FUNDAMENTAL CONSTANTS

QUANTITY			CGS	MKS (SI)
Electron charge (e)	1.60219	×	–	10^{-19} coulomb
	4.80324	×	10^{-10} esu	–
Electron volt (eV)	1.60219	×	10^{-12} erg · eV^{-1}	10^{-19} J · eV^{-1}
Electron rest mass (m)	9.1095	×	10^{-28} gm	10^{-31} kg
Planck's constant (h)	6.6262	×	10^{-27} erg · sec	10^{-34} J · s
Planck's constant (h)	4.1357	×	10^{-15} eV · sec	10^{-15} eV · s
Planck's constant ($\hbar$)	1.05459	×	10^{-27} erg · sec	10^{-34} J · s
Planck's constant ($\hbar$)	6.5822	×	10^{-16} eV · sec	10^{-16} eV · s
Bohr radius ($a_0 = \hbar^2/me^2$)	0.529177	×	10^{-8} cm	10^{-10} m
Rydberg ($\mathrm{Ry} = \hbar^2/2ma_0^2$)	13.6058	×	1 eV	1 eV
Speed of light (c)	2.997925	×	10^{10} cm · sec^{-1}	10^{8} m · s^{-1}
Fine structure constant				
($\alpha = e^2/\hbar c$)	7.2973	×	10^{-3}	10^{-3}
(α^{-1})	137.036	×	1	1
Avogadro's constant (N_A)	6.022	×	10^{23} mol^{-1}	10^{23} mol^{-1}
Boltzmann's constant (k_B)	1.3807	×	10^{-16} erg · K^{-1}	10^{-23} J · K^{-1}
Boltzmann's constant (k_B)	8.617	×	10^{-5} eV · K^{-1}	10^{-5} eV · K^{-1}
Gas constant (R)	8.314	×	10^{7} erg · K^{-1} mol^{-1}	1 J · K^{-1} mol^{-1}
Mechanical equivalent				
of heat	4.184	×	10^{7} erg · cal^{-1}	1 J · cal^{-1}
Energy $k_B T$ ($T = 273.15$K)	2.3538	×	10^{-2} eV	10^{-2} eV
Constant in $\hbar\omega/k_B T$				
($\hbar/k_B$)	7.6383	×	10^{-12} K · sec	10^{-12} K · s
Bohr magneton				
($\mu_B = e\hbar/2mc$)	9.2741	×	10^{-21} erg · G^{-1}	10^{-24} J · T^{-1}
Bohr magneton (μ_B)	5.7884	×	10^{-9} eV · G^{-1}	10^{-5} eV · T^{-1}
Constant in $\mu_B H/k_B T$				
(μ_B/k_B)	6.7171	×	10^{-5} K · G^{-1}	10^{-1} K · T^{-1}
Proton rest mass (m_p)	1.6726	×	10^{-24} gm	10^{-27} kg
Proton–electron mass ratio	1836.15	×	1	1
Nuclear magneton				
($\mu_N = e\hbar/2m_p c$)	5.0508	×	10^{-24} erg · G^{-1}	10^{-27} J · T^{-1}

1 eV/particle $\equiv 2.306 \times 10^4$ cal mol^{-1}

1 eV $\equiv 2.41796 \times 10^{14}$ Hz

$\equiv 8.0655 \times 10^3$ cm^{-1}

$\equiv 1.1604 \times 10^4$ K

SOURCE: E.R. Cohen and B.N. Taylor, *Journal of Physical and Chemical Reference Data* 2(4), 663 (1973).