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Understanding protein complex formation: the role of charge distribution in the encounter complex

Di Savino, A.

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Antonella Di Savino

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Promotores:

Prof. dr. M. Ubbink

Prof. dr. J. M. F. G. Aerts

Promotiecommissie:

Prof. dr. H. S. Overkleef (voorzitter)

Prof. dr. R. T. Dame (secretaris)

Prof. dr. G. Schreiber (Weizmann Institute of Science, Rehovot)

Dr. S. Pauleta (Universidade Nova de Lisboa)

Dr. M. I. Huber

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To my family

“A li pccnunn mj”

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Abbreviations

$\Delta\chi$	magnetic susceptibility anisotropy tensor
τ_c	rotational correlation time
A β	amyloid β
AdR	adrenodoxin reductase
Adx	adrenodoxin
ATP	adenosine triphosphate
BPTI	bovine pancreatic trypsin inhibitor
ca.	circa
CcP	cytochrome <i>c</i> peroxidase
CL	crosslinked complex
CLaNP	caged lanthanide NMR probe
Cc	cytochrome <i>c</i>
Cc6	cytochrome <i>c</i> ₆
CpdI	Compound I
CpdII	Compound II
Cyt <i>f</i>	cytochrome <i>f</i>
DOTAM	1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetamide
DOTP	1,4,7,10-tetraazacyclododecane-1,4,7,10-tetrakis (methylenephosphonate)
EDTA	ethylenediaminetetraacetic acid
EIN	Enzyme I
EM	electron microscopy
Fd	ferredoxin
EPR	electron paramagnetic resonance
FRET	fluorescence resonance energy transfer
FTR	ferredoxin:thioredoxin reductase
HPr	histidine-containing phosphocarrier protein
HSQC	heteronuclear single quantum coherence
IFN- γ	interferon gamma

k_a	association rate constant
K_B	binding constant
K_D	dissociation constant
k_{ex}	exchange rate
k_{off}	dissociation rate constant
k_{on}	association rate constant
Lac	lactose
LBP	lanthanide-binding peptide
MTS	1-acetoxy-2,2,5,5-tetramethyl-d3-pyrroline-3-methyl-methanethiosulfonate
MTSL	1-oxy-2,2,5,5-tetramethyl-2,5-dihydropyrrol-3-ylmethyl-methanethiosulfonate
NADPH	nicotinamide adenine dinucleotide phosphate (reduced state)
NOE	nuclear Overhauser enhancement
NOESY	nuclear Overhauser spectroscopy
NS2Bc	C-terminal segment of NS2B
NS2B-NS3pro	NS2B-NS3 protease
P450cam	cytochrome P450cam
Pc	plastocyanin
PCS	pseudocontact shift
PDB	protein data bank
Pdx	putidaredoxin
piRDC	paramagnetically induced residual dipolar coupling
PRE	paramagnetic relaxations enhancement
PPI	protein-protein interaction
RD	relaxation dispersion
RDC	residual dipolar coupling
RMSD	root mean square deviation
SAXS	small-angle X-ray scattering
SNAP	synaptosomal-associated protein
SNARE	soluble NSF attachment protein
sPRE	solvent paramagnetic relaxations enhancement

Syt1	synaptotagmin-1
Trx	thioredoxin
WT	wild type
XRD	X-ray diffraction