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## ABBREVIATIONS

<b>[2Fe-2S] ([Fe<sub>2</sub>S<sub>2</sub>])</b>	two-iron two-sulfur cluster
<b>[Fe<sub>3</sub>S<sub>4</sub>]</b>	three-iron four-sulfur cluster
<b>[Fe<sub>4</sub>S<sub>4</sub>]</b>	four-iron four-sulfur cluster
<b>2D</b>	two-dimensional
<b>3D</b>	three-dimensional
<b>A</b>	adenine
<b>ADP</b>	adenosine diphosphate
<b>Adx</b>	bovine adrenodoxin
<b>Adx(WT)</b>	bovine adrenodoxin (wild-type)
<b>Adx(C95S)</b>	bovine adrenodoxin mutant with cysteine-to-serine substitution
<b>Adx(1-108)/Adx(4-108)</b>	truncated forms of Adx
<b>Adx(N-6×His tag/Xa/1-108)</b>	truncated Adx mutant carrying N-terminal 6×His tag and factor Xa protease cleavage site
<b>Ala (A)</b>	alanine
<b>AR</b>	bovine adrenodoxin reductase
<b>Arg (R)</b>	arginine
<b>Asn (N)</b>	asparagine
<b>AmSO<sub>4</sub></b>	ammonium sulfate
<b>ASA</b>	solvent accessible surface area
<b>ASP</b>	ammonium sulfate precipitation
<b>Asp (D)</b>	aspartic acid
<b>ATP</b>	adenosine triphosphate
<b>BESSY</b>	Berlin electron storage ring company for synchrotron radiation
<b>C</b>	cytosine or carbon atom
<b>CaCl<sub>2</sub></b>	calcium chloride
<b>CO</b>	carbon monoxide
<b>CuSO<sub>4</sub></b>	copper sulfate
<b>CYP11A1</b>	bovine side-chain cleavage cytochrome P450

<b>CYP11B1</b>	bovine 11 $\beta$ -hydroxylation cytochrome P450
<b>Cys (C)</b>	cysteine
<b>DEAE</b>	diethylaminoethyl
<b>DMSO</b>	dimethyl sulfoxide
<b>DNA</b>	deoxyribonucleic acid
<b>Dr.</b>	Doctor
<b>DTT</b>	1,4-dithiothreitol
<b><i>E. coli</i></b>	<i>Escherichia coli</i>
<b>EDTA</b>	ethylenediaminetetraacetic acid
<b>EPR</b>	electron paramagnetic resonance
<b>ES-TOF-MS</b>	electro-spray time-of-flight mass spectrometry
<b>FAD</b>	flavin-adenine dinucleotide
<b>Fdx</b>	ferredoxin
<b>Fe</b>	iron atom
<b>Fe-S</b>	iron-sulfur cluster
<b>FFT</b>	fast Fourier transform
<b>FP</b>	FRENCH <sup>®</sup> Press
<b>FPLC</b>	fast protein liquid chromatography
<b>G</b>	guanine or glycine
<b>Gly (G)</b>	glycine
<b>Gln (Q)</b>	glutamine
<b>Glu (E)</b>	glutamate
<b>H</b>	hydrogen or histidine
<b>H<sub>2</sub>O</b>	water
<b>HCl</b>	hydrochloric acid
<b>HIC</b>	hydrophobic interaction chromatography
<b>His (H)</b>	histidine
<b>Ile (I)</b>	isoleucine
<b>IMAC</b>	immobilized-metal affinity chromatography
<b>IPTG</b>	isopropyl $\beta$ -D-thiogalactopyranoside
<b>ISEU</b>	International Shakarov Environmental University
<b>KCl</b>	potassium chloride

<b>KH<sub>2</sub>PO<sub>4</sub></b>	potassium dihydrogen phosphate
<b>K<sub>2</sub>HPO<sub>4</sub></b>	potassium hydrogen phosphate
<b>KOH</b>	potassium hydroxide
<b>LB</b>	Luria Bertani
<b>LC</b>	ligand centered
<b>Leu (L)</b>	leucine
<b>Lys (K)</b>	lysine
<b>MAD</b>	multiple wavelength anomalous diffraction
<b>MC</b>	metal centered
<b>MDC</b>	Max-Delbrück-Center
<b>Met (M)</b>	methionine
<b>MIR</b>	multiple isomorphous replacement
<b>MIRAS</b>	multiple isomorphous replacement with anomalous scattering
<b>ML</b>	maximum likelihood
<b>MLCT</b>	metal-to-ligand charge-transfer
<b>MOPS</b>	3-(N-morpholino) propanesulfonic acid
<b>MR</b>	molecular replacement
<b>N<sub>2</sub></b>	molecular nitrogen
<b>N-6×His tag</b>	N-terminal 6×His tag
<b>NaCl</b>	sodium chloride
<b>NADPH</b>	reduced nicotinamide adenine dinucleotide phosphate
<b>NaOH</b>	sodium hydroxide
<b>Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub></b>	sodium dithionite
<b>NCS</b>	non-crystallographic symmetry
<b>Ni-NTA</b>	nickel-nitrilotriacetic acid
<b>NMR</b>	nuclear magnetic resonance
<b>NO</b>	nitrogen monoxide
<b>O<sub>2</sub></b>	molecular oxygen
<b>P45011β</b>	bovine 11β-hydroxylation cytochrome P450
<b>P450<sub>cam</sub></b>	<i>Pseudomonas putida</i> cytochrome P450

<b>P450<sub>scc</sub></b>	side-chain cleavage cytochrome P450
<b>PCR</b>	polymerase chain reaction
<b>PDB</b>	Protein Data Bank
<b>PEG</b>	polyethylene glycol
<b>pH</b>	potency of concentration of hydrogen
<b>PhD</b>	Doctor of Philosophy
<b>Phe (F)</b>	phenylalanine
<b>PMSF</b>	phenylmethylsulfonyl fluoride
<b>Pro (P)</b>	proline
<b>Prof.</b>	Professor
<b>PSF</b>	Protein Structure Factory
<b>RbCl</b>	rubidium chloride
<b>r.m.s.d.</b>	root-mean-square deviation
<b>rpm</b>	revolutions per minute of rotor
<b>Ru(bpy)<sub>2</sub>(mbpy)</b>	(4'-methyl-2,2'-bipyridine)bis(2,2'-bipyridine)ruthenium(II)
<b>Ru(bpy)<sub>2</sub>(Br-mbpy)(PF<sub>6</sub>)<sub>2</sub></b>	(4-bromomethyl-4'-methyl-2,2'-bipyridine)bis(2,2'-bipyridine)ruthenium(II) bishexafluorophosphate
<b>Ru(bpy)<sub>2</sub>(mbpy)-Adx(1-108)</b>	Ru(bpy) <sub>2</sub> (mbpy)-modified Adx(1-108)
<b>Ru(bpy)<sub>3</sub></b>	water-soluble (2,2'-bipyridine) <sub>3</sub> ruthenium(II)
<b>Ru(II)*</b>	excited state of ruthenium complex
<b>S</b>	sulfur or serine
<b>SAD</b>	single wavelength anomalous diffraction
<b>SDS</b>	sodium dodecyl sulfate
<b>SDS-PAGE</b>	polyacrylamide gel electrophoresis with sodium dodecyl sulfate
<b>Ser (S)</b>	serine
<b>SIR</b>	single isomorphous replacement
<b>SIRAS</b>	single isomorphous replacement with anomalous scattering
<b>SLS</b>	Swiss Light Source
<b>T</b>	thymine or threonine
<b>TEMED</b>	1,2-bis(dimethylamino)ethane
<b>Thr (T)</b>	threonine

<b>Tris</b>	Tris(hydroxymethyl)aminomethane
<b>Tyr (Y)</b>	tyrosine
<b>USSR</b>	Union of Soviet Socialist Republics
<b>UV-visible</b>	ultraviolet-visible
<b>Val (V)</b>	valine
<b>Xa</b>	factor Xa