

(25 °C)

Standard Reduction Potentials at 298K, 1M, 1atm

Better Cathode → (Red)

HALF-REACTION	E° (V)
$\text{F}_2(g) + 2 \text{e}^- \rightarrow 2 \text{F}_{(aq)}$	+2.87
$\text{O}_3(g) + 2 \text{H}^+_{(aq)} + 2 \text{e}^- \rightarrow \text{O}_2(g) + \text{H}_2\text{O}_{(l)}$	+2.07
$\text{Co}^{3+}_{(aq)} + \text{e}^- \rightarrow \text{Co}^{2+}_{(aq)}$	+1.82
$\text{H}_2\text{O}_2(aq) + 2 \text{H}^+_{(aq)} + 2 \text{e}^- \rightarrow 2 \text{H}_2\text{O}_{(l)}$	+1.77
$\text{PbO}_{2(s)} + 4 \text{H}^+_{(aq)} + \text{SO}_4^{2-}_{(aq)} + 2 \text{e}^- \rightarrow \text{PbSO}_4(s) + 2 \text{H}_2\text{O}_{(l)}$	+1.70
$\text{Ce}^{4+}_{(aq)} + \text{e}^- \rightarrow \text{Ce}^{3+}_{(aq)}$	+1.61
$\text{MnO}_4^{-}_{(aq)} + 8 \text{H}^+_{(aq)} + 5 \text{e}^- \rightarrow \text{Mn}^{2+}_{(aq)} + 4 \text{H}_2\text{O}_{(l)}$	+1.51
$\text{Au}^{3+}_{(aq)} + 3 \text{e}^- \rightarrow \text{Au}_{(s)}$	+1.50
$\text{Cl}_2(g) + 2 \text{e}^- \rightarrow 2 \text{Cl}^-_{(aq)}$	+1.36
$\text{Cr}_2\text{O}_7^{2-}_{(aq)} + 14 \text{H}^+_{(aq)} + 6 \text{e}^- \rightarrow 2 \text{Cr}^{3+}_{(aq)} + 7 \text{H}_2\text{O}_{(l)}$	+1.33
$\text{MnO}_{2(s)} + 4 \text{H}^+_{(aq)} + 2 \text{e}^- \rightarrow \text{Mn}^{2+}_{(aq)} + 2 \text{H}_2\text{O}_{(l)}$	+1.23
$\boxed{\text{O}_2(g) + 4 \text{H}^+_{(aq)} + 4 \text{e}^- \rightarrow 2 \text{H}_2\text{O}_{(l)}}$	+1.23
$\text{Br}_2(l) + 2 \text{e}^- \rightarrow 2 \text{Br}^-_{(aq)}$	+1.07
$\text{NO}_3^{-}_{(aq)} + 4 \text{H}^+_{(aq)} + 3 \text{e}^- \rightarrow \text{NO}(g) + 2 \text{H}_2\text{O}_{(l)}$	+0.96
$2 \text{Hg}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Hg}_2^{2+}_{(aq)}$	+0.92
$\text{Hg}_2^{2+} + 2 \text{e}^- \rightarrow 2 \text{Hg}_{(l)}$	+0.85
$\text{Ag}^+_{(aq)} + \text{e}^- \rightarrow \text{Ag}_{(s)}$	+0.80
$\text{Fe}^{3+}_{(aq)} + \text{e}^- \rightarrow \text{Fe}^{2+}_{(aq)}$	+0.77
$\text{O}_2(g) + 2 \text{H}^+_{(aq)} + 2 \text{e}^- \rightarrow \text{H}_2\text{O}_2(aq)$	+0.68
$\text{MnO}_4^{-}_{(aq)} + 2 \text{H}_2\text{O}_{(l)} + 3 \text{e}^- \rightarrow \text{MnO}_{2(s)} + 4 \text{OH}^-_{(aq)}$	+0.59
$\text{I}_2(s) + 2 \text{e}^- \rightarrow 2 \text{I}^-_{(aq)}$	+0.53
$\text{O}_2(g) + 2 \text{H}_2\text{O} + 4 \text{e}^- \rightarrow 4 \text{OH}^-_{(aq)}$	+0.40
$\text{Cu}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Cu}_{(s)}$	+0.34
$\text{AgCl}_{(s)} + \text{e}^- \rightarrow \text{Ag}_{(s)} + \text{Cl}^-_{(aq)}$	+0.22
$\text{SO}_4^{2-}_{(aq)} + 4 \text{H}^+_{(aq)} + 2 \text{e}^- \rightarrow \text{SO}_2(g) + 2 \text{H}_2\text{O}_{(l)}$	+0.20
$\text{Cu}^{2+}_{(aq)} + \text{e}^- \rightarrow \text{Cu}^+_{(aq)}$	+0.15
$\text{Sn}^{4+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Sn}^{2+}_{(aq)}$	+0.13
$2 \text{H}^+_{(aq)} + 2 \text{e}^- \rightarrow \text{H}_2(g)$	0.00
$\text{Pb}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Pb}_{(s)}$	-0.13
$\text{Sn}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Sn}_{(s)}$	-0.14
$\text{Ni}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Ni}_{(s)}$	-0.25
$\text{Co}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Co}_{(s)}$	-0.28
$\text{PbSO}_4(s) + 2 \text{e}^- \rightarrow \text{Pb}_{(s)} + \text{SO}_4^{2-}_{(aq)}$	-0.31
$\text{Cd}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Cd}_{(s)}$	-0.40
$\text{Fe}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Fe}_{(s)}$	-0.44
$\text{Cr}^{3+}_{(aq)} + 3 \text{e}^- \rightarrow \text{Cr}_{(s)}$	-0.74
$\text{Zn}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Zn}_{(s)}$	-0.76
$2 \text{H}_2\text{O}_{(l)} + 2 \text{e}^- \rightarrow \text{H}_2(g) + 2 \text{OH}^-_{(aq)}$	-0.83
$\text{Mn}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Mn}_{(s)}$	-1.18
$\text{Al}^{3+}_{(aq)} + 3 \text{e}^- \rightarrow \text{Al}_{(s)}$	-1.66
$\text{Be}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Be}_{(s)}$	-1.85
$\text{Mg}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Mg}_{(s)}$	-2.37
$\text{Na}^+_{(aq)} + \text{e}^- \rightarrow \text{Na}_{(s)}$	-2.71
$\text{Ca}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Ca}_{(s)}$	-2.87
$\text{Sr}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Sr}_{(s)}$	-2.89
$\text{Ba}^{2+}_{(aq)} + 2 \text{e}^- \rightarrow \text{Ba}_{(s)}$	-2.90
$\text{K}^+_{(aq)} + \text{e}^- \rightarrow \text{K}_{(s)}$	-2.93
$\text{Li}^+_{(aq)} + \text{e}^- \rightarrow \text{Li}_{(s)}$	-3.05

Better Anode → (Ox)

strong reducing agents ↓