MAS NMR study of the photoreceptor phytochrome

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List of abbreviations

Arg	Arginine
Asp	Aspartic acid
BphP	Bacteriophytochrome
BV	Biliverdin
$CDCl_3$	d-Chloroform
CD_2Cl_2	d_2-Dichloromethane
CD_3OD	d_4-Methanol
CP	Cross-Polarization
Cph1Δ2	N-terminal part of Cph1
Cph	Cyanobacterial phytochrome
Cph1	Cyanobacterial phytochrome 1
Cys	Cysteine
DARR	Dipolar-Assisted Rotary Resonance
Eq.	Equation
Fig.	Figure
Fph	Fungal phytochrome
FSLG	Frequency-Switched Lee-Goldburg
GAF	cGMP phosphodiesterase/Adenyl cyclase/FhlA
Gln	Glutamine
His	Histidine
HKD	Histidine Kinase Domain
HKRD	Histidine Kinase Related Domain
HMBC	Heteronuclear Multiple Bond Correlation
HSQC	Heteronuclear Single Quantum Coherence
Leu	Leucine

LG	Lee-Goldburg
Lys	Lysine
MAS	Magic Angle Spinning
MeLoDI	Medium and Long Distance
n.d.	not determined
NMR	Nuclear Magnetic Resonance
PAS	Per-ARNT-Sim
PCB	Phycocyanobilin
PCBE	Phycocyanobilin dimethyl Ester
PDSD	Proton Driven Spin Diffusion
PΦB	Phytochromobilin
Pfr	far-red absorbing state of phytochrome
Phy	Phytochrome
phyA	phytochrome A
*phyA*65	65-kDa fragment of phytochrome A
Pr	red absorbing state of phytochrome
RF	Radio-Frequency
RFDR	Radio-Frequency-driven Dipolar Recoupling
RR	Response Regulator
Ser	Serine
Thr	Threonine
TPPM	Two-Pulse Phase-Modulation
Tyr	Tyrosine
u-[^{13}C,^{15}N]-PCB	uniformly ^{13}C- and ^{15}N-labeled phycocyanobilin

List of symbols

$\mathbf{B}_{\text{eff}}$	effective field
$\mathbf{B}_0$	external magnetic field
H_{CS}	chemical shift Hamiltonian
H_{D}^{II}	homonuclear dipolar Hamiltonian
H_{D}^{IS}	heteronuclear dipolar Hamiltonian
H_0	Zeeman Hamiltonian
$\mathbf{I}$, $\mathbf{S}$	nuclear spin angular momentum operator
I_z, S_z	z-component of $\mathbf{I}$ and $\mathbf{S}$
r_{ij}	internuclear distance between spin i and j
δ	anisotropy parameter
η	asymmetry parameter
γ^i	gyromagnetic ratios of the spin i
λ_{max}	wavelength of maximum optical absorption
μ_0	vacuum permeability
ν	frequency
$\omega_{0\text{i}}$	resonance frequency of spin i
$\boldsymbol{\sigma}$	chemical shielding tensor
σ_{iso}	isotropic value
σ_{xx}	xx eigenvalue of $\boldsymbol{\sigma}$ in the principal axis system
σ_{yy}	yy eigenvalue of $\boldsymbol{\sigma}$ in the principal axis system
σ_{zz}	zz eigenvalue of $\boldsymbol{\sigma}$ in the principal axis system

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