



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 14, 2024 – 10:52 PM EST

PDB ID : 3MQ6
Title : Domain swapped SgrAI with DNA and calcium bound
Authors : Dunten, P.W.; Horton, N.C.; Little, E.J.
Deposited on : 2010-04-27
Resolution : 2.00 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
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

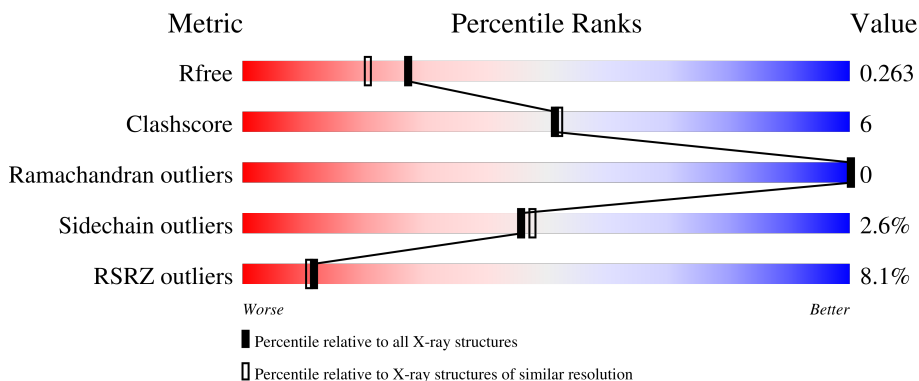
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.00 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	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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	338	<div style="display: flex; align-items: center;"> <div style="width: 7%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 84%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 13%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 5%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">84% 13% ..</p>
1	B	338	<div style="display: flex; align-items: center;"> <div style="width: 9%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 83%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 17%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 5%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">83% 17% .</p>
1	C	338	<div style="display: flex; align-items: center;"> <div style="width: 6%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 87%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 5%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">87% 12% ..</p>
1	D	338	<div style="display: flex; align-items: center;"> <div style="width: 6%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 85%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 13%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 5%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">85% 13% ..</p>
1	E	338	<div style="display: flex; align-items: center;"> <div style="width: 7%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 86%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 5%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">86% 12% ..</p>

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Mol	Chain	Length	Quality of chain
1	F	338	<p>7% 88% 11%</p>
1	G	338	<p>10% 89% 10%</p>
1	H	338	<p>9% 83% 16%</p>
2	K	17	<p>24% 35% 53% 12%</p>
2	L	17	<p>24% 71% 24% 6%</p>
2	M	17	<p>24% 65% 35%</p>
2	N	17	<p>24% 53% 29% 18%</p>
2	O	17	<p>12% 71% 18% 12%</p>
2	P	17	<p>6% 41% 53% 6%</p>
2	Q	17	<p>18% 59% 35% 6%</p>
2	R	17	<p>18% 53% 41% 6%</p>

2 Entry composition i

There are 4 unique types of molecules in this entry. The entry contains 25250 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 SgraIR restriction enzyme.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	332	Total 2612	C 1653	N 461	O 489	S 9	0	0	0
1	B	338	Total 2658	C 1681	N 473	O 495	S 9	0	0	0
1	C	335	Total 2654	C 1679	N 476	O 490	S 9	0	2	0
1	D	333	Total 2628	C 1665	N 465	O 489	S 9	0	1	0
1	E	333	Total 2645	C 1673	N 470	O 493	S 9	0	1	0
1	F	338	Total 2652	C 1678	N 470	O 495	S 9	0	0	0
1	G	335	Total 2644	C 1674	N 470	O 491	S 9	0	0	0
1	H	336	Total 2653	C 1681	N 472	O 491	S 9	0	1	1

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	63	ASP	ASN	cloning artifact	UNP Q9F6L0
B	63	ASP	ASN	cloning artifact	UNP Q9F6L0
C	63	ASP	ASN	cloning artifact	UNP Q9F6L0
D	63	ASP	ASN	cloning artifact	UNP Q9F6L0
E	63	ASP	ASN	cloning artifact	UNP Q9F6L0
F	63	ASP	ASN	cloning artifact	UNP Q9F6L0
G	63	ASP	ASN	cloning artifact	UNP Q9F6L0
H	63	ASP	ASN	cloning artifact	UNP Q9F6L0

- Molecule 2 is a DNA chain called DNA (5'-D(*AP*AP*GP*TP*CP*CP*AP*CP*CP*GP*GP*TP*GP*GP*AP*CP*T)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	L	17	Total 346	C 165	N 66	O 99	P 16	0	0	0
2	K	17	Total 346	C 165	N 66	O 99	P 16	0	0	0
2	N	17	Total 346	C 165	N 66	O 99	P 16	0	0	0
2	M	17	Total 346	C 165	N 66	O 99	P 16	0	0	0
2	P	16	Total 325	C 155	N 61	O 94	P 15	0	0	0
2	O	17	Total 346	C 165	N 66	O 99	P 16	0	0	0
2	R	17	Total 346	C 165	N 66	O 99	P 16	0	0	0
2	Q	17	Total 346	C 165	N 66	O 99	P 16	0	0	0

- Molecule 3 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	3	Total 3	Ca 3	0	0
3	B	3	Total 3	Ca 3	0	0
3	C	3	Total 3	Ca 3	0	0
3	D	3	Total 3	Ca 3	0	0
3	E	2	Total 2	Ca 2	0	0
3	F	3	Total 3	Ca 3	0	0
3	G	2	Total 2	Ca 2	0	0
3	H	3	Total 3	Ca 3	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	135	Total 135	O 135	0	0
4	B	133	Total 133	O 133	0	0

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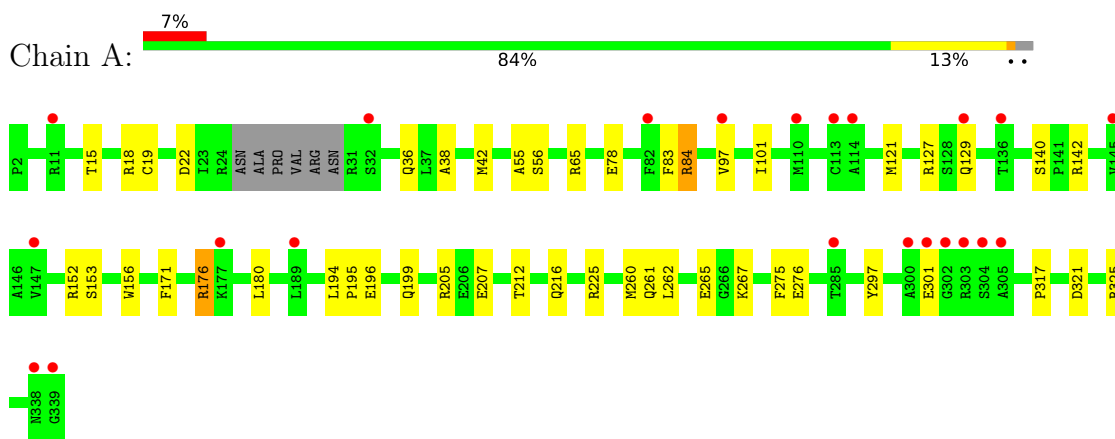
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	C	132	Total 132	O 132	0	0
4	D	161	Total 161	O 161	0	0
4	E	169	Total 169	O 169	0	0
4	F	151	Total 151	O 151	0	0
4	G	140	Total 140	O 140	0	0
4	H	135	Total 135	O 135	0	0
4	L	25	Total 25	O 25	0	0
4	K	24	Total 24	O 24	0	0
4	N	22	Total 22	O 22	0	0
4	M	19	Total 19	O 19	0	0
4	P	26	Total 26	O 26	0	0
4	O	22	Total 22	O 22	0	0
4	R	20	Total 20	O 20	0	0
4	Q	21	Total 21	O 21	0	0

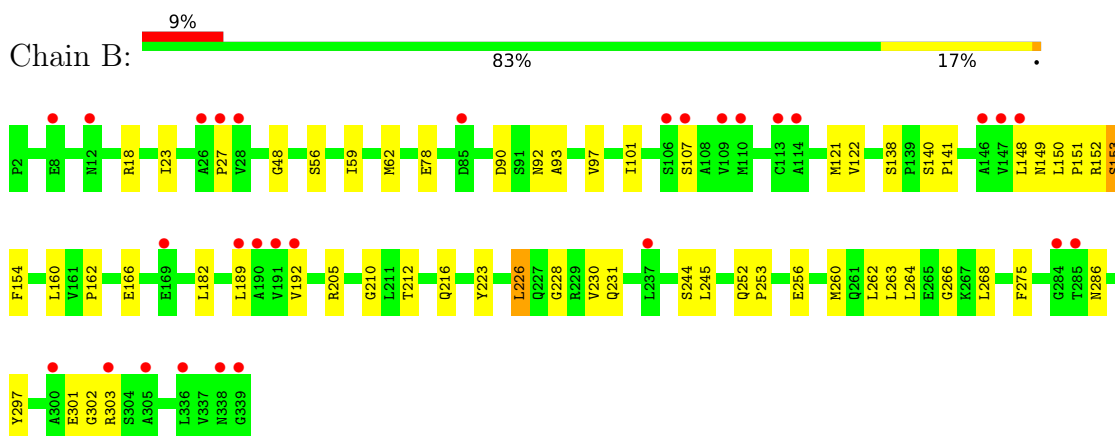
3 Residue-property plots [i](#)

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

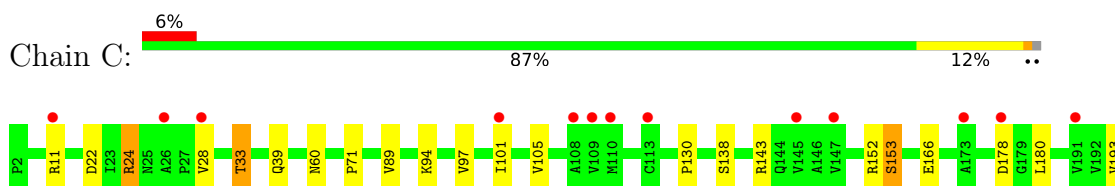
- Molecule 1: SgraIR restriction enzyme



- Molecule 1: SgraIR restriction enzyme

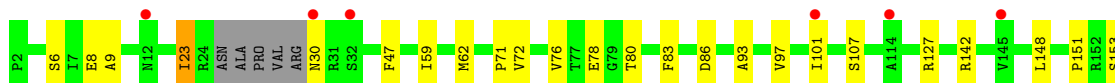
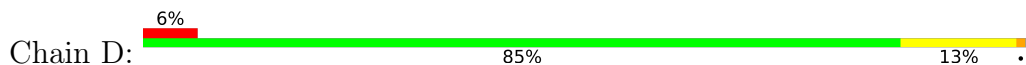


- Molecule 1: SgraIR restriction enzyme

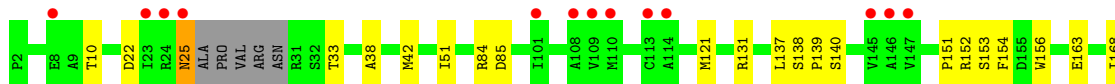
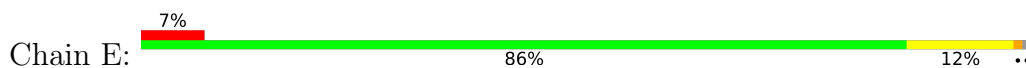




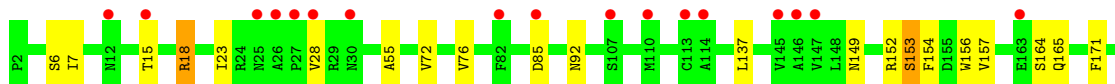
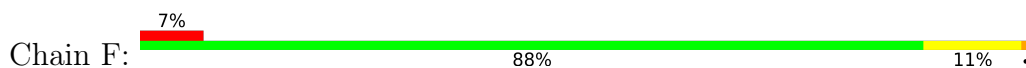
- Molecule 1: SgraIR restriction enzyme



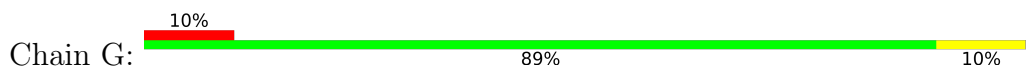
- Molecule 1: SgraIR restriction enzyme



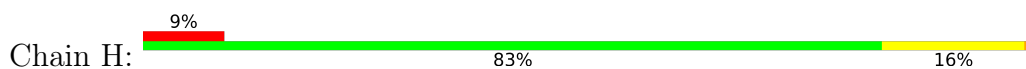
- Molecule 1: SgraIR restriction enzyme

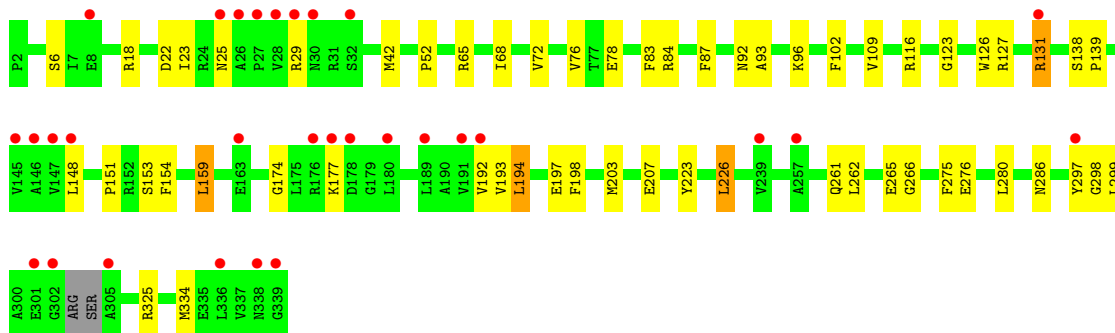


- Molecule 1: SgraIR restriction enzyme

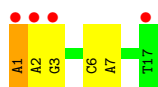


- Molecule 1: SgraIR restriction enzyme

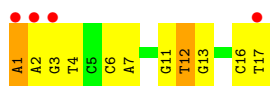




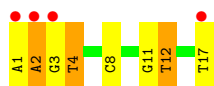
- Molecule 2: DNA (5'-D(*AP*AP*GP*TP*CP*CP*AP*CP*CP*GP*GP*TP*GP*GP*AP*CP*T)-3')



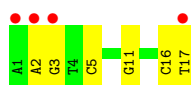
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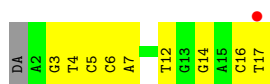


- Molecule 2: DNA (5'-D(*AP*AP*GP*TP*CP*CP*AP*CP*CP*GP*GP*TP*GP*GP*AP*CP*T)-3')

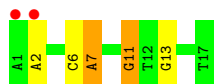


- Molecule 2: DNA (5'-D(*AP*AP*GP*TP*CP*CP*AP*CP*CP*GP*GP*TP*GP*GP*AP*CP*T)-3')

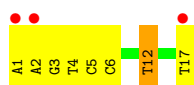




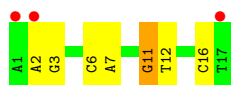
- Molecule 2: DNA (5'-D(*AP*AP*GP*TP*CP*CP*AP*CP*CP*GP*GP*TP*GP*GP*AP*CP*T)-3')



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- Molecule 2: DNA (5'-D(*AP*AP*GP*TP*CP*CP*AP*CP*CP*GP*GP*TP*GP*GP*AP*CP*T)-3')



4 Data and refinement statistics i

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	130.38Å 134.95Å 237.49Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	25.46 – 2.00 25.46 – 2.00	Depositor EDS
% Data completeness (in resolution range)	86.8 (25.46-2.00) 94.9 (25.46-2.00)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.38 (at 1.99Å)	Xtrriage
Refinement program	PHENIX (phenix.refine: 1.5_2)	Depositor
R, R_{free}	0.211 , 0.261 0.213 , 0.263	Depositor DCC
R_{free} test set	5410 reflections (2.03%)	wwPDB-VP
Wilson B-factor (Å ²)	35.9	Xtrriage
Anisotropy	0.114	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.38 , 49.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	0.008 for k,h,-l	Xtrriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	25250	wwPDB-VP
Average B, all atoms (Å ²)	42.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.52% 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: CA

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	0.38	0/2669	0.56	0/3623
1	B	0.38	0/2717	0.52	0/3690
1	C	0.41	0/2713	0.57	0/3684
1	D	0.42	0/2686	0.56	0/3646
1	E	0.43	0/2703	0.57	0/3667
1	F	0.41	0/2711	0.58	0/3683
1	G	0.38	0/2702	0.55	0/3667
1	H	0.39	0/2712	0.58	0/3683
2	K	0.83	0/388	1.56	9/597 (1.5%)
2	L	0.83	0/388	1.45	4/597 (0.7%)
2	M	0.81	0/388	1.38	2/597 (0.3%)
2	N	0.78	0/388	1.43	5/597 (0.8%)
2	O	0.84	0/388	1.63	5/597 (0.8%)
2	P	0.88	0/364	1.63	5/560 (0.9%)
2	Q	0.77	0/388	1.46	4/597 (0.7%)
2	R	0.79	0/388	1.55	8/597 (1.3%)
All	All	0.47	0/24693	0.77	42/34082 (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	F	0	1

There are no bond length outliers.

All (42) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	K	6	DC	O4'-C1'-N1	-13.19	98.77	108.00
2	P	5	DC	O4'-C1'-N1	-10.03	100.98	108.00
2	R	12	DT	O4'-C4'-C3'	-9.36	100.39	106.00
2	O	6	DC	O4'-C1'-N1	-8.77	101.86	108.00
2	N	11	DG	O4'-C1'-N9	-8.59	101.99	108.00
2	R	6	DC	O4'-C1'-N1	-7.88	102.48	108.00
2	M	5	DC	O4'-C1'-N1	-7.53	102.73	108.00
2	K	11	DG	O4'-C1'-N9	-7.35	102.86	108.00
2	Q	6	DC	O4'-C1'-N1	-7.29	102.89	108.00
2	R	12	DT	C1'-O4'-C4'	-7.15	102.95	110.10
2	N	12	DT	C1'-O4'-C4'	-7.12	102.98	110.10
2	L	1	DA	P-O3'-C3'	6.60	127.62	119.70
2	L	6	DC	O4'-C1'-N1	-6.45	103.48	108.00
2	K	12	DT	C1'-O4'-C4'	-6.17	103.93	110.10
2	O	13	DG	O4'-C1'-N9	-6.17	103.68	108.00
2	K	16	DC	O4'-C1'-N1	6.05	112.24	108.00
2	N	2	DA	P-O3'-C3'	6.05	126.96	119.70
2	P	14	DG	O4'-C1'-N9	-6.00	103.80	108.00
2	L	7	DA	P-O3'-C3'	5.90	126.78	119.70
2	O	7	DA	P-O3'-C3'	5.90	126.78	119.70
2	M	11	DG	P-O3'-C3'	5.86	126.73	119.70
2	R	12	DT	N3-C2-O2	5.83	125.80	122.30
2	O	2	DA	C3'-C2'-C1'	-5.75	95.60	102.50
2	R	5	DC	O4'-C1'-N1	-5.68	104.03	108.00
2	Q	11	DG	O4'-C1'-N9	-5.61	104.07	108.00
2	N	8	DC	O4'-C4'-C3'	-5.56	102.28	104.50
2	L	6	DC	P-O3'-C3'	5.52	126.33	119.70
2	K	7	DA	P-O3'-C3'	5.48	126.28	119.70
2	P	6	DC	P-O3'-C3'	5.48	126.28	119.70
2	K	4	DT	N3-C4-O4	5.44	123.17	119.90
2	N	4	DT	N3-C4-O4	5.38	123.13	119.90
2	Q	16	DC	C1'-O4'-C4'	-5.30	104.80	110.10
2	P	12	DT	O4'-C1'-N1	-5.24	104.33	108.00
2	K	1	DA	C4'-C3'-C2'	-5.17	98.44	103.10
2	K	4	DT	C5-C4-O4	-5.15	121.30	124.90
2	O	11	DG	O4'-C1'-N9	-5.09	104.44	108.00
2	K	1	DA	C3'-C2'-C1'	-5.08	96.40	102.50
2	R	4	DT	C5-C4-O4	-5.08	121.34	124.90
2	P	7	DA	P-O3'-C3'	5.05	125.76	119.70
2	Q	7	DA	P-O3'-C3'	5.04	125.75	119.70
2	R	12	DT	C5-C4-O4	-5.01	121.39	124.90
2	R	4	DT	N3-C4-O4	5.01	122.91	119.90

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	F	284	GLY	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	2612	0	2560	30	0
1	B	2658	0	2614	35	0
1	C	2654	0	2607	27	0
1	D	2628	0	2577	40	0
1	E	2645	0	2598	34	0
1	F	2652	0	2603	26	0
1	G	2644	0	2605	23	0
1	H	2653	0	2608	39	0
2	K	346	0	192	6	0
2	L	346	0	192	6	0
2	M	346	0	192	6	0
2	N	346	0	192	8	0
2	O	346	0	192	2	0
2	P	325	0	181	3	0
2	Q	346	0	192	6	0
2	R	346	0	192	7	0
3	A	3	0	0	0	0
3	B	3	0	0	0	0
3	C	3	0	0	0	0
3	D	3	0	0	0	0
3	E	2	0	0	0	0
3	F	3	0	0	0	0
3	G	2	0	0	0	0
3	H	3	0	0	0	0
4	A	135	0	0	6	0
4	B	133	0	0	0	0
4	C	132	0	0	1	0
4	D	161	0	0	4	0
4	E	169	0	0	2	0
4	F	151	0	0	3	0
4	G	140	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	H	135	0	0	1	0
4	K	24	0	0	0	0
4	L	25	0	0	0	0
4	M	19	0	0	0	0
4	N	22	0	0	0	0
4	O	22	0	0	0	0
4	P	26	0	0	0	0
4	Q	21	0	0	0	0
4	R	20	0	0	0	0
All	All	25250	0	22297	259	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 6.

All (259) 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:174:GLY:O	1:D:177:LYS:HG2	1.83	0.77
1:H:148:LEU:HD21	1:H:226:LEU:HD13	1.66	0.76
1:E:297[B]:TYR:CG	1:E:298:GLY:N	2.57	0.73
1:B:301:GLU:HG3	1:B:302:GLY:H	1.53	0.72
1:D:76:VAL:O	1:D:80:THR:HG23	1.95	0.67
1:G:167:VAL:O	1:G:170:GLU:HG3	1.94	0.67
1:G:298:GLY:O	1:G:306:VAL:HG22	1.94	0.67
2:M:2:DA:H2''	2:M:3:DG:OP2	1.96	0.66
1:D:93:ALA:HA	2:N:12:DT:H4'	1.78	0.66
1:C:300:ALA:HB2	1:D:297[A]:TYR:CE1	2.30	0.65
1:F:285:THR:HG23	1:F:285:THR:O	1.97	0.65
1:H:154:PHE:HZ	1:H:159:LEU:HD13	1.62	0.64
1:G:189:LEU:HD23	1:G:190:ALA:N	2.12	0.63
1:B:301:GLU:HG3	1:B:302:GLY:N	2.14	0.63
1:E:121:MET:HB3	1:E:140:SER:O	2.01	0.60
1:E:262:LEU:HD23	1:E:262:LEU:C	2.22	0.60
2:R:17:DT:H3	2:Q:2:DA:H61	1.49	0.59
1:C:252:GLN:HB3	1:C:253:PRO:HD3	1.85	0.59
1:E:297[B]:TYR:CD2	1:E:298:GLY:N	2.71	0.58
1:E:137:LEU:HD13	1:E:335:GLU:HG2	1.86	0.58
1:B:266:GLY:HA2	1:B:297:TYR:OH	2.03	0.58
1:B:23:ILE:HD13	1:G:36:GLN:HG3	1.85	0.58
1:B:122:VAL:HG21	1:B:205:ARG:HD3	1.86	0.58
2:L:2:DA:H61	2:K:17:DT:H3	1.52	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:332:GLU:O	1:F:335:GLU:HB2	2.03	0.57
1:D:97:VAL:HG12	1:D:101:ILE:HD12	1.86	0.57
1:E:151:PRO:HG3	1:E:223:TYR:CZ	2.39	0.57
1:H:52:PRO:O	1:H:109:VAL:HG22	2.04	0.57
1:B:48:GLY:O	1:B:210:GLY:HA3	2.05	0.56
1:D:272:LYS:HG3	1:D:307:HIS:CD2	2.40	0.56
1:G:272:LYS:HG3	1:G:307:HIS:CD2	2.40	0.56
1:G:189:LEU:HD23	1:G:189:LEU:C	2.26	0.56
2:R:17:DT:H3	2:Q:2:DA:N6	2.03	0.56
1:E:137:LEU:CD1	1:E:335:GLU:HG2	2.36	0.55
1:F:282:PRO:HD2	1:F:283:GLU:OE2	2.07	0.55
1:D:59:ILE:HA	1:D:62:MET:HE3	1.88	0.55
1:F:261:GLN:OE1	1:F:295:SER:HB2	2.07	0.55
1:D:286:ASN:HB2	4:D:874:HOH:O	2.05	0.55
1:E:151:PRO:HD2	1:E:154:PHE:HB2	1.89	0.55
2:Q:2:DA:H1'	2:Q:3:DG:C8	2.41	0.55
1:D:93:ALA:HB2	2:N:12:DT:H5''	1.90	0.54
2:K:1:DA:H2''	2:K:2:DA:N7	2.23	0.54
1:G:93:ALA:HA	2:R:12:DT:H4'	1.90	0.54
1:H:154:PHE:CZ	1:H:159:LEU:HD13	2.41	0.53
1:A:317:PRO:HD2	1:A:321:ASP:HB3	1.90	0.53
1:A:129:GLN:HG3	1:A:129:GLN:O	2.08	0.53
2:N:17:DT:O2	2:M:2:DA:N1	2.41	0.53
1:B:182:LEU:HD23	1:B:263:LEU:HD21	1.90	0.53
1:D:245:LEU:HD12	1:D:282:PRO:HA	1.91	0.53
2:N:17:DT:H3	2:M:2:DA:H61	1.55	0.53
2:R:2:DA:H2''	2:R:3:DG:OP2	2.08	0.53
1:B:97:VAL:HG12	1:B:101:ILE:HD12	1.91	0.53
1:G:148:LEU:HD21	1:G:226:LEU:HD13	1.90	0.53
1:A:261:GLN:HG2	1:A:265:GLU:OE2	2.08	0.53
1:F:7:ILE:HG22	4:F:1222:HOH:O	2.09	0.52
1:C:324[B]:ARG:HG2	1:C:324[B]:ARG:HH11	1.73	0.52
1:A:83:PHE:C	1:A:84:ARG:HG2	2.30	0.52
1:D:23:ILE:HG23	1:D:23:ILE:O	2.08	0.52
1:E:297[A]:TYR:CD1	1:F:300:ALA:HB2	2.45	0.52
1:B:148:LEU:HD21	1:B:226:LEU:HD13	1.92	0.52
1:A:65:ARG:HG3	4:A:441:HOH:O	2.10	0.52
1:D:83:PHE:CZ	1:E:22:ASP:HB2	2.45	0.52
1:E:131:ARG:HG3	4:E:369:HOH:O	2.10	0.52
1:F:15:THR:HA	1:F:18:ARG:HG3	1.92	0.51
1:B:262:LEU:C	1:B:262:LEU:HD23	2.31	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:56:SER:OG	1:B:59:ILE:HG13	2.11	0.51
1:F:334:MET:HE1	1:F:337:VAL:HG21	1.93	0.51
1:D:148:LEU:HD21	1:D:226:LEU:HD22	1.93	0.51
1:E:163:GLU:CD	1:E:163:GLU:H	2.13	0.51
1:C:71:PRO:HB2	1:C:101:ILE:HD13	1.93	0.51
1:D:322:LEU:HD12	4:D:907:HOH:O	2.11	0.51
2:L:2:DA:N1	2:K:17:DT:O2	2.43	0.51
1:H:151:PRO:HG3	1:H:223:TYR:CZ	2.46	0.50
2:L:1:DA:H2'	2:L:1:DA:N3	2.26	0.50
1:B:264:LEU:HD23	1:B:268:LEU:HD12	1.93	0.50
1:G:192:VAL:HG21	1:G:226:LEU:HD22	1.92	0.50
1:B:256:GLU:O	1:B:260:MET:HG3	2.11	0.50
1:F:157:VAL:HG12	1:F:165:GLN:HG2	1.93	0.50
1:A:78:GLU:OE2	1:H:18:ARG:HB3	2.11	0.50
1:H:192:VAL:HG21	1:H:226:LEU:HD22	1.93	0.50
1:A:38:ALA:O	1:A:42:MET:HG3	2.12	0.49
1:H:193:VAL:HG22	1:H:334:MET:HE1	1.94	0.49
1:B:212:THR:O	1:B:216:GLN:HG3	2.12	0.49
1:H:93:ALA:HB2	2:Q:12:DT:H4'	1.94	0.49
1:E:151:PRO:HG3	1:E:223:TYR:CE1	2.48	0.49
1:E:194:LEU:HD23	1:E:199:GLN:HA	1.95	0.49
1:A:83:PHE:CZ	1:H:22:ASP:HB2	2.47	0.49
1:C:39:GLN:HB3	1:C:97:VAL:HG13	1.94	0.49
1:E:176:ARG:HA	1:E:180:LEU:O	2.13	0.49
1:G:97:VAL:O	1:G:101:ILE:HG12	2.12	0.49
1:A:127:ARG:NH1	1:A:207:GLU:HG3	2.28	0.49
1:B:160:LEU:O	1:B:228:GLY:HA2	2.12	0.49
1:C:283:GLU:HA	1:C:283:GLU:OE1	2.13	0.49
1:E:154:PHE:CE2	1:E:156:TRP:HA	2.48	0.49
1:D:151:PRO:HG3	1:D:223:TYR:CZ	2.48	0.48
2:N:2:DA:H2''	2:N:3:DG:OP2	2.13	0.48
1:B:121:MET:HB3	1:B:140:SER:O	2.13	0.48
1:D:297[B]:TYR:HB3	4:D:381:HOH:O	2.14	0.48
1:A:176:ARG:HA	1:A:180:LEU:O	2.13	0.48
1:F:171:PHE:CE1	1:F:267:LYS:HE3	2.48	0.48
1:D:72:VAL:HG23	4:D:354:HOH:O	2.13	0.48
1:H:262:LEU:HD23	1:H:262:LEU:C	2.35	0.47
1:C:314:TYR:CE2	1:C:316:PRO:HB3	2.49	0.47
1:F:250:LEU:O	1:F:253:PRO:HD2	2.14	0.47
1:A:97:VAL:HG12	1:A:101:ILE:HD12	1.95	0.47
1:C:261:GLN:HG2	1:C:273:VAL:HB	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:92:ASN:HB3	2:O:11:DG:N3	2.30	0.47
2:R:1:DA:H3'	2:R:2:DA:C8	2.49	0.47
1:A:18:ARG:HB3	1:H:78:GLU:OE2	2.15	0.47
1:E:84:ARG:HB3	1:E:85:ASP:H	1.59	0.47
1:B:244:SER:C	1:B:245:LEU:HD23	2.35	0.47
1:G:325:ARG:HG2	1:G:325:ARG:HH11	1.80	0.47
1:A:18:ARG:HD3	4:A:372:HOH:O	2.15	0.47
1:B:152:ARG:O	1:B:153:SER:CB	2.62	0.47
1:F:154:PHE:CE2	1:F:156:TRP:HA	2.49	0.47
1:H:116:ARG:HG2	1:H:126:TRP:CZ3	2.50	0.47
1:H:194:LEU:HD22	1:H:198:PHE:HB2	1.96	0.47
2:M:17:DT:H3'	2:M:17:DT:H6	1.79	0.46
1:C:60:ASN:HD21	1:C:130:PRO:HG3	1.80	0.46
1:E:38:ALA:O	1:E:42:MET:HG3	2.15	0.46
1:E:138:SER:HA	1:E:139:PRO:HD3	1.79	0.46
1:H:138:SER:HA	1:H:139:PRO:HD3	1.78	0.46
1:B:151:PRO:HG2	1:B:154:PHE:HB2	1.97	0.46
1:H:92:ASN:HB3	2:Q:11:DG:N3	2.31	0.46
1:F:72:VAL:O	1:F:76:VAL:HG23	2.15	0.46
2:K:2:DA:H2''	2:K:3:DG:OP2	2.16	0.46
1:C:28:VAL:O	1:C:28:VAL:HG13	2.16	0.46
1:D:97:VAL:CG1	1:D:101:ILE:HD12	2.46	0.46
1:E:262:LEU:HD23	1:E:262:LEU:O	2.16	0.46
1:A:205:ARG:NH1	4:A:1235:HOH:O	2.48	0.45
2:P:3:DG:H2'	2:P:4:DT:H72	1.97	0.45
1:C:180:LEU:CD1	1:D:306:VAL:HG12	2.46	0.45
2:L:2:DA:H1'	2:L:3:DG:C5'	2.46	0.45
1:D:127:ARG:HD2	1:D:207:GLU:OE2	2.16	0.45
2:L:2:DA:H2''	2:L:3:DG:OP2	2.16	0.45
1:B:90:ASP:OD2	1:B:92:ASN:HB2	2.17	0.45
1:D:320:ALA:O	1:D:324:ARG:HG3	2.16	0.45
1:A:194:LEU:HD12	1:A:195:PRO:HD2	1.98	0.45
1:C:138:SER:O	1:C:143:ARG:NH1	2.48	0.45
1:G:141:PRO:O	1:G:144:GLN:HG3	2.17	0.45
1:H:83:PHE:HB2	1:H:87:PHE:HB2	1.98	0.45
1:C:60:ASN:ND2	1:C:130:PRO:HG3	2.32	0.45
1:C:152:ARG:O	1:C:153:SER:CB	2.64	0.45
1:H:65:ARG:HA	1:H:280:LEU:HD13	1.99	0.45
1:D:297[B]:TYR:CD2	1:D:298:GLY:N	2.85	0.45
1:D:72:VAL:O	1:D:76:VAL:HG23	2.17	0.45
1:A:56:SER:HB2	4:A:892:HOH:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:131:ARG:H	1:H:131:ARG:HG2	1.58	0.44
1:H:151:PRO:HG2	1:H:154:PHE:HB2	1.99	0.44
1:B:303:ARG:HA	1:B:303:ARG:HD3	1.74	0.44
1:A:55:ALA:HB1	4:A:1285:HOH:O	2.16	0.44
1:B:244:SER:O	1:B:245:LEU:HD23	2.17	0.44
1:D:6:SER:HB3	1:D:9:ALA:HB3	1.99	0.44
1:D:107:SER:OG	1:D:189:LEU:HD12	2.17	0.44
1:H:96:LYS:HG3	2:Q:12:DT:O2	2.18	0.44
1:E:168:ILE:HG22	1:E:172:ARG:HD2	2.00	0.44
2:P:16:DC:H2''	2:P:17:DT:OP2	2.17	0.44
1:B:78:GLU:OE2	1:G:18:ARG:HB3	2.18	0.44
1:D:262:LEU:C	1:D:262:LEU:HD23	2.38	0.44
1:A:22:ASP:HB2	1:H:83:PHE:CZ	2.52	0.44
1:D:226:LEU:N	1:D:226:LEU:HD12	2.33	0.44
1:H:194:LEU:HD23	1:H:194:LEU:HA	1.84	0.44
1:D:83:PHE:O	1:D:86:ASP:HB2	2.18	0.43
1:C:324[B]:ARG:HG2	1:C:324[B]:ARG:NH1	2.33	0.43
1:A:36:GLN:HB2	1:H:23:ILE:HD13	2.00	0.43
1:B:162:PRO:O	1:B:166:GLU:HG3	2.19	0.43
1:D:23:ILE:HG22	1:E:33:THR:O	2.18	0.43
1:C:89:VAL:HG23	1:C:94:LYS:HE3	2.00	0.43
1:F:152:ARG:O	1:F:153:SER:CB	2.66	0.43
1:D:242:LYS:O	1:D:279:THR:HA	2.19	0.43
2:M:2:DA:C2'	2:M:3:DG:OP2	2.65	0.43
1:B:93:ALA:HA	2:K:12:DT:H4'	2.01	0.43
2:M:16:DC:H2''	2:M:17:DT:H5'	2.00	0.43
2:N:1:DA:H4'	2:N:2:DA:O5'	2.19	0.43
1:E:292:GLU:HG2	1:E:308:ARG:NH2	2.34	0.43
1:H:83:PHE:C	1:H:84:ARG:HG2	2.38	0.43
1:H:148:LEU:CD2	1:H:226:LEU:HD13	2.41	0.43
2:K:12:DT:H2'	2:K:13:DG:N7	2.34	0.43
1:B:149:ASN:OD1	1:B:149:ASN:C	2.58	0.43
1:A:171:PHE:CE1	1:A:267:LYS:HE3	2.54	0.42
1:H:262:LEU:O	1:H:266:GLY:HA3	2.19	0.42
2:L:2:DA:H1'	2:L:3:DG:H5'	2.01	0.42
1:E:197:GLU:H	1:E:197:GLU:CD	2.21	0.42
1:F:55:ALA:HB1	4:F:1317:HOH:O	2.18	0.42
1:C:299:LEU:HD21	1:D:175:LEU:HD21	2.01	0.42
1:H:174:GLY:O	1:H:177:LYS:HG2	2.18	0.42
1:A:152:ARG:O	1:A:153:SER:CB	2.68	0.42
1:C:180:LEU:HD13	1:D:306:VAL:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:213:ARG:HD2	1:E:213:ARG:HA	1.68	0.42
1:E:297[A]:TYR:CE1	1:F:300:ALA:HA	2.55	0.42
1:F:137:LEU:HD13	1:F:335:GLU:HG2	2.01	0.42
1:F:285:THR:O	1:F:285:THR:CG2	2.67	0.42
1:G:93:ALA:HB2	2:R:12:DT:C5'	2.48	0.42
1:H:261:GLN:HG2	1:H:265:GLU:OE2	2.19	0.42
1:E:331:ASN:HB3	4:E:348:HOH:O	2.19	0.42
1:G:68:ILE:HD13	1:G:68:ILE:HA	1.84	0.42
1:C:304:SER:OG	1:C:305:ALA:N	2.52	0.42
1:G:213:ARG:HD3	4:G:927:HOH:O	2.19	0.42
1:D:47:PHE:HE2	1:D:71:PRO:CG	2.33	0.42
1:G:242:LYS:O	1:G:279:THR:HA	2.20	0.42
1:B:27:PRO:HG2	1:G:25:ASN:HB2	2.02	0.42
1:G:262:LEU:C	1:G:262:LEU:HD23	2.40	0.42
1:H:276:GLU:CD	1:H:325:ARG:HH12	2.20	0.42
1:B:150:LEU:HD22	1:B:154:PHE:CE2	2.55	0.42
1:C:244:SER:C	1:C:245:LEU:HD23	2.40	0.42
1:F:152:ARG:O	1:F:153:SER:HB2	2.20	0.42
1:F:213:ARG:N	1:F:214:PRO:CD	2.83	0.42
1:C:193:VAL:HG22	1:C:334:MET:HE1	2.01	0.41
1:E:256:GLU:O	1:E:260:MET:HG3	2.19	0.41
1:F:28:VAL:O	1:F:28:VAL:HG13	2.18	0.41
1:H:127:ARG:HH21	1:H:207:GLU:HG3	1.84	0.41
1:C:101:ILE:O	1:C:105:VAL:HG23	2.20	0.41
1:D:78:GLU:HG3	1:E:10:THR:HG21	2.01	0.41
1:E:25:ASN:C	1:E:25:ASN:HD22	2.24	0.41
1:F:6:SER:HB2	4:F:618:HOH:O	2.19	0.41
1:F:149:ASN:C	1:F:149:ASN:OD1	2.59	0.41
1:A:212:THR:O	1:A:216:GLN:HG3	2.19	0.41
1:D:297[B]:TYR:CG	1:D:298:GLY:N	2.86	0.41
1:E:51:ILE:CD1	1:E:210:GLY:HA2	2.51	0.41
1:G:156:TRP:CE2	1:G:260:MET:HG2	2.55	0.41
1:B:151:PRO:HG3	1:B:223:TYR:CZ	2.55	0.41
1:D:71:PRO:HB2	1:D:101:ILE:HD13	2.02	0.41
1:A:19:CYS:HB3	1:H:42:MET:HG2	2.03	0.41
1:B:192:VAL:HG21	1:B:226:LEU:HD22	2.01	0.41
1:H:72:VAL:O	1:H:76:VAL:HG23	2.20	0.41
1:C:272:LYS:CE	4:C:379:HOH:O	2.67	0.41
1:D:47:PHE:CE2	1:D:71:PRO:HG3	2.55	0.41
1:A:156:TRP:CE2	1:A:260:MET:HG2	2.55	0.41
1:A:194:LEU:HA	1:A:195:PRO:HD3	1.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:261:GLN:O	1:C:265:GLU:HB2	2.21	0.41
1:G:96:LYS:HG3	2:R:12:DT:O2	2.20	0.41
1:A:262:LEU:C	1:A:262:LEU:HD23	2.40	0.41
1:B:107:SER:OG	1:B:189:LEU:HD12	2.20	0.41
1:C:22:ASP:OD2	1:C:24:ARG:HG2	2.21	0.41
1:C:33:THR:HB	1:F:23:ILE:HD11	2.02	0.41
1:D:93:ALA:CA	2:N:12:DT:H4'	2.46	0.41
1:B:140:SER:HA	1:B:141:PRO:HD3	1.89	0.41
1:B:230:VAL:HG12	1:B:231:GLN:O	2.21	0.41
1:D:23:ILE:O	1:D:23:ILE:CG2	2.68	0.41
1:F:316:PRO:HA	1:F:317:PRO:HD3	1.87	0.41
1:G:300:ALA:HB2	1:H:297[A]:TYR:CD1	2.56	0.41
1:H:68:ILE:HD12	1:H:102:PHE:HA	2.02	0.41
1:H:197:GLU:H	1:H:197:GLU:CD	2.22	0.41
1:H:297[B]:TYR:CG	1:H:298:GLY:N	2.85	0.41
1:A:225:ARG:HD3	4:A:1196:HOH:O	2.21	0.41
1:H:123:GLY:HA2	4:H:1280:HOH:O	2.21	0.41
2:N:3:DG:H2''	2:N:4:DT:OP2	2.20	0.41
1:A:121:MET:HB3	1:A:140:SER:O	2.20	0.40
1:C:279:THR:O	1:C:315:VAL:HA	2.21	0.40
1:D:23:ILE:CG2	1:E:33:THR:O	2.69	0.40
1:E:182:LEU:HD12	1:E:182:LEU:HA	1.84	0.40
2:P:17:DT:OP2	2:P:17:DT:H2'	2.21	0.40
1:A:196:GLU:HA	1:A:199:GLN:NE2	2.36	0.40
1:B:252:GLN:N	1:B:253:PRO:CD	2.84	0.40
1:E:152:ARG:HG2	2:O:7:DA:H5'	2.03	0.40
1:G:325:ARG:HG2	1:G:325:ARG:NH1	2.36	0.40
1:A:276:GLU:CD	1:A:325:ARG:HH12	2.24	0.40
1:B:59:ILE:HA	1:B:62:MET:HE3	2.03	0.40
1:H:299:LEU:HD23	1:H:299:LEU:HA	1.85	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	328/338 (97%)	316 (96%)	12 (4%)	0	100	100
1	B	336/338 (99%)	324 (96%)	12 (4%)	0	100	100
1	C	333/338 (98%)	324 (97%)	9 (3%)	0	100	100
1	D	330/338 (98%)	321 (97%)	9 (3%)	0	100	100
1	E	330/338 (98%)	317 (96%)	13 (4%)	0	100	100
1	F	336/338 (99%)	327 (97%)	9 (3%)	0	100	100
1	G	331/338 (98%)	321 (97%)	10 (3%)	0	100	100
1	H	333/338 (98%)	318 (96%)	15 (4%)	0	100	100
All	All	2657/2704 (98%)	2568 (97%)	89 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	274/282 (97%)	267 (97%)	7 (3%)	46	48
1	B	279/282 (99%)	273 (98%)	6 (2%)	52	55
1	C	278/282 (99%)	271 (98%)	7 (2%)	47	49
1	D	275/282 (98%)	268 (98%)	7 (2%)	47	49
1	E	278/282 (99%)	274 (99%)	4 (1%)	67	72
1	F	278/282 (99%)	268 (96%)	10 (4%)	35	34
1	G	278/282 (99%)	272 (98%)	6 (2%)	52	55
1	H	278/282 (99%)	267 (96%)	11 (4%)	31	29
All	All	2218/2256 (98%)	2160 (97%)	58 (3%)	46	48

All (58) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	15	THR
1	A	84	ARG
1	A	142	ARG
1	A	176	ARG
1	A	275	PHE
1	A	297	TYR
1	A	301	GLU
1	B	18	ARG
1	B	138	SER
1	B	153	SER
1	B	226	LEU
1	B	275	PHE
1	B	286	ASN
1	C	11	ARG
1	C	24	ARG
1	C	33	THR
1	C	153	SER
1	C	166	GLU
1	C	178	ASP
1	C	275	PHE
1	D	8	GLU
1	D	23	ILE
1	D	30	ASN
1	D	142	ARG
1	D	153	SER
1	D	275	PHE
1	D	286	ASN
1	E	25	ASN
1	E	153	SER
1	E	213	ARG
1	E	275	PHE
1	F	18	ARG
1	F	85	ASP
1	F	153	SER
1	F	164	SER
1	F	202	GLU
1	F	213	ARG
1	F	236	SER
1	F	275	PHE
1	F	285	THR
1	F	335	GLU
1	G	30	ASN
1	G	85	ASP

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Mol	Chain	Res	Type
1	G	153	SER
1	G	205	ARG
1	G	236	SER
1	G	275	PHE
1	H	6	SER
1	H	25	ASN
1	H	29	ARG
1	H	131	ARG
1	H	153	SER
1	H	159	LEU
1	H	194	LEU
1	H	203	MET
1	H	226	LEU
1	H	275	PHE
1	H	286	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	74	ASN
1	A	231	GLN
1	B	41	ASN
1	B	200	ASN
1	C	74	ASN
1	E	12	ASN
1	E	25	ASN
1	E	74	ASN
1	E	200	ASN
1	F	12	ASN
1	F	25	ASN
1	F	307	HIS
1	F	338	ASN
1	G	74	ASN
1	G	129	GLN
1	G	200	ASN
1	H	25	ASN
1	H	227	GLN
1	H	286	ASN

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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 22 ligands modelled in this entry, 22 are monoatomic - leaving 0 for Mogul analysis.

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	332/338 (98%)	0.31	22 (6%) 18 17	29, 41, 60, 82	0
1	B	338/338 (100%)	0.37	29 (8%) 10 9	29, 44, 65, 78	0
1	C	335/338 (99%)	0.29	20 (5%) 21 20	25, 38, 60, 80	0
1	D	333/338 (98%)	0.27	20 (6%) 21 20	29, 39, 58, 81	0
1	E	333/338 (98%)	0.24	24 (7%) 15 14	25, 36, 56, 74	0
1	F	338/338 (100%)	0.35	25 (7%) 14 13	26, 40, 59, 68	0
1	G	335/338 (99%)	0.34	34 (10%) 7 6	28, 42, 63, 79	0
1	H	336/338 (99%)	0.36	30 (8%) 9 8	29, 41, 64, 80	0
2	K	17/17 (100%)	0.49	4 (23%) 0 0	30, 37, 89, 96	0
2	L	17/17 (100%)	0.47	4 (23%) 0 0	31, 38, 99, 103	0
2	M	17/17 (100%)	0.39	4 (23%) 0 0	29, 36, 86, 87	0
2	N	17/17 (100%)	0.46	4 (23%) 0 0	30, 36, 95, 95	0
2	O	17/17 (100%)	0.15	2 (11%) 4 4	29, 34, 93, 96	0
2	P	16/17 (94%)	0.08	1 (6%) 20 19	28, 37, 61, 78	0
2	Q	17/17 (100%)	0.29	3 (17%) 1 1	30, 38, 79, 82	0
2	R	17/17 (100%)	0.23	3 (17%) 1 1	29, 36, 89, 90	0
All	All	2815/2840 (99%)	0.32	229 (8%) 12 11	25, 40, 62, 103	0

All (229) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	28	VAL	7.2
1	H	28	VAL	6.9
1	G	28	VAL	6.5
1	H	26	ALA	6.1
1	B	285	THR	6.0

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Mol	Chain	Res	Type	RSRZ
1	B	28	VAL	6.0
1	B	305	ALA	5.7
1	C	285	THR	5.6
1	B	339	GLY	5.4
1	C	305	ALA	5.4
1	G	26	ALA	5.3
1	F	339	GLY	5.2
1	E	285	THR	5.1
2	K	1	DA	5.0
1	G	339	GLY	5.0
1	G	302	GLY	4.9
1	A	304	SER	4.8
1	H	27	PRO	4.8
1	D	32	SER	4.8
1	A	305	ALA	4.6
2	L	1	DA	4.6
1	F	285	THR	4.6
1	G	27	PRO	4.5
1	C	284	GLY	4.4
1	D	302	GLY	4.4
1	D	285	THR	4.4
1	D	304	SER	4.3
1	E	25	ASN	4.3
1	A	177	LYS	4.3
1	C	28	VAL	4.3
1	D	305	ALA	4.2
2	O	1	DA	4.2
1	C	339	GLY	4.1
1	F	12	ASN	4.1
1	G	178	ASP	4.0
1	E	304	SER	4.0
1	A	303	ARG	4.0
1	D	284	GLY	4.0
1	G	285	THR	4.0
1	H	177	LYS	3.9
1	E	339	GLY	3.9
1	B	27	PRO	3.8
1	G	177	LYS	3.8
1	H	339	GLY	3.7
2	N	1	DA	3.7
1	G	105	VAL	3.7
1	A	302	GLY	3.6

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Mol	Chain	Res	Type	RSRZ
1	B	191	VAL	3.6
1	G	147	VAL	3.6
1	D	339	GLY	3.6
1	H	336	LEU	3.5
1	H	305	ALA	3.5
1	A	11	ARG	3.5
1	B	338	ASN	3.4
1	B	26	ALA	3.4
1	C	336	LEU	3.4
2	R	1	DA	3.4
1	G	284	GLY	3.4
1	D	177	LYS	3.3
1	C	338	ASN	3.3
2	M	1	DA	3.3
1	C	304	SER	3.3
1	C	11	ARG	3.3
1	B	284	GLY	3.3
2	P	17	DT	3.3
1	F	113	CYS	3.3
1	F	336	LEU	3.3
2	Q	1	DA	3.3
2	O	2	DA	3.2
1	B	147	VAL	3.2
1	G	191	VAL	3.2
1	H	301	GLU	3.1
1	A	338	ASN	3.1
2	L	2	DA	3.1
1	F	305	ALA	3.1
2	N	2	DA	3.1
1	E	284	GLY	3.1
1	F	145	VAL	3.1
2	N	3	DG	3.0
1	H	178	ASP	3.0
1	E	113	CYS	3.0
1	B	189	LEU	3.0
1	E	336	LEU	3.0
1	H	302	GLY	3.0
1	D	297[A]	TYR	3.0
1	A	189	LEU	3.0
1	C	26	ALA	3.0
1	G	108	ALA	3.0
1	H	131	ARG	3.0

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Mol	Chain	Res	Type	RSRZ
1	F	26	ALA	3.0
1	C	101	ILE	2.9
1	H	239	VAL	2.9
1	C	145	VAL	2.9
1	G	11	ARG	2.9
1	B	110	MET	2.9
1	H	25	ASN	2.9
2	K	17	DT	2.9
1	C	109	VAL	2.8
1	B	303	ARG	2.8
1	F	30	ASN	2.8
1	G	25	ASN	2.8
1	D	178	ASP	2.8
1	E	109	VAL	2.8
2	L	17	DT	2.8
1	F	147	VAL	2.8
2	N	17	DT	2.8
1	D	145	VAL	2.8
1	A	300	ALA	2.7
1	D	336	LEU	2.7
1	H	189	LEU	2.7
1	G	29	ARG	2.7
1	C	173	ALA	2.7
1	A	147	VAL	2.7
2	K	2	DA	2.7
1	F	146	ALA	2.7
1	B	12	ASN	2.7
1	H	147	VAL	2.7
1	B	146	ALA	2.7
1	C	108	ALA	2.6
1	B	336	LEU	2.6
1	F	85	ASP	2.6
1	C	178	ASP	2.6
1	C	147	VAL	2.6
1	F	259	VAL	2.6
1	E	303	ARG	2.6
1	A	32	SER	2.6
1	F	114	ALA	2.6
1	E	110	MET	2.5
1	E	147	VAL	2.5
1	A	97	VAL	2.5
1	E	145	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
1	G	176	ARG	2.5
1	D	338	ASN	2.5
1	A	145	VAL	2.5
1	F	177	LYS	2.5
1	D	179	GLY	2.5
2	M	2	DA	2.5
1	F	25	ASN	2.5
1	G	30	ASN	2.5
1	G	106	SER	2.5
1	H	146	ALA	2.5
1	H	145	VAL	2.4
1	H	30	ASN	2.4
1	H	8	GLU	2.4
1	D	114	ALA	2.4
1	A	285	THR	2.4
1	B	85	ASP	2.4
1	D	30	ASN	2.4
1	B	109	VAL	2.4
1	F	191	VAL	2.4
1	H	338	ASN	2.4
2	Q	17	DT	2.4
1	E	191	VAL	2.4
1	A	110	MET	2.4
1	D	301	GLU	2.4
1	G	301	GLU	2.4
1	H	192	VAL	2.4
1	E	254	LEU	2.3
2	M	17	DT	2.3
1	B	190	ALA	2.3
1	A	339	GLY	2.3
1	H	297[A]	TYR	2.3
1	H	148	LEU	2.3
1	C	191	VAL	2.3
1	E	146	ALA	2.3
1	A	82	PHE	2.3
2	R	17	DT	2.3
1	C	113	CYS	2.3
2	Q	2	DA	2.3
1	B	107	SER	2.3
1	E	23	ILE	2.3
1	A	129	GLN	2.3
2	K	3	DG	2.3

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Mol	Chain	Res	Type	RSRZ
1	G	336	LEU	2.3
1	E	24	ARG	2.3
1	G	12	ASN	2.3
1	A	114	ALA	2.2
1	B	192	VAL	2.2
1	H	191	VAL	2.2
1	D	12	ASN	2.2
1	A	113	CYS	2.2
2	M	3	DG	2.2
1	G	101	ILE	2.2
1	D	303	ARG	2.2
1	A	301	GLU	2.2
1	D	101	ILE	2.2
1	G	170	GLU	2.2
1	B	300	ALA	2.2
1	G	15	THR	2.2
2	R	2	DA	2.2
1	B	8	GLU	2.2
1	G	8	GLU	2.2
1	E	114	ALA	2.2
1	G	104	ILE	2.2
1	B	169	GLU	2.2
1	F	82	PHE	2.2
1	C	110	MET	2.2
1	E	189	LEU	2.2
1	G	109	VAL	2.2
1	E	8	GLU	2.2
1	F	15	THR	2.2
1	H	32	SER	2.2
1	F	200	ASN	2.1
1	G	110	MET	2.1
1	B	114	ALA	2.1
1	B	237	LEU	2.1
1	G	338	ASN	2.1
1	H	176	ARG	2.1
1	B	106	SER	2.1
1	E	108	ALA	2.1
1	E	305	ALA	2.1
1	G	114	ALA	2.1
1	G	146	ALA	2.1
1	H	163	GLU	2.1
1	B	148	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	G	145	VAL	2.1
1	G	107	SER	2.1
1	H	180	LEU	2.1
1	H	257	ALA	2.1
2	L	3	DG	2.1
1	F	27	PRO	2.0
1	E	326	PHE	2.0
1	E	101	ILE	2.0
1	F	110	MET	2.0
1	F	163	GLU	2.0
1	F	107	SER	2.0
1	A	136	THR	2.0
1	B	113	CYS	2.0
1	H	29	ARG	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 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
3	CA	F	342	1/1	0.82	0.09	68,68,68,68	0
3	CA	D	342	1/1	0.85	0.10	66,66,66,66	0
3	CA	C	342	1/1	0.86	0.15	65,65,65,65	0
3	CA	G	341	1/1	0.89	0.14	48,48,48,48	0
3	CA	H	342	1/1	0.93	0.08	74,74,74,74	0
3	CA	A	341	1/1	0.94	0.11	77,77,77,77	0
3	CA	H	341	1/1	0.95	0.10	43,43,43,43	0
3	CA	C	341	1/1	0.95	0.11	43,43,43,43	0
3	CA	F	341	1/1	0.96	0.07	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	CA	E	341	1/1	0.97	0.13	41,41,41,41	0
3	CA	B	341	1/1	0.97	0.17	48,48,48,48	0
3	CA	B	342	1/1	0.98	0.19	68,68,68,68	0
3	CA	D	341	1/1	0.98	0.14	42,42,42,42	0
3	CA	A	340	1/1	0.98	0.12	45,45,45,45	0
3	CA	D	340	1/1	0.99	0.14	29,29,29,29	0
3	CA	C	340	1/1	0.99	0.14	31,31,31,31	0
3	CA	G	340	1/1	0.99	0.13	34,34,34,34	0
3	CA	A	1	1/1	0.99	0.15	31,31,31,31	0
3	CA	H	340	1/1	0.99	0.14	33,33,33,33	0
3	CA	E	340	1/1	0.99	0.19	34,34,34,34	0
3	CA	B	340	1/1	0.99	0.13	33,33,33,33	0
3	CA	F	340	1/1	1.00	0.15	30,30,30,30	0

6.5 Other polymers [i](#)

There are no such residues in this entry.