Abbreviations and Acronyms

a	axial
a′	pseudoaxial
AAA	asymmetric allylic alkylation
Ab	antibody
Ac	acetyl
ac	anticlinal
acac	acetylacetonate
ACN	acetonitrile
AD	asymmetric dihydroxylation
Ad	adamantyl
AE	asymmetric epoxidation
AIBN	azobisisobutyronitrile
Ala	alanine
ap	antiperiplanar
aq	aqueous
Ar	aryl
Asp	aspartic acid
atm	atmospheric pressure
ATP	adenosine triphosphate
$b_{0.5}$	peak width at half height
Bc	butyryl
BHT	2,6-di-*tert*-butyl-4-methylphenol
Bn	benzyl
Boc	*t*-butoxycarbonyl, *t*-BuOC(O)-
BPDM	benzphetamin *N*-demethylase
Bu	*n*-butyl
Bz	benzoyl
°C	degree Celsius
c	concentration; conversion
CAL	*Candida antarctica* lipase
CAN	cerium ammonium nitrate
Cat	catalyst
Cb	*N*,*N*-diisopropylcarbamoyl, $(i\text{-Pr})_2$NC(O)-
Cby	2,2,4,4-tetramethyloxazolidine-3-carbonyl

Cbz	carbobenzyloxy, BnOC(O)-
CD	circular dichroism
CDA	chiral derivatizing agent
CEC	capillary electrochromatography
CIDR	crystallization-induced dynamic resolution
CIP	Cahn–Ingold–Prelog
CLA	chiral Lewis acid; complete line shape analysis
cod	1,5-cyclooctadiene
Cp	cyclopentadienyl
CPE	circular polarization of emission
CPL	circularly polarized light
CP-MAS	cross polarization magic angle spinning
18-crown-6	1,4,7,10,13,16-hexaoxacyclooctadecane
CSA	chiral solvating agent
CSP	chiral stationary phase
CSR	chiral shift reagent
Cy, *c*-C_6H_{11}	cyclohexyl
CZE	capillary zone electrophoresis
D	sodium D-line (589 nm); absolute configuration (Fischer–Rosanoff convention)
d	day(s)
DABCO	1,4-diazabicyclo[2.2.2]octane
dba	dibenzylidene acetone
DBB	4,4′-di-*tert*-butylbiphenyl
DBN	1,5-diazabicyclo[4.3.0]non-5-ene
DBU	1,8-diazabicyclo[5.4.0]undec-7-ene
DCC	dicyclohexyl carbodiimide
DDQ	2,3-dichloro-5,6-dicyano-1,4-benzoquinone
de	diastereomeric excess
DEAD	diethyl azodicarboxylate
DGC	dynamic chromatography
DHPLC	dynamic high performance liquid chromatography
DIAD	diisopropyl azodicarboxylate
DIEA	*N*,*N*-diisopropylethylamine
DKR	dynamic kinetic resolution
dm	decimeter
DMAD	dimethyl azodicarboxylate
DMAP	4-dimethylaminopyridine
DME	1,2-dimethoxyethane
DMEKC	dynamic micellar electrokinetic chromatography
DMF	*N*,*N*-dimethyl formamide
DMSO	dimethyl sulfoxide
DNA	deoxyribonucleic acid
DNB	3,5-dinitrobenzoyl
DNMR	dynamic nuclear magnetic resonance
DOPA	3,4-dihydroxyphenylalanine
dppf	1,1′-bis(diphenylphosphino)ferrocene
dr	diastereomeric ratio
DSFC	dynamic supercritical fluid chromatography
DSubFC	dynamic subcritical fluid chromatography
DTR	dynamic thermodynamic resolution

DYKAT	dynamic kinetic asymmetric transformation
E	electrophile
E	enzymatic enantioselectivity factor
(*E*)	entgegen, relative configuration
e	equatorial
e′	pseudoequatorial
ECCD	exciton-coupled circular dichroism
ee	enantiomeric excess
ee_{pss}	enantiomeric excess at photostationary state
e.g.	*exempli gratia*, for example
en	ethylenediamine
enant	enantiomerization
epi	epimer; epimerization
equiv	equivalent
er	enantiomeric ratio
EROD	ethoxyresorufin-*O*-deethylase
ESR	electron spin resonance
Et	ethyl
et al.	*et alii*, and others
EXSY	NMR exchange spectroscopy
FID	flame ionization detection
Fmoc	fluorenyl-9-methoxycarbonyl
G	Gibbs free energy
$G^{\neq}$	Gibbs activation energy
g	gram
g	anisotropy factor
GC	gas chromatography
Gly	glycine
H	enthalpy
$H^{\neq}$	activation enthalpy
h	hour(s); Planck's constant
HCH	hexachlorocyclohexane
hfc	heptafluorobutyrylcamphorato
HKR	hydrolytic kinetic resolution
hν	irradiation of light
HOMO	highest occupied molecular orbital
HPLC	high performance liquid chromatography
HSA	human serum albumin
i-Bu	isobutyl
i.e.	*id est*, that is
i-Pr	isopropyl
IR	infrared
J	joule
J	coupling constant
K	Kelvin
K	equilibration constant
k	kilo
k	rate constant
k_B	Boltzmann's constant
KHMDS	potassium hexamethyldisilazide

KR	kinetic resolution
L	liter; ligand; absolute configuration (Fischer-Rosanoff convention)
l	length
LASER	light amplification by stimulated emission of radiation
LDA	lithium diisopropylamide
Leu	leucine
LHMDS	lithium hexamethyldisilazide
ln	natural logarithm
LTMP	lithium tetramethylpiperidide
LUMO	lowest unoccupied molecular orbital
Lys	lysine
M	molar
(*M*)	denotes left-handed helicity (CIP convention)
m	milli
m	*meta*
MC	3-methylcholanthrene
m-CPBA	3-chloroperbenzoic acid
Me	methyl
MEKC	micellar electrokinetic chromatography
Mes	mesityl
Met	methionine
min	minute(s)
MOM	methoxymethyl
MP	mobile phase
MS	mass spectrometry
Ms	methylsulfonyl, CH_3SO_2-
MTBE	methyl *tert*-butyl ether
N	0,1,2,3 . . .
n	nano
n	1,2,3 . . .
n_A	population of state *A*
NADH	nicotinamide adenine dinucleotide
NADPH	nicotinamide adenine dinucleotide phosphate
NBS	*N*-bromosuccinimide
Nf	nonaflate, $C_4F_9SO_2$-
NLE	nonlinear effect
nm	nanometer
NMO	*N*-methylmorpholine *N*-oxide
NMR	nuclear magnetic resonance
NOESY	nuclear Overhauser effect spectroscopy
NSAID	nonsteroidal anti-inflammatory drug
Nu	nucleophile
o	*ortho*
obs	observed
ORD	optical rotary dispersion
Ox	oxidation
(*P*)	denotes right-handed helicity (CIP convention)
p	*para*
PB	phenobarbital
PCB	polychlorinated biphenyl

PCL	*Pseudomonas cepacia* lipase
Ph	phenyl
pH	$-\log_{10}[H_3O^+]$
Phe	phenylalanine
Phg	phenylglycine
PhMe	toluene
Piv	trimethylacetyl
PKR	parallel kinetic resolution
PLP	pyridoxal-5′-phosphate
PM3	parametric method 3 (semi-empirical molecular modeling software)
PMB	*para*-methoxybenzyl
PPAR	peroxisome proliferator-activated receptor
ppm	parts per million
Pr	*n*-propyl
PS	lipase from *Pseudomonas stutzeri*
py	pyridine
R	alkyl; universal gas constant
(*R*)	*rectus*, denotes absolute configuration (CIP convention)
rac	racemic; racemization
Red	reduction
RNA	ribonucleic acid
S	entropy
(*S*)	*sinister*, denotes absolute configuration (CIP convention)
$S^{\neq}$	activation entropy
s	second(s)
s	enantioselectivity factor
s-Bu	*sec*-butyl
sc	synclinal
S_E	electrophilic substitution
SFC	supercritical fluid chromatography
sia	3-methyl-2-butyl
SMB	simulated moving bed chromatography
S_N	nucleophilic substitution
S_Ni	intramolecular nucleophilic substitution
SP	stationary phase
sp	synperiplanar
SRS	self-regeneration of stereocenters
SubFC	subcritical fluid chromatography
T	temperature
T_c	coalescence temperature
t	time
TBAF	tetrabutylammonium fluoride
TBDMS	*tert*-butyldimethylsilyl
TBDPS	*tert*-butyldiphenylsilyl
TBHP	*tert*-butyl hydroperoxide
t-Boc	*t*-butoxycarbonyl, *t*-BuOC(O)-
TBS	tributylsilyl
t-Bu	*tert*-butyl
TCDD	2,3,7,8-tetrachlorodibenzo-*p*-dioxin
Tf	triflate, CF_3SO_2-

TFA	trifluoroacetic acid; trifluoroacetyl
TFAA	trifluoroacetic anhydride
tfc	trifluoroacetylcamphorato
THF	tetrahydrofuran
THP	tetrahydropyran
TIPS	triisopropylsilyl
tipyl	2,4,6-triisopropylphenyl
TLC	thin layer chromatography
TMEDA	*N*,*N*,*N*′,*N*′-tetramethylethylenediamine
TMS	trimethylsilyl
Tol	tolyl
Tr	trityl, Ph_3C-
TR-CPL	time-resolved circularly polarized luminescence
TS	transition state
Ts	tosyl, 4-$CH_3C_6H_4SO_2$-
TTF	tetrathiafulvalene
Tyr	tyrosine
URO	uroporphyrinogen
UV	ultraviolet
UV-vis	ultraviolet-visible
V	volt
VCD	vibrational circular dichroism
VE	valence electron
(*Z*)	*zusammen*, relative configuration
α	denotes anomer; *C*-2
α	rotation angle; chromatographic enantioselectivity factor
α,ω	denotes chain termini
β	denotes anomer; *C*-3
γ	*C*-4
Δ	heat; difference; right-handed complex
δ	*C*-5
ε	ellipticity
θ	molar ellipticity
κ	transmission coefficient
Λ	left-handed complex
λ	wavelength
μ	micro
ν	frequency
$\tau_{1/2}$	half-life time
Φ	quantum yield for photoracemization
χ	mole fraction
(+)	dextrorotatory
(–)	levorotatory