GLOSSARY OF ABBREVIATIONS, SYMBOLS AND DEFINITIONS

The list of relevant documents for symbols and abbreviations recommended by the Nomenclature Committee of IUB and the IUPAC-IUB Joint Commission is published in Acta Biochim. Polon. (1988) 35, 225-266. The symbols and abbreviations were listed after Biochem. J. (1988), Biochim. Biophys. Acta (Information for contributors, 1982 edit.) and Units, Symbols and Abbreviations. A guide for biological and medical editors and authors (Royal Soc. Med., 1971). Generally abbreviations are hindrance to readers. Their use should be limited (especially such as ppt., concen., temp.) and used if required in tables, figures and detailed description of methods.

- absolute abbreviations
- absorbance
- absorption coefficient, molar
- absorption coefficient, specific
- acceleration due to gravity (9.81 m·s$^{-2}$)
- adenosine 5'-phosphate
- adenosine 5'-diphosphate
- adenosine 5'-triphosphate
- adenosine 3',5'-phosphate
- adrenocorticotropic hormone

abs. (e.g. abs. alcohol)

see also Acta Biochim. Polon. (1988) 35, 225-266

$A = \log \left( \frac{I_0}{I} \right)$ (dimensionless); optical density, extinction or absorbancy should not be used

$\varepsilon$, numerically equal to the absorbance of a 1 mol/litre solution in a 1 cm light-path. Use units of litre·mol$^{-1}$·cm$^{-1}$ or M$^{-1}$·cm$^{-1}$

$a$ (litre·g$^{-1}$·cm$^{-1}$); alternatively use $A_{\text{icm}}^{1%}$. Wavelengths are given (in nm) as subscripts without units, e.g. $A_{\text{icm},420}^{1%}$

$g$

AMP

ADP

ATP; the three phosphorus atoms are distinguished as $\alpha$, $\beta$ and $\gamma$, thus: adenosine-P$^\alpha \sim$ P$^\beta \sim$ P$^\gamma$

cyclic AMP (cAMP in tables and figures)

see corticotropin
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>alternating current</td>
<td>a.c.</td>
</tr>
<tr>
<td>amino acids, symbols for</td>
<td>see <em>Acta Biochim. Polon.</em> (1988) 35, 225-266</td>
</tr>
<tr>
<td>amino-acid, used as an adjective</td>
<td>e.g. amino-acid sequence</td>
</tr>
<tr>
<td>amount of substance (SI base quantity and unit)</td>
<td>n (symbol); unit: mole (mol)</td>
</tr>
<tr>
<td>ampere</td>
<td>A (not amp)</td>
</tr>
<tr>
<td>ångstrom</td>
<td>Å; use only to express atomic distances in a lattice or atomic radius</td>
</tr>
<tr>
<td>anhydrous</td>
<td>(otherwise use SI units: 1Å = 0.1 nm)</td>
</tr>
<tr>
<td>approximate(ly)</td>
<td>approx. (before numerical values only, or use about, not c., ca., circa or ~)</td>
</tr>
<tr>
<td>aqueous</td>
<td>aq.</td>
</tr>
<tr>
<td>area, symbol for</td>
<td>A</td>
</tr>
<tr>
<td>ascorbic acid</td>
<td>alternative permitted vitamin C</td>
</tr>
<tr>
<td>atmosphere (as unit of pressure)</td>
<td>atm (use SI units: 1 atm = 101325 Pa)</td>
</tr>
<tr>
<td>atomic mass</td>
<td>at. mass</td>
</tr>
<tr>
<td>atomic weight</td>
<td>at. wt.; preferably use relative atomic mass</td>
</tr>
<tr>
<td>atto ($10^{-18}$ ×)</td>
<td>a (prefix)</td>
</tr>
<tr>
<td>average</td>
<td>av.</td>
</tr>
<tr>
<td>Avogadro’s number</td>
<td>$N$</td>
</tr>
<tr>
<td>bar (pressure)</td>
<td>Italics should be used for species identification (roman type when used as an adjective)</td>
</tr>
<tr>
<td>barn (area) ($10^{-28}$ m²)</td>
<td>bar (use SI units: 1 bar = 105 Pa)</td>
</tr>
<tr>
<td>base pair</td>
<td>b</td>
</tr>
<tr>
<td>becquerel ($s^{-1}$)</td>
<td>bp</td>
</tr>
<tr>
<td>boiling point</td>
<td>Bq; the becquerel is equal to one disintegration per second</td>
</tr>
<tr>
<td>buffers, trivial names for</td>
<td>b.p.</td>
</tr>
<tr>
<td>calculated</td>
<td>use ergocalciferol or ercalciol, alternative permitted vitamin D₂</td>
</tr>
<tr>
<td>calorie, I. T.</td>
<td>calc.</td>
</tr>
<tr>
<td>calorie, thermochemical</td>
<td>calₜ (use SI units: 1 calₜ = 4.1868 J)</td>
</tr>
<tr>
<td>candela (luminous intensity)</td>
<td>calₜₜ (use SI units: 1 calₜₜ = 4.1867 J)</td>
</tr>
<tr>
<td>carbobenzoxy</td>
<td>calₜₜₜ (use SI units: 1 calₜₜₜ = 4.184 J)</td>
</tr>
<tr>
<td></td>
<td>cd (SI base unit)</td>
</tr>
<tr>
<td></td>
<td>use benzylxoycarbonyl (symbol, Z- or Cbz-)</td>
</tr>
</tbody>
</table>
O-(carboxymethyl)-cellulose catalytic-centre activity

centi \( (10^{-2} \times) \)

centimetre

centimetre gram second

centrifuging

change per 10°C rise

chi-squared (statistics)

chloramphenicol

cholecalciferol

chromatography

\( R_f \) value

\( R_{compound} \) value

solvent system

circular dichroism

absorption coefficient, molar

e ellipticity, mean residue

e ellipticity, molar

e ellipticity, specific

coefficient

coefficient of variation

coenzyme A and its acyl derivatives

compare

complementary DNA

complementary RNA

concentrated

CM-cellulose number of molecules of substrate transformed/s per catalytic centre c (prefix); avoid where possible (except for cm)

cm c.g.s.

conditions should be written thus:

\( 500 \times g \) for 15 min at 2°C or \( 500 g \) for 15 min at 2°C; sufficient information should be given for the procedure to be repeated

\( Q_{10} \)

\( X^2 \); with stated number of degrees of freedom

write out; CAP is not recommended alternative permitted calcio1 or vitamin D3

rate of movement of a substance relative to the solvent front in paper or thin-layer chromatography

rate of movement of a substance relative to a reference compound

e.g. butan-1-ol/acetic acid (4:1, v/v), butan-1-ol/acetic acid/water (4:1:1, by vol.)

c.d.

\( \varepsilon = \varepsilon_L - \varepsilon_R \); for biopolymers, molar concentration in terms of the mean residue \( M_r \) are generally used

\([\theta]_{m.w} = 3300 \Delta \varepsilon \). The units of \([\theta]\) are as for \([m]\)

\([\Psi]\) coeff.

standard deviation/mean value

CoA (CoASH) and acyl-CoA (Co-

ASAc, only in tables and figures)

cf.

cDNA

cRNA

conc.
concentration
concentration, symbol for conc.
c conductance c
constant const.
c constant, equilibrium K
constant, velocity k
corrected corr.
corticotropin (adrenocorticotropic hormone, adrenocorticotropic)
corticotropin (ACTH)
coulomb (s·A) C
counts/min, counts/s c.p.m., c.p.s.
crystalline, crystallized cryst.
cubic cu, or as e.g. mm³
curie Ci; the curie is equal to 3.7 × 10¹⁰
disintegrations/s (SI units: 1 Ci =
≡ 3.7 × 10¹⁰ Bq; see p. 160)
cycles per second Hz
ctydine 5'-phosphate CMP
ctydine 5'-diphosphate CDP
cytidine 5'-triphosphate CTP
da; a unit of mass equal to one-
twelth of the mass of one atom of
carbon 12 (dalton is non-SI unit).
Dalton may be used for molecular
density, SI unit for mass, but not for relative molecular
deci (10⁻¹ ×) mass, Mᵣ, which is a dimensionless
decimal point number; e.g. “the molecular mass
(decomposition of X is 10 Da” or “the molecular
degrees Celsius weight of X is 10” both are correct.
dek (10×) It is incorrect to say “the molecular
density, SI unit for weight of X is 10 Da” or “Mᵣ is
density, relative 10 Da”)
d (prefix); avoid where possible
deoxy (prefix) a point is used not a comma
deoxycholate decomp. (e.g. melting point)
d (g/ml)
d not deoxy; symbol d
DOC, only in tables or figures (after
definition)
deoxyribonuclease

deoxyribonucleic acid
deoxyribonucleosides, symbols for
dialysable
dialysate

$O$-(diethylaminoethyl)-cellulose
diffusion coefficient

3,4-dihydroxyphenylalanine
dimethylsulphoxide
5-dimethylaminonaphthalene-1-
sulphonyl
direct current
disintegrations/min, disintegrations/s
dissociation, degree of
dissociation constant, minus log of
distilled
disulphide group
dithionite (sodium)
dry ice
dyne
effective dose, median
electric current (SI base quantity and
unit)
electrode potential, standard
standard at given pH
electromotive force
electron spin resonance, electron
paramagnetic resonance
electronvolt
electrophoretic mobility
($m^2\cdot s^{-1}\cdot V^{-1}$)
elementary analyses

DNase (avoid DNAase) (Enzyme
Nomenclature. Recommendations
1984)

DNA

see Acta Biochim. Polon. (1988) 35,
225-266

not permitted; use diffusible
not used; for diffusate material use
diffusate (respectively use, non-diffusible material or dialysis residue)

DEAE-cellulose

$D$, $D^0$, $D_{20,u}$ etc. (corr. at zero con-
centrations and at 20 $^\circ$C in water,
respectively)

DOPA or Dopa

Me$_2$SO (DMSO should be avoided)

dansyl
d.c.
d.p.m., d.p.s.

$\alpha$

$pK$ (plural, $pK$ values)
dist.
alternative permitted $S\cdots S$

Na$_2$SO$_4$, not hydrosulphite, hypo-
sulphite

use solid CO$_2$

dyn (use SI units: 1 dyn = $10^{-5}$ N)

ED$_{50}$

$I$ (symbol); unit: ampere (A)

$E_0$

$E'_0$
e.m.f.

es.s.r., e.p.r.

eV ($\approx 1.6022 \times 10^{-19}$ J)

$m$

percentages should be given to one
decimals only; elements are to be
listed in the order C, H and then
ellipticity
energy (heat)
energy (mechanics)
energy-rich bond
enthalpy (change)
extropy, SI unit for
entropy (change)
enzyme-linked immunosorbent assay
enzyme nomenclature, recommendations of
enzyme units
enzyme units, international
equation

equilibrium constant

equivalent (weight)
erg
et alia (and others)
ethanol, ethanolic
ethylenediaminetetraacetate
ethyleneglycolbis(aminooethyl)ether
tetraacetate (HO2C-CH2)2N-
- [CH2]2-O-[CH2]2-O-[CH2]2-
-N(CH2-CO2H)2
experiment

extinction
extinction coefficient, molar
farad (m², kg⁻¹, s⁴, A² = A·s·V⁻¹ =
=C·V⁻¹)
Faraday

the remainder in alphabetical order
of symbols
see circular dichroism, ellipticity
Q
E
∼, e.g. E∼P; should not be used
to mean “about”
ΔH (kJ·mol⁻¹)
joule per kelvin (J·K⁻¹) (not e.u.)
ΔS (kJ·mol⁻¹ K⁻¹) (not e.u.)
e.l.i.s.a.

see Enzyme Nomenclature, Recommendations 1984. Academic Press,
London and New York
should be defined in each paper;
use SI units where possible (see
ekatal, p. 167)
μ; as micromoles of substrate trans-
formed per minute under specified
conditions which must be defined
eqn. (plural eqns.); use only when
a particular equation is referred to,
e.g. Eqn. 1

K
equiv. (wt.)

erg (use SI units: 1 erg = 10⁻⁹ J)
et al.; use only in citing literature
and never in a list of references
not ethyl alcohol, not alcoholic
EDTA (not Versene)

EGTA
Expt. (plural Expts.); use only when
a particular experiment is referred to,
e.g. Expt. 2
log(I₀/I); use absorbance, p. 159
e; use absorption coefficient, p. 159

F
F: quantity of electricity associated
fast protein liquid chromatography
femto \((10^{-15} \times)\)
figure

flavin-adenine dinucleotide
flavin mononucleotide
fluorescence anisotropy
fluorescence polarization
for example
free energy (Gibbs) (change)
freezing point
frictional coefficient (molar)
frictional coefficient (molar) for sphere of same volume
gas constant per mole
gamma: \(\gamma \ (10^{-6} \ \text{gram})\)
gas-liquid chromatography
gas-liquid chromatography linked to mass spectrometry
gauss
genus
giga \((10^9 \times)\)
glutathione, oxidized reduced
\(\alpha\)-glycerophosphate

gram
gram-atom
gram-molecule
gravitational field, unit of (in centrifuging) \((9.81 \ \text{m} \cdot \text{s}^{-2})\)
gray \((\text{m}^2 \cdot \text{s}^{-2} = \text{J} \cdot \text{kg}^{-1})\)
guanosine 5'-phosphate
guanosine 5'-diphosphate
guanosine 5'-triphosphate
guanosine 3',5'-phosphate
haem, protohaem
haemoglobin, carbon monoxide haemoglobin, oxyhaemoglobin
half disappearance time

with 1 g-equiv. of chemical change f.p.l.c.
f (prefix)
Fig. 2, Figs. 4 and 5, Figs. 3a and 5a particular figure is referred to, e.g. Fig. 2, Figs. 4 and 5, Figs. 3a and 5a
FAD
FMN
\(A\)
\(P\)
e.g.
\(\Delta G \ (\text{kJ} \cdot \text{mol}^{-1})\)
f.p.
f
\(f_0\)
\(R\)
avoid; use microgram \((\mu\text{g})\)
g.l.c.
g.c.-m.s.
\(G \ (\text{use SI units: } 1 \ G = 10^{-4} \ \text{T})\)
gen.
\(G\)
GSSG
GSH
use sn-glycerol 3-phosphate when the configuration is to be specified
\(g\)
mol preferred, otherwise g-atom
mol

\(g\)
Gy
GMP
GDP
GTP
cyclic GMP
prosthetic group of haem

Hb, HbCO, HbO\(_2\), respectively
h.d.t.
hecto \((10^2 \times)\)
henry \((m^2 \cdot \text{kg} \cdot \text{s}^{-2} \cdot \text{A}^{-2} = \text{V} \cdot \text{A}^{-1} \cdot \text{s})\)
hertz \((\text{s}^{-1})\)
heterogenous nuclear RNA
high pressure (or high performance) liquid chromatography
Hill coefficient
hour \((3600 \text{ s})\)
human serum albumin
hydrogen ion concentration, minus log of
hydrosulphite, hyposulphite
immunoglobulin G, etc.
infrared
inhibitor constant
inosine 5'-phosphate
inosine 5'-diphosphate
inosine 5'-triphosphate
insoluble
international unit
ionic strength \((\text{mol/l})\)
isoelectric focusing
isoelectric point
isoenzyme
isotonic
isotope atomic mass labelling
isotopically labelled compounds
isotopically substituted compounds

h (prefix); avoid where possible
H
Hz
hnRNA
h.p.l.c.
h \((\text{not} \ n)\)
h
HSA
pH (plural pH values)
not used; see dithionite
IgG, etc.
i.r.
\(K_i\); dissociation constant of inhibitor enzyme complex
IMP
IDP
ITP
insol.
iu; must be defined; use SI units if possible
I
i.e.f.
pl; the pH at which a molecule has no effective charge
not isozyme; the isoenzyme that runs fastest towards the anode on electrophoresis is numbered isoenzyme

use iso-osmotic and specify composition of solution, e.g. 0.9% NaCl solution
at. mass is shown as a left superscript, e.g. iodine-131: \(^{131}\text{I}\)
when exact chemical nature of substitution is uncertain or name of substance labelled is descriptive rather than chemical, use e.g. \(^{131}\text{I}\)-labelled albumin
give substituting atom(s) is square brackets before compound, e.g.
\[^{14}\text{C}]\text{urea}; \text{for details see Acta Biochim. Polon.} (1988) 35, 225-266

expressions of Latin origin, e.g. \textit{in vivo, in vitro, per se, et al.}, etc. are italicized in \textit{Acta Biochimica Polonica}

\(J\)

\(K\) (not °K)

\(\text{use amino phospholipids}
\text{kento used only generically, otherwise oxo}

\(\text{use pentulose, hexulose etc., not ketopentose, ketohexose etc.}
\text{k (prefix)}
\text{kg}

\text{give reference or composition}
\text{avoid; use microlitre (\(\mu\)l) or mm\(^3\)}

\(1\) (symbol); unit: metre (m)

\(L.D_{50}\); dosage giving 50\% deaths

\text{use concentration or amount or activity if necessary to avoid ambiguity}

\(I\)

\(\text{not petroleum ether; boiling range to be stated}

\text{1 or L; (by definition special name for dm\(^3\)); where there is the possibility of confusion between the numeral “1” and the letter “1”, “L” may be used or “litre” should be written in full. The term “litre” may be used alongside the SI units}

\(\text{log}
\text{ln}

\text{I}_\nu\text{ (symbol); unit: candela (cd)}

\text{lm; unit of luminous flux}

\text{lx}
mass (SI base quantity and unit)
m (symbol); unit: kilogram (kg). Note the use of submultiples of gram, e.g. \( \mu g \) not nkg for \( 10^{-9} \) kg
m.s.
max.
Mx (use SI units: \( 1 \text{ Mx} = 10^{-8} \text{ Wb} \))
\( \bar{x} \)
M (prefix)
m.p.
t\( _m \) not \( T_m \)
mRNA
metabolic quotients should be given as mol/s or \( \mu \text{mol/min} \) for a defined arbitrary quantity of material, e.g. mg dry wt., mg of protein, or g wet wt., etc.
m-, o-, p-; only in names of organic compounds
not methyl alcohol
m
\( K_m \); the constant is defined as the substrate concentration at which \( v = V/2 \)
\( \mu \); (prefix)
\( \mu g \)
\( \mu l \) (1 \( \mu l = 1 \text{ mm}^3 \))
p (prefix); not \( \mu \mu \)
\( \mu \text{M} \) or \( \mu \text{mol/l} \)
\( \mu \text{mol} \); not \( \mu \mu \)
\( \mu \text{m} \); not \( \mu \mu \)
m (prefix)
nmol or mequiv.
mg
ml (1 ml = 1 cm\(^3\))
mmHg (use SI units: \( 1 \text{ mmHg} \approx 133.3 \) Pa)
n (prefix); not \( \mu \mu \)
nm; not \( \mu \mu \)
mm or mmol/l
<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>millimole</td>
<td>mmol; not mM</td>
</tr>
<tr>
<td>minimum</td>
<td>min.</td>
</tr>
<tr>
<td>minute (60 s)</td>
<td>min</td>
</tr>
<tr>
<td>mitochondrial DNA</td>
<td>mtDNA</td>
</tr>
<tr>
<td>mitochondrial RNA</td>
<td>mtRNA</td>
</tr>
<tr>
<td>molar</td>
<td>preceding a name of quantity means “divided by amount of substance”, giving, in effect, the quantity per mole</td>
</tr>
<tr>
<td>molar (concentration)</td>
<td>M or mol/l</td>
</tr>
<tr>
<td>mole</td>
<td>mol</td>
</tr>
<tr>
<td>molecular mass</td>
<td>unlike “relative molecular mass” this requires units (see dalton). Where the molecular mass is not known the amount of compound should, where possible, be reported in an SI mass unit</td>
</tr>
<tr>
<td>molecular weight</td>
<td>use “relative molecular mass” (symbol ( M_r ))</td>
</tr>
<tr>
<td>nano ( (10^{-9} \times) )</td>
<td>n (prefix)</td>
</tr>
<tr>
<td>nanolitre</td>
<td>nl ( (1 \text{ nl} = 10^{-12} \text{ m}^3) )</td>
</tr>
<tr>
<td>month</td>
<td>preferably do not abbreviate</td>
</tr>
<tr>
<td>namely</td>
<td>viz.</td>
</tr>
<tr>
<td>newton ( (\text{m} \cdot \text{kg} \cdot \text{s}^{-2} = \text{J} \cdot \text{m}^{-1}) )</td>
<td>N</td>
</tr>
<tr>
<td>nicotinamide-adenine dinucleotide</td>
<td>NAD</td>
</tr>
<tr>
<td>nicotinamide-adenine dinucleotide, oxidized</td>
<td>NAD(^+) preferred</td>
</tr>
<tr>
<td>nicotinamide-adenine dinucleotide, reduced</td>
<td>NADH preferred</td>
</tr>
<tr>
<td>nicotinamide-adenine dinucleotide phosphate</td>
<td>NADP</td>
</tr>
<tr>
<td>nicotinamide-adenine dinucleotide phosphate, oxidized</td>
<td>NADP(^+) preferred</td>
</tr>
<tr>
<td>nicotinamide-adenine dinucleotide phosphate, reduced</td>
<td>NADPH preferred</td>
</tr>
<tr>
<td>nicotinamide mononucleotide</td>
<td>NMN</td>
</tr>
<tr>
<td>nuclear DNA</td>
<td>nDNA</td>
</tr>
<tr>
<td>nuclear magnetic resonance</td>
<td>n.m.r.</td>
</tr>
<tr>
<td>chemical-shift</td>
<td>( \delta; ) parts per million (p.p.m.), the reference compound must be quoted</td>
</tr>
<tr>
<td>nuclear Overhauser enhancement</td>
<td>n.o.e.</td>
</tr>
<tr>
<td>nuclear RNA</td>
<td>nRNA</td>
</tr>
</tbody>
</table>
nucleosides, nucleotides and poly-
nucleotides, symbols for number

observed

ohm (m²·kg·s⁻³·A⁻² = V·A⁻¹)

optical rotation

optical rotatory dispersion

optically active isomers

optimum

osmolar

together

page, pages

partial specific volume

partial coefficient (dimensionless)

parts per million

pascal (SI unit for pressure)

\( \text{p} \), \( \text{pp} \)

\( \nu \)

\( \alpha \) or \( K_p \)

\( \text{p.p.m.} \)

Pa

per cent

petroleum ether

phosphate

inorganic orthophosphate

inorganic pyrophosphate

phosphoric residue

phosphoric residues in three-letter symbols for nucleotides, and poly-
nucleotides


no.: use only when followed by a number, e.g. No. 3; do not use nr. or #

obs.

\( \Omega \)

specific optical rotation (with concn. 1 g/ml, light-path 10 cm), e.g. \( [\alpha]_D^{20} \), \( [\alpha]_{2461}^{25} \)

o.r.d.


opt.

osm or osmol/l (the concentration producing an osmotic pressure equal to that of a molar solution of a perfect solute)

\( \text{p} \), \( \text{pp} \)

\( \nu \)

\( \alpha \) or \( K_p \)

\( \text{p.p.m.} \)

\( \text{Pa} \)

\( /; \) use only in units as e.g. mol/s (or mol·s⁻¹). Expressions such as mol/min/mg should never be used; more than two units should be written: mol·min⁻¹ mg⁻¹ or mol/ min per mg. Terms such as mg⁻¹ protein or mg protein⁻¹ are inappropriate: use (mg protein)⁻¹ or/ mg protein

\% ; only when preceded by a number not used (see light petroleum)

\( P_i \)

\( \text{PP}_i \)

\( P_- \), or -P

\( P \), e.g. adenosine 5'-diphosphate:
Ado5'PP (or PPAdo)
p, e.g. ppA, App
PBS not recommended; use NaCl•P,
buffer if necessary; specify pH and
concentration
use phospholipid
SI symbols and units are preferred.
The symbols for physical quantities are printed in italic type of the
Latin or Greek alphabets, and
should be underlined with a wavy
line in a typescript.
The symbol for a unit derived from
a proper name begins with capital
Roman letter, e.g. Hz for hertz;
any other symbol for a unit is
printed in a lower-case (upright)
Roman type
p (prefix)
p.f.u.; should be defined
P; traditionally used non-SI unit (use
SI units: 1 P = 10⁻¹ Pa•s)
PAGE; should be defined
p.d.
watt (W) (not calories per hour)
ppt.
prepn.; use only when a particular
preparation is referred to, e.g. pre-
 pn. 5
pascal, Pa (Pa = N•m⁻²)
P; (significance level in a statistical
test)
p.m.r.
alternative permitted vitamin B-6
rad or rd (Gy preferred)
rad
r.i.a.
recryst.
Ref. (plural Refs.); use only when
followed by a number, in a text
n: at stated temperature and wave-
length represent as, e.g. n₀
Relative band speed (partition chromatography)
Relative mobility (electrophoresis)
Relative molecular mass

Relative retention time
Respiratory quotient
Retinol and derivatives

Revolution
Rev./min
Riboflavin
Ribonuclease

Ribonucleic acid
Ribonucleoprotein
Ribonucleosides, symbols for

Ribosomal RNA
Ribosylthymine 5'-phosphate, diphosphate, and triphosphates
Röntgen (2.58 x 10^{-4} C·kg^{-1})
Saturated
Saturation
Second (time)
Sedimentation coefficient
Sedimentation coefficient corrected to 20°C in water

Sedimentation coefficient at zero concentration
Siemens (m^{-2} kg^{-1} s^3 A^2 = \Omega^{-1} = \text{A·V}^{-1})
Sievert [(J·kg^{-1}) x quality factor
Small nuclear RNA
Sodium dodecyl sulphate
Soluble
Solution
Solvent system

R, R_F, R_x (plural, R values etc.)

m, m_x

M_x; preferred name to "molecular weight". Molecular mass (unit: dalton) or molar mass (unit: g·mol^{-1}) may be used when appropriate

\( t_R \); used in gas-liquid chromatography

R.Q. (to be defined)
Vitamin A preferred as generic descriptor for consideration of biological activity

rev.

Not r.p.m.; use g where possible

Alternative permitted vitamin B2

Use RNase (avoid RNAase) (Enzyme Nomenclature. Recommendations 1984)

RNA
RNA (to be defined)


rRNA

TMP

TDP, and TTP, respectively

R

Satd.

Satn.

S

S; not sedimentation constant

\( s_{20,w} \); \( s_{20} \) may be used if it is unambiguous

\( s^0 \), \( s^0_{20,w} \), etc.

S

Sv

snRNA

SDS

Sol.

Soll.

See chromatography, p. 161
specific

specific activity
species (singular and plural)
square
standard deviation
standard error (of sampling)
standard error of estimate of mean value
standard temperature pressure
steradian (SI unit for solid angle)
stokes
substituents (variable, in organic compounds)

substrate constant

sugars, symbols for
sulphhydryl
sum
Svedberg unit \(10^{-13} \text{s}\)
temperature
temperature (SI base quantity and unit), absolute

temperature, empirical

tetra \(10^{12} \times\)
tesla \(\text{kg} \cdot \text{s}^{-2} \cdot \text{A}^{-1} = \text{V} \cdot \text{s} \cdot \text{m}^{-2}\)

Wb \cdot \text{m}^{-2})

that is
thiamin
thin-layer chromatography

sp.; preceding a name of quantity means “divided by mass”
sp. act.
sp. (plural spp.)
sp. or e.g. cm²
S.D.
s.e.; not ±
S.E.M.
s.t.p.
sr
St (use SI units: \(1 \text{St} = 10^{-4} \text{m}^2 \cdot \text{s}^{-1}\))

R, R', R", or R⁰, R², R³, R⁴ (if more than three); see *Acta Biochim. Polon.* (1988) 35, 225-266

K (dissociation constant of substrate-enzyme complex)

use thiol or SH
\(\Sigma\)
S
temp. (abbreviation)

\(T\) (symbol); unit: kelvin (\(K\), not degree Kelvin, \(not\ 0\text{K}\)); in thermodynamic calculations temperature should be expressed in kelvins

\(t\) or \(\theta\) (symbol); unit: Celsius degree (°C); used as more convenient unit, e.g. to express an experimental temperature. Where symbols are needed to represent both time and Celsius temp., \(t\) is preferred symbol for time and \(\theta\) for Celsius temperature

\(T\) (prefix)

i.e.

alternative permitted vitamin B1

\(t.l.c.\)
thymidine 5'-phosphate  
thymidine 5'-diphosphate  
thymidine 5'-triphosphate  
time (symbol)  
tocopherol  
torr.  

transfer RNA  
trichloroacetic acid  

O-(triethylaminoethyl)-cellulose  
turnover number (of an enzyme)  
ubiquinone  
ubisemiquinone  
ubiquinol  
ultraviolet  
uncorrected  
units  

uridine diphosphate glucose  
uridine 3',5'-phosphate  
uridine 5'-phosphate  
uridine 5'-diphosphate  
uridine 5'-triphosphate  
vacuum  
variety (e.g. botanical)  
velocity (symbol)  
Veronal  

versus  
viscosity, relative  
viscosity, specific  
viscosity, reduced  
viscosity, intrinsic  
vol. (m²·kg·s⁻³·A⁻¹ = J·A⁻¹·s⁻¹ = J·C⁻¹)  
volume  

volume, SI unit for  
cubic metre (m³); see also litre, p. 167  

dTMP  
dTDP  
dTTP  
t  
alternative permitted vitamin E  
Torr (use SI units: 1 Torr ≈ 133.322 Pa)  
tRNA  
TCA not used; write out or use, e.g. “acid soluble”  
TEAE-cellulose  
not used; catalytic-centre activity  
Q  
QH  
QH₂  
u.v.  
uncorr.  

SI (Système International) units is preferred; some units that are not SI units stricto sensu are accepted, e.g. litre  
UDP-Glc  
cyclic UMP  
UMP  
UDP  
UTP  
vac.  
var.  
v  
used only for buffer mixtures; otherwise use 5,5'-diethylbarbituric acid  

\[ \eta_{\text{rel}} \left( \frac{\text{viscosity of solution}}{\text{viscosity of solvent}} \right) \]

\[ \eta_{\text{sp}} \] (i.e. \( \eta_{\text{rel}} - 1 \))  
[\( \eta_{\text{sp}} \)/c (units: ml/g)]  
[\( \eta_{\text{sp}} \)], i.e. \( \lim_{c \to 0} \eta_{\text{sp}}/c \)  

V  
vol. (plural, vols.); use only when preceded by a number
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition/Notes</th>
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<tbody>
<tr>
<td>volume</td>
<td>volume</td>
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<tr>
<td>watt (m$^2$.kg.s$^{-3}$ = J.s$^{-1}$)</td>
<td></td>
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<tr>
<td>wavelength</td>
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<tr>
<td>wavelength of D line of sodium (other wavelengths in nm)</td>
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<tr>
<td>wavenumber (unit)</td>
<td></td>
</tr>
<tr>
<td>weber (m$^2$.kg.s$^{-2}$.A$^{-1}$ = V.s)</td>
<td></td>
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<tr>
<td>weight</td>
<td></td>
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<tr>
<td>weight : volume</td>
<td></td>
</tr>
<tr>
<td>xanthosine 5'-phosphate</td>
<td></td>
</tr>
<tr>
<td>xanthosine 5'-diphosphate</td>
<td></td>
</tr>
<tr>
<td>xanthosine 5'-triphosphate</td>
<td></td>
</tr>
<tr>
<td>v/v; used only for two components; by vol. used for three or more components</td>
<td>W</td>
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