Full wwPDB X-ray Structure Validation Report (i)

Dec 2, 2023 – 02:32 pm GMT

PDB ID	:	2BKI
Title	:	Myosin VI nucleotide-free (MDinsert2-IQ) crystal structure
Authors	:	Menetrey, J.; Bahloul, A.; Yengo, C.; Wells, A.; Morris, C.; Sweeney, H.L.; Houdusse, A.
Deposited on	:	2005-02-16
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 (i) 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 (i)) were used in the production of this report:

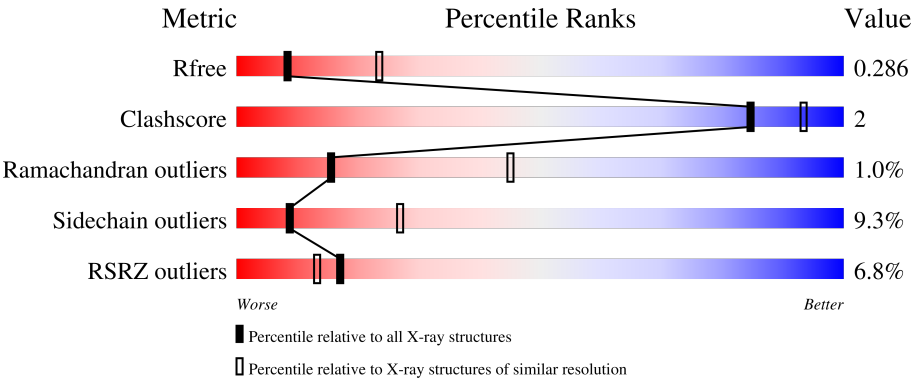
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	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 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	858	2% 80% 14%
2	B	149	12% 80% 14%
2	D	149	24% 50% 48%

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 8049 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.

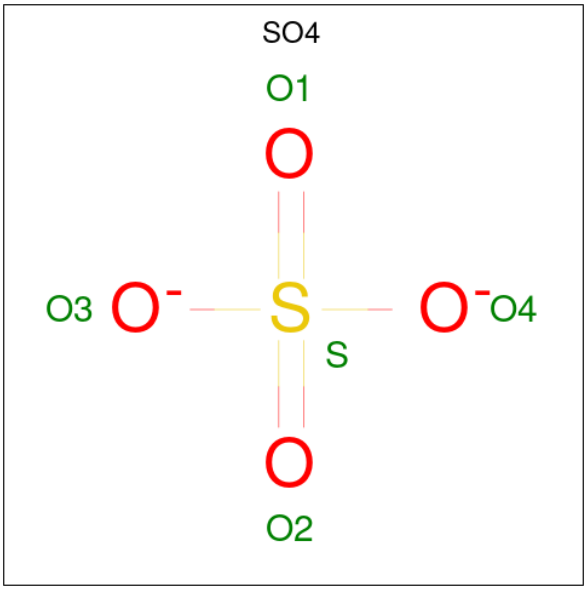
- Molecule 1 is a protein called UNCONVENTIONAL MYOSIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	824	6521	4138	1136	1215	32	0	0	0

- Molecule 2 is a protein called CALMODULIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	145	1083	664	171	239	9	0	0	0
			Total	C	N	O				
2	D	78	387	231	78	78		0	0	0

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	O	S			
3	A	1	5	4	1		0	0

- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	B	4	Total Ca 4 4	0	0

- Molecule 5 is water.

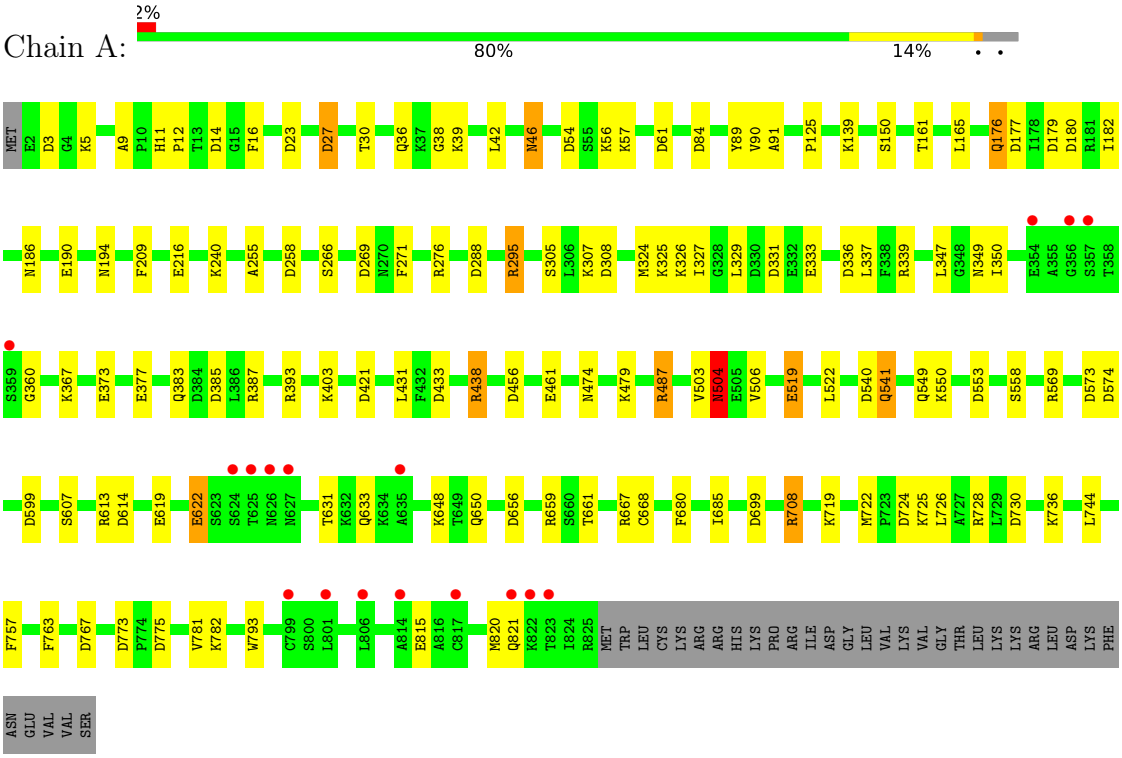
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	46	Total O 46 46	0	0
5	B	3	Total O 3 3	0	0

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.

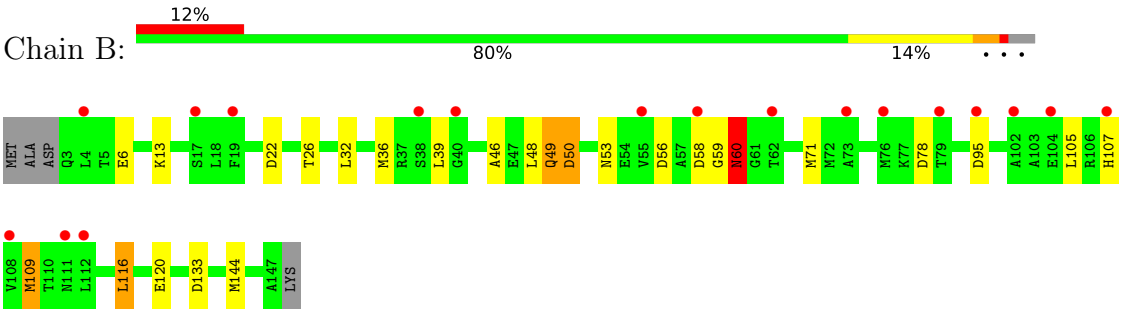
• Molecule 1: UNCONVENTIONAL MYOSIN

Chain A:



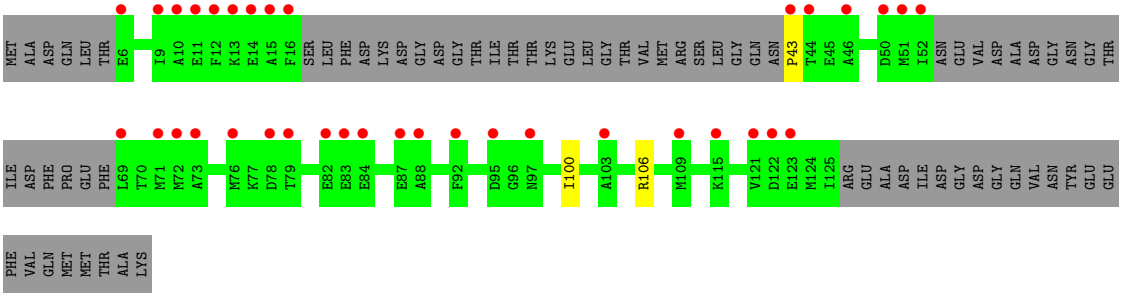
• Molecule 2: CALMODULIN

Chain B:



• Molecule 2: CALMODULIN

Chain D:


MET ALA ASP GLN LEU THR E6 I9 A10 E11 F12 K13 E14 A15 F16 SER LEU PHE ASP LYS ASP GLY ASP GLY THR ILE THR THR LYS GLU LEU GLY THR VAL MET ARG SER LEU GLY GLN ASN P43 T44 E45 A46 D50 M51 I52 ASN GLU VAL ASP ALA ASP GLY ASN GLY THR
ILE ASP PHE PRO GLU PHE L69 T70 M71 M72 A73 M76 K77 D78 T79 E82 E83 E84 E87 A88 F92 D95 G96 N97 I100 A103 R106 M109 K115 V121 D122 E123 M124 I125 ARG GLU ALA ASP ILE ASP GLY ASP GLY GLN VAL ASN TYR GLU GLU
PHE VAL GLN MET MET THR ALA LYS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	104.78Å 250.17Å 67.27Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 2.90 59.25 – 2.90	Depositor EDS
% Data completeness (in resolution range)	95.0 (40.00-2.90) 95.0 (59.25-2.90)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.04 (at 2.91Å)	Xtriage
Refinement program	REFMAC 5.1.24	Depositor
R, R_{free}	0.264 , 0.304 0.244 , 0.286	Depositor DCC
R_{free} test set	1948 reflections (5.10%)	wwPDB-VP
Wilson B-factor (Å^2)	54.6	Xtriage
Anisotropy	0.354	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.30 , 39.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.41$, $< L^2 > = 0.23$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	8049	wwPDB-VP
Average B, all atoms (Å^2)	45.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.96% 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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: CA, SO4

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	0.66	0/6653	0.78	29/8975 (0.3%)
2	B	0.54	1/1095 (0.1%)	0.80	6/1481 (0.4%)
2	D	0.47	0/384	0.48	1/531 (0.2%)
All	All	0.64	1/8132 (0.0%)	0.77	36/10987 (0.3%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	120	GLU	CD-OE2	6.14	1.32	1.25

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	599	ASP	CB-CG-OD2	8.39	125.85	118.30
1	A	574	ASP	CB-CG-OD2	7.23	124.80	118.30
1	A	54	ASP	CB-CG-OD2	6.99	124.59	118.30
1	A	421	ASP	CB-CG-OD2	6.98	124.58	118.30
1	A	433	ASP	CB-CG-OD2	6.89	124.50	118.30
1	A	730	ASP	CB-CG-OD2	6.79	124.41	118.30
1	A	724	ASP	CB-CG-OD2	6.68	124.31	118.30
1	A	573	ASP	CB-CG-OD2	6.64	124.28	118.30
1	A	269	ASP	CB-CG-OD2	6.55	124.19	118.30
1	A	308	ASP	CB-CG-OD2	6.47	124.13	118.30
1	A	336	ASP	CB-CG-OD2	6.46	124.11	118.30
1	A	23	ASP	CB-CG-OD2	6.43	124.09	118.30
2	B	133	ASP	CB-CG-OD2	6.18	123.86	118.30
1	A	656	ASP	CB-CG-OD2	6.16	123.84	118.30
1	A	540	ASP	CB-CG-OD2	6.04	123.74	118.30
1	A	27	ASP	CB-CG-OD2	5.98	123.68	118.30
1	A	773	ASP	CB-CG-OD2	5.96	123.66	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	385	ASP	CB-CG-OD2	5.86	123.57	118.30
1	A	699	ASP	CB-CG-OD2	5.66	123.40	118.30
2	B	22	ASP	CB-CG-OD2	5.64	123.38	118.30
2	B	78	ASP	CB-CG-OD2	5.59	123.33	118.30
1	A	61	ASP	CB-CG-OD2	5.57	123.31	118.30
2	B	50	ASP	CB-CG-OD2	5.55	123.30	118.30
1	A	553	ASP	CB-CG-OD2	5.55	123.29	118.30
1	A	84	ASP	CB-CG-OD2	5.49	123.24	118.30
1	A	288	ASP	CB-CG-OD2	5.47	123.22	118.30
2	B	56	ASP	CB-CG-OD2	5.42	123.18	118.30
1	A	767	ASP	CB-CG-OD2	5.36	123.12	118.30
1	A	180	ASP	CB-CG-OD2	5.33	123.09	118.30
2	D	43	PRO	N-CA-CB	5.28	109.64	103.30
1	A	456	ASP	CB-CG-OD2	5.28	123.05	118.30
1	A	775	ASP	CB-CG-OD2	5.25	123.03	118.30
1	A	179	ASP	CB-CG-OD2	5.25	123.03	118.30
1	A	258	ASP	CB-CG-OD2	5.21	122.99	118.30
2	B	95	ASP	CB-CG-OD2	5.19	122.97	118.30
1	A	14	ASP	CB-CG-OD2	5.11	122.89	118.30

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	6521	0	6388	31	0
2	B	1083	0	952	6	0
2	D	387	0	177	0	0
3	A	5	0	0	0	0
4	B	4	0	0	0	0
5	A	46	0	0	1	0
5	B	3	0	0	0	0
All	All	8049	0	7517	35	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 2.

All (35) 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:504:ASN:O	1:A:504:ASN:ND2	2.28	0.65
1:A:11:HIS:ND1	1:A:12:PRO:HD2	2.16	0.61
2:B:49:GLN:O	2:B:53:ASN:ND2	2.34	0.60
2:B:109:MET:HG2	2:B:116:LEU:HD21	1.83	0.60
1:A:619:GLU:HA	1:A:622:GLU:HB2	1.85	0.58
1:A:255:ALA:O	1:A:295:ARG:NH1	2.38	0.56
1:A:708:ARG:HG2	1:A:757:PHE:CD1	2.42	0.55
1:A:619:GLU:HA	1:A:622:GLU:CB	2.37	0.55
2:B:58:ASP:HB3	2:B:60:ASN:HD21	1.72	0.53
1:A:793:TRP:CH2	2:B:105:LEU:CD1	2.93	0.52
1:A:479:LYS:NZ	1:A:519:GLU:OE2	2.39	0.51
1:A:329:LEU:HD11	1:A:438:ARG:HG2	1.94	0.50
1:A:90:VAL:O	1:A:91:ALA:HB3	2.12	0.49
1:A:487:ARG:NH1	1:A:661:THR:O	2.46	0.49
1:A:373:GLU:HA	1:A:383:GLN:HE21	1.77	0.48
1:A:648:LYS:NZ	5:A:2040:HOH:O	2.45	0.48
1:A:722:MET:HE3	1:A:726:LEU:HD12	1.94	0.48
1:A:30:THR:HG22	1:A:42:LEU:HD22	1.94	0.48
1:A:541:GLN:HE21	1:A:541:GLN:H	1.62	0.47
1:A:190:GLU:O	1:A:194:ASN:HB2	2.15	0.47
1:A:631:THR:O	1:A:633:GLN:N	2.48	0.45
1:A:503:VAL:O	1:A:504:ASN:C	2.55	0.44
2:B:58:ASP:CB	2:B:60:ASN:HD21	2.30	0.44
1:A:89:TYR:CZ	1:A:125:PRO:HA	2.53	0.44
1:A:726:LEU:HD11	1:A:781:VAL:HG13	2.00	0.44
1:A:9:ALA:O	1:A:16:PHE:HA	2.19	0.43
1:A:337:LEU:HD23	1:A:431:LEU:HD11	2.01	0.42
1:A:271:PHE:HD2	1:A:349:ASN:HD21	1.68	0.42
1:A:728:ARG:HD2	2:B:116:LEU:HA	2.01	0.42
1:A:46:ASN:C	1:A:46:ASN:HD22	2.23	0.41
1:A:347:LEU:HD12	1:A:350:ILE:HD12	2.03	0.41
1:A:680:PHE:CE1	1:A:685:ILE:HD13	2.55	0.41
1:A:150:SER:O	1:A:668:CYS:HB2	2.20	0.41
1:A:161:THR:O	1:A:165:LEU:HG	2.22	0.40
1:A:461:GLU:H	1:A:474:ASN:HD21	1.69	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	822/858 (96%)	786 (96%)	31 (4%)	5 (1%)	25 58
2	B	143/149 (96%)	134 (94%)	6 (4%)	3 (2%)	7 26
2	D	72/149 (48%)	59 (82%)	11 (15%)	2 (3%)	5 19
All	All	1037/1156 (90%)	979 (94%)	48 (5%)	10 (1%)	15 45

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3	ASP
1	A	360	GLY
1	A	504	ASN
2	B	46	ALA
2	B	60	ASN
2	D	106	ARG
1	A	176	GLN
2	D	100	ILE
2	B	59	GLY
1	A	38	GLY

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	700/762 (92%)	640 (91%)	60 (9%)	10 30
2	B	109/127 (86%)	94 (86%)	15 (14%)	3 10

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	809/889 (91%)	734 (91%)	75 (9%)	9 27

All (75) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	5	LYS
1	A	27	ASP
1	A	36	GLN
1	A	39	LYS
1	A	46	ASN
1	A	56	LYS
1	A	57	LYS
1	A	139	LYS
1	A	176	GLN
1	A	177	ASP
1	A	182	ILE
1	A	186	ASN
1	A	209	PHE
1	A	216	GLU
1	A	240	LYS
1	A	266	SER
1	A	276	ARG
1	A	295	ARG
1	A	305	SER
1	A	307	LYS
1	A	324	MET
1	A	325	LYS
1	A	326	LYS
1	A	327	ILE
1	A	331	ASP
1	A	333	GLU
1	A	339	ARG
1	A	367	LYS
1	A	377	GLU
1	A	387	ARG
1	A	393	ARG
1	A	403	LYS
1	A	438	ARG
1	A	487	ARG
1	A	504	ASN
1	A	506	VAL
1	A	519	GLU

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Mol	Chain	Res	Type
1	A	522	LEU
1	A	541	GLN
1	A	549	GLN
1	A	550	LYS
1	A	558	SER
1	A	569	ARG
1	A	607	SER
1	A	613	ARG
1	A	614	ASP
1	A	622	GLU
1	A	650	GLN
1	A	659	ARG
1	A	667	ARG
1	A	708	ARG
1	A	719	LYS
1	A	725	LYS
1	A	736	LYS
1	A	744	LEU
1	A	763	PHE
1	A	782	LYS
1	A	815	GLU
1	A	820	MET
1	A	821	GLN
2	B	6	GLU
2	B	13	LYS
2	B	26	THR
2	B	32	LEU
2	B	36	MET
2	B	39	LEU
2	B	48	LEU
2	B	49	GLN
2	B	50	ASP
2	B	60	ASN
2	B	71	MET
2	B	107	HIS
2	B	109	MET
2	B	116	LEU
2	B	144	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	46	ASN
1	A	194	ASN
1	A	202	ASN
1	A	213	HIS
1	A	246	HIS
1	A	270	ASN
1	A	370	GLN
1	A	383	GLN
1	A	474	ASN
1	A	541	GLN
1	A	581	HIS
1	A	821	GLN
2	B	49	GLN
2	B	53	ASN
2	B	60	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)

Of 5 ligands modelled in this entry, 4 are monoatomic - leaving 1 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	SO4	A	1826	-	4,4,4	0.17	0	6,6,6	0.44	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	824/858 (96%)	0.05	17 (2%) 63 61	19, 39, 59, 88	0
2	B	145/149 (97%)	0.60	18 (12%) 4 3	40, 69, 86, 91	0
2	D	78/149 (52%)	1.89	36 (46%) 0 0	90, 95, 99, 99	0
All	All	1047/1156 (90%)	0.26	71 (6%) 17 13	19, 42, 93, 99	0

All (71) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	D	9	ILE	6.6
2	D	15	ALA	5.1
1	A	625	THR	5.0
2	D	16	PHE	5.0
1	A	821	GLN	4.8
2	B	4	LEU	4.5
2	D	122	ASP	4.4
1	A	359	SER	4.3
2	D	76	MET	3.9
2	D	14	GLU	3.8
1	A	823	THR	3.8
2	D	10	ALA	3.8
2	D	50	ASP	3.7
2	B	111	ASN	3.7
2	B	55	VAL	3.7
1	A	627	ASN	3.6
2	B	40	GLY	3.5
2	D	44	THR	3.4
2	B	58	ASP	3.4
2	D	46	ALA	3.3
2	D	6	GLU	3.3
1	A	814	ALA	3.3
2	D	121	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
2	B	62	THR	3.2
2	D	83	GLU	3.2
2	D	97	ASN	3.1
1	A	806	LEU	3.1
1	A	822	LYS	3.1
2	D	73	ALA	3.1
2	D	43	PRO	3.1
2	D	52	ILE	3.0
2	B	38	SER	3.0
2	D	109	MET	3.0
2	D	11	GLU	3.0
2	D	79	THR	3.0
1	A	817	CYS	2.8
1	A	626	ASN	2.8
2	B	107	HIS	2.7
2	B	95	ASP	2.7
2	D	84	GLU	2.6
2	D	87	GLU	2.6
2	B	73	ALA	2.6
1	A	635	ALA	2.6
2	B	19	PHE	2.6
2	D	69	LEU	2.5
1	A	356	GLY	2.5
2	D	12	PHE	2.5
1	A	357	SER	2.4
2	B	17	SER	2.4
2	B	79	THR	2.4
2	D	72	MET	2.4
2	D	88	ALA	2.3
2	D	115	LYS	2.3
2	D	51	MET	2.3
1	A	799	CYS	2.3
2	D	82	GLU	2.2
2	D	123	GLU	2.2
1	A	624	SER	2.2
2	B	76	MET	2.2
2	D	71	MET	2.2
2	D	78	ASP	2.1
2	B	104	GLU	2.1
2	B	112	LEU	2.1
1	A	801	LEU	2.1
2	D	92	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	102	ALA	2.1
1	A	354	GLU	2.1
2	D	95	ASP	2.0
2	D	103	ALA	2.0
2	B	108	VAL	2.0
2	D	13	LYS	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)

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	CA	B	1149	1/1	0.79	0.29	86,86,86,86	0
4	CA	B	1148	1/1	0.97	0.08	83,83,83,83	0
3	SO4	A	1826	5/5	0.97	0.13	32,34,36,37	0
4	CA	B	1151	1/1	0.97	0.04	63,63,63,63	0
4	CA	B	1150	1/1	0.98	0.18	82,82,82,82	0

6.5 Other polymers (i)

There are no such residues in this entry.