

III General symbols and abbreviations

A Symbols

a, b, c, d	hyperfine coupling constants for polyatomic radicals in the gas phase. Unit MHz = Mc/s
$\mathbf{a}$	hyperfine coupling tensor with elements a_{ij} . Unit milli-Tesla [mT]
a	isotropic coupling constant. Unit milli-Tesla [mT]
Δa	shift of a in liquid crystals, i.e. observed average $\langle a \rangle = a + \Delta a$. Unit [mT]
$\mathbf{B}$	magnetic induction. Unit Tesla [T]
$\mathbf{D}, \mathbf{E}$	Zero-field splitting parameters. Units [mT] or $[\text{cm}^{-1}]$
$\mathbf{g}$	g -tensor with elements g_{ij}
g	isotropic part of $\mathbf{g}$, i.e. mean value of principal elements
g_N	nuclear g -factor
$\mathbf{H}$	spin Hamiltonian operator
$\mathbf{I}$	nuclear spin operator
$\mathbf{J}$	exchange coupling parameter. Units [mT] or $[\text{cm}^{-1}]$
k_B	Boltzmann constant
L	Separation between extreme lines in the spectrum
μ_B	Bohr magneton
μ_{eff}	effective magnetic moment in units μ_B
μ_N	nuclear magneton
s	average distance between the unpaired electrons. Units Å
$\mathbf{S}$	electron spin operator
S	total electron spin quantum number
T	temperature in Kelvin [K]

B Abbreviations

add.	addition
ALC- μ SR	avoided-level-crossing muon spin resonance (μ LCR)
AM1	Austin method 1
av	average
ax	axial
CI	configuration interaction
CIDEP	Chemical induced dynamic electron polarization
CIDNP	Chemical induced dynamic nuclear polarization
corresp.	corresponding
dehalog.	dehalogenation
dehydr.	dehydration
DFT	density functional theory
e	electron
E	"entgegen" = opposite (<i>anti</i>)
EIE	ENDOR induced ESR (FSE)
ELDOR	electron electron double resonance
elect.	electrolysis
ENDOR	electron nuclear double resonance
EPR	electron paramagnetic resonance
eq	equatorial
ESE	electron spin echo
ESR	electron spin resonance

eV	electron Volt
FDMR	fluorescence detected magnetic resonance
FSE	field swept ENDOR (EIE)
hfcc	hyperfine coupling constant
hfs	hyperfine splitting
HMO	Hückel molecular orbital
INDO	intermediate neglect of differential overlap
irr.	irradiation
is	isotropic
MINDO	modified intermediate neglect of differential overlap
MNDO	modified neglect of differential overlap
mol.	molecular
MO	molecular orbital
Mu	muonium (μ^+e^-)
n	neutron
NMR	nuclear magnetic resonance
ox.	oxidation
pH	pH-value
phot.	photolysis
PM3	parametric method 3
red.	reduction
RT	room temperature
SCF	self consistent field theory
SOMO	single occupied molecular orbital
theor.	theoretical
TR-ESR	time-resolved ESR
TRIPLE	general and (or) special triple resonance
Tris-buffer	tris (hydroxymethyl) aminomethane
UHF	unrestricted Hartree-Fock
UV	ultraviolet
v	volume
wt	weight
X	X-ray
Z	"zusammen" = together (<i>syn</i>)
$\alpha, \beta, \gamma, \dots$	notation of position of proton in radical structure
γ	γ -irradiation
μ^+	positive muon
μ LCR	muon level-crossing resonance (ALC- μ SR)
μ SR	muon spin resonance

C Substances or part of substances

ACAC	acetylacetone
ACN	acetonitrile
ADP	adenosine diphosphate
DABCO	diazabicyclooctane
DBNO	di- <i>t</i> -butyl nitric oxide
dibenzo-18-crown-6	2,3,11,12-dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene
DME	1,2-dimethoxyethane
DMF	dimethyl formamide
DMSO	dimethyl sulfoxide
DTBN	di- <i>t</i> -butyl nitroxide

DTBO	di- <i>t</i> -butyl oxide
DTBP	di- <i>t</i> -butyl peroxide
EDTA	ethylene diamine tetracetic acid
FMN	flavin mononucleotide (riboflavin- <i>s</i> -phosphate)
HMPA	hexamethyl phosphoric acid triamide
HMPTA	hexamethyl phosphoric triamide
kryptofix [®] 222	1,10-diaza-4,7,13,16,21,24-hexaoxabicyclo[8.8.8]hexacosane
MTHF	2-methyltetrahydrofuran
TBO•	<i>tert</i> -butoxy radical
TCNE	tetracyanoethylene
TCNQ	tetracyanoquinodimethane
THF	tetrahydrofuran
TMS	tetramethylsilane