Full wwPDB X-ray Structure Validation Report ⓘ

Jan 7, 2024 – 12:04 pm GMT

PDB ID	:	6FC7
Title	:	Crystal Structure of Two-Domain Laccase mutant H165F from Streptomyces griseoflavus with high copper ions occupancy
Authors	:	Gabdulkhakov, A.G.; Tishchenko, T.V.
Deposited on	:	2017-12-20
Resolution	:	1.95 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:

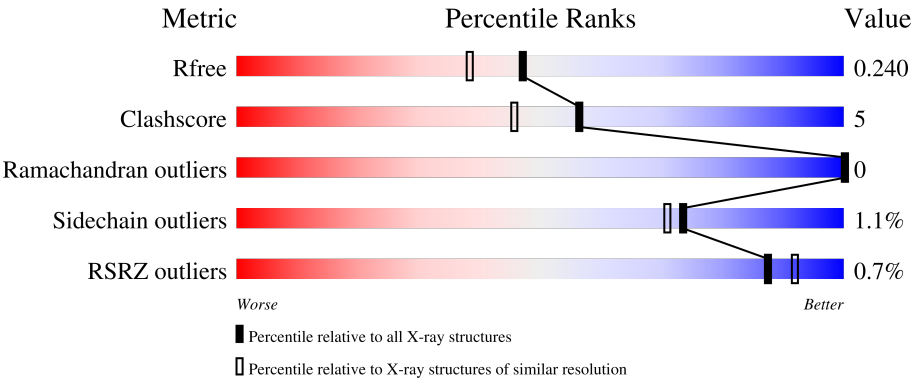
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 1.95 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))
R_{free}	130704	2580 (1.96-1.96)
Clashscore	141614	2705 (1.96-1.96)
Ramachandran outliers	138981	2678 (1.96-1.96)
Sidechain outliers	138945	2678 (1.96-1.96)
RSRZ outliers	127900	2539 (1.96-1.96)

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	322	75% 13% 13%
1	B	322	78% 9% 13%
1	C	322	73% 13% 14%
1	D	322	77% 9% 14%
1	E	322	78% 7% 14%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	F	322	75% 11% 14%
1	G	322	76% 11% 13%
1	H	322	2% 73% 13% 14%
1	I	322	80% 7% 13%
1	J	322	% 74% 13% 13%
1	K	322	% 76% 11% 12%
1	L	322	76% 10% 14%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	CU	D	401	-	-	X	-
3	PER	G	406	-	-	X	-

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 26455 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 Two-domain laccase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	281	Total	C	N	O	S	0	0	0
			2159	1347	393	407	12			
1	B	281	Total	C	N	O	S	0	2	0
			2171	1356	396	407	12			
1	C	277	Total	C	N	O	S	0	1	0
			2134	1333	387	401	13			
1	D	278	Total	C	N	O	S	0	1	0
			2140	1336	388	404	12			
1	E	278	Total	C	N	O	S	1	1	0
			2134	1333	387	401	13			
1	F	277	Total	C	N	O	S	1	2	0
			2143	1338	389	403	13			
1	G	281	Total	C	N	O	S	0	1	0
			2168	1352	394	410	12			
1	H	278	Total	C	N	O	S	0	0	0
			2131	1331	387	401	12			
1	I	281	Total	C	N	O	S	0	1	0
			2167	1352	394	408	13			
1	J	281	Total	C	N	O	S	0	1	0
			2168	1352	394	410	12			
1	K	282	Total	C	N	O	S	0	0	0
			2164	1350	394	408	12			
1	L	276	Total	C	N	O	S	0	1	0
			2124	1327	386	398	13			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	165	PHE	HIS	conflict	UNP A0A0M4FJ81
B	165	PHE	HIS	conflict	UNP A0A0M4FJ81
C	165	PHE	HIS	conflict	UNP A0A0M4FJ81
D	165	PHE	HIS	conflict	UNP A0A0M4FJ81
E	165	PHE	HIS	conflict	UNP A0A0M4FJ81

Continued on next page...

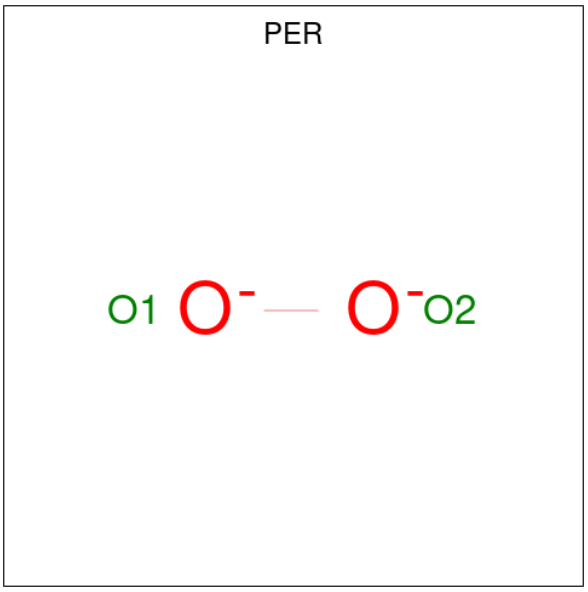
Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
F	165	PHE	HIS	conflict	UNP A0A0M4FJ81
G	165	PHE	HIS	conflict	UNP A0A0M4FJ81
H	165	PHE	HIS	conflict	UNP A0A0M4FJ81
I	165	PHE	HIS	conflict	UNP A0A0M4FJ81
J	165	PHE	HIS	conflict	UNP A0A0M4FJ81
K	165	PHE	HIS	conflict	UNP A0A0M4FJ81
L	165	PHE	HIS	conflict	UNP A0A0M4FJ81

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

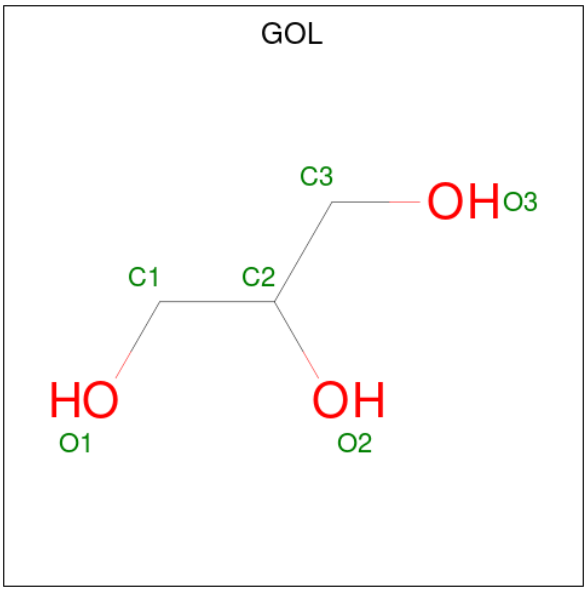
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	7	Total Cu 7 7	0	0
2	B	4	Total Cu 4 4	0	0
2	C	1	Total Cu 1 1	0	0
2	D	7	Total Cu 7 7	0	0
2	E	4	Total Cu 4 4	0	0
2	F	1	Total Cu 1 1	0	0
2	G	7	Total Cu 7 7	0	0
2	H	4	Total Cu 4 4	0	0
2	I	1	Total Cu 1 1	0	0
2	J	7	Total Cu 7 7	0	0
2	K	4	Total Cu 4 4	0	0
2	L	1	Total Cu 1 1	0	0

- Molecule 3 is PEROXIDE ION (three-letter code: PER) (formula: O_2).



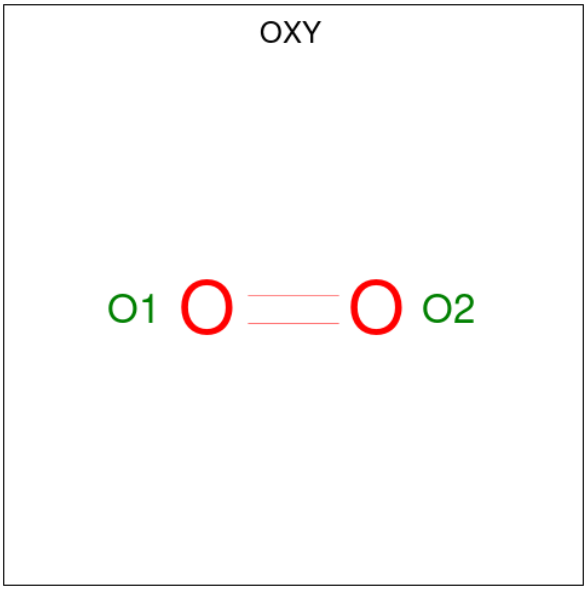
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	1	Total O 2 2	0	0
3	D	1	Total O 2 2	0	0
3	E	1	Total O 2 2	0	0
3	G	1	Total O 2 2	0	0
3	J	1	Total O 2 2	0	0
3	K	1	Total O 2 2	0	0

- Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	B	1	Total C O 6 3 3	0	0

- Molecule 5 is OXYGEN MOLECULE (three-letter code: OXY) (formula: O_2).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	D	1	Total O 2 2	0	0
5	J	1	Total O 2 2	0	0

- Molecule 6 is water.

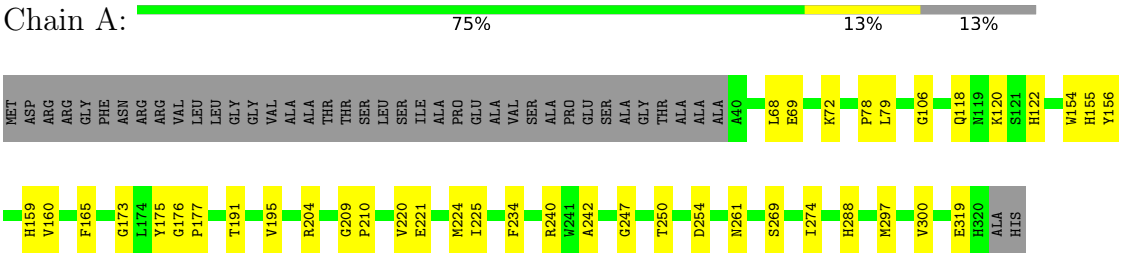
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	53	Total O 53 53	0	0
6	B	57	Total O 57 57	0	0
6	C	43	Total O 43 43	0	0
6	D	49	Total O 49 49	0	0
6	E	70	Total O 70 70	0	0
6	F	40	Total O 40 40	0	0
6	G	43	Total O 43 43	0	0
6	H	44	Total O 44 44	0	0
6	I	42	Total O 42 42	0	0
6	J	53	Total O 53 53	0	0
6	K	50	Total O 50 50	0	0
6	L	38	Total O 38 38	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.

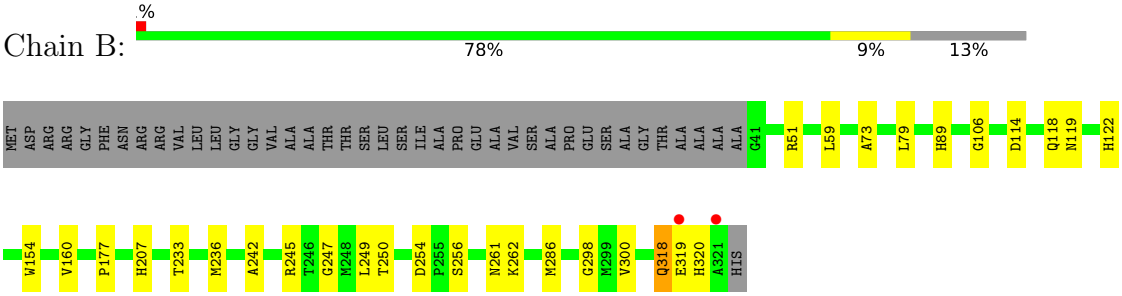
• Molecule 1: Two-domain laccase

Chain A:



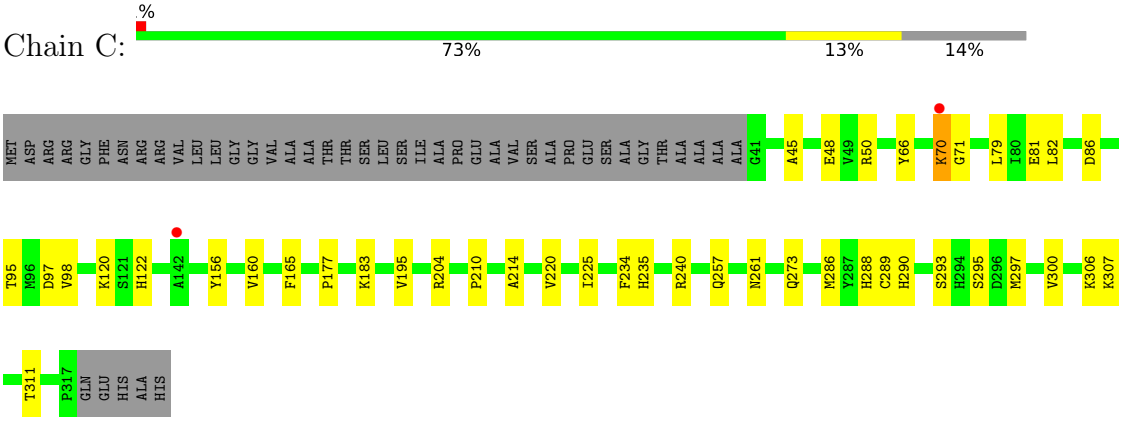
• Molecule 1: Two-domain laccase

Chain B:



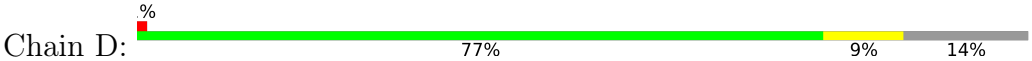
• Molecule 1: Two-domain laccase

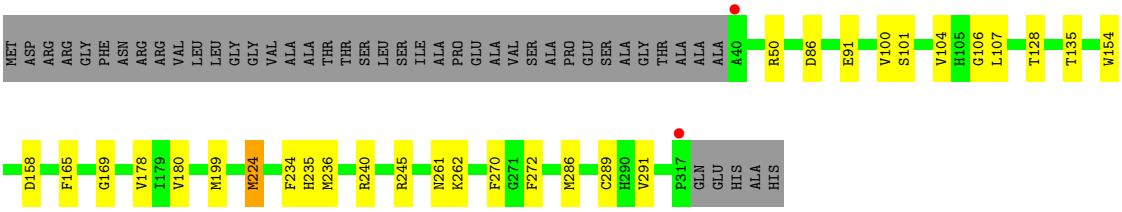
Chain C:



• Molecule 1: Two-domain laccase

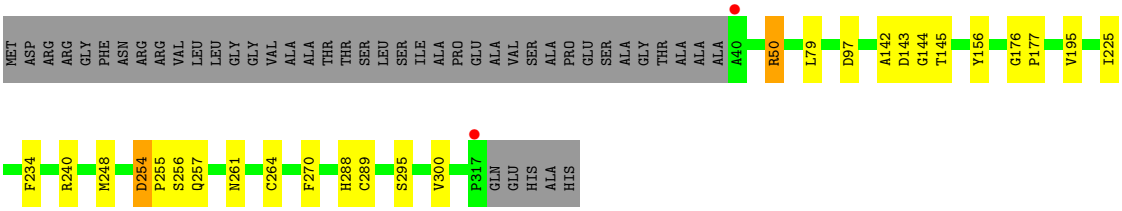
Chain D:





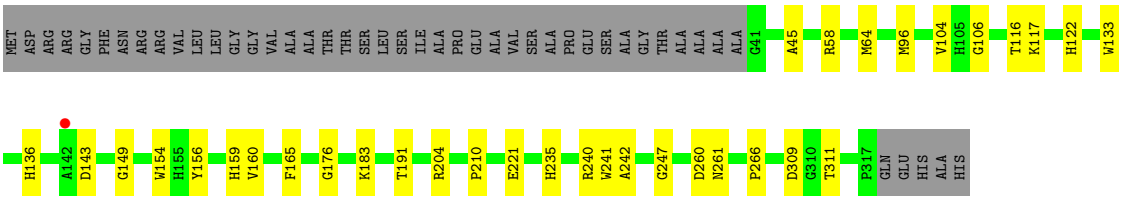
• Molecule 1: Two-domain laccase

Chain E:



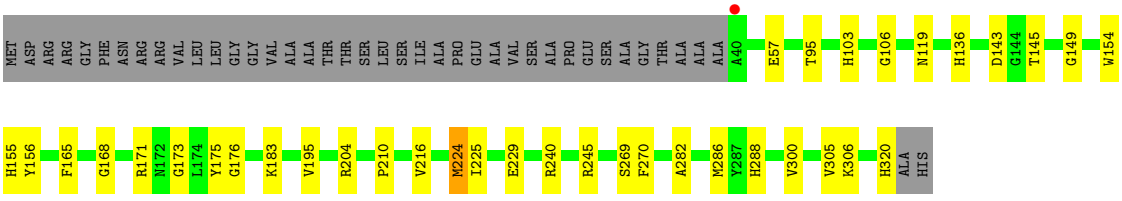
• Molecule 1: Two-domain laccase

Chain F:



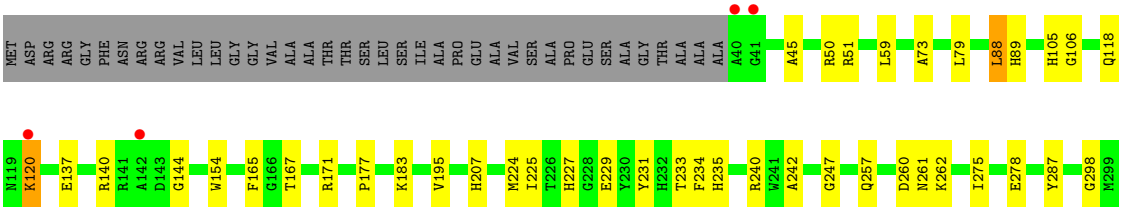
• Molecule 1: Two-domain laccase

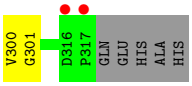
Chain G:



• Molecule 1: Two-domain laccase

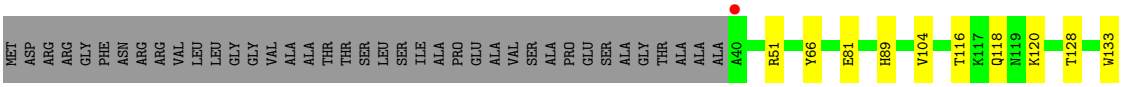
Chain H:





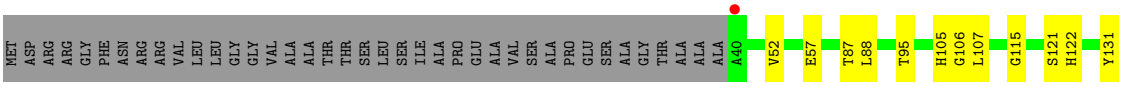
• Molecule 1: Two-domain laccase

Chain I:



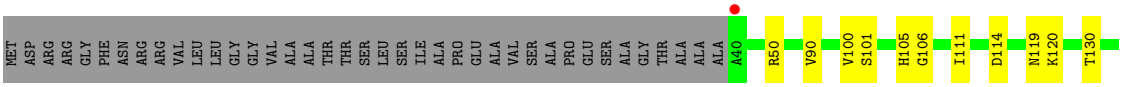
• Molecule 1: Two-domain laccase

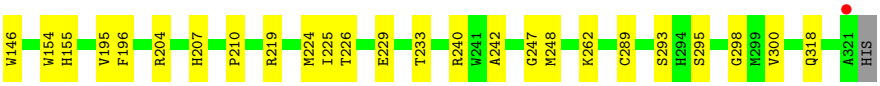
Chain J:



• Molecule 1: Two-domain laccase

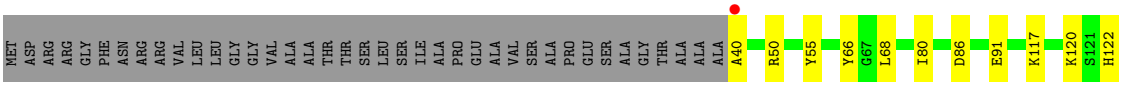
Chain K:





• Molecule 1: Two-domain laccase

Chain L:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	77.03Å 94.58Å 115.93Å 90.00° 90.00° 92.01°	Depositor
Resolution (Å)	49.41 – 1.95 49.41 – 1.92	Depositor EDS
% Data completeness (in resolution range)	92.7 (49.41-1.95) 94.6 (49.41-1.92)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.61 (at 1.92Å)	Xtriage
Refinement program	PHENIX (1.11.1_2575: ???)	Depositor
R, R_{free}	0.195 , 0.231 0.203 , 0.240	Depositor DCC
R_{free} test set	11831 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	32.0	Xtriage
Anisotropy	0.288	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 26.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	0.049 for h,-k,-l 0.095 for -h,k,-l 0.116 for -h,-k,l	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	26455	wwPDB-VP
Average B, all atoms (Å^2)	32.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.17% of the height of the origin peak. No significant pseudotranslation is detected.*

[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.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: OXY, GOL, PER, 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	0.46	0/2222	0.62	0/3018
1	B	0.48	0/2240	0.65	0/3042
1	C	0.49	0/2196	0.66	0/2982
1	D	0.44	0/2202	0.65	0/2992
1	E	0.49	1/2199 (0.0%)	0.67	1/2987 (0.0%)
1	F	0.45	0/2205	0.64	0/2994
1	G	0.42	0/2231	0.62	0/3031
1	H	0.46	0/2193	0.63	0/2979
1	I	0.42	0/2230	0.61	0/3028
1	J	0.43	0/2231	0.62	0/3031
1	K	0.44	0/2227	0.61	0/3025
1	L	0.39	0/2185	0.62	0/2966
All	All	0.45	1/26561 (0.0%)	0.63	1/36075 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	E	255	PRO	N-CD	5.04	1.54	1.47

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	254	ASP	C-N-CD	5.36	139.66	128.40

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	2159	0	2024	28	0
1	B	2171	0	2047	22	0
1	C	2134	0	2006	30	0
1	D	2140	0	2010	21	0
1	E	2134	0	2008	19	0
1	F	2143	0	2013	18	0
1	G	2168	0	2030	25	0
1	H	2131	0	2003	32	0
1	I	2167	0	2032	19	0
1	J	2168	0	2031	26	0
1	K	2164	0	2029	21	0
1	L	2124	0	2000	19	0
2	A	7	0	0	0	0
2	B	4	0	0	0	0
2	C	1	0	0	0	0
2	D	7	0	0	2	0
2	E	4	0	0	0	0
2	F	1	0	0	0	0
2	G	7	0	0	0	0
2	H	4	0	0	0	0
2	I	1	0	0	0	0
2	J	7	0	0	0	0
2	K	4	0	0	0	0
2	L	1	0	0	0	0
3	B	2	0	0	1	0
3	D	2	0	0	0	0
3	E	2	0	0	0	0
3	G	2	0	0	2	0
3	J	2	0	0	0	0
3	K	2	0	0	0	0
4	B	6	0	8	0	0
5	D	2	0	0	0	0
5	J	2	0	0	0	0
6	A	53	0	0	0	0
6	B	57	0	0	0	0
6	C	43	0	0	0	0
6	D	49	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	E	70	0	0	0	0
6	F	40	0	0	0	0
6	G	43	0	0	1	0
6	H	44	0	0	2	0
6	I	42	0	0	1	0
6	J	53	0	0	1	0
6	K	50	0	0	0	0
6	L	38	0	0	0	0
All	All	26455	0	24241	251	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 5.

All (251) 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:C:70:LYS:HE3	1:C:95:THR:HG21	1.37	1.04
1:K:196:PHE:HB2	1:K:226:THR:HG22	1.64	0.79
1:B:250:THR:HG22	1:B:254:ASP:HB2	1.64	0.78
1:I:120:LYS:O	1:I:120:LYS:HD3	1.84	0.78
1:E:288:HIS:HB3	1:E:300:VAL:HG12	1.66	0.77
1:D:107:LEU:HD12	1:D:135:THR:HG22	1.68	0.76
1:C:70:LYS:HG3	1:C:71:GLY:H	1.53	0.73
1:D:91:GLU:OE2	1:D:128:THR:CG2	2.37	0.73
1:D:289:CYS:HG	2:D:401:CU:CU	1.03	0.73
1:C:70:LYS:HG3	1:C:71:GLY:N	2.03	0.72
1:C:70:LYS:HE3	1:C:95:THR:CG2	2.19	0.70
1:D:291:VAL:HG22	1:F:266:PRO:HG2	1.74	0.68
1:L:50:ARG:NH2	1:L:86:ASP:OD2	2.27	0.68
1:B:59:LEU:HD21	1:B:73:ALA:HB3	1.77	0.67
1:H:51:ARG:HG2	1:H:89:HIS:HB2	1.76	0.67
1:C:50:ARG:NH1	1:C:86:ASP:OD2	2.29	0.66
1:C:48:GLU:HG2	1:C:50:ARG:HG2	1.78	0.65
1:L:120:LYS:HD3	1:L:122:HIS:HE1	1.60	0.65
1:H:45:ALA:HA	1:H:183:LYS:HG2	1.79	0.65
1:D:165:PHE:CZ	1:E:300:VAL:HG11	2.32	0.64
1:A:288:HIS:HB3	1:A:300:VAL:HG13	1.81	0.62
1:D:289:CYS:SG	2:D:401:CU:CU	1.88	0.62
1:E:50:ARG:NH2	1:E:50:ARG:HG3	2.13	0.62
1:F:45:ALA:HB2	1:F:183:LYS:HE3	1.81	0.62
1:A:165:PHE:CZ	1:B:300[B]:VAL:HG21	2.35	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:107:LEU:HD11	1:D:180:VAL:HG21	1.82	0.61
1:E:50:ARG:HH21	1:E:50:ARG:CG	2.14	0.61
1:C:293:SER:O	1:C:297:MET:HG2	2.01	0.61
1:A:156:TYR:CZ	1:A:176:GLY:HA3	2.36	0.61
1:B:318:GLN:HA	1:B:318:GLN:OE1	2.01	0.60
1:G:286:MET:HE2	1:G:300:VAL:HG21	1.84	0.60
1:G:204:ARG:HD3	1:G:210:PRO:HD3	1.85	0.59
1:E:50:ARG:HG3	1:E:50:ARG:HH21	1.68	0.59
1:A:68:LEU:HD13	1:A:78:PRO:HG3	1.84	0.59
1:H:120:LYS:HE3	1:I:319:GLU:HG2	1.83	0.59
1:K:114:ASP:OD2	1:K:119:ASN:ND2	2.35	0.59
1:H:118:GLN:HB3	1:I:320:HIS:CE1	2.38	0.59
1:A:297:MET:HE2	1:H:171:ARG:NH1	2.18	0.58
1:H:45:ALA:HA	1:H:183:LYS:CG	2.34	0.58
1:J:122:HIS:HD1	1:J:122:HIS:H	1.52	0.58
1:J:300:VAL:HG21	1:L:165:PHE:CZ	2.39	0.57
1:C:50:ARG:HH22	1:C:82:LEU:HA	1.70	0.57
1:C:286:MET:HE2	1:C:300:VAL:HG21	1.86	0.57
1:E:288:HIS:CB	1:E:300:VAL:HG12	2.34	0.57
1:K:195:VAL:HG22	1:K:225:ILE:HB	1.86	0.56
1:A:118:GLN:HG2	1:B:286:MET:HE3	1.86	0.56
1:B:106:GLY:HA3	1:B:154:TRP:CD2	2.40	0.56
1:H:229:GLU:OE2	1:I:293:SER:N	2.24	0.56
1:A:79:LEU:HA	1:A:177:PRO:HG2	1.88	0.55
1:E:264[A]:CYS:SG	1:E:270:PHE:HE1	2.29	0.55
1:G:175:TYR:CE1	1:G:195:VAL:HG11	2.42	0.55
3:B:403:PER:O1	1:C:290:HIS:NE2	2.38	0.55
1:F:136:HIS:CD2	1:F:149:GLY:HA2	2.42	0.55
1:G:155:HIS:CD2	1:G:269:SER:HB3	2.42	0.55
1:K:229:GLU:OE2	1:L:293:SER:OG	2.23	0.54
1:H:195:VAL:HG22	1:H:225:ILE:HB	1.90	0.54
1:H:50:ARG:HB2	1:H:88:LEU:HD12	1.90	0.54
1:I:207:HIS:CD2	1:I:298:GLY:HA2	2.44	0.53
1:J:229:GLU:OE2	1:K:293:SER:OG	2.26	0.53
1:J:52:VAL:HG22	1:J:88:LEU:HD11	1.91	0.53
1:J:156:TYR:CZ	1:J:176:GLY:HA3	2.44	0.52
1:F:204:ARG:HD3	1:F:210:PRO:HD3	1.90	0.52
1:A:300:VAL:HG21	1:C:165:PHE:CZ	2.44	0.52
1:J:136:HIS:CD2	1:J:149:GLY:HA2	2.45	0.51
1:C:70:LYS:CE	1:C:95:THR:HG21	2.26	0.51
1:J:307:LYS:HE2	1:J:313:PRO:HD3	1.92	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:156:TYR:CZ	1:E:176:GLY:HA3	2.46	0.51
1:G:155:HIS:HD2	1:G:269:SER:HB3	1.75	0.51
1:I:120:LYS:O	1:I:120:LYS:CD	2.58	0.50
1:A:220:VAL:HG13	1:A:274:ILE:HG13	1.94	0.50
1:A:319:GLU:HG3	1:C:120:LYS:HD2	1.92	0.50
1:C:288:HIS:HB3	1:C:300:VAL:HG23	1.93	0.50
1:G:103:HIS:CD2	3:G:406:PER:O1	2.64	0.50
1:A:155:HIS:CD2	1:A:269:SER:HB3	2.47	0.50
1:L:156:TYR:CZ	1:L:176:GLY:HA3	2.47	0.50
1:A:118:GLN:HB3	1:B:320:HIS:CE1	2.47	0.50
1:H:207:HIS:CE1	1:H:298:GLY:HA2	2.46	0.49
1:C:79:LEU:HD23	1:C:177:PRO:HG2	1.95	0.49
1:G:216:VAL:HG23	1:G:306:LYS:O	2.12	0.49
1:E:142:ALA:C	1:E:144:GLY:H	2.15	0.49
1:I:207:HIS:NE2	6:I:502:HOH:O	2.28	0.49
1:C:195:VAL:HA	1:C:225:ILE:O	2.13	0.49
1:G:119:ASN:ND2	6:G:504:HOH:O	2.46	0.49
1:K:207:HIS:CD2	1:K:298:GLY:HA2	2.48	0.49
1:L:187:LEU:HD12	1:L:187:LEU:H	1.77	0.49
1:A:297:MET:HE1	1:H:167:THR:HG22	1.94	0.49
1:J:106:GLY:HA3	1:J:154:TRP:CD2	2.48	0.49
1:J:288:HIS:HB3	1:J:300:VAL:HG13	1.95	0.48
1:C:289:CYS:O	1:C:295:SER:HB3	2.13	0.48
1:D:106:GLY:HA3	1:D:154:TRP:CD2	2.49	0.48
1:I:51:ARG:HG2	1:I:89:HIS:HB2	1.95	0.48
1:K:219:ARG:HH12	1:K:248:MET:HE3	1.79	0.48
1:L:91:GLU:OE2	1:L:130:THR:OG1	2.32	0.48
1:D:50:ARG:NH1	1:D:86:ASP:OD2	2.40	0.48
1:G:168:GLY:HA2	1:G:171:ARG:HD2	1.96	0.48
1:B:114:ASP:HB3	1:B:119:ASN:OD1	2.13	0.48
1:H:275:ILE:HB	1:H:278:GLU:HB2	1.96	0.48
1:K:146:TRP:CZ2	1:L:252:PRO:HB3	2.49	0.48
1:B:122:HIS:HB3	1:B:160:VAL:HG21	1.96	0.47
1:C:234:PHE:O	1:C:261:ASN:HA	2.15	0.47
1:E:289:CYS:O	1:E:295:SER:HB3	2.13	0.47
1:D:100:VAL:HG22	1:D:101:SER:H	1.80	0.47
1:L:40:ALA:HB1	1:L:187:LEU:HB2	1.95	0.47
1:D:224:MET:HB3	1:D:270:PHE:CE1	2.50	0.47
1:B:51[B]:ARG:HG2	1:B:89:HIS:HB2	1.97	0.47
1:G:103:HIS:NE2	3:G:406:PER:O1	2.48	0.47
1:I:235:HIS:HB2	1:I:261:ASN:OD1	2.15	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:87:THR:OG1	1:J:134:ARG:HG2	2.15	0.47
1:C:307:LYS:NZ	1:C:311:THR:OG1	2.47	0.47
1:H:79:LEU:HA	1:H:177:PRO:HG2	1.97	0.47
1:K:105:HIS:CD2	1:K:155:HIS:CE1	3.03	0.47
1:B:106:GLY:HA3	1:B:154:TRP:CE3	2.50	0.46
1:L:234:PHE:O	1:L:261:ASN:HA	2.15	0.46
1:B:233:THR:HB	1:B:261:ASN:HD21	1.80	0.46
1:K:106:GLY:HA3	1:K:154:TRP:CD2	2.50	0.46
1:G:183:LYS:HD3	1:G:183:LYS:C	2.35	0.46
1:C:79:LEU:CD1	1:C:81:GLU:HG2	2.46	0.46
1:E:195:VAL:HG22	1:E:225:ILE:HB	1.97	0.46
1:F:122:HIS:HB3	1:F:160:VAL:HG11	1.98	0.46
1:F:156:TYR:CZ	1:F:176:GLY:HA3	2.51	0.46
1:A:195:VAL:HG22	1:A:225:ILE:HB	1.97	0.46
1:H:137:GLU:CD	1:H:183:LYS:HE2	2.35	0.46
1:J:107:LEU:HD21	1:J:180:VAL:HG21	1.97	0.46
1:J:115:GLY:N	1:J:121:SER:OG	2.49	0.46
1:L:55:TYR:O	1:L:66:TYR:HA	2.15	0.46
1:B:249:LEU:HD22	1:B:254:ASP:HB3	1.98	0.46
1:G:229:GLU:O	1:H:231:TYR:OH	2.30	0.46
1:H:207:HIS:CG	1:H:298:GLY:HA2	2.50	0.46
1:L:207:HIS:CE1	1:L:298:GLY:HA2	2.51	0.46
1:D:107:LEU:HD21	1:D:178:VAL:HG11	1.98	0.45
1:J:165:PHE:CZ	1:K:300:VAL:HG21	2.51	0.45
1:C:220:VAL:O	1:C:273:GLN:HA	2.15	0.45
1:E:195:VAL:HA	1:E:225:ILE:O	2.17	0.45
1:I:195:VAL:HA	1:I:225:ILE:O	2.17	0.45
1:D:235:HIS:HB2	1:D:261:ASN:OD1	2.17	0.45
1:D:199:MET:HB3	1:D:199:MET:HE2	1.62	0.45
1:J:121:SER:O	1:J:131:TYR:OH	2.28	0.45
1:C:235:HIS:HB2	1:C:261:ASN:OD1	2.15	0.45
1:J:219:ARG:HD3	1:J:273:GLN:OE1	2.17	0.45
1:B:254:ASP:OD1	1:B:256:SER:OG	2.28	0.44
1:C:79:LEU:HD23	1:C:177:PRO:CG	2.47	0.44
1:E:143:ASP:OD1	1:E:145:THR:OG1	2.28	0.44
1:A:234:PHE:O	1:A:261:ASN:HA	2.17	0.44
1:C:45:ALA:HB2	1:C:183:LYS:HD3	1.98	0.44
1:G:173:GLY:HA2	1:G:175:TYR:CE2	2.52	0.44
1:A:204:ARG:HE	1:A:204:ARG:HB3	1.64	0.44
1:B:319:GLU:O	1:B:319:GLU:HG3	2.18	0.44
1:B:233:THR:HA	1:B:262:LYS:O	2.18	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:214:ALA:O	1:C:306:LYS:HE2	2.18	0.44
1:H:287:TYR:CE1	1:H:301:GLY:HA3	2.53	0.44
1:G:57:GLU:HG2	1:G:95:THR:OG1	2.17	0.44
1:G:143:ASP:OD2	1:G:145:THR:OG1	2.21	0.44
1:H:242:ALA:O	1:H:247:GLY:HA2	2.18	0.44
1:I:104:VAL:HB	1:I:133:TRP:CZ2	2.53	0.44
1:K:111:ILE:HD12	1:K:111:ILE:HA	1.85	0.44
1:A:242:ALA:O	1:A:247:GLY:HA2	2.18	0.44
1:D:234:PHE:O	1:D:261:ASN:HA	2.18	0.44
1:K:105:HIS:CE1	1:L:235:HIS:CE1	3.06	0.44
1:B:242:ALA:O	1:B:247:GLY:HA2	2.18	0.43
1:D:286:MET:HE3	1:F:116:THR:HG21	2.00	0.43
1:E:254:ASP:OD1	1:E:256:SER:OG	2.22	0.43
1:A:159:HIS:CE1	1:A:165:PHE:HA	2.53	0.43
1:B:207:HIS:CD2	1:B:298:GLY:HA2	2.53	0.43
1:C:122:HIS:HB3	1:C:160:VAL:HG11	2.00	0.43
1:B:79:LEU:HA	1:B:177:PRO:HG2	1.99	0.43
1:J:155:HIS:CD2	1:J:269:SER:HB3	2.54	0.43
1:F:64:MET:SD	1:F:96:MET:HE1	2.59	0.43
1:H:105:HIS:CE1	1:I:235:HIS:CE1	3.06	0.43
1:D:245:ARG:HA	1:E:257:GLN:HG3	1.99	0.43
1:J:122:HIS:HB3	1:J:160:VAL:HG11	1.99	0.43
1:A:68:LEU:HD13	1:A:78:PRO:CG	2.47	0.43
1:F:191:THR:HA	1:F:221:GLU:O	2.19	0.43
1:G:224:MET:HE1	1:G:225:ILE:O	2.19	0.43
1:J:171:ARG:NH2	6:J:503:HOH:O	2.33	0.43
1:A:106:GLY:HA3	1:A:154:TRP:CD2	2.54	0.43
1:C:97:ASP:OD1	1:C:98:VAL:HG13	2.19	0.43
1:K:195:VAL:HA	1:K:225:ILE:O	2.19	0.43
1:H:140:ARG:NH2	1:H:144:GLY:O	2.52	0.43
1:H:298:GLY:O	1:H:300:VAL:N	2.51	0.43
1:A:122:HIS:HB3	1:A:160:VAL:HG11	2.01	0.42
1:B:245:ARG:HA	1:C:257:GLN:HG3	1.99	0.42
1:F:104:VAL:HB	1:F:133:TRP:CZ2	2.54	0.42
1:J:57:GLU:HG2	1:J:95:THR:OG1	2.19	0.42
1:E:234:PHE:O	1:E:261:ASN:HA	2.19	0.42
1:F:58:ARG:HG2	1:F:96:MET:CE	2.49	0.42
1:J:233:THR:O	1:J:289:CYS:HA	2.19	0.42
1:K:242:ALA:O	1:K:247:GLY:HA2	2.20	0.42
1:F:235:HIS:HB2	1:F:261:ASN:OD1	2.20	0.42
1:A:191:THR:HA	1:A:221:GLU:O	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:59:LEU:HD21	1:H:73:ALA:HB3	2.02	0.42
1:H:233:THR:HA	1:H:262:LYS:O	2.19	0.42
1:J:157:HIS:ND1	1:J:158:ASP:O	2.40	0.42
1:J:306:LYS:CG	1:J:312:ILE:HD11	2.49	0.42
1:F:309:ASP:OD1	1:F:311:THR:OG1	2.33	0.42
1:I:116:THR:HB	1:I:118:GLN:OE1	2.19	0.42
1:A:155:HIS:HD2	1:A:269:SER:HB3	1.84	0.42
1:B:236:MET:HE2	1:B:236:MET:HB3	1.95	0.42
1:A:209:GLY:HA3	1:A:210:PRO:HA	1.89	0.42
1:G:282:ALA:HB1	1:G:305:VAL:O	2.20	0.42
1:L:282:ALA:HB2	1:L:307:LYS:HE3	2.02	0.42
1:A:173:GLY:HA2	1:A:175:TYR:CE2	2.54	0.42
1:G:320:HIS:CE1	1:I:118:GLN:HB3	2.55	0.42
1:K:204:ARG:HD3	1:K:210:PRO:HD3	2.01	0.42
1:F:242:ALA:O	1:F:247:GLY:HA2	2.20	0.42
1:G:156:TYR:CZ	1:G:176:GLY:HA3	2.54	0.42
6:H:541:HOH:O	1:I:292:GLN:HG3	2.19	0.42
1:A:120:LYS:HB3	1:A:120:LYS:HE3	1.84	0.41
1:F:159:HIS:CE1	1:F:165:PHE:HA	2.55	0.41
1:K:233:THR:HA	1:K:262:LYS:O	2.20	0.41
1:L:206:ALA:O	1:L:208:THR:HG23	2.20	0.41
1:L:226:THR:HB	1:L:265:GLY:O	2.20	0.41
1:F:106:GLY:HA3	1:F:154:TRP:CE3	2.55	0.41
1:G:165:PHE:CZ	1:H:300:VAL:HG21	2.55	0.41
1:K:233:THR:O	1:K:289:CYS:HA	2.19	0.41
1:G:224:MET:SD	1:G:270:PHE:CE1	3.14	0.41
1:H:106:GLY:HA3	1:H:154:TRP:CD2	2.55	0.41
1:J:188:PRO:HA	1:J:219:ARG:HG2	2.01	0.41
1:K:100:VAL:HG22	1:K:101:SER:H	1.85	0.41
1:E:142:ALA:C	1:E:144:GLY:N	2.73	0.41
1:H:165:PHE:CZ	1:I:300:VAL:HG21	2.56	0.41
1:C:204:ARG:NH1	1:C:210:PRO:HB3	2.36	0.41
1:D:158:ASP:OD2	1:D:169:GLY:HA3	2.21	0.41
1:D:236:MET:HE1	1:D:272:PHE:CZ	2.56	0.41
1:E:97:ASP:OD1	1:E:97:ASP:N	2.53	0.41
1:F:241:TRP:CZ3	1:F:260:ASP:HA	2.55	0.41
1:H:227:HIS:NE2	6:H:505:HOH:O	2.37	0.41
1:J:105:HIS:CE1	1:J:267:ALA:HB1	2.55	0.41
1:L:68:LEU:HD23	1:L:68:LEU:HA	1.91	0.41
1:A:250:THR:OG1	1:A:254:ASP:HB2	2.21	0.41
1:F:117:LYS:HD2	1:F:122:HIS:CE1	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:106:GLY:HA3	1:H:154:TRP:CE3	2.56	0.41
1:J:242:ALA:O	1:J:247:GLY:HA2	2.20	0.41
1:K:289:CYS:O	1:K:295:SER:HB3	2.21	0.41
1:A:69:GLU:OE2	1:A:72:LYS:HD2	2.21	0.41
1:H:234:PHE:O	1:H:261:ASN:HA	2.20	0.41
1:D:104:VAL:CG2	1:D:107:LEU:HD23	2.50	0.40
1:E:79:LEU:HA	1:E:177:PRO:HG2	2.03	0.40
1:G:106:GLY:HA3	1:G:154:TRP:CD2	2.56	0.40
1:G:245:ARG:HA	1:H:257:GLN:HG3	2.03	0.40
1:I:66:TYR:CD2	1:I:156:TYR:HE2	2.39	0.40
1:I:234:PHE:O	1:I:261:ASN:HA	2.20	0.40
1:C:66:TYR:CD2	1:C:156:TYR:HE1	2.39	0.40
1:G:288:HIS:HB3	1:G:300:VAL:HG23	2.02	0.40
1:L:80:ILE:HB	1:L:178:VAL:HG13	2.03	0.40
1:B:118:GLN:OE1	1:B:118:GLN:N	2.54	0.40
1:D:91:GLU:OE2	1:D:128:THR:HG23	2.20	0.40
1:G:136:HIS:CD2	1:G:149:GLY:HA2	2.56	0.40
1:H:229:GLU:OE1	1:I:293:SER:OG	2.33	0.40
1:H:235:HIS:ND1	1:H:260:ASP:O	2.39	0.40
1:J:300:VAL:HG21	1:L:165:PHE:HZ	1.87	0.40
1:K:90:VAL:O	1:K:130:THR:HA	2.21	0.40

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	279/322 (87%)	273 (98%)	6 (2%)	0	100	100
1	B	281/322 (87%)	268 (95%)	13 (5%)	0	100	100
1	C	276/322 (86%)	268 (97%)	8 (3%)	0	100	100
1	D	277/322 (86%)	271 (98%)	6 (2%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	E	277/322 (86%)	270 (98%)	7 (2%)	0	100	100
1	F	277/322 (86%)	268 (97%)	9 (3%)	0	100	100
1	G	280/322 (87%)	271 (97%)	9 (3%)	0	100	100
1	H	276/322 (86%)	266 (96%)	10 (4%)	0	100	100
1	I	280/322 (87%)	273 (98%)	7 (2%)	0	100	100
1	J	280/322 (87%)	271 (97%)	9 (3%)	0	100	100
1	K	280/322 (87%)	272 (97%)	8 (3%)	0	100	100
1	L	275/322 (85%)	266 (97%)	9 (3%)	0	100	100
All	All	3338/3864 (86%)	3237 (97%)	101 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	222/249 (89%)	220 (99%)	2 (1%)	78	77
1	B	224/249 (90%)	223 (100%)	1 (0%)	91	90
1	C	220/249 (88%)	218 (99%)	2 (1%)	78	77
1	D	220/249 (88%)	217 (99%)	3 (1%)	67	62
1	E	220/249 (88%)	217 (99%)	3 (1%)	67	62
1	F	221/249 (89%)	219 (99%)	2 (1%)	78	77
1	G	223/249 (90%)	221 (99%)	2 (1%)	78	77
1	H	219/249 (88%)	215 (98%)	4 (2%)	59	53
1	I	223/249 (90%)	220 (99%)	3 (1%)	69	65
1	J	223/249 (90%)	222 (100%)	1 (0%)	91	90
1	K	222/249 (89%)	217 (98%)	5 (2%)	50	42
1	L	218/249 (88%)	215 (99%)	3 (1%)	67	62
All	All	2655/2988 (89%)	2624 (99%)	31 (1%)	73	68

All (31) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	224	MET
1	A	240	ARG
1	B	318	GLN
1	C	70	LYS
1	C	240	ARG
1	D	224	MET
1	D	240	ARG
1	D	262	LYS
1	E	50	ARG
1	E	240	ARG
1	E	248	MET
1	F	143	ASP
1	F	240	ARG
1	G	224	MET
1	G	240	ARG
1	H	88	LEU
1	H	120	LYS
1	H	224	MET
1	H	240	ARG
1	I	81	GLU
1	I	128	THR
1	I	240	ARG
1	J	224	MET
1	K	50	ARG
1	K	120	LYS
1	K	224	MET
1	K	240	ARG
1	K	318	GLN
1	L	117	LYS
1	L	224[A]	MET
1	L	224[B]	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	I	257	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 57 ligands modelled in this entry, 48 are monoatomic - leaving 9 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	$\#\|Z\| > 2$
3	PER	D	409	2	0,1,1	-	-	-		
5	OXY	D	407	2	1,1,1	0.13	0	-		
3	PER	J	406	2	0,1,1	-	-	-		
5	OXY	J	405	2	1,1,1	0.07	0	-		
3	PER	B	403	2	0,1,1	-	-	-		
3	PER	K	403	2	0,1,1	-	-	-		
3	PER	E	405	2	0,1,1	-	-	-		
3	PER	G	406	2	0,1,1	-	-	-		
4	GOL	B	404	-	5,5,5	0.44	0	5,5,5	0.34	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GOL	B	404	-	-	2/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	B	404	GOL	O1-C1-C2-O2
4	B	404	GOL	O1-C1-C2-C3

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	403	PER	1	0
3	G	406	PER	2	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

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	281/322 (87%)	-0.36	0 100 100	17, 28, 44, 69	3 (1%)
1	B	281/322 (87%)	-0.35	2 (0%) 87 92	17, 28, 40, 79	7 (2%)
1	C	277/322 (86%)	-0.27	2 (0%) 87 92	20, 31, 48, 76	7 (2%)
1	D	278/322 (86%)	-0.32	2 (0%) 87 92	19, 29, 44, 81	6 (2%)
1	E	278/322 (86%)	-0.30	2 (0%) 87 92	19, 29, 45, 99	5 (1%)
1	F	277/322 (86%)	-0.35	1 (0%) 92 95	18, 30, 44, 59	5 (1%)
1	G	281/322 (87%)	-0.28	1 (0%) 92 95	20, 35, 52, 70	5 (1%)
1	H	278/322 (86%)	-0.22	6 (2%) 62 70	22, 35, 51, 83	4 (1%)
1	I	281/322 (87%)	-0.19	1 (0%) 92 95	21, 35, 53, 84	4 (1%)
1	J	281/322 (87%)	-0.32	2 (0%) 87 92	21, 31, 47, 72	3 (1%)
1	K	282/322 (87%)	-0.32	2 (0%) 87 92	19, 30, 49, 73	1 (0%)
1	L	276/322 (85%)	-0.15	1 (0%) 92 95	24, 37, 52, 60	5 (1%)
All	All	3351/3864 (86%)	-0.29	22 (0%) 87 92	17, 31, 49, 99	55 (1%)

All (22) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	317	PRO	7.4
1	E	40	ALA	6.9
1	K	40	ALA	5.4
1	K	321	ALA	4.1
1	H	40	ALA	3.8
1	L	40	ALA	3.6
1	G	40	ALA	3.2
1	J	318	GLN	3.1
1	B	321	ALA	3.0
1	I	40	ALA	3.0
1	H	316	ASP	2.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	H	317	PRO	2.6
1	C	142	ALA	2.5
1	H	41	GLY	2.5
1	C	70	LYS	2.3
1	D	317	PRO	2.3
1	H	120	LYS	2.3
1	F	142	ALA	2.3
1	D	40	ALA	2.2
1	B	319	GLU	2.1
1	H	142	ALA	2.1
1	J	40	ALA	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
2	CU	D	405	1/1	0.83	0.09	42,42,42,42	1
2	CU	J	403	1/1	0.91	0.12	34,34,34,34	1
4	GOL	B	404	6/6	0.91	0.09	37,39,40,44	0
2	CU	J	408	1/1	0.93	0.09	32,32,32,32	1
2	CU	G	405	1/1	0.93	0.07	33,33,33,33	1
2	CU	G	403	1/1	0.94	0.09	34,34,34,34	1
2	CU	G	402	1/1	0.94	0.08	36,36,36,36	1
2	CU	K	404	1/1	0.94	0.07	38,38,38,38	1
2	CU	H	404	1/1	0.94	0.10	38,38,38,38	1
2	CU	B	406	1/1	0.95	0.20	27,27,27,27	1
2	CU	A	405	1/1	0.95	0.06	27,27,27,27	1
5	OXY	D	407	2/2	0.95	0.10	36,36,36,37	2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	CU	E	403	1/1	0.96	0.10	27,27,27,27	1
2	CU	D	402	1/1	0.96	0.09	41,41,41,41	1
2	CU	A	403	1/1	0.97	0.08	29,29,29,29	1
2	CU	J	407	1/1	0.97	0.05	30,30,30,30	1
2	CU	A	406	1/1	0.97	0.08	35,35,35,35	1
2	CU	H	403	1/1	0.97	0.05	38,38,38,38	1
3	PER	B	403	2/2	0.97	0.09	16,16,16,23	2
3	PER	E	405	2/2	0.97	0.13	30,30,30,43	0
3	PER	G	406	2/2	0.97	0.13	23,23,23,31	2
3	PER	K	403	2/2	0.97	0.11	28,28,28,28	2
2	CU	D	403	1/1	0.97	0.10	46,46,46,46	1
2	CU	J	402	1/1	0.97	0.07	41,41,41,41	1
3	PER	D	409	2/2	0.98	0.08	28,28,28,29	2
2	CU	E	404	1/1	0.98	0.05	31,31,31,31	1
2	CU	G	404	1/1	0.98	0.09	35,35,35,35	0
2	CU	A	402	1/1	0.98	0.09	34,34,34,34	1
2	CU	K	405	1/1	0.98	0.07	28,28,28,28	1
2	CU	G	407	1/1	0.98	0.07	40,40,40,40	1
5	OXY	J	405	2/2	0.98	0.07	33,33,33,36	0
2	CU	B	405	1/1	0.99	0.08	42,42,42,42	1
2	CU	J	409	1/1	0.99	0.11	41,41,41,41	0
2	CU	K	402	1/1	0.99	0.10	37,37,37,37	1
2	CU	D	404	1/1	0.99	0.04	31,31,31,31	0
2	CU	A	404	1/1	0.99	0.09	31,31,31,31	0
2	CU	L	401	1/1	0.99	0.08	29,29,29,29	0
2	CU	D	406	1/1	0.99	0.05	33,33,33,33	1
2	CU	G	408	1/1	0.99	0.09	38,38,38,38	0
2	CU	H	402	1/1	0.99	0.09	42,42,42,42	0
2	CU	E	401	1/1	0.99	0.07	28,28,28,28	0
3	PER	J	406	2/2	0.99	0.09	21,21,21,29	2
2	CU	E	402	1/1	0.99	0.08	33,33,33,33	0
2	CU	C	401	1/1	0.99	0.09	29,29,29,29	0
2	CU	D	401	1/1	0.99	0.08	26,26,26,26	0
2	CU	A	407	1/1	0.99	0.10	35,35,35,35	0
2	CU	I	401	1/1	1.00	0.07	30,30,30,30	0
2	CU	J	401	1/1	1.00	0.07	25,25,25,25	0
2	CU	D	408	1/1	1.00	0.09	32,32,32,32	0
2	CU	F	401	1/1	1.00	0.09	25,25,25,25	0
2	CU	J	404	1/1	1.00	0.07	29,29,29,29	1
2	CU	G	401	1/1	1.00	0.05	24,24,24,24	0
2	CU	H	401	1/1	1.00	0.10	29,29,29,29	0
2	CU	A	401	1/1	1.00	0.08	22,22,22,22	1

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	CU	K	401	1/1	1.00	0.09	30,30,30,30	0
2	CU	B	401	1/1	1.00	0.06	22,22,22,22	0
2	CU	B	402	1/1	1.00	0.09	33,33,33,33	0

6.5 Other polymers (i)

There are no such residues in this entry.