Full wwPDB X-ray Structure Validation Report ⓘ

Apr 29, 2024 – 06:02 pm BST

PDB ID	:	5FRP
Title	:	Structure of the Pds5-Scc1 complex and implications for cohesin function
Authors	:	Muir, K.W.; Kschonsak, M.; Li, Y.; Metz, J.; Haering, C.H.; Panne, D.
Deposited on	:	2015-12-21
Resolution	:	2.90 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:

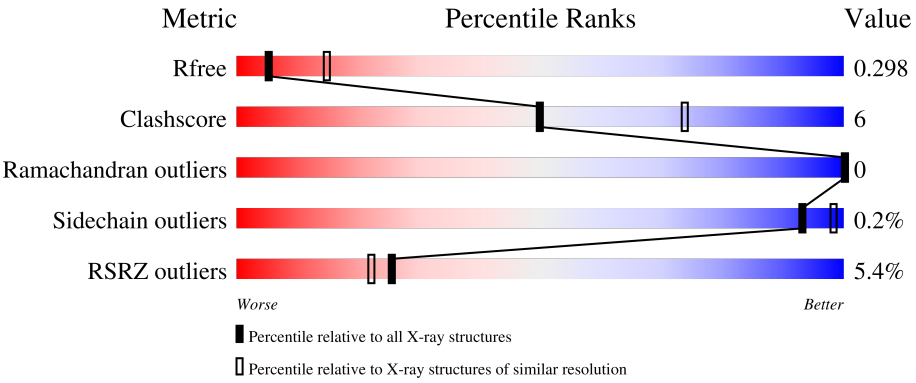
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation 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 2.90 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	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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	703	5% 83% 14% .
1	B	703	4% 82% 12% 6%
2	C	44	7% 36% . 61%
2	D	44	20% 34% 5% 61%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 22372 atoms, of which 11256 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 SISTER CHROMATID COHESION PROTEIN PDS5.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	677	Total	C	H	N	O	S	0	0	0
			11045	3526	5551	914	1041	13			
1	B	660	Total	C	H	N	O	S	0	0	0
			10805	3455	5441	889	1009	11			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP Q04264
A	0	ALA	-	expression tag	UNP Q04264
B	-1	GLY	-	expression tag	UNP Q04264
B	0	ALA	-	expression tag	UNP Q04264

- Molecule 2 is a protein called MCD1-LIKE PROTEIN.

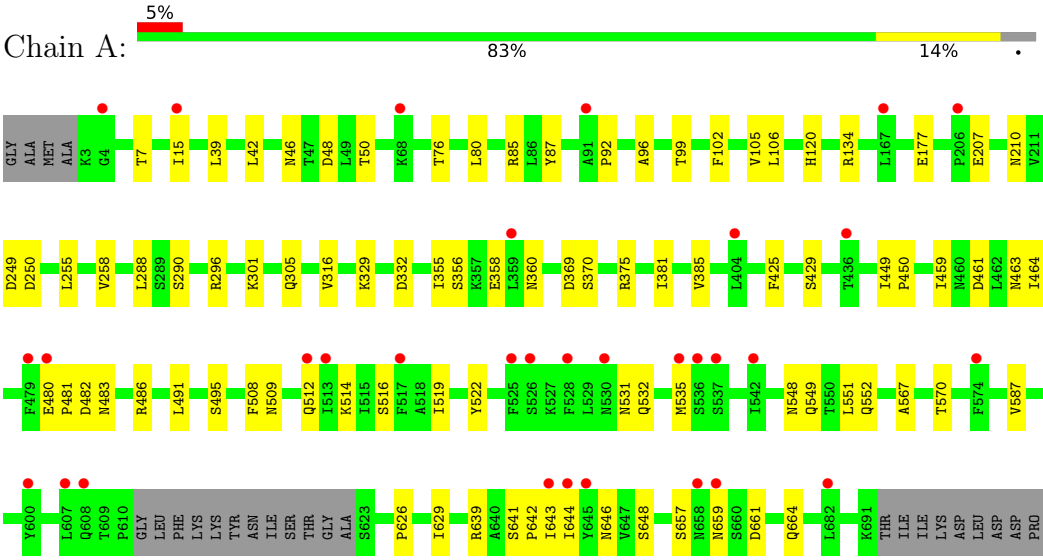
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	C	17	Total	C	H	N	O	S	0	0	0
			261	81	132	20	27	1			
2	D	17	Total	C	H	N	O	S	0	0	0
			261	81	132	20	27	1			

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.

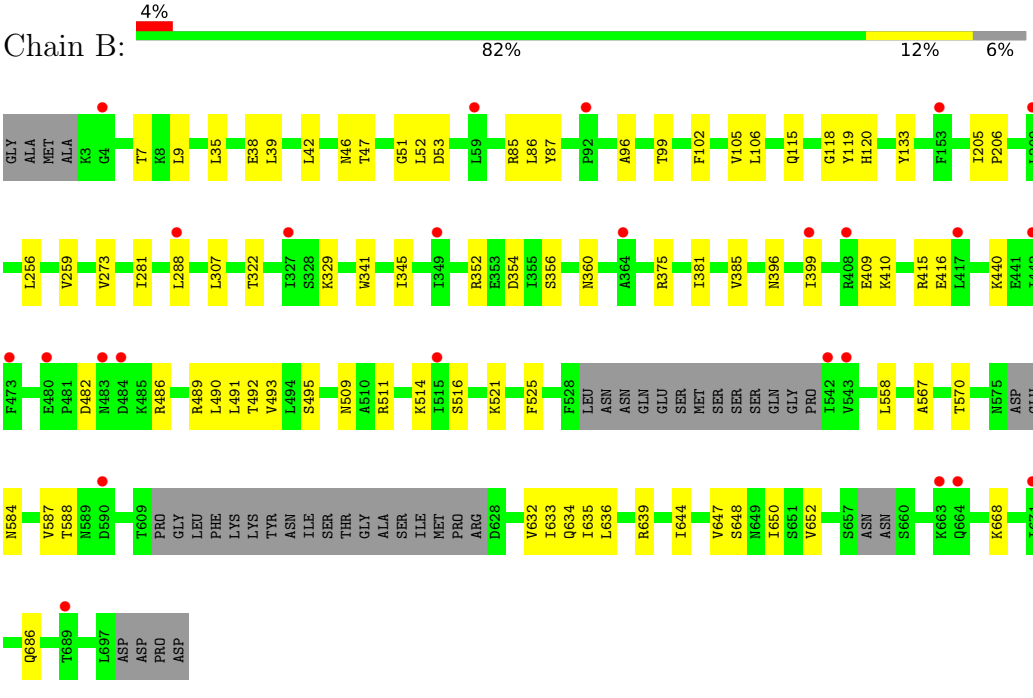
• Molecule 1: SISTER CHROMATID COHESION PROTEIN PDS5

Chain A:



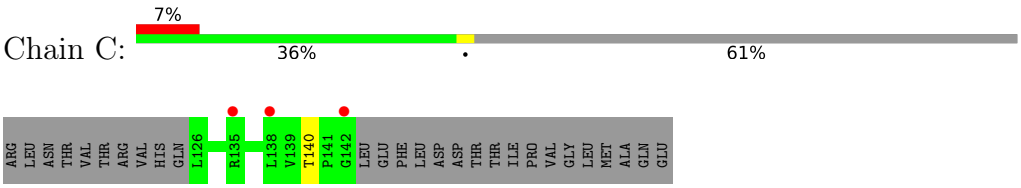
• Molecule 1: SISTER CHROMATID COHESION PROTEIN PDS5

Chain B:



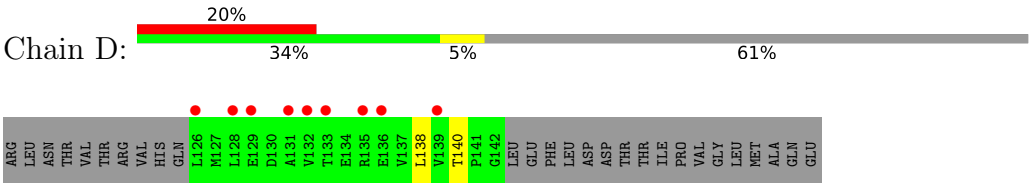
• Molecule 2: MCD1-LIKE PROTEIN

Chain C:



• Molecule 2: MCD1-LIKE PROTEIN

Chain D:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	147.23Å 62.56Å 155.94Å 90.00° 103.91° 90.00°	Depositor
Resolution (Å)	48.22 – 2.90 48.93 – 2.89	Depositor EDS
% Data completeness (in resolution range)	96.8 (48.22-2.90) 83.2 (48.93-2.89)	Depositor EDS
R_{merge}	0.50	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.45 (at 2.91Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.266 , 0.298 0.266 , 0.298	Depositor DCC
R_{free} test set	3021 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	89.2	Xtriage
Anisotropy	0.257	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 53.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	22372	wwPDB-VP
Average B, all atoms (Å^2)	116.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.27% 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

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	0.33	0/5600	0.44	0/7597
1	B	0.28	0/5464	0.42	0/7408
2	C	0.31	0/129	0.52	0/175
2	D	0.22	0/129	0.47	0/175
All	All	0.31	0/11322	0.43	0/15355

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	5494	5551	5551	68	1
1	B	5364	5441	5435	63	1
2	C	129	132	132	1	0
2	D	129	132	132	2	0
All	All	11116	11256	11250	129	1

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 6.

All (129) 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:A:42:LEU:O	1:A:85:ARG:NH2	2.06	0.89
1:A:486:ARG:NH1	1:A:593:PHE:CD2	2.43	0.86
1:A:369:ASP:O	1:A:375:ARG:NH1	2.17	0.76
1:A:642:PRO:C	1:A:643:ILE:HD12	2.08	0.73
1:A:482:ASP:OD1	1:A:483:ASN:N	2.21	0.72
1:A:643:ILE:HD12	1:A:643:ILE:N	2.05	0.71
1:B:51:GLY:O	1:B:52:LEU:HD12	1.90	0.71
1:B:85:ARG:HD2	1:B:133:TYR:CD1	2.28	0.68
1:B:558:LEU:HD22	1:B:635:ILE:HD13	1.74	0.68
1:A:459:ILE:HD11	1:A:461:ASP:HB3	1.76	0.68
1:A:482:ASP:O	1:A:486:ARG:HG3	1.94	0.67
1:A:486:ARG:CD	1:A:593:PHE:CE2	2.78	0.66
1:B:514:LYS:NZ	2:D:140:THR:O	2.28	0.65
1:B:51:GLY:C	1:B:52:LEU:HD12	2.17	0.65
1:A:516:SER:OG	1:A:587:VAL:O	2.15	0.65
1:B:567:ALA:O	1:B:570:THR:OG1	2.14	0.65
1:A:486:ARG:HD3	1:A:593:PHE:CE2	2.33	0.64
1:A:459:ILE:O	1:B:115:GLN:NE2	2.31	0.64
1:A:296:ARG:NH2	1:A:332:ASP:OD1	2.31	0.63
1:A:514:LYS:NZ	2:C:140:THR:O	2.31	0.63
1:B:558:LEU:HD22	1:B:635:ILE:CD1	2.29	0.63
1:A:567:ALA:O	1:A:570:THR:OG1	2.16	0.62
1:B:584:ASN:OD1	1:B:588:THR:OG1	2.18	0.62
1:B:652:VAL:HG12	1:B:668:LYS:HG3	1.83	0.61
1:A:288:LEU:O	1:A:329:LYS:NZ	2.25	0.61
1:A:7:THR:OG1	1:A:46:ASN:O	2.18	0.60
1:A:469:ASP:OD2	1:A:639:ARG:NE	2.35	0.59
1:A:532:GLN:OE1	1:A:535:MET:N	2.36	0.59
1:B:288:LEU:O	1:B:329:LYS:NZ	2.26	0.59
1:A:486:ARG:CZ	1:A:593:PHE:CD2	2.85	0.58
1:B:356:SER:O	1:B:360:ASN:ND2	2.36	0.58
1:A:356:SER:O	1:A:360:ASN:ND2	2.37	0.56
1:A:512:GLN:HG2	1:A:639:ARG:O	2.06	0.56
1:B:35:LEU:HD11	1:B:39:LEU:HD11	1.87	0.56
1:B:85:ARG:HD2	1:B:133:TYR:CG	2.40	0.56
1:B:85:ARG:NH2	1:B:86:LEU:HD21	2.21	0.56
1:A:87:TYR:CD2	1:A:92:PRO:HB3	2.42	0.55
1:A:459:ILE:HD11	1:A:461:ASP:CB	2.38	0.54
1:B:307:LEU:O	1:B:352:ARG:HD3	2.08	0.53
1:A:461:ASP:OD1	1:A:463:ASN:N	2.42	0.53
1:B:85:ARG:HD2	1:B:133:TYR:CE1	2.44	0.53
1:A:643:ILE:N	1:A:643:ILE:CD1	2.72	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:511:ARG:HD3	2:D:138:LEU:O	2.08	0.53
1:A:482:ASP:O	1:A:486:ARG:CG	2.56	0.52
1:A:661:ASP:OD2	1:A:664:GLN:NE2	2.42	0.52
1:A:480:GLU:CB	1:A:481:PRO:HA	2.39	0.52
1:B:558:LEU:CD2	1:B:635:ILE:CD1	2.88	0.51
1:B:352:ARG:NH2	1:B:354:ASP:OD2	2.43	0.50
1:B:102:PHE:O	1:B:105:VAL:HG12	2.11	0.50
1:B:119:TYR:CD1	1:B:119:TYR:N	2.79	0.50
1:B:85:ARG:HG3	1:B:133:TYR:HB3	1.93	0.50
1:B:486:ARG:NH2	1:B:648:SER:OG	2.45	0.50
1:A:486:ARG:NH2	1:A:648:SER:OG	2.45	0.50
1:B:53:ASP:OD1	1:B:87:TYR:OH	2.25	0.50
1:B:375:ARG:NH1	1:B:409:GLU:OE1	2.44	0.49
1:B:118:GLY:C	1:B:119:TYR:CD1	2.85	0.49
1:B:7:THR:CG2	1:B:47:THR:HA	2.43	0.49
1:A:102:PHE:O	1:A:105:VAL:HG12	2.12	0.49
1:A:626:PRO:O	1:A:629:ILE:N	2.45	0.49
1:B:491:LEU:O	1:B:495:SER:N	2.45	0.49
1:A:591:ILE:O	1:A:646:ASN:ND2	2.46	0.49
1:A:641:SER:OG	1:A:643:ILE:HD11	2.12	0.49
1:B:489:ARG:O	1:B:492:THR:OG1	2.19	0.48
1:A:301:LYS:O	1:A:305:GLN:HG3	2.14	0.48
1:B:516:SER:OG	1:B:587:VAL:O	2.32	0.47
1:A:134:ARG:NH1	1:A:177:GLU:OE1	2.48	0.47
1:B:632:VAL:O	1:B:635:ILE:HG13	2.15	0.46
1:A:48:ASP:OD1	1:A:50:THR:N	2.48	0.46
1:B:205:ILE:N	1:B:206:PRO:CD	2.79	0.46
1:A:591:ILE:HG22	1:A:592:PRO:O	2.16	0.46
1:A:255:LEU:O	1:A:258:VAL:HG22	2.16	0.46
1:B:102:PHE:HA	1:B:105:VAL:HG12	1.98	0.45
1:B:440:LYS:HA	1:B:443:TRP:HB2	1.98	0.45
1:A:483:ASN:HA	1:A:486:ARG:NH1	2.32	0.45
1:B:647:VAL:O	1:B:650:ILE:HG13	2.17	0.45
1:B:102:PHE:O	1:B:106:LEU:HG	2.17	0.44
1:A:480:GLU:HB2	1:A:481:PRO:CA	2.47	0.44
1:A:491:LEU:O	1:A:495:SER:N	2.51	0.44
1:A:594:LEU:C	1:A:594:LEU:HD13	2.38	0.44
1:B:39:LEU:HA	1:B:42:LEU:HG	2.00	0.44
1:A:246:ALA:CB	1:A:258:VAL:HG21	2.48	0.44
1:B:35:LEU:CD1	1:B:39:LEU:HD11	2.47	0.44
1:B:46:ASN:O	1:B:47:THR:OG1	2.35	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:281:ILE:HG13	1:B:322:THR:HG21	2.00	0.44
1:B:584:ASN:O	1:B:588:THR:OG1	2.35	0.44
1:A:369:ASP:OD1	1:A:370:SER:N	2.51	0.43
1:B:307:LEU:O	1:B:352:ARG:CD	2.66	0.43
1:A:76:THR:HG22	1:A:80:LEU:CD1	2.49	0.43
1:A:449:ILE:N	1:A:450:PRO:HD2	2.33	0.43
1:B:96:ALA:O	1:B:99:THR:OG1	2.28	0.43
1:B:341:TRP:CH2	1:B:345:ILE:HD11	2.53	0.43
1:A:207:GLU:OE2	1:A:210:ASN:OD1	2.37	0.43
1:A:249:ASP:OD1	1:A:250:ASP:N	2.51	0.43
1:A:459:ILE:CD1	1:A:461:ASP:CB	2.97	0.43
1:A:316:VAL:HG11	1:A:355:ILE:HD11	2.00	0.43
1:A:39:LEU:HD23	1:A:39:LEU:HA	1.84	0.43
1:A:480:GLU:HB2	1:A:481:PRO:HA	2.00	0.43
1:B:469:ASP:OD2	1:B:639:ARG:NE	2.52	0.43
1:B:633:ILE:HD12	1:B:634:GLN:N	2.33	0.43
1:A:508:PHE:O	1:A:512:GLN:HG3	2.18	0.43
1:B:410:LYS:O	1:B:415:ARG:NH2	2.52	0.43
1:A:102:PHE:O	1:A:106:LEU:HG	2.19	0.42
1:A:548:ASN:O	1:A:551:LEU:HG	2.19	0.42
1:B:588:THR:O	1:B:588:THR:HG22	2.19	0.42
1:B:256:LEU:HA	1:B:259:VAL:HG12	2.00	0.42
1:B:381:ILE:O	1:B:385:VAL:HG12	2.19	0.42
1:A:355:ILE:HG23	1:A:358:GLU:OE1	2.18	0.42
1:A:519:ILE:HA	1:A:522:TYR:HB3	2.02	0.42
1:B:509:ASN:HD21	1:B:644:ILE:HD11	1.85	0.42
1:B:9:LEU:HD12	1:B:38:GLU:CD	2.40	0.41
1:A:425:PHE:O	1:A:429:SER:N	2.51	0.41
1:B:490:LEU:O	1:B:493:VAL:HG22	2.20	0.41
1:B:396:ASN:HB3	1:B:399:ILE:HG12	2.03	0.41
1:B:482:ASP:O	1:B:486:ARG:HG3	2.20	0.41
1:A:212:THR:CG2	1:B:416:GLU:CD	2.90	0.41
1:A:381:ILE:O	1:A:385:VAL:HG12	2.20	0.41
1:A:549:GLN:O	1:A:552:GLN:HG2	2.21	0.41
1:A:657:SER:OG	1:A:659:ASN:O	2.29	0.41
1:B:521:LYS:O	1:B:525:PHE:N	2.53	0.41
1:A:461:ASP:HB3	1:A:464:ILE:HB	2.03	0.40
1:B:635:ILE:HD12	1:B:636:LEU:N	2.36	0.40
1:A:15:ILE:O	1:A:15:ILE:HG22	2.21	0.40
1:A:290:SER:O	1:A:296:ARG:HD3	2.21	0.40
1:B:249:ASP:O	1:B:251:ASN:N	2.51	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:273:VAL:HG23	1:B:273:VAL:O	2.21	0.40
1:A:509:ASN:CG	1:A:644:ILE:HD11	2.42	0.40
1:B:42:LEU:O	1:B:85:ARG:NH2	2.54	0.40
1:A:96:ALA:O	1:A:99:THR:OG1	2.29	0.40
1:B:516:SER:HA	1:B:587:VAL:CG2	2.51	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:657:SER:O	1:B:686:GLN:NE2[2_556]	2.17	0.03

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	673/703 (96%)	633 (94%)	40 (6%)	0	100	100
1	B	650/703 (92%)	615 (95%)	35 (5%)	0	100	100
2	C	15/44 (34%)	14 (93%)	1 (7%)	0	100	100
2	D	15/44 (34%)	15 (100%)	0	0	100	100
All	All	1353/1494 (91%)	1277 (94%)	76 (6%)	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	629/650 (97%)	627 (100%)	2 (0%)	92 98
1	B	611/650 (94%)	610 (100%)	1 (0%)	93 98
2	C	15/40 (38%)	15 (100%)	0	100 100
2	D	15/40 (38%)	15 (100%)	0	100 100
All	All	1270/1380 (92%)	1267 (100%)	3 (0%)	93 98

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	120	HIS
1	A	531	ASN
1	B	120	HIS

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

Mol	Chain	Res	Type
1	A	598	ASN

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)

There are no ligands in this entry.

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	677/703 (96%)	0.41	33 (4%)	29	26	51, 94, 165, 192	0
1	B	660/703 (93%)	0.35	29 (4%)	34	30	49, 100, 163, 182	0
2	C	17/44 (38%)	0.67	3 (17%)	1	1	101, 128, 160, 161	0
2	D	17/44 (38%)	2.87	9 (52%)	0	0	124, 150, 169, 170	0
All	All	1371/1494 (91%)	0.41	74 (5%)	25	22	49, 98, 164, 192	0

All (74) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	D	135	ARG	10.9
1	A	480	GLU	6.7
1	A	537	SER	6.1
1	B	543	VAL	6.1
2	D	129	GLU	6.0
2	D	131	ALA	6.0
1	A	536	SER	5.9
2	D	133	THR	5.5
2	D	132	VAL	5.1
1	B	683	PHE	4.8
1	A	607	LEU	4.7
1	B	663	LYS	4.4
1	B	542	ILE	4.2
1	A	535	MET	4.2
1	B	671	ILE	4.1
1	B	209	LEU	4.0
1	A	530	ASN	3.7
1	A	608	GLN	3.6
1	A	479	PHE	3.6
1	A	513	ILE	3.5
1	A	600	TYR	3.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	480	GLU	3.3
1	A	4	GLY	3.3
1	B	483	ASN	3.3
1	A	682	LEU	3.1
1	A	525	PHE	3.1
1	A	658	ASN	3.0
1	A	68	LYS	3.0
1	B	578	ARG	2.9
1	A	645	TYR	2.9
2	D	128	LEU	2.8
1	B	678	VAL	2.8
2	D	139	VAL	2.8
1	B	664	GLN	2.8
1	A	436	THR	2.8
1	B	399	ILE	2.8
1	A	404	LEU	2.8
2	C	135	ARG	2.7
1	B	4	GLY	2.7
1	A	167	LEU	2.6
1	B	581	TYR	2.6
1	B	689	THR	2.6
1	A	91	ALA	2.6
1	B	484	ASP	2.5
1	B	59	LEU	2.5
1	B	590	ASP	2.4
1	A	643	ILE	2.4
1	B	327	ILE	2.4
1	B	442	ILE	2.4
1	A	659	ASN	2.4
1	B	288	LEU	2.4
1	A	574	PHE	2.4
2	C	142	GLY	2.4
1	B	364	ALA	2.4
1	A	206	PRO	2.3
1	A	512	GLN	2.3
1	B	515	ILE	2.3
1	A	526	SER	2.3
1	B	473	PHE	2.3
1	A	359	LEU	2.3
2	C	138	LEU	2.3
1	A	644	ILE	2.3
1	B	417	LEU	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	D	126	LEU	2.2
1	B	92	PRO	2.2
1	A	15	ILE	2.2
1	A	472	ILE	2.2
2	D	136	GLU	2.1
1	A	542	ILE	2.1
1	B	349	ILE	2.1
1	B	408	ARG	2.0
1	A	517	PHE	2.0
1	B	153	PHE	2.0
1	A	528	PHE	2.0

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)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.