Full wwPDB X-ray Structure Validation Report ⓘ

Sep 2, 2023 – 12:02 PM EDT

PDB ID	:	3QFQ
Title	:	Asymmetric Assembly of Merkel Cell Polyomavirus Large T-antigen Origin Binding Domains at the Viral Origin
Authors	:	Harrison, C.J.; Meinke, G.; Bohm, A.
Deposited on	:	2011-01-22
Resolution	:	2.90 Å(reported)

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

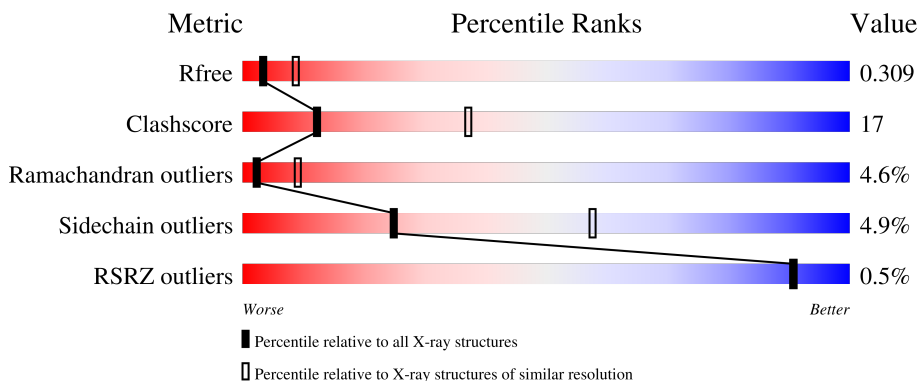|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

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 2.90 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		0.309
Clashscore		17
Ramachandran outliers		4.6%
Sidechain outliers		4.9%
RSRZ outliers		0.5%

Worse   *Better*

▌ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	135	61% 24% • 12%
1	B	135	.% 57% 23% 8% • 11%
1	E	135	.% 61% 21% • 13%
2	W	26	50% 46% •
3	C	26	65% 35%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 3783 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 Large T antigen.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	119	Total	C	N	O	S	0	0	0
			904	582	145	169	8			
1	B	120	Total	C	N	O	S	0	0	0
			903	582	145	168	8			
1	E	117	Total	C	N	O	S	1	0	0
			902	583	144	166	9			

There are 27 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	299	MET	-	expression tag	UNP E2IPT4
A	300	GLY	-	expression tag	UNP E2IPT4
A	301	HIS	-	expression tag	UNP E2IPT4
A	302	HIS	-	expression tag	UNP E2IPT4
A	303	HIS	-	expression tag	UNP E2IPT4
A	304	HIS	-	expression tag	UNP E2IPT4
A	305	HIS	-	expression tag	UNP E2IPT4
A	306	HIS	-	expression tag	UNP E2IPT4
A	307	GLY	-	expression tag	UNP E2IPT4
B	299	MET	-	expression tag	UNP E2IPT4
B	300	GLY	-	expression tag	UNP E2IPT4
B	301	HIS	-	expression tag	UNP E2IPT4
B	302	HIS	-	expression tag	UNP E2IPT4
B	303	HIS	-	expression tag	UNP E2IPT4
B	304	HIS	-	expression tag	UNP E2IPT4
B	305	HIS	-	expression tag	UNP E2IPT4
B	306	HIS	-	expression tag	UNP E2IPT4
B	307	GLY	-	expression tag	UNP E2IPT4
E	299	MET	-	expression tag	UNP E2IPT4
E	300	GLY	-	expression tag	UNP E2IPT4
E	301	HIS	-	expression tag	UNP E2IPT4
E	302	HIS	-	expression tag	UNP E2IPT4
E	303	HIS	-	expression tag	UNP E2IPT4

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Chain	Residue	Modelled	Actual	Comment	Reference
E	304	HIS	-	expression tag	UNP E2IPT4
E	305	HIS	-	expression tag	UNP E2IPT4
E	306	HIS	-	expression tag	UNP E2IPT4
E	307	GLY	-	expression tag	UNP E2IPT4

• Molecule 2 is a DNA chain called DNA (26-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	W	26	529	251	97	156	25	0	0	0

• Molecule 3 is a DNA chain called DNA (26-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
3	C	26	531	251	103	152	25	0	0	0

• Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	7	Total	O	0	0
			7	7		
4	B	1	Total	O	0	0
			1	1		
4	E	3	Total	O	0	0
			3	3		
4	W	2	Total	O	0	0
			2	2		
4	C	1	Total	O	0	0
			1	1		

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.
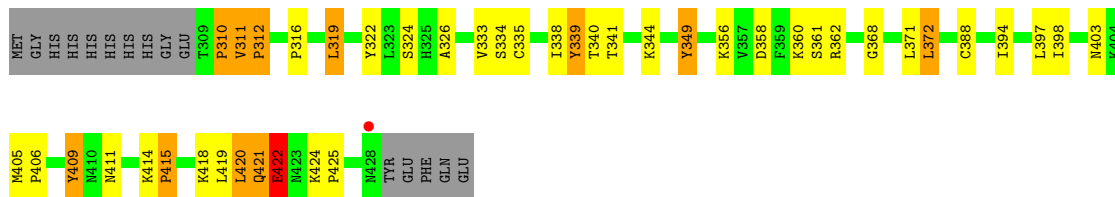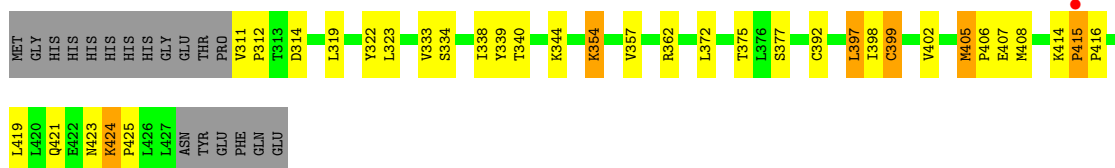
• Molecule 1: Large T antigen
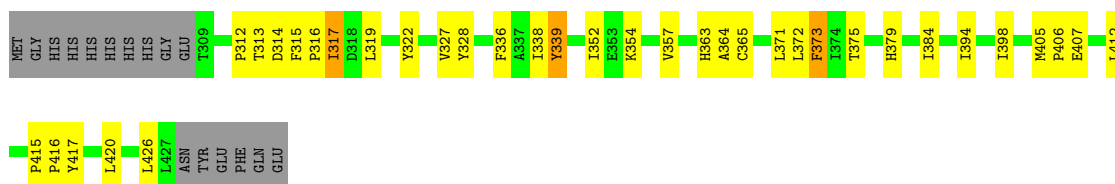
• Molecule 1: Large T antigen

• Molecule 1: Large T antigen

• Molecule 2: DNA (26-MER)
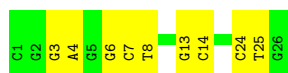

• Molecule 3: DNA (26-MER)

Chain C:

65% 35%

C1 G2 G3 A4 G5 G6 C7 T8 G13 C14 C24 T25 G26

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	80.40Å 171.34Å 51.28Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	38.16 – 2.90 44.00 – 2.87	Depositor EDS
% Data completeness (in resolution range)	75.7 (38.16-2.90) 85.6 (44.00-2.87)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	0.13	Depositor
$< I/\sigma(I) >$ [1]	0.98 (at 2.86Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.6.4_486)	Depositor
R, R_{free}	0.225 , 0.286 0.248 , 0.309	Depositor DCC
R_{free} test set	698 reflections (4.85%)	wwPDB-VP
Wilson B-factor (Å^2)	59.3	Xtriage
Anisotropy	1.143	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.22 , 40.9	EDS
L-test for twinning[2]	$< |L| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	3783	wwPDB-VP
Average B, all atoms (Å^2)	92.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.04% 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 ⓘ

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	0.25	0/926	0.42	1/1260 (0.1%)
1	B	0.25	0/925	0.47	1/1260 (0.1%)
1	E	0.24	0/924	0.38	0/1253
2	W	0.44	0/592	1.01	1/912 (0.1%)
3	C	0.44	0/596	0.96	0/918
All	All	0.32	0/3963	0.66	3/5603 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	415	PRO	N-CA-CB	6.11	110.64	103.30
1	A	312	PRO	N-CA-CB	5.97	110.46	103.30
2	W	2	DC	O4'-C4'-C3'	-5.23	102.41	104.50

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	421	GLN	Peptide

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	904	0	834	27	0
1	B	903	0	831	35	0
1	E	902	0	857	29	0
2	W	529	0	293	18	0
3	C	531	0	291	10	0
4	A	7	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	E	3	0	0	1	0
4	W	2	0	0	0	0
All	All	3783	0	3106	117	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 17.

All (117) 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:361:SER:HB3	1:B:422:GLU:HB3	1.62	0.81
1:B:326:ALA:HB2	3:C:3:DG:H5'	1.61	0.81
1:E:339:TYR:HB3	1:E:398:ILE:HG23	1.63	0.79
1:E:419:LEU:H	1:E:419:LEU:HD23	1.51	0.75
1:E:372:LEU:H	1:E:372:LEU:HD23	1.52	0.74
1:A:426:LEU:HD23	1:A:426:LEU:H	1.53	0.73
2:W:5:DA:H2"	2:W:6:DG:OP1	1.91	0.70
2:W:24:DT:H2"	2:W:25:DC:C6	2.28	0.69
1:E:357:VAL:HG12	1:E:375:THR:HG22	1.74	0.69
1:A:364:ALA:HB2	1:A:420:LEU:HD11	1.76	0.68
1:E:344:LYS:HE2	1:E:392:CYS:HB3	1.77	0.67
1:B:326:ALA:HB2	3:C:3:DG:C5'	2.27	0.65
1:B:333:VAL:HG12	1:B:335:CYS:H	1.61	0.65
1:A:336:PHE:HB2	1:A:373:PHE:CE1	2.32	0.64
1:E:423:ASN:O	1:E:424:LYS:HB2	1.97	0.64
2:W:6:DG:H2"	2:W:7:DG:C8	2.33	0.64
1:A:405:MET:HB3	1:A:406:PRO:HD3	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:339:TYR:HE1	1:B:368:GLY:HA3	1.65	0.62
2:W:1:DG:H2"	2:W:2:DC:H5"	1.81	0.61
1:A:317:ILE:H	1:A:317:ILE:HD13	1.65	0.60
1:B:341:THR:HG23	1:B:344:LYS:H	1.66	0.60
1:E:405:MET:N	1:E:406:PRO:HD2	2.17	0.60
1:E:354:LYS:HB2	1:E:354:LYS:NZ	2.17	0.59
1:A:314:ASP:H	1:A:398:ILE:HG12	1.67	0.58
1:B:405:MET:N	1:B:406:PRO:HD2	2.19	0.57
1:E:322:TYR:HB2	1:E:408:MET:HE1	1.87	0.57
1:A:315:PHE:CE1	1:A:339:TYR:HB2	2.40	0.56
1:A:316:PRO:HD3	1:A:339:TYR:CE2	2.40	0.56
2:W:10:DT:H2'	2:W:11:DG:C8	2.40	0.56
1:E:319:LEU:H	1:E:319:LEU:HD23	1.70	0.56
2:W:2:DC:C6	2:W:2:DC:H5'	2.42	0.55
1:E:362:ARG:HB2	1:E:421:GLN:H	1.71	0.55
1:E:406:PRO:HG2	1:E:407:GLU:OE1	2.06	0.55
1:A:316:PRO:HD3	1:A:339:TYR:HE2	1.71	0.55
1:A:327:VAL:HG13	1:A:328:TYR:CD1	2.42	0.55
1:B:322:TYR:HE2	1:B:411:ASN:HD22	1.55	0.55
2:W:23:DC:H2"	2:W:24:DT:H5'	1.89	0.54
1:A:426:LEU:H	1:A:426:LEU:CD2	2.21	0.54
1:B:344:LYS:HE3	1:B:397:LEU:HD12	1.90	0.54
1:B:362:ARG:HB3	1:B:371:LEU:HD12	1.90	0.54
1:E:340:THR:HG21	1:E:397:LEU:HD22	1.90	0.53
1:B:310:PRO:O	1:B:311:VAL:HB	2.09	0.52
1:B:349:TYR:HE1	1:B:360:LYS:HG3	1.76	0.51
3:C:3:DG:H2'	3:C:4:DA:C8	2.46	0.51
1:B:362:ARG:HG2	1:B:421:GLN:HA	1.93	0.51
1:A:375:THR:HG21	1:A:379:HIS:CD2	2.46	0.50
1:A:352:ILE:HG22	1:A:357:VAL:HG21	1.93	0.50
1:A:415:PRO:HG2	1:A:416:PRO:HD3	1.93	0.50
2:W:15:DC:H2"	2:W:16:DT:OP1	2.11	0.50
1:B:419:LEU:O	1:B:420:LEU:HB2	2.12	0.50
1:A:363:HIS:ND1	1:A:412:LEU:HB3	2.28	0.49
1:B:339:TYR:HB3	1:B:398:ILE:CG1	2.42	0.49
3:C:7:DC:H2"	3:C:8:DT:O5'	2.11	0.49
1:A:322:TYR:CE2	1:A:407:GLU:HB3	2.48	0.49
1:E:334:SER:HB3	1:E:375:THR:O	2.12	0.49
2:W:2:DC:H5'	2:W:2:DC:H6	1.75	0.49
1:B:316:PRO:HD3	1:B:339:TYR:CE2	2.48	0.49
1:E:415:PRO:HB2	1:E:416:PRO:HD3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:340:THR:CG2	1:E:397:LEU:HD22	2.43	0.48
1:A:314:ASP:HA	1:A:398:ILE:HG12	1.96	0.48
1:B:340:THR:HG22	1:B:397:LEU:HA	1.95	0.48
2:W:1:DG:C2'	2:W:2:DC:H5"	2.43	0.48
2:W:6:DG:H2"	2:W:7:DG:H8	1.78	0.48
1:B:310:PRO:O	1:B:311:VAL:CB	2.62	0.47
1:B:388:CYS:HB3	1:B:397:LEU:HD11	1.97	0.47
1:A:336:PHE:O	1:A:372:LEU:HD12	2.15	0.47
1:E:419:LEU:HD23	1:E:419:LEU:N	2.26	0.47
3:C:6:DG:H2"	3:C:7:DC:O5'	2.13	0.47
1:B:333:VAL:HG12	1:B:334:SER:N	2.30	0.47
1:B:338:ILE:HG22	1:B:339:TYR:N	2.30	0.47
1:B:339:TYR:CD2	1:B:398:ILE:HD11	2.50	0.46
1:E:333:VAL:HG22	1:E:334:SER:N	2.30	0.46
1:B:422:GLU:H	1:B:422:GLU:HG3	1.42	0.46
2:W:23:DC:H2'	2:W:24:DT:C6	2.51	0.46
1:E:372:LEU:H	1:E:372:LEU:CD2	2.26	0.46
1:B:324:SER:HB3	1:B:403:ASN:OD1	2.16	0.45
1:B:409:TYR:C	1:B:409:TYR:CD2	2.90	0.45
1:E:405:MET:N	1:E:406:PRO:CD	2.78	0.45
2:W:5:DA:C6	2:W:6:DG:C6	3.05	0.45
1:B:319:LEU:HD13	1:B:319:LEU:N	2.32	0.45
1:E:322:TYR:HB2	1:E:408:MET:CE	2.47	0.45
2:W:24:DT:H2"	2:W:25:DC:H6	1.76	0.45
1:E:333:VAL:HG22	1:E:334:SER:H	1.82	0.44
1:E:323:LEU:HD23	1:E:402:VAL:HG12	1.98	0.44
2:W:14:DG:H2"	2:W:15:DC:O5'	2.18	0.44
1:B:358:ASP:O	1:B:424:LYS:HD3	2.17	0.44
1:B:409:TYR:C	1:B:409:TYR:HD2	2.20	0.44
1:E:338:ILE:HG13	1:E:399:CYS:HB2	1.99	0.44
1:A:338:ILE:HD12	1:A:338:ILE:N	2.33	0.44
3:C:24:DC:H2'	3:C:25:DT:C6	2.53	0.44
1:B:397:LEU:HD23	1:B:398:ILE:N	2.33	0.43
1:A:373:PHE:CD1	1:A:373:PHE:N	2.86	0.43
1:E:423:ASN:O	1:E:424:LYS:CB	2.65	0.43
1:E:414:LYS:CB	1:E:415:PRO:HD2	2.49	0.43
1:B:371:LEU:C	1:B:371:LEU:HD23	2.39	0.42
1:E:311:VAL:N	1:E:312:PRO:HD2	2.35	0.42
1:A:384:ILE:N	1:A:384:ILE:HD12	2.35	0.42
1:B:311:VAL:N	1:B:312:PRO:HA	2.35	0.42
1:B:339:TYR:HB3	1:B:398:ILE:HG13	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:419:LEU:O	1:B:420:LEU:CB	2.68	0.42
1:A:375:THR:HG21	1:A:379:HIS:NE2	2.35	0.42
1:E:377:SER:HB2	4:E:12:HOH:O	2.20	0.42
1:A:317:ILE:HD13	1:A:317:ILE:N	2.31	0.42
1:E:405:MET:HG2	1:E:406:PRO:HD3	2.02	0.42
1:A:313:THR:O	1:A:314:ASP:HB3	2.21	0.41
2:W:5:DA:C2'	2:W:6:DG:H5"	2.50	0.41
3:C:7:DC:H2'	3:C:8:DT:H72	2.02	0.41
1:A:371:LEU:HD23	1:A:372:LEU:N	2.35	0.41
1:B:372:LEU:O	1:B:372:LEU:HD12	2.20	0.41
3:C:24:DC:H2"	3:C:25:DT:C5'	2.50	0.41
1:B:418:LYS:C	1:B:419:LEU:HD22	2.41	0.41
1:A:314:ASP:N	1:A:398:ILE:HG12	2.33	0.41
1:A:319:LEU:HD22	1:A:417:TYR:OH	2.21	0.41
3:C:13:DG:H2'	3:C:14:DC:H6	1.86	0.41
3:C:24:DC:H2"	3:C:25:DT:H5'	2.03	0.41
2:W:5:DA:C2'	2:W:6:DG:OP1	2.63	0.40
2:W:1:DG:H2"	2:W:2:DC:C5'	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	117/135 (87%)	96 (82%)	19 (16%)	2 (2%)	9	31
1	B	118/135 (87%)	97 (82%)	11 (9%)	10 (8%)	1	2
1	E	115/135 (85%)	101 (88%)	10 (9%)	4 (4%)	3	14
All	All	350/405 (86%)	294 (84%)	40 (11%)	16 (5%)	2	9

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	311	VAL
1	B	312	PRO
1	B	414	LYS
1	B	425	PRO
1	E	425	PRO
1	A	394	ILE
1	B	415	PRO
1	B	420	LEU
1	B	356	LYS
1	A	365	CYS
1	B	422	GLU
1	B	394	ILE
1	E	314	ASP
1	B	310	PRO
1	E	415	PRO
1	E	424	LYS

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	95/126 (75%)	91 (96%)	4 (4%)	30	63
1	B	94/126 (75%)	88 (94%)	6 (6%)	17	45
1	E	97/126 (77%)	93 (96%)	4 (4%)	30	64
All	All	286/378 (76%)	272 (95%)	14 (5%)	25	57

All (14) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	317	ILE
1	A	339	TYR
1	A	354	LYS
1	A	373	PHE
1	B	319	LEU
1	B	339	TYR
1	B	349	TYR

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Mol	Chain	Res	Type
1	B	372	LEU
1	B	409	TYR
1	B	422	GLU
1	E	354	LYS
1	E	397	LEU
1	E	399	CYS
1	E	405	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	330	ASN
1	B	411	ASN
1	E	411	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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	119/135 (88%)	-0.21	0	100	100	47, 74, 139, 171	0
1	B	120/135 (88%)	-0.07	1 (0%)	86	86	51, 99, 136, 164	0
1	E	117/135 (86%)	-0.18	1 (0%)	84	84	54, 101, 145, 173	1 (0%)
2	W	26/26 (100%)	-0.53	0	100	100	75, 94, 122, 143	0
3	C	26/26 (100%)	-0.60	0	100	100	59, 88, 118, 133	0
All	All	408/457 (89%)	-0.20	2 (0%)	91	91	47, 90, 138, 173	1 (0%)

All (2) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	428	ASN	6.9
1	E	415	PRO	2.3

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

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wwPDB
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6.5 Other polymers ⓘ

There are no such residues in this entry.