



Ox-Form	Red-Form	U [V]
Li ⁺	Li	3,0-
K ⁺	K	2,9-
Ba ²⁺	Ba	-2,90
Ca ²⁺	Ca	-2,76
Na ⁺	Na	-1,7-
La ³⁺	La	-2,52
Ce ³⁺	Ce	-2,483
Mg ²⁺	Mg	-2,38
Be ²⁺	Be	-1,81-
Ti ²⁺	Ti	-1,7-
Al ³⁺	Al	-1,6-

Ox-Form	Red-Form	U [V]
Tl ⁺	Tl	1,21-
Mn ²⁺	Mn	1,81-
V ³⁺	V	1,1-
Nb ⁵⁺	Nb	6601-
Cr ²⁺	Cr	1,6-
Zn ²⁺	Zn	0,7-
Cr ³⁺	Cr	0,7-
NiO ₂	Ni(OH) ₂	640-
S	S ²⁻	840-
Fe ²⁺	Fe	1,4-
Cd ²⁺	Cd	0,4-
Ni ²⁺	Ni	0,2-
Mo ³⁺	Mo	0,2-
Pb ²⁺	Pb	0,1-
Sn ²⁺	Sn	0,1-
2 H ⁺	2 H ₂	0
Sn ⁴⁺	Sn ²⁺	510+

Ox-Form	Red-Form	U [V]
Cu ²⁺	Cu ⁺	0,16
Cu ²⁺	Cu	0,35
[Fe(CN) ₆] ⁴⁻	[Fe(CN) ₆] ³⁻	0,36
Cu ²⁺	Cu	0,52
I ₂	I ⁻	0,53
Fe ³⁺	Fe ²⁺	0,77
Hg ²⁺	Hg	0,80
Hg ²⁺	Hg	0,85
Br ₂	Br ⁻	1,07
Pt ²⁺	Pt	1,20
O ₂ H ₉	O ₂ H ₉	1,23
Cr ³⁺	Cr ³⁺	1,33
Cl ₂	Cl ⁻	1,36
U ⁴⁺	U ³⁺	1,42
U ⁴⁺	U ³⁺	1,69
O ₂ H ₄ · O ₂ H ₂ · O ₂ H ₂	O ₂ H ₄ · O ₂ H ₂ · O ₂ H ₂	1,78
S ₂ O ₈ ²⁻	S ₂ O ₈ ²⁻	2,00
F ₂	2 F ⁻	2,87



Wichtige Naturkonstanten

Lichtgeschwindigkeit	c = 299 792 458 m/s
Gravitationskonstante	$\gamma = 6,674 \cdot 10^{-11} \text{ Nm}^2/\text{kg}^2$
Avogadro-Konstante	$N_A = 6,022 141 79 \cdot 10^{23} / \text{mol}$
Molvol. bei Normbed.	$V_m = 22,413 996 \text{ l/mol}$
Boltzmann-Konstante	$k_B = 1,380 650 4 \cdot 10^{-23} \text{ J/K}$
Stefan-Boltzmann-Konst.	$\sigma = 5,670 4 \cdot 10^{-8} \text{ W/(m}^2\text{K}^4)$
Gaskonstante	$R = 8,314 41 \text{ J/(K mol)}$
Elementarladung	$e_0 = 1,602 176 487 \cdot 10^{-19} \text{ C}$
Faraday-Konstante	$F = 96 485,339 9 \text{ C/mol}$
Elektron-Ruhemasse	$m_e = 9,109 382 15 \cdot 10^{-31} \text{ kg}$
Proton-Ruhemasse	$m_p = 1,672 621 637 \cdot 10^{-27} \text{ kg}$
Neutron-Ruhemasse	$m_n = 1,674 927 211 \cdot 10^{-27} \text{ kg}$
Atomare Masseneinheit	$u = 1,660 538 782 \cdot 10^{-27} \text{ kg}$
Planck-Konstante	$h = 6,626 068 96 \cdot 10^{-34} \text{ J s}$
Rydberg-Konstante	$R = 109 737 31,568 527 / \text{m}$
Wien-Konstante	$b = 2,897 768 5 \cdot 10^{-3} \text{ m K}$
Feinstrukturkonstante	$\alpha = 7,297 352 537 6 \cdot 10^{-3}$
Bohrsches Magneton	$\mu_B = 9,274 015 4 \cdot 10^{-24} \text{ J/T}$
Magnetische Feldkonst.	$\mu_0 = 1,256 637 \cdot 10^{-3} \text{ Vs/(Am)}$
Elektrische Feldkonst.	$\epsilon_0 = 8,854 187 817 \cdot 10^{-12} \text{ As/(Vm)}$

Spannungsreihe

Präfixe Alphabet

Yotta	Y	10 ²⁴	A, α Alpha
Zetta	Z	10 ²¹	B, β Beta
Exa	E	10 ¹⁸	Γ, γ Gamma
Peta	P	10 ¹⁵	Δ, δ Delta
Tera	T	10 ¹²	Ε, ε Epsilon
Giga	G	10 ⁹	Z, ζ Zeta
Mega	M	10 ⁶	H, η Eta
Kilo	K	10 ³	Θ, θ Theta
Hekto	h	10 ²⁴	I, ι Iota
Deka	da	10 ¹	K, κ Kappa
Dezi	d	10 ⁻¹	Λ, λ Lambda
Zenti	c	10 ⁻²	M, μ My
Milli	m	10 ⁻³	N, ν Ny
Mikro	μ	10 ⁻⁶	Ξ, ξ Xi
Nano	n	10 ⁻⁹	O, ο Omikron
Piko	p	10 ⁻¹²	Π, π Pi
Femto	f	10 ⁻¹⁵	ρ, ρ Rho
Atto	a	10 ⁻¹⁸	Σ, σ Sigma
Zepto	z	10 ⁻²¹	T, τ Tau
Yokto	y	10 ⁻²⁴	Υ, υ Ypsilon
			Φ, φ Phi
			Χ, χ Chi
			Ψ, ψ Psi
			Ω, ω Omega





Hauptgruppen		Nebengruppen										Hauptgruppen							
1		2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Ia		IIa												IIIa	IVa	Va	VIa	VIIa	VIIIa
1 (K)	¹ ₁ H Wasserstoff 1,00794																		² ₂ He Helium 4,002602
2 (L)	^{2/1} ₃ Li Lithium 6,941	^{2/2} ₄ Be Beryllium 9,012182												^{2/3} ₅ B Bor 10,811	^{2/4} ₆ C Kohlenstoff 12,0107	^{2/5} ₇ N Stickstoff 14,00674	^{2/6} ₈ O Sauerstoff 15,9994	^{2/7} ₉ F Fluor 18,998403	^{2/8} ₁₀ Ne Neon 20,1797
3 (M)	^{8/1} ₁₁ Na Natrium 22,98977	^{8/2} ₁₂ Mg Magnesium 24,305	IIIb	IVb	Vb	VIb	VIIb	VIII			lb	IIb		^{8/3} ₁₃ Al Aluminium 26,981538	^{8/4} ₁₄ Si Silicium 28,0855	^{8/5} ₁₅ P Phosphor 30,973761	^{8/6} ₁₆ S Schwefel 32,066	^{8/7} ₁₇ Cl Chlor 35,4527	^{8/8} ₁₈ Ar Argon 39,948
4 (N)	^{8/1} ₁₉ K Kalium 39,0983	^{8/2} ₂₀ Ca Calcium 40,078	^{9/2} ₂₁ Sc Scandium 44,95591	^{10/2} ₂₂ Ti Titan 47,867	^{11/2} ₂₃ V Vanadium 50,9415	^{13/1} ₂₄ Cr Chrom 51,9961	^{13/2} ₂₅ Mn Mangan 54,938049	^{14/2} ₂₆ Fe Eisen 55,845	^{15/2} ₂₇ Co Cobalt 58,9332	^{16/2} ₂₈ Ni Nickel 58,6934	^{18/1} ₂₉ Cu Kupfer 63,546	^{18/2} ₃₀ Zn Zink 65,409	^{18/3} ₃₁ Ga Gallium 69,723	^{18/4} ₃₂ Ge Germanium 72,61	^{18/5} ₃₃ As Arsen 74,9216	^{18/6} ₃₄ Se Selen 78,96	^{18/7} ₃₅ Br Brom 79,904	^{18/8} ₃₆ Kr Krypton 83,80	
5 (O)	^{8/1} ₃₇ Rb Rubidium 85,4678	^{8/2} ₃₈ Sr Strontium 87,62	^{9/2} ₃₉ Y Yttrium 88,90585	^{10/2} ₄₀ Zr Zirkonium 91,224	^{12/1} ₄₁ Nb Niob 92,90638	^{13/2} ₄₂ Mo Molybdaen 95,94	^{13/2} ₄₃ Tc Technetium [98]	^{15/1} ₄₄ Ru Ruthenium 101,07	^{16/1} ₄₅ Rh Rhodium 102,9055	^{18/0} ₄₆ Pd Palladium 106,42	^{18/1} ₄₇ Ag Silber 107,8682	^{18/2} ₄₈ Cd Cadmium 112,411	^{18/3} ₄₉ In Indium 114,818	^{18/4} ₅₀ Sn Zinn 118,71	^{18/5} ₅₁ Sb Antimon 121,76	^{18/6} ₅₂ Te Tellur 127,60	^{18/7} ₅₃ I Iod 126,90447	^{18/8} ₅₄ Xe Xenon 131,29	
6 (P)	^{8/1} ₅₅ Cs Cäsium 132,90545	^{8/2} ₅₆ Ba Barium 137,327	57-71 Lanthanoide	^{10/2} ₇₂ Hf Hafnium 178,49	^{11/2} ₇₃ Ta Tantal 180,9479	^{12/2} ₇₄ W Wolfram 183,84	^{13/2} ₇₅ Re Rhenium 186,207	^{14/2} ₇₆ Os Osmium 190,23	^{15/2} ₇₇ Ir Iridium 192,217	^{17/1} ₇₈ Pt Platin 195,078	^{18/1} ₇₉ Au Gold 196,96655	^{18/2} ₈₀ Hg Quecksilber 200,59	^{18/3} ₈₁ Tl Thallium 204,3833	^{18/4} ₈₂ Pb Blei 207,2	^{18/5} ₈₃ Bi Bismut 208,98038	^{18/6} ₈₄ Po Polonium [209]	^{18/7} ₈₅ At Astat [210]	^{18/8} ₈₆ Rn Radon [222]	
7 (Q)	^{8/1} ₈₇ Fr Francium [223]	^{8/2} ₈₈ Ra Radium [226]	89-103 Actinoide	^{10/2} ₁₀₄ Rf Rutherfordium [261]	^{10/2} ₁₀₅ Db Dubnium [262]	^{10/2} ₁₀₆ Sg Seaborgium [263]	^{10/2} ₁₀₇ Bh Bohrrium [264]	^{10/2} ₁₀₈ Hs Hassium [265]	^{10/2} ₁₀₉ Mt Meitnerium [268]	^{11/2} ₁₁₀ Ds Darmstadtium [269]	^{11/2} ₁₁₁ Rg Röntgenium [272]	^{18/5} ₁₁₂ Cn Copernicium [277]	^{18/5} ₁₁₃ Uut Ununtrium [287]	^{18/5} ₁₁₄ Uuq Ununquadium [289]	^{18/5} ₁₁₅ Uup Ununpentium [288]	^{18/5} ₁₁₆ Uuh Ununhexium [292]	^{18/7} ₁₁₇ Uus Ununseptium	^{18/8} ₁₁₈ Uuo Ununoctium	
^{9/2} = Außenlekt. ■ = Metall ■ = Metalloid ■ = Nichtmetall * = radioaktiv H = gasförmig Br = flüchtig Fe = fest				^{9/2} ₅₇ La Lanthan 138,9055	^{8/2} ₅₈ Ce Cer 140,116	^{8/2} ₅₉ Pr Praseodym 140,90765	^{8/2} ₆₀ Nd Neodym 144,24	^{8/2} ₆₁ Pm Promethium [145]	^{8/2} ₆₂ Sm Samarium 150,36	^{8/2} ₆₃ Eu Europium 151,964	^{9/4} ₆₄ Gd Gadolinium 157,25	^{8/2} ₆₅ Tb Terbium 158,92534	^{8/2} ₆₆ Dy Dysprosium 162,50	^{8/2} ₆₇ Ho Holmium 164,93032	^{8/2} ₆₈ Er Erbium 167,26	^{8/2} ₆₉ Tm Thulium 168,93421	^{8/2} ₇₀ Yb Ytterbium 173,04	^{8/2} ₇₁ Lu Lutetium 174,967	
^{9/2} ₈₉ Ac Actinium 227,028	^{10/2} ₉₀ Th Thorium 232,038	^{9/2} ₉₁ Pa Protactinium 231,036	^{9/2} ₉₂ U Uran 238,029	^{9/2} ₉₃ Np Neptunium 237,048	^{8/2} ₉₄ Pu Plutonium [244]	^{8/2} ₉₅ Am Americium [243]	^{8/2} ₉₆ Cm Curium [247]	^{8/2} ₉₇ Bk Berkelium [247]	^{9/2} ₉₈ Cf Californium [251]	^{9/2} ₉₉ Es Einsteinium [252]	^{9/2} ₁₀₀ Fm Fermium [257]	^{9/2} ₁₀₁ Md Mendelevium [258]	^{9/2} ₁₀₂ No Nobelium [259]	^{9/2} ₁₀₃ Lr Lawrencium [262]					

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