



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 15, 2017 – 06:14 am GMT

PDB ID : 4RR3
Title : Crystal structure of a recombinant EV71 virus particle
Authors : Chen, R.; Lyu, K.
Deposited on : 2014-11-06
Resolution : 3.10 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

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.9-1692
EDS : trunk28620
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : recalc28949

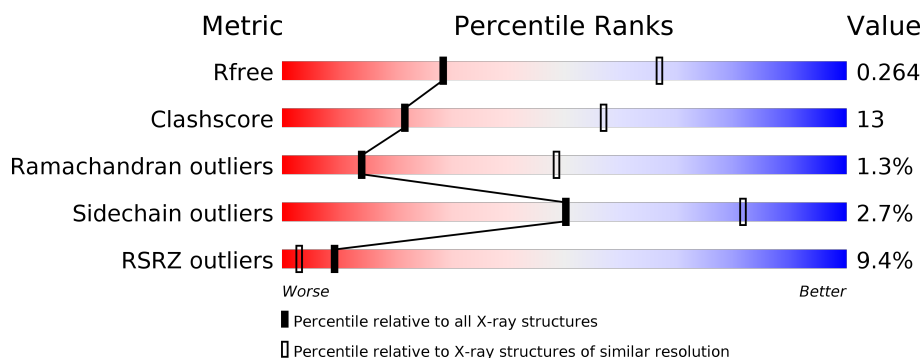
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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}	100719	1001 (3.12-3.08)
Clashscore	112137	1099 (3.12-3.08)
Ramachandran outliers	110173	1057 (3.12-3.08)
Sidechain outliers	110143	1057 (3.12-3.08)
RSRZ outliers	101464	1006 (3.12-3.08)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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	303	<div> <div>9%</div> <div>59% 16% • 23%</div> </div>
1	E	303	<div> <div>9%</div> <div>63% 12% •• 23%</div> </div>
1	I	303	<div> <div>8%</div> <div>60% 14% • 23%</div> </div>
1	M	303	<div> <div>8%</div> <div>60% 14% • 23%</div> </div>
1	Q	303	<div> <div>8%</div> <div>59% 15% • 23%</div> </div>
2	B	242	<div> <div>4%</div> <div>65% 29% • 5%</div> </div>

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Mol	Chain	Length	Quality of chain
2	F	242	
2	J	242	
2	N	242	
2	R	242	
3	C	323	
3	G	323	
3	K	323	
3	O	323	
3	S	323	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 27390 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 Capsid protein VP1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	E	232	Total	C	N	O	S	0	0	0
			1844	1179	316	338	11			
1	Q	232	Total	C	N	O	S	0	0	0
			1844	1179	316	338	11			
1	I	232	Total	C	N	O	S	0	0	0
			1844	1179	316	338	11			
1	M	232	Total	C	N	O	S	0	0	0
			1844	1179	316	338	11			
1	A	232	Total	C	N	O	S	0	0	0
			1844	1179	316	338	11			

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	101	GLU	-	EXPRESSION TAG	UNP F6KTB0
E	102	ARG	-	EXPRESSION TAG	UNP F6KTB0
E	103	LYS	-	EXPRESSION TAG	UNP F6KTB0
E	104	ARG	-	EXPRESSION TAG	UNP F6KTB0
E	105	ALA	-	EXPRESSION TAG	UNP F6KTB0
E	106	ARG	-	EXPRESSION TAG	UNP F6KTB0
E	107	LEU	-	EXPRESSION TAG	UNP F6KTB0
E	?	-	ASN	DELETION	UNP F6KTB0
Q	101	GLU	-	EXPRESSION TAG	UNP F6KTB0
Q	102	ARG	-	EXPRESSION TAG	UNP F6KTB0
Q	103	LYS	-	EXPRESSION TAG	UNP F6KTB0
Q	104	ARG	-	EXPRESSION TAG	UNP F6KTB0
Q	105	ALA	-	EXPRESSION TAG	UNP F6KTB0
Q	106	ARG	-	EXPRESSION TAG	UNP F6KTB0
Q	107	LEU	-	EXPRESSION TAG	UNP F6KTB0
Q	?	-	ASN	DELETION	UNP F6KTB0
I	101	GLU	-	EXPRESSION TAG	UNP F6KTB0
I	102	ARG	-	EXPRESSION TAG	UNP F6KTB0
I	103	LYS	-	EXPRESSION TAG	UNP F6KTB0

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Chain	Residue	Modelled	Actual	Comment	Reference
I	104	ARG	-	EXPRESSION TAG	UNP F6KTB0
I	105	ALA	-	EXPRESSION TAG	UNP F6KTB0
I	106	ARG	-	EXPRESSION TAG	UNP F6KTB0
I	107	LEU	-	EXPRESSION TAG	UNP F6KTB0
I	?	-	ASN	DELETION	UNP F6KTB0
M	101	GLU	-	EXPRESSION TAG	UNP F6KTB0
M	102	ARG	-	EXPRESSION TAG	UNP F6KTB0
M	103	LYS	-	EXPRESSION TAG	UNP F6KTB0
M	104	ARG	-	EXPRESSION TAG	UNP F6KTB0
M	105	ALA	-	EXPRESSION TAG	UNP F6KTB0
M	106	ARG	-	EXPRESSION TAG	UNP F6KTB0
M	107	LEU	-	EXPRESSION TAG	UNP F6KTB0
M	?	-	ASN	DELETION	UNP F6KTB0
A	101	GLU	-	EXPRESSION TAG	UNP F6KTB0
A	102	ARG	-	EXPRESSION TAG	UNP F6KTB0
A	103	LYS	-	EXPRESSION TAG	UNP F6KTB0
A	104	ARG	-	EXPRESSION TAG	UNP F6KTB0
A	105	ALA	-	EXPRESSION TAG	UNP F6KTB0
A	106	ARG	-	EXPRESSION TAG	UNP F6KTB0
A	107	LEU	-	EXPRESSION TAG	UNP F6KTB0
A	?	-	ASN	DELETION	UNP F6KTB0

- Molecule 2 is a protein called Capsid protein VP3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	F	230	Total	C	N	O	S	0	0	0
			1762	1133	291	327	11			
2	R	230	Total	C	N	O	S	0	0	0
			1762	1133	291	327	11			
2	J	230	Total	C	N	O	S	0	0	0
			1762	1133	291	327	11			
2	N	230	Total	C	N	O	S	0	0	0
			1762	1133	291	327	11			
2	B	230	Total	C	N	O	S	0	0	0
			1762	1133	291	327	11			

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	227	GLN	LYS	engineered mutation	UNP F6KTB0
R	227	GLN	LYS	engineered mutation	UNP F6KTB0
J	227	GLN	LYS	engineered mutation	UNP F6KTB0

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Chain	Residue	Modelled	Actual	Comment	Reference
N	227	GLN	LYS	engineered mutation	UNP F6KTB0
B	227	GLN	LYS	engineered mutation	UNP F6KTB0

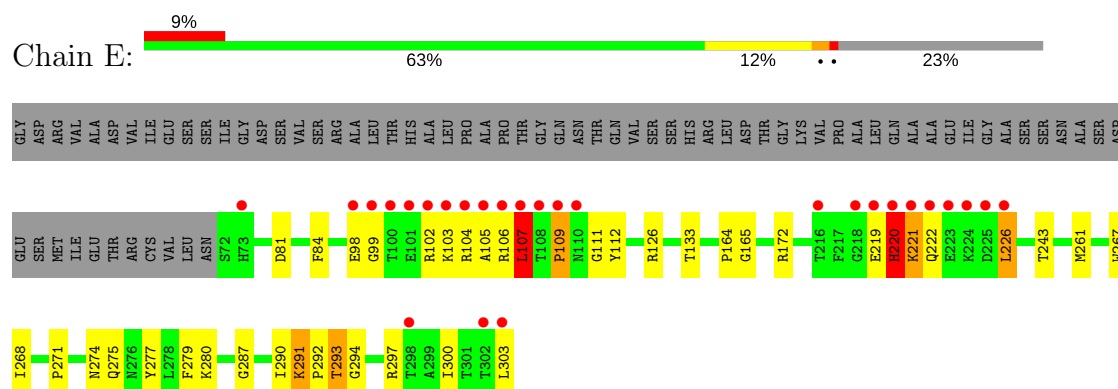
- Molecule 3 is a protein called Capsid protein VP0.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	G	242	Total 1872	C 1201	N 310	O 353	S 8	0	0	0
3	S	242	Total 1872	C 1201	N 310	O 353	S 8	0	0	0
3	K	242	Total 1872	C 1201	N 310	O 353	S 8	0	0	0
3	O	242	Total 1872	C 1201	N 310	O 353	S 8	0	0	0
3	C	242	Total 1872	C 1201	N 310	O 353	S 8	0	0	0

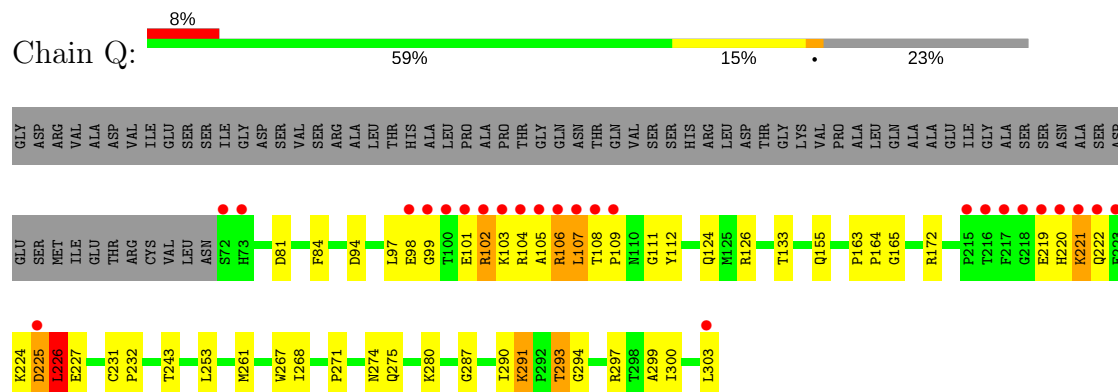
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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.

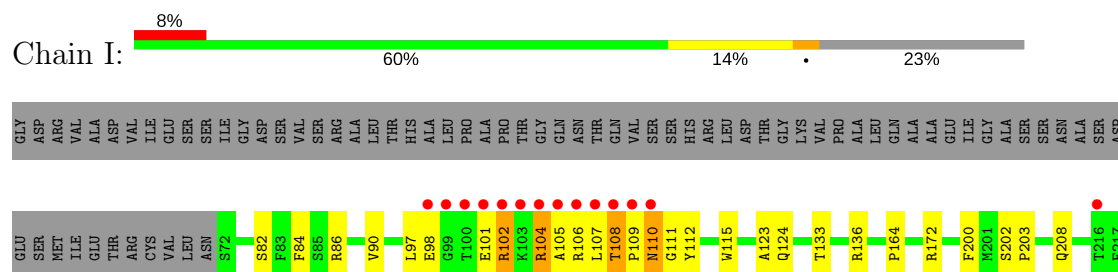
- Molecule 1: Capsid protein VP1



- Molecule 1: Capsid protein VP1

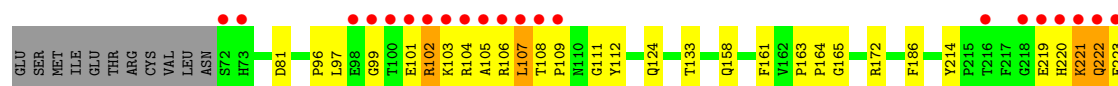
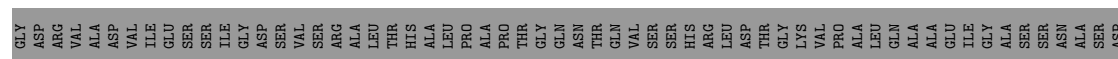


- Molecule 1: Capsid protein VP1

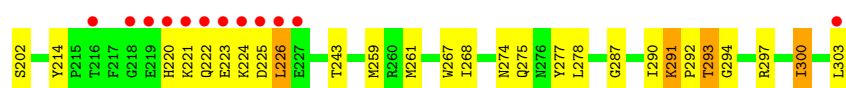
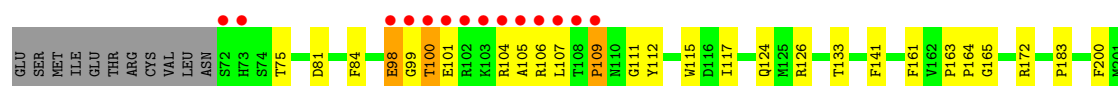
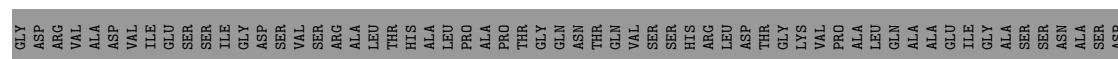




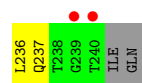
• Molecule 1: Capsid protein VP1



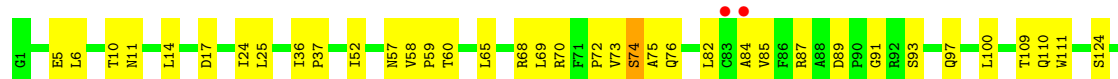
• Molecule 1: Capsid protein VP1

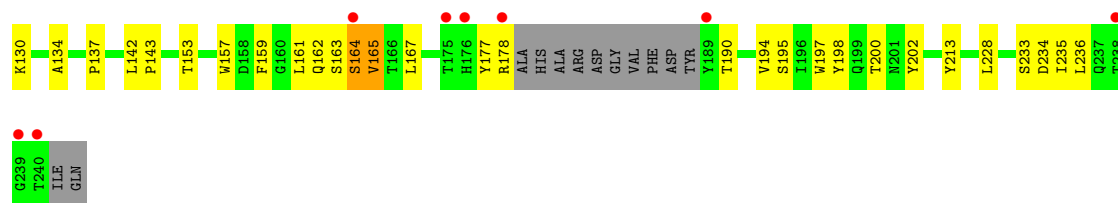


• Molecule 2: Capsid protein VP3

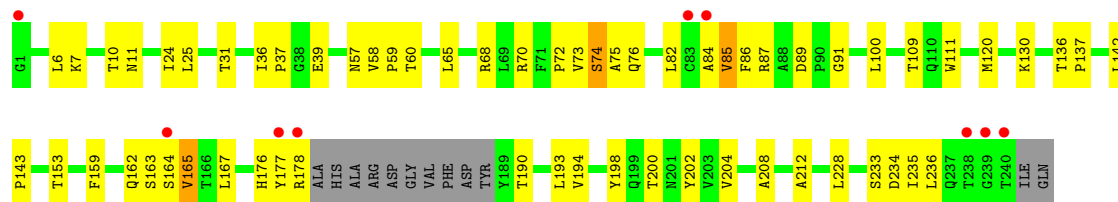


• Molecule 2: Capsid protein VP3

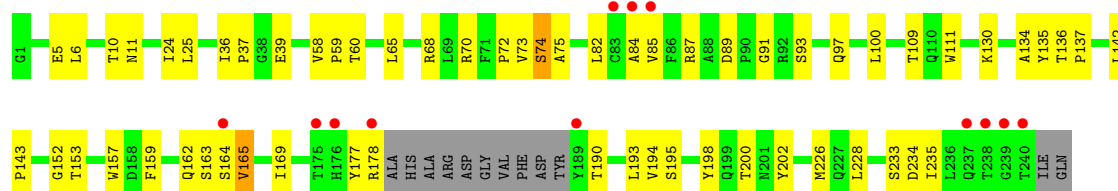




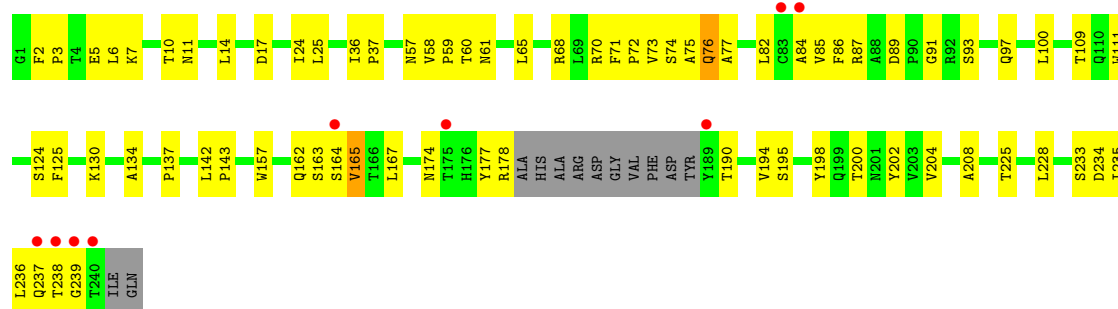
• Molecule 2: Capsid protein VP3



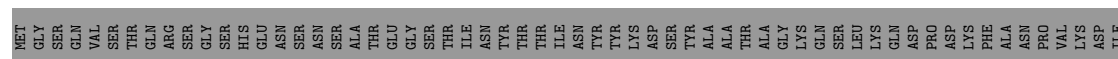
• Molecule 2: Capsid protein VP3

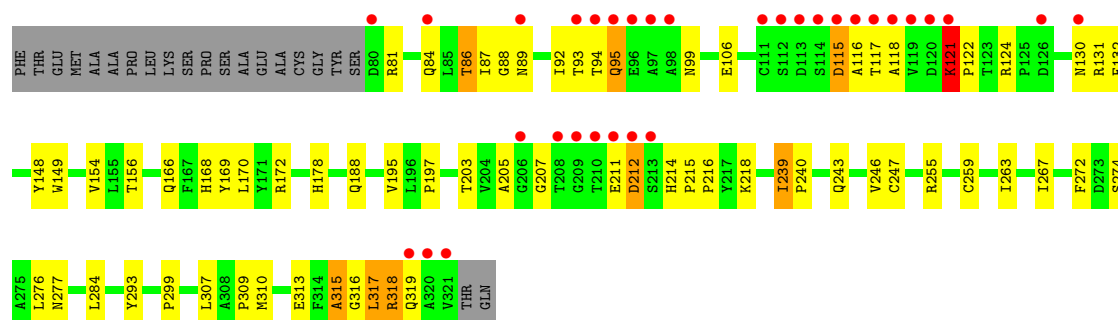


• Molecule 2: Capsid protein VP3

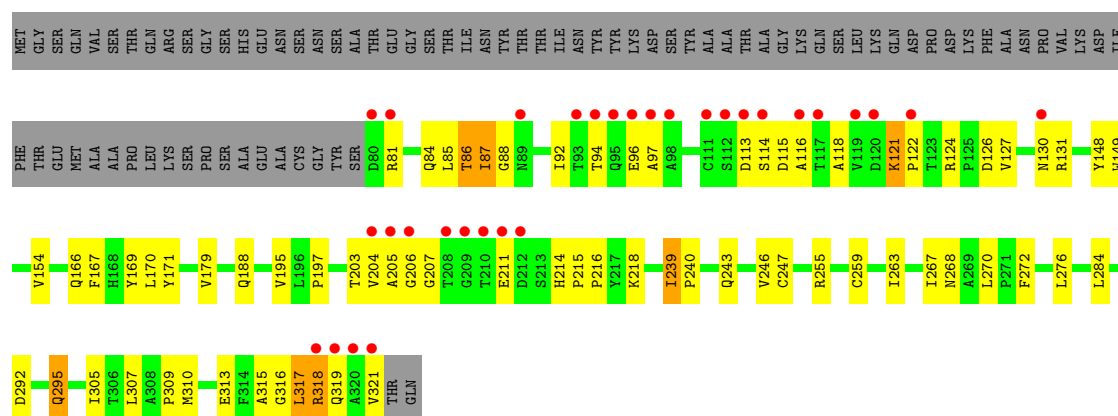


• Molecule 3: Capsid protein VP0

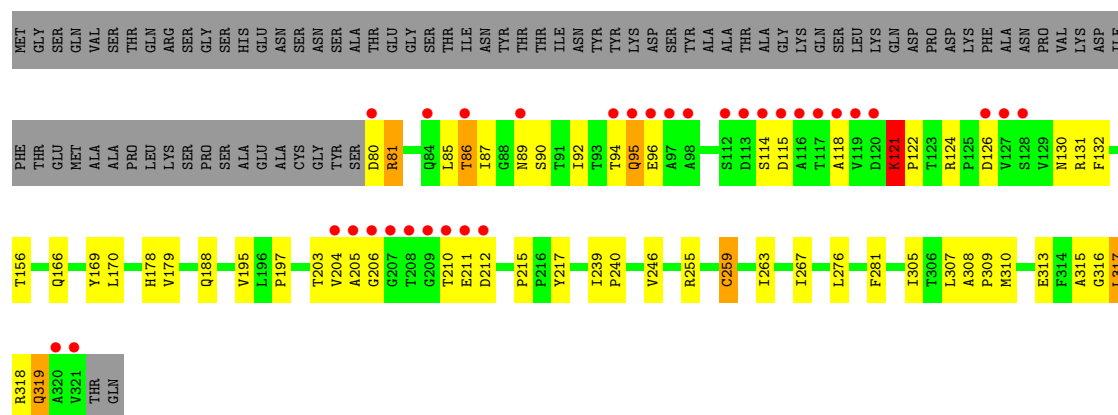




• Molecule 3: Capsid protein VP0

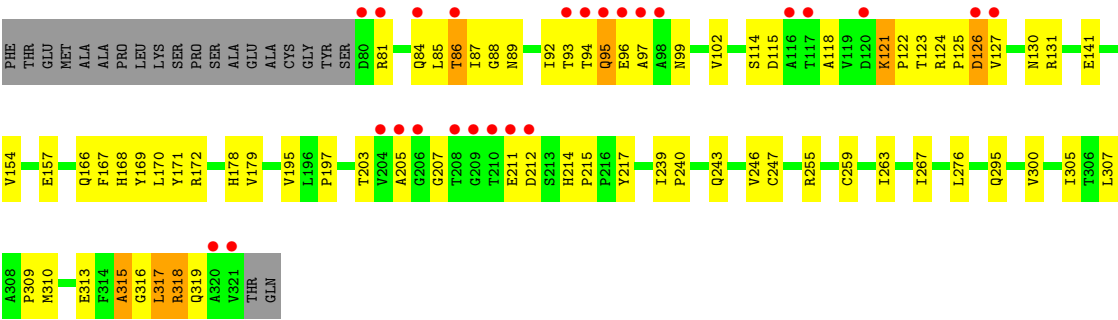


• Molecule 3: Capsid protein VP0

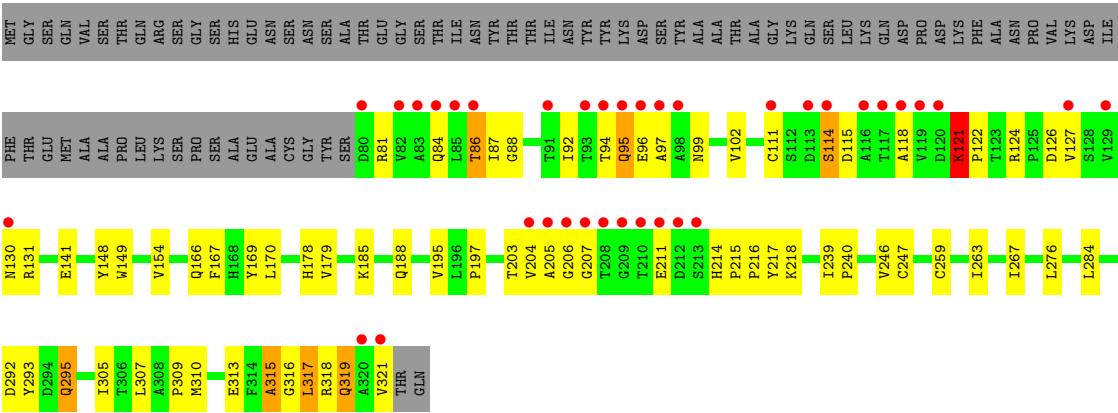


• Molecule 3: Capsid protein VP0





• Molecule 3: Capsid protein VP0



4 Data and refinement statistics

Property	Value	Source
Space group	P 4 ₂ 3 2	Depositor
Cell constants a, b, c, α , β , γ	350.60Å 350.60Å 350.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.44 – 3.10 47.71 – 3.10	Depositor EDS
% Data completeness (in resolution range)	(Not available) (46.44-3.10) 90.6 (47.71-3.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.28 (at 3.12Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.235 , 0.265 0.231 , 0.264	Depositor DCC
R_{free} test set	2001 reflections (1.52%)	DCC
Wilson B-factor (Å ²)	61.9	Xtriage
Anisotropy	0.000	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 30.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.52$, $\langle L^2 \rangle = 0.36$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	27390	wwPDB-VP
Average B, all atoms (Å ²)	55.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.19% 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

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	0.36	0/1899	0.63	0/2584
1	E	0.35	0/1899	0.57	1/2584 (0.0%)
1	I	0.36	0/1899	0.64	2/2584 (0.1%)
1	M	0.33	0/1899	0.60	2/2584 (0.1%)
1	Q	0.37	0/1899	0.66	2/2584 (0.1%)
2	B	0.32	0/1810	0.57	0/2477
2	F	0.29	0/1810	0.53	0/2477
2	J	0.32	0/1810	0.57	0/2477
2	N	0.29	0/1810	0.53	0/2477
2	R	0.31	0/1810	0.55	0/2477
3	C	0.39	0/1927	0.60	0/2644
3	G	0.29	0/1927	0.54	1/2644 (0.0%)
3	K	0.30	0/1927	0.55	0/2644
3	O	0.29	0/1927	0.56	0/2644
3	S	0.30	0/1927	0.54	0/2644
All	All	0.33	0/28180	0.58	8/38525 (0.0%)

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	I	0	1
1	Q	0	2
3	C	0	2
3	G	0	2
3	K	0	2
3	O	0	1
All	All	0	10

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	I	104	ARG	NE-CZ-NH1	-9.68	115.46	120.30
1	Q	106	ARG	NE-CZ-NH1	-9.04	115.78	120.30
1	Q	106	ARG	NE-CZ-NH2	8.34	124.47	120.30
1	M	226	LEU	CA-CB-CG	-6.01	101.48	115.30
1	E	107	LEU	CA-CB-CG	5.83	128.72	115.30
3	G	212	ASP	CB-CG-OD1	5.42	123.18	118.30
1	I	226	LEU	CA-CB-CG	-5.23	103.28	115.30
1	M	107	LEU	CA-CB-CG	5.19	127.23	115.30

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	121	LYS	Peptide
3	C	95	GLN	Peptide
3	G	121	LYS	Peptide
3	G	95	GLN	Peptide
1	I	219	GLU	Peptide
3	K	121	LYS	Peptide
3	K	95	GLN	Peptide
3	O	95	GLN	Peptide
1	Q	225	ASP	Peptide
1	Q	226	LEU	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	1844	0	1803	60	0
1	E	1844	0	1803	46	0
1	I	1844	0	1803	53	0
1	M	1844	0	1803	67	0
1	Q	1844	0	1803	65	0
2	B	1762	0	1746	67	0
2	F	1762	0	1746	68	0
2	J	1762	0	1746	62	0
2	N	1762	0	1746	57	0
2	R	1762	0	1746	65	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	C	1872	0	1811	58	0
3	G	1872	0	1811	54	0
3	K	1872	0	1811	45	0
3	O	1872	0	1811	64	0
3	S	1872	0	1811	64	0
All	All	27390	0	26800	724	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 13.

All (724) 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:I:98:GLU:HA	1:I:104:ARG:HH12	1.19	1.04
2:R:85:VAL:HG21	2:R:195:SER:HA	1.40	1.02
3:C:295:GLN:HA	3:C:295:GLN:HE21	1.19	1.00
1:M:105:ALA:HA	1:M:108:THR:HA	1.44	0.99
1:I:105:ALA:HA	1:I:108:THR:HA	1.43	0.98
3:G:95:GLN:HG3	3:G:99:ASN:HA	1.47	0.97
2:F:137:PRO:HG3	3:S:317:LEU:HB3	1.51	0.92
3:S:295:GLN:HE21	3:S:295:GLN:HA	1.35	0.92
2:J:137:PRO:HG3	3:O:317:LEU:HB3	1.51	0.91
1:M:291:LYS:HD2	1:M:291:LYS:H	1.35	0.90
1:M:226:LEU:HB3	3:O:214:HIS:HB2	1.53	0.89
1:Q:105:ALA:HA	1:Q:109:PRO:HD2	1.56	0.88
1:I:300:ILE:HA	2:J:84:ALA:H	1.40	0.86
3:K:86:THR:OG1	3:K:87:ILE:N	2.02	0.86
3:C:111:CYS:SG	3:C:114:SER:OG	2.36	0.82
1:Q:300:ILE:HA	2:R:84:ALA:H	1.44	0.82
3:G:317:LEU:HB3	2:B:137:PRO:HG3	1.60	0.82
3:C:95:GLN:HB2	3:C:99:ASN:HA	1.63	0.80
1:I:98:GLU:HA	1:I:104:ARG:NH1	1.97	0.80
3:G:86:THR:OG1	3:G:87:ILE:N	2.16	0.79
3:G:81:ARG:NH1	3:G:94:THR:O	2.17	0.78
3:S:86:THR:OG1	3:S:87:ILE:N	2.14	0.78
3:O:203:THR:HG23	3:O:215:PRO:HG3	1.67	0.77
3:O:86:THR:OG1	3:O:87:ILE:N	2.15	0.77
3:O:81:ARG:NH1	3:O:94:THR:O	2.16	0.77
3:S:263:ILE:HG23	3:S:310:MET:HE1	1.67	0.77
3:C:84:GLN:NE2	3:C:86:THR:O	2.19	0.76
3:G:170:LEU:HB2	3:G:315:ALA:HB3	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:S:170:LEU:HB2	3:S:315:ALA:HB3	1.67	0.76
1:A:294:GLY:HA3	2:B:68:ARG:HH12	1.50	0.75
1:I:110:ASN:H	1:I:110:ASN:HD22	1.32	0.75
3:O:84:GLN:OE1	3:O:86:THR:N	2.19	0.75
3:K:130:ASN:HA	3:K:309:PRO:HG2	1.67	0.75
1:I:110:ASN:ND2	1:I:110:ASN:H	1.84	0.75
3:S:81:ARG:NH1	3:S:94:THR:O	2.20	0.74
3:S:84:GLN:OE1	3:S:86:THR:N	2.18	0.74
3:C:86:THR:OG1	3:C:87:ILE:N	2.19	0.74
1:I:294:GLY:HA3	2:J:68:ARG:HH12	1.54	0.73
3:C:170:LEU:HB2	3:C:315:ALA:HB3	1.71	0.73
3:G:203:THR:HG23	3:G:215:PRO:HG3	1.70	0.73
2:J:85:VAL:HG11	2:J:194:VAL:H	1.52	0.73
2:R:109:THR:HB	2:R:228:LEU:HB3	1.70	0.73
1:M:223:GLU:HG3	1:M:225:ASP:O	1.88	0.73
3:O:95:GLN:HB2	3:O:99:ASN:HA	1.71	0.73
2:B:85:VAL:HG21	2:B:194:VAL:O	1.88	0.72
3:C:295:GLN:NE2	3:C:295:GLN:HA	2.00	0.72
2:R:137:PRO:HG3	3:K:317:LEU:HB3	1.72	0.72
2:R:74:SER:OG	2:R:76:GLN:OE1	2.07	0.72
2:B:76:GLN:HG3	2:B:77:ALA:N	2.05	0.71
3:G:130:ASN:HA	3:G:309:PRO:HG2	1.72	0.71
3:C:169:TYR:H	3:C:316:GLY:HA3	1.55	0.71
1:E:107:LEU:C	1:E:109:PRO:HD3	2.09	0.71
2:J:109:THR:HB	2:J:228:LEU:HB3	1.73	0.71
2:F:109:THR:HB	2:F:228:LEU:HB3	1.72	0.70
1:Q:294:GLY:HA3	2:R:68:ARG:HH12	1.53	0.70
1:I:97:LEU:O	1:I:104:ARG:NH1	2.23	0.70
1:M:107:LEU:C	1:M:109:PRO:HD3	2.12	0.70
1:A:107:LEU:C	1:A:109:PRO:HD3	2.12	0.70
3:S:203:THR:HG23	3:S:215:PRO:HG3	1.73	0.70
3:O:170:LEU:HB2	3:O:315:ALA:HB3	1.74	0.69
2:N:109:THR:HB	2:N:228:LEU:HB3	1.74	0.69
2:N:177:TYR:OH	2:N:190:THR:O	2.09	0.69
1:M:109:PRO:HB2	1:M:112:TYR:H	1.55	0.69
3:O:121:LYS:HB3	3:O:122:PRO:CD	2.23	0.69
2:R:177:TYR:OH	2:R:190:THR:O	2.10	0.69
1:A:300:ILE:HA	2:B:84:ALA:H	1.59	0.68
1:I:223:GLU:HG2	3:K:217:TYR:CE1	2.29	0.68
1:M:109:PRO:HB3	1:M:112:TYR:O	1.94	0.68
3:K:170:LEU:HB2	3:K:315:ALA:HB3	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:166:GLN:HA	3:K:276:LEU:HD11	1.76	0.68
1:I:275:GLN:NE2	1:I:290:ILE:O	2.25	0.67
2:B:109:THR:HB	2:B:228:LEU:HB3	1.75	0.67
3:C:86:THR:HG23	3:C:88:GLY:H	1.59	0.67
1:Q:99:GLY:O	1:Q:104:ARG:NH2	2.26	0.67
2:F:177:TYR:OH	2:F:190:THR:O	2.12	0.67
1:M:101:GLU:O	1:M:102:ARG:NE	2.28	0.66
1:Q:293:THR:O	2:R:68:ARG:NH2	2.27	0.66
1:Q:106:ARG:HG2	1:Q:107:LEU:HD22	1.77	0.66
2:F:234:ASP:OD1	2:F:235:ILE:N	2.29	0.66
3:O:263:ILE:HG23	3:O:310:MET:HE1	1.75	0.66
3:S:130:ASN:HA	3:S:309:PRO:HG2	1.77	0.66
1:M:105:ALA:CA	1:M:108:THR:HA	2.24	0.66
1:Q:275:GLN:NE2	1:Q:290:ILE:O	2.26	0.66
3:G:166:GLN:HA	3:G:276:LEU:HD11	1.76	0.66
3:S:169:TYR:H	3:S:316:GLY:HA3	1.61	0.66
3:S:318:ARG:O	3:S:319:GLN:HG2	1.95	0.66
3:C:263:ILE:HG23	3:C:310:MET:HE1	1.78	0.66
2:J:59:PRO:HD2	2:J:68:ARG:HD2	1.78	0.66
3:G:95:GLN:CG	3:G:99:ASN:HA	2.25	0.66
3:O:169:TYR:H	3:O:316:GLY:HA3	1.61	0.65
2:N:6:LEU:H	2:B:10:THR:HB	1.61	0.65
3:G:86:THR:HG23	3:G:88:GLY:H	1.59	0.65
3:S:166:GLN:HA	3:S:276:LEU:HD11	1.78	0.65
3:K:169:TYR:H	3:K:316:GLY:HA3	1.61	0.65
3:K:318:ARG:O	3:K:319:GLN:HG2	1.96	0.65
2:J:85:VAL:HG21	2:J:194:VAL:O	1.95	0.65
2:B:37:PRO:HG2	3:C:267:ILE:HG12	1.79	0.65
3:S:188:GLN:HE21	3:S:292:ASP:HB3	1.61	0.65
3:C:86:THR:HG21	3:C:131:ARG:HB2	1.79	0.65
1:M:275:GLN:NE2	1:M:290:ILE:O	2.30	0.65
3:O:86:THR:HG21	3:O:131:ARG:HB2	1.76	0.64
3:O:84:GLN:OE1	3:O:85:LEU:N	2.31	0.64
3:C:203:THR:HG23	3:C:215:PRO:HG3	1.78	0.64
1:E:293:THR:O	2:F:68:ARG:NH2	2.27	0.64
1:E:294:GLY:HA3	2:F:68:ARG:HH12	1.62	0.64
1:Q:103:LYS:HB3	1:Q:105:ALA:HB3	1.78	0.64
2:R:59:PRO:HD2	2:R:68:ARG:HD2	1.78	0.64
2:J:73:VAL:HG23	2:J:74:SER:H	1.63	0.64
1:M:97:LEU:O	1:M:104:ARG:NH1	2.31	0.64
2:N:73:VAL:HG23	2:N:74:SER:H	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:105:ALA:HA	1:A:109:PRO:HD2	1.80	0.64
3:O:166:GLN:HA	3:O:276:LEU:HD11	1.79	0.64
3:K:203:THR:HG23	3:K:215:PRO:HG3	1.79	0.63
3:O:130:ASN:HA	3:O:309:PRO:HG2	1.80	0.63
1:A:109:PRO:HB3	1:A:112:TYR:O	1.99	0.63
2:N:234:ASP:OD1	2:N:235:ILE:N	2.31	0.63
3:C:166:GLN:HA	3:C:276:LEU:HD11	1.80	0.63
3:K:263:ILE:HG23	3:K:310:MET:HE1	1.79	0.63
1:I:294:GLY:HA2	2:J:57:ASN:HB2	1.80	0.63
3:S:86:THR:HG23	3:S:88:GLY:H	1.62	0.63
1:A:100:THR:OG1	1:A:100:THR:O	2.05	0.63
2:N:135:TYR:O	3:C:318:ARG:NH2	2.31	0.63
2:B:234:ASP:OD1	2:B:235:ILE:N	2.31	0.63
3:C:118:ALA:HB3	3:C:121:LYS:HG2	1.80	0.63
3:G:263:ILE:HG23	3:G:310:MET:HE1	1.80	0.63
3:K:179:VAL:HG22	3:K:305:ILE:HG12	1.79	0.63
2:R:85:VAL:CG2	2:R:195:SER:HA	2.23	0.63
2:R:37:PRO:HG2	3:S:267:ILE:HG12	1.78	0.63
3:K:85:LEU:HB3	3:K:86:THR:HG22	1.81	0.62
2:N:136:THR:HB	2:N:193:LEU:HB2	1.81	0.62
1:Q:94:ASP:HB3	1:Q:106:ARG:HB3	1.81	0.62
3:S:124:ARG:HG2	3:S:313:GLU:HG3	1.81	0.62
1:E:99:GLY:O	1:E:104:ARG:NH2	2.32	0.62
3:G:318:ARG:O	3:G:319:GLN:HG2	1.99	0.62
1:Q:219:GLU:HB3	1:Q:222:GLN:HB3	1.81	0.62
2:F:73:VAL:HG23	2:F:74:SER:H	1.63	0.62
3:G:86:THR:HG21	3:G:131:ARG:HB2	1.82	0.62
1:M:105:ALA:C	1:M:109:PRO:HD2	2.20	0.62
2:R:73:VAL:HG23	2:R:74:SER:H	1.65	0.62
2:F:152:GLY:HA2	3:S:318:ARG:HD2	1.81	0.62
1:M:293:THR:O	2:N:68:ARG:NH2	2.26	0.62
2:F:37:PRO:HG2	3:G:267:ILE:HG12	1.82	0.62
2:J:85:VAL:HG11	2:J:194:VAL:N	2.14	0.61
1:E:105:ALA:C	1:E:109:PRO:HD2	2.20	0.61
2:B:73:VAL:HG23	2:B:74:SER:H	1.64	0.61
2:N:137:PRO:HG3	3:C:317:LEU:HB3	1.83	0.61
3:S:113:ASP:OD1	3:S:114:SER:N	2.29	0.61
3:O:121:LYS:HB3	3:O:122:PRO:HD3	1.83	0.61
1:Q:107:LEU:C	1:Q:109:PRO:HD3	2.21	0.61
1:Q:109:PRO:HB3	1:Q:112:TYR:O	2.00	0.61
1:A:293:THR:O	2:B:68:ARG:NH2	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:287:GLY:HA3	3:G:207:GLY:HA2	1.83	0.61
2:R:75:ALA:HA	2:R:202:TYR:HB3	1.83	0.61
3:S:121:LYS:HB2	3:S:122:PRO:HD3	1.82	0.61
3:S:295:GLN:NE2	3:S:295:GLN:HA	2.14	0.61
3:S:84:GLN:OE1	3:S:85:LEU:N	2.33	0.61
1:A:105:ALA:C	1:A:109:PRO:HD2	2.21	0.61
3:G:84:GLN:NE2	3:G:89:ASN:HB2	2.16	0.61
1:Q:297:ARG:HH22	1:Q:303:LEU:HD12	1.64	0.61
2:R:234:ASP:OD1	2:R:235:ILE:N	2.31	0.61
2:R:85:VAL:HG21	2:R:195:SER:CA	2.23	0.61
1:I:107:LEU:C	1:I:109:PRO:HD3	2.21	0.61
3:C:169:TYR:HB3	3:C:316:GLY:HA2	1.83	0.60
2:J:91:GLY:HA3	2:J:111:TRP:CZ2	2.36	0.60
1:I:109:PRO:HB2	1:I:112:TYR:H	1.67	0.60
2:N:136:THR:N	2:N:193:LEU:O	2.27	0.60
2:N:142:LEU:HD12	2:N:143:PRO:HD2	1.82	0.60
1:E:297:ARG:HH22	1:E:303:LEU:HD12	1.67	0.60
2:J:142:LEU:HD12	2:J:143:PRO:HD2	1.84	0.60
2:N:59:PRO:HD2	2:N:68:ARG:HD2	1.84	0.60
1:M:223:GLU:HB2	3:O:217:TYR:CE1	2.36	0.60
3:S:118:ALA:O	3:S:121:LYS:HB3	2.02	0.60
2:F:59:PRO:HD2	2:F:68:ARG:HD2	1.83	0.60
1:M:102:ARG:NH2	1:M:104:ARG:HH21	1.99	0.60
3:O:118:ALA:O	3:O:121:LYS:HB2	2.02	0.60
3:C:92:ILE:HD11	3:C:178:HIS:HE2	1.67	0.59
1:E:165:GLY:HA2	2:B:178:ARG:HB3	1.83	0.59
1:E:109:PRO:HB2	1:E:112:TYR:H	1.67	0.59
3:G:169:TYR:H	3:G:316:GLY:HA3	1.67	0.59
1:M:214:TYR:HE2	1:M:228:TYR:HB2	1.67	0.59
1:Q:105:ALA:HA	1:Q:108:THR:HA	1.83	0.59
1:Q:109:PRO:HB2	1:Q:112:TYR:H	1.66	0.59
2:B:142:LEU:HD12	2:B:143:PRO:HD2	1.85	0.59
2:F:10:THR:HB	2:B:6:LEU:H	1.67	0.59
2:F:130:LYS:HB2	2:F:200:THR:HG23	1.84	0.59
3:O:118:ALA:H	3:O:121:LYS:HE2	1.68	0.59
2:B:237:GLN:NE2	2:B:238:THR:O	2.36	0.58
2:F:91:GLY:HA3	2:F:111:TRP:CZ2	2.38	0.58
1:Q:105:ALA:CA	1:Q:109:PRO:HD2	2.28	0.58
3:S:169:TYR:HB3	3:S:316:GLY:HA2	1.85	0.58
2:N:152:GLY:HA3	3:C:318:ARG:HD3	1.85	0.58
1:Q:219:GLU:HB3	1:Q:222:GLN:CB	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:72:PRO:O	2:B:82:LEU:HD11	2.03	0.58
3:S:86:THR:HG21	3:S:131:ARG:HB2	1.84	0.58
3:C:124:ARG:HG2	3:C:313:GLU:HG3	1.85	0.58
2:F:72:PRO:O	2:F:82:LEU:HD11	2.04	0.58
2:R:73:VAL:O	2:R:74:SER:HB3	2.02	0.58
2:F:142:LEU:HD12	2:F:143:PRO:HD2	1.86	0.58
1:I:293:THR:O	2:J:68:ARG:NH2	2.32	0.58
1:M:97:LEU:HD11	1:M:252:PRO:HD3	1.86	0.58
3:O:84:GLN:HE21	3:O:89:ASN:HB2	1.68	0.58
3:K:94:THR:OG1	3:K:95:GLN:HG3	2.03	0.57
3:S:167:PHE:HA	3:S:319:GLN:HB2	1.85	0.57
3:C:81:ARG:NH1	3:C:94:THR:O	2.37	0.57
3:G:118:ALA:HB3	3:G:121:LYS:HG2	1.85	0.57
3:G:205:ALA:HB1	3:G:211:GLU:H	1.69	0.57
2:R:134:ALA:HB3	2:R:195:SER:OG	2.03	0.57
2:R:72:PRO:O	2:R:82:LEU:HD11	2.03	0.57
3:G:92:ILE:HD11	3:G:178:HIS:HE2	1.69	0.57
2:J:72:PRO:O	2:J:82:LEU:HD11	2.04	0.57
1:M:109:PRO:HB3	1:M:112:TYR:C	2.25	0.57
2:B:162:GLN:HG2	2:B:163:SER:H	1.69	0.57
1:I:105:ALA:C	1:I:109:PRO:HD2	2.24	0.57
1:Q:103:LYS:HB3	1:Q:105:ALA:CB	2.34	0.57
3:C:295:GLN:CA	3:C:295:GLN:HE21	2.02	0.57
1:M:291:LYS:HE3	2:N:65:LEU:HD21	1.86	0.57
2:R:85:VAL:HG11	2:R:194:VAL:O	2.04	0.57
1:A:109:PRO:HB2	1:A:112:TYR:H	1.70	0.57
1:A:105:ALA:CA	1:A:109:PRO:HD2	2.35	0.57
1:M:291:LYS:HE2	2:N:60:THR:HA	1.86	0.57
2:R:130:LYS:HB2	2:R:200:THR:HG23	1.87	0.57
2:J:130:LYS:HB2	2:J:200:THR:HG23	1.86	0.57
2:B:177:TYR:OH	2:B:190:THR:O	2.23	0.56
2:F:153:THR:OG1	3:S:317:LEU:HD21	2.04	0.56
1:I:105:ALA:HA	1:I:109:PRO:HD2	1.87	0.56
1:A:109:PRO:HB3	1:A:112:TYR:C	2.26	0.56
3:C:293:TYR:HE1	3:C:295:GLN:HE22	1.51	0.56
2:J:136:THR:N	2:J:193:LEU:O	2.28	0.56
2:J:24:ILE:HG23	2:J:25:LEU:HG	1.87	0.56
1:E:267:TRP:CE3	2:F:36:ILE:HB	2.40	0.56
1:M:164:PRO:HB2	2:J:178:ARG:HH11	1.70	0.56
2:B:59:PRO:HD2	2:B:68:ARG:HD2	1.87	0.56
1:E:279:PHE:CZ	3:G:212:ASP:HB3	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:124:GLN:HG3	2:J:233:SER:HB3	1.88	0.56
2:J:85:VAL:HG22	2:J:86:PHE:CD2	2.41	0.56
3:O:318:ARG:O	3:O:319:GLN:HG2	2.06	0.56
1:Q:287:GLY:HA3	3:S:207:GLY:HA2	1.86	0.56
2:B:65:LEU:O	2:B:68:ARG:HG3	2.06	0.56
2:J:37:PRO:HG2	3:K:267:ILE:HG12	1.87	0.56
2:N:130:LYS:HB2	2:N:200:THR:HG23	1.87	0.56
3:C:130:ASN:HA	3:C:309:PRO:HG2	1.87	0.56
1:I:109:PRO:HB3	1:I:112:TYR:O	2.06	0.56
2:J:163:SER:O	2:J:165:VAL:N	2.39	0.56
1:A:222:GLN:O	1:A:224:LYS:N	2.39	0.56
1:E:99:GLY:H	1:E:104:ARG:HH22	1.53	0.56
2:J:234:ASP:OD1	2:J:235:ILE:N	2.36	0.56
1:I:291:LYS:HE2	2:J:60:THR:HG22	1.88	0.56
3:K:118:ALA:HB3	3:K:121:LYS:HG2	1.87	0.56
3:K:85:LEU:HD22	3:K:86:THR:HG22	1.88	0.56
1:E:105:ALA:CA	1:E:109:PRO:HD2	2.36	0.56
2:J:65:LEU:O	2:J:68:ARG:HG3	2.06	0.56
2:N:10:THR:OG1	2:N:11:ASN:N	2.38	0.56
2:R:6:LEU:H	2:J:10:THR:HB	1.71	0.56
1:E:105:ALA:HA	1:E:109:PRO:HD2	1.89	0.55
1:M:124:GLN:HG3	2:N:233:SER:HB3	1.88	0.55
3:O:168:HIS:C	3:O:319:GLN:HE21	2.10	0.55
1:Q:225:ASP:O	1:Q:227:GLU:N	2.38	0.55
2:B:134:ALA:O	2:B:195:SER:N	2.39	0.55
1:A:124:GLN:HG3	2:B:233:SER:HB3	1.89	0.55
3:C:188:GLN:HE21	3:C:292:ASP:HB3	1.70	0.55
2:F:159:PHE:HB3	3:G:255:ARG:NH2	2.21	0.55
2:J:85:VAL:CG1	2:J:194:VAL:H	2.18	0.55
1:A:275:GLN:NE2	1:A:290:ILE:O	2.35	0.55
2:N:91:GLY:HA3	2:N:111:TRP:CZ2	2.42	0.55
3:O:92:ILE:HD11	3:O:178:HIS:HE2	1.72	0.55
3:S:205:ALA:HB1	3:S:211:GLU:H	1.72	0.55
2:F:24:ILE:HG23	2:F:25:LEU:HG	1.89	0.55
2:J:75:ALA:HA	2:J:202:TYR:HB3	1.89	0.55
2:N:159:PHE:HB3	3:O:255:ARG:NH2	2.22	0.55
1:Q:98:GLU:HA	1:Q:104:ARG:NH1	2.22	0.55
2:F:73:VAL:O	2:F:74:SER:HB3	2.07	0.55
2:R:73:VAL:O	2:R:198:TYR:OH	2.24	0.55
1:E:109:PRO:HB3	1:E:112:TYR:O	2.06	0.55
2:N:24:ILE:HG23	2:N:25:LEU:HG	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:134:ALA:O	2:N:195:SER:N	2.36	0.55
2:N:37:PRO:HG2	3:O:267:ILE:HG12	1.89	0.55
2:F:178:ARG:NH1	1:Q:164:PRO:HB2	2.22	0.54
1:M:105:ALA:HA	1:M:108:THR:CA	2.29	0.54
2:R:24:ILE:HG23	2:R:25:LEU:HG	1.89	0.54
3:O:205:ALA:HB1	3:O:211:GLU:H	1.73	0.54
2:F:178:ARG:HB3	1:Q:165:GLY:HA2	1.90	0.54
2:J:163:SER:C	2:J:165:VAL:H	2.11	0.54
2:N:5:GLU:HA	2:B:10:THR:HG22	1.89	0.54
3:O:118:ALA:H	3:O:121:LYS:HG2	1.71	0.54
2:F:75:ALA:HA	2:F:202:TYR:HB3	1.88	0.54
1:M:226:LEU:O	3:O:214:HIS:ND1	2.37	0.54
1:I:220:HIS:O	1:I:222:GLN:HG2	2.08	0.54
1:Q:97:LEU:O	1:Q:104:ARG:NH1	2.41	0.54
1:Q:291:LYS:HE2	2:R:60:THR:HG22	1.89	0.54
2:B:163:SER:O	2:B:165:VAL:N	2.41	0.54
2:B:174:ASN:HA	2:B:177:TYR:HD2	1.73	0.54
1:E:226:LEU:HB2	3:G:214:HIS:ND1	2.23	0.54
1:E:271:PRO:HB2	3:G:239:ILE:HG12	1.89	0.54
3:S:179:VAL:HG22	3:S:305:ILE:HG12	1.90	0.54
2:F:14:LEU:HB3	2:F:17:ASP:HB2	1.90	0.53
1:I:105:ALA:CA	1:I:109:PRO:HD2	2.38	0.53
2:B:73:VAL:O	2:B:198:TYR:OH	2.27	0.53
2:N:75:ALA:HA	2:N:202:TYR:HB3	1.89	0.53
1:Q:280:LYS:HD2	1:Q:280:LYS:H	1.73	0.53
1:A:277:TYR:H	2:B:235:ILE:HG21	1.73	0.53
1:M:274:ASN:HB2	3:O:240:PRO:HD3	1.91	0.53
2:N:73:VAL:O	2:N:74:SER:HB3	2.08	0.53
1:E:274:ASN:HB2	3:G:240:PRO:HD3	1.90	0.53
2:J:159:PHE:HB3	3:K:255:ARG:NH2	2.24	0.53
1:Q:274:ASN:HB2	3:S:240:PRO:HD3	1.90	0.53
3:C:179:VAL:HG22	3:C:305:ILE:HG12	1.89	0.53
2:F:6:LEU:H	2:R:10:THR:HB	1.73	0.53
2:B:24:ILE:HG23	2:B:25:LEU:HG	1.89	0.53
1:A:220:HIS:NE2	3:C:276:LEU:O	2.42	0.53
1:M:165:GLY:HA2	2:J:178:ARG:HB3	1.89	0.53
1:M:96:PRO:HG2	1:M:104:ARG:HG2	1.90	0.53
2:R:85:VAL:HG11	2:R:194:VAL:C	2.29	0.53
1:A:274:ASN:HB2	3:C:240:PRO:HD3	1.91	0.53
2:R:194:VAL:O	2:R:194:VAL:HG12	2.08	0.53
2:J:162:GLN:HG2	2:J:163:SER:H	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:105:ALA:HA	1:M:109:PRO:HD2	1.91	0.53
1:M:267:TRP:CE3	2:N:36:ILE:HB	2.43	0.53
1:Q:294:GLY:HA2	2:R:57:ASN:HB2	1.91	0.53
1:M:279:PHE:CE1	3:O:212:ASP:HB3	2.44	0.52
2:N:135:TYR:CE1	2:N:169:ILE:HG23	2.43	0.52
1:A:165:GLY:HA2	2:N:178:ARG:HB3	1.91	0.52
1:I:164:PRO:HB2	2:R:178:ARG:NH1	2.24	0.52
1:E:219:GLU:HB2	1:E:222:GLN:HG2	1.91	0.52
2:N:72:PRO:O	2:N:82:LEU:HD11	2.08	0.52
2:B:14:LEU:HB3	2:B:17:ASP:HB2	1.92	0.52
2:J:73:VAL:O	2:J:74:SER:HB3	2.09	0.52
2:B:194:VAL:HG12	2:B:194:VAL:O	2.09	0.52
1:I:172:ARG:NH2	1:I:243:THR:OG1	2.42	0.52
1:Q:112:TYR:CG	1:Q:112:TYR:O	2.62	0.52
2:J:204:VAL:HB	2:J:208:ALA:HB3	1.92	0.52
3:O:115:ASP:OD1	3:O:121:LYS:HE3	2.09	0.52
1:A:226:LEU:HB3	3:C:214:HIS:HB2	1.91	0.52
1:I:105:ALA:HB1	1:I:106:ARG:HB2	1.92	0.52
1:I:112:TYR:O	1:I:112:TYR:CG	2.62	0.52
2:J:194:VAL:HG12	2:J:194:VAL:O	2.09	0.52
1:M:112:TYR:O	1:M:112:TYR:CG	2.63	0.52
2:F:123:GLY:HA2	3:G:188:GLN:HE21	1.75	0.52
2:F:123:GLY:HA2	3:G:188:GLN:NE2	2.25	0.52
1:A:287:GLY:HA3	3:C:207:GLY:HA2	1.92	0.52
2:F:178:ARG:HH11	1:Q:164:PRO:HB2	1.75	0.52
2:F:152:GLY:HA2	3:S:318:ARG:CD	2.39	0.51
2:R:10:THR:OG1	2:R:11:ASN:N	2.42	0.51
2:B:130:LYS:HB2	2:B:200:THR:HG23	1.93	0.51
1:M:105:ALA:CA	1:M:109:PRO:HD2	2.40	0.51
3:O:169:TYR:HB3	3:O:316:GLY:HA2	1.92	0.51
2:B:73:VAL:O	2:B:74:SER:HB3	2.10	0.51
1:M:291:LYS:CD	1:M:291:LYS:H	2.11	0.51
3:O:168:HIS:O	3:O:319:GLN:NE2	2.43	0.51
1:I:101:GLU:C	1:I:102:ARG:HG2	2.30	0.51
1:A:98:GLU:HA	1:A:104:ARG:NH1	2.26	0.51
2:B:61:ASN:O	2:B:65:LEU:HG	2.11	0.51
2:F:204:VAL:HB	2:F:208:ALA:HB3	1.93	0.51
2:J:73:VAL:O	2:J:198:TYR:OH	2.28	0.51
1:E:84:PHE:HB3	1:E:261:MET:HE3	1.93	0.51
2:R:5:GLU:HA	2:J:10:THR:HG22	1.93	0.51
3:K:114:SER:HB3	3:K:115:ASP:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:112:TYR:O	1:A:112:TYR:CG	2.64	0.50
1:A:133:THR:HB	1:A:268:ILE:HB	1.93	0.50
1:E:280:LYS:HD2	1:E:280:LYS:H	1.76	0.50
2:N:65:LEU:O	2:N:68:ARG:HG3	2.12	0.50
1:Q:267:TRP:CE3	2:R:36:ILE:HB	2.46	0.50
3:S:316:GLY:O	3:S:317:LEU:HB2	2.10	0.50
1:A:267:TRP:CE3	2:B:36:ILE:HB	2.46	0.50
2:R:91:GLY:HA3	2:R:111:TRP:CZ2	2.47	0.50
3:C:148:TYR:HB3	3:C:284:LEU:HD23	1.94	0.50
3:G:121:LYS:HB3	3:G:122:PRO:HD3	1.92	0.50
1:I:267:TRP:CE3	2:J:36:ILE:HB	2.46	0.50
1:Q:271:PRO:HB2	3:S:239:ILE:HG12	1.93	0.50
1:A:277:TYR:H	2:B:235:ILE:CG2	2.25	0.50
1:Q:105:ALA:HB1	1:Q:106:ARG:HG3	1.93	0.50
2:N:153:THR:OG1	3:C:317:LEU:HD21	2.10	0.50
1:I:136:ARG:NH2	2:J:31:THR:O	2.36	0.50
2:R:14:LEU:HB3	2:R:17:ASP:HB2	1.93	0.50
2:R:65:LEU:O	2:R:68:ARG:HG3	2.12	0.50
3:C:121:LYS:HB3	3:C:122:PRO:HD3	1.94	0.50
1:I:133:THR:HB	1:I:268:ILE:HB	1.94	0.50
1:M:223:GLU:C	1:M:225:ASP:H	2.14	0.50
2:B:163:SER:C	2:B:165:VAL:H	2.16	0.49
3:K:122:PRO:HB3	3:K:313:GLU:HG2	1.94	0.49
1:Q:105:ALA:HB1	1:Q:106:ARG:HA	1.94	0.49
3:S:121:LYS:HB2	3:S:122:PRO:CD	2.41	0.49
3:K:169:TYR:HB3	3:K:316:GLY:HA2	1.94	0.49
1:M:287:GLY:HA3	3:O:207:GLY:HA2	1.93	0.49
3:S:317:LEU:HG	3:S:318:ARG:HG2	1.93	0.49
2:J:167:LEU:CD2	2:J:194:VAL:HG13	2.42	0.49
2:R:159:PHE:HB3	3:S:255:ARG:NH2	2.27	0.49
2:F:65:LEU:O	2:F:68:ARG:HG3	2.12	0.49
1:M:223:GLU:HB2	3:O:217:TYR:HE1	1.74	0.49
2:B:91:GLY:HA3	2:B:111:TRP:CZ2	2.48	0.49
1:E:300:ILE:C	2:F:84:ALA:HB2	2.33	0.49
1:M:279:PHE:CZ	3:O:212:ASP:HB3	2.48	0.49
1:Q:124:GLN:HG3	2:R:233:SER:HB3	1.94	0.49
1:Q:300:ILE:O	2:R:84:ALA:HB2	2.12	0.49
3:C:316:GLY:O	3:C:317:LEU:HB2	2.13	0.49
2:N:162:GLN:HG2	2:N:163:SER:H	1.77	0.49
3:O:124:ARG:HG2	3:O:313:GLU:HG3	1.94	0.49
2:R:87:ARG:O	2:R:89:ASP:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:10:THR:OG1	2:F:11:ASN:N	2.46	0.49
1:I:220:HIS:O	1:I:222:GLN:N	2.45	0.49
3:O:118:ALA:N	3:O:121:LYS:HG2	2.27	0.49
3:S:114:SER:HB3	3:S:115:ASP:HB2	1.95	0.49
1:E:275:GLN:NE2	1:E:290:ILE:O	2.36	0.49
1:Q:104:ARG:N	1:Q:105:ALA:HB3	2.28	0.49
1:Q:220:HIS:O	1:Q:222:GLN:N	2.46	0.49
2:R:142:LEU:HD12	2:R:143:PRO:HD2	1.94	0.49
3:S:148:TYR:HB3	3:S:284:LEU:HD23	1.94	0.49
3:C:122:PRO:HB3	3:C:313:GLU:HG2	1.95	0.49
1:E:291:LYS:HE2	2:F:60:THR:HG22	1.95	0.48
2:F:163:SER:O	2:F:165:VAL:N	2.46	0.48
3:K:86:THR:HG21	3:K:132:PHE:H	1.77	0.48
2:R:167:LEU:CD2	2:R:194:VAL:HG13	2.43	0.48
3:S:317:LEU:HG	3:S:318:ARG:NE	2.27	0.48
1:E:112:TYR:O	1:E:112:TYR:CG	2.66	0.48
1:Q:105:ALA:C	1:Q:109:PRO:HD2	2.33	0.48
1:Q:293:THR:HG21	2:R:97:GLN:OE1	2.13	0.48
1:E:164:PRO:HB2	2:B:178:ARG:NH1	2.28	0.48
1:M:99:GLY:O	1:M:104:ARG:NH2	2.46	0.48
1:M:219:GLU:H	1:M:222:GLN:NE2	2.12	0.48
1:M:267:TRP:HA	2:N:39:GLU:HA	1.95	0.48
1:A:164:PRO:HB2	2:N:178:ARG:NH1	2.28	0.48
2:F:163:SER:C	2:F:165:VAL:H	2.17	0.48
1:M:164:PRO:HB2	2:J:178:ARG:NH1	2.29	0.48
1:M:273:ARG:HA	3:O:239:ILE:HD12	1.95	0.48
2:B:125:PHE:CD1	3:C:185:LYS:HD3	2.48	0.48
1:E:102:ARG:HG2	1:E:103:LYS:HG3	1.95	0.48
3:G:86:THR:HG1	3:G:87:ILE:H	1.58	0.48
1:I:109:PRO:HB3	1:I:112:TYR:C	2.33	0.48
1:I:164:PRO:HB2	2:R:178:ARG:HH11	1.79	0.48
3:K:210:THR:O	3:K:210:THR:OG1	2.30	0.48
2:B:87:ARG:O	2:B:89:ASP:N	2.47	0.48
3:K:92:ILE:HD12	3:K:178:HIS:NE2	2.28	0.48
1:M:220:HIS:O	1:M:222:GLN:N	2.46	0.48
2:R:162:GLN:HG2	2:R:163:SER:H	1.79	0.48
3:S:122:PRO:CB	3:S:313:GLU:HG2	2.44	0.48
3:G:116:ALA:N	3:G:117:THR:HA	2.29	0.48
3:G:122:PRO:HB3	3:G:313:GLU:HG2	1.96	0.48
1:M:291:LYS:HE2	2:N:60:THR:CA	2.43	0.48
2:R:134:ALA:O	2:R:195:SER:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:223:GLU:C	1:A:225:ASP:H	2.16	0.48
1:A:84:PHE:HB3	1:A:261:MET:HE3	1.95	0.48
2:B:100:LEU:HD22	3:C:246:VAL:HG21	1.95	0.48
1:I:225:ASP:O	1:I:227:GLU:N	2.46	0.48
1:M:219:GLU:HG2	1:M:222:GLN:NE2	2.29	0.48
1:Q:224:LYS:HG3	1:Q:224:LYS:O	2.14	0.48
2:B:167:LEU:CD2	2:B:194:VAL:HG13	2.44	0.48
3:S:170:LEU:HB3	3:S:272:PHE:HB3	1.96	0.48
1:A:105:ALA:HB1	1:A:106:ARG:HB2	1.96	0.47
3:K:86:THR:HG21	3:K:131:ARG:HB2	1.95	0.47
1:M:158:GLN:HG3	1:M:186:PHE:CE1	2.48	0.47
1:Q:109:PRO:HB3	1:Q:112:TYR:C	2.34	0.47
3:S:122:PRO:HB3	3:S:313:GLU:HG2	1.96	0.47
2:B:10:THR:OG1	2:B:11:ASN:N	2.47	0.47
2:F:10:THR:HG22	2:B:5:GLU:HA	1.96	0.47
3:O:102:VAL:HA	3:O:263:ILE:HB	1.96	0.47
3:G:124:ARG:HG2	3:G:313:GLU:HG3	1.94	0.47
2:N:163:SER:O	2:N:165:VAL:N	2.46	0.47
2:R:153:THR:OG1	3:K:317:LEU:HD21	2.14	0.47
1:E:172:ARG:NH2	1:E:243:THR:OG1	2.47	0.47
3:G:168:HIS:C	3:G:319:GLN:HE21	2.17	0.47
2:J:177:TYR:OH	2:J:190:THR:HG23	2.15	0.47
3:K:121:LYS:HB3	3:K:122:PRO:HD3	1.96	0.47
3:O:114:SER:HA	3:O:115:ASP:HA	1.72	0.47
3:O:123:THR:O	3:O:125:PRO:HD3	2.14	0.47
1:A:214:TYR:CE1	3:C:217:TYR:CZ	3.03	0.47
1:A:300:ILE:O	2:B:84:ALA:HB2	2.15	0.47
1:E:267:TRP:HA	2:F:39:GLU:HA	1.97	0.47
3:K:89:ASN:OD1	3:K:90:SER:N	2.48	0.47
2:F:228:LEU:HD21	1:Q:163:PRO:HB3	1.96	0.47
3:K:318:ARG:HG3	3:K:319:GLN:N	2.29	0.47
1:M:294:GLY:HA3	2:N:68:ARG:HH12	1.80	0.47
1:A:200:PHE:CZ	1:A:202:SER:HB3	2.50	0.47
1:I:123:ALA:HA	2:J:236:LEU:HD23	1.97	0.47
1:M:99:GLY:H	1:M:104:ARG:HH22	1.63	0.47
3:O:167:PHE:HA	3:O:319:GLN:HB2	1.96	0.47
1:Q:221:LYS:HA	1:Q:221:LYS:HD3	1.75	0.47
3:G:293:TYR:CZ	3:G:299:PRO:HA	2.50	0.47
1:I:110:ASN:ND2	1:I:110:ASN:N	2.57	0.47
3:O:115:ASP:OD1	3:O:115:ASP:N	2.46	0.47
1:A:293:THR:HG21	2:B:97:GLN:OE1	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:274:SER:OG	3:G:277:ASN:HB2	2.15	0.47
1:I:268:ILE:HG21	3:K:197:PRO:HG2	1.96	0.47
3:K:124:ARG:HG2	3:K:313:GLU:HG3	1.95	0.47
2:F:162:GLN:HG2	2:F:163:SER:H	1.80	0.47
2:F:136:THR:HB	2:F:193:LEU:HB2	1.97	0.47
3:O:118:ALA:HB3	3:O:121:LYS:HD3	1.97	0.47
2:B:2:PHE:HA	2:B:3:PRO:HD3	1.80	0.46
1:A:220:HIS:NE2	3:C:276:LEU:C	2.69	0.46
1:Q:126:ARG:HD3	2:R:236:LEU:HD13	1.96	0.46
3:G:148:TYR:HB3	3:G:284:LEU:HD23	1.97	0.46
1:I:274:ASN:HB2	3:K:240:PRO:HD3	1.96	0.46
2:B:157:TRP:CD2	2:B:165:VAL:HG21	2.51	0.46
1:E:279:PHE:CE2	3:G:212:ASP:HB3	2.50	0.46
1:M:102:ARG:CG	1:M:103:LYS:HA	2.46	0.46
1:A:291:LYS:HE2	2:B:60:THR:HG22	1.96	0.46
2:N:157:TRP:CD2	2:N:165:VAL:HG21	2.51	0.46
2:N:163:SER:C	2:N:165:VAL:H	2.18	0.46
2:N:100:LEU:HD22	3:O:246:VAL:HG21	1.98	0.46
1:Q:133:THR:HB	1:Q:268:ILE:HB	1.96	0.46
2:B:124:SER:N	3:C:188:GLN:HG2	2.30	0.46
3:C:205:ALA:HB1	3:C:211:GLU:H	1.81	0.46
2:J:100:LEU:HD22	3:K:246:VAL:HG21	1.97	0.46
1:M:232:PRO:HG2	2:J:176:HIS:NE2	2.31	0.46
1:Q:105:ALA:CA	1:Q:108:THR:HA	2.45	0.46
3:C:215:PRO:HA	3:C:216:PRO:HD3	1.80	0.46
3:K:94:THR:HA	3:K:95:GLN:HA	1.70	0.46
1:M:99:GLY:N	1:M:104:ARG:HH22	2.13	0.46
1:Q:84:PHE:HB3	1:Q:261:MET:HE3	1.96	0.46
1:E:274:ASN:ND2	1:E:292:PRO:HG3	2.31	0.46
2:N:85:VAL:HG23	2:N:85:VAL:O	2.15	0.46
1:I:293:THR:C	2:J:68:ARG:HH22	2.17	0.46
1:M:133:THR:HB	1:M:268:ILE:HB	1.97	0.46
1:M:268:ILE:HG21	3:O:197:PRO:HG2	1.98	0.46
1:Q:220:HIS:N	1:Q:222:GLN:OE1	2.49	0.46
1:Q:293:THR:C	2:R:68:ARG:HH22	2.18	0.46
2:N:135:TYR:O	3:C:318:ARG:NH1	2.47	0.46
1:E:109:PRO:HB3	1:E:112:TYR:C	2.36	0.46
1:I:267:TRP:HA	2:J:39:GLU:HA	1.97	0.46
2:J:212:ALA:HA	3:K:188:GLN:NE2	2.31	0.46
1:I:294:GLY:CA	2:J:68:ARG:HH12	2.25	0.46
1:Q:268:ILE:HG21	3:S:197:PRO:HG2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:172:ARG:O	3:O:313:GLU:N	2.47	0.45
1:Q:104:ARG:CA	1:Q:105:ALA:HB3	2.46	0.45
1:Q:300:ILE:HA	2:R:84:ALA:N	2.23	0.45
3:S:204:VAL:HG12	3:S:206:GLY:H	1.81	0.45
1:A:297:ARG:HH22	1:A:303:LEU:HD13	1.81	0.45
2:F:120:MET:HA	2:F:163:SER:HB3	1.98	0.45
2:N:111:TRP:HB3	2:N:226:MET:HG2	1.99	0.45
1:Q:105:ALA:HB1	1:Q:106:ARG:CA	2.46	0.45
1:Q:105:ALA:H	1:Q:108:THR:HA	1.81	0.45
1:A:294:GLY:CA	2:B:68:ARG:HH12	2.23	0.45
3:C:149:TRP:HB3	3:C:154:VAL:HG11	1.98	0.45
2:F:159:PHE:HB3	3:G:255:ARG:HH22	1.81	0.45
3:G:94:THR:HA	3:G:95:GLN:HA	1.59	0.45
1:I:224:LYS:HA	1:I:224:LYS:HD2	1.23	0.45
3:O:318:ARG:HG3	3:O:319:GLN:N	2.31	0.45
2:N:73:VAL:O	2:N:198:TYR:OH	2.35	0.45
3:O:86:THR:HG23	3:O:88:GLY:H	1.82	0.45
2:F:73:VAL:O	2:F:198:TYR:OH	2.34	0.45
1:I:84:PHE:HB3	1:I:261:MET:HE3	1.99	0.45
2:J:6:LEU:H	2:N:10:THR:HB	1.80	0.45
1:M:294:GLY:CA	2:N:68:ARG:HH12	2.30	0.45
2:F:85:VAL:HG12	2:F:195:SER:HA	1.97	0.45
2:F:35:HIS:NE2	3:G:106:GLU:OE2	2.50	0.45
1:I:231:CYS:HA	1:I:232:PRO:HD3	1.81	0.45
3:S:149:TRP:HB3	3:S:154:VAL:HG11	1.98	0.45
1:A:172:ARG:NH2	1:A:243:THR:OG1	2.49	0.45
1:A:278:LEU:O	2:B:237:GLN:HG3	2.17	0.45
1:A:293:THR:C	2:B:68:ARG:HH22	2.16	0.45
3:C:92:ILE:HD11	3:C:178:HIS:NE2	2.32	0.45
3:O:126:ASP:HB2	3:O:127:VAL:HA	1.99	0.45
2:R:134:ALA:N	2:R:195:SER:O	2.37	0.45
1:A:101:GLU:HG3	1:A:104:ARG:NE	2.32	0.45
2:J:120:MET:HA	2:J:163:SER:HB3	1.98	0.45
2:J:87:ARG:O	2:J:89:ASP:N	2.49	0.45
3:O:92:ILE:HD12	3:O:93:THR:H	1.82	0.45
1:A:104:ARG:HA	1:A:105:ALA:O	2.16	0.45
3:S:149:TRP:HB3	3:S:154:VAL:CG1	2.47	0.45
2:J:177:TYR:OH	2:J:190:THR:O	2.32	0.44
3:O:179:VAL:HG22	3:O:305:ILE:HG12	1.99	0.44
2:R:163:SER:C	2:R:165:VAL:H	2.20	0.44
3:K:204:VAL:HG12	3:K:206:GLY:N	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:164:PRO:HB2	2:B:178:ARG:HH11	1.83	0.44
3:G:216:PRO:HB2	3:G:218:LYS:HG3	1.99	0.44
2:B:204:VAL:HB	2:B:208:ALA:HB3	1.99	0.44
1:E:133:THR:HB	1:E:268:ILE:HB	1.99	0.44
2:F:52:ILE:HG21	2:F:69:LEU:HB3	2.00	0.44
2:F:85:VAL:HG23	2:F:85:VAL:O	2.17	0.44
2:F:100:LEU:HD22	3:G:246:VAL:HG21	1.99	0.44
1:I:82:SER:O	1:I:86:ARG:NH2	2.50	0.44
2:R:93:SER:HA	2:R:97:GLN:OE1	2.17	0.44
1:I:104:ARG:HA	1:I:105:ALA:HB3	2.00	0.44
1:M:104:ARG:HA	1:M:105:ALA:O	2.18	0.44
1:M:271:PRO:HB2	3:O:239:ILE:HG13	2.00	0.44
3:O:121:LYS:HD2	3:O:121:LYS:HA	1.75	0.44
1:Q:226:LEU:O	3:S:214:HIS:CE1	2.71	0.44
2:R:157:TRP:CD2	2:R:165:VAL:HG21	2.51	0.44
1:A:107:LEU:HD11	1:A:115:TRP:HD1	1.82	0.44
1:A:161:PHE:HB3	1:A:183:PRO:HG2	1.98	0.44
1:E:126:ARG:HD3	2:F:236:LEU:HD13	1.99	0.44
2:J:10:THR:OG1	2:J:11:ASN:N	2.50	0.44
1:M:106:ARG:HA	1:M:108:THR:N	2.32	0.44
1:Q:101:GLU:O	1:Q:102:ARG:HD3	2.17	0.44
1:A:214:TYR:CZ	3:C:217:TYR:CE1	3.06	0.44
2:B:85:VAL:HG21	2:B:194:VAL:HB	1.99	0.44
3:C:114:SER:HA	3:C:115:ASP:HA	1.67	0.44
1:I:203:PRO:HB3	2:R:110:GLN:OE1	2.18	0.44
2:R:163:SER:O	2:R:165:VAL:N	2.50	0.44
3:G:86:THR:HG21	3:G:132:PHE:H	1.82	0.44
2:J:6:LEU:HB3	2:J:10:THR:HG21	2.00	0.44
1:M:109:PRO:CB	1:M:112:TYR:H	2.29	0.44
1:Q:231:CYS:HA	1:Q:232:PRO:HD3	1.79	0.44
1:A:99:GLY:O	1:A:101:GLU:HG2	2.18	0.43
2:N:93:SER:HA	2:N:97:GLN:OE1	2.18	0.43
1:Q:155:GLN:HG2	1:Q:253:LEU:HD11	2.00	0.43
3:S:195:VAL:O	3:S:247:CYS:HB3	2.18	0.43
2:F:236:LEU:HD12	2:F:237:GLN:H	1.83	0.43
3:G:115:ASP:OD1	3:G:115:ASP:C	2.56	0.43
3:S:167:PHE:CE1	3:S:321:VAL:HG13	2.54	0.43
3:K:195:VAL:HG13	3:K:281:PHE:CD1	2.53	0.43
2:B:85:VAL:HG23	2:B:86:PHE:CD2	2.53	0.43
3:C:126:ASP:HA	3:C:127:VAL:HA	1.76	0.43
3:K:96:GLU:OE2	3:K:259:CYS:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:316:GLY:O	3:O:317:LEU:HB2	2.18	0.43
2:R:72:PRO:HB3	2:R:213:TYR:CD1	2.53	0.43
3:C:319:GLN:HE21	3:C:319:GLN:HB2	1.60	0.43
3:C:96:GLU:HG3	3:C:97:ALA:H	1.83	0.43
1:I:300:ILE:HA	2:J:84:ALA:N	2.22	0.43
1:M:214:TYR:CE2	1:M:228:TYR:HB2	2.50	0.43
3:O:122:PRO:CB	3:O:313:GLU:HG2	2.49	0.43
1:A:109:PRO:CB	1:A:112:TYR:H	2.31	0.43
1:A:294:GLY:HA2	2:B:57:ASN:HB2	2.00	0.43
3:C:195:VAL:O	3:C:247:CYS:HB3	2.18	0.43
2:F:2:PHE:HA	2:F:3:PRO:HD3	1.83	0.43
1:E:300:ILE:HA	2:F:84:ALA:H	1.82	0.43
3:O:141:GLU:HG3	3:O:300:VAL:HG12	2.00	0.43
1:E:98:GLU:HA	1:E:104:ARG:NH1	2.34	0.43
2:F:157:TRP:CD2	2:F:165:VAL:HG21	2.54	0.43
2:J:74:SER:OG	2:J:76:GLN:HB2	2.17	0.43
3:S:126:ASP:HA	3:S:127:VAL:HA	1.79	0.43
2:F:134:ALA:HB3	2:F:195:SER:OG	2.19	0.43
1:E:220:HIS:HB3	1:E:221:LYS:H	1.13	0.43
1:E:294:GLY:CA	2:F:68:ARG:HH12	2.31	0.43
1:M:105:ALA:HB1	1:M:106:ARG:HB2	1.99	0.43
2:N:87:ARG:O	2:N:89:ASP:N	2.51	0.43
1:A:268:ILE:HG21	3:C:197:PRO:HG2	2.00	0.43
2:J:153:THR:OG1	3:O:317:LEU:HD21	2.18	0.43
1:A:226:LEU:HD23	3:C:214:HIS:O	2.18	0.42
2:F:236:LEU:HD12	2:F:237:GLN:N	2.35	0.42
2:J:36:ILE:HA	2:J:37:PRO:HD3	1.86	0.42
3:S:204:VAL:HG12	3:S:206:GLY:N	2.33	0.42
1:A:161:PHE:O	1:A:163:PRO:HD3	2.19	0.42
1:M:291:LYS:HG3	2:N:65:LEU:CD2	2.50	0.42
1:E:268:ILE:HG21	3:G:197:PRO:HG2	2.02	0.42
3:G:92:ILE:HD12	3:G:93:THR:H	1.83	0.42
3:K:80:ASP:HB2	3:K:81:ARG:HD3	2.00	0.42
2:R:195:SER:HB2	2:R:197:TRP:NE1	2.34	0.42
3:S:268:ASN:HB3	3:S:270:LEU:O	2.20	0.42
1:I:279:PHE:CZ	3:K:212:ASP:HB3	2.55	0.42
3:O:96:GLU:HG3	3:O:97:ALA:H	1.85	0.42
1:A:141:PHE:CE1	1:A:259:MET:HE2	2.55	0.42
1:A:274:ASN:ND2	1:A:292:PRO:HG3	2.34	0.42
3:G:243:GLN:O	3:G:246:VAL:HG23	2.20	0.42
1:M:161:PHE:O	1:M:163:PRO:HD3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:124:SER:N	3:S:188:GLN:HG2	2.35	0.42
1:A:75:THR:HG22	2:B:225:THR:HG22	2.01	0.42
1:E:104:ARG:HA	1:E:105:ALA:O	2.20	0.42
2:B:85:VAL:HG11	2:B:194:VAL:C	2.40	0.42
2:F:36:ILE:HA	2:F:37:PRO:HD3	1.82	0.42
3:O:169:TYR:CD2	3:O:170:LEU:HG	2.54	0.42
2:R:100:LEU:HD22	3:S:246:VAL:HG21	2.00	0.42
3:S:81:ARG:CZ	3:S:94:THR:H	2.33	0.42
1:A:106:ARG:N	1:A:109:PRO:HD2	2.35	0.42
3:S:169:TYR:CD2	3:S:170:LEU:HG	2.55	0.42
2:F:152:GLY:CA	3:S:318:ARG:HD2	2.47	0.42
1:A:224:LYS:O	1:A:224:LYS:HG3	2.19	0.42
1:E:293:THR:HG21	2:F:97:GLN:OE1	2.20	0.42
2:F:7:LYS:O	2:F:10:THR:HG23	2.20	0.42
1:M:172:ARG:NH2	1:M:243:THR:OG1	2.53	0.42
3:S:243:GLN:O	3:S:246:VAL:HG23	2.19	0.42
2:N:85:VAL:HB	2:N:194:VAL:N	2.35	0.42
2:B:93:SER:HA	2:B:97:GLN:OE1	2.20	0.41
3:G:170:LEU:HB3	3:G:272:PHE:HB3	2.02	0.41
2:R:52:ILE:HG21	2:R:69:LEU:HB3	2.00	0.41
1:A:297:ARG:NH2	1:A:303:LEU:HD13	2.35	0.41
1:E:105:ALA:HB1	1:E:106:ARG:HB2	2.02	0.41
2:F:85:VAL:HG12	2:F:195:SER:CA	2.50	0.41
3:G:149:TRP:HB3	3:G:154:VAL:HG11	2.02	0.41
2:B:75:ALA:HA	2:B:202:TYR:HB3	2.02	0.41
3:C:167:PHE:HE1	3:C:321:VAL:H	1.69	0.41
3:K:316:GLY:O	3:K:317:LEU:HB2	2.19	0.41
1:Q:101:GLU:C	1:Q:102:ARG:HD3	2.41	0.41
1:Q:294:GLY:CA	2:R:68:ARG:HH12	2.26	0.41
3:S:96:GLU:HG3	3:S:97:ALA:H	1.85	0.41
2:B:71:PHE:HA	2:B:72:PRO:HD3	1.95	0.41
1:I:279:PHE:CE1	3:K:212:ASP:HB3	2.56	0.41
1:I:274:ASN:ND2	3:K:240:PRO:HB3	2.36	0.41
2:N:65:LEU:HD23	2:N:65:LEU:HA	1.85	0.41
1:Q:103:LYS:O	1:Q:104:ARG:HG3	2.20	0.41
3:S:116:ALA:HB3	3:S:118:ALA:N	2.36	0.41
2:B:36:ILE:HA	2:B:37:PRO:HD3	1.85	0.41
1:I:200:PHE:CZ	1:I:202:SER:HB3	2.56	0.41
2:B:162:GLN:CD	2:B:162:GLN:H	2.24	0.41
3:C:102:VAL:HA	3:C:263:ILE:HB	2.03	0.41
1:M:293:THR:HG21	2:N:97:GLN:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:243:GLN:O	3:O:246:VAL:HG23	2.21	0.41
1:A:226:LEU:HA	1:A:226:LEU:HD12	1.72	0.41
2:N:36:ILE:HA	2:N:37:PRO:HD3	1.85	0.41
2:R:85:VAL:HG11	2:R:194:VAL:HB	2.03	0.41
3:S:216:PRO:HB2	3:S:218:LYS:HG3	2.02	0.41
1:I:208:GLN:O	1:I:234:ASN:ND2	2.44	0.41
3:O:195:VAL:O	3:O:247:CYS:HB3	2.21	0.41
1:A:126:ARG:HD3	2:B:236:LEU:HD13	2.03	0.41
2:F:56:ASN:HB2	2:F:71:PHE:HB3	2.03	0.41
3:K:204:VAL:HG12	3:K:206:GLY:H	1.85	0.41
1:Q:172:ARG:NH2	1:Q:243:THR:OG1	2.54	0.41
3:S:215:PRO:HA	3:S:216:PRO:HD3	1.83	0.41
2:B:7:LYS:O	2:B:10:THR:HG23	2.21	0.41
1:E:277:TYR:H	2:F:235:ILE:CG2	2.33	0.41
3:G:212:ASP:OD1	3:G:212:ASP:O	2.38	0.41
3:K:205:ALA:HB1	3:K:211:GLU:H	1.85	0.41
1:M:300:ILE:C	2:N:84:ALA:HB2	2.40	0.41
1:Q:299:ALA:O	2:R:84:ALA:N	2.54	0.41
1:Q:226:LEU:O	3:S:214:HIS:ND1	2.54	0.41
1:A:115:TRP:CZ3	1:A:117:ILE:HA	2.56	0.41
3:G:172:ARG:O	3:G:313:GLU:N	2.50	0.41
3:K:308:ALA:HA	3:K:309:PRO:HD2	1.95	0.41
2:N:142:LEU:HA	2:N:143:PRO:HD2	1.93	0.41
3:S:85:LEU:HB3	3:S:86:THR:HG22	2.03	0.41
2:F:5:GLU:HA	2:R:10:THR:HG22	2.04	0.40
1:E:293:THR:C	2:F:68:ARG:HH22	2.19	0.40
3:G:195:VAL:O	3:G:247:CYS:HB3	2.22	0.40
2:J:7:LYS:O	2:J:10:THR:HG23	2.21	0.40
3:C:204:VAL:HG12	3:C:206:GLY:H	1.85	0.40
2:F:6:LEU:HB3	2:F:10:THR:HG21	2.03	0.40
2:J:136:THR:HB	2:J:193:LEU:HB2	2.03	0.40
3:O:121:LYS:CB	3:O:122:PRO:HD3	2.51	0.40
1:E:274:ASN:HB2	3:G:240:PRO:CD	2.52	0.40
2:F:174:ASN:HA	2:F:177:TYR:HD2	1.87	0.40
1:I:90:VAL:HG12	1:I:115:TRP:HZ2	1.87	0.40
1:M:164:PRO:HB2	2:J:178:ARG:HD3	2.03	0.40
1:M:220:HIS:HB3	1:M:221:LYS:H	1.61	0.40
2:R:161:LEU:HD21	2:R:164:SER:C	2.41	0.40
3:G:169:TYR:HB3	3:G:316:GLY:HA2	2.03	0.40
2:N:137:PRO:HG3	3:C:318:ARG:H	1.86	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	230/303 (76%)	207 (90%)	19 (8%)	4 (2%)	11	42
1	E	230/303 (76%)	207 (90%)	18 (8%)	5 (2%)	8	35
1	I	230/303 (76%)	208 (90%)	17 (7%)	5 (2%)	8	35
1	M	230/303 (76%)	208 (90%)	19 (8%)	3 (1%)	14	48
1	Q	230/303 (76%)	208 (90%)	18 (8%)	4 (2%)	11	42
2	B	226/242 (93%)	206 (91%)	18 (8%)	2 (1%)	20	60
2	F	226/242 (93%)	204 (90%)	20 (9%)	2 (1%)	20	60
2	J	226/242 (93%)	204 (90%)	20 (9%)	2 (1%)	20	60
2	N	226/242 (93%)	204 (90%)	20 (9%)	2 (1%)	20	60
2	R	226/242 (93%)	204 (90%)	20 (9%)	2 (1%)	20	60
3	C	240/323 (74%)	218 (91%)	19 (8%)	3 (1%)	14	48
3	G	240/323 (74%)	221 (92%)	16 (7%)	3 (1%)	14	48
3	K	240/323 (74%)	221 (92%)	16 (7%)	3 (1%)	14	48
3	O	240/323 (74%)	225 (94%)	11 (5%)	4 (2%)	11	42
3	S	240/323 (74%)	223 (93%)	15 (6%)	2 (1%)	22	62
All	All	3480/4340 (80%)	3168 (91%)	266 (8%)	46 (1%)	14	48

All (46) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	G	121	LYS
3	G	317	LEU
1	Q	226	LEU
1	I	226	LEU
1	M	221	LYS
1	A	100	THR
3	S	121	LYS
3	S	317	LEU

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Mol	Chain	Res	Type
3	K	121	LYS
3	K	317	LEU
3	O	121	LYS
3	O	126	ASP
3	O	317	LEU
3	C	121	LYS
3	C	317	LEU
1	E	221	LYS
1	Q	221	LYS
1	E	111	GLY
1	Q	293	THR
1	I	108	THR
1	I	220	HIS
1	A	293	THR
1	Q	111	GLY
1	I	111	GLY
1	I	293	THR
1	A	111	GLY
1	E	220	HIS
1	E	293	THR
2	F	74	SER
1	M	111	GLY
1	M	293	THR
2	R	74	SER
3	K	126	ASP
3	C	315	ALA
3	G	315	ALA
2	J	74	SER
2	N	74	SER
3	O	315	ALA
1	E	109	PRO
1	A	109	PRO
2	R	58	VAL
2	N	58	VAL
2	B	58	VAL
2	B	239	GLY
2	F	58	VAL
2	J	58	VAL

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	199/256 (78%)	193 (97%)	6 (3%)	46	79
1	E	199/256 (78%)	194 (98%)	5 (2%)	53	83
1	I	199/256 (78%)	194 (98%)	5 (2%)	53	83
1	M	199/256 (78%)	195 (98%)	4 (2%)	60	86
1	Q	199/256 (78%)	195 (98%)	4 (2%)	60	86
2	B	193/202 (96%)	189 (98%)	4 (2%)	59	85
2	F	193/202 (96%)	191 (99%)	2 (1%)	80	92
2	J	193/202 (96%)	189 (98%)	4 (2%)	59	85
2	N	193/202 (96%)	190 (98%)	3 (2%)	68	89
2	R	193/202 (96%)	190 (98%)	3 (2%)	68	89
3	C	205/272 (75%)	196 (96%)	9 (4%)	33	69
3	G	205/272 (75%)	198 (97%)	7 (3%)	42	77
3	K	205/272 (75%)	198 (97%)	7 (3%)	42	77
3	O	205/272 (75%)	197 (96%)	8 (4%)	37	73
3	S	205/272 (75%)	196 (96%)	9 (4%)	33	69
All	All	2985/3650 (82%)	2905 (97%)	80 (3%)	50	81

All (80) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	81	ASP
1	E	107	LEU
1	E	220	HIS
1	E	226	LEU
1	E	291	LYS
2	F	70	ARG
2	F	165	VAL
3	G	86	THR
3	G	115	ASP
3	G	156	THR

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Mol	Chain	Res	Type
3	G	239	ILE
3	G	259	CYS
3	G	307	LEU
3	G	318	ARG
1	Q	81	ASP
1	Q	102	ARG
1	Q	107	LEU
1	Q	291	LYS
1	I	102	ARG
1	I	110	ASN
1	I	224	LYS
1	I	226	LEU
1	I	291	LYS
1	M	81	ASP
1	M	102	ARG
1	M	222	GLN
1	M	291	LYS
1	A	81	ASP
1	A	98	GLU
1	A	221	LYS
1	A	226	LEU
1	A	291	LYS
1	A	300	ILE
2	R	70	ARG
2	R	164	SER
2	R	165	VAL
2	J	70	ARG
2	J	85	VAL
2	J	164	SER
2	J	165	VAL
2	N	70	ARG
2	N	164	SER
2	N	165	VAL
2	B	70	ARG
2	B	76	GLN
2	B	164	SER
2	B	165	VAL
3	S	86	THR
3	S	87	ILE
3	S	92	ILE
3	S	171	TYR
3	S	239	ILE

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Mol	Chain	Res	Type
3	S	259	CYS
3	S	295	GLN
3	S	307	LEU
3	S	318	ARG
3	K	81	ARG
3	K	86	THR
3	K	156	THR
3	K	239	ILE
3	K	259	CYS
3	K	307	LEU
3	K	319	GLN
3	O	86	THR
3	O	154	VAL
3	O	157	GLU
3	O	171	TYR
3	O	259	CYS
3	O	295	GLN
3	O	307	LEU
3	O	318	ARG
3	C	86	THR
3	C	114	SER
3	C	141	GLU
3	C	218	LYS
3	C	239	ILE
3	C	259	CYS
3	C	295	GLN
3	C	307	LEU
3	C	319	GLN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	I	110	ASN
1	M	222	GLN
2	B	76	GLN
3	S	188	GLN
3	S	295	GLN
3	C	295	GLN
3	C	319	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](#)

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

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

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	232/303 (76%)	0.03	26 (11%) 6 2	25, 40, 140, 156	0
1	E	232/303 (76%)	0.02	27 (11%) 5 2	27, 41, 140, 154	0
1	I	232/303 (76%)	0.05	24 (10%) 7 2	30, 41, 142, 157	0
1	M	232/303 (76%)	0.08	25 (10%) 6 2	28, 41, 142, 156	0
1	Q	232/303 (76%)	0.03	25 (10%) 6 2	29, 42, 140, 156	0
2	B	230/242 (95%)	-0.18	9 (3%) 40 19	27, 41, 73, 147	0
2	F	230/242 (95%)	-0.28	7 (3%) 51 27	32, 44, 80, 142	0
2	J	230/242 (95%)	-0.18	9 (3%) 40 19	31, 44, 79, 145	0
2	N	230/242 (95%)	-0.24	12 (5%) 28 12	28, 44, 76, 149	0
2	R	230/242 (95%)	-0.26	10 (4%) 36 17	30, 45, 81, 145	0
3	C	242/323 (74%)	0.30	36 (14%) 3 1	25, 47, 130, 150	0
3	G	242/323 (74%)	0.20	32 (13%) 4 2	31, 50, 131, 149	0
3	K	242/323 (74%)	0.27	32 (13%) 4 2	29, 50, 130, 148	0
3	O	242/323 (74%)	0.14	25 (10%) 7 2	31, 52, 131, 148	0
3	S	242/323 (74%)	0.27	31 (12%) 4 2	31, 52, 133, 148	0
All	All	3520/4340 (81%)	0.02	330 (9%) 9 3	25, 44, 129, 157	0

All (330) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	S	80	ASP	10.3
2	J	240	THR	9.3
3	S	97	ALA	9.0
2	B	240	THR	8.3
1	E	108	THR	8.0
3	C	117	THR	8.0
2	R	239	GLY	8.0

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Mol	Chain	Res	Type	RSRZ
3	C	80	ASP	7.9
3	G	208	THR	7.4
3	C	208	THR	7.4
1	M	100	THR	7.2
1	M	107	LEU	7.1
1	I	109	PRO	6.9
3	O	80	ASP	6.8
1	I	220	HIS	6.8
3	O	208	THR	6.7
2	B	239	GLY	6.7
1	E	107	LEU	6.7
3	C	321	VAL	6.5
1	I	221	LYS	6.5
3	K	208	THR	6.5
3	O	210	THR	6.5
3	G	210	THR	6.4
3	G	320	ALA	6.4
1	A	107	LEU	6.4
3	K	210	THR	6.3
3	G	80	ASP	6.3
1	I	108	THR	6.2
3	S	209	GLY	6.2
3	K	97	ALA	6.2
1	Q	100	THR	6.2
3	S	320	ALA	6.2
1	Q	101	GLU	6.2
3	S	208	THR	6.1
1	I	100	THR	6.1
3	C	210	THR	6.1
2	R	238	THR	6.0
3	S	210	THR	6.0
1	A	103	LYS	6.0
2	J	239	GLY	5.9
3	K	80	ASP	5.9
1	Q	108	THR	5.9
2	N	240	THR	5.9
3	C	98	ALA	5.9
1	A	106	ARG	5.8
1	M	220	HIS	5.8
1	E	101	GLU	5.8
1	I	105	ALA	5.7
1	M	108	THR	5.7

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Mol	Chain	Res	Type	RSRZ
3	G	97	ALA	5.6
1	Q	221	LYS	5.6
3	C	96	GLU	5.5
1	M	106	ARG	5.5
1	M	109	PRO	5.5
3	O	96	GLU	5.5
3	G	116	ALA	5.5
1	A	100	THR	5.5
1	M	223	GLU	5.4
3	G	114	SER	5.4
3	C	97	ALA	5.4
2	B	238	THR	5.4
2	R	164	SER	5.4
1	I	106	ARG	5.4
1	M	105	ALA	5.4
3	O	120	ASP	5.3
2	F	240	THR	5.3
2	J	238	THR	5.3
1	M	101	GLU	5.3
1	A	108	THR	5.2
3	G	321	VAL	5.2
3	G	120	ASP	5.2
1	I	107	LEU	5.1
3	O	93	THR	5.1
1	Q	225	ASP	5.1
2	R	240	THR	5.1
3	S	98	ALA	5.1
2	B	164	SER	5.1
3	C	320	ALA	5.0
3	S	96	GLU	5.0
1	A	102	ARG	5.0
1	Q	220	HIS	4.9
1	Q	107	LEU	4.9
3	C	116	ALA	4.9
1	E	223	GLU	4.9
1	E	106	ARG	4.8
3	O	97	ALA	4.8
1	E	103	LYS	4.8
1	A	105	ALA	4.8
1	M	103	LYS	4.8
1	A	72	SER	4.7
3	O	117	THR	4.6

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Mol	Chain	Res	Type	RSRZ
2	J	164	SER	4.6
1	E	225	ASP	4.6
1	E	216	THR	4.6
3	G	119	VAL	4.5
1	E	109	PRO	4.5
3	O	320	ALA	4.5
1	I	219	GLU	4.5
2	N	239	GLY	4.5
1	Q	219	GLU	4.5
1	M	99	GLY	4.5
2	F	239	GLY	4.5
1	E	303	LEU	4.5
3	S	117	THR	4.4
1	A	109	PRO	4.4
1	Q	72	SER	4.4
1	E	220	HIS	4.4
1	E	105	ALA	4.4
1	I	104	ARG	4.4
1	M	218	GLY	4.3
3	K	96	GLU	4.3
1	Q	222	GLN	4.3
1	M	303	LEU	4.3
1	I	303	LEU	4.3
3	K	206	GLY	4.3
1	I	102	ARG	4.3
3	K	116	ALA	4.3
1	I	99	GLY	4.3
3	S	321	VAL	4.2
3	K	320	ALA	4.2
1	M	222	GLN	4.2
1	Q	106	ARG	4.2
3	C	94	THR	4.2
3	S	318	ARG	4.1
1	E	99	GLY	4.1
3	G	209	GLY	4.1
3	K	98	ALA	4.1
1	Q	105	ALA	4.1
3	K	119	VAL	4.0
1	Q	103	LYS	4.0
2	F	164	SER	4.0
1	M	221	LYS	4.0
1	A	104	ARG	4.0

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Mol	Chain	Res	Type	RSRZ
2	N	189	TYR	4.0
3	S	112	SER	3.9
1	Q	223	GLU	3.9
2	N	164	SER	3.9
1	M	104	ARG	3.9
1	A	303	LEU	3.8
1	M	102	ARG	3.8
3	O	94	THR	3.8
1	Q	109	PRO	3.8
1	A	221	LYS	3.8
1	E	100	THR	3.7
3	G	211	GLU	3.7
1	I	226	LEU	3.7
3	G	117	THR	3.7
2	B	189	TYR	3.7
1	Q	99	GLY	3.6
3	K	113	ASP	3.6
1	I	103	LYS	3.6
3	C	84	GLN	3.6
3	C	114	SER	3.6
1	I	216	THR	3.6
3	S	114	SER	3.6
3	C	129	VAL	3.6
1	A	222	GLN	3.5
3	G	98	ALA	3.5
3	S	120	ASP	3.5
3	S	212	ASP	3.5
3	C	211	GLU	3.5
3	C	212	ASP	3.5
3	K	117	THR	3.5
3	C	204	VAL	3.5
3	O	211	GLU	3.5
3	K	120	ASP	3.5
1	E	224	LYS	3.5
1	E	102	ARG	3.5
2	J	178	ARG	3.5
3	C	86	THR	3.4
1	A	225	ASP	3.4
2	N	238	THR	3.4
1	E	222	GLN	3.4
1	I	101	GLU	3.4
3	O	98	ALA	3.4

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Mol	Chain	Res	Type	RSRZ
1	A	218	GLY	3.4
1	A	101	GLU	3.4
3	C	207	GLY	3.4
1	I	110	ASN	3.3
3	C	213	SER	3.3
1	Q	104	ARG	3.3
1	M	72	SER	3.3
3	K	112	SER	3.3
1	A	99	GLY	3.3
1	E	226	LEU	3.3
1	I	225	ASP	3.3
1	M	219	GLU	3.3
1	A	216	THR	3.3
1	I	224	LYS	3.3
1	E	219	GLU	3.2
2	B	83	CYS	3.2
3	G	319	GLN	3.2
3	S	319	GLN	3.2
3	K	321	VAL	3.2
1	M	73	HIS	3.2
1	M	224	LYS	3.2
2	J	83	CYS	3.2
3	O	86	THR	3.2
3	G	96	GLU	3.2
3	G	112	SER	3.2
3	S	116	ALA	3.2
1	A	223	GLU	3.2
3	G	213	SER	3.2
1	I	223	GLU	3.2
3	S	95	GLN	3.2
1	I	218	GLY	3.1
3	C	93	THR	3.1
3	G	212	ASP	3.1
3	K	212	ASP	3.1
3	G	126	ASP	3.1
1	A	227	GLU	3.1
3	K	114	SER	3.1
2	J	177	TYR	3.0
3	O	204	VAL	3.0
1	E	73	HIS	3.0
3	K	126	ASP	3.0
1	Q	216	THR	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	219	GLU	3.0
1	A	220	HIS	3.0
3	K	211	GLU	3.0
3	G	113	ASP	2.9
1	M	98	GLU	2.9
3	C	119	VAL	2.9
3	K	205	ALA	2.9
1	E	104	ARG	2.9
3	S	204	VAL	2.9
3	S	205	ALA	2.9
3	K	89	ASN	2.8
3	C	85	LEU	2.8
1	A	226	LEU	2.8
3	O	212	ASP	2.8
3	K	94	THR	2.8
3	C	83	ALA	2.8
3	S	113	ASP	2.8
1	I	302	THR	2.8
3	G	93	THR	2.8
1	M	226	LEU	2.8
1	M	225	ASP	2.7
3	C	95	GLN	2.7
2	N	85	VAL	2.7
3	O	205	ALA	2.7
3	O	206	GLY	2.7
1	Q	215	PRO	2.7
1	A	98	GLU	2.7
3	O	126	ASP	2.6
3	K	86	THR	2.6
1	I	98	GLU	2.6
3	O	81	ARG	2.6
2	F	176	HIS	2.6
3	S	81	ARG	2.6
1	Q	102	ARG	2.6
3	S	111	CYS	2.6
3	K	84	GLN	2.6
3	S	211	GLU	2.6
3	G	89	ASN	2.5
2	N	84	ALA	2.5
3	C	118	ALA	2.5
3	K	115	ASP	2.5
1	Q	218	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
3	G	111	CYS	2.5
2	N	178	ARG	2.5
1	Q	73	HIS	2.5
1	M	216	THR	2.5
2	J	84	ALA	2.5
2	J	1	GLY	2.5
2	N	83	CYS	2.5
3	C	82	VAL	2.5
1	E	221	LYS	2.4
3	G	94	THR	2.4
3	S	119	VAL	2.4
1	Q	98	GLU	2.4
3	K	95	GLN	2.4
2	B	175	THR	2.4
3	O	84	GLN	2.4
3	G	115	ASP	2.4
3	C	91	THR	2.4
3	G	121	LYS	2.4
3	C	209	GLY	2.3
2	F	178	ARG	2.3
2	N	175	THR	2.3
2	R	176	HIS	2.3
3	G	130	ASN	2.3
2	R	189	TYR	2.3
3	G	206	GLY	2.3
1	A	73	HIS	2.3
3	K	118	ALA	2.3
1	A	224	LYS	2.3
3	O	95	GLN	2.3
3	K	127	VAL	2.3
2	B	84	ALA	2.3
1	Q	303	LEU	2.3
3	G	84	GLN	2.3
1	Q	217	PHE	2.3
2	R	84	ALA	2.3
2	N	176	HIS	2.3
3	O	127	VAL	2.3
3	C	127	VAL	2.3
3	G	118	ALA	2.2
3	K	207	GLY	2.2
3	S	89	ASN	2.2
3	S	130	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
3	K	204	VAL	2.2
3	C	206	GLY	2.2
3	C	120	ASP	2.2
1	E	110	ASN	2.2
2	R	175	THR	2.2
3	K	209	GLY	2.2
2	F	85	VAL	2.2
2	N	237	GLN	2.1
3	S	206	GLY	2.1
1	E	298	THR	2.1
3	C	130	ASN	2.1
3	C	111	CYS	2.1
3	C	113	ASP	2.1
3	S	93	THR	2.1
3	S	94	THR	2.1
3	K	128	SER	2.1
3	O	116	ALA	2.1
2	F	189	TYR	2.1
3	O	209	GLY	2.1
3	G	95	GLN	2.1
3	S	122	PRO	2.1
1	E	98	GLU	2.0
2	R	83	CYS	2.0
2	B	237	GLN	2.0
2	R	178	ARG	2.0
3	C	205	ALA	2.0
1	E	218	GLY	2.0
1	E	302	THR	2.0
3	O	321	VAL	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 carbohydrates in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.