WORLDWIDE PDB

PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Nov 25, 2024 – 04:46 PM EST

PDB ID	:	2IFU
Title	:	Crystal Structure of a Gamma-SNAP from Danio rerio
Authors	:	Bitto, E.; Wesenberg, G.E.; Phillips Jr., G.N.; Mccoy, J.G.; Bingman, C.A.; Center for Eukaryotic Structural Genomics (CESG)
Deposited on	:	2006-09-21
Resolution	:	2.60 Å(reported)

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

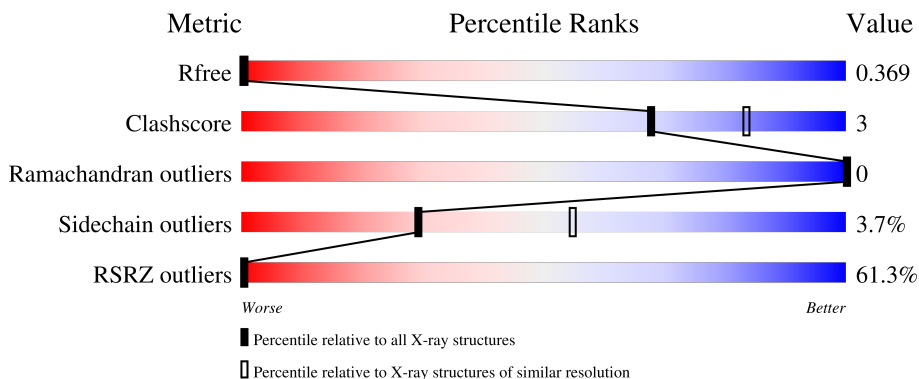|		
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 2.60 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		0.369
Clashscore		3
Ramachandran outliers		0
Sidechain outliers		3.7%
RSRZ outliers		61.3%

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}	164625	3775 (2.60-2.60)
Clashscore	180529	4181 (2.60-2.60)
Ramachandran outliers	177936	4129 (2.60-2.60)
Sidechain outliers	177891	4129 (2.60-2.60)
RSRZ outliers	164620	3775 (2.60-2.60)

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%

Mol	Chain	Length	Quality of chain
1	A	307	65% / 80% 8% · 10%
1	B	307	39% / 78% 10% · 10%
1	C	307	43% / 79% 8% · 11%
1	D	307	64% / 79% 8% · 12%

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

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 8758 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 gamma-snap.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	275	Total	C	N	O	S	Se	0	2	0
			2181	1373	372	419	5	12			
1	B	275	Total	C	N	O	S	Se	0	1	0
			2176	1369	372	419	5	11			
1	C	272	Total	C	N	O	S	Se	0	0	0
			2152	1354	368	415	5	10			
1	D	270	Total	C	N	O	S	Se	0	0	0
			2135	1342	365	413	5	10			

There are 52 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	ALA	-	cloning artifact	UNP Q5BJK3
A	0	ILE	-	cloning artifact	UNP Q5BJK3
A	1	ALA	MET	cloning artifact	UNP Q5BJK3
A	24	MSE	MET	modified residue	UNP Q5BJK3
A	82	MSE	MET	modified residue	UNP Q5BJK3
A	83	MSE	MET	modified residue	UNP Q5BJK3
A	90	MSE	MET	modified residue	UNP Q5BJK3
A	103	MSE	MET	modified residue	UNP Q5BJK3
A	115	MSE	MET	modified residue	UNP Q5BJK3
A	124	MSE	MET	modified residue	UNP Q5BJK3
A	182	MSE	MET	modified residue	UNP Q5BJK3
A	186	MSE	MET	modified residue	UNP Q5BJK3
A	261	MSE	MET	modified residue	UNP Q5BJK3
B	-1	ALA	-	cloning artifact	UNP Q5BJK3
B	0	ILE	-	cloning artifact	UNP Q5BJK3
B	1	ALA	MET	cloning artifact	UNP Q5BJK3
B	24	MSE	MET	modified residue	UNP Q5BJK3
B	82	MSE	MET	modified residue	UNP Q5BJK3
B	83	MSE	MET	modified residue	UNP Q5BJK3
B	90	MSE	MET	modified residue	UNP Q5BJK3
B	103	MSE	MET	modified residue	UNP Q5BJK3

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Chain	Residue	Modelled	Actual	Comment	Reference
B	115	MSE	MET	modified residue	UNP Q5BJK3
B	124	MSE	MET	modified residue	UNP Q5BJK3
B	182	MSE	MET	modified residue	UNP Q5BJK3
B	186	MSE	MET	modified residue	UNP Q5BJK3
B	261	MSE	MET	modified residue	UNP Q5BJK3
C	-1	ALA	-	cloning artifact	UNP Q5BJK3
C	0	ILE	-	cloning artifact	UNP Q5BJK3
C	1	ALA	MET	cloning artifact	UNP Q5BJK3
C	24	MSE	MET	modified residue	UNP Q5BJK3
C	82	MSE	MET	modified residue	UNP Q5BJK3
C	83	MSE	MET	modified residue	UNP Q5BJK3
C	90	MSE	MET	modified residue	UNP Q5BJK3
C	103	MSE	MET	modified residue	UNP Q5BJK3
C	115	MSE	MET	modified residue	UNP Q5BJK3
C	124	MSE	MET	modified residue	UNP Q5BJK3
C	182	MSE	MET	modified residue	UNP Q5BJK3
C	186	MSE	MET	modified residue	UNP Q5BJK3
C	261	MSE	MET	modified residue	UNP Q5BJK3
D	-1	ALA	-	cloning artifact	UNP Q5BJK3
D	0	ILE	-	cloning artifact	UNP Q5BJK3
D	1	ALA	MET	cloning artifact	UNP Q5BJK3
D	24	MSE	MET	modified residue	UNP Q5BJK3
D	82	MSE	MET	modified residue	UNP Q5BJK3
D	83	MSE	MET	modified residue	UNP Q5BJK3
D	90	MSE	MET	modified residue	UNP Q5BJK3
D	103	MSE	MET	modified residue	UNP Q5BJK3
D	115	MSE	MET	modified residue	UNP Q5BJK3
D	124	MSE	MET	modified residue	UNP Q5BJK3
D	182	MSE	MET	modified residue	UNP Q5BJK3
D	186	MSE	MET	modified residue	UNP Q5BJK3
D	261	MSE	MET	modified residue	UNP Q5BJK3

- Molecule 2 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
2	A	1	Total 5	O 4	S 1	0	0
2	A	1	Total 5	O 4	S 1	0	0
2	A	1	Total 5	O 4	S 1	0	0
2	B	1	Total 5	O 4	S 1	0	0
2	B	1	Total 5	O 4	S 1	0	0
2	B	1	Total 5	O 4	S 1	0	0
2	B	1	Total 5	O 4	S 1	0	0
2	C	1	Total 5	O 4	S 1	0	0
2	C	1	Total 5	O 4	S 1	0	0
2	D	1	Total 5	O 4	S 1	0	0

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	41	Total 41	O 41	0	0
3	B	17	Total 17	O 17	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	C	6	Total 6	O 6	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. 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. 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: gamma-snap

Chain A:

- Molecule 1: gamma-snap

Chain B:

• Molecule 1: gamma-snap

Chain C:

• Molecule 1: gamma-snap

Chain D:
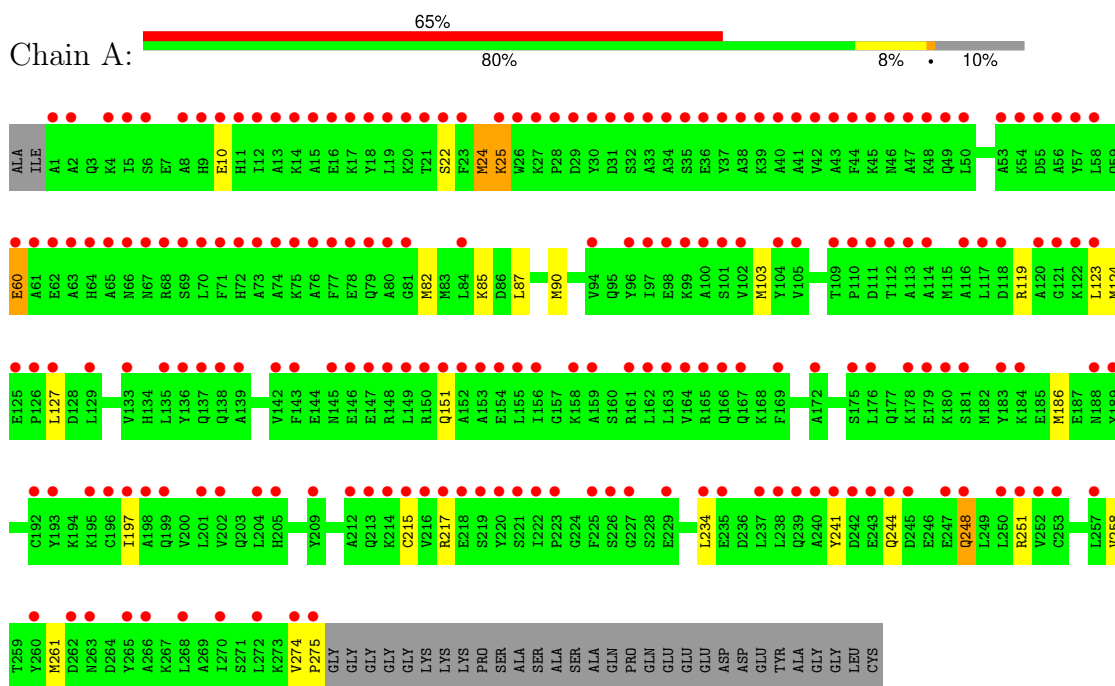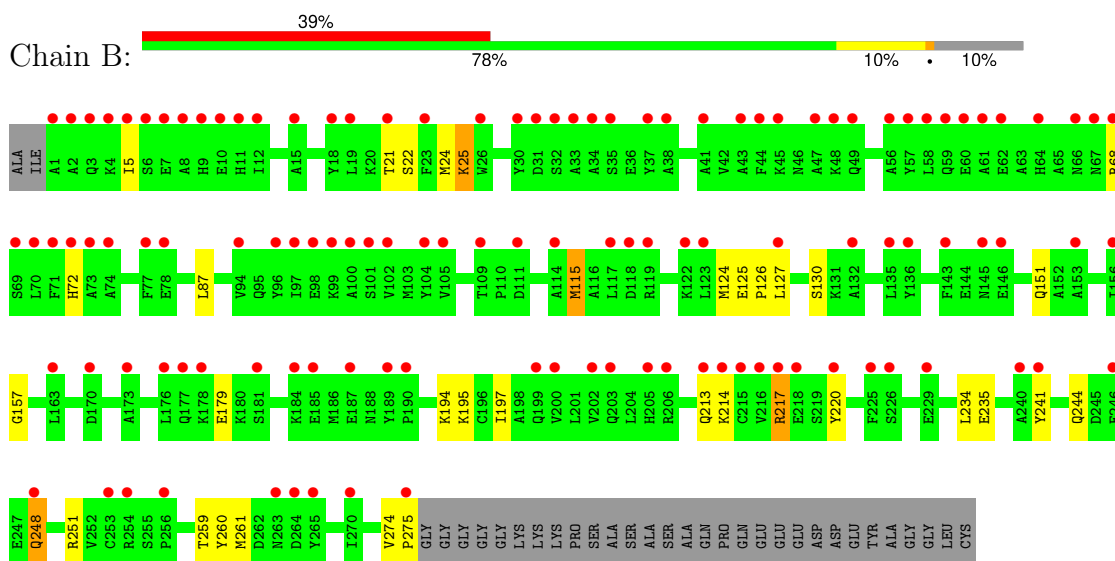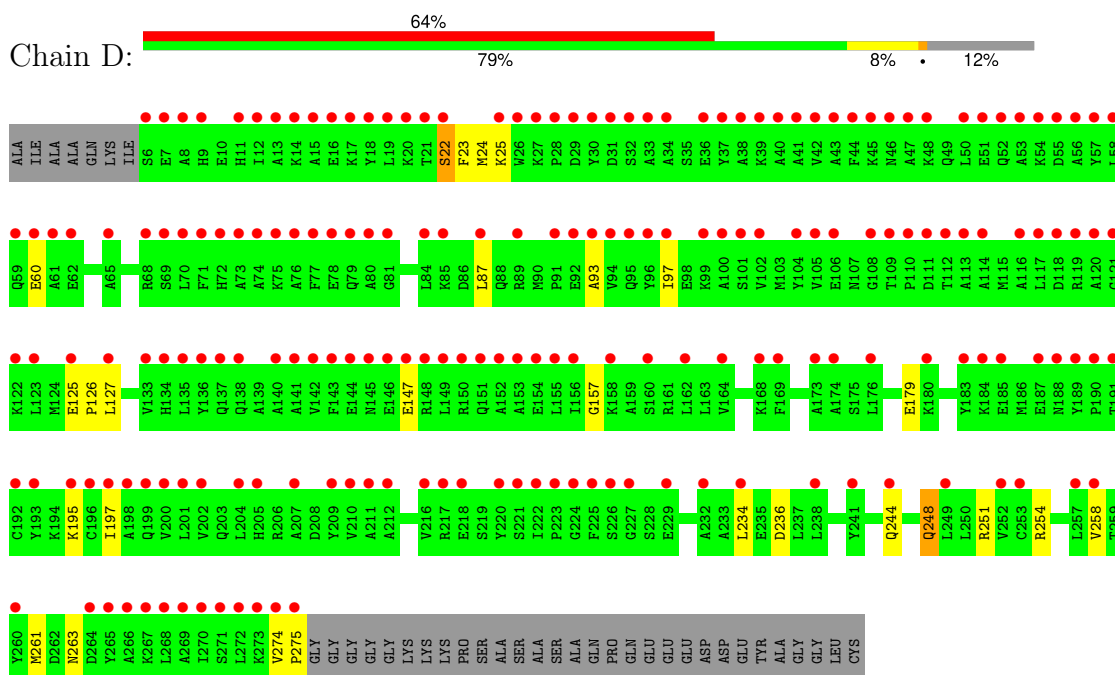
4 Data and refinement statistics ⓘ

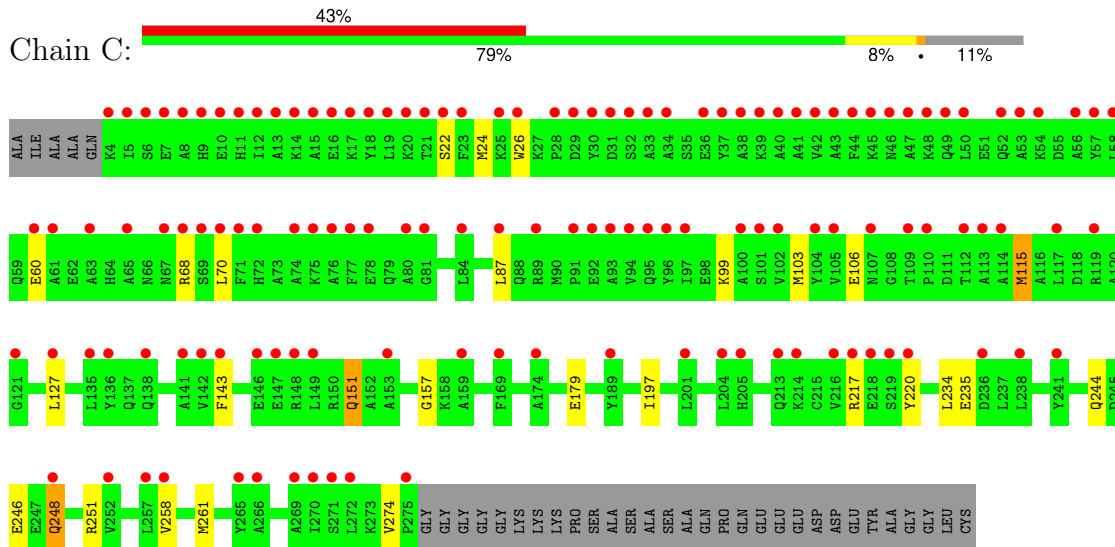| Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	83.38Å 90.81Å 264.17Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.05 – 2.60 40.05 – 2.60	Depositor EDS
% Data completeness (in resolution range)	96.1 (40.05-2.60) 96.1 (40.05-2.60)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.41 (at 2.61Å)	Xtriage
Refinement program	REFMAC 5.2.0005	Depositor
R, R_{free}	0.239 , 0.261 0.363 , 0.369	Depositor DCC
R_{free} test set	3047 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å^2)	61.1	Xtriage
Anisotropy	0.396	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 20.2	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.85	EDS
Total number of atoms	8758	wwPDB-VP
Average B, all atoms (Å^2)	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.31% 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: 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	1.00	6/2213 (0.3%)	0.86	3/2959 (0.1%)
1	B	0.90	6/2206 (0.3%)	0.92	4/2952 (0.1%)
1	C	0.57	1/2179 (0.0%)	0.64	2/2916 (0.1%)
1	D	0.42	0/2162	0.55	0/2894
All	All	0.76	13/8760 (0.1%)	0.76	9/11721 (0.1%)

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	241	TYR	CE2-CZ	-8.19	1.27	1.38
1	A	215	CYS	CB-SG	-7.34	1.69	1.82
1	A	103	MSE	CG-SE	-6.44	1.73	1.95
1	A	60	GLU	CB-CG	-6.21	1.40	1.52
1	B	115[A]	MSE	SE-CE	5.98	2.30	1.95
1	B	115[B]	MSE	SE-CE	5.98	2.30	1.95
1	B	241	TYR	CG-CD2	-5.83	1.31	1.39
1	C	115	MSE	SE-CE	5.78	2.29	1.95
1	B	241	TYR	CE1-CZ	-5.73	1.31	1.38
1	A	10	GLU	CD-OE2	5.52	1.31	1.25
1	A	241	TYR	CE1-CZ	-5.32	1.31	1.38
1	A	241	TYR	CG-CD2	-5.31	1.32	1.39
1	B	241	TYR	CG-CD1	-5.30	1.32	1.39

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	217	ARG	NE-CZ-NH2	15.91	128.25	120.30
1	B	217	ARG	NE-CZ-NH1	-13.78	113.41	120.30
1	A	217	ARG	NE-CZ-NH2	-8.48	116.06	120.30
1	A	217	ARG	NE-CZ-NH1	7.76	124.18	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	217	ARG	CD-NE-CZ	7.76	134.47	123.60
1	C	217	ARG	NE-CZ-NH2	-6.49	117.06	120.30
1	A	217	ARG	CD-NE-CZ	5.13	130.78	123.60
1	B	68	ARG	NE-CZ-NH2	-5.05	117.78	120.30
1	C	217	ARG	NE-CZ-NH1	5.04	122.82	120.30

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	2181	0	2171	15	0
1	B	2176	0	2162	17	1
1	C	2152	0	2132	14	0
1	D	2135	0	2108	17	1
2	A	15	0	0	0	0
2	B	20	0	0	1	0
2	C	10	0	0	0	0
2	D	5	0	0	0	0
3	A	41	0	0	0	0
3	B	17	0	0	0	0
3	C	6	0	0	0	0
All	All	8758	0	8573	60	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 3.

All (60) 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:186:MSE:CE	1:A:186:MSE:SE	2.17	1.43
1:B:115[B]:MSE:SE	1:B:115[B]:MSE:CE	2.20	1.39
1:A:24:MSE:SE	1:A:24:MSE:CE	2.23	1.34
1:C:115:MSE:SE	1:C:115:MSE:CE	2.29	1.31

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:115[A]:MSE:CE	1:B:115[A]:MSE:SE	2.30	1.28
1:A:82[A]:MSE:SE	1:A:119:ARG:HH21	1.87	1.07
1:A:90:MSE:HE2	1:A:123:LEU:HB2	1.40	1.03
1:C:220:TYR:OH	1:C:235:GLU:OE2	1.90	0.88
1:A:85:LYS:HD2	1:A:123:LEU:HD13	1.58	0.84
1:B:244:GLN:HE21	1:B:275:PRO:HG2	1.46	0.80
1:A:82[A]:MSE:SE	1:A:119:ARG:NH2	2.69	0.71
1:B:260:TYR:OH	1:D:251:ARG:HA	1.89	0.70
1:A:248:GLN:HG2	1:A:251:ARG:NH2	2.11	0.65
1:A:244:GLN:HE21	1:A:275:PRO:HG2	1.62	0.64
1:C:248:GLN:HG2	1:C:251:ARG:HH22	1.61	0.64
1:A:248:GLN:HG2	1:A:251:ARG:HH22	1.63	0.64
1:D:248:GLN:HG2	1:D:251:ARG:NH2	2.13	0.63
1:C:248:GLN:HG2	1:C:251:ARG:NH2	2.14	0.63
1:A:90:MSE:HE2	1:A:123:LEU:CB	2.24	0.60
1:B:72:HIS:ND1	2:B:308:SO4:O3	2.33	0.60
1:D:248:GLN:HG2	1:D:251:ARG:HH22	1.66	0.60
1:A:25:LYS:HG3	1:A:25:LYS:O	2.03	0.58
1:D:197:ILE:HA	1:D:234:LEU:HD21	1.87	0.57
1:B:25:LYS:O	1:B:25:LYS:HG3	2.04	0.57
1:A:197:ILE:HA	1:A:234:LEU:HD21	1.87	0.56
1:B:197:ILE:HA	1:B:234:LEU:HD21	1.87	0.56
1:D:244:GLN:HE21	1:D:275:PRO:HG2	1.72	0.54
1:B:157:GLY:HA2	1:B:179:GLU:OE2	2.08	0.53
1:A:244:GLN:HA	1:A:274:VAL:HG23	1.92	0.51
1:B:248:GLN:HG2	1:B:251:ARG:NH2	2.28	0.49
1:C:70:LEU:HD13	1:C:106:GLU:HB3	1.95	0.48
1:B:244:GLN:HA	1:B:274:VAL:HG23	1.94	0.48
1:B:248:GLN:HG2	1:B:251:ARG:HH22	1.79	0.47
1:B:259:THR:HB	1:D:254:ARG:HG2	1.96	0.47
1:D:244:GLN:HA	1:D:274:VAL:HG23	1.96	0.46
1:D:93:ALA:O	1:D:97:ILE:HG12	2.15	0.46
1:C:157:GLY:HA2	1:C:179:GLU:OE2	2.17	0.44
1:D:24:MSE:HE3	1:D:24:MSE:HB2	1.91	0.44
1:C:244:GLN:HA	1:C:274:VAL:HG23	1.99	0.44
1:D:195:LYS:HA	1:D:195:LYS:HD3	1.89	0.44
1:D:263:ASN:HD22	1:D:263:ASN:N	2.15	0.43
1:C:143:PHE:CG	1:C:151:GLN:HB3	2.54	0.43
1:B:115[A]:MSE:HB3	1:B:115[A]:MSE:HE3	1.99	0.43
1:C:68:ARG:NH1	1:D:236:ASP:OD2	2.49	0.43
1:C:197:ILE:HA	1:C:234:LEU:HD21	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:22:SER:OG	1:D:23:PHE:N	2.51	0.43
1:C:258:VAL:O	1:C:261:MSE:HG2	2.18	0.42
1:A:85:LYS:HD2	1:A:123:LEU:CD1	2.40	0.42
1:C:99:LYS:O	1:C:103:MSE:HG3	2.19	0.42
1:B:220:TYR:OH	1:B:235:GLU:OE2	2.29	0.42
1:B:194:LYS:O	1:B:261:MSE:HE1	2.20	0.42
1:D:258:VAL:O	1:D:261:MSE:HG2	2.18	0.42
1:B:125:GLU:HB2	1:B:126:PRO:HD3	2.02	0.41
1:D:25:LYS:O	1:D:25:LYS:HG3	2.21	0.41
1:A:258:VAL:O	1:A:261:MSE:HG2	2.21	0.41
1:B:195:LYS:HA	1:B:195:LYS:HD3	1.86	0.41
1:D:125:GLU:HB2	1:D:126:PRO:HD3	2.03	0.40
1:C:246:GLU:HG3	1:C:274:VAL:HG12	2.03	0.40
1:C:22:SER:C	1:C:24:MSE:H	2.24	0.40
1:D:157:GLY:HA2	1:D:179:GLU:OE2	2.22	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:5:ILE:CG2	1:D:147:GLU:OE2[4_445]	2.17	0.03

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	275/307 (90%)	267 (97%)	8 (3%)	0	100	100
1	B	274/307 (89%)	267 (97%)	7 (3%)	0	100	100
1	C	270/307 (88%)	261 (97%)	9 (3%)	0	100	100
1	D	268/307 (87%)	262 (98%)	6 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	1087/1228 (88%)	1057 (97%)	30 (3%)	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	225/233 (97%)	216 (96%)	9 (4%)	27	52
1	B	224/233 (96%)	211 (94%)	13 (6%)	17	36
1	C	222/233 (95%)	216 (97%)	6 (3%)	40	66
1	D	220/233 (94%)	215 (98%)	5 (2%)	45	71
All	All	891/932 (96%)	858 (96%)	33 (4%)	29	55

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	SER
1	A	24	MSE
1	A	25	LYS
1	A	60	GLU
1	A	87	LEU
1	A	124	MSE
1	A	127	LEU
1	A	151	GLN
1	A	248	GLN
1	B	21	THR
1	B	22	SER
1	B	24	MSE
1	B	25	LYS
1	B	87	LEU
1	B	124	MSE
1	B	127	LEU
1	B	130	SER

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Mol	Chain	Res	Type
1	B	151	GLN
1	B	213	GLN
1	B	214	LYS
1	B	217	ARG
1	B	248	GLN
1	C	26	TRP
1	C	60	GLU
1	C	87	LEU
1	C	127	LEU
1	C	151	GLN
1	C	248	GLN
1	D	22	SER
1	D	60	GLU
1	D	87	LEU
1	D	127	LEU
1	D	248	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	49	GLN
1	A	52	GLN
1	A	138	GLN
1	A	213	GLN
1	A	244	GLN
1	A	263	ASN
1	B	49	GLN
1	B	52	GLN
1	B	138	GLN
1	B	151	GLN
1	B	213	GLN
1	B	244	GLN
1	B	263	ASN
1	C	49	GLN
1	C	52	GLN
1	C	138	GLN
1	C	151	GLN
1	C	166	GLN
1	C	213	GLN
1	C	244	GLN
1	C	263	ASN
1	D	49	GLN

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Mol	Chain	Res	Type
1	D	52	GLN
1	D	107	ASN
1	D	138	GLN
1	D	213	GLN
1	D	244	GLN
1	D	263	ASN

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 ⓘ

10 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	B	306	-	4,4,4	0.27	0	6,6,6	0.25	0
2	SO4	B	308	-	4,4,4	0.44	0	6,6,6	0.95	0
2	SO4	A	307	-	4,4,4	0.32	0	6,6,6	0.76	0
2	SO4	A	306	-	4,4,4	0.31	0	6,6,6	0.89	0
2	SO4	A	308	-	4,4,4	0.27	0	6,6,6	0.38	0
2	SO4	D	306	-	4,4,4	0.22	0	6,6,6	0.17	0
2	SO4	B	307	-	4,4,4	0.31	0	6,6,6	0.82	0
2	SO4	C	306	-	4,4,4	0.31	0	6,6,6	0.34	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
2	SO4	C	307	-	4,4,4	0.22	0	6,6,6	0.20	0
2	SO4	B	309	-	4,4,4	0.30	0	6,6,6	0.36	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.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	308	SO4	1	0

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 ⓘ

Warning: The R factor obtained from EDS is 0.3637, which does not match the depositor's R factor of 0.239. Please interpret the results in this section carefully.

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	265/307 (86%)	2.80	200 (75%)	0	0	57, 70, 77, 86	0
1	B	265/307 (86%)	2.02	119 (44%)	1	1	55, 69, 78, 88	0
1	C	262/307 (85%)	2.29	131 (50%)	0	0	59, 69, 76, 84	0
1	D	260/307 (84%)	2.82	195 (75%)	0	0	60, 71, 76, 85	0
All	All	1052/1228 (85%)	2.48	645 (61%)	0	0	55, 70, 77, 88	0

All (645) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1	ALA	8.4
1	B	26	TRP	6.8
1	C	40	ALA	6.7
1	C	8	ALA	6.6
1	B	2	ALA	6.6
1	D	192	CYS	6.4
1	D	61	ALA	6.2
1	B	8	ALA	6.1
1	D	70	LEU	6.1
1	C	15	ALA	6.1
1	C	19	LEU	6.0
1	C	80	ALA	6.0
1	A	23	PHE	6.0
1	C	6	SER	5.9
1	D	56	ALA	5.8
1	C	13	ALA	5.7
1	A	123	LEU	5.7
1	D	149	LEU	5.7
1	C	32	SER	5.7

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Mol	Chain	Res	Type	RSRZ
1	C	17	LYS	5.7
1	A	26	TRP	5.6
1	A	33	ALA	5.6
1	D	26	TRP	5.6
1	C	43	ALA	5.3
1	D	274	VAL	5.3
1	A	2	ALA	5.2
1	A	172	ALA	5.2
1	A	154	GLU	5.2
1	D	21	THR	5.2
1	C	10	GLU	5.2
1	C	41	ALA	5.2
1	A	209	TYR	5.1
1	A	15	ALA	5.1
1	A	57	TYR	5.1
1	D	71	PHE	5.1
1	D	110	PRO	5.1
1	A	71	PHE	5.1
1	A	147	GLU	5.1
1	D	50	LEU	5.0
1	B	68	ARG	5.0
1	C	34	ALA	4.9
1	D	141	ALA	4.9
1	C	37	TYR	4.9
1	D	102	VAL	4.9
1	C	12	ILE	4.9
1	C	30	TYR	4.8
1	B	213	GLN	4.8
1	A	69	SER	4.8
1	C	47	ALA	4.8
1	D	142	VAL	4.7
1	D	275	PRO	4.7
1	D	105	VAL	4.7
1	D	222	ILE	4.7
1	A	8	ALA	4.6
1	A	34	ALA	4.6
1	D	114	ALA	4.6
1	A	64	HIS	4.6
1	C	44	PHE	4.6
1	D	184	LYS	4.6
1	C	52	GLN	4.6
1	A	18	TYR	4.6

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Mol	Chain	Res	Type	RSRZ
1	C	61	ALA	4.5
1	B	246	GLU	4.5
1	D	19	LEU	4.5
1	D	123	LEU	4.5
1	C	70	LEU	4.5
1	B	41	ALA	4.5
1	A	58	LEU	4.5
1	C	112	THR	4.5
1	D	234	LEU	4.5
1	C	33	ALA	4.5
1	C	38	ALA	4.5
1	D	147	GLU	4.5
1	C	104	TYR	4.4
1	D	37	TYR	4.4
1	C	42	VAL	4.4
1	D	112	THR	4.4
1	A	32	SER	4.4
1	C	14	LYS	4.4
1	C	45	LYS	4.4
1	D	223	PRO	4.4
1	D	96	TYR	4.4
1	B	3	GLN	4.4
1	A	143	PHE	4.4
1	A	10	GLU	4.4
1	D	185	GLU	4.4
1	A	30	TYR	4.3
1	A	37	TYR	4.3
1	D	201	LEU	4.3
1	C	39	LYS	4.3
1	D	81	GLY	4.3
1	C	26	TRP	4.3
1	A	53	ALA	4.3
1	D	22	SER	4.3
1	A	127	LEU	4.3
1	D	44	PHE	4.3
1	A	176	LEU	4.2
1	D	25	LYS	4.2
1	D	122	LYS	4.2
1	D	57	TYR	4.2
1	A	40	ALA	4.2
1	D	156	ILE	4.2
1	B	57	TYR	4.2

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Mol	Chain	Res	Type	RSRZ
1	D	43	ALA	4.2
1	D	117	LEU	4.2
1	A	96	TYR	4.2
1	A	220	TYR	4.2
1	A	213	GLN	4.1
1	C	23	PHE	4.1
1	D	80	ALA	4.1
1	D	18	TYR	4.1
1	A	68	ARG	4.1
1	D	28	PRO	4.1
1	C	149	LEU	4.1
1	A	62	GLU	4.1
1	A	136	TYR	4.1
1	C	50	LEU	4.1
1	A	183	TYR	4.0
1	D	220	TYR	4.0
1	A	198	ALA	4.0
1	D	47	ALA	4.0
1	D	212	ALA	4.0
1	D	53	ALA	4.0
1	A	72	HIS	4.0
1	D	48	LYS	4.0
1	A	50	LEU	4.0
1	D	42	VAL	4.0
1	A	77	PHE	4.0
1	D	12	ILE	4.0
1	D	226	SER	3.9
1	D	180	LYS	3.9
1	D	34	ALA	3.9
1	A	265	TYR	3.9
1	C	4	LYS	3.9
1	A	80	ALA	3.9
1	B	43	ALA	3.9
1	D	46	ASN	3.9
1	C	92	GLU	3.9
1	B	69	SER	3.9
1	A	36	GLU	3.8
1	A	216	VAL	3.8
1	A	274	VAL	3.8
1	B	70	LEU	3.8
1	B	37	TYR	3.8
1	A	31	ASP	3.8

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Mol	Chain	Res	Type	RSRZ
1	A	19	LEU	3.8
1	A	238	LEU	3.8
1	A	169	PHE	3.8
1	B	5	ILE	3.8
1	C	147	GLU	3.8
1	D	15	ALA	3.8
1	A	151	GLN	3.8
1	A	46	ASN	3.8
1	A	97	ILE	3.8
1	D	189	TYR	3.7
1	A	61	ALA	3.7
1	D	8	ALA	3.7
1	B	105	VAL	3.7
1	D	109	THR	3.7
1	A	197	ILE	3.7
1	D	227	GLY	3.7
1	D	162	LEU	3.7
1	A	28	PRO	3.7
1	C	21	THR	3.7
1	A	244	GLN	3.7
1	A	4	LYS	3.7
1	B	214	LYS	3.7
1	A	65	ALA	3.7
1	D	74	ALA	3.7
1	C	28	PRO	3.7
1	D	93	ALA	3.6
1	A	102	VAL	3.6
1	B	74	ALA	3.6
1	C	81	GLY	3.6
1	C	143	PHE	3.6
1	D	155	LEU	3.6
1	A	94	VAL	3.6
1	D	27	LYS	3.6
1	C	36	GLU	3.6
1	A	73	ALA	3.6
1	A	275	PRO	3.6
1	A	20	LYS	3.6
1	D	20	LYS	3.6
1	C	29	ASP	3.6
1	B	1	ALA	3.5
1	D	38	ALA	3.5
1	D	199	GLN	3.5

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Mol	Chain	Res	Type	RSRZ
1	D	265	TYR	3.5
1	C	71	PHE	3.5
1	B	229	GLU	3.5
1	A	35	SER	3.5
1	A	116	ALA	3.5
1	D	69	SER	3.5
1	A	42	VAL	3.5
1	A	105	VAL	3.5
1	A	270	ILE	3.5
1	C	109	THR	3.5
1	A	38	ALA	3.5
1	A	66	ASN	3.5
1	A	104	TYR	3.5
1	C	77	PHE	3.5
1	D	73	ALA	3.5
1	D	72	HIS	3.5
1	B	21	THR	3.5
1	A	234	LEU	3.5
1	D	176	LEU	3.5
1	D	78	GLU	3.4
1	B	217	ARG	3.4
1	C	102	VAL	3.4
1	B	6	SER	3.4
1	D	6	SER	3.4
1	D	9	HIS	3.4
1	A	135	LEU	3.4
1	C	89	ARG	3.4
1	D	39	LYS	3.4
1	D	97	ILE	3.4
1	D	77	PHE	3.4
1	C	58	LEU	3.4
1	A	156	ILE	3.4
1	A	227	GLY	3.4
1	A	150	ARG	3.4
1	B	220	TYR	3.4
1	D	104	TYR	3.4
1	C	105	VAL	3.4
1	A	243	GLU	3.3
1	D	36	GLU	3.3
1	A	241	TYR	3.3
1	D	13	ALA	3.3
1	D	91	PRO	3.3

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Mol	Chain	Res	Type	RSRZ
1	B	104	TYR	3.3
1	C	9	HIS	3.3
1	A	272	LEU	3.3
1	A	217	ARG	3.3
1	B	35	SER	3.3
1	A	218	GLU	3.3
1	C	220	TYR	3.3
1	D	33	ALA	3.3
1	A	199	GLN	3.3
1	A	161	ARG	3.3
1	C	101	SER	3.2
1	A	56	ALA	3.2
1	A	113	ALA	3.2
1	C	18	TYR	3.2
1	B	127	LEU	3.2
1	C	49	GLN	3.2
1	D	79	GLN	3.2
1	A	229	GLU	3.2
1	C	275	PRO	3.2
1	A	6	SER	3.2
1	A	114	ALA	3.2
1	D	113	ALA	3.2
1	C	57	TYR	3.2
1	D	52	GLN	3.2
1	A	148	ARG	3.2
1	C	107	ASN	3.2
1	D	100	ALA	3.2
1	B	49	GLN	3.2
1	D	224	GLY	3.2
1	C	25	LYS	3.2
1	B	73	ALA	3.2
1	C	53	ALA	3.2
1	B	225	PHE	3.2
1	D	143	PHE	3.2
1	C	46	ASN	3.1
1	C	114	ALA	3.1
1	A	251	ARG	3.1
1	A	48	LYS	3.1
1	A	67	ASN	3.1
1	A	70	LEU	3.1
1	D	127	LEU	3.1
1	A	76	ALA	3.1

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Mol	Chain	Res	Type	RSRZ
1	A	266	ALA	3.1
1	B	132	ALA	3.1
1	C	76	ALA	3.1
1	D	87	LEU	3.1
1	A	100	ALA	3.1
1	A	158	LYS	3.1
1	D	54	LYS	3.1
1	A	118	ASP	3.1
1	B	10	GLU	3.1
1	D	205	HIS	3.1
1	C	67	ASN	3.1
1	A	41	ALA	3.1
1	A	167	GLN	3.1
1	B	23	PHE	3.1
1	B	265	TYR	3.1
1	D	209	TYR	3.1
1	B	218	GLU	3.0
1	B	111	ASP	3.0
1	A	11	HIS	3.0
1	A	257	LEU	3.0
1	B	153	ALA	3.0
1	B	77	PHE	3.0
1	A	5	ILE	3.0
1	B	64	HIS	3.0
1	B	135	LEU	3.0
1	A	21	THR	3.0
1	D	29	ASP	3.0
1	B	47	ALA	3.0
1	D	45	LYS	3.0
1	D	267	LYS	3.0
1	D	221	SER	3.0
1	A	155	LEU	3.0
1	D	196	CYS	3.0
1	A	166	GLN	3.0
1	D	75	LYS	3.0
1	A	146	GLU	3.0
1	C	97	ILE	3.0
1	A	133	VAL	3.0
1	A	164	VAL	3.0
1	D	41	ALA	3.0
1	A	145	ASN	3.0
1	D	218	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
1	D	272	LEU	2.9
1	C	96	TYR	2.9
1	D	193	TYR	2.9
1	D	148	ARG	2.9
1	A	79	GLN	2.9
1	D	271	SER	2.9
1	C	11	HIS	2.9
1	C	63	ALA	2.9
1	C	94	VAL	2.9
1	D	266	ALA	2.9
1	D	121	GLY	2.9
1	A	219	SER	2.9
1	C	214	LYS	2.9
1	D	76	ALA	2.9
1	D	31	ASP	2.9
1	D	59	GLN	2.9
1	A	60	GLU	2.9
1	B	97	ILE	2.9
1	C	5	ILE	2.9
1	B	4	LYS	2.9
1	A	43	ALA	2.9
1	C	153	ALA	2.9
1	A	117	LEU	2.9
1	A	235	GLU	2.8
1	D	51	GLU	2.8
1	D	158	LYS	2.8
1	B	216	VAL	2.8
1	A	63	ALA	2.8
1	B	56	ALA	2.8
1	C	189	TYR	2.8
1	C	138	GLN	2.8
1	D	118	ASP	2.8
1	D	11	HIS	2.8
1	C	16	GLU	2.8
1	D	150	ARG	2.8
1	B	94	VAL	2.8
1	D	40	ALA	2.8
1	B	226	SER	2.8
1	D	94	VAL	2.8
1	D	164	VAL	2.8
1	A	152	ALA	2.8
1	D	183	TYR	2.8

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Mol	Chain	Res	Type	RSRZ
1	B	176	LEU	2.8
1	A	14	LYS	2.8
1	B	264	ASP	2.8
1	A	181	SER	2.8
1	A	221	SER	2.8
1	A	13	ALA	2.8
1	B	61	ALA	2.8
1	D	174	ALA	2.8
1	A	189	TYR	2.8
1	A	204	LEU	2.8
1	D	136	TYR	2.8
1	D	241	TYR	2.8
1	D	268	LEU	2.8
1	A	12	ILE	2.7
1	B	66	ASN	2.7
1	D	16	GLU	2.7
1	A	175	SER	2.7
1	D	216	VAL	2.7
1	C	113	ALA	2.7
1	D	173	ALA	2.7
1	D	273	LYS	2.7
1	A	247	GLU	2.7
1	A	74	ALA	2.7
1	B	15	ALA	2.7
1	B	109	THR	2.7
1	C	54	LYS	2.7
1	D	232	ALA	2.7
1	D	169	PHE	2.7
1	A	129	LEU	2.7
1	A	9	HIS	2.7
1	A	55	ASP	2.7
1	B	31	ASP	2.7
1	B	78	GLU	2.7
1	D	60	GLU	2.7
1	A	248	GLN	2.7
1	B	184	LYS	2.7
1	A	225	PHE	2.7
1	B	275	PRO	2.7
1	C	110	PRO	2.7
1	B	12	ILE	2.7
1	D	146	GLU	2.7
1	A	184	LYS	2.7

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Mol	Chain	Res	Type	RSRZ
1	C	258	VAL	2.7
1	A	153	ALA	2.7
1	C	56	ALA	2.7
1	C	257	LEU	2.7
1	D	84	LEU	2.7
1	D	238	LEU	2.7
1	B	181	SER	2.7
1	C	22	SER	2.7
1	D	89	ARG	2.7
1	A	193	TYR	2.6
1	B	30	TYR	2.6
1	B	187	GLU	2.6
1	D	264	ASP	2.6
1	A	39	LYS	2.6
1	B	45	LYS	2.6
1	D	244	GLN	2.6
1	A	112	THR	2.6
1	A	215	CYS	2.6
1	B	189	TYR	2.6
1	C	20	LYS	2.6
1	C	236	ASP	2.6
1	D	99	LYS	2.6
1	D	58	LEU	2.6
1	A	240	ALA	2.6
1	B	34	ALA	2.6
1	D	198	ALA	2.6
1	B	119	ARG	2.6
1	B	205	HIS	2.6
1	D	30	TYR	2.6
1	D	195	LYS	2.6
1	D	145	ASN	2.6
1	B	102	VAL	2.6
1	B	117	LEU	2.6
1	D	200	VAL	2.6
1	D	217	ARG	2.6
1	C	205	HIS	2.6
1	A	22	SER	2.6
1	A	192	CYS	2.6
1	A	214	LYS	2.6
1	B	62	GLU	2.6
1	C	218	GLU	2.6
1	D	135	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
1	D	252	VAL	2.6
1	C	95	GLN	2.6
1	B	44	PHE	2.6
1	C	148	ARG	2.6
1	A	195	LYS	2.5
1	D	14	LYS	2.5
1	B	253	CYS	2.5
1	B	241	TYR	2.5
1	A	29	ASP	2.5
1	C	91	PRO	2.5
1	D	55	ASP	2.5
1	D	111	ASP	2.5
1	D	65	ALA	2.5
1	A	101	SER	2.5
1	C	136	TYR	2.5
1	C	119	ARG	2.5
1	D	210	VAL	2.5
1	A	138	GLN	2.5
1	B	177	GLN	2.5
1	D	211	ALA	2.5
1	A	99	LYS	2.5
1	B	123	LEU	2.5
1	A	110	PRO	2.5
1	A	202	VAL	2.5
1	A	252	VAL	2.5
1	B	206	ARG	2.5
1	D	202	VAL	2.5
1	A	44	PHE	2.5
1	B	72	HIS	2.5
1	C	93	ALA	2.5
1	C	60	GLU	2.5
1	A	201	LEU	2.5
1	A	268	LEU	2.5
1	C	117	LEU	2.5
1	C	272	LEU	2.5
1	D	32	SER	2.5
1	B	67	ASN	2.5
1	B	122	LYS	2.5
1	A	121	GLY	2.5
1	A	162	LEU	2.4
1	B	32	SER	2.4
1	D	258	VAL	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	47	ALA	2.4
1	C	141	ALA	2.4
1	A	125	GLU	2.4
1	B	146	GLU	2.4
1	A	149	LEU	2.4
1	A	25	LYS	2.4
1	C	216	VAL	2.4
1	C	252	VAL	2.4
1	B	11	HIS	2.4
1	A	196	CYS	2.4
1	B	18	TYR	2.4
1	D	116	ALA	2.4
1	D	152	ALA	2.4
1	B	156	ILE	2.4
1	B	170	ASP	2.4
1	A	54	LYS	2.4
1	B	178	LYS	2.4
1	D	269	ALA	2.4
1	C	31	ASP	2.4
1	A	98	GLU	2.4
1	B	58	LEU	2.4
1	C	7	GLU	2.4
1	B	254	ARG	2.4
1	C	217	ARG	2.4
1	D	85	LYS	2.4
1	B	199	GLN	2.4
1	C	142	VAL	2.4
1	D	134	HIS	2.4
1	D	151	GLN	2.4
1	C	69	SER	2.4
1	B	240	ALA	2.4
1	C	121	GLY	2.4
1	C	265	TYR	2.4
1	A	78	GLU	2.3
1	A	84	LEU	2.3
1	C	127	LEU	2.3
1	D	106	GLU	2.3
1	D	190	PRO	2.3
1	C	169	PHE	2.3
1	D	95	GLN	2.3
1	A	139	ALA	2.3
1	B	100	ALA	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	114	ALA	2.3
1	D	101	SER	2.3
1	D	153	ALA	2.3
1	D	270	ILE	2.3
1	B	263	ASN	2.3
1	C	238	LEU	2.3
1	D	249	LEU	2.3
1	A	16	GLU	2.3
1	D	154	GLU	2.3
1	C	75	LYS	2.3
1	B	256	PRO	2.3
1	B	59	GLN	2.3
1	B	248	GLN	2.3
1	C	271	SER	2.3
1	A	163	LEU	2.3
1	A	111	ASP	2.3
1	A	262	ASP	2.3
1	A	263	ASN	2.3
1	D	188	ASN	2.3
1	A	180	LYS	2.3
1	D	92	GLU	2.3
1	B	71	PHE	2.3
1	B	143	PHE	2.3
1	D	137	GLN	2.3
1	D	225	PHE	2.3
1	A	120	ALA	2.3
1	A	237	LEU	2.3
1	A	45	LYS	2.3
1	A	75	LYS	2.3
1	A	242	ASP	2.3
1	B	98	GLU	2.3
1	C	146	GLU	2.3
1	D	191	THR	2.3
1	D	138	GLN	2.3
1	C	65	ALA	2.3
1	C	87	LEU	2.3
1	D	119	ARG	2.2
1	A	179	GLU	2.2
1	B	185	GLU	2.2
1	C	241	TYR	2.2
1	D	125	GLU	2.2
1	A	188	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	9	HIS	2.2
1	C	248	GLN	2.2
1	A	250	LEU	2.2
1	D	204	LEU	2.2
1	D	144	GLU	2.2
1	B	118	ASP	2.2
1	C	72	HIS	2.2
1	A	239	GLN	2.2
1	B	202	VAL	2.2
1	C	213	GLN	2.2
1	C	74	ALA	2.2
1	D	108	GLY	2.2
1	B	7	GLU	2.2
1	D	187	GLU	2.2
1	A	260	TYR	2.2
1	D	253	CYS	2.2
1	C	48	LYS	2.2
1	A	226	SER	2.2
1	D	62	GLU	2.2
1	D	229	GLU	2.2
1	B	145	ASN	2.2
1	C	270	ILE	2.2
1	A	17	LYS	2.2
1	B	48	LYS	2.2
1	C	204	LEU	2.2
1	C	68	ARG	2.2
1	A	109	THR	2.1
1	A	142	VAL	2.1
1	B	200	VAL	2.1
1	D	17	LYS	2.1
1	C	84	LEU	2.1
1	B	38	ALA	2.1
1	C	159	ALA	2.1
1	A	165	ARG	2.1
1	B	136	TYR	2.1
1	D	197	ILE	2.1
1	C	135	LEU	2.1
1	C	266	ALA	2.1
1	D	120	ALA	2.1
1	A	81	GLY	2.1
1	A	253	CYS	2.1
1	A	126	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	223	PRO	2.1
1	D	7	GLU	2.1
1	A	27	LYS	2.1
1	A	122	LYS	2.1
1	A	178	LYS	2.1
1	C	219	SER	2.1
1	D	168	LYS	2.1
1	A	49	GLN	2.1
1	B	163	LEU	2.1
1	C	201	LEU	2.1
1	C	100	ALA	2.1
1	B	215	CYS	2.1
1	A	205	HIS	2.1
1	B	99	LYS	2.1
1	B	101	SER	2.1
1	A	137	GLN	2.1
1	B	203	GLN	2.1
1	D	133	VAL	2.1
1	D	257	LEU	2.1
1	A	245	ASP	2.1
1	D	68	ARG	2.1
1	A	159	ALA	2.1
1	C	174	ALA	2.1
1	C	269	ALA	2.1
1	D	207	ALA	2.1
1	B	60	GLU	2.0
1	B	270	ILE	2.0
1	D	260	TYR	2.0
1	A	212	ALA	2.0
1	B	173	ALA	2.0
1	D	140	ALA	2.0
1	B	190	PRO	2.0
1	C	78	GLU	2.0
1	A	222	ILE	2.0
1	B	19	LEU	2.0
1	D	160	SER	2.0
1	B	33	ALA	2.0
1	B	96	TYR	2.0

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 (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, 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	SO4	D	306	5/5	0.38	0.22	159,159,159,159	0
2	SO4	B	309	5/5	0.55	0.17	123,123,123,123	0
2	SO4	C	307	5/5	0.59	0.17	139,139,140,140	0
2	SO4	A	308	5/5	0.74	0.15	113,114,115,116	0
2	SO4	C	306	5/5	0.74	0.14	125,125,126,127	0
2	SO4	B	307	5/5	0.78	0.13	96,100,101,102	0
2	SO4	B	306	5/5	0.79	0.14	120,121,121,121	0
2	SO4	A	306	5/5	0.81	0.12	72,74,76,77	0
2	SO4	B	308	5/5	0.83	0.23	67,73,77,79	0
2	SO4	A	307	5/5	0.88	0.13	73,79,80,81	0

6.5 Other polymers (i)

There are no such residues in this entry.