W O R L D W I D E

wwPDB

P R O T E I N   D A T A   B A N K

wwPDB X-ray Structure Validation Summary Report ⓘ

Nov 13, 2023 – 11:42 PM JST

PDB ID	:	5YHM
Title	:	Crystal structure of dehydroquinate dehydratase with tris induced oligomerisation at 1.907 Angstrom resolution
Authors	:	Iqbal, N.; Kaur, P.; Sharma, S.; Singh, T.P.
Deposited on	:	2017-09-28
Resolution	:	1.91 Å(reported)

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

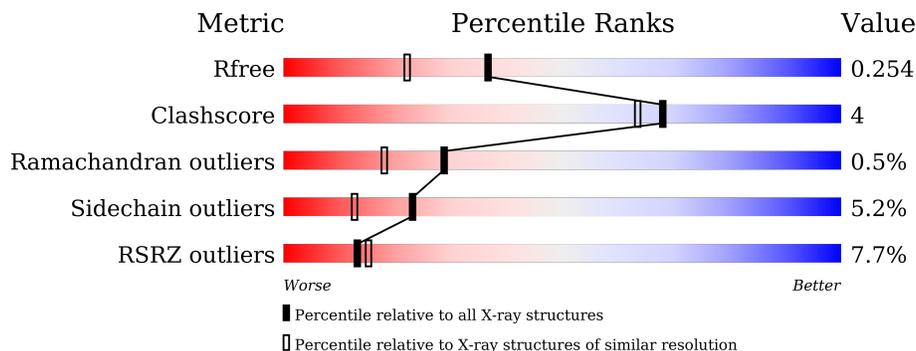|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (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 1.91 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.
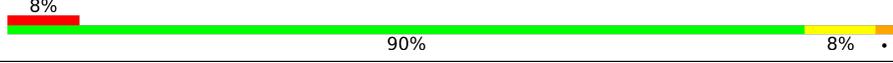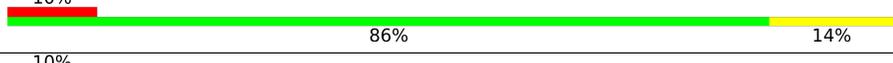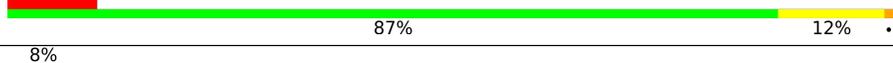
Metric	Percentile Ranks	Value
Rfree		0.254
Clashscore		4
Ramachandran outliers		0.5%
Sidechain outliers		5.2%
RSRZ outliers		7.7%

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	7937 (1.94-1.90)
Clashscore	141614	8644 (1.94-1.90)
Ramachandran outliers	138981	8530 (1.94-1.90)
Sidechain outliers	138945	8530 (1.94-1.90)
RSRZ outliers	127900	7793 (1.94-1.90)

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	145	8% / 88% 10% ·
1	B	145	7% / 87% 12% ·
1	C	145	9% / 94% 6%
1	D	145	8% / 88% 9% · ·
1	E	145	6% / 87% 12% ·
1	F	145	6% / 84% 13% ·

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Mol	Chain	Length	Quality of chain
1	G	145	3% · · · 88% · · · 10% ·
1	H	145	8% · · · 90% · · · 8% ·
1	I	145	10% · · · 86% · · · 14% ·
1	J	145	10% · · · 87% · · · 12% ·
1	L	145	8% · · · 88% · · · 10% ·
2	K	147	10% · · · 90% · · · 10%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 14064 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.
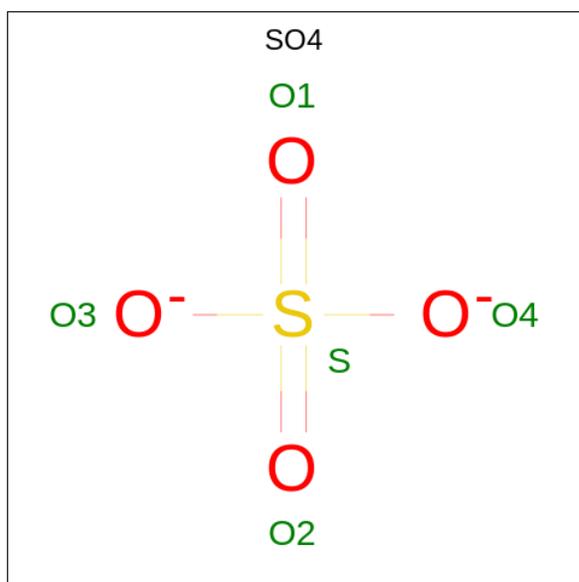
- Molecule 1 is a protein called 3-dehydroquinate dehydratase.

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

- Molecule 2 is a protein called 3-dehydroquinate dehydratase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	K	147	Total 1135	C 723	N 201	O 209	S 2	0	0	0

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

SO4

O1

O

O3 O⁻ ——— S ——— O⁻ O4

S

O

O2

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

- Molecule 4 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (three-letter code: TRS) (formula: $C_4H_{12}NO_3$).
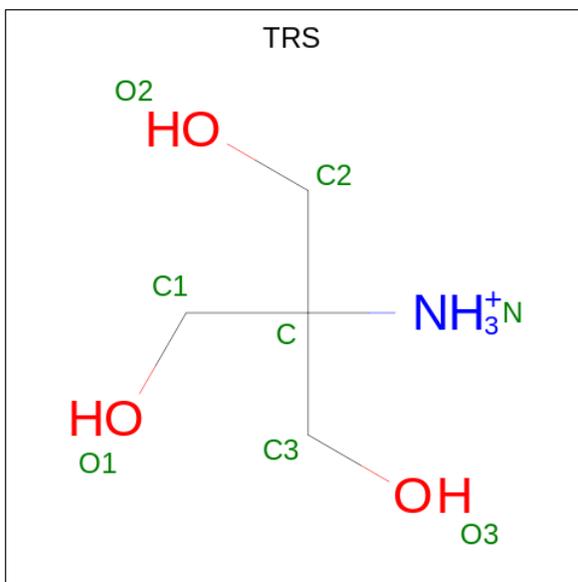
TRS

O2
HO

C2

C1

C

NH$_3^+$ N

HO
O1

C3

OH
O3

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	C	1	Total 8	C 4	N 1	O 3	0	0
4	E	1	Total 8	C 4	N 1	O 3	0	0
4	H	1	Total 8	C 4	N 1	O 3	0	0
4	K	1	Total 8	C 4	N 1	O 3	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	54	Total 54	O 54	0	0
5	B	48	Total 48	O 48	0	0
5	C	17	Total 17	O 17	0	0
5	D	48	Total 48	O 48	0	0
5	E	45	Total 45	O 45	0	0
5	F	40	Total 40	O 40	0	0
5	G	47	Total 47	O 47	0	0
5	H	44	Total 44	O 44	0	0

W O R L D W I D E
PDB
PROTEIN DATA BANK

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| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	I	43	Total 43	O 43	0	0
5	J	31	Total 31	O 31	0	0
5	K	45	Total 45	O 45	0	0
5	L	44	Total 44	O 44	0	0

3 Residue-property plots ⓘ

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-dehydroquinate dehydratase
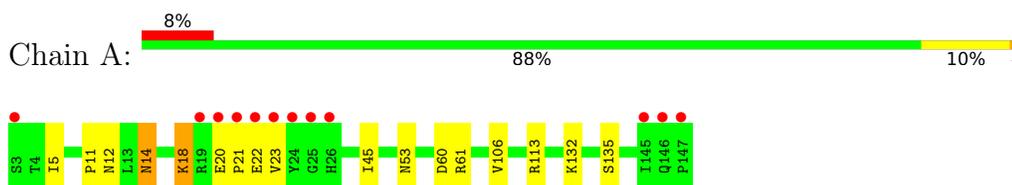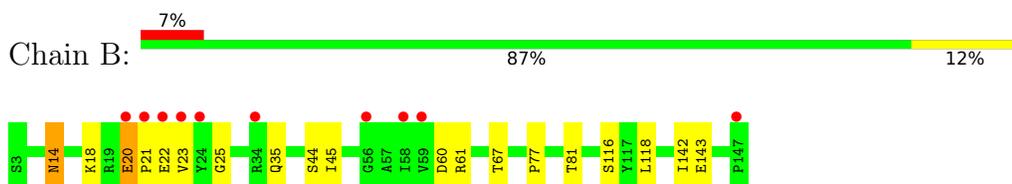
Chain A:

- Molecule 1: 3-dehydroquinate dehydratase

Chain B:

- Molecule 1: 3-dehydroquinate dehydratase

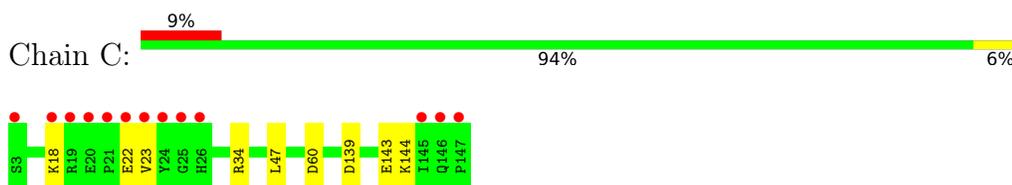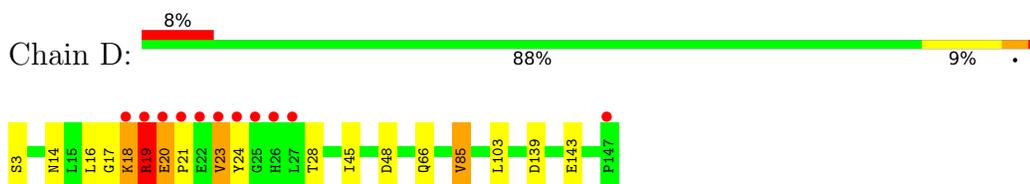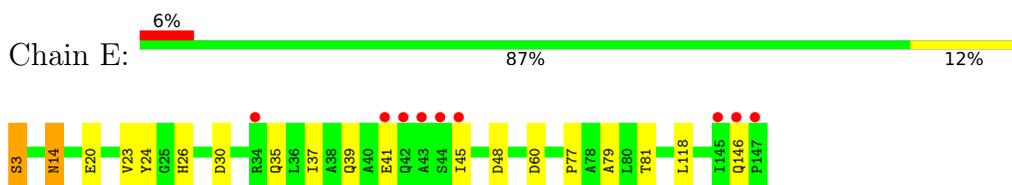Chain C:

- Molecule 1: 3-dehydroquinate dehydratase

Chain D:

- Molecule 1: 3-dehydroquinate dehydratase

Chain E:

- Molecule 1: 3-dehydroquinate dehydratase
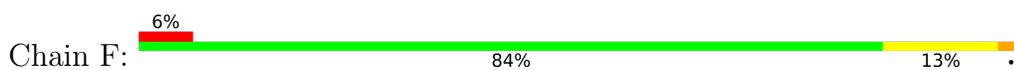
Chain F:

6%

84%

13%

S3 N14 K18 R19 E20 P21 E22 V23 Y24 G25 H26 D30 R34 Q35 L36 T46 L47 D48 R61 V85 R88 L103 V106 R113 K132 G133 Y134 S135 P147

- Molecule 1: 3-dehydroquinate dehydratase

Chain G:

3%

88%

10%

S3 T4 N14 K18 R19 E20 P21 E22 V23 Y24 N31 R34 Q35 D48 R61 P77 T81 H82 V106 R113 H114 H115 P147

- Molecule 1: 3-dehydroquinate dehydratase

Chain H:

8%

90%

8%

S3 K18 R19 E20 P21 E22 V23 Y24 G25 H26 R34 S44 I45 T46 L47 D48 D60 R61 Q66 P77 A78 A79 L80 T81 H115 L118 I145 Q146 P147

- Molecule 1: 3-dehydroquinate dehydratase

Chain I:

10%

86%

14%

S3 T4 N14 K18 R19 E20 P21 E22 V23 Y24 G25 H26 L27 R34 S44 I45 T46 L47 D48 A57 D60 R61 V70 K71 P77 T81 C127 E143 K144 I145 Q146 P147

- Molecule 1: 3-dehydroquinate dehydratase

Chain J:

10%

87%

12%

S3 T4 I5 L6 V7 N14 L15 L16 G17 K18 R19 E20 P21 E22 V23 Y24 G25 H26 L27 R34 I37 Q42 T46 I74 P77 T81 P97 L103 I123 I146 P147

- Molecule 1: 3-dehydroquinate dehydratase

Chain L:

8%

88%

10%

S3 K18 R19 E20 P21 E22 V23 Y24 G25 H26 L27 D30 R34 Q35 Q39 D60 L72 I73 P77 A78 A79 L80 T81 V85 S135 Q146 P147

- Molecule 2: 3-dehydroquinate dehydratase

Chain K:

10%

90%

10%

M1 S2 S3 R19 E20 P21 E22 V23 Y24 G25 H26 L27 N31 R34 Q42 A43 S44 I45 W54 P77 T81 G93 R109 K132 D139 Q146 P147
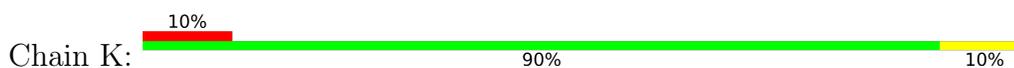
4   Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	81.90Å 155.61Å 155.91Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.70 – 1.91 45.70 – 1.91	Depositor EDS
% Data completeness (in resolution range)	89.8 (45.70-1.91) 89.8 (45.70-1.91)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.14 (at 1.91Å)	Xtriage
Refinement program	REFMAC 5.8.0135	Depositor
R, R_{free}	0.200 , 0.248 0.208 , 0.254	Depositor DCC
R_{free} test set	1465 reflections (1.05%)	wwPDB-VP
Wilson B-factor (Å^2)	37.5	Xtriage
Anisotropy	0.094	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 41.9	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.005 for -h,l,k	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	14064	wwPDB-VP
Average B, all atoms (Å^2)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.08% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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: TRS, 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	0.73	0/1143	0.84	3/1555 (0.2%)
1	B	0.73	0/1143	0.90	3/1555 (0.2%)
1	C	0.79	0/1143	0.86	1/1555 (0.1%)
1	D	0.71	0/1143	0.85	1/1555 (0.1%)
1	E	0.77	0/1143	0.89	1/1555 (0.1%)
1	F	0.82	0/1143	0.91	2/1555 (0.1%)
1	G	0.77	0/1143	0.85	2/1555 (0.1%)
1	H	0.75	0/1143	0.85	2/1555 (0.1%)
1	I	0.67	0/1143	0.83	2/1555 (0.1%)
1	J	0.70	0/1143	0.81	0/1555
1	L	0.73	0/1143	0.85	1/1555 (0.1%)
2	K	0.70	0/1157	0.82	0/1573
All	All	0.74	0/13730	0.86	18/18678 (0.1%)

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
1	C	0	1

There are no bond length outliers.

The worst 5 of 18 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	60	ASP	CB-CG-OD1	7.12	124.71	118.30
1	E	60	ASP	CB-CG-OD1	7.06	124.65	118.30
1	G	61	ARG	NE-CZ-NH1	6.88	123.74	120.30
1	B	60	ASP	CB-CG-OD2	-6.58	112.38	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	G	61	ARG	NE-CZ-NH2	-6.43	117.08	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	22	GLU	Peptide

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	9	0
1	B	1121	0	1133	9	0
1	C	1121	0	1133	3	0
1	D	1121	0	1133	13	0
1	E	1121	0	1133	15	0
1	F	1121	0	1133	14	0
1	G	1121	0	1133	10	0
1	H	1121	0	1133	9	0
1	I	1121	0	1133	6	0
1	J	1121	0	1133	10	0
1	L	1121	0	1133	10	0
2	K	1135	0	1150	7	0
3	A	5	0	0	0	0
3	B	5	0	0	0	0
3	C	5	0	0	0	0
3	D	5	0	0	0	0
3	E	5	0	0	0	0
3	F	5	0	0	0	0
3	G	5	0	0	0	0
3	H	5	0	0	0	0
3	I	5	0	0	0	0
3	J	5	0	0	0	0
3	K	5	0	0	0	0
3	L	5	0	0	0	0
4	C	8	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	E	8	0	12	0	0
4	H	8	0	12	0	0
4	K	8	0	12	0	0
5	A	54	0	0	0	0
5	B	48	0	0	1	0
5	C	17	0	0	0	0
5	D	48	0	0	0	0
5	E	45	0	0	1	0
5	F	40	0	0	0	0
5	G	47	0	0	0	0
5	H	44	0	0	0	0
5	I	43	0	0	0	0
5	J	31	0	0	0	0
5	K	45	0	0	1	0
5	L	44	0	0	0	0
All	All	14064	0	13661	102	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 4.

The worst 5 of 102 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:J:19:ARG:NH1	1:J:23:VAL:HG11	1.87	0.89
1:D:19:ARG:HH11	1:D:19:ARG:HG3	1.46	0.80
1:E:79:ALA:HB1	1:F:85:VAL:HG22	1.68	0.75
1:D:17:GLY:HA3	1:D:28:THR:HG22	1.73	0.71
1:E:23:VAL:HG22	1:E:24:TYR:CE2	2.28	0.69

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	143/145 (99%)	136 (95%)	6 (4%)	1 (1%)	22	11
1	B	143/145 (99%)	138 (96%)	5 (4%)	0	100	100
1	C	143/145 (99%)	136 (95%)	7 (5%)	0	100	100
1	D	143/145 (99%)	136 (95%)	5 (4%)	2 (1%)	11	3
1	E	143/145 (99%)	141 (99%)	2 (1%)	0	100	100
1	F	143/145 (99%)	137 (96%)	4 (3%)	2 (1%)	11	3
1	G	143/145 (99%)	139 (97%)	4 (3%)	0	100	100
1	H	143/145 (99%)	135 (94%)	8 (6%)	0	100	100
1	I	143/145 (99%)	135 (94%)	8 (6%)	0	100	100
1	J	143/145 (99%)	136 (95%)	6 (4%)	1 (1%)	22	11
1	L	143/145 (99%)	136 (95%)	6 (4%)	1 (1%)	22	11
2	K	145/147 (99%)	137 (94%)	7 (5%)	1 (1%)	22	11
All	All	1718/1742 (99%)	1642 (96%)	68 (4%)	8 (0%)	29	18

5 of 8 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	18	LYS
1	A	21	PRO
1	D	20	GLU
1	J	20	GLU
1	L	20	GLU

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	119/119 (100%)	115 (97%)	4 (3%)	37	27
1	B	119/119 (100%)	113 (95%)	6 (5%)	24	13
1	C	119/119 (100%)	114 (96%)	5 (4%)	30	19
1	D	119/119 (100%)	113 (95%)	6 (5%)	24	13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	E	119/119 (100%)	114 (96%)	5 (4%)	30	19
1	F	119/119 (100%)	112 (94%)	7 (6%)	19	9
1	G	119/119 (100%)	110 (92%)	9 (8%)	13	5
1	H	119/119 (100%)	111 (93%)	8 (7%)	16	7
1	I	119/119 (100%)	107 (90%)	12 (10%)	7	2
1	J	119/119 (100%)	114 (96%)	5 (4%)	30	19
1	L	119/119 (100%)	115 (97%)	4 (3%)	37	27
2	K	121/121 (100%)	118 (98%)	3 (2%)	47	39
All	All	1430/1430 (100%)	1356 (95%)	74 (5%)	23	13

5 of 74 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	I	48	ASP
1	L	22	GLU
1	I	127	CYS
1	J	34	ARG
1	E	30	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 45 such sidechains are listed below:

Mol	Chain	Res	Type
1	G	35	GLN
1	I	114	HIS
1	H	14	ASN
1	H	39	GLN
1	J	114	HIS

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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

16 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	#$|Z| > 2$
3	SO4	B	201	-	4,4,4	0.33	0	6,6,6	0.49	0
3	SO4	J	201	-	4,4,4	0.55	0	6,6,6	0.23	0
3	SO4	C	201	-	4,4,4	0.84	0	6,6,6	0.82	0
3	SO4	E	201	-	4,4,4	0.34	0	6,6,6	0.41	0
3	SO4	I	201	-	4,4,4	0.44	0	6,6,6	0.45	0
4	TRS	E	202	-	7,7,7	0.59	0	9,9,9	0.65	0
3	SO4	A	201	-	4,4,4	0.58	0	6,6,6	0.30	0
3	SO4	F	201	-	4,4,4	0.50	0	6,6,6	0.30	0
3	SO4	G	201	-	4,4,4	0.45	0	6,6,6	0.82	0
3	SO4	D	201	-	4,4,4	0.58	0	6,6,6	0.73	0
4	TRS	K	202	-	7,7,7	0.51	0	9,9,9	1.03	1 (11%)
3	SO4	K	201	-	4,4,4	0.51	0	6,6,6	0.26	0
4	TRS	H	202	-	7,7,7	0.65	0	9,9,9	0.49	0
3	SO4	H	201	-	4,4,4	0.74	0	6,6,6	0.67	0
4	TRS	C	202	-	7,7,7	0.81	0	9,9,9	0.65	0
3	SO4	L	201	-	4,4,4	0.49	0	6,6,6	0.53	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	TRS	E	202	-	-	0/9/9/9	-
4	TRS	H	202	-	-	0/9/9/9	-
4	TRS	C	202	-	-	0/9/9/9	-
4	TRS	K	202	-	-	0/9/9/9	-

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	K	202	TRS	O3-C3-C	2.17	117.89	111.00

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(Å²)	Q<0.9
1	A	145/145 (100%)	0.43	12 (8%)	11	13	29, 38, 93, 132	0
1	B	145/145 (100%)	0.66	10 (6%)	16	19	28, 38, 82, 153	0
1	C	145/145 (100%)	0.59	13 (8%)	9	11	27, 37, 119, 163	0
1	D	145/145 (100%)	0.45	11 (7%)	13	15	28, 39, 94, 149	0
1	E	145/145 (100%)	0.16	9 (6%)	20	23	26, 35, 58, 78	0
1	F	145/145 (100%)	0.30	9 (6%)	20	23	24, 32, 81, 133	0
1	G	145/145 (100%)	0.10	5 (3%)	45	48	27, 34, 63, 113	0
1	H	145/145 (100%)	0.72	11 (7%)	13	15	26, 37, 90, 147	0
1	I	145/145 (100%)	0.38	14 (9%)	7	9	31, 41, 93, 131	0
1	J	145/145 (100%)	0.58	14 (9%)	7	9	29, 40, 114, 173	0
1	L	145/145 (100%)	0.51	12 (8%)	11	13	31, 41, 83, 128	0
2	K	147/147 (100%)	0.40	15 (10%)	6	8	28, 39, 91, 130	0
All	All	1742/1742 (100%)	0.44	135 (7%)	13	15	24, 38, 93, 173	0

The worst 5 of 135 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	24	TYR	16.4
1	F	23	VAL	15.2
1	D	24	TYR	15.0
1	D	18	LYS	13.2
1	H	147	PRO	12.3

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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
4	TRS	H	202	8/8	0.94	0.13	31,34,39,40	0
4	TRS	E	202	8/8	0.95	0.12	33,37,41,42	0
4	TRS	C	202	8/8	0.95	0.13	30,35,37,39	0
4	TRS	K	202	8/8	0.95	0.11	32,39,47,48	0
3	SO4	A	201	5/5	0.97	0.11	37,39,43,43	0
3	SO4	G	201	5/5	0.99	0.10	33,34,39,40	0
3	SO4	H	201	5/5	0.99	0.10	37,37,39,40	0
3	SO4	I	201	5/5	0.99	0.11	42,43,46,48	0
3	SO4	J	201	5/5	0.99	0.09	37,39,43,47	0
3	SO4	K	201	5/5	0.99	0.08	40,40,44,48	0
3	SO4	L	201	5/5	0.99	0.11	38,40,44,47	0
3	SO4	C	201	5/5	0.99	0.08	32,33,36,39	0
3	SO4	D	201	5/5	0.99	0.08	33,40,41,42	0
3	SO4	E	201	5/5	0.99	0.12	33,33,35,38	0
3	SO4	F	201	5/5	0.99	0.09	31,33,36,36	0
3	SO4	B	201	5/5	1.00	0.12	37,37,42,45	0

6.5 Other polymers ⓘ

There are no such residues in this entry.