TABLE A-3 SYMBOLS

Symbol		Meaning
α	=	helium nucleus (also $^4_2$He) emission from radioactive materials
β	=	electron (also $^0_{-1}e$) emission from radioactive materials
γ	=	high-energy photon emission from radioactive materials
Δ	=	change in a given quantity (e.g., ΔH for change in enthalpy)
c	=	speed of light in vacuum
c_p	=	specific heat capacity (at constant pressure)
D	=	density
E_a	=	activation energy
E^0	=	standard electrode potential
E^0 cell	=	standard potential of an electrochemical cell
G	=	Gibbs free energy
ΔG^0	=	standard free energy of reaction
ΔG^0_f	=	standard molar free energy of formation
H	=	enthalpy
ΔH^0	=	standard enthalpy of reaction
ΔH^0_f	=	standard molar enthalpy of formation
K_a	=	ionization constant (acid)
K_b	=	dissociation constant (base)
K_{eq}	=	equilibrium constant
K_{sp}	=	solubility-product constant
KE	=	kinetic energy
m	=	mass
N_A	=	Avogadro's number
n	=	number of moles
P	=	pressure
pH	=	measure of acidity ($-\log[H_3O^+]$)
R	=	ideal gas law constant
S	=	entropy
S^0	=	standard molar entropy
T	=	temperature (thermodynamic, in kelvins)
t	=	temperature (± degrees Celsius)
V	=	volume
v	=	velocity

TABLE A-4 PHYSICAL CONSTANTS

Quantity	Symbol	Value
Atomic mass unit	amu	$1.660\ 5389 \times 10^{-27}$ kg
Avogadro's number	N_A	$6.022\ 142 \times 10^{23}$/mol
Electron rest mass	m_e	$9.109\ 3826 \times 10^{-31}$ kg 5.4858×10^{-4} amu
Ideal gas law constant	R	8.314 L • kPa/(mol • K) 0.0821 L • atm/(mol • K)
Molar volume of ideal gas at STP	V_M	22.414 10 L/mol
Neutron rest mass	m_n	$1.674\ 9273 \times 10^{-27}$ kg 1.008 665 amu
Normal boiling point of water	T_b	373.15 K = 100.0°C
Normal freezing point of water	T_f	273.15 K = 0.00°C
Planck's constant	h	$6.626\ 069 \times 10^{-34}$ J • s
Proton rest mass	m_p	$1.672\ 6217 \times 10^{-27}$ kg 1.007 276 amu
Speed of light in a vacuum	c	$2.997\ 924\ 58 \times 10^8$ m/s
Temperature of triple point of water		273.16 K = 0.01°C