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TO THE READER

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SYMBOLS¹

<i>A</i>	activity of catalyst; area; constant; Helmholtz energy; mass of gramme-ion; mass efficiency of catalyst
<i>a</i>	activity; amount of substance; mean effective diameter of ions; number of gramme-atoms per mole; number of molecules of product; specific activity of catalyst
<i>B</i>	constant
<i>b</i>	amount of substance
<i>C</i>	capacitance; constant
<i>c</i>	amount of poison adsorbed by catalyst; cell constant; concentration; velocity of light
<i>D</i>	absorbed radiation dose; diffusion coefficient; energy of dissociation
<i>d</i>	distance; path of ionizing particle in irradiated substance
<i>E</i>	electric field strength
<i>E</i>	activation energy; e.m.f.; energy; potential difference; potential gradient
<i>e</i>	base of natural (Napierian) logarithms; charge of electron ² ; charge of particle; electron
<i>F</i>	Faraday constant; force
<i>f</i>	activity coefficient, mole-volume concentration basis; activity function of water ions; force; force constant; fugacity
<i>G</i>	conductance; Gibbs energy; radiation-chemical yield
<i>H</i>	enthalpy; heat of reaction
<i>I</i>	current intensity; energy of ionization; induction factor; intensity of light; ionic strength of solution; ionization potential; moment of inertia
<i>i</i>	empirical coefficient
<i>J</i>	rate of reaction
<i>j</i>	current density
<i>K</i>	activity product; cell constant; dissociation constant; electrolytic dissociation constant; equilibrium constant; hydrolysis constant; ionic product of water; relative temperature coefficient of conductivity; solubility product
<i>k</i>	Boltzmann constant; difference between standard potentials; rate constant ¹ ; dissociation function; molecule adsorption coefficient

¹ In the English translation of this book the recommendations contained in the *Manual of Symbols and Terminology for Physicochemical Quantities and Units* adopted by the IUPAC Council at Cortina d'Ampezzo, Italy, on July 7, 1969 (see *Pure and Applied Chemistry*, Vol. 21, No. 1, 1970) have been used wherever possible. —*Translator's note.*

² The symbol q_e is used when necessary to avoid confusion with the symbol e for the base of natural logarithms.

¹ The symbol k_r is used instead of k when necessary to avoid confusion with the symbol k for the Boltzmann constant.

L	constant; length of chain
l	critical distance; distance from beginning of reaction zone; length; thickness of diffuse layer
M	mass of mole; molecular mass
m	mass; number of molecules; rate of flow of mercury
N	number of molecules; number of particles
N_A	Avogadro constant
n	amount of substance; number of gramme-ions; number of kilomoles; number of molecules of intermediate; order of reaction with respect to intermediate; quantum number
P	decrease in electrolyte; impulse of rotation; probability; steric factor; total pressure
p	dipole moment; impulse; power of adsorbed radiation dose; pressure
\bar{p}	momentum
Q	heat; partition function; quantity of heat; quantity of light
\bar{Q}	heat effect of reaction
q	electric charge
R	gas constant; resistance
r	activity of one n -atomic ensemble; distance between ions; distance between particle centres; total content of isotope molecules in a given system
S	entropy; surface
s	factor
T	absolute temperature
t	temperature, °C; time; transport number
U	internal energy; mobility of ion; potential difference
u	absolute mobility; concentration of intermediate; linear velocity; power of electrical discharge
u'	velocity of cation
V	mobility of ion; rate of flow of a gas; relative velocity of molecule; Volta potential; volume
v	absolute mobility; partial volume of solvent in solution; velocity; volume of mole
v'	velocity of anion
W	work
x	degree of transformation (amount of reacted substance); mole fraction (amount of substance in moles)
Z	number of collisions; number of migration regions; number of molecules
z	charge number (charge of ion); factor
α (alpha)	anharmonic ratio; coefficient; degree of dissociation; factor; heat transfer coefficient; most probable velocity of molecule; poisoning coefficient; probability; single separation coefficient
β (beta)	constant; diffusion rate constant; fraction hydrolyzed
γ (gamma)	activity coefficient; interfacial tension; quantum yield; temperature coefficient of reaction rate
Δ (delta)	degree of transformation; Lalacian operator; mean migration area
δ	distance; interval; probability of a cycle; thickness
ϵ (epsilon)	energy of molecule; energy required for photochemical dissociation; liquid junction potential; relative permittivity
η (eta)	overvoltage; thermal efficiency; viscosity; viscosity factor
θ (theta)	fractional (surface) coverage
κ (kappa)	conductivity; factor; number of intermediate molecules
Λ (lambda)	equivalent conductivity
λ	heat of adsorption; mean free path of molecule; wavelength
μ (mu)	chemical potential; dipole moment of molecule; number of primary elementary reactions; reduced mass of molecule
ν (nu)	electrochemical potential; frequency; latitude; number of catalyst atoms per migration region; number of ions in dissociation of a molecule;

	stoichiometric coefficient
Π (pi)	osmotic pressure; product
π	ratio of circumference to diameter of circle, 3.14159
ρ (rho)	charge density; density; resistivity
Σ (sigma)	sum
σ	collision diameter; diameter of a molecule; surface charge density; surface tension; symmetry number of molecule; wave number
τ (tau)	half-life; life of mercury drop; lifetime of molecule; time; true transport number
φ (phi)	angle; dilution of solution; longitude; potential; potential difference (jump)
χ (chi)	transmission coefficient
ψ (psi)	apparent volume; potential
ω (omega)	angular velocity; fundamental frequency of vibrations; number of new molecules formed by one molecule of intermediate

The superscript $^{\circ}$ (for example G°) on a thermodynamic function means that the substance is in its standard state.

The Greek letter Δ in front of a thermodynamic function (for example ΔG) means that the change (final minus initial) is referred to.