Full wwPDB X-ray Structure Validation Report ⓘ

Nov 6, 2023 – 04:30 AM EST

PDB ID	:	7K2S
Title	:	Kelch domain of human KEAP1 bound to Nrf2 cyclic peptide, c[DhA-GDPETGE]
Authors	:	Muellers, S.N.; Allen, K.N.
Deposited on	:	2020-09-08
Resolution	:	2.13 Å(reported)

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

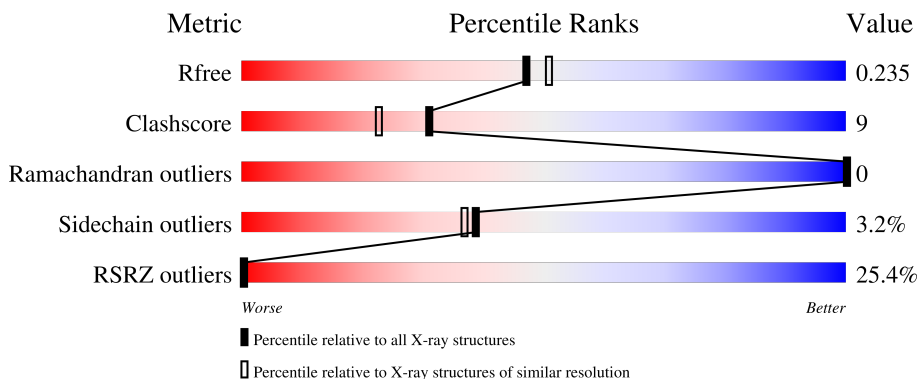|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.13 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	Percentile Ranks	Value
Rfree		0.235
Clashscore		9
Ramachandran outliers		0
Sidechain outliers		3.2%
RSRZ outliers		25.4%

Worse *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2523 (2.16-2.12)
Clashscore	141614	2653 (2.16-2.12)
Ramachandran outliers	138981	2618 (2.16-2.12)
Sidechain outliers	138945	2617 (2.16-2.12)
RSRZ outliers	127900	2485 (2.16-2.12)

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	301	36% / 74% 17% · 6%
1	B	301	13% / 86% 10% ·
2	P	7	71% 29%

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	B3A	P	76	X	-	-	-

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 4551 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 Kelch-like ECH-associated protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	289	Total	C	N	O	S	0	1	0
			2225	1383	404	421	17			
1	A	284	Total	C	N	O	S	0	1	0
			2184	1359	396	413	16			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	540	ALA	GLU	conflict	UNP Q14145
B	542	ALA	GLU	conflict	UNP Q14145
B	613	SER	CYS	conflict	UNP Q14145
A	540	ALA	GLU	conflict	UNP Q14145
A	542	ALA	GLU	conflict	UNP Q14145
A	613	SER	CYS	conflict	UNP Q14145

- Molecule 2 is a protein called B3A-ASP-PRO-GLU-THR-GLY-GLU.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	P	7	Total	C	N	O	0	0	0
			50	29	7	14			

- Molecule 3 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	75	Total	O	0	0
			75	75		
3	A	15	Total	O	0	0
			15	15		
3	P	2	Total	O	0	0
			2	2		

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.
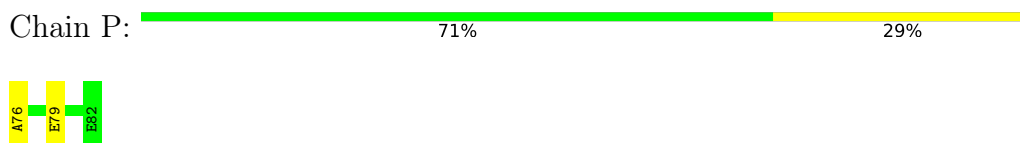
• Molecule 1: Kelch-like ECH-associated protein 1

Chain B:

• Molecule 1: Kelch-like ECH-associated protein 1

Chain A:
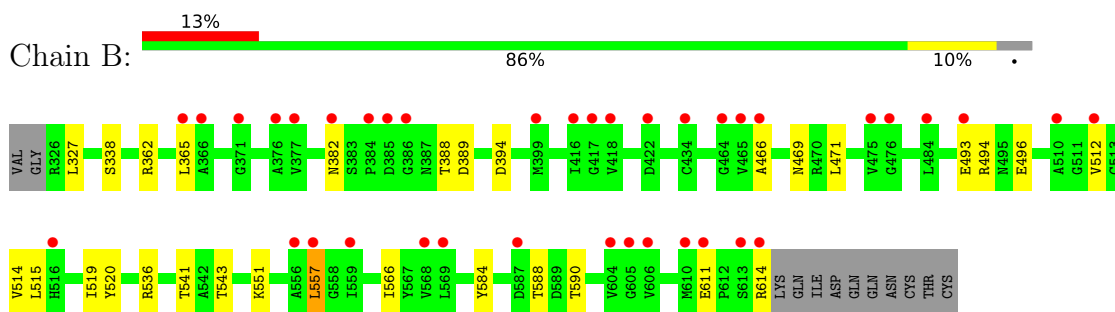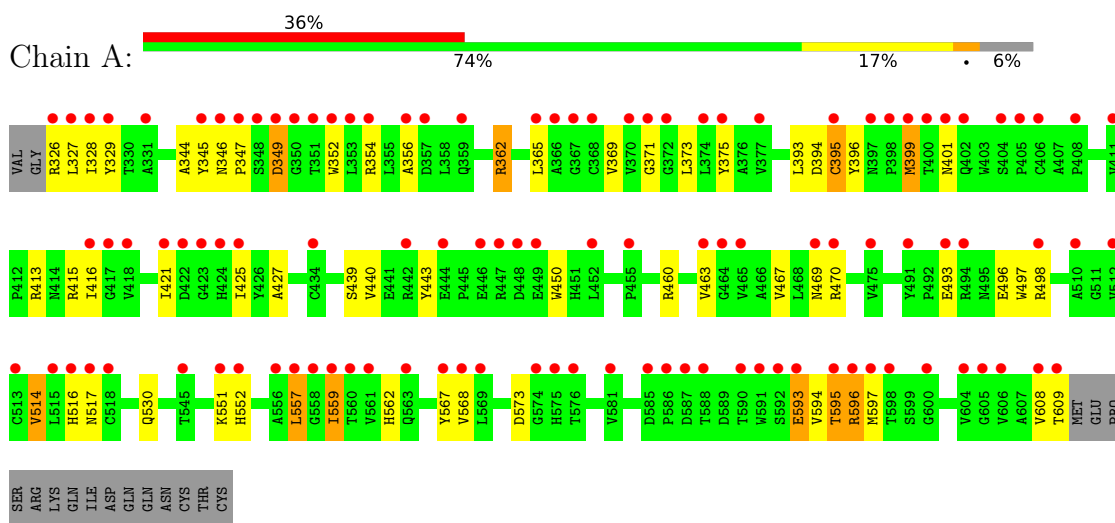
• Molecule 2: B3A-ASP-PRO-GLU-THR-GLY-GLU

Chain P:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	161.66Å 68.69Å 77.17Å 90.00° 117.64° 90.00°	Depositor
Resolution (Å)	29.50 – 2.13 29.50 – 2.13	Depositor EDS
% Data completeness (in resolution range)	98.5 (29.50-2.13) 98.5 (29.50-2.13)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.69 (at 2.14Å)	Xtriage
Refinement program	PHENIX 1.17.1_3660, PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.214 , 0.235 0.214 , 0.235	Depositor DCC
R_{free} test set	2008 reflections (4.83%)	wwPDB-VP
Wilson B-factor (Å^2)	38.8	Xtriage
Anisotropy	0.219	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 43.9	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.34$	Xtriage
Estimated twinning fraction	0.009 for -h-2*l,-k,l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	4551	wwPDB-VP
Average B, all atoms (Å^2)	55.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.54% 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: B3A

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	0.62	0/2240	0.75	3/3051 (0.1%)
1	B	0.46	0/2282	0.64	0/3107
2	P	0.49	0/44	0.56	0/59
All	All	0.55	0/4566	0.70	3/6217 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
2	P	1	2

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	371	GLY	N-CA-C	-5.95	98.23	113.10
1	A	395	CYS	CA-CB-SG	-5.93	103.33	114.00
1	A	595	THR	N-CA-CB	5.26	120.29	110.30

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	P	76	B3A	CA

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	P	76	B3A	Peptide,Mainchain

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	2184	0	2084	63	0
1	B	2225	0	2124	18	0
2	P	50	0	35	2	0
3	A	15	0	0	0	0
3	B	75	0	0	0	0
3	P	2	0	0	0	0
All	All	4551	0	4243	79	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 9.

All (79) 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:415:ARG:NH2	2:P:79:GLU:OE2	1.64	1.27
1:A:329:TYR:CE1	1:A:609:THR:HG22	1.87	1.09
1:A:327:LEU:CD2	1:A:346:ASN:HB2	1.91	1.01
1:A:329:TYR:CD2	1:A:344:ALA:HB2	2.03	0.93
1:A:329:TYR:CE1	1:A:609:THR:CG2	2.56	0.89
1:A:329:TYR:HE1	1:A:609:THR:HG22	1.36	0.88
1:A:401:ASN:O	1:A:401:ASN:ND2	2.07	0.87
1:A:329:TYR:HE1	1:A:609:THR:CG2	1.87	0.86
1:A:329:TYR:CE2	1:A:344:ALA:HB2	2.14	0.82
1:A:469:ASN:HD21	1:A:517:ASN:HD21	1.31	0.79
1:A:559:ILE:HD12	1:A:568:VAL:HG12	1.65	0.77
1:A:327:LEU:HD22	1:A:346:ASN:HB2	1.67	0.76
1:A:329:TYR:CD1	1:A:609:THR:HG22	2.21	0.74
1:B:466:ALA:HB1	1:B:514:VAL:HG23	1.74	0.70
1:B:469:ASN:ND2	1:A:469:ASN:OD1	2.25	0.69
1:A:356:ALA:HB2	1:A:401:ASN:HD21	1.58	0.68
1:A:415:ARG:HH22	2:P:79:GLU:CD	1.93	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:425:ILE:HB	1:A:443:TYR:HB3	1.78	0.66
1:B:515:LEU:HD22	1:B:566:ILE:HG13	1.81	0.63
1:A:347:PRO:HG2	1:A:562:HIS:CD2	2.34	0.62
1:B:494:ARG:HB2	1:B:496:GLU:HG2	1.81	0.61
1:A:467:VAL:O	1:A:514:VAL:HG21	2.02	0.60
1:A:362:ARG:NH1	1:A:394:ASP:OD2	2.35	0.58
1:A:470:ARG:HH11	1:A:470:ARG:HB2	1.69	0.57
1:A:352:TRP:NE1	1:A:596:ARG:O	2.33	0.56
1:A:329:TYR:HE1	1:A:609:THR:HG23	1.71	0.55
1:A:328:ILE:HG12	1:A:608:VAL:HG22	1.89	0.54
1:A:327:LEU:HD23	1:A:346:ASN:HB2	1.86	0.54
1:A:329:TYR:CD2	1:A:344:ALA:CB	2.85	0.53
1:B:541:THR:O	1:B:543:THR:HG23	2.09	0.53
1:A:373:LEU:HD13	1:A:395:CYS:SG	2.49	0.53
1:B:327:LEU:HD11	1:B:611:GLU:HG2	1.92	0.52
1:A:562:HIS:HB3	1:A:567:TYR:HE1	1.74	0.52
1:A:413:ARG:HH22	1:A:439:SER:HB2	1.75	0.52
1:A:470:ARG:O	1:A:470:ARG:HG2	2.09	0.52
1:A:416:ILE:HD11	1:A:427:ALA:HB1	1.93	0.51
1:A:345:TYR:HB2	1:A:352:TRP:CZ3	2.47	0.50
1:A:469:ASN:HD21	1:A:517:ASN:ND2	2.04	0.50
1:A:365:LEU:HD23	1:A:365:LEU:H	1.77	0.50
1:B:557:LEU:H	1:B:557:LEU:HD23	1.77	0.50
1:A:329:TYR:HA	1:A:344:ALA:HA	1.94	0.50
1:A:327:LEU:O	1:A:608:VAL:HA	2.12	0.49
1:A:470:ARG:HB2	1:A:470:ARG:NH1	2.27	0.49
1:B:493:GLU:HG2	1:B:494:ARG:HG2	1.94	0.49
1:B:388:THR:HG22	1:B:389:ASP:O	2.12	0.48
1:B:519:ILE:O	1:B:536:ARG:HA	2.14	0.48
1:A:557:LEU:HD23	1:A:557:LEU:H	1.79	0.48
1:A:329:TYR:CE2	1:A:344:ALA:CB	2.90	0.48
1:A:369:VAL:HG21	1:A:608:VAL:O	2.13	0.47
1:A:375:TYR:HD2	1:A:393:LEU:HD11	1.79	0.47
1:A:399:MET:HE2	1:A:399:MET:HB2	1.75	0.47
1:B:551:LYS:HE3	1:B:551:LYS:HB2	1.61	0.46
1:B:338:SER:OG	1:B:382:ASN:HB2	2.16	0.46
1:A:349:ASP:OD1	1:A:349:ASP:N	2.39	0.45
1:A:460:ARG:HB3	1:A:463:VAL:HB	1.99	0.45
1:A:440:VAL:HG21	1:A:497:TRP:CZ2	2.52	0.45
1:A:421:ILE:HG12	1:A:467:VAL:HG21	1.99	0.45
1:A:326:ARG:HA	1:A:609:THR:O	2.16	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:396:TYR:CD2	1:A:396:TYR:O	2.70	0.44
1:B:471:LEU:HD21	1:A:516:HIS:HB3	1.98	0.44
1:A:373:LEU:HB3	1:A:395:CYS:SG	2.57	0.44
1:B:362:ARG:NH1	1:B:394:ASP:OD2	2.51	0.44
1:A:496:GLU:OE2	1:A:498:ARG:HD2	2.18	0.44
1:A:562:HIS:HB3	1:A:567:TYR:CE1	2.52	0.44
1:A:530:GLN:HG2	1:A:573:ASP:HA	2.01	0.43
1:A:346:ASN:HA	1:A:347:PRO:HD3	1.79	0.42
1:A:493:GLU:N	1:A:493:GLU:OE2	2.53	0.42
1:A:440:VAL:HG21	1:A:497:TRP:HZ2	1.84	0.42
1:B:512:VAL:HA	1:B:520:TYR:O	2.19	0.42
1:A:568:VAL:O	1:A:568:VAL:HG23	2.18	0.42
1:B:588:THR:O	1:B:590:THR:HG23	2.20	0.42
1:B:365:LEU:H	1:B:365:LEU:HD23	1.85	0.41
1:A:327:LEU:CD2	1:A:346:ASN:CB	2.81	0.41
1:A:373:LEU:HA	1:A:373:LEU:HD23	1.66	0.41
1:A:443:TYR:HB2	1:A:450:TRP:CH2	2.55	0.41
1:A:552:HIS:HE1	1:A:593:GLU:OE2	2.02	0.41
1:A:443:TYR:HB2	1:A:450:TRP:CZ3	2.56	0.41
1:B:566:ILE:HB	1:B:584:TYR:HB3	2.03	0.40
1:A:327:LEU:N	1:A:609:THR:O	2.37	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	283/301 (94%)	271 (96%)	12 (4%)	0	100	100
1	B	288/301 (96%)	277 (96%)	11 (4%)	0	100	100
2	P	5/7 (71%)	5 (100%)	0	0	100	100
All	All	576/609 (95%)	553 (96%)	23 (4%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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	230/245 (94%)	217 (94%)	13 (6%)	20	15
1	B	235/245 (96%)	233 (99%)	2 (1%)	78	81
2	P	5/5 (100%)	5 (100%)	0	100	100
All	All	470/495 (95%)	455 (97%)	15 (3%)	39	37

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	557	LEU
1	B	614	ARG
1	A	349	ASP
1	A	354	ARG
1	A	362	ARG
1	A	399	MET
1	A	514	VAL
1	A	551	LYS
1	A	557	LEU
1	A	559	ILE
1	A	593	GLU
1	A	594	VAL
1	A	595	THR
1	A	596	ARG
1	A	597	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	552	HIS
1	B	563	GLN
1	A	401	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	517	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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	$\#|Z| > 2$
2	B3A	P	76	2	5,5,6	0.93	0	5,5,7	1.27	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
2	B3A	P	76	2	1/1/1/2	0/3/3/4	-

There are no bond length outliers.

There are no bond angle outliers.

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	P	76	B3A	CA

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

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, 95th 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	284/301 (94%)	1.83	109 (38%)	0	0	30, 68, 113, 133	0
1	B	289/301 (96%)	0.88	38 (13%)	3	4	27, 35, 58, 97	0
2	P	6/7 (85%)	0.48	0	100	100	41, 46, 55, 59	0
All	All	579/609 (95%)	1.34	147 (25%)	0	0	27, 45, 107, 133	0

All (147) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	399	MET	7.2
1	A	575	HIS	6.7
1	A	346	ASN	6.4
1	B	613	SER	6.4
1	B	385	ASP	6.3
1	B	614	ARG	6.3
1	A	604	VAL	6.3
1	A	329	TYR	6.2
1	A	402	GLN	5.8
1	A	370	VAL	5.6
1	A	470	ARG	5.5
1	A	353	LEU	5.4
1	A	349	ASP	5.3
1	A	559	ILE	5.3
1	B	384	PRO	5.3
1	A	557	LEU	5.2
1	A	365	LEU	5.2
1	A	416	ILE	5.1
1	A	447	ARG	5.0
1	A	605	GLY	5.0
1	A	491	TYR	4.8
1	A	352	TRP	4.8
1	A	418	VAL	4.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	365	LEU	4.7
1	A	348	SER	4.6
1	A	515	LEU	4.5
1	B	416	ILE	4.4
1	A	366	ALA	4.4
1	A	351	THR	4.4
1	A	609	THR	4.3
1	A	516	HIS	4.2
1	A	449	GLU	4.1
1	B	399	MET	4.1
1	A	421	ILE	4.1
1	B	366	ALA	4.1
1	A	576	THR	4.1
1	A	395	CYS	4.0
1	A	494	ARG	4.0
1	A	400	THR	4.0
1	A	561	VAL	4.0
1	A	371	GLY	3.9
1	A	590	THR	3.9
1	B	386	GLY	3.8
1	A	569	LEU	3.8
1	A	446	GLU	3.8
1	A	444	GLU	3.7
1	A	448	ASP	3.7
1	A	328	ILE	3.6
1	A	350	GLY	3.6
1	B	606	VAL	3.6
1	A	592	SER	3.5
1	B	371	GLY	3.5
1	A	331	ALA	3.5
1	A	465	VAL	3.5
1	A	591	TRP	3.5
1	A	606	VAL	3.4
1	A	587	ASP	3.4
1	A	401	ASN	3.4
1	A	552	HIS	3.4
1	A	345	TYR	3.4
1	A	326	ARG	3.4
1	A	422	ASP	3.4
1	A	558	GLY	3.4
1	B	610	MET	3.3
1	A	434[A]	CYS	3.3

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	423	GLY	3.3
1	A	463	VAL	3.3
1	B	604	VAL	3.3
1	A	469	ASN	3.2
1	A	347	PRO	3.2
1	A	568	VAL	3.2
1	A	377	VAL	3.2
1	A	493	GLU	3.1
1	A	608	VAL	3.1
1	A	398	PRO	3.1
1	B	569	LEU	3.1
1	A	596	ARG	3.1
1	A	367	GLY	3.0
1	A	510	ALA	3.0
1	A	588	THR	2.9
1	B	465	VAL	2.9
1	B	611	GLU	2.9
1	A	567	TYR	2.8
1	A	586	PRO	2.8
1	A	417	GLY	2.8
1	B	557	LEU	2.8
1	B	512	VAL	2.8
1	A	404	SER	2.8
1	A	563	GLN	2.8
1	A	464	GLY	2.7
1	A	406	CYS	2.7
1	B	605	GLY	2.7
1	A	598	THR	2.7
1	A	405	PRO	2.7
1	B	376	ALA	2.7
1	A	595	THR	2.7
1	A	518	CYS	2.7
1	A	556	ALA	2.7
1	A	327	LEU	2.7
1	A	512	VAL	2.6
1	A	368	CYS	2.6
1	A	455	PRO	2.6
1	B	510	ALA	2.6
1	A	397	ASN	2.6
1	A	475	VAL	2.6
1	A	442	ARG	2.6
1	A	357	ASP	2.6

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	452	LEU	2.6
1	B	568	VAL	2.6
1	A	593	GLU	2.6
1	B	559	ILE	2.5
1	A	359	GLN	2.5
1	A	551	LYS	2.5
1	B	493	GLU	2.5
1	A	560	THR	2.5
1	A	354	ARG	2.5
1	B	418	VAL	2.4
1	A	425	ILE	2.4
1	B	434[A]	CYS	2.3
1	A	411	VAL	2.3
1	A	597	MET	2.3
1	A	545	THR	2.3
1	A	375	TYR	2.3
1	B	556	ALA	2.3
1	B	484	LEU	2.2
1	A	585	ASP	2.2
1	B	516	HIS	2.2
1	B	417	GLY	2.2
1	B	476	GLY	2.2
1	A	574	GLY	2.2
1	A	374	LEU	2.2
1	B	377	VAL	2.2
1	A	408	PRO	2.2
1	B	587	ASP	2.2
1	A	513	CYS	2.2
1	A	498	ARG	2.2
1	B	464	GLY	2.2
1	B	422	ASP	2.1
1	B	475	VAL	2.1
1	B	466	ALA	2.1
1	A	356	ALA	2.1
1	A	600	GLY	2.1
1	A	517	ASN	2.0
1	A	581	VAL	2.0
1	B	382	ASN	2.0
1	A	424	HIS	2.0
1	A	372	GLY	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (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, 95th 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	B3A	P	76	6/7	0.84	0.20	49,57,63,66	0

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.