}^+ + 3\text{e}^- \rightarrow \text{AsH}_3(\text{g})$	-0.23
$\text{MoO}_2(\text{s}) + 4\text{H}^+ + 4\text{e}^- \rightarrow \text{Mo}(\text{s}) + 2\text{H}_2\text{O}$	-0.15
$\text{Si}(\text{s}) + 4\text{H}^+ + 4\text{e}^- \rightarrow \text{SiH}_4(\text{g})$	-0.14
$\text{Sn}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Sn}(\text{s})$	-0.13
$\text{O}_2(\text{g}) + \text{H}^+ + \text{e}^- \rightarrow \text{HO}_2^*(\text{aq})$	-0.13
$\text{Pb}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Pb}(\text{s})$	-0.13
$\text{WO}_2(\text{s}) + 4\text{H}^+ + 4\text{e}^- \rightarrow \text{W}(\text{s})$	-0.12
$\text{CO}_2(\text{g}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{HCOOH}(\text{aq})$	-0.11
$\text{Se}(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2\text{Se}(\text{g})$	-0.11
$\text{CO}_2(\text{g}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{CO}(\text{g}) + \text{H}_2\text{O}$	-0.11
$\text{SnO}(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{Sn}(\text{s}) + \text{H}_2\text{O}$	-0.10
$\text{SnO}_2(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{SnO}(\text{s}) +$	-0.09

H ₂ O	
WO ₃ (aq) + 6H ⁺ + 6e ⁻ → W(s)	-0.09
P(s) + 3H ⁺ + 3e ⁻ → PH ₃ (g)	-0.06
HCOOH(aq) + 2H ⁺ + 2e ⁻ → HCHO(aq) + H ₂ O	-0.03
2H ⁺ (aq) + 2e ⁻ → H ₂ (g)	0.00
H ₂ MoO ₄ (aq) + 6H ⁺ + 6e ⁻ → Mo(s) + 4H ₂ O	+0.11
Ge ⁴⁺ (aq) + 4e ⁻ → Ge(s)	+0.12
C(s) + 4H ⁺ + 4e ⁻ → CH ₄ (g)	+0.13
HCHO(aq) + 2H ⁺ + 2e ⁻ → CH ₃ OH(aq)	+0.13
S(s) + 2H ⁺ + 2e ⁻ → H ₂ S(g)	+0.14
Sn ⁴⁺ (aq) + 2e ⁻ → Sn ²⁺ (aq)	+0.15
Cu ²⁺ (aq) + e ⁻ → Cu ⁺ (aq)	+0.16
HSO ₄ ⁻ (aq) + 3H ⁺ + 2e ⁻ → 2H ₂ O(l) + SO ₂ (aq)	+0.16
SO ₄ ²⁻ (aq) + 4H ⁺ + 2e ⁻ → 2H ₂ O(l) + SO ₂ (aq)	+0.17
SbO ⁺ + 2H ⁺ + 3e ⁻ → Sb(s) + H ₂ O	+0.20
H ₃ AsO ₃ (aq) + 3H ⁺ + 3e ⁻ → As(s) + 3H ₂ O	+0.24
GeO(s) + 2H ⁺ + 2e ⁻ → Ge(s) + H ₂ O	+0.26
Bi ³⁺ (aq) + 3e ⁻ → Bi(s)	+0.32
VO ²⁺ (aq) + 2H ⁺ + e ⁻ → V ³⁺ (aq)	+0.34
Cu ²⁺ (aq) + 2e ⁻ → Cu(s)	+0.34
[Fe(CN) ₆] ³⁻ (aq) + e ⁻ → [Fe(CN) ₆] ⁴⁻ (aq)	+0.36
O ₂ (g) + 2H ₂ O(l) + 4e ⁻ → 4OH ⁻ (aq)	+0.40
H ₂ MoO ₄ + 6H ⁺ + 3e ⁻ → Mo ³⁺ (aq)	+0.43
CH ₃ OH(aq) + 2H ⁺ + 2e ⁻ → CH ₄ (g) + H ₂ O	+0.50
SO ₂ (aq) + 4H ⁺ + 4e ⁻ → S(s) + 2H ₂ O	+0.50
Cu ⁺ (aq) + e ⁻ → Cu(s)	+0.52
CO(g) + 2H ⁺ + 2e ⁻ → C(s) + H ₂ O	+0.52

I ₂ (s) + 2e ⁻ → 2I ⁻ (aq)	+0.54
I ₃ ⁻ (aq) + 2e ⁻ → 3I ⁻ (aq)	+0.54
[AuI ₄] ⁻ (aq) + 3e ⁻ → Au(s) + 4I ⁻ (aq)	+0.56
H ₃ AsO ₄ (aq) + 2H ⁺ + 2e ⁻ → H ₃ AsO ₃ (aq) + H ₂ O	+0.56
[AuI ₂] ⁻ (aq) + e ⁻ → Au(s) + 2I ⁻ (aq)	+0.58
MnO ₄ ⁻ (aq) + 2H ₂ O(l) + 3e ⁻ → MnO ₂ (s) + 4 OH ⁻ (aq)	+0.59
S ₂ O ₃ ²⁻ + 6H ⁺ + 4e ⁻ → 2S(s) + 3H ₂ O	+0.60
H ₂ MoO ₄ (aq) + 2H ⁺ + 2e ⁻ → MoO ₂ (s) + 2H ₂ O	+0.65
O ₂ (g) + 2H ⁺ + 2e ⁻ → H ₂ O ₂ (aq)	+0.70
Tl ³⁺ (aq) + 3e ⁻ → Tl(s)	+0.72
H ₂ SeO ₃ (aq) + 4H ⁺ + 4e ⁻ → Se(s) + 3H ₂ O	+0.74
Fe ³⁺ (aq) + e ⁻ → Fe ²⁺ (aq)	+0.77
Hg ₂ ²⁺ (aq) + 2e ⁻ → 2Hg(l)	+0.80
Ag ⁺ (aq) + e ⁻ → Ag(s)	+0.80
NO ₃ ⁻ (aq) + 2H ⁺ (aq) + e ⁻ → NO ₂ (g) + H ₂ O(l)	+0.80
[AuBr ₄] ⁻ (aq) + 3e ⁻ → Au(s) + 4Br ⁻ (aq)	+0.85
Hg ²⁺ (aq) + 2e ⁻ → Hg(l)	+0.85
MnO ₄ ⁻ (aq) + H ⁺ + e ⁻ → HMnO ₄ ⁻ (aq)	+0.90
2Hg ²⁺ (aq) + 2e ⁻ → Hg ₂ ²⁺ (aq)	+0.91
[AuCl ₄] ⁻ (aq) + 3e ⁻ → Au(s) + 4Cl ⁻ (aq)	+0.93
MnO ₂ (s) + 4H ⁺ + e ⁻ → Mn ³⁺ (aq) + 2H ₂ O	+0.95
[AuBr ₂] ⁻ (aq) + e ⁻ → Au(s) + 2Br ⁻ (aq)	+0.96
Br ₂ (l) + 2e ⁻ → 2Br ⁻ (aq)	+1.07
Br ₂ (aq) + 2e ⁻ → 2Br ⁻ (aq)	+1.09
IO ₃ ⁻ (aq) + 5H ⁺ + 4e ⁻ → HIO(aq) + 2H ₂ O	+1.13
[AuCl ₂] ⁻ (aq) + e ⁻ → Au(s) +	+1.15

$2\text{Cl}^-(\text{aq})$	
$\text{HSeO}_4^-(\text{aq}) + 3\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2\text{SeO}_3(\text{aq}) + \text{H}_2\text{O}$	+1.15
$\text{Ag}_2\text{O}(\text{s}) + 2\text{H}^+ + 2\text{e}^- \rightarrow 2\text{Ag}(\text{s})$	+1.17
$\text{ClO}_3^-(\text{aq}) + 2\text{H}^+ + \text{e}^- \rightarrow \text{ClO}_2(\text{g}) + \text{H}_2\text{O}$	+1.18
$\text{ClO}_2(\text{g}) + \text{H}^+ + \text{e}^- \rightarrow \text{HClO}_2(\text{aq})$	+1.19
$2\text{IO}_3^-(\text{aq}) + 12\text{H}^+ + 10\text{e}^- \rightarrow \text{I}_2(\text{s}) + 6\text{H}_2\text{O}$	+1.20
$\text{ClO}_4^-(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{ClO}_3^-(\text{aq}) + \text{H}_2\text{O}$	+1.20
$\text{O}_2(\text{g}) + 4\text{H}^+ + 4\text{e}^- \rightarrow 2\text{H}_2\text{O}$	+1.23
$\text{MnO}_2(\text{s}) + 4\text{H}^+ + 2\text{e}^- \rightarrow \text{Mn}^{2+}(\text{aq}) + 2\text{H}_2\text{O}$	+1.23
$\text{Tl}^{3+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Tl}^+(\text{s})$	+1.25
$\text{Cl}_2(\text{g}) + 2\text{e}^- \rightarrow 2\text{Cl}^-(\text{aq})$	+1.36
$\text{Cr}_2\text{O}_7^{2-}(\text{aq}) + 14\text{H}^+ + 6\text{e}^- \rightarrow 2\text{Cr}^{3+}(\text{aq}) + 7\text{H}_2\text{O}$	+1.36
$\text{CoO}_2(\text{s}) + 4\text{H}^+ + \text{e}^- \rightarrow \text{Co}^{3+}(\text{aq}) + 2\text{H}_2\text{O}$	+1.42
$2\text{HIO}(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{I}_2(\text{s}) + 2\text{H}_2\text{O}$	+1.44
$\text{BrO}_3^-(\text{aq}) + 5\text{H}^+ + 4\text{e}^- \rightarrow \text{HBrO}(\text{aq}) + 2\text{H}_2\text{O}$	+1.45
$2\text{BrO}_3^- + 12\text{H}^+ + 10\text{e}^- \rightarrow \text{Br}_2(\text{l}) + 6\text{H}_2\text{O}$	+1.48
$2\text{ClO}_3^- + 12\text{H}^+ + 10\text{e}^- \rightarrow \text{Cl}_2(\text{g}) + 6\text{H}_2\text{O}$	+1.49
$\text{MnO}_4^-(\text{aq}) + 8\text{H}^+ + 5\text{e}^- \rightarrow \text{Mn}^{2+}(\text{aq}) + 4\text{H}_2\text{O}$	+1.51
$\text{HO}_2 \cdot + \text{H}^+ + \text{e}^- \rightarrow \text{H}_2\text{O}_2(\text{aq})$	+1.51
$\text{Au}^{3+}(\text{aq}) + 3\text{e}^- \rightarrow \text{Au}(\text{s})$	+1.52
$\text{NiO}_2(\text{s}) + 4\text{H}^+ + 2\text{e}^- \rightarrow \text{Ni}^{2+}(\text{aq})$	+1.59
$2\text{HClO}(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{Cl}_2(\text{g}) + 2\text{H}_2\text{O}$	+1.63
$\text{Ag}_2\text{O}_3(\text{s}) + 6\text{H}^+ + 4\text{e}^- \rightarrow 2\text{Ag}^+(\text{aq}) + 3\text{H}_2\text{O}$	+1.67

$\text{HClO}_2(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{HClO}(\text{aq}) + \text{H}_2\text{O}$	+1.67
$\text{Pb}^{4+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Pb}^{2+}(\text{aq})$	+1.69
$\text{MnO}_4^-(\text{aq}) + 4\text{H}^+ + 3\text{e}^- \rightarrow \text{MnO}_2(\text{s}) + 2\text{H}_2\text{O}$	+1.70
$\text{H}_2\text{O}_2(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow 2\text{H}_2\text{O}$	+1.76
$\text{AgO}(\text{s}) + 2\text{H}^+ + \text{e}^- \rightarrow \text{Ag}^+(\text{aq}) + \text{H}_2\text{O}$	+1.77
$\text{Au}^+(\text{aq}) + \text{e}^- \rightarrow \text{Au}(\text{s})$	+1.83
$\text{BrO}_4^-(\text{aq}) + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{BrO}_3^-(\text{aq}) + \text{H}_2\text{O}$	+1.85
$\text{Co}^{3+}(\text{aq}) + \text{e}^- \rightarrow \text{Co}^{2+}(\text{aq})$	+1.92
$\text{Ag}^{2+}(\text{aq}) + \text{e}^- \rightarrow \text{Ag}^+(\text{aq})$	+1.98
$\text{S}_2\text{O}_8^{2-} + 2\text{e}^- \rightarrow 2\text{SO}_4^{2-}$	+2.07
$\text{HMnO}_4^-(\text{aq}) + 3\text{H}^+ + 2\text{e}^- \rightarrow \text{MnO}_2(\text{s}) + 2\text{H}_2\text{O}$	+2.09
$\text{F}_2(\text{g}) + 2\text{e}^- \rightarrow 2\text{F}^-(\text{aq})$	+2.87
$\text{F}_2(\text{g}) + 2\text{H}^+ + 2\text{e}^- \rightarrow 2\text{HF}(\text{aq})$	+3.05