



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 18, 2024 – 03:21 PM EST

PDB ID : 3TAG
Title : 5-fluorocytosine paired with dAMP in RB69 gp43
Authors : Zahn, K.E.
Deposited on : 2011-08-04
Resolution : 2.95 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 : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (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

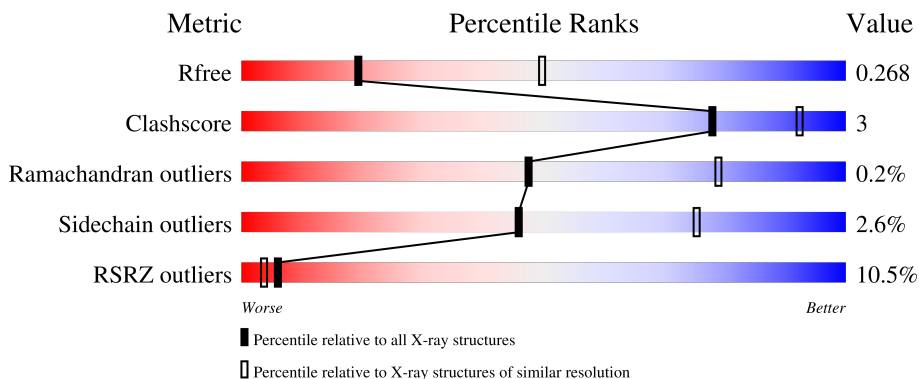
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.95 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3104 (3.00-2.92)
Clashscore	141614	3462 (3.00-2.92)
Ramachandran outliers	138981	3340 (3.00-2.92)
Sidechain outliers	138945	3343 (3.00-2.92)
RSRZ outliers	127900	2986 (3.00-2.92)

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	906	 4% 90% 9%
1	B	906	 13% 90% 9%
1	C	906	 3% 90% 9%
1	D	906	 20% 92% 7%
2	E	18	 11% 61% 33% 6%

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Mol	Chain	Length	Quality of chain
2	G	18	<p>11% 50% 39% 6% 6%</p>
2	I	18	<p>67% 22% 6% 6%</p>
2	K	18	<p>50% 83% 17%</p>
3	F	15	<p>7% 67% 27% 7%</p>
3	H	15	<p>27% 87% 13%</p>
3	J	15	<p>73% 27%</p>
3	L	15	<p>53% 33% 33% 7% 27%</p>

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 31904 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 DNA-directed DNA polymerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	906	Total 7404	C 4755	N 1235	O 1381	S 33	0	0	0
1	B	901	Total 7355	C 4724	N 1224	O 1374	S 33	0	0	0
1	C	903	Total 7374	C 4737	N 1226	O 1378	S 33	0	0	0
1	D	898	Total 7328	C 4706	N 1221	O 1369	S 32	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	222	ALA	ASP	engineered mutation	UNP Q38087
A	327	ALA	ASP	engineered mutation	UNP Q38087
A	904	HIS	-	expression tag	UNP Q38087
A	905	HIS	-	expression tag	UNP Q38087
A	906	HIS	-	expression tag	UNP Q38087
B	222	ALA	ASP	engineered mutation	UNP Q38087
B	327	ALA	ASP	engineered mutation	UNP Q38087
B	904	HIS	-	expression tag	UNP Q38087
B	905	HIS	-	expression tag	UNP Q38087
B	906	HIS	-	expression tag	UNP Q38087
C	222	ALA	ASP	engineered mutation	UNP Q38087
C	327	ALA	ASP	engineered mutation	UNP Q38087
C	904	HIS	-	expression tag	UNP Q38087
C	905	HIS	-	expression tag	UNP Q38087
C	906	HIS	-	expression tag	UNP Q38087
D	222	ALA	ASP	engineered mutation	UNP Q38087
D	327	ALA	ASP	engineered mutation	UNP Q38087
D	904	HIS	-	expression tag	UNP Q38087
D	905	HIS	-	expression tag	UNP Q38087
D	906	HIS	-	expression tag	UNP Q38087

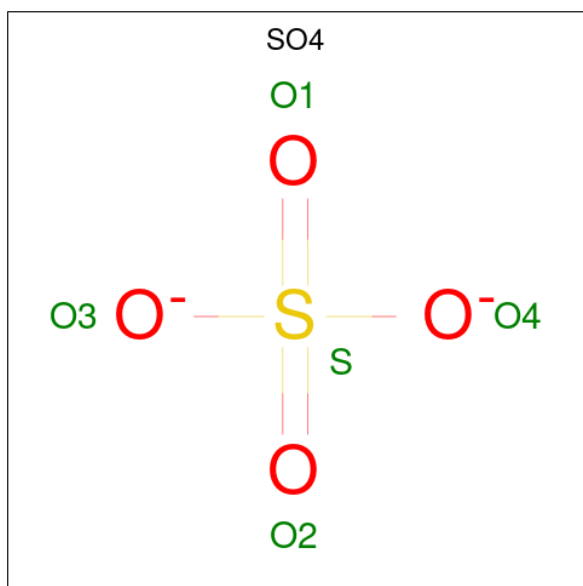
- Molecule 2 is a DNA chain called DNA (5'-D(*CP*CP*(C37)P*GP*GP*TP*AP*TP*GP*AP*CP*AP*GP*CP*CP*GP*CP*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	F	N	O				P
2	E	18	Total 366	C 173	F 1	N 70	O 105	P 17	0	0	0
2	I	17	Total 350	C 164	F 1	N 67	O 101	P 17	0	0	0
2	G	17	Total 313	C 145	N 59	O 93	P 16		0	0	1
2	K	15	Total 271	C 125	N 52	O 80	P 14		0	0	1

- Molecule 3 is a DNA chain called DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*AP*CP*CP*A)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
3	F	15	Total 286	C 135	N 51	O 86	P 14	0	0	0
3	J	15	Total 303	C 145	N 56	O 88	P 14	0	0	0
3	H	13	Total 263	C 126	N 48	O 77	P 12	0	0	0
3	L	11	Total 223	C 107	N 40	O 66	P 10	0	0	0

- Molecule 4 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



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

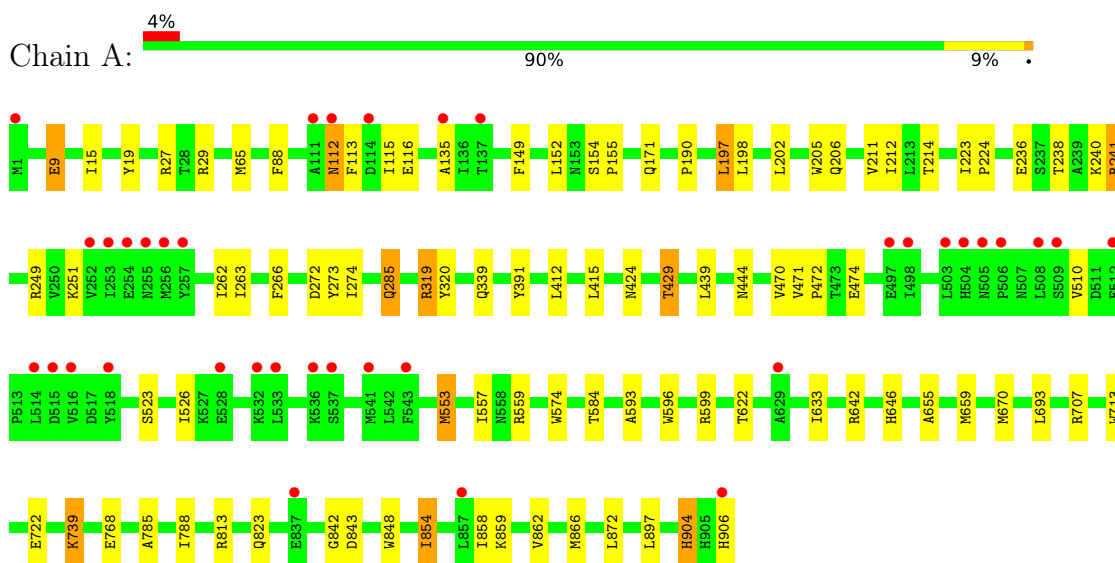
- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	15	Total	O	0	0
			15	15		
5	B	4	Total	O	0	0
			4	4		
5	C	15	Total	O	0	0
			15	15		
5	D	2	Total	O	0	0
			2	2		
5	E	2	Total	O	0	0
			2	2		
5	F	1	Total	O	0	0
			1	1		
5	I	8	Total	O	0	0
			8	8		
5	J	6	Total	O	0	0
			6	6		
5	G	5	Total	O	0	0
			5	5		
5	H	5	Total	O	0	0
			5	5		

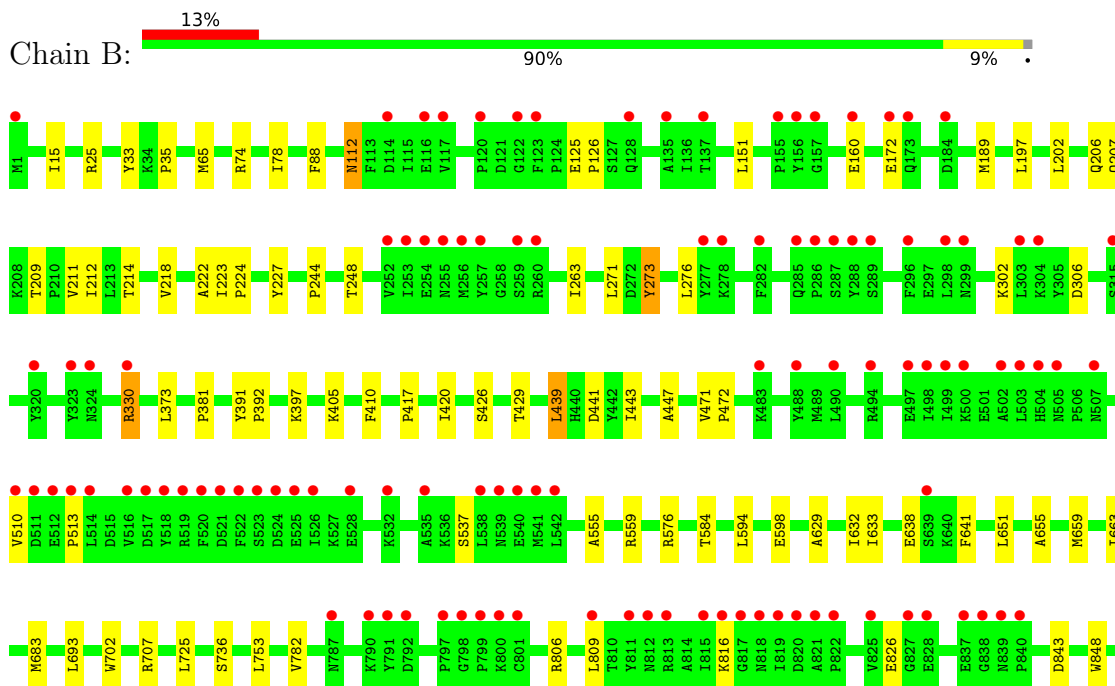
3 Residue-property plots i

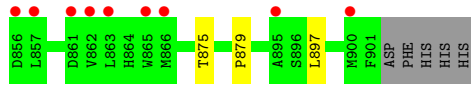
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: DNA-directed DNA polymerase

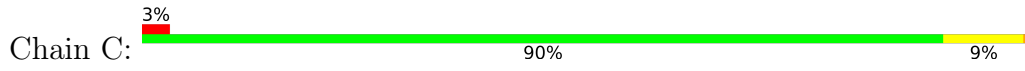


- Molecule 1: DNA-directed DNA polymerase

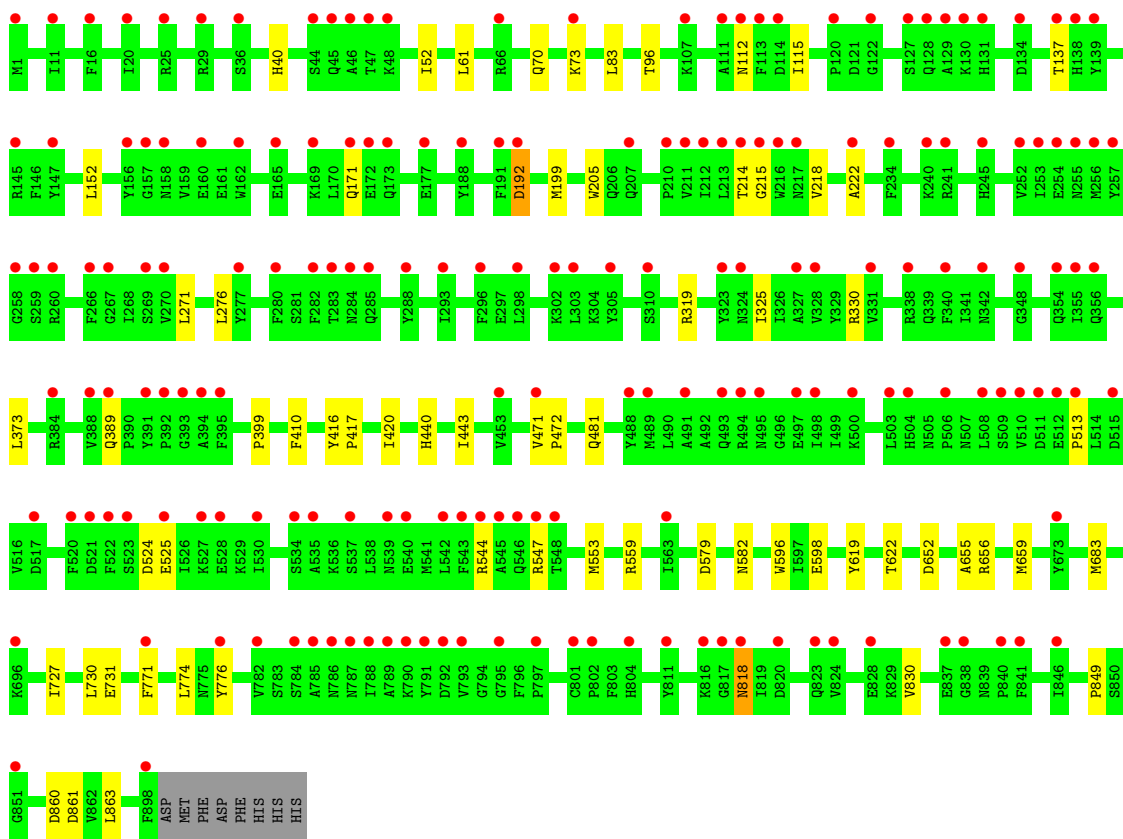
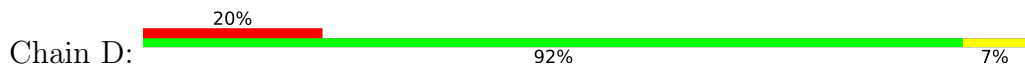




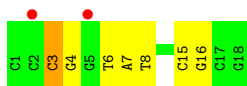
● Molecule 1: DNA-directed DNA polymerase



● Molecule 1: DNA-directed DNA polymerase



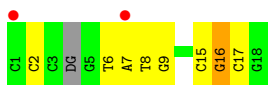
- Molecule 2: DNA (5'-D(*CP*CP*(C37)P*GP*GP*TP*AP*TP*GP*AP*CP*AP*GP*CP*CP*GP*CP*G)-3')



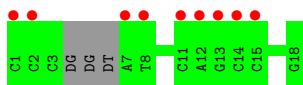
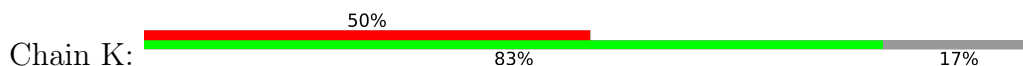
- Molecule 2: DNA (5'-D(*CP*CP*(C37)P*GP*GP*TP*AP*TP*GP*AP*CP*AP*GP*CP*CP*GP*CP*G)-3')



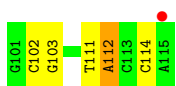
- Molecule 2: DNA (5'-D(*CP*CP*(C37)P*GP*GP*TP*AP*TP*GP*AP*CP*AP*GP*CP*CP*GP*CP*G)-3')



- Molecule 2: DNA (5'-D(*CP*CP*(C37)P*GP*GP*TP*AP*TP*GP*AP*CP*AP*GP*CP*CP*GP*CP*G)-3')



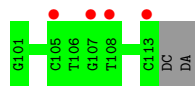
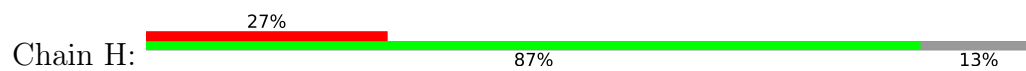
- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*AP*CP*CP*A)-3')



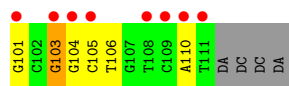
- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*AP*CP*CP*A)-3')



- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*AP*CP*CP*A)-3')



- Molecule 3: DNA (5'-D(*GP*CP*GP*GP*CP*TP*GP*TP*CP*AP*TP*AP*CP*CP*A)-3')



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	132.77Å 123.03Å 165.18Å 90.00° 96.39° 90.00°	Depositor
Resolution (Å)	29.95 – 2.95 29.95 – 2.95	Depositor EDS
% Data completeness (in resolution range)	99.8 (29.95-2.95) 100.0 (29.95-2.95)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.46 (at 2.95Å)	Xtrriage
Refinement program	REFMAC 5.6.0116, CNS	Depositor
R, R_{free}	0.239 , 0.284 0.224 , 0.268	Depositor DCC
R_{free} test set	10754 reflections (9.67%)	wwPDB-VP
Wilson B-factor (Å ²)	73.8	Xtrriage
Anisotropy	0.274	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 46.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	31904	wwPDB-VP
Average B, all atoms (Å ²)	97.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.74% 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 i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: C37, 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	0.41	4/7588 (0.1%)	0.48	0/10254
1	B	0.40	2/7535 (0.0%)	0.46	0/10182
1	C	0.40	0/7555	0.48	0/10209
1	D	0.41	2/7507 (0.0%)	0.45	0/10145
2	E	0.20	0/387	0.78	0/593
2	G	0.22	0/345	0.78	1/529 (0.2%)
2	I	0.26	0/369	0.75	0/565
2	K	0.19	0/298	0.71	0/456
3	F	0.23	0/319	0.80	1/491 (0.2%)
3	H	0.22	0/294	0.75	0/452
3	J	0.25	0/339	0.80	1/521 (0.2%)
3	L	0.22	0/249	0.94	3/383 (0.8%)
All	All	0.39	8/32785 (0.0%)	0.51	6/44780 (0.0%)

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	574	TRP	CD2-CE2	5.16	1.47	1.41
1	A	205	TRP	CD2-CE2	5.13	1.47	1.41
1	A	848	TRP	CD2-CE2	5.10	1.47	1.41
1	B	848	TRP	CD2-CE2	5.07	1.47	1.41
1	B	702	TRP	CD2-CE2	5.03	1.47	1.41
1	D	205	TRP	CD2-CE2	5.03	1.47	1.41
1	A	713	TRP	CD2-CE2	5.01	1.47	1.41
1	D	596	TRP	CD2-CE2	5.00	1.47	1.41

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	103	DG	P-O3'-C3'	8.12	129.44	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	101	DG	P-O3'-C3'	6.69	127.73	119.70
2	G	16	DG	P-O3'-C3'	6.39	127.37	119.70
3	L	110	DA	P-O3'-C3'	6.02	126.93	119.70
3	F	112	DA	P-O3'-C3'	5.17	125.90	119.70
3	J	101	DG	P-O3'-C3'	5.08	125.80	119.70

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	7404	0	7288	48	0
1	B	7355	0	7254	43	0
1	C	7374	0	7267	39	0
1	D	7328	0	7232	29	0
2	E	366	0	201	6	0
2	G	313	0	168	7	0
2	I	350	0	189	7	0
2	K	271	0	145	0	0
3	F	286	0	158	3	0
3	H	263	0	148	0	0
3	J	303	0	170	3	0
3	L	223	0	126	2	0
4	A	5	0	0	0	0
5	A	15	0	0	0	0
5	B	4	0	0	0	0
5	C	15	0	0	0	0
5	D	2	0	0	1	0
5	E	2	0	0	0	0
5	F	1	0	0	0	0
5	G	5	0	0	0	0
5	H	5	0	0	0	0
5	I	8	0	0	0	0
5	J	6	0	0	0	0
All	All	31904	0	30346	178	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 3.

All (178) 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:D:112:ASN:HB3	1:D:214:THR:HG23	1.46	0.98
1:C:112:ASN:HB3	1:C:214:THR:HG23	1.53	0.90
2:E:6:DT:H2''	2:E:7:DA:H5''	1.63	0.79
1:A:112:ASN:HB3	1:A:214:THR:HG23	1.65	0.79
1:A:813:ARG:HH21	1:A:842:GLY:HA3	1.47	0.77
1:C:818:ASN:HD22	1:C:821:ALA:HB2	1.51	0.75
1:B:15:ILE:HD11	1:B:65:MET:HE3	1.71	0.72
1:B:112:ASN:HB3	1:B:214:THR:HG23	1.73	0.71
1:B:441:ASP:HB3	1:B:447:ALA:HB2	1.71	0.70
1:C:361:PRO:HD2	2:I:3:C37:O1P	1.92	0.69
1:C:568:GLY:HA3	2:I:3:C37:O2	1.91	0.69
1:B:271:LEU:HB3	1:B:276:LEU:HD11	1.76	0.67
1:A:65:MET:HE3	1:A:88:PHE:HB2	1.77	0.67
1:A:424:ASN:O	1:A:429:THR:HG21	1.96	0.65
1:D:776:TYR:HB3	1:D:863:LEU:HD21	1.79	0.64
2:G:6:DT:H2''	2:G:7:DA:H5''	1.80	0.64
2:I:2:DC:H2''	2:I:3:C37:O2P	1.97	0.64
1:B:391:TYR:HB2	1:B:584:THR:HG22	1.80	0.63
1:B:65:MET:HE2	1:B:88:PHE:HB3	1.80	0.63
1:A:707:ARG:HD2	2:E:8:DT:H4'	1.80	0.62
1:B:15:ILE:HD11	1:B:65:MET:CE	2.30	0.62
1:A:65:MET:CE	1:A:88:PHE:HB2	2.29	0.61
1:D:655:ALA:HA	1:D:659:MET:HB2	1.81	0.61
1:A:65:MET:HE3	1:A:88:PHE:CB	2.30	0.61
1:A:9:GLU:HG2	1:A:266:PHE:CD2	2.37	0.59
1:A:224:PRO:HA	1:A:263:ILE:HD12	1.84	0.59
1:B:209:THR:HG21	1:B:244:PRO:HG3	1.84	0.59
1:C:410:PHE:HB3	1:C:683:MET:HG2	1.83	0.59
1:C:489:MET:SD	1:C:553:MET:HG2	2.42	0.58
1:C:785:ALA:HB1	1:C:788:ILE:HD11	1.86	0.58
1:B:15:ILE:CD1	1:B:65:MET:HE3	2.33	0.58
1:C:839:ASN:HB2	1:C:840:PRO:HD2	1.86	0.58
2:I:2:DC:O2	2:I:2:DC:O4'	2.19	0.58
2:G:2:DC:O2	2:G:2:DC:H2'	2.05	0.57
1:A:211:VAL:HG12	1:A:212:ILE:HD12	1.86	0.57
1:B:65:MET:HE2	1:B:88:PHE:CB	2.34	0.57
1:A:596:TRP:HB3	1:A:670:MET:HE2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:15:DC:H2''	2:G:16:DG:C8	2.40	0.56
1:A:149:PHE:HB3	1:A:197:LEU:CD1	2.36	0.56
1:C:116:GLU:HB2	1:C:135:ALA:HB3	1.87	0.56
1:C:209:THR:HG21	1:C:244:PRO:HG3	1.87	0.55
1:C:443:ILE:O	1:C:599:ARG:NH1	2.40	0.55
3:J:112:DA:C2'	3:J:113:DC:H5''	2.37	0.54
2:G:16:DG:H2'	2:G:17:DC:O4'	2.07	0.54
1:A:593:ALA:HA	1:A:670:MET:HE1	1.90	0.54
1:C:414:SER:HB3	1:C:417:PRO:HG2	1.90	0.54
1:C:112:ASN:HD21	1:C:332:LEU:HG	1.72	0.54
1:A:739:LYS:HE3	1:A:739:LYS:HA	1.89	0.54
1:C:291:ASP:OD1	1:C:302:LYS:HD3	2.08	0.53
1:B:426:SER:HB3	1:B:429:THR:HG22	1.91	0.53
1:A:9:GLU:HG2	1:A:266:PHE:HD2	1.72	0.53
1:A:471:VAL:HB	1:A:472:PRO:HD3	1.89	0.53
1:A:202:LEU:O	1:A:206:GLN:HG2	2.09	0.53
3:J:112:DA:H2'	3:J:113:DC:H5''	1.91	0.53
1:D:271:LEU:HB3	1:D:276:LEU:HD11	1.90	0.52
1:A:470:VAL:O	1:A:474:GLU:HG2	2.09	0.52
1:C:35:PRO:HG3	1:C:65:MET:HG2	1.91	0.52
1:D:137:THR:HG21	1:D:325:ILE:HA	1.91	0.52
1:A:238:THR:O	1:A:241:ARG:HB2	2.10	0.51
1:C:223:ILE:HB	1:C:224:PRO:HD3	1.92	0.51
1:A:904:HIS:CD2	1:A:904:HIS:H	2.29	0.51
1:C:151:LEU:HB2	1:C:197:LEU:HD22	1.92	0.51
1:A:655:ALA:HA	1:A:659:MET:HB2	1.92	0.51
1:A:593:ALA:HA	1:A:670:MET:CE	2.41	0.50
1:C:326:ILE:O	1:C:330:ARG:HG2	2.11	0.50
1:A:116:GLU:HB2	1:A:135:ALA:HB3	1.93	0.50
1:B:224:PRO:HA	1:B:263:ILE:HD12	1.93	0.50
1:B:211:VAL:HG12	1:B:212:ILE:HD12	1.94	0.50
1:A:444:ASN:HD22	1:A:599:ARG:HD2	1.77	0.50
1:A:171:GLN:HE21	1:A:319:ARG:HH22	1.60	0.49
3:L:103:DG:H2''	3:L:104:DG:C8	2.47	0.49
1:C:471:VAL:HB	1:C:472:PRO:HD3	1.93	0.49
1:C:301:GLY:O	1:C:330:ARG:HD2	2.13	0.49
1:C:523:SER:H	1:C:526:ILE:HD12	1.77	0.49
1:D:152:LEU:HB2	1:D:192:ASP:HA	1.95	0.49
1:B:513:PRO:HG3	1:B:537:SER:HB2	1.95	0.48
3:F:111:DT:H2''	3:F:112:DA:H5''	1.95	0.48
3:F:102:DC:H2''	3:F:103:DG:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:151:LEU:HB2	1:B:197:LEU:HD22	1.95	0.48
1:A:285:GLN:HE21	1:A:285:GLN:HA	1.79	0.48
1:D:471:VAL:HB	1:D:472:PRO:HD3	1.95	0.48
1:D:70:GLN:HA	1:D:73:LYS:HG2	1.96	0.48
2:E:4:DG:H1	3:F:114:DC:H42	1.62	0.48
1:A:236:GLU:HG2	1:A:240:LYS:HE2	1.95	0.47
1:A:862:VAL:O	1:A:866:MET:HG3	2.14	0.47
1:B:555:ALA:O	1:B:559:ARG:HG2	2.13	0.47
1:B:410:PHE:HB3	1:B:683:MET:HG2	1.96	0.47
1:C:171:GLN:HE21	1:C:319:ARG:HH22	1.62	0.47
1:D:727:ILE:HG23	1:D:730:LEU:HD12	1.96	0.47
1:D:652:ASP:CG	1:D:656:ARG:HH12	2.17	0.47
1:D:440:HIS:HA	1:D:443:ILE:HD12	1.95	0.47
1:A:251:LYS:HB3	1:A:262:ILE:HG13	1.97	0.47
1:D:513:PRO:HB2	1:D:544:ARG:HH22	1.80	0.47
1:D:416:TYR:HB2	1:D:417:PRO:HD3	1.96	0.47
1:D:818:ASN:HD22	1:D:818:ASN:H	1.63	0.47
1:A:642:ARG:HE	1:A:646:HIS:CE1	2.33	0.47
1:B:663:ILE:HG21	1:B:683:MET:HB3	1.96	0.47
1:A:272:ASP:OD1	1:A:274:ILE:HG22	2.14	0.46
1:C:412:LEU:HG	1:C:415:LEU:HD13	1.96	0.46
1:C:715:MET:O	1:C:718:THR:HG23	2.15	0.46
1:A:412:LEU:HG	1:A:415:LEU:HD13	1.98	0.46
2:I:15:DC:H2''	2:I:16:DG:C8	2.51	0.46
1:A:391:TYR:HB2	1:A:584:THR:HG22	1.97	0.46
1:D:171:GLN:HE21	1:D:319:ARG:HH22	1.62	0.46
1:B:125:GLU:HA	1:B:126:PRO:HD3	1.83	0.46
1:B:202:LEU:O	1:B:206:GLN:HG2	2.16	0.46
1:B:218:VAL:HA	1:B:222:ALA:HB3	1.98	0.45
1:B:736:SER:HA	1:B:782:VAL:O	2.16	0.45
1:A:149:PHE:HB3	1:A:197:LEU:HD13	1.98	0.45
1:C:137:THR:HG21	1:C:325:ILE:HA	1.97	0.45
1:B:655:ALA:HA	1:B:659:MET:HB2	1.99	0.45
2:G:2:DC:O2	2:G:2:DC:C2'	2.62	0.45
1:B:806:ARG:HA	1:B:809:LEU:HD12	1.99	0.44
1:B:629:ALA:HA	1:B:632:ILE:HD12	1.97	0.44
1:B:633:ILE:HD11	1:B:651:LEU:HD11	1.98	0.44
1:C:115:ILE:HG13	1:C:136:ILE:HG12	2.00	0.44
1:C:125:GLU:HA	1:C:126:PRO:HD3	1.83	0.44
1:A:152:LEU:HD11	1:A:190:PRO:HB2	2.00	0.44
1:A:785:ALA:HB1	1:A:788:ILE:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:273:TYR:HA	1:B:276:LEU:HB2	1.99	0.44
1:B:707:ARG:HD2	2:G:8:DT:H4'	1.99	0.44
1:A:523:SER:H	1:A:526:ILE:HD12	1.82	0.44
1:D:218:VAL:HA	1:D:222:ALA:HB3	1.99	0.44
1:A:553:MET:O	1:A:557:ILE:HG12	2.18	0.44
1:A:149:PHE:HB3	1:A:197:LEU:HD11	1.99	0.43
1:A:19:TYR:CE1	1:A:29:ARG:HG3	2.52	0.43
1:B:302:LYS:HA	1:B:330:ARG:HH11	1.83	0.43
1:C:874:LYS:HE2	2:I:11:DC:OP1	2.17	0.43
1:D:830:VAL:HG12	1:D:849:PRO:HA	1.99	0.43
1:B:381:PRO:HG2	1:B:576:ARG:HG2	1.99	0.43
1:B:875:THR:O	1:B:879:PRO:HG2	2.18	0.43
1:A:510:VAL:HG11	1:D:61:LEU:H	1.84	0.43
1:B:74:ARG:O	1:B:78:ILE:HG12	2.18	0.43
1:A:854:ILE:HD12	1:A:859:LYS:HA	2.01	0.43
1:B:391:TYR:HB2	1:B:392:PRO:HD2	2.00	0.42
1:C:719:ARG:HB3	1:D:525:GLU:HG2	2.01	0.42
1:A:223:ILE:HB	1:A:224:PRO:HD3	1.99	0.42
1:A:27:ARG:NH2	1:B:189:MET:HB2	2.34	0.42
1:B:33:TYR:O	1:B:35:PRO:HD3	2.20	0.42
1:C:109:ARG:HD2	1:C:209:THR:O	2.19	0.42
1:B:439:LEU:HD13	1:B:443:ILE:HD11	2.02	0.42
2:G:8:DT:H2''	2:G:9:DG:C8	2.55	0.42
1:D:579:ASP:HB3	1:D:582:ASN:HB2	2.02	0.42
3:J:111:DT:H2''	3:J:112:DA:H8	1.84	0.42
1:D:214:THR:OG1	1:D:215:GLY:N	2.53	0.42
1:A:154:SER:HB2	1:A:155:PRO:HD2	2.02	0.42
1:B:417:PRO:HA	1:B:420:ILE:HD12	2.02	0.42
1:C:362:ILE:HG23	1:C:575:PHE:HD1	1.85	0.42
1:C:633:ILE:HD11	1:C:651:LEU:HD11	2.02	0.42
1:B:223:ILE:HB	1:B:224:PRO:HD3	2.00	0.41
1:C:839:ASN:HD22	1:C:841:PHE:H	1.67	0.41
1:A:904:HIS:C	1:A:906:HIS:H	2.23	0.41
2:I:3:C37:H6	2:I:3:C37:H2'2	1.81	0.41
1:C:276:LEU:HG	1:C:340:PHE:HB3	2.02	0.41
1:B:471:VAL:HB	1:B:472:PRO:HD3	2.01	0.41
1:A:116:GLU:HB3	1:A:320:TYR:OH	2.20	0.41
1:D:399:PRO:HB3	1:D:619:TYR:HB2	2.02	0.41
1:B:397:LYS:NZ	1:B:598:GLU:OE2	2.53	0.41
1:D:40:HIS:CD2	1:D:83:LEU:HD11	2.56	0.41
1:D:52:ILE:HG12	5:D:908:HOH:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:768:GLU:HG3	1:A:872:LEU:HD21	2.02	0.41
1:B:725:LEU:HD22	1:B:753:LEU:HD12	2.01	0.41
1:C:198:LEU:HD23	1:C:230:ILE:HG12	2.02	0.41
1:C:214:THR:OG1	1:C:215:GLY:N	2.54	0.41
2:E:6:DT:H2''	2:E:7:DA:C5'	2.44	0.41
1:B:227:TYR:CE1	1:B:248:THR:HG21	2.56	0.41
1:C:82:ALA:H	1:C:382:GLN:NE2	2.19	0.41
2:E:3:C37:H2'1	2:E:4:DG:C8	2.56	0.41
1:D:417:PRO:HA	1:D:420:ILE:HD12	2.04	0.40
1:D:481:GLN:HB3	1:D:559:ARG:HD3	2.02	0.40
1:D:771:PHE:HA	1:D:774:LEU:HD12	2.03	0.40
1:B:638:GLU:HA	1:B:641:PHE:HD2	1.86	0.40
3:L:105:DC:H2''	3:L:106:DT:H5'	2.03	0.40
1:D:330:ARG:H	1:D:330:ARG:HG2	1.69	0.40
1:C:105:HIS:CE1	1:C:547:ARG:HH21	2.40	0.40
1:C:819:ILE:HB	1:C:820:ASP:H	1.61	0.40
1:D:410:PHE:HB3	1:D:683:MET:HG2	2.03	0.40
2:E:15:DC:H2''	2:E:16:DG:C8	2.56	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	904/906 (100%)	869 (96%)	32 (4%)	3 (0%)	41	73
1	B	899/906 (99%)	858 (95%)	40 (4%)	1 (0%)	51	83
1	C	901/906 (99%)	870 (97%)	30 (3%)	1 (0%)	51	83
1	D	896/906 (99%)	850 (95%)	44 (5%)	2 (0%)	47	79
All	All	3600/3624 (99%)	3447 (96%)	146 (4%)	7 (0%)	47	79

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	819	ILE
1	A	904	HIS
1	D	192	ASP
1	D	622	THR
1	A	858	ILE
1	B	405	LYS
1	A	622	THR

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	803/803 (100%)	778 (97%)	25 (3%)	40	71
1	B	798/803 (99%)	781 (98%)	17 (2%)	53	80
1	C	800/803 (100%)	773 (97%)	27 (3%)	37	69
1	D	795/803 (99%)	782 (98%)	13 (2%)	62	84
All	All	3196/3212 (100%)	3114 (97%)	82 (3%)	46	75

All (82) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	9	GLU
1	A	15	ILE
1	A	112	ASN
1	A	113	PHE
1	A	115	ILE
1	A	197	LEU
1	A	198	LEU
1	A	241	ARG
1	A	249	ARG
1	A	273	TYR
1	A	285	GLN
1	A	319	ARG
1	A	339	GLN
1	A	429	THR
1	A	439	LEU

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Mol	Chain	Res	Type
1	A	553	MET
1	A	559	ARG
1	A	633	ILE
1	A	693	LEU
1	A	722	GLU
1	A	739	LYS
1	A	823	GLN
1	A	843	ASP
1	A	854	ILE
1	A	897	LEU
1	B	25	ARG
1	B	112	ASN
1	B	160	GLU
1	B	172	GLU
1	B	207	GLN
1	B	273	TYR
1	B	306	ASP
1	B	330	ARG
1	B	373	LEU
1	B	439	LEU
1	B	510	VAL
1	B	594	LEU
1	B	693	LEU
1	B	816	LYS
1	B	826	GLU
1	B	843	ASP
1	B	897	LEU
1	C	15	ILE
1	C	66	ARG
1	C	199	MET
1	C	241	ARG
1	C	291	ASP
1	C	295	GLU
1	C	300	VAL
1	C	306	ASP
1	C	342	ASN
1	C	373	LEU
1	C	412	LEU
1	C	439	LEU
1	C	475	ILE
1	C	524	ASP
1	C	553	MET

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Mol	Chain	Res	Type
1	C	559	ARG
1	C	693	LEU
1	C	716	GLU
1	C	718	THR
1	C	762	GLU
1	C	819	ILE
1	C	843	ASP
1	C	854	ILE
1	C	855	THR
1	C	874	LYS
1	C	892	GLU
1	C	902	ASP
1	D	96	THR
1	D	115	ILE
1	D	199	MET
1	D	373	LEU
1	D	389	GLN
1	D	524	ASP
1	D	547	ARG
1	D	553	MET
1	D	598	GLU
1	D	731	GLU
1	D	818	ASN
1	D	860	ASP
1	D	861	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	98	ASN
1	A	112	ASN
1	A	171	GLN
1	A	193	ASN
1	A	284	ASN
1	A	285	GLN
1	A	444	ASN
1	A	646	HIS
1	A	839	ASN
1	B	70	GLN
1	B	285	GLN
1	B	342	ASN
1	B	382	GLN

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Mol	Chain	Res	Type
1	B	389	GLN
1	B	481	GLN
1	B	507	ASN
1	B	646	HIS
1	B	818	ASN
1	B	823	GLN
1	C	193	ASN
1	C	284	ASN
1	C	285	GLN
1	C	382	GLN
1	C	444	ASN
1	C	480	ASN
1	C	775	ASN
1	C	818	ASN
1	C	839	ASN
1	D	105	HIS
1	D	171	GLN
1	D	193	ASN
1	D	389	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues 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	C37	K	3	2	0,3,22	-	-	0,3,33	-	-
2	C37	I	3	2	18,21,22	0.53	0	25,30,33	1.61	2 (8%)
2	C37	G	3	2	0,3,22	-	-	0,3,33	-	-
2	C37	E	3	2	18,21,22	0.53	0	25,30,33	1.62	2 (8%)

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
2	C37	I	3	2	-	6/7/21/22	0/2/2/2
2	C37	E	3	2	-	2/7/21/22	0/2/2/2

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	3	C37	F-C5-C4	6.95	122.56	118.02
2	I	3	C37	F-C5-C4	6.84	122.49	118.02
2	E	3	C37	C5-C4-N3	3.58	121.96	119.60
2	I	3	C37	C5-C4-N3	3.51	121.91	119.60

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	E	3	C37	O4'-C4'-C5'-O5'
2	I	3	C37	C3'-C4'-C5'-O5'
2	E	3	C37	C3'-C4'-C5'-O5'
2	I	3	C37	O4'-C4'-C5'-O5'
2	I	3	C37	C2'-C1'-N1-C6
2	I	3	C37	O4'-C1'-N1-C6
2	I	3	C37	C2'-C1'-N1-C2
2	I	3	C37	O4'-C1'-N1-C2

There are no ring outliers.

2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	I	3	C37	4	0
2	E	3	C37	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is 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
4	SO4	A	907	-	4,4,4	0.34	0	6,6,6	0.06	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 [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	906/906 (100%)	0.15	36 (3%) 38 25	35, 57, 143, 252	0
1	B	901/906 (99%)	0.72	118 (13%) 3 2	41, 86, 239, 299	0
1	C	903/906 (99%)	0.20	25 (2%) 53 36	32, 64, 131, 181	0
1	D	898/906 (99%)	1.10	185 (20%) 1 0	72, 128, 220, 255	0
2	E	17/18 (94%)	0.54	2 (11%) 4 2	61, 83, 146, 164	0
2	G	16/18 (88%)	1.11	2 (12%) 3 2	61, 106, 121, 138	0
2	I	16/18 (88%)	-0.12	0 100 100	39, 53, 76, 113	0
2	K	14/18 (77%)	2.66	9 (64%) 0 0	59, 166, 217, 220	0
3	F	15/15 (100%)	0.80	1 (6%) 17 10	75, 91, 147, 158	0
3	H	13/15 (86%)	1.67	4 (30%) 0 0	96, 108, 132, 139	0
3	J	15/15 (100%)	-0.23	0 100 100	38, 63, 92, 98	0
3	L	11/15 (73%)	2.57	8 (72%) 0 0	160, 183, 214, 215	0
All	All	3725/3756 (99%)	0.56	390 (10%) 6 4	32, 79, 210, 299	0

All (390) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	819	ILE	10.2
1	D	257	TYR	9.9
1	D	510	VAL	9.8
1	B	857	LEU	8.7
1	D	789	ALA	8.0
1	D	528	GLU	7.7
1	B	538	LEU	7.6
1	D	395	PHE	7.2
1	B	528	GLU	7.0
1	B	821	ALA	7.0
1	A	256	MET	6.9

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Mol	Chain	Res	Type	RSRZ
1	B	820	ASP	6.9
1	D	111	ALA	6.9
1	D	256	MET	6.9
1	D	394	ALA	6.7
1	D	522	PHE	6.5
1	B	865	TRP	6.5
1	D	137	THR	6.5
1	D	157	GLY	6.5
1	B	277	TYR	6.5
1	B	256	MET	6.4
1	D	523	SER	6.4
1	D	305	TYR	6.3
1	D	114	ASP	6.2
1	D	788	ILE	6.0
1	D	214	THR	6.0
1	D	509	SER	5.8
1	B	510	VAL	5.7
1	D	215	GLY	5.7
1	D	269	SER	5.6
1	B	818	ASN	5.5
1	D	504	HIS	5.5
1	D	160	GLU	5.5
1	D	792	ASP	5.5
1	C	903	PHE	5.4
1	A	532	LYS	5.4
1	D	130	LYS	5.4
1	D	253	ILE	5.4
2	K	14	DC	5.4
1	B	827	GLY	5.4
1	D	503	LEU	5.4
1	A	505	ASN	5.3
1	B	298	LEU	5.3
1	D	282	PHE	5.3
1	B	813	ARG	5.2
1	B	539	ASN	5.1
1	D	511	ASP	5.1
1	B	540	GLU	5.0
1	B	817	GLY	5.0
1	B	516	VAL	5.0
1	D	506	PRO	5.0
1	B	505	ASN	5.0
1	B	502	ALA	5.0

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Mol	Chain	Res	Type	RSRZ
1	B	514	LEU	4.9
1	D	823	GLN	4.9
1	A	253	ILE	4.9
1	D	303	LEU	4.8
1	D	508	LEU	4.8
1	D	548	THR	4.8
1	D	785	ALA	4.8
1	D	254	GLU	4.8
1	D	787	ASN	4.8
1	D	277	TYR	4.8
1	B	856	ASP	4.7
1	B	499	ILE	4.7
1	B	512	GLU	4.7
1	D	46	ALA	4.7
1	B	862	VAL	4.7
1	D	547	ARG	4.7
1	D	131	HIS	4.7
1	D	288	TYR	4.6
1	A	506	PRO	4.6
1	B	315	SER	4.6
1	B	518	TYR	4.5
1	D	129	ALA	4.4
1	C	1	MET	4.4
1	B	507	ASN	4.4
1	B	257	TYR	4.4
2	K	1	DC	4.4
1	B	838	GLY	4.4
1	D	491	ALA	4.4
1	D	786	ASN	4.4
3	L	103	DG	4.3
1	D	828	GLU	4.3
1	C	252	VAL	4.3
2	K	13	DG	4.3
1	D	252	VAL	4.3
1	D	384	ARG	4.3
1	B	815	ILE	4.2
1	D	171	GLN	4.2
1	D	328	VAL	4.2
1	D	535	ALA	4.2
1	B	801	CYS	4.2
1	D	356	GLN	4.2
1	B	811	TYR	4.2

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Mol	Chain	Res	Type	RSRZ
1	B	535	ALA	4.1
1	D	791	TYR	4.1
1	A	514	LEU	4.1
1	C	130	LYS	4.1
1	B	497	GLU	4.0
1	D	543	PHE	4.0
1	D	112	ASN	4.0
1	B	866	MET	4.0
1	A	498	ILE	4.0
1	B	157	GLY	4.0
1	D	811	TYR	4.0
1	B	840	PRO	3.9
1	D	270	VAL	3.9
1	B	286	PRO	3.9
3	H	108	DT	3.9
1	D	1	MET	3.8
2	K	2	DC	3.8
1	B	160	GLU	3.8
1	B	259	SER	3.7
1	D	534	SER	3.7
1	B	822	PRO	3.7
1	D	820	ASP	3.7
1	D	207	GLN	3.7
1	B	541	MET	3.7
1	B	812	ASN	3.7
2	K	11	DC	3.7
1	D	851	GLY	3.7
1	D	156	TYR	3.7
1	D	537	SER	3.7
1	D	284	ASN	3.6
1	D	258	GLY	3.6
1	B	490	LEU	3.6
1	C	530	ILE	3.6
1	D	498	ILE	3.6
1	D	340	PHE	3.6
2	K	12	DA	3.6
1	D	544	ARG	3.5
1	D	388	VAL	3.5
1	D	16	PHE	3.5
1	D	539	ASN	3.5
1	B	156	TYR	3.5
1	D	192	ASP	3.5

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Mol	Chain	Res	Type	RSRZ
1	B	260	ARG	3.4
1	C	254	GLU	3.4
1	C	251	LYS	3.4
1	B	128	GLN	3.4
1	D	298	LEU	3.4
1	D	546	GLN	3.4
1	B	519	ARG	3.4
1	B	320	TYR	3.4
1	B	296	PHE	3.4
1	A	541	MET	3.4
1	B	526	ILE	3.4
1	B	837	GLU	3.4
1	D	525	GLU	3.4
1	D	793	VAL	3.3
1	A	257	TYR	3.3
1	D	500	LYS	3.3
1	B	289	SER	3.3
1	B	253	ILE	3.3
1	D	216	TRP	3.3
1	C	256	MET	3.3
1	B	303	LEU	3.3
1	A	857	LEU	3.3
1	D	517	ASP	3.3
1	D	259	SER	3.2
1	B	816	LYS	3.2
1	D	816	LYS	3.2
1	B	123	PHE	3.2
3	L	110	DA	3.2
1	B	861	ASP	3.2
1	B	500	LYS	3.2
1	B	122	GLY	3.2
1	B	792	ASP	3.2
3	L	108	DT	3.2
1	D	158	ASN	3.2
1	C	510	VAL	3.1
1	A	255	ASN	3.1
1	D	147	TYR	3.1
1	A	537	SER	3.1
1	D	838	GLY	3.1
2	K	15	DC	3.1
1	A	254	GLU	3.1
1	D	494	ARG	3.1

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Mol	Chain	Res	Type	RSRZ
1	D	113	PHE	3.1
1	B	517	ASP	3.1
1	D	348	GLY	3.1
1	D	323	TYR	3.1
1	A	497	GLU	3.1
1	A	516	VAL	3.1
1	B	521	ASP	3.1
1	D	782	VAL	3.1
1	A	504	HIS	3.1
1	D	29	ARG	3.0
1	D	172	GLU	3.0
1	D	107	LYS	3.0
3	L	111	DT	3.0
1	D	120	PRO	3.0
1	B	809	LEU	3.0
1	D	122	GLY	3.0
1	A	508	LEU	3.0
1	B	184	ASP	3.0
1	D	489	MET	3.0
1	B	172	GLU	3.0
1	D	165	GLU	3.0
1	A	906	HIS	3.0
1	D	127	SER	3.0
1	B	542	LEU	2.9
3	L	101	DG	2.9
3	H	105	DC	2.9
1	D	355	ILE	2.9
1	D	393	GLY	2.9
1	D	217	ASN	2.9
1	D	696	LYS	2.9
1	B	117	VAL	2.9
1	B	498	ILE	2.9
1	B	155	PRO	2.9
1	D	128	GLN	2.9
1	C	511	ASP	2.9
1	B	825	VAL	2.9
1	D	520	PHE	2.9
1	D	44	SER	2.8
1	A	112	ASN	2.8
1	D	327	ALA	2.8
1	D	497	GLU	2.8
2	G	1	DC	2.8

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Mol	Chain	Res	Type	RSRZ
1	D	527	LYS	2.8
1	D	293	ILE	2.8
1	B	828	GLU	2.8
1	D	338	ARG	2.8
1	B	288	TYR	2.8
1	B	513	PRO	2.8
1	A	1	MET	2.7
1	D	255	ASN	2.7
1	C	513	PRO	2.7
1	D	513	PRO	2.7
1	D	138	HIS	2.7
1	D	837	GLU	2.7
1	D	191	PHE	2.7
1	B	504	HIS	2.7
1	A	518	TYR	2.7
1	B	255	ASN	2.7
1	D	241	ARG	2.7
1	B	494	ARG	2.7
1	D	801	CYS	2.7
2	G	7	DA	2.7
1	D	302	LYS	2.7
1	C	111	ALA	2.7
1	B	137	THR	2.7
1	C	137	THR	2.6
1	B	503	LEU	2.6
1	A	509	SER	2.6
1	C	303	LEU	2.6
3	L	109	DC	2.6
1	D	169	LYS	2.6
1	B	900	MET	2.6
1	B	252	VAL	2.6
1	A	135	ALA	2.6
1	B	299	ASN	2.6
1	D	210	PRO	2.6
1	D	47	THR	2.6
1	D	280	PHE	2.6
1	D	784	SER	2.6
1	D	818	ASN	2.6
1	B	798	GLY	2.6
1	C	388	VAL	2.6
1	D	211	VAL	2.6
1	D	213	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
1	D	817	GLY	2.6
1	B	287	SER	2.6
1	D	389	GLN	2.5
1	B	525	GLU	2.5
1	D	515	ASP	2.5
1	D	188	TYR	2.5
1	D	162	TRP	2.5
1	C	19	TYR	2.5
1	A	114	ASP	2.5
1	D	73	LYS	2.5
1	D	245	HIS	2.5
1	B	116	GLU	2.5
1	D	488	TYR	2.5
1	D	266	PHE	2.5
1	D	139	TYR	2.5
1	D	797	PRO	2.5
1	D	324	ASN	2.5
1	A	543	PHE	2.5
1	D	521	ASP	2.5
1	A	137	THR	2.5
1	A	503	LEU	2.5
1	B	323	TYR	2.5
1	C	257	TYR	2.5
1	B	254	GLU	2.4
1	B	839	ASN	2.4
1	A	252	VAL	2.4
1	B	511	ASP	2.4
1	B	800	LYS	2.4
1	B	1	MET	2.4
1	D	283	THR	2.4
1	D	841	PHE	2.4
1	B	114	ASP	2.4
1	D	285	GLN	2.4
1	C	260	ARG	2.4
1	D	260	ARG	2.4
1	C	156	TYR	2.4
3	H	107	DG	2.4
1	B	520	PHE	2.4
1	D	545	ALA	2.4
1	D	795	GLY	2.3
2	K	8	DT	2.3
1	B	285	GLN	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	354	GLN	2.3
1	B	863	LEU	2.3
1	A	837	GLU	2.3
1	D	134	ASP	2.3
1	B	522	PHE	2.3
1	D	846	ILE	2.3
1	B	135	ALA	2.3
1	B	324	ASN	2.3
1	A	515	ASP	2.3
1	D	20	ILE	2.3
1	D	392	PRO	2.3
1	D	66	ARG	2.3
1	D	824	VAL	2.3
1	D	173	GLN	2.3
1	D	804	HIS	2.2
1	B	278	LYS	2.2
1	C	112	ASN	2.2
3	H	113	DC	2.2
1	B	523	SER	2.2
2	K	7	DA	2.2
1	B	524	ASP	2.2
1	D	542	LEU	2.2
1	D	145	ARG	2.2
1	D	331	VAL	2.2
3	F	115	DA	2.2
2	E	2	DC	2.2
1	B	304	LYS	2.2
1	D	776	TYR	2.2
1	B	787	ASN	2.2
1	B	282	PHE	2.2
1	D	342	ASN	2.2
2	E	5	DG	2.2
3	L	104	DG	2.2
1	D	177	GLU	2.2
1	B	791	TYR	2.2
1	D	267	GLY	2.1
1	D	391	TYR	2.2
1	D	495	ASN	2.1
1	A	512	GLU	2.1
1	D	234	PHE	2.1
1	A	111	ALA	2.1
1	B	173	GLN	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	212	ILE	2.1
1	D	802	PRO	2.1
1	D	453	VAL	2.1
1	B	895	ALA	2.1
1	D	296	PHE	2.1
1	D	563	ILE	2.1
1	B	790	LYS	2.1
1	B	797	PRO	2.1
1	B	639	SER	2.1
1	D	36	SER	2.1
1	C	135	ALA	2.1
1	D	11	ILE	2.1
1	D	790	LYS	2.1
1	D	898	PHE	2.1
1	D	530	ILE	2.1
1	C	612	GLU	2.1
1	D	471	VAL	2.1
1	D	222	ALA	2.1
1	B	330	ARG	2.1
3	L	105	DC	2.1
1	D	673	TYR	2.0
1	B	483	LYS	2.0
1	B	532	LYS	2.0
1	D	240	LYS	2.0
1	D	771	PHE	2.0
1	B	488	TYR	2.0
1	C	518	TYR	2.0
1	D	512	GLU	2.0
1	D	540	GLU	2.0
1	B	120	PRO	2.0
1	B	799	PRO	2.0
1	D	25	ARG	2.0
1	A	629	ALA	2.0
1	A	533	LEU	2.0
1	D	840	PRO	2.0
1	C	532	LYS	2.0
1	A	528	GLU	2.0
1	C	261	GLU	2.0
1	D	310	SER	2.0
1	A	536	LYS	2.0
1	D	45	GLN	2.0
1	D	48	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
1	D	493	GLN	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [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	C37	K	3	4/21	0.69	0.28	118,129,134,135	0
2	C37	E	3	20/21	0.71	0.34	168,175,178,180	0
2	C37	I	3	20/21	0.93	0.23	83,91,95,95	0
2	C37	G	3	4/21	0.94	0.12	93,97,98,98	0

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
4	SO4	A	907	5/5	0.80	0.30	92,97,99,99	0

6.5 Other polymers [i](#)

There are no such residues in this entry.