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INSTRUCTIONS TO AUTHORS

JOURNAL OF CHROMATOGRAPHY A

INCLUDING ELECTROPHORESIS, MASS SPECTROMETRY AND OTHER SEPARATION AND DETECTION METHODS
(incl. SYMPOSIUM VOLUMES)

JOURNAL OF CHROMATOGRAPHY B

ANALYTICAL TECHNOLOGIES IN THE BIOMEDICAL AND LIFE SCIENCES

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JOURNAL OF CHROMATOGRAPHY

INSTRUCTIONS TO AUTHORS

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including electrophoresis, mass spectrometry and other separation and detection methods

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General

Chemicals. Supplier (+ city/town, state, country) and degree of purity of all less common chemicals; EC number of enzymes; optical purity of enantiomers.

Equipment. Model and manufacturer (+ city/town, state, country) of commercial instruments (e.g. chromatographs and detectors). For instruments that are not commercially available, sufficient detail (or a reference) should be given to allow others to construct their own instrument. Detection parameters (e.g. type, wavelength, attenuation, linearity range, limit of detection at a specified signal-to-noise ratio).

Sample preparation. Application papers should contain full details (or a reference) of the method of sample preparation. For centrifugation steps, give details of *g* value and time. Injection device and volume and concentration of the injected sample should be specified.

Column liquid chromatography

Column. Column dimensions (length × internal diameter), manufacturer and location, packing material (for non-commercial columns or columns that are not widely used the chemical composition should be specified), particle diameter, pore diameter, column temperature.

Mobile phase. Complete and unambiguous description of the mobile phase composition or procedure for its preparation; pH; flow-rate; gradient programme.

k values. When reporting values, the method for determining the hold-up time (t_0) must be described.

Gas chromatography and supercritical fluid chromatography

Column. In addition to the parameters mentioned for column liquid chromatography, specify type of column (packed, capillary, etc.) support material, film thickness of the stationary phase, and surface modification, if applicable.

Carrier gas. Type, purity, flow-rate or inlet pressure (bar or MPa).

Temperature. All relevant temperatures (or temperature programmes) should be detailed.

Planar chromatography

Chamber. Internal dimensions, manufacturer and location, saturation, temperature, humidity.

Thin layer or paper. Manufacturer and location, material, dimensions, type (laboratory-prepared or commercially precoated) and thickness of layer, additives (fluorescent indicator, binder), position of starting line, development mode, method of activation.

Solvent. Composition of solvent, monophasic or upper or lower phase of two-phase mixture, total volume.

Sample. Application method, size of spot or streak, solvent and amount of solute and volume of solution applied.

Detection. Spray reagent, wavelength, details of colours, R_F values.

Electrophoresis

Matrix. For example, cellulose acetate, agarose, polyacrylamide; gel concentration; percentage cross-linker; dimensions and material of tube, sheet, etc., surface modification, length between column inlet and detector, temperature.

Buffers. Complete and unambiguous description of buffers used, pH and how the pH was set or adjusted.

Other. Injection method, voltage, current. In electropherograms, anode and cathode should be indicated.

Mass spectrometry

Inlet system. Direct on-line, off-line, postcolumn splitting, postcolumn buffer or matrix addition.

Source. Ionization energy, temperature, trap current, reagent gas. For LC interfaces, complete and unambiguous description of the same and their operating parameters (vaporizer and capillary temperature, buffers, nebulizing, auxiliary or ionizing gases, gas pressures, source and interface voltages, up-front CID voltages.

Mass analyzer. Accelerating voltage, scan mode, collision gas for tendem MS work, collision gas pressure, collision energy, resolution and mass range.

Detection. Electron multiplier voltage and/or electometer gain, ions monitored in SIM and dwell times.

Appendix 2: Conversion table for the non-SI units most frequently used

The use of some non-SI units has been accepted for practical reasons; to this category belong units for time (min, h), volume (l), pressure (1 bar = 10^5 Pa), temperature (°C), energy (1 eV ≈ 160 219 · 10^{-21} J), mass (1 u ≈ 1.66053 · 10^{-27} kg) and activity (1 Ci = 3.7 · 10^{10} Bq). This journal also accepts Å (= 0.1 nm). Concentration should formally be expressed in mol dm^{-3} or mol l^{-1}, but the symbol *M* is accepted; normality (*N*) should not be used, however. The frequently used ''daltons'' are not compatible with the SI system — the relative molecular mass (M_r) should be given as a value only (dimensionless). Gravitational force must be expressed in *g*; rpm is not allowed for centrifugation (but it is, e.g., for vortex mixing). The table below summarizes some conversion factors; to obtain the value in SI units, the value in non-SI units should be multiplied by the factor.

Physical quantity	Type of conversion	Factor
Length	in. → cm	2.54
	ft. → cm	30.4801
Area	$in.^2 \rightarrow cm^2$	6.451626
Mass	lb. → kg	0.45359237
Volume	gallon (USA) → l	3.785332
	gallon (UK) → l	4.54609
Pressure	atm → Pa	101 325
	mmHg or Torr → Pa	133.322
	$mmH_2O \rightarrow Pa$	9.80665
	kp $cm^2 \rightarrow Pa$	98066.5
	lbs. $in.^{-2}$ or p.s.i. → Pa	6894.76

Other frequently used non-SI ‘‘units’’ are ppm, ppb and ppt. When used in this journal, the American billion (10^9) and trillion (10^{12}) are meant. The use of ppm, ppb and ppt is *only* permitted if they refer to mass/mass or volume/volume ratios; they should **not** be used for mass/volume ratios. The first time such a ‘‘unit’’ appears in an article, it should be indicated whether it refers to mass/mass or to volume/volume.

Appendix 3: Abbreviations and symbols that may be used without definition

Abbreviations and symbols should not be used in article titles. Please note that most abbreviations should only be used in combination with a value, or in structural formulae.

Abbreviations

A, C, G, T	adenine, cytidine, guanine, thymine
Ac, OAc	acetyl, acetate
A/D	analog-to-digital
ADP, AMP, ATP, and similar nucleoside phosphates	adenosine 5′-di-, -mono-, triphosphate, etc.
a.c.	alternating current
amino acids	standard 3- and 1-letter codes
AU	absorbance units
BET	Brunauer—Emmett—Teller
b.p.	boiling point
Bu	butyl
cpm	counts per minute
CE	capillary electrophoresis
d, m, p, r, t (in nucleosides/nucleotides/nucleic acids)	deoxy, messenger, phosphate, recombinant/ribosomal, transfer
d.c.	direct current
DDD, DDT, DDE	di-, trichloro-bis(chlorophenyl)ethane, -ethylene
DEAE	diethylaminoethyl
DNA, DNase	deoxyribonucleic acid, deoxyribonuclease
Dns, dansyl	5-dimethylaminonaphthalene-1-sulfonyl
DOPA	3,4-dihydroxyphenylalanine
dpm	desintegrations per minute
EC	enzyme commission numbering system
EDTA	ethylenediaminetetraacetate, -acetic acid
equiv.	equivalent
Et	ethyl
FS	full scale

FSOT	fused-silica open tubular
FT	Fourier transform
GC, GLC, GSC	gas chromatography, gas–liquid chromatography, gas–solid chromatography
HP...	high-performance...
I.D.	internal diameter
IgG	immunoglobulin G
i.m.	intramuscular
i.p.	intraperitoneal
IR	infrared
I.S.	internal standard
I.U.	international unit
i.v.	intravenous
LC	liquid chromatography
LD	lethal dose
Me	methyl
m.p.	melting point
MS	mass spectrometry
NAD, NADH (NADP, NADPH)	nicotinamide—adenine dinucleotide (phosphate)
NMR	nuclear magnetic resonance
O.D.	outer diameter
Ph	phenyl
Pr	propyl
PTFE	poly(tetrafluoroethylene)
RNA, RNase	ribonucleic acid, ribonuclease
RP....	reversed-phase....
rpm	revolutions per minute
RSD	relative standard deviation (preferred over coefficient of variation)
SD	standard deviation
TLC	thin-layer chromatography
Tris	tris(hydroxymethyl)aminomethane
u	atomic mass units (reference to mass of ^{12}C; preferred over a.m.u./amu: reference to mass of ^{16}O)
UV	ultraviolet
vol., v/v	volume, volume/volume
Vis	visible
WCOT	wall-coated open tubular
wt., w/w, m/m	mass, mass/mass

Symbols

A	peak area or absorbance
α	separation factor
D	diffusion coefficient
d_f	film thickness
d_p	particle diameter
ε	interparticle porosity or molar adsorptivity
F	mobile phase flow-rate
ΔG^0	standard Gibbs free energy change
ΔH^0	standard enthalpy change
H	plate height
h	reduced plate height
J	coupling constant
K	equilibrium constant
k	retention factor
K_c	distribution constant (preferred over partition coefficient)
L	length
λ	wavelength
M_r	(relative) molecular mass
μ	electrophoretic mobility

N	number of plates
n	number of determinations
η	viscosity
p	pressure or probability
P	relative pressure
p...	negative logarithm of... (as in pH, pI, pK_a)
r	relative retention or correlation coefficient
R	molar gas constant
R_F	retardation factor
R_M	log $(1/R_F - 1)$
R_s	resolution
ρ	density
ΔS^0	standard entropy change
S/N	signal-to-noise ratio
T	temperature
t	time
t_0	retention time of unretained compound
t_R (t'_R)	(adjusted) retention time
u	mobile phase velocity
V_0	retention volume of unretained compound
V_R (V'_R)	(adjusted) retention volume
w_b	peak width at base
w_h	peak width at half height

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