



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 02:04 AM UTC

PDB ID : 5B6P / pdb_00005b6p
Title : Structure of the dodecameric type-II dehydrogenate dehydratase from *Acinetobacter baumannii* at 2.00 Å resolution
Authors : Kumar, M.; Iqbal, N.; Kaur, P.; Sharma, S.; Singh, T.P.
Deposited on : 2016-05-31
Resolution : 2.00 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:

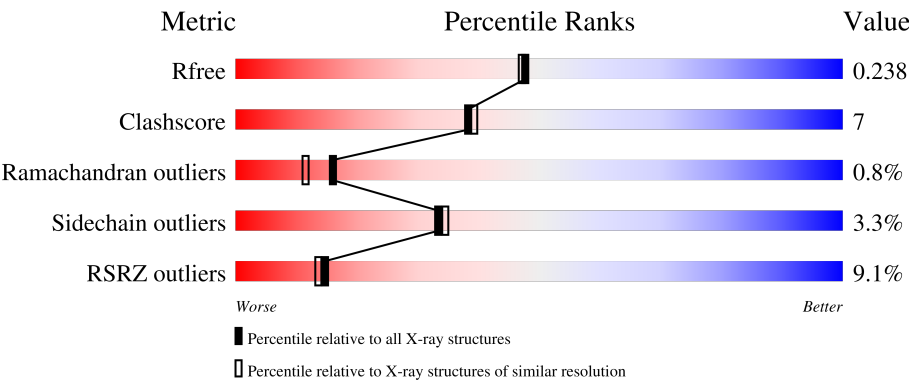
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

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 2.00 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}	180053	10052 (2.00-2.00)
Clashscore	190562	11152 (2.00-2.00)
Ramachandran outliers	187476	11031 (2.00-2.00)
Sidechain outliers	187428	11029 (2.00-2.00)
RSRZ outliers	180081	10067 (2.00-2.00)

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 $\leq 5\%$. 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	151	5% 83% 10% ..
1	B	151	9% 83% 10% ..
1	C	151	7% 84% 9% ..
1	D	151	9% 82% 9% ..
1	E	151	7% 82% 11% .

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Mol	Chain	Length	Quality of chain
1	F	151	9% 83% 11%
1	G	151	13% 82% 11%
1	H	151	8% 84% 11%
1	I	151	9% 84% 9%
1	J	151	14% 82% 12%
1	K	151	9% 87% 7%
1	L	151	7% 83% 10%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 14281 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 3-dehydroquinate dehydratase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	B	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	C	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	D	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	E	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	F	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	G	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	H	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	I	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	J	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	K	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			
1	L	145	Total	C	N	O	S	0	0	0
			1121	715	199	206	1			

- Molecule 2 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	O	S	0	0
			5	4	1		
2	B	1	Total	O	S	0	0
			5	4	1		
2	C	1	Total	O	S	0	0
			5	4	1		
2	D	1	Total	O	S	0	0
			5	4	1		
2	E	1	Total	O	S	0	0
			5	4	1		
2	F	1	Total	O	S	0	0
			5	4	1		
2	G	1	Total	O	S	0	0
			5	4	1		
2	H	1	Total	O	S	0	0
			5	4	1		
2	I	1	Total	O	S	0	0
			5	4	1		
2	J	1	Total	O	S	0	0
			5	4	1		
2	K	1	Total	O	S	0	0
			5	4	1		
2	L	1	Total	O	S	0	0
			5	4	1		

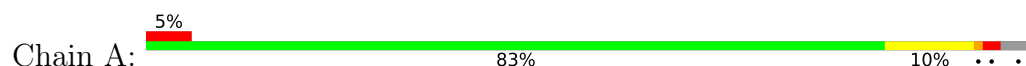
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	85	Total 85	O 85	0	0
3	B	86	Total 86	O 86	0	0
3	C	94	Total 94	O 94	0	0
3	D	70	Total 70	O 70	0	0
3	E	69	Total 69	O 69	0	0
3	F	51	Total 51	O 51	0	0
3	G	55	Total 55	O 55	0	0
3	H	51	Total 51	O 51	0	0
3	I	56	Total 56	O 56	0	0
3	J	56	Total 56	O 56	0	0
3	K	40	Total 40	O 40	0	0
3	L	56	Total 56	O 56	0	0

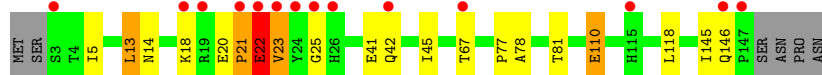
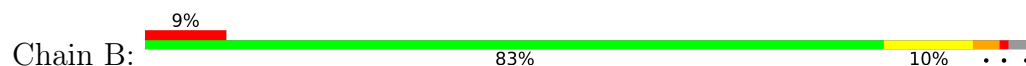
3 Residue-property plots [i](#)

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.

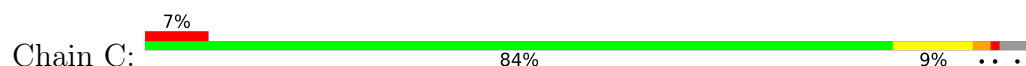
- Molecule 1: 3-dehydroquinase dehydratase



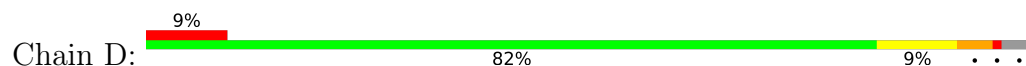
- Molecule 1: 3-dehydroquinase dehydratase



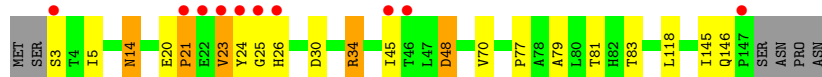
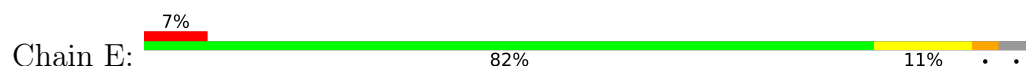
- Molecule 1: 3-dehydroquinase dehydratase



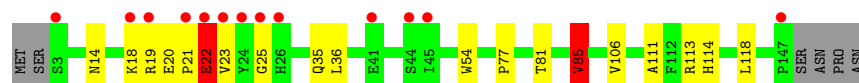
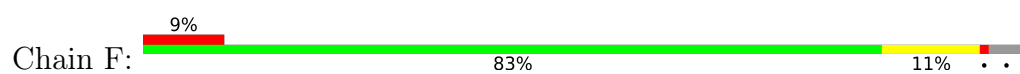
- Molecule 1: 3-dehydroquinase dehydratase



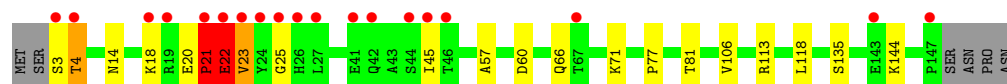
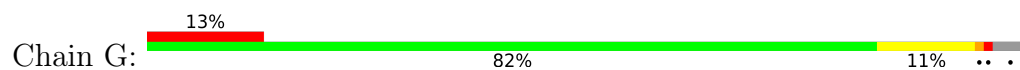
- Molecule 1: 3-dehydroquinase dehydratase



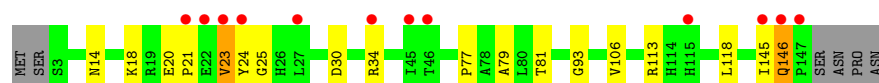
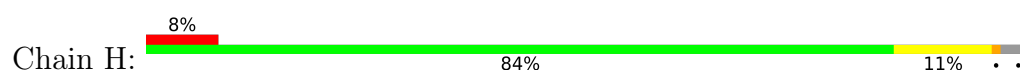
- Molecule 1: 3-dehydroquinase dehydratase



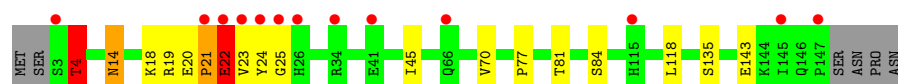
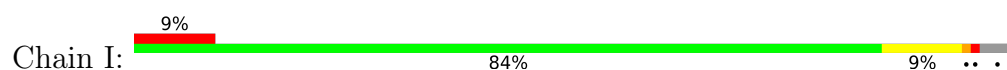
- Molecule 1: 3-dehydroquinatase dehydratase



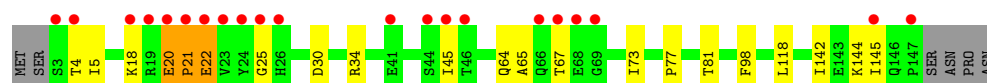
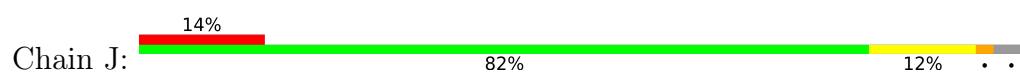
- Molecule 1: 3-dehydroquinatase dehydratase



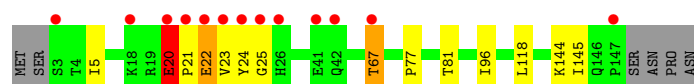
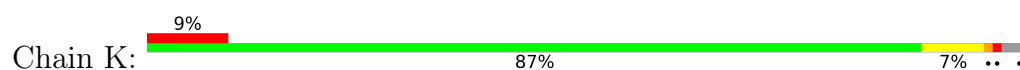
- Molecule 1: 3-dehydroquinatase dehydratase



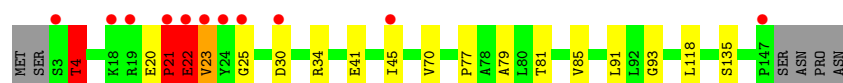
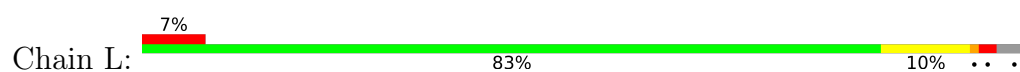
- Molecule 1: 3-dehydroquinatase dehydratase



- Molecule 1: 3-dehydroquinatase dehydratase



- Molecule 1: 3-dehydroquinatase dehydratase



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	82.28Å 95.28Å 132.26Å 90.00° 95.73° 90.00°	Depositor
Resolution (Å)	131.60 – 2.00 131.60 – 2.00	Depositor EDS
% Data completeness (in resolution range)	96.2 (131.60-2.00) 96.2 (131.60-2.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.09	Depositor
$\langle I/\sigma(I) \rangle$ ¹	4.36 (at 2.00Å)	Xtriage
Refinement program	REFMAC 5.8.0123	Depositor
R, R_{free}	0.201 , 0.232 0.208 , 0.238	Depositor DCC
R_{free} test set	1603 reflections (1.18%)	wwPDB-VP
Wilson B-factor (Å ²)	22.8	Xtriage
Anisotropy	0.206	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 38.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	14281	wwPDB-VP
Average B, all atoms (Å ²)	29.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.34% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: 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	1.45	2/1143 (0.2%)	1.17	5/1555 (0.3%)
1	B	1.25	1/1143 (0.1%)	1.12	5/1555 (0.3%)
1	C	1.47	3/1143 (0.3%)	1.25	7/1555 (0.5%)
1	D	1.29	1/1143 (0.1%)	1.22	6/1555 (0.4%)
1	E	1.40	3/1143 (0.3%)	1.16	2/1555 (0.1%)
1	F	1.27	0/1143	1.09	2/1555 (0.1%)
1	G	1.28	5/1143 (0.4%)	1.11	4/1555 (0.3%)
1	H	1.31	0/1143	1.07	0/1555
1	I	1.37	3/1143 (0.3%)	1.14	6/1555 (0.4%)
1	J	1.32	2/1143 (0.2%)	1.11	5/1555 (0.3%)
1	K	1.30	2/1143 (0.2%)	1.10	3/1555 (0.2%)
1	L	1.37	6/1143 (0.5%)	1.11	4/1555 (0.3%)
All	All	1.34	28/13716 (0.2%)	1.14	49/18660 (0.3%)

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	J	4	THR	CA-C	10.52	1.64	1.52
1	I	4	THR	CA-C	9.87	1.65	1.52
1	L	4	THR	CA-C	9.02	1.63	1.52
1	C	4	THR	C-O	7.76	1.33	1.23
1	G	4	THR	CA-C	7.15	1.61	1.52
1	C	4	THR	CA-C	7.11	1.61	1.52
1	I	135	SER	N-CA	6.87	1.54	1.46
1	L	135	SER	N-CA	6.14	1.53	1.46
1	K	67	THR	CA-CB	6.13	1.63	1.53
1	E	34	ARG	CZ-NH2	5.91	1.41	1.33
1	E	34	ARG	NE-CZ	5.87	1.39	1.33
1	G	4	THR	C-O	5.74	1.30	1.23
1	J	65	ALA	C-O	-5.72	1.17	1.24
1	C	135	SER	N-CA	5.63	1.53	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	G	21	PRO	CA-C	5.58	1.60	1.52
1	E	70	VAL	C-O	-5.39	1.18	1.24
1	L	4	THR	C-O	5.35	1.30	1.23
1	L	21	PRO	CA-C	5.34	1.59	1.52
1	G	60	ASP	N-CA	5.33	1.52	1.46
1	A	144	LYS	C-O	-5.29	1.17	1.24
1	L	91	LEU	N-CA	5.28	1.52	1.46
1	G	135	SER	N-CA	5.19	1.52	1.46
1	I	19	ARG	C-O	-5.16	1.17	1.24
1	D	34	ARG	N-CA	5.13	1.52	1.46
1	A	81	THR	CB-CG2	-5.12	1.35	1.52
1	L	93	GLY	CA-C	5.09	1.57	1.52
1	B	67	THR	C-O	-5.05	1.17	1.24
1	K	96	ILE	CA-C	5.01	1.57	1.53

All (49) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	25	GLY	CA-C-N	-10.00	107.61	124.31
1	D	25	GLY	C-N-CA	-10.00	107.61	124.31
1	C	4	THR	CA-C-O	7.60	129.40	120.66
1	I	4	THR	CB-CA-C	7.44	121.80	109.53
1	J	20	GLU	CA-C-N	-7.12	110.94	119.84
1	J	20	GLU	C-N-CA	-7.12	110.94	119.84
1	L	4	THR	CB-CA-C	7.00	123.60	109.38
1	J	4	THR	CA-C-O	6.99	128.73	120.20
1	D	18	LYS	N-CA-C	-6.82	103.77	111.07
1	B	81	THR	CB-CA-C	-6.73	99.61	110.79
1	A	106	VAL	N-CA-CB	-6.57	99.42	110.65
1	J	22	GLU	N-CA-C	6.56	119.25	111.71
1	G	22	GLU	N-CA-C	6.45	120.89	112.89
1	G	4	THR	N-CA-C	-6.13	100.20	109.95
1	G	4	THR	CA-C-O	6.10	128.05	121.16
1	B	146	GLN	CB-CA-C	6.00	116.98	108.76
1	I	4	THR	CA-C-O	5.96	127.77	120.92
1	I	84	SER	CB-CA-C	-5.93	101.35	111.31
1	L	23	VAL	CB-CA-C	-5.92	104.23	111.87
1	I	22	GLU	N-CA-C	5.91	119.75	112.54
1	D	146	GLN	CB-CA-C	-5.89	101.56	110.87
1	I	84	SER	N-CA-CB	5.85	120.05	110.39
1	K	20	GLU	CA-C-N	-5.85	112.53	119.84
1	K	20	GLU	C-N-CA	-5.85	112.53	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	110	GLU	CB-CG-CD	5.76	122.39	112.60
1	F	22	GLU	N-CA-C	5.74	119.55	112.54
1	C	81	THR	CB-CA-C	-5.64	101.43	110.79
1	K	67	THR	CB-CA-C	5.60	121.42	110.67
1	D	24	TYR	N-CA-C	5.57	117.48	108.34
1	C	146	GLN	CB-CA-C	-5.54	100.83	111.12
1	A	22	GLU	N-CA-C	5.52	120.01	112.88
1	L	4	THR	CA-C-O	5.51	127.22	120.60
1	A	85	VAL	CB-CA-C	5.40	121.00	112.26
1	A	51	GLN	CB-CG-CD	5.39	121.77	112.60
1	J	4	THR	CB-CA-C	5.38	118.43	110.14
1	C	20	GLU	CA-C-N	-5.38	113.11	119.84
1	C	20	GLU	C-N-CA	-5.38	113.11	119.84
1	F	85	VAL	CB-CA-C	5.35	120.92	112.26
1	C	34	ARG	NE-CZ-NH2	5.33	123.99	119.20
1	G	23	VAL	N-CA-C	-5.21	105.52	110.42
1	A	106	VAL	CA-CB-CG1	5.20	119.23	110.40
1	B	110	GLU	CB-CA-C	5.12	120.17	109.68
1	E	34	ARG	NE-CZ-NH2	5.11	123.80	119.20
1	E	24	TYR	N-CA-C	-5.10	106.37	112.59
1	D	23	VAL	N-CA-C	5.07	116.54	109.80
1	L	22	GLU	N-CA-C	5.07	119.31	113.18
1	C	30	ASP	N-CA-C	5.03	116.76	111.28
1	B	22	GLU	N-CA-C	5.01	119.39	113.28
1	I	143	GLU	CB-CA-C	-5.00	102.48	110.79

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	1121	0	1133	15	0
1	B	1121	0	1133	13	0
1	C	1121	0	1133	9	0
1	D	1121	0	1133	27	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	1121	0	1133	22	0
1	F	1121	0	1133	27	0
1	G	1121	0	1133	18	0
1	H	1121	0	1133	20	0
1	I	1121	0	1133	13	0
1	J	1121	0	1133	12	0
1	K	1121	0	1133	13	0
1	L	1121	0	1133	19	0
2	A	5	0	0	0	0
2	B	5	0	0	0	0
2	C	5	0	0	0	0
2	D	5	0	0	0	0
2	E	5	0	0	0	0
2	F	5	0	0	0	0
2	G	5	0	0	0	0
2	H	5	0	0	0	0
2	I	5	0	0	0	0
2	J	5	0	0	0	0
2	K	5	0	0	0	0
2	L	5	0	0	0	0
3	A	85	0	0	0	0
3	B	86	0	0	1	0
3	C	94	0	0	0	0
3	D	70	0	0	0	0
3	E	69	0	0	2	0
3	F	51	0	0	0	0
3	G	55	0	0	1	0
3	H	51	0	0	0	0
3	I	56	0	0	0	0
3	J	56	0	0	0	0
3	K	40	0	0	0	0
3	L	56	0	0	0	0
All	All	14281	0	13596	188	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 7.

All (188) 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:H:79:ALA:HB1	1:L:85:VAL:HG23	1.14	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:20:GLU:HB3	1:E:23:VAL:HG23	1.29	1.13
1:J:64:GLN:O	1:J:67:THR:HG22	1.49	1.11
1:L:21:PRO:O	1:L:25:GLY:HA2	1.51	1.10
1:E:45:ILE:HD11	1:E:146:GLN:NE2	1.67	1.07
1:G:21:PRO:O	1:G:25:GLY:HA2	1.54	1.06
1:E:21:PRO:O	1:E:25:GLY:HA2	1.58	1.02
1:F:19:ARG:HD3	1:G:66:GLN:NE2	1.74	1.01
1:K:21:PRO:O	1:K:25:GLY:CA	2.08	1.01
1:F:21:PRO:O	1:F:25:GLY:HA2	1.60	1.00
1:G:21:PRO:O	1:G:25:GLY:CA	2.10	0.99
1:L:21:PRO:O	1:L:25:GLY:CA	2.09	0.99
1:C:20:GLU:OE1	1:C:23:VAL:HG21	1.63	0.98
1:K:21:PRO:O	1:K:25:GLY:HA2	1.63	0.98
1:H:79:ALA:HB1	1:L:85:VAL:CG2	1.97	0.94
1:E:3:SER:OG	1:E:48:ASP:OD2	1.88	0.90
1:L:20:GLU:HB2	1:L:23:VAL:CG2	2.01	0.89
1:D:25:GLY:O	1:D:26:HIS:CB	2.12	0.87
1:L:20:GLU:O	1:L:23:VAL:HG23	1.74	0.87
1:F:21:PRO:O	1:F:25:GLY:CA	2.23	0.86
1:D:17:GLY:HA3	1:D:28:THR:HG22	1.60	0.84
1:E:20:GLU:HB3	1:E:23:VAL:CG2	2.08	0.83
1:E:21:PRO:O	1:E:25:GLY:CA	2.27	0.82
1:D:25:GLY:O	1:D:26:HIS:HB2	1.80	0.82
1:E:79:ALA:HB1	1:F:85:VAL:HG22	1.61	0.82
1:F:19:ARG:CD	1:G:66:GLN:NE2	2.44	0.79
1:F:20:GLU:HB3	1:F:23:VAL:HG23	1.63	0.79
1:F:19:ARG:HD3	1:G:66:GLN:HE22	1.47	0.79
1:E:20:GLU:CB	1:E:23:VAL:HG23	2.11	0.78
1:J:21:PRO:O	1:J:25:GLY:HA2	1.84	0.78
1:D:14:ASN:O	1:D:18:LYS:HD2	1.85	0.77
1:C:23:VAL:HG12	1:C:24:TYR:H	1.51	0.76
1:A:23:VAL:HG12	1:A:24:TYR:N	2.01	0.76
1:H:145:ILE:HG22	1:H:145:ILE:O	1.86	0.75
1:A:85:VAL:HG22	1:C:79:ALA:HB1	1.69	0.74
1:D:21:PRO:HB2	1:H:93:GLY:HA2	1.68	0.74
1:D:21:PRO:HD2	1:D:23:VAL:HG12	1.68	0.74
1:D:85:VAL:HG22	1:L:79:ALA:HB1	1.71	0.73
1:F:20:GLU:CB	1:F:23:VAL:HG23	2.18	0.72
1:I:21:PRO:O	1:I:25:GLY:HA2	1.89	0.72
1:E:45:ILE:CD1	1:E:146:GLN:NE2	2.52	0.71
1:D:20:GLU:O	1:D:20:GLU:HG3	1.90	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:23:VAL:HG12	1:A:24:TYR:H	1.55	0.70
1:E:20:GLU:CB	1:E:23:VAL:CG2	2.69	0.70
1:H:34:ARG:HH11	1:H:34:ARG:HG2	1.55	0.70
1:D:19:ARG:O	1:D:20:GLU:HG3	1.91	0.69
1:D:21:PRO:HA	1:H:93:GLY:O	1.93	0.69
1:G:21:PRO:O	1:G:25:GLY:N	2.25	0.69
1:B:20:GLU:HB2	1:B:23:VAL:HG23	1.74	0.69
1:F:19:ARG:CD	1:G:66:GLN:HE21	2.05	0.68
1:C:20:GLU:O	1:C:22:GLU:N	2.27	0.68
1:J:20:GLU:O	1:J:22:GLU:N	2.26	0.68
1:L:21:PRO:O	1:L:25:GLY:N	2.26	0.67
1:F:20:GLU:OE1	1:F:23:VAL:HG21	1.94	0.66
1:C:23:VAL:HG12	1:C:24:TYR:N	2.10	0.66
1:K:21:PRO:O	1:K:25:GLY:N	2.28	0.66
1:D:19:ARG:O	1:D:20:GLU:CG	2.43	0.66
1:A:143:GLU:HG3	1:D:132:LYS:HE3	1.76	0.66
1:H:30:ASP:O	1:H:34:ARG:HG3	1.96	0.66
1:A:21:PRO:O	1:A:25:GLY:HA2	1.96	0.66
1:B:13:LEU:HD21	1:B:78:ALA:HB2	1.78	0.65
1:C:21:PRO:O	1:C:25:GLY:HA2	1.97	0.64
1:I:4:THR:HG23	1:I:70:VAL:HG22	1.78	0.64
1:A:11:PRO:HA	1:A:53:ASN:HD22	1.61	0.64
1:F:20:GLU:OE1	1:F:23:VAL:CG2	2.46	0.64
1:B:21:PRO:O	1:B:25:GLY:HA2	1.98	0.64
1:L:4:THR:HG23	1:L:70:VAL:HG22	1.79	0.63
1:D:25:GLY:O	1:D:26:HIS:HB3	1.99	0.62
1:A:23:VAL:CG1	1:A:24:TYR:N	2.61	0.62
1:A:23:VAL:HG13	1:A:24:TYR:CD2	2.34	0.62
1:J:21:PRO:O	1:J:25:GLY:CA	2.47	0.62
1:L:20:GLU:HB2	1:L:23:VAL:HG23	1.79	0.62
1:H:23:VAL:HG12	1:H:24:TYR:CD2	2.35	0.61
1:I:21:PRO:O	1:I:25:GLY:CA	2.48	0.61
1:J:45:ILE:HD12	1:J:142:ILE:HG12	1.81	0.61
1:E:26:HIS:HD2	3:E:339:HOH:O	1.83	0.61
1:H:20:GLU:CB	1:H:23:VAL:HG23	2.31	0.60
1:D:20:GLU:HB2	1:D:23:VAL:HG13	1.84	0.60
1:L:4:THR:HG22	1:L:70:VAL:HA	1.83	0.60
1:I:20:GLU:O	1:I:22:GLU:N	2.35	0.59
1:H:79:ALA:CB	1:L:85:VAL:HG23	2.09	0.59
1:I:4:THR:HG22	1:I:70:VAL:HA	1.83	0.59
1:L:20:GLU:CB	1:L:23:VAL:CG2	2.78	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:23:VAL:CG1	1:C:24:TYR:N	2.65	0.59
1:L:20:GLU:HB2	1:L:23:VAL:HG21	1.84	0.59
1:D:20:GLU:HA	1:D:23:VAL:CG1	2.34	0.58
1:H:20:GLU:HB2	1:H:23:VAL:HG23	1.85	0.58
1:B:41:GLU:HG3	3:B:365:HOH:O	2.04	0.57
1:E:45:ILE:HD11	1:E:146:GLN:CD	2.28	0.56
1:D:21:PRO:HG2	1:D:22:GLU:H	1.71	0.56
1:D:20:GLU:HA	1:D:23:VAL:HG12	1.88	0.56
1:E:20:GLU:HB2	1:E:23:VAL:HG21	1.87	0.56
1:F:19:ARG:HD3	1:G:66:GLN:HE21	1.60	0.55
1:E:5:ILE:HD11	1:E:145:ILE:CD1	2.37	0.55
1:L:20:GLU:CB	1:L:23:VAL:HG23	2.37	0.55
1:B:5:ILE:HD11	1:B:145:ILE:CD1	2.37	0.54
1:I:20:GLU:HB2	1:I:23:VAL:HG23	1.88	0.54
1:A:12:ASN:H	1:A:53:ASN:ND2	2.05	0.54
1:K:5:ILE:HD11	1:K:145:ILE:CD1	2.39	0.53
1:J:5:ILE:HD11	1:J:145:ILE:CD1	2.38	0.53
1:F:111:ALA:HA	1:F:114:HIS:HD2	1.73	0.53
1:D:21:PRO:HD2	1:D:23:VAL:CG1	2.38	0.53
1:A:20:GLU:O	1:A:22:GLU:N	2.41	0.53
1:E:5:ILE:HD11	1:E:145:ILE:HD12	1.90	0.53
1:J:20:GLU:O	1:J:21:PRO:C	2.51	0.52
1:K:21:PRO:O	1:K:25:GLY:C	2.52	0.52
1:B:20:GLU:CB	1:B:23:VAL:HG23	2.39	0.52
1:I:77:PRO:HG3	1:I:118:LEU:HD22	1.92	0.52
1:A:143:GLU:HG3	1:D:132:LYS:CE	2.39	0.51
1:D:24:TYR:HD1	1:D:24:TYR:O	1.92	0.51
1:D:21:PRO:HB2	1:H:93:GLY:CA	2.40	0.51
1:H:20:GLU:HB2	1:H:23:VAL:CG2	2.41	0.51
1:B:20:GLU:O	1:B:22:GLU:N	2.44	0.51
1:H:21:PRO:O	1:H:25:GLY:HA2	2.11	0.51
1:F:106:VAL:CG1	1:F:113:ARG:O	2.59	0.50
1:B:20:GLU:HB2	1:B:23:VAL:CG2	2.42	0.50
1:B:5:ILE:HD11	1:B:145:ILE:HD12	1.93	0.50
1:K:5:ILE:HD11	1:K:145:ILE:HD12	1.95	0.49
1:D:77:PRO:HG2	1:D:81:THR:HB	1.93	0.49
1:B:13:LEU:CD2	1:B:78:ALA:HB2	2.41	0.49
1:G:106:VAL:HG12	1:G:113:ARG:O	2.13	0.49
1:L:30:ASP:O	1:L:34:ARG:HG2	2.13	0.49
1:F:20:GLU:CB	1:F:23:VAL:CG2	2.90	0.49
1:I:14:ASN:HD22	1:I:14:ASN:H	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:14:ASN:HD22	1:B:14:ASN:H	1.61	0.49
1:E:34:ARG:HD3	3:E:338:HOH:O	2.12	0.49
1:G:20:GLU:HB2	1:G:23:VAL:HG23	1.94	0.49
1:G:20:GLU:O	1:G:22:GLU:N	2.46	0.48
1:J:5:ILE:HD11	1:J:145:ILE:HD12	1.94	0.48
1:I:20:GLU:CB	1:I:23:VAL:HG23	2.43	0.48
1:D:20:GLU:HB2	1:D:23:VAL:CG1	2.44	0.48
1:F:20:GLU:HB2	1:F:23:VAL:HG23	1.95	0.48
1:G:77:PRO:HG2	1:G:81:THR:HB	1.96	0.47
1:H:20:GLU:HB3	1:H:23:VAL:HG23	1.96	0.47
1:I:23:VAL:HG12	1:I:24:TYR:CD2	2.49	0.47
1:F:111:ALA:HA	1:F:114:HIS:CD2	2.49	0.47
1:E:45:ILE:HD11	1:E:146:GLN:HE21	1.69	0.47
1:G:3:SER:HA	1:G:71:LYS:HG2	1.95	0.47
1:K:20:GLU:O	1:K:22:GLU:N	2.47	0.47
1:E:77:PRO:HG3	1:E:118:LEU:HD12	1.96	0.47
1:J:77:PRO:HG2	1:J:81:THR:HB	1.97	0.47
1:F:20:GLU:HB2	1:F:23:VAL:CG2	2.45	0.47
1:H:106:VAL:HG12	1:H:113:ARG:O	2.15	0.47
1:E:14:ASN:HD22	1:E:14:ASN:H	1.61	0.46
1:H:77:PRO:HG2	1:H:81:THR:HB	1.97	0.46
1:I:77:PRO:HG2	1:I:81:THR:HB	1.98	0.46
1:B:22:GLU:OE2	1:B:22:GLU:HA	2.16	0.46
1:F:54:TRP:CH2	1:G:57:ALA:HB2	2.51	0.45
1:K:77:PRO:HG3	1:K:118:LEU:HD12	1.98	0.45
1:G:77:PRO:HG3	1:G:118:LEU:HD12	1.99	0.45
1:K:23:VAL:CG1	1:K:24:TYR:N	2.80	0.45
1:B:77:PRO:HG3	1:B:118:LEU:HD12	1.98	0.45
1:F:21:PRO:O	1:F:25:GLY:N	2.50	0.45
1:F:77:PRO:HG3	1:F:118:LEU:HD12	1.99	0.44
1:G:144:LYS:HE2	3:G:306:HOH:O	2.17	0.44
1:F:19:ARG:CG	1:G:66:GLN:NE2	2.80	0.44
1:F:35:GLN:HE22	1:F:36:LEU:HD23	1.83	0.44
1:L:77:PRO:HG3	1:L:118:LEU:HD12	1.99	0.44
1:H:77:PRO:HG3	1:H:118:LEU:HD12	2.00	0.44
1:I:4:THR:CG2	1:I:70:VAL:HG22	2.46	0.44
1:E:83:THR:CG2	1:F:85:VAL:HG13	2.48	0.44
1:D:77:PRO:HG3	1:D:118:LEU:HD12	1.99	0.43
1:L:77:PRO:HG2	1:L:81:THR:HB	1.99	0.43
1:I:4:THR:CG2	1:I:70:VAL:HA	2.47	0.43
1:K:77:PRO:HG2	1:K:81:THR:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:23:VAL:CG1	1:A:24:TYR:CD2	3.00	0.43
1:H:21:PRO:O	1:H:25:GLY:CA	2.67	0.43
1:K:23:VAL:HG13	1:K:24:TYR:N	2.33	0.43
1:A:14:ASN:HD22	1:A:14:ASN:H	1.67	0.42
1:L:20:GLU:O	1:L:22:GLU:N	2.52	0.42
1:C:77:PRO:HG3	1:C:118:LEU:HD12	2.00	0.42
1:K:23:VAL:CG1	1:K:24:TYR:H	2.32	0.42
1:A:77:PRO:HG3	1:A:118:LEU:HD12	2.01	0.42
1:K:20:GLU:O	1:K:21:PRO:C	2.63	0.42
1:D:23:VAL:HG22	1:D:24:TYR:N	2.35	0.42
1:G:14:ASN:H	1:G:14:ASN:HD22	1.67	0.42
1:D:106:VAL:HG12	1:D:113:ARG:O	2.19	0.42
1:E:77:PRO:HG2	1:E:81:THR:HB	2.01	0.41
1:J:77:PRO:HG3	1:J:118:LEU:HD12	2.02	0.41
1:A:57:ALA:HB2	1:C:54:TRP:CH2	2.55	0.41
1:F:14:ASN:HD22	1:F:14:ASN:H	1.67	0.41
1:H:14:ASN:H	1:H:14:ASN:HD22	1.69	0.41
1:J:73:ILE:O	1:J:98:PHE:HA	2.21	0.41
1:D:20:GLU:CA	1:D:23:VAL:HG12	2.50	0.41
1:J:30:ASP:O	1:J:34:ARG:HG2	2.22	0.40
1:F:77:PRO:HG2	1:F:81:THR:HB	2.02	0.40
1:F:20:GLU:O	1:F:22:GLU:N	2.55	0.40
1:E:30:ASP:O	1:E:34:ARG:HG3	2.22	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	143/151 (95%)	138 (96%)	3 (2%)	2 (1%)	9 4
1	B	143/151 (95%)	138 (96%)	3 (2%)	2 (1%)	9 4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	143/151 (95%)	139 (97%)	2 (1%)	2 (1%)	9	4
1	D	143/151 (95%)	136 (95%)	6 (4%)	1 (1%)	18	14
1	E	143/151 (95%)	138 (96%)	4 (3%)	1 (1%)	18	14
1	F	143/151 (95%)	140 (98%)	3 (2%)	0	100	100
1	G	143/151 (95%)	139 (97%)	3 (2%)	1 (1%)	18	14
1	H	143/151 (95%)	136 (95%)	5 (4%)	2 (1%)	9	4
1	I	143/151 (95%)	139 (97%)	3 (2%)	1 (1%)	18	14
1	J	143/151 (95%)	139 (97%)	3 (2%)	1 (1%)	18	14
1	K	143/151 (95%)	140 (98%)	3 (2%)	0	100	100
1	L	143/151 (95%)	139 (97%)	3 (2%)	1 (1%)	18	14
All	All	1716/1812 (95%)	1661 (97%)	41 (2%)	14 (1%)	16	11

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	21	PRO
1	B	21	PRO
1	C	21	PRO
1	H	146	GLN
1	D	20	GLU
1	E	23	VAL
1	I	21	PRO
1	J	21	PRO
1	A	23	VAL
1	B	23	VAL
1	G	21	PRO
1	C	23	VAL
1	H	23	VAL
1	L	21	PRO

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	119/125 (95%)	114 (96%)	5 (4%)	26	25
1	B	119/125 (95%)	113 (95%)	6 (5%)	22	20
1	C	119/125 (95%)	115 (97%)	4 (3%)	32	33
1	D	119/125 (95%)	114 (96%)	5 (4%)	26	25
1	E	119/125 (95%)	116 (98%)	3 (2%)	42	45
1	F	119/125 (95%)	116 (98%)	3 (2%)	42	45
1	G	119/125 (95%)	115 (97%)	4 (3%)	32	33
1	H	119/125 (95%)	117 (98%)	2 (2%)	53	60
1	I	119/125 (95%)	114 (96%)	5 (4%)	26	25
1	J	119/125 (95%)	117 (98%)	2 (2%)	53	60
1	K	119/125 (95%)	115 (97%)	4 (3%)	32	33
1	L	119/125 (95%)	115 (97%)	4 (3%)	32	33
All	All	1428/1500 (95%)	1381 (97%)	47 (3%)	33	34

All (47) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	GLU
1	A	23	VAL
1	A	45	ILE
1	A	85	VAL
1	A	106	VAL
1	B	13	LEU
1	B	18	LYS
1	B	22	GLU
1	B	42	GLN
1	B	45	ILE
1	B	110	GLU
1	C	18	LYS
1	C	22	GLU
1	C	23	VAL
1	C	47	LEU
1	D	19	ARG
1	D	20	GLU
1	D	24	TYR
1	D	26	HIS
1	D	85	VAL
1	E	14	ASN
1	E	21	PRO

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Mol	Chain	Res	Type
1	E	48	ASP
1	F	18	LYS
1	F	22	GLU
1	F	85	VAL
1	G	4	THR
1	G	18	LYS
1	G	22	GLU
1	G	45	ILE
1	H	18	LYS
1	H	146	GLN
1	I	4	THR
1	I	14	ASN
1	I	18	LYS
1	I	22	GLU
1	I	45	ILE
1	J	18	LYS
1	J	144	LYS
1	K	20	GLU
1	K	22	GLU
1	K	67	THR
1	K	144	LYS
1	L	4	THR
1	L	22	GLU
1	L	41	GLU
1	L	45	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (51) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	14	ASN
1	A	51	GLN
1	A	53	ASN
1	A	114	HIS
1	A	146	GLN
1	B	14	ASN
1	B	114	HIS
1	C	35	GLN
1	C	39	GLN
1	C	114	HIS
1	C	146	GLN
1	D	14	ASN
1	D	35	GLN

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Mol	Chain	Res	Type
1	D	39	GLN
1	D	107	HIS
1	D	114	HIS
1	E	14	ASN
1	E	64	GLN
1	E	114	HIS
1	E	146	GLN
1	F	14	ASN
1	F	26	HIS
1	F	31	ASN
1	F	35	GLN
1	F	39	GLN
1	F	64	GLN
1	F	146	GLN
1	G	14	ASN
1	G	31	ASN
1	G	64	GLN
1	G	66	GLN
1	G	146	GLN
1	H	14	ASN
1	H	35	GLN
1	H	39	GLN
1	H	64	GLN
1	I	14	ASN
1	I	42	GLN
1	I	64	GLN
1	I	114	HIS
1	J	14	ASN
1	J	64	GLN
1	J	66	GLN
1	J	114	HIS
1	K	14	ASN
1	K	31	ASN
1	K	114	HIS
1	K	146	GLN
1	L	35	GLN
1	L	39	GLN
1	L	64	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

12 ligands are 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	SO4	J	201	-	4,4,4	0.38	0	6,6,6	0.70	0
2	SO4	H	201	-	4,4,4	0.52	0	6,6,6	0.28	0
2	SO4	K	201	-	4,4,4	0.72	0	6,6,6	1.00	1 (16%)
2	SO4	E	201	-	4,4,4	0.40	0	6,6,6	0.86	0
2	SO4	A	201	-	4,4,4	0.43	0	6,6,6	0.46	0
2	SO4	B	201	-	4,4,4	0.50	0	6,6,6	0.59	0
2	SO4	L	201	-	4,4,4	0.36	0	6,6,6	0.73	0
2	SO4	D	201	-	4,4,4	0.23	0	6,6,6	0.83	0
2	SO4	G	201	-	4,4,4	0.79	0	6,6,6	0.58	0
2	SO4	I	201	-	4,4,4	0.31	0	6,6,6	0.62	0
2	SO4	F	201	-	4,4,4	0.48	0	6,6,6	1.01	0
2	SO4	C	201	-	4,4,4	0.29	0	6,6,6	0.94	0

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	K	201	SO4	O4-S-O1	-2.09	98.64	109.56

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, 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	145/151 (96%)	0.10	8 (5%) 30 29	14, 19, 45, 80	0
1	B	145/151 (96%)	0.32	14 (9%) 13 12	14, 22, 54, 107	0
1	C	145/151 (96%)	0.31	11 (7%) 20 18	14, 19, 77, 126	0
1	D	145/151 (96%)	0.48	13 (8%) 15 14	15, 21, 84, 108	0
1	E	145/151 (96%)	0.24	10 (6%) 23 21	15, 20, 44, 100	0
1	F	145/151 (96%)	0.37	13 (8%) 15 14	16, 22, 63, 106	0
1	G	145/151 (96%)	0.62	19 (13%) 7 6	18, 27, 71, 117	0
1	H	145/151 (96%)	0.28	12 (8%) 17 16	15, 22, 59, 104	0
1	I	145/151 (96%)	0.49	13 (8%) 15 14	18, 26, 59, 111	0
1	J	145/151 (96%)	0.65	21 (14%) 6 5	19, 26, 68, 113	0
1	K	145/151 (96%)	0.42	13 (8%) 15 14	18, 25, 63, 105	0
1	L	145/151 (96%)	0.41	11 (7%) 20 18	17, 24, 56, 105	0
All	All	1740/1812 (96%)	0.39	158 (9%) 15 13	14, 23, 62, 126	0

All (158) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	21	PRO	10.5
1	E	23	VAL	8.7
1	E	24	TYR	8.2
1	D	23	VAL	8.0
1	D	17	GLY	7.9
1	C	23	VAL	7.9
1	B	147	PRO	7.3
1	L	23	VAL	7.1
1	D	24	TYR	6.8
1	K	23	VAL	6.8
1	J	24	TYR	6.8

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Mol	Chain	Res	Type	RSRZ
1	G	23	VAL	6.7
1	A	23	VAL	6.6
1	G	24	TYR	6.4
1	B	24	TYR	6.3
1	I	24	TYR	6.3
1	L	3	SER	6.3
1	D	25	GLY	6.3
1	F	23	VAL	6.1
1	I	23	VAL	6.0
1	C	24	TYR	6.0
1	D	21	PRO	5.8
1	A	24	TYR	5.7
1	L	24	TYR	5.7
1	B	23	VAL	5.7
1	F	24	TYR	5.7
1	C	25	GLY	5.7
1	C	26	HIS	5.6
1	G	3	SER	5.4
1	E	3	SER	5.4
1	H	147	PRO	5.2
1	J	23	VAL	5.2
1	J	3	SER	5.1
1	C	20	GLU	5.1
1	D	18	LYS	5.1
1	K	24	TYR	5.0
1	I	3	SER	5.0
1	H	23	VAL	5.0
1	D	27	LEU	5.0
1	J	67	THR	4.8
1	D	26	HIS	4.8
1	F	26	HIS	4.5
1	C	27	LEU	4.5
1	H	24	TYR	4.4
1	F	3	SER	4.3
1	J	69	GLY	4.3
1	B	22	GLU	4.3
1	G	26	HIS	4.2
1	K	3	SER	4.0
1	D	147	PRO	3.9
1	D	20	GLU	3.9
1	C	18	LYS	3.8
1	L	22	GLU	3.8

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Mol	Chain	Res	Type	RSRZ
1	C	22	GLU	3.8
1	L	21	PRO	3.8
1	E	22	GLU	3.8
1	D	22	GLU	3.7
1	J	66	GLN	3.7
1	H	45	ILE	3.6
1	D	19	ARG	3.6
1	C	19	ARG	3.6
1	B	21	PRO	3.5
1	K	41	GLU	3.4
1	J	25	GLY	3.3
1	H	145	ILE	3.3
1	J	68	GLU	3.3
1	B	25	GLY	3.2
1	B	26	HIS	3.2
1	J	26	HIS	3.2
1	K	18	LYS	3.2
1	J	22	GLU	3.1
1	G	147	PRO	3.1
1	I	147	PRO	3.1
1	I	22	GLU	3.1
1	J	21	PRO	3.1
1	J	46	THR	3.0
1	A	22	GLU	3.0
1	G	21	PRO	3.0
1	G	22	GLU	3.0
1	J	18	LYS	3.0
1	A	26	HIS	3.0
1	H	22	GLU	2.9
1	E	21	PRO	2.9
1	J	20	GLU	2.9
1	B	3	SER	2.9
1	K	26	HIS	2.9
1	L	30	ASP	2.8
1	L	18	LYS	2.8
1	J	4	THR	2.8
1	E	45	ILE	2.8
1	I	145	ILE	2.8
1	G	42	GLN	2.8
1	H	146	GLN	2.7
1	F	25	GLY	2.7
1	C	147	PRO	2.7

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Mol	Chain	Res	Type	RSRZ
1	F	18	LYS	2.7
1	G	19	ARG	2.7
1	G	45	ILE	2.7
1	K	147	PRO	2.7
1	J	145	ILE	2.7
1	B	19	ARG	2.7
1	K	21	PRO	2.6
1	B	115	HIS	2.6
1	G	46	THR	2.6
1	F	21	PRO	2.6
1	G	41	GLU	2.6
1	I	26	HIS	2.6
1	G	27	LEU	2.6
1	K	42	GLN	2.5
1	F	22	GLU	2.5
1	I	21	PRO	2.5
1	H	27	LEU	2.5
1	G	25	GLY	2.5
1	J	45	ILE	2.5
1	F	41	GLU	2.4
1	K	20	GLU	2.4
1	J	41	GLU	2.4
1	G	44	SER	2.4
1	L	45	ILE	2.4
1	L	19	ARG	2.4
1	J	44	SER	2.4
1	L	147	PRO	2.4
1	L	25	GLY	2.3
1	A	115	HIS	2.3
1	I	41	GLU	2.3
1	K	22	GLU	2.3
1	E	26	HIS	2.3
1	F	45	ILE	2.3
1	E	147	PRO	2.3
1	A	34	ARG	2.3
1	B	146	GLN	2.2
1	H	34	ARG	2.2
1	B	67	THR	2.2
1	E	46	THR	2.2
1	D	41	GLU	2.2
1	A	42	GLN	2.2
1	H	115	HIS	2.2

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Mol	Chain	Res	Type	RSRZ
1	I	66	GLN	2.2
1	G	4	THR	2.2
1	G	67	THR	2.2
1	J	147	PRO	2.2
1	K	67	THR	2.2
1	H	21	PRO	2.1
1	H	46	THR	2.2
1	I	115	HIS	2.1
1	F	147	PRO	2.1
1	E	25	GLY	2.1
1	B	18	LYS	2.1
1	A	67	THR	2.1
1	I	25	GLY	2.1
1	K	25	GLY	2.1
1	G	18	LYS	2.1
1	I	34	ARG	2.1
1	F	44	SER	2.1
1	G	143	GLU	2.0
1	B	42	GLN	2.0
1	J	19	ARG	2.0
1	F	19	ARG	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 oligosaccharides 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, 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($\text{\AA}^2$)	Q<0.9
2	SO4	E	201	5/5	0.95	0.08	26,26,34,36	0
2	SO4	G	201	5/5	0.95	0.09	28,28,35,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	SO4	I	201	5/5	0.96	0.07	27,28,36,38	0
2	SO4	A	201	5/5	0.97	0.06	19,23,30,32	0
2	SO4	H	201	5/5	0.97	0.06	21,25,28,28	0
2	SO4	F	201	5/5	0.97	0.08	22,26,34,36	0
2	SO4	J	201	5/5	0.97	0.07	27,27,35,38	0
2	SO4	K	201	5/5	0.97	0.06	22,29,31,33	0
2	SO4	C	201	5/5	0.98	0.05	24,27,30,36	0
2	SO4	D	201	5/5	0.98	0.06	19,21,25,29	0
2	SO4	B	201	5/5	0.98	0.07	21,26,33,34	0
2	SO4	L	201	5/5	0.98	0.06	25,27,34,37	0

6.5 Other polymers [i](#)

There are no such residues in this entry.