Physical Constants [tsl47]

Gas constant	$R = 8.314 \times 10^3$ J kilomole^{-1} K^{-1} ($R = N_A k$)
Boltzmann's constant	$k = 1.381 \times 10^{-23}$ JK^{-1}
	$= 8.617 \times 10^{-5}$ eVK^{-1}
Avogadro's number	$N_A = 6.022 \times 10^{26}$ kilomole^{-1}
Volume of one kilomole of gas at STP	22.42 m^3 (STP = 0°C, 1atm)
Standard atmosphere	1.013×10^5 Pa
Mechanical equivalent of heat	4184 J kilocalorie^{-1}
Temperature of triple point of H$_2$O	273.16 K = 0.01°C
Atomic mass unit	1 amu $= 1.661 \times 10^{-27}$ kg
Planck's constant	$h = 6.626 \times 10^{-34}$ Js
	$\hbar = h/2\pi = 1.054 \times 10^{-34}$ Js
Bohr magneton	$\mu_B = 9.274 \times 10^{-24}$ JT^{-1}
Bohr radius	$a_0 = 5.292 \times 10^{-11}$ m
Electron charge	$e = 1.602 \times 10^{-19}$ C
Electron mass	$m_e = 9.109 \times 10^{-31}$ kg
Proton mass	$m_p = 1.673 \times 10^{-27}$ kg
Gravitational constant	$G = 6.673 \times 10^{-11}$ m^3 kg^{-1} s^{-2}
Standard acceleration due to gravity	$g = 9.807$ ms^{-2}
Speed of light	$c = 2.998 \times 10^8$ ms^{-1}
Permittivity of free space	$\varepsilon_0 = 8.854 \times 10^{-12}$ Fm^{-1}
Permeability of free space	$\mu_0 = 4\pi \times 10^{-7}$ NA^{-2}
Stefan constant	$\sigma = 5.670 \times 10^{-8}$ Wm^{-2} K^{-4}