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

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Citation

Di Savino, A. (2021, June 15). *Understanding protein complex formation: the role of charge distribution in the encounter complex*. Retrieved from <https://hdl.handle.net/1887/3185507>

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Author: Di Savino, A.

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

Issue date: 2021-06-15

Understanding protein complex formation:

The role of charge distribution in the encounter complex

Proefschrift

ter verkrijging van

de graad van doctor aan de Universiteit Leiden,

op gezag van rector magnificus prof.dr.ir. H. Bijl,

volgens besluit van het college voor promoties

te verdedigen op dinsdag 15 juni 2021

klokke 10:00 uur

door

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geboren te Turijn, Italië

in 1986

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The research described in this thesis was performed in the Protein Chemistry Department of the Leiden Institute of Chemistry at the Universiteit Leiden in Leiden, the Netherlands.

This work was financially supported by the Netherlands Organisation for Scientific Research (NWO-CW grant 711.013.007).

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
Cytf	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-oxyl-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