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## Spin-label EPR Approaches to Protein Interactions

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# **Spin-label EPR Approaches to Protein Interactions**

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in 1982

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## LIST OF ABBREVIATIONS

BSA	bovine serum albumin
cw	continuous wave
Cc, CcP	cytochrome <i>c</i> , cytochrome <i>c</i> peroxidase
DEER	double electron-electron resonance
DTT	dithiothreitol
EPR	electron paramagnetic resonance
fdx	flavodoxin
GuHCl	guanidine hydrochloride
id/od	inner diameter/outer diameter
KPP <sub>i</sub>	potassium pyrophosphate
MTSL	<i>S</i> -(1-oxyl-2,2,5,5-tetramethyl-2,5-dihydro-1H-pyrrol-3-yl)- methyl methanesulfonylthioate
NMR	nuclear magnetic resonance
PCA	principal component analysis
PDB	Protein Data Bank
SL	spin label
TOAC	alpha-amino acid 2,2,6,6-tetramethylpiperidine-1-oxyl-4- amino-4-carboxylic acid
$\vec{A}, a$	hyperfine tensor, hyperfine-coupling constant
$\vec{B}, B$	magnetic-field vector, magnetic-field magnitude
$B_1$	microwave-magnetic-field magnitude
$E, \Delta E$	energy, difference in energy
$\eta$	viscosity
$\vec{g}, g$	<i>g</i> tensor, <i>g</i> value

$\mathcal{H}$	Hamiltonian
$h$	Planck's constant
$\bar{I}$	nuclear-spin angular-momentum operator
$I$	nuclear-spin quantum number
$J$	exchange coupling
$k_B$	Boltzmann constant
$K_D$	dissociation constant
$\mu_B$	Bohr magneton
$\nu$	frequency
$\bar{S}$	electron-spin-angular-momentum operator
$S$	electron-spin quantum number
$T_1, T_2$	longitudinal relaxation time, transverse relaxation time
$\tau_r$	rotation-correlation time
$Y$	peak-to-peak amplitude
$\omega_{dd}$	dipole-dipole coupling

ala	A	alanine
arg	R	arginine
cys	C	cysteine
glu	E	glutamic acid
gly	G	glycine
his	H	histidine
ile	I	isoleucine
lys	K	lysine
leu	L	leucine
tyr	Y	tyrosine
trp	W	tryptophan