Dynamics in electron transfer protein complexes

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Dynamics in Electron Transfer Protein Complexes

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To my parents

Cover Image: Simulated encounter ensemble of yeast cytochrome *c* (Cc) and yeast cytochrome *c* peroxidase (CcP). CcP is shown as ribbons with haem as sticks. The centers of mass of Cc are shown as spheres coloured to indicate the density of the distribution, decreasing from red to grey.

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Contents

Abbreviations

ATP	adenosine triphosphate
Cc	cytochrome *c*
CcP	cytochrome *c* peroxidase
CSP	chemical shift perturbation
$\Delta\delta_{avg}$	average chemical shift perturbation
$\Delta\delta_{max}$	chemical shift perturbation for 100% bound
DRMS	distance root mean square
DTT	dithiothreitol
EPR	electron paramagnetic resonance
ET	electron transfer
FAD	flavin adenine dinucleotide
GALDH	L-galactono-γ-lactone dehydrogenase
hCc	horse cytochrome *c*
HSQC	heteronuclear single quantum coherence
IPTG	isopropyl β-D-1-thiogalactopyranoside
K_d	dissociation constant
K_B	binding constant
k_{on}	association rate constant
k_{off}	dissociation rate constant
k_{et}	rate of electron transfer
LB	Luria-Bertani
MC	Monte Carlo
MTS	[(1-acetyl-2,2,5,5-tetramethyl-3-pyrroline-3-methyl)methanethiosulfonate
MTSL	(1-oxyl-2,2,5,5-tetramethyl-3-pyrroline-3-methyl)methanethiosulfonate
NMR	nuclear magnetic resonance
NOESY	nuclear overhauser enhancement spectroscopy
Pi	Inorganic phosphate
PMSF	phenylmethylsulphonyl fluoride
PRE	paramagnetic relation enhancement
rms	root mean square
SASA	solvant accessible surface area
SB	super broth
SL	spin label
TOCSY	total correlation spectroscopy
TROSY	transverse relaxation optimized spectroscopy
TS	transition state
VAO	vinyl alcohol oxidase
yCc	yeast cytochrome *c*
yCcP	yeast cytochrome *c* peroxidase
wt	wild type