Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 02:30 PM EDT

PDB ID	:	1F1G
Title	:	Crystal structure of yeast cuznsod exposed to nitric oxide
Authors	:	Hart, P.J.; Ogihara, N.L.; Liu, H.; Nersissian, A.M.; Valentine, J.S.; Eisenberg, D.
Deposited on	:	2000-05-18
Resolution	:	1.35 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

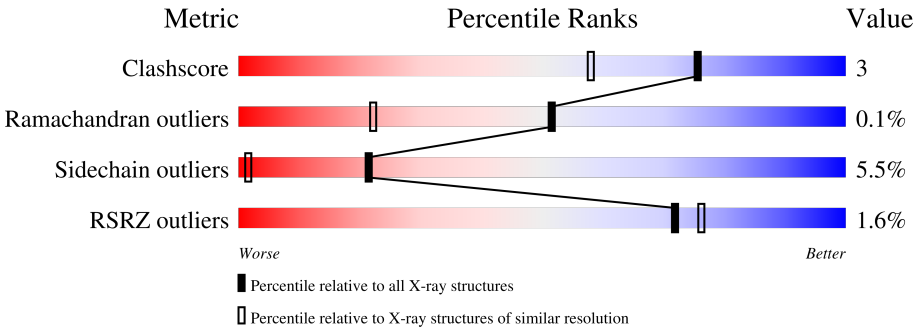
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.35 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1551 (1.38-1.34)
Ramachandran outliers	138981	1530 (1.38-1.34)
Sidechain outliers	138945	1530 (1.38-1.34)
RSRZ outliers	127900	1487 (1.38-1.34)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	154	2% 90% 8%
1	B	154	% 90% 6%
1	C	154	2% 89% 8%
1	D	154	% 90% 7%
1	E	154	2% 90% 7%
1	F	154	2% 89% 9%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 7878 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called COPPER-ZINC SUPEROXIDE DISMUTASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	153	Total	C	N	O	S	0	0	0
			1106	680	198	225	3			
1	B	153	Total	C	N	O	S	0	0	0
			1106	680	198	225	3			
1	C	153	Total	C	N	O	S	0	0	0
			1106	680	198	225	3			
1	D	153	Total	C	N	O	S	0	0	0
			1106	680	198	225	3			
1	E	153	Total	C	N	O	S	0	0	0
			1106	680	198	225	3			
1	F	153	Total	C	N	O	S	0	0	0
			1106	680	198	225	3			

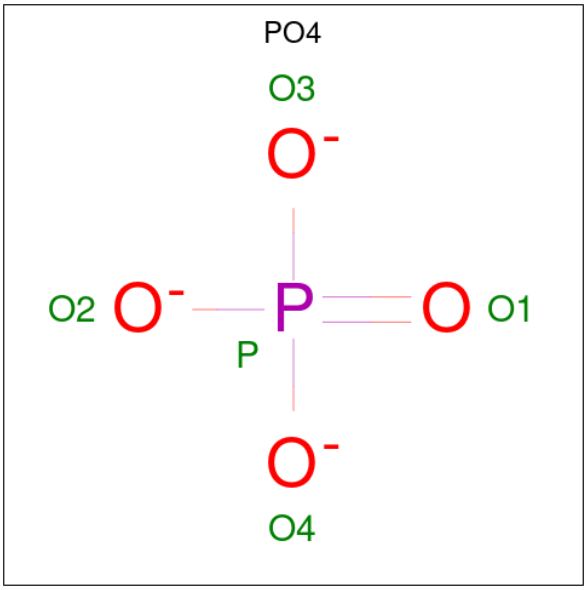
- Molecule 2 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Cu	0	0
			1	1		
2	B	1	Total	Cu	0	0
			1	1		
2	C	1	Total	Cu	0	0
			1	1		
2	D	1	Total	Cu	0	0
			1	1		
2	E	1	Total	Cu	0	0
			1	1		
2	F	1	Total	Cu	0	0
			1	1		

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Zn 1 1	0	0
3	B	1	Total Zn 1 1	0	0
3	C	1	Total Zn 1 1	0	0
3	D	1	Total Zn 1 1	0	0
3	E	1	Total Zn 1 1	0	0
3	F	1	Total Zn 1 1	0	0

- Molecule 4 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total O P 5 4 1	0	0
4	B	1	Total O P 5 4 1	0	0
4	C	1	Total O P 5 4 1	0	0
4	D	1	Total O P 5 4 1	0	0
4	E	1	Total O P 5 4 1	0	0
4	F	1	Total O P 5 4 1	0	0

- Molecule 5 is water.

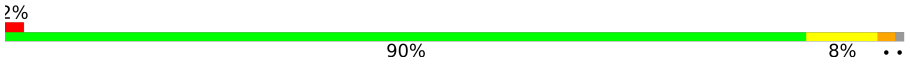
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	210	Total O 210 210	0	0
5	B	204	Total O 204 204	0	0
5	C	193	Total O 193 193	0	0
5	D	204	Total O 204 204	0	0
5	E	189	Total O 189 189	0	0
5	F	200	Total O 200 200	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

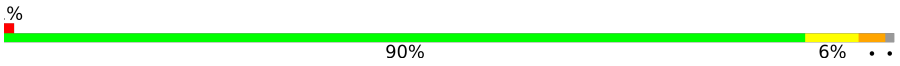
• Molecule 1: COPPER-ZINC SUPEROXIDE DISMUTASE

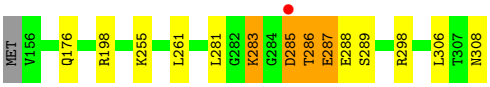
Chain A:



• Molecule 1: COPPER-ZINC SUPEROXIDE DISMUTASE

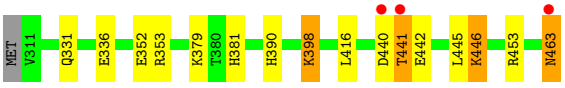
Chain B:





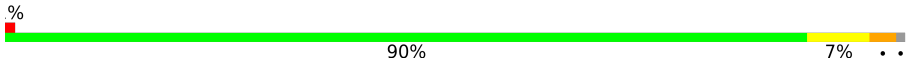
• Molecule 1: COPPER-ZINC SUPEROXIDE DISMUTASE

Chain C:



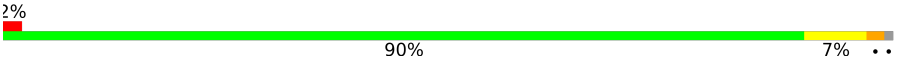
• Molecule 1: COPPER-ZINC SUPEROXIDE DISMUTASE

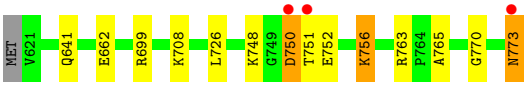
Chain D:



• Molecule 1: COPPER-ZINC SUPEROXIDE DISMUTASE

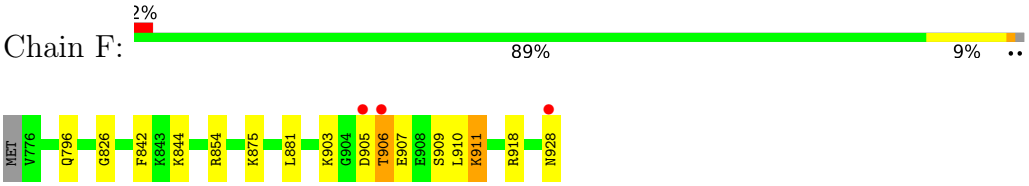
Chain E:





• Molecule 1: COPPER-ZINC SUPEROXIDE DISMUTASE

Chain F:


2%
89%
9%
MET
V776
Q796
G826
F842
K843
K844
R854
K875
L881
K903
G904
D905
T906
E907
E908
S909
L910
K911
R918
N928

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	72.50Å 72.48Å 72.47Å 109.20° 109.55° 109.21°	Depositor
Resolution (Å)	40.00 – 1.35 24.17 – 1.35	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-1.35) 91.8 (24.17-1.35)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.86 (at 1.36Å)	Xtriage
Refinement program	SHELXL-97	Depositor
R, R_{free}	0.171 , (Not available) 0.159 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	11.4	Xtriage
Anisotropy	0.329	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 47.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage

Continued on next page...

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

Continued from previous page...

Property	Value	Source
Estimated twinning fraction	0.016 for -k,h+k+l,-h 0.016 for -l,-h,h+k+l 0.017 for -k,-l,h+k+l 0.017 for h+k+l,-h,-k 0.016 for h+k+l,-l,-h 0.016 for -l,h+k+l,-k 0.016 for -h-k-l,h,l 0.016 for k,-h-k-l,l 0.017 for l,k,-h-k-l 0.017 for -h-k-l,k,h 0.016 for h,-h-k-l,k 0.016 for h,l,-h-k-l 0.447 for l,h,k 0.447 for k,l,h 0.018 for -h-k-l,l,k 0.449 for -h,-l,-k 0.017 for l,-h-k-l,h 0.477 for -l,-k,-h 0.018 for k,h,-h-k-l 0.448 for -k,-h,-l 0.017 for h+k+l,-k,-l 0.017 for -h,h+k+l,-l 0.018 for -h,-k,h+k+l	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	7878	wwPDB-VP
Average B, all atoms (Å^2)	15.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.38% of the height of the origin peak. No significant pseudotranslation is detected.*

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, PO4, CU

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.59	0/1126	1.19	4/1523 (0.3%)
1	B	0.55	0/1126	1.14	3/1523 (0.2%)
1	C	0.58	0/1126	1.17	4/1523 (0.3%)
1	D	0.56	0/1126	1.12	3/1523 (0.2%)
1	E	0.55	0/1126	1.13	4/1523 (0.3%)
1	F	0.58	0/1126	1.12	2/1523 (0.1%)
All	All	0.57	0/6756	1.15	20/9138 (0.2%)

There are no bond length outliers.

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	608	ARG	NE-CZ-NH1	10.14	125.37	120.30
1	C	353	ARG	NE-CZ-NH1	9.09	124.84	120.30
1	B	298	ARG	NE-CZ-NH1	9.00	124.80	120.30
1	C	353	ARG	NE-CZ-NH2	-8.71	115.94	120.30
1	F	918	ARG	NE-CZ-NH2	-7.21	116.69	120.30
1	B	298	ARG	NE-CZ-NH2	-7.12	116.74	120.30
1	E	763	ARG	NE-CZ-NH2	-7.07	116.77	120.30
1	A	143	ARG	NE-CZ-NH2	-6.82	116.89	120.30
1	A	43	ARG	NE-CZ-NH1	6.69	123.65	120.30
1	D	608	ARG	NE-CZ-NH2	-6.48	117.06	120.30
1	A	143	ARG	NE-CZ-NH1	6.44	123.52	120.30
1	A	79	ARG	NE-CZ-NH1	-6.05	117.27	120.30
1	E	699	ARG	NE-CZ-NH1	-6.04	117.28	120.30
1	B	198	ARG	CG-CD-NE	5.88	124.15	111.80
1	D	508	ARG	CG-CD-NE	5.81	124.01	111.80
1	C	453	ARG	NE-CZ-NH2	-5.51	117.55	120.30
1	E	748	LYS	CB-CG-CD	5.34	125.49	111.60
1	E	765	ALA	O-C-N	5.20	131.02	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	854	ARG	NE-CZ-NH1	-5.12	117.74	120.30
1	C	353	ARG	CG-CD-NE	5.04	122.38	111.80

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1106	0	1071	6	0
1	B	1106	0	1068	6	0
1	C	1106	0	1068	9	0
1	D	1106	0	1068	5	0
1	E	1106	0	1068	8	0
1	F	1106	0	1068	7	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
4	A	5	0	0	0	0
4	B	5	0	0	0	0
4	C	5	0	0	0	0
4	D	5	0	0	0	0
4	E	5	0	0	0	0
4	F	5	0	0	0	0
5	A	210	0	0	1	0
5	B	204	0	0	0	0
5	C	193	0	0	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	D	204	0	0	2	0
5	E	189	0	0	0	0
5	F	200	0	0	0	0
All	All	7878	0	6411	40	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 3.

All (40) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:906:THR:HB	1:F:909:SER:H	1.52	0.74
1:C:352:GLU:OE1	1:C:398:LYS:HD2	1.90	0.72
1:C:331:GLN:NE2	1:C:416:LEU:H	1.89	0.71
1:A:21:GLN:NE2	1:A:106:LEU:H	1.90	0.69
1:E:641:GLN:NE2	1:E:726:LEU:H	1.93	0.67
1:D:486:GLN:NE2	1:D:571:LEU:H	1.92	0.67
1:B:176:GLN:NE2	1:B:261:LEU:H	1.93	0.66
1:C:379:LYS:HD2	5:C:2057:HOH:O	1.96	0.65
1:F:796:GLN:NE2	1:F:881:LEU:H	1.94	0.64
1:E:662:GLU:OE2	1:E:708:LYS:HG2	2.01	0.61
1:C:398:LYS:N	1:C:398:LYS:HD3	2.17	0.60
1:A:69:LYS:HD2	5:A:2074:HOH:O	2.03	0.58
1:B:286:THR:HB	1:B:289:SER:H	1.69	0.58
1:D:483:LYS:HG3	1:D:496:SER:OG	2.03	0.58
1:E:773:ASN:HD22	1:E:773:ASN:N	2.04	0.56
1:D:597:GLU:O	1:D:601:LYS:HD2	2.06	0.55
1:D:534:LYS:HE3	5:D:2601:HOH:O	2.07	0.55
1:C:463:ASN:H	1:C:463:ASN:HD22	1.55	0.54
1:E:773:ASN:HD22	1:E:773:ASN:H	1.56	0.53
1:C:442:GLU:O	1:C:446:LYS:HD2	2.09	0.53
1:C:463:ASN:HD22	1:C:463:ASN:N	2.06	0.51
1:F:842:PHE:HB2	1:F:844:LYS:HE2	1.92	0.51
1:E:756:LYS:N	1:E:756:LYS:HD3	2.25	0.51
1:B:287:GLU:HG2	1:B:288:GLU:N	2.26	0.50
1:C:445:LEU:HB2	1:C:446:LYS:HE3	1.93	0.50
1:A:136:LYS:N	1:A:136:LYS:HD3	2.28	0.47
1:E:770:GLY:HA3	1:F:826:GLY:O	2.15	0.47
1:F:910:LEU:HB2	1:F:911:LYS:HE3	1.96	0.46
1:B:285:ASP:OD2	1:B:285:ASP:N	2.49	0.45
1:B:255:LYS:HB2	1:B:255:LYS:HE2	1.68	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:662:GLU:CD	1:E:708:LYS:HG2	2.36	0.45
1:E:750:ASP:OD2	1:E:750:ASP:N	2.50	0.45
1:B:281:LEU:O	1:B:283:LYS:HD3	2.17	0.44
1:D:618:ASN:ND2	5:D:2952:HOH:O	2.50	0.44
1:A:130:ASP:OD1	1:A:130:ASP:N	2.49	0.44
1:A:42:GLU:OE1	1:A:88:LYS:HG2	2.19	0.43
1:A:126:LEU:O	1:A:128:LYS:HD2	2.19	0.43
1:F:911:LYS:HA	1:F:911:LYS:HD3	1.81	0.43
1:F:906:THR:HB	1:F:909:SER:N	2.28	0.41
1:C:381:HIS:HB2	1:C:390:HIS:CE1	2.56	0.41

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	151/154 (98%)	148 (98%)	3 (2%)	0	100 100
1	B	151/154 (98%)	147 (97%)	4 (3%)	0	100 100
1	C	151/154 (98%)	146 (97%)	4 (3%)	1 (1%)	22 5
1	D	151/154 (98%)	148 (98%)	3 (2%)	0	100 100
1	E	151/154 (98%)	147 (97%)	4 (3%)	0	100 100
1	F	151/154 (98%)	147 (97%)	4 (3%)	0	100 100
All	All	906/924 (98%)	883 (98%)	22 (2%)	1 (0%)	51 22

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	441	THR

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	118/119 (99%)	112 (95%)	6 (5%)	24	2
1	B	118/119 (99%)	112 (95%)	6 (5%)	24	2
1	C	118/119 (99%)	112 (95%)	6 (5%)	24	2
1	D	118/119 (99%)	109 (92%)	9 (8%)	13	1
1	E	118/119 (99%)	113 (96%)	5 (4%)	30	3
1	F	118/119 (99%)	111 (94%)	7 (6%)	19	1
All	All	708/714 (99%)	669 (94%)	39 (6%)	21	1

All (39) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	128	LYS
1	A	130	ASP
1	A	131	THR
1	A	132	GLU
1	A	136	LYS
1	A	153	ASN
1	B	283	LYS
1	B	285	ASP
1	B	286	THR
1	B	287	GLU
1	B	306	LEU
1	B	308	ASN
1	C	336	GLU
1	C	398	LYS
1	C	440	ASP
1	C	441	THR
1	C	446	LYS
1	C	463	ASN
1	D	483	LYS
1	D	491	GLU
1	D	593	LYS
1	D	595	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	596	THR
1	D	597	GLU
1	D	601	LYS
1	D	616	LEU
1	D	618	ASN
1	E	750	ASP
1	E	751	THR
1	E	752	GLU
1	E	756	LYS
1	E	773	ASN
1	F	875	LYS
1	F	903	LYS
1	F	905	ASP
1	F	906	THR
1	F	907	GLU
1	F	911	LYS
1	F	928	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	21	GLN
1	A	92	ASN
1	A	153	ASN
1	B	176	GLN
1	B	247	ASN
1	B	308	ASN
1	C	331	GLN
1	C	402	ASN
1	C	463	ASN
1	D	486	GLN
1	D	557	ASN
1	D	618	ASN
1	E	622	GLN
1	E	641	GLN
1	E	712	ASN
1	E	773	ASN
1	F	796	GLN
1	F	867	ASN
1	F	928	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 18 ligands modelled in this entry, 12 are monoatomic - leaving 6 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	PO4	C	933	-	4,4,4	0.74	0	6,6,6	0.62	0
4	PO4	B	932	-	4,4,4	0.78	0	6,6,6	0.62	0
4	PO4	E	935	-	4,4,4	0.68	0	6,6,6	0.33	0
4	PO4	F	936	-	4,4,4	0.66	0	6,6,6	0.48	0
4	PO4	A	931	-	4,4,4	0.76	0	6,6,6	0.76	0
4	PO4	D	934	-	4,4,4	0.74	0	6,6,6	0.65	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	153/154 (99%)	-0.19	3 (1%)	65	70	9, 12, 23, 54	0
1	B	153/154 (99%)	-0.20	1 (0%)	87	90	9, 12, 24, 61	0
1	C	153/154 (99%)	-0.20	3 (1%)	65	70	9, 12, 24, 47	0
1	D	153/154 (99%)	-0.26	2 (1%)	77	81	9, 12, 22, 53	0
1	E	153/154 (99%)	-0.19	3 (1%)	65	70	9, 12, 24, 56	0
1	F	153/154 (99%)	-0.18	3 (1%)	65	70	9, 12, 23, 57	0
All	All	918/924 (99%)	-0.20	15 (1%)	72	76	9, 12, 24, 61	0

All (15) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	750	ASP	4.2
1	B	285	ASP	3.9
1	F	906	THR	3.8
1	A	130	ASP	3.7
1	D	595	ASP	3.0
1	E	751	THR	2.9
1	A	131	THR	2.9
1	E	773	ASN	2.5
1	D	596	THR	2.5
1	C	441	THR	2.4
1	C	440	ASP	2.4
1	F	905	ASP	2.4
1	F	928	ASN	2.2
1	C	463	ASN	2.2
1	A	153	ASN	2.1

6.2 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	PO4	B	932	5/5	0.95	0.12	27,34,68,143	0
4	PO4	A	931	5/5	0.96	0.12	28,31,49,81	0
4	PO4	C	933	5/5	0.97	0.10	30,32,68,77	0
4	PO4	D	934	5/5	0.97	0.08	24,34,46,83	0
4	PO4	E	935	5/5	0.97	0.15	28,31,63,77	0
4	PO4	F	936	5/5	0.98	0.10	23,34,45,59	0
2	CU	F	4011	1/1	0.99	0.04	12,12,12,12	0
3	ZN	E	4010	1/1	0.99	0.05	10,10,10,10	0
2	CU	A	4001	1/1	0.99	0.03	13,13,13,13	0
2	CU	E	4009	1/1	0.99	0.05	13,13,13,13	0
2	CU	D	4007	1/1	1.00	0.03	13,13,13,13	0
3	ZN	F	4012	1/1	1.00	0.05	10,10,10,10	0
2	CU	B	4003	1/1	1.00	0.03	13,13,13,13	0
2	CU	C	4005	1/1	1.00	0.03	13,13,13,13	0
3	ZN	A	4002	1/1	1.00	0.05	11,11,11,11	0
3	ZN	B	4004	1/1	1.00	0.04	10,10,10,10	0
3	ZN	C	4006	1/1	1.00	0.05	11,11,11,11	0
3	ZN	D	4008	1/1	1.00	0.05	10,10,10,10	0

6.5 Other polymers (i)

There are no such residues in this entry.