

List of Acronyms

2D	bidimensional
3D	tridimensional
8-HQ	8-hydroxyquinoline
α Syn	α -synuclein
μ w	microwave
A β	amyloid β
AAZTA	6-amino-6-methylperhydro-1,4-diazepinetetraacetic acid
AdR	adrenoxin reductase
Adx	adrenodoxin
Ala	alanine
ALTADENA	adiabatic longitudinal transfer after dissociation engenders nuclear alignment
Arg	arginine
Asp	aspartic acid
ATCUN	amino terminal copper(II)- and nickel(II)-binding motif
ATP	adenosine triphosphate
BDPA	α,γ -bis(diphenylene)- β -phenylallyl
BPTI	bovine pancreatic trypsin inhibitor
BpyAla	(2,2'-bipyridin-5-yl)-L-alanine
bTbK	bis-TEMPO-bis-ketal
bTbtk	bis-TEMPO-bis-thio-ketal
bTbtk-py	bis-TEMPO-bis-thio-ketal-tetrahydropyran
BTnE	bis-TEMPO-n-ethyleneglycol
<i>ca.</i>	<i>circa</i>
CcP	cytochrome <i>c</i> peroxidase
CE	cross effect
CIDNP	chemically induced dynamic nuclear polarization
CLaNP	caged lanthanoid NMR probe

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COX	cytochrome <i>c</i> oxidase
CP	cross polarization
CRD	carbohydrate recognition domain
CSA	chemical shift anisotropy
Cyt	cytochrome
Cytc	cytochrome <i>c</i>
Cytc6	cytochrome <i>c</i> ₆
Cytf	cytochrome <i>f</i>
DAPK	death-associated protein kinase
DCE-MRI	dynamic contrast enhanced-MRI
DEER	double electron–electron resonance
DFT	density-functional theory
DMSO	dimethylsulfoxide
DNA	deoxyribonucleic acid
DNP	dynamic nuclear polarization
DO3A	1,4,7,10-tetraazacyclododecane-1,4,7-triacetic acid
DOTA	1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid
DOTAM	1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetamide
DOTP	1,4,7,10-tetraazacyclododecane-1,4,7,10-tetrakis- (methylenephosphonate)
DPA	dipicolinic acid
DQ	double quantum
dRDC	diamagnetic RDC from external alignment
DSE	differential solid effect
DTNB	5,5-dithio-bis-(2-nitrobenzoic acid)
DTPA	diethylenetriaminepentaacetic acid
DTPA-BMA	diethylenetriaminepentaacetic acid bis-methylamide
DTTA	diethylenetriaminetetraacetic acid
EDTA	ethylenediaminetetraacetic acid
e–e	electron–electron
e–e–n	electron–electron–nucleus
EIN	N-terminal domain of Enzyme I
EM	electron microscopy
e–n	electron–nucleus
EPR	electron paramagnetic resonance
ERp29	endoplasmic reticulum protein 29
Fc	fraction crystallizable
Fd	ferredoxin
FID	free induction decay
FKBP	FK506 (tacrolimus) binding protein
FRET	fluorescence resonance energy transfer
FTR	ferredoxin:thioredoxin reductase
GB1	protein G – B1 domain (β 1 immunoglobulin-binding domain)
GBCA	gadolinium-based contrast agent
Gly	glycine

Glu	glutamic acid
gp41	glycoprotein-41
HFI	hyperfine interaction
HHP	histidine–histidine–proline
HiPIP	high-potential iron–sulfur protein
His	histidine
HPr	histidine-containing phosphocarrier protein
HQ-Ala	2-amino-2-(8-hydroxyquinolin-3-yl)propanoic acid
HSA	human serum albumin
HSQC	heteronuclear single quantum coherence
IA-PROXYL	3-(2-iodoacetamido)-2,2,5,5-tetramethyl-1-pyrrolidinyloxy
ID	identifier
IDA	iminodiacetic acid
IDP	intrinsically disordered protein
IFN- γ	interferon gamma
IgG	immunoglobulin G
INEPT	insensitive nuclei enhanced by polarization transfer
IPAP	in-phase–anti-phase
IS	inner-sphere
Lac	lactose
LAC	level anti-crossing
LBP	lanthanoid-binding peptide
Leu	leucine
Lys	lysine
LW	largest weight
MAP	maximum allowed probability
MAS	magic angle spinning
MAT	magic angle turning
MaxOcc	maximum occurrence
MaxOR	maximum occurrence of region
MBP	maltodextrin-binding protein
MD	molecular dynamics
ME	maximum entropy
MEMRI	manganese enhanced MRI
MMP	matrix metalloproteinase
MP	maximum parsimony
MRI	magnetic resonance imaging
MTSL	<i>S</i> -(1-oxyl-2,2,5,5-tetramethyl-2,5-dihydro-1H-pyrrol-3-yl)-methyl methanesulfonothioate spin label
NADH	nicotinamide adenine dinucleotide hydrogen
NADPH	nicotinamide adenine dinucleotide phosphate hydrogen
NMR	nuclear magnetic resonance
NMRD	nuclear magnetic relaxation dispersion
NOE	nuclear Overhauser enhancement
NOESY	nuclear Overhauser effect spectroscopy
NS2Bc	C-terminal segment of NS2B

NS2B-NS3pro	NS2B-NS3 protease
NTA	nitrolotriatic acid
OATP	organic anion transport protein
OE	(DNP) Overhauser effect
OmpA	outer membrane protein A
OS	outer-sphere
OTP	ortho-terphenyl
P450cam	cytochrome P450cam
PA	polarizing agent
PAS	principal axis system
PASADENA	parahydrogen and synthesis allow dramatically enhanced nuclear alignment
Pc	plastocyanin
PCS	pseudocontact shift
PDB	protein data bank
Pdx	putidaredoxin
PELDOR	pulsed electron-electron double resonance
PET	positron emission tomography
PFC	perfluorocarbon
Phe	phenylalanine
PHIP	parahydrogen-induced polarization
poly β CD	poly- β -cyclodextrin
PPI	protein-protein interactions
ppm	parts-per-million
prDC	paramagnetically induced residual dipolar coupling
PRE	paramagnetic relaxation enhancement
Pro	proline
PyMTA	2,2',2'',2'''-((pyridine-2,6-diylbis(methylene))bis(azanetriyl))-tetraacetic acid
RACS	residual anisotropic chemical shifts
RBC	red blood cell
RDC	residual dipolar coupling
rf	radio frequency
RMSD	root mean square deviation
RNA	ribonucleic acid
SABRE	signal amplification by reversible exchange
SAP	square antiprism
SANS	small angle neutron scattering
SAS	small angle scattering
SaS	sample and select
SAXS	small-angle X-ray scattering
SBM	Solomon-Bloembergen-Morgan
SDSL	site-directed spin-labelling
SE	solid effect
SES	sparsest ensemble selection
SEOP	spin-exchange optical pumping

SHAP	short high-power adiabatic pulse
SNAP	synaptosomal-associated protein
SNARE	soluble NSF attachment protein
SOD	superoxide dismutase
SPECT	single photon emission computed tomography
SPIO	superparamagnetic iron oxide
SQ	single quantum
sPCS	solvent pseudocontact shift
sPRE	solvent paramagnetic relaxation enhancement
STD	saturation transfer difference
Syt1	synaptotagmin-1
TAHA	triaminohexaacetic acid
TAM	triarylmethyl
TEDOR	transferred-echo double-resonance
TEMPO	(2,2,6,6-tetramethylpiperidin-1-yl)oxyl
TM	thermal mixing
TOTAPOL	1-(TEMPO-4-oxy)-3-(TEMPO-4-amino)propan-2-ol
TRAMP	transgenic adenocarcinoma of the mouse prostate
tRNA	transfer ribonucleic acid
TROSY	transverse relaxation optimized spectroscopy
Trp	tryptophan
trityl	triphenylmethyl
Trx	thioredoxin
TSAP	twisted square antiprism
TTHA-TMA	triethylenetetraamine hexaacetate trimethylamide
Ub	ubiquitin
Val	valine
<i>vs</i>	<i>versus</i>
ZFS	zero field splitting
ZQ	zero quantum