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Towards in-cell structural study of light-harvesting complexes : an investigation with MAS-NMR

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An investigation with MAS-NMR

PROEFSCHRIFT

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FOR MY PARENTS

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Abbreviations

Car	Carotenoid
Chl <i>a</i>	Chlorophyll <i>a</i>
Chl <i>b</i>	Chlorophyll <i>b</i>
CP	Cross polarization
<i>Cr.</i>	<i>Chlamydomonas reinhardtii</i>
CSA	Chemical Shielding Anisotropy
Cyt <i>b</i> ₆ <i>f</i>	Cytochrome- <i>b</i> ₆ <i>f</i> complex
DGDG	DiGalactosylDiacylGlycerol
DGTS	DiacylGlycerylTrimethylhomo-Ser
DP	Direct Polarization
FA	Fatty Acid
INEPT	Insensitive Nuclei Enhanced by Polarization Transfer
LH2	Light Harvesting 2
LHCI	Light Harvesting Complex I
LHCII	Light Harvesting Complex II
MAS	Magic Angle Spinning
MD	Molecular Dynamics
MGDG	MonoGalactosylDiacylGlycerol
Neo	Neoxanthin
NMR	Nuclear Magnetic Resonance
NPQ	Non-Photochemical Quenching
PARIS	Phase-Alternated Recoupling Irradiation Scheme
PE	PhosphatidylEthanolamine
PG	Phosphatidyl-Glycerol
Photo-CIDNP	Photo-Chemical Induced Nuclear Polarization
PQ	Plastoquinone
PQH ₂	Plastoquinol
PSI	Photosystem I
PSII	Photosystem II
SQDG	SulfoQuinovosylDiacylGlycerol
SSNMR	Solid State NMR
TAP	Tris-Acetate Phosphate
TOBSY	TOtal through Bond correlation Spectroscopy
Vio	Violaxanthin
ZE	Zeaxanthin Epoxidase
Zea	Zeaxanthin