



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 07:26 AM UTC

PDB ID : 6JCM / pdb_00006jcm
Title : Crystal structure of ligand-free Rv0187.
Authors : Kim, J.; Lee, S.
Deposited on : 2019-01-29
Resolution : 2.08 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

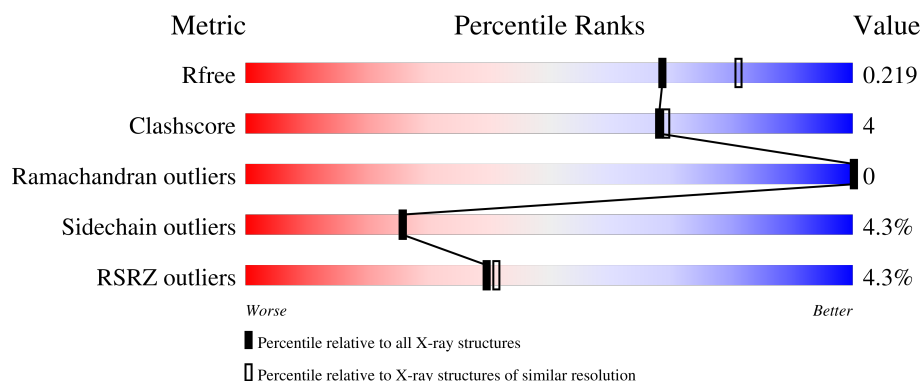
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.08 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	8172 (2.10-2.06)
Clashscore	190562	8714 (2.10-2.06)
Ramachandran outliers	187476	8641 (2.10-2.06)
Sidechain outliers	187428	8642 (2.10-2.06)
RSRZ outliers	180081	8177 (2.10-2.06)

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	248	
1	B	248	
1	C	248	
1	D	248	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 6398 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 Probable O-methyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	215	Total	C	N	O	S	0	0	0
			1577	994	287	293	3			
1	B	215	Total	C	N	O	S	0	0	0
			1570	990	284	293	3			
1	C	215	Total	C	N	O	S	0	0	0
			1559	985	283	288	3			
1	D	215	Total	C	N	O	S	0	0	0
			1570	991	287	289	3			

There are 120 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-27	MET	-	initiating methionine	UNP O07431
A	-26	ALA	-	expression tag	UNP O07431
A	-25	GLY	-	expression tag	UNP O07431
A	-24	SER	-	expression tag	UNP O07431
A	-23	HIS	-	expression tag	UNP O07431
A	-22	HIS	-	expression tag	UNP O07431
A	-21	HIS	-	expression tag	UNP O07431
A	-20	HIS	-	expression tag	UNP O07431
A	-19	HIS	-	expression tag	UNP O07431
A	-18	HIS	-	expression tag	UNP O07431
A	-17	GLY	-	expression tag	UNP O07431
A	-16	MET	-	expression tag	UNP O07431
A	-15	ALA	-	expression tag	UNP O07431
A	-14	SER	-	expression tag	UNP O07431
A	-13	MET	-	expression tag	UNP O07431
A	-12	THR	-	expression tag	UNP O07431
A	-11	GLY	-	expression tag	UNP O07431
A	-10	GLY	-	expression tag	UNP O07431
A	-9	GLN	-	expression tag	UNP O07431
A	-8	GLN	-	expression tag	UNP O07431
A	-7	MET	-	expression tag	UNP O07431

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	GLY	-	expression tag	UNP O07431
A	-5	ARG	-	expression tag	UNP O07431
A	-4	SER	-	expression tag	UNP O07431
A	-3	GLY	-	expression tag	UNP O07431
A	-2	ASP	-	expression tag	UNP O07431
A	-1	ASP	-	expression tag	UNP O07431
A	0	ASP	-	expression tag	UNP O07431
A	1	ASP	-	expression tag	UNP O07431
A	2	LYS	-	expression tag	UNP O07431
B	-27	MET	-	initiating methionine	UNP O07431
B	-26	ALA	-	expression tag	UNP O07431
B	-25	GLY	-	expression tag	UNP O07431
B	-24	SER	-	expression tag	UNP O07431
B	-23	HIS	-	expression tag	UNP O07431
B	-22	HIS	-	expression tag	UNP O07431
B	-21	HIS	-	expression tag	UNP O07431
B	-20	HIS	-	expression tag	UNP O07431
B	-19	HIS	-	expression tag	UNP O07431
B	-18	HIS	-	expression tag	UNP O07431
B	-17	GLY	-	expression tag	UNP O07431
B	-16	MET	-	expression tag	UNP O07431
B	-15	ALA	-	expression tag	UNP O07431
B	-14	SER	-	expression tag	UNP O07431
B	-13	MET	-	expression tag	UNP O07431
B	-12	THR	-	expression tag	UNP O07431
B	-11	GLY	-	expression tag	UNP O07431
B	-10	GLY	-	expression tag	UNP O07431
B	-9	GLN	-	expression tag	UNP O07431
B	-8	GLN	-	expression tag	UNP O07431
B	-7	MET	-	expression tag	UNP O07431
B	-6	GLY	-	expression tag	UNP O07431
B	-5	ARG	-	expression tag	UNP O07431
B	-4	SER	-	expression tag	UNP O07431
B	-3	GLY	-	expression tag	UNP O07431
B	-2	ASP	-	expression tag	UNP O07431
B	-1	ASP	-	expression tag	UNP O07431
B	0	ASP	-	expression tag	UNP O07431
B	1	ASP	-	expression tag	UNP O07431
B	2	LYS	-	expression tag	UNP O07431
C	-27	MET	-	initiating methionine	UNP O07431
C	-26	ALA	-	expression tag	UNP O07431
C	-25	GLY	-	expression tag	UNP O07431

Continued on next page...

Continued from previous page...

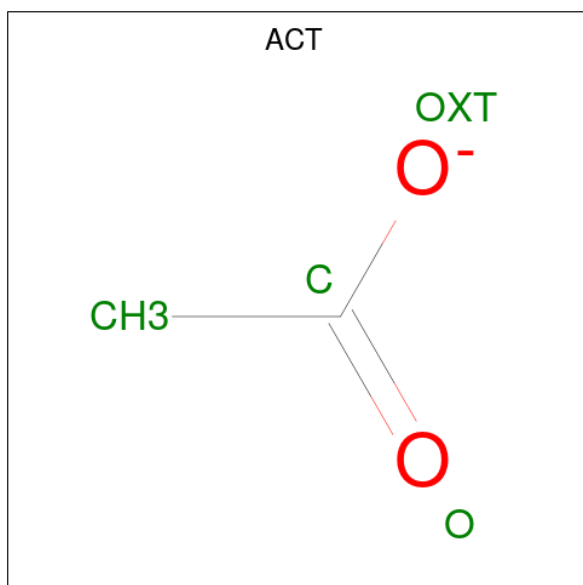
Chain	Residue	Modelled	Actual	Comment	Reference
C	-24	SER	-	expression tag	UNP O07431
C	-23	HIS	-	expression tag	UNP O07431
C	-22	HIS	-	expression tag	UNP O07431
C	-21	HIS	-	expression tag	UNP O07431
C	-20	HIS	-	expression tag	UNP O07431
C	-19	HIS	-	expression tag	UNP O07431
C	-18	HIS	-	expression tag	UNP O07431
C	-17	GLY	-	expression tag	UNP O07431
C	-16	MET	-	expression tag	UNP O07431
C	-15	ALA	-	expression tag	UNP O07431
C	-14	SER	-	expression tag	UNP O07431
C	-13	MET	-	expression tag	UNP O07431
C	-12	THR	-	expression tag	UNP O07431
C	-11	GLY	-	expression tag	UNP O07431
C	-10	GLY	-	expression tag	UNP O07431
C	-9	GLN	-	expression tag	UNP O07431
C	-8	GLN	-	expression tag	UNP O07431
C	-7	MET	-	expression tag	UNP O07431
C	-6	GLY	-	expression tag	UNP O07431
C	-5	ARG	-	expression tag	UNP O07431
C	-4	SER	-	expression tag	UNP O07431
C	-3	GLY	-	expression tag	UNP O07431
C	-2	ASP	-	expression tag	UNP O07431
C	-1	ASP	-	expression tag	UNP O07431
C	0	ASP	-	expression tag	UNP O07431
C	1	ASP	-	expression tag	UNP O07431
C	2	LYS	-	expression tag	UNP O07431
D	-27	MET	-	initiating methionine	UNP O07431
D	-26	ALA	-	expression tag	UNP O07431
D	-25	GLY	-	expression tag	UNP O07431
D	-24	SER	-	expression tag	UNP O07431
D	-23	HIS	-	expression tag	UNP O07431
D	-22	HIS	-	expression tag	UNP O07431
D	-21	HIS	-	expression tag	UNP O07431
D	-20	HIS	-	expression tag	UNP O07431
D	-19	HIS	-	expression tag	UNP O07431
D	-18	HIS	-	expression tag	UNP O07431
D	-17	GLY	-	expression tag	UNP O07431
D	-16	MET	-	expression tag	UNP O07431
D	-15	ALA	-	expression tag	UNP O07431
D	-14	SER	-	expression tag	UNP O07431
D	-13	MET	-	expression tag	UNP O07431

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
D	-12	THR	-	expression tag	UNP O07431
D	-11	GLY	-	expression tag	UNP O07431
D	-10	GLY	-	expression tag	UNP O07431
D	-9	GLN	-	expression tag	UNP O07431
D	-8	GLN	-	expression tag	UNP O07431
D	-7	MET	-	expression tag	UNP O07431
D	-6	GLY	-	expression tag	UNP O07431
D	-5	ARG	-	expression tag	UNP O07431
D	-4	SER	-	expression tag	UNP O07431
D	-3	GLY	-	expression tag	UNP O07431
D	-2	ASP	-	expression tag	UNP O07431
D	-1	ASP	-	expression tag	UNP O07431
D	0	ASP	-	expression tag	UNP O07431
D	1	ASP	-	expression tag	UNP O07431
D	2	LYS	-	expression tag	UNP O07431

- Molecule 2 is ACETATE ION (CCD ID: ACT) (formula: $C_2H_3O_2$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			4	2	2		
2	B	1	Total	C	O	0	0
			4	2	2		
2	C	1	Total	C	O	0	0
			4	2	2		
2	D	1	Total	C	O	0	0
			4	2	2		

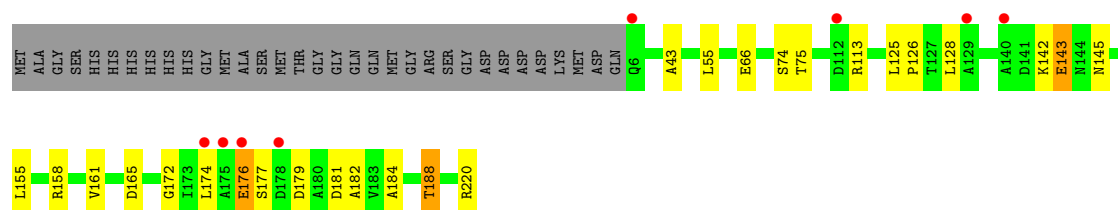
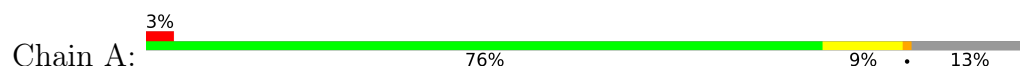
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	26	Total 26	O 26	0	0
3	B	24	Total 24	O 24	0	0
3	C	25	Total 25	O 25	0	0
3	D	31	Total 31	O 31	0	0

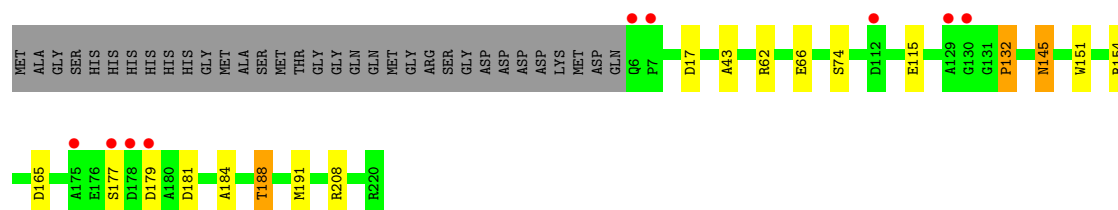
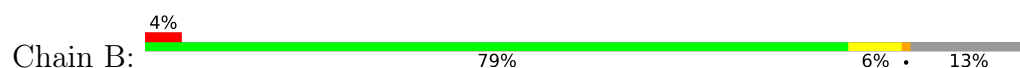
3 Residue-property plots [i](#)

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.

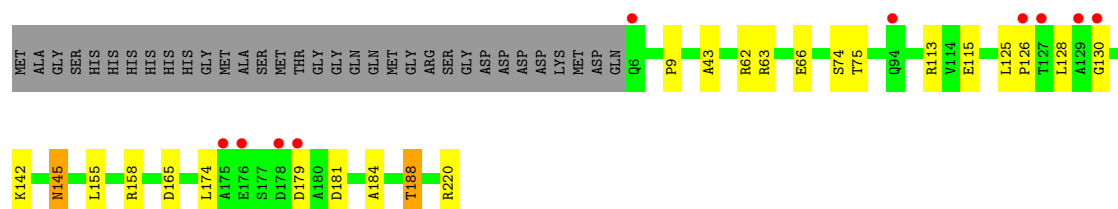
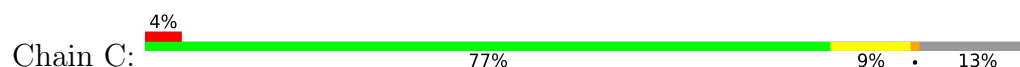
- Molecule 1: Probable O-methyltransferase



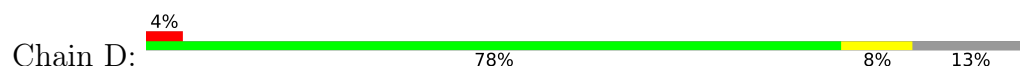
- Molecule 1: Probable O-methyltransferase

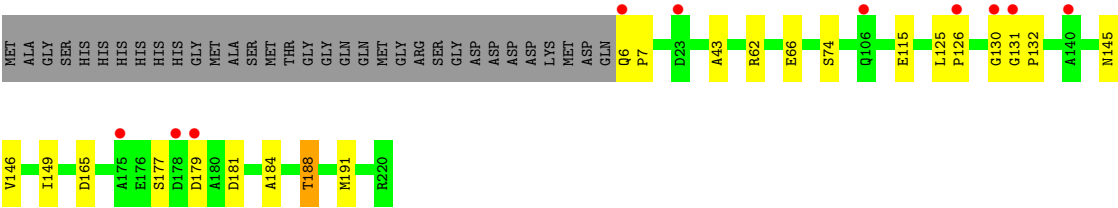


- Molecule 1: Probable O-methyltransferase



- Molecule 1: Probable O-methyltransferase





4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	81.33Å 94.26Å 125.68Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.24 – 2.08 29.24 – 2.08	Depositor EDS
% Data completeness (in resolution range)	98.6 (29.24-2.08) 98.6 (29.24-2.08)	Depositor EDS
R_{merge}	0.24	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.38 (at 2.08Å)	Xtrriage
Refinement program	REFMAC 5.8.0238	Depositor
R, R_{free}	0.203 , 0.231 (Not available) , 0.219	Depositor DCC
R_{free} test set	2966 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å ²)	25.2	Xtrriage
Anisotropy	0.052	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.39 , 35.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	6398	wwPDB-VP
Average B, all atoms (Å ²)	29.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 35.24 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 6.0194e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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: ACT

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	1.07	0/1603	1.35	1/2187 (0.0%)
1	B	1.10	1/1596 (0.1%)	1.34	1/2179 (0.0%)
1	C	1.08	0/1585	1.35	2/2165 (0.1%)
1	D	1.09	0/1596	1.36	1/2178 (0.0%)
All	All	1.09	1/6380 (0.0%)	1.35	5/8709 (0.1%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	132	PRO	C-O	-5.90	1.17	1.23

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	176	GLU	CA-C-O	-5.35	113.16	119.48
1	B	62	ARG	N-CA-C	-5.23	107.45	113.88
1	D	62	ARG	N-CA-C	-5.16	107.54	113.88
1	C	62	ARG	N-CA-C	-5.13	107.68	114.04
1	C	9	PRO	N-CA-C	5.01	116.81	110.70

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	1577	0	1588	13	0
1	B	1570	0	1575	10	0
1	C	1559	0	1563	11	0
1	D	1570	0	1582	12	0
2	A	4	0	3	0	0
2	B	4	0	3	0	0
2	C	4	0	3	0	0
2	D	4	0	3	0	0
3	A	26	0	0	0	0
3	B	24	0	0	0	0
3	C	25	0	0	0	0
3	D	31	0	0	0	0
All	All	6398	0	6320	45	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.

All (45) 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:B:132:PRO:HG2	1:D:132:PRO:HG3	1.66	0.77
1:A:172:GLY:O	1:A:176:GLU:HB3	1.97	0.64
1:D:146:VAL:HA	1:D:191:MET:HE2	1.79	0.62
1:D:6:GLN:CB	1:D:7:PRO:HD3	2.29	0.62
1:D:179:ASP:OD1	1:D:181:ASP:HB3	2.03	0.58
1:C:63:ARG:HD2	1:C:130:GLY:O	2.05	0.56
1:B:151:TRP:CZ3	1:B:154:ARG:HD2	2.42	0.55
1:C:179:ASP:OD1	1:C:181:ASP:HB3	2.08	0.54
1:B:151:TRP:CE3	1:B:154:ARG:HD2	2.44	0.53
1:B:179:ASP:OD1	1:B:181:ASP:HB3	2.09	0.53
1:B:66:GLU:OE2	1:B:74:SER:OG	2.28	0.50
1:D:66:GLU:OE2	1:D:74:SER:OG	2.26	0.50
1:D:43:ALA:HB1	1:D:165:ASP:OD2	2.12	0.50
1:D:130:GLY:O	1:D:131:GLY:O	2.30	0.49
1:B:184:ALA:O	1:B:188:THR:CG2	2.61	0.49
1:A:143:GLU:CD	1:A:143:GLU:H	2.20	0.49
1:C:184:ALA:O	1:C:188:THR:CG2	2.60	0.49
1:C:66:GLU:OE2	1:C:74:SER:OG	2.26	0.49
1:A:172:GLY:O	1:A:176:GLU:CB	2.59	0.48
1:A:179:ASP:OD1	1:A:181:ASP:HB2	2.13	0.48
1:C:66:GLU:OE1	1:C:75:THR:OG1	2.23	0.48
1:A:66:GLU:OE2	1:A:74:SER:OG	2.26	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:158:ARG:HG3	1:A:220:ARG:O	2.14	0.48
1:A:176:GLU:HB2	1:A:182:ALA:CB	2.43	0.48
1:D:184:ALA:O	1:D:188:THR:CG2	2.62	0.47
1:A:184:ALA:O	1:A:188:THR:CG2	2.62	0.47
1:A:43:ALA:HB1	1:A:165:ASP:OD2	2.15	0.46
1:D:149:ILE:HB	1:D:191:MET:HE1	1.97	0.46
1:C:43:ALA:HB1	1:C:165:ASP:OD2	2.15	0.46
1:D:146:VAL:HA	1:D:191:MET:CE	2.43	0.46
1:B:43:ALA:HB1	1:B:165:ASP:OD2	2.15	0.46
1:B:145:ASN:HD22	1:B:145:ASN:HA	1.61	0.44
1:C:184:ALA:O	1:C:188:THR:HG23	2.18	0.43
1:B:184:ALA:O	1:B:188:THR:HG23	2.19	0.43
1:D:184:ALA:O	1:D:188:THR:HG23	2.19	0.42
1:A:66:GLU:OE1	1:A:75:THR:OG1	2.23	0.42
1:B:17:ASP:OD2	1:B:208:ARG:NH2	2.52	0.42
1:A:55:LEU:HD21	1:A:161:VAL:HG11	2.02	0.42
1:C:184:ALA:O	1:C:188:THR:HG22	2.20	0.42
1:C:125:LEU:N	1:C:126:PRO:HD2	2.36	0.41
1:C:145:ASN:HD22	1:C:145:ASN:HA	1.63	0.41
1:C:158:ARG:HG3	1:C:220:ARG:O	2.20	0.41
1:A:184:ALA:O	1:A:188:THR:HG23	2.20	0.40
1:D:125:LEU:N	1:D:126:PRO:HD2	2.36	0.40
1:A:125:LEU:N	1:A:126:PRO:HD2	2.37	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	D	69/248 (28%)	66 (96%)	3 (4%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	154/182 (85%)	145 (94%)	9 (6%)	18	15
1	B	153/182 (84%)	148 (97%)	5 (3%)	33	35
1	C	150/182 (82%)	142 (95%)	8 (5%)	20	18
1	D	152/182 (84%)	148 (97%)	4 (3%)	40	45
All	All	609/728 (84%)	583 (96%)	26 (4%)	26	26

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	113	ARG
1	A	128	LEU
1	A	142	LYS
1	A	143	GLU
1	A	145	ASN
1	A	155	LEU
1	A	174	LEU
1	A	177	SER
1	A	188	THR
1	B	115	GLU
1	B	145	ASN
1	B	177	SER
1	B	188	THR
1	B	191	MET
1	C	113	ARG
1	C	115	GLU
1	C	128	LEU
1	C	142	LYS
1	C	145	ASN
1	C	155	LEU
1	C	174	LEU
1	C	188	THR
1	D	115	GLU
1	D	145	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	177	SER
1	D	188	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

4 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	ACT	A	301	-	3,3,3	0.88	0	3,3,3	0.72	0
2	ACT	D	301	-	3,3,3	0.96	0	3,3,3	0.99	0
2	ACT	B	301	-	3,3,3	1.09	0	3,3,3	0.92	0
2	ACT	C	301	-	3,3,3	1.35	0	3,3,3	0.60	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	215/248 (86%)	0.20	8 (3%) 45 47	16, 27, 46, 69	0
1	B	215/248 (86%)	0.23	9 (4%) 40 42	16, 26, 44, 79	0
1	C	215/248 (86%)	0.36	10 (4%) 36 38	16, 28, 48, 75	0
1	D	215/248 (86%)	0.23	10 (4%) 36 38	16, 26, 48, 72	0
All	All	860/992 (86%)	0.25	37 (4%) 40 41	16, 27, 47, 79	0

All (37) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	178	ASP	4.7
1	C	178	ASP	4.5
1	D	175	ALA	4.5
1	C	175	ALA	4.1
1	D	178	ASP	3.7
1	D	6	GLN	3.5
1	C	176	GLU	3.2
1	C	130	GLY	3.1
1	A	176	GLU	3.1
1	B	130	GLY	3.1
1	B	112	ASP	3.1
1	B	178	ASP	3.0
1	D	130	GLY	2.9
1	B	129	ALA	2.8
1	D	131	GLY	2.8
1	B	177	SER	2.7
1	D	140	ALA	2.7
1	C	126	PRO	2.6
1	C	127	THR	2.5
1	A	175	ALA	2.5
1	B	6	GLN	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	179	ASP	2.4
1	A	6	GLN	2.4
1	D	23	ASP	2.4
1	B	175	ALA	2.3
1	B	179	ASP	2.3
1	D	179	ASP	2.2
1	D	126	PRO	2.2
1	A	112	ASP	2.2
1	C	129	ALA	2.2
1	B	7	PRO	2.1
1	D	106	GLN	2.1
1	A	129	ALA	2.1
1	C	6	GLN	2.0
1	A	140	ALA	2.0
1	A	174	LEU	2.0
1	C	94	GLN	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	ACT	D	301	4/4	0.89	0.11	24,30,32,34	0
2	ACT	B	301	4/4	0.92	0.08	28,31,31,32	0
2	ACT	A	301	4/4	0.95	0.10	25,26,26,26	0
2	ACT	C	301	4/4	0.96	0.09	28,28,30,31	0

6.5 Other polymers [i](#)

There are no such residues in this entry.