Full wwPDB X-ray Structure Validation Report ⓘ

Jul 7, 2025 – 07:44 PM JST

PDB ID	:	9L55 / pdb_00009l55
Title	:	Plastid Localized Exonuclease 1 (D249A) complexed with DNA
Authors	:	Shi, G.; Zhang, Y.
Deposited on	:	2024-12-22
Resolution	:	2.87 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

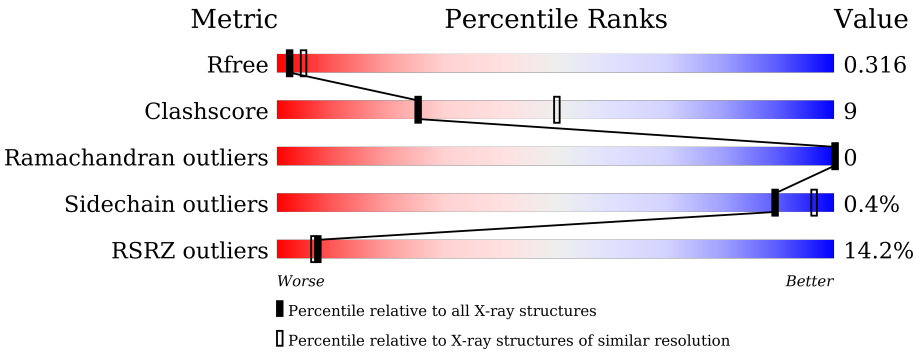
MolProbity	:	4-5-2 with Phenix2.0rc1
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

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 2.87 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}	164625	3316 (2.90-2.86)
Clashscore	180529	3609 (2.90-2.86)
Ramachandran outliers	177936	3529 (2.90-2.86)
Sidechain outliers	177891	3532 (2.90-2.86)
RSRZ outliers	164620	3319 (2.90-2.86)

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

Mol	Chain	Length	Quality of chain
1	A	331	17% 79% 11% 9%
1	B	331	10% 74% 18% 8%
2	E	18	11% 50% 50%
3	F	10	60% 40%
4	G	8	25% 75%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 9806 atoms, of which 4555 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 5'-3' exonuclease family protein.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	300	Total	C	H	N	O	S	0	0	0
			4227	1400	2039	366	413	9			
1	B	303	Total	C	H	N	O	S	0	2	0
			4448	1463	2176	379	420	10			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	91	GLY	-	expression tag	UNP B4FJZ1
A	249	ALA	ASP	engineered mutation	UNP B4FJZ1
B	91	GLY	-	expression tag	UNP B4FJZ1
B	249	ALA	ASP	engineered mutation	UNP B4FJZ1

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

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	E	18	Total	C	H	N	O	P	0	0	0
			542	173	182	61	108	18			

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

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
3	F	10	Total	C	H	N	O	P	0	0	0
			312	100	102	38	62	10			

- Molecule 4 is a DNA chain called DNA (5'-D(P*GP*TP*GP*AP*GP*GP*TP*A)-3').

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
4	G	8	Total	C	H	N	O	P	0	0	0
			227	80	56	34	49	8			

- Molecule 5 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	2	Total Mg 2 2	0	0
5	B	2	Total Mg 2 2	0	0

- Molecule 6 is water.

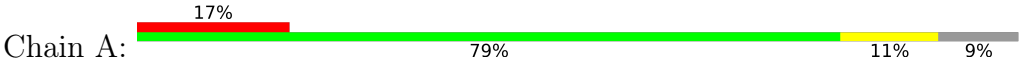
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	16	Total O 16 16	0	0
6	B	24	Total O 24 24	0	0
6	F	3	Total O 3 3	0	0
6	G	3	Total O 3 3	0	0

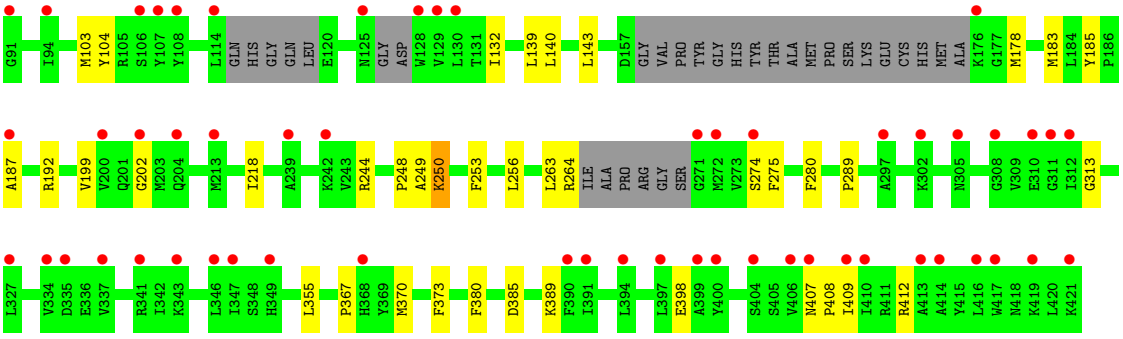
3 Residue-property plots (i)

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: 5'-3' exonuclease family protein

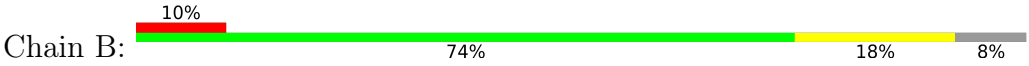
Chain A:

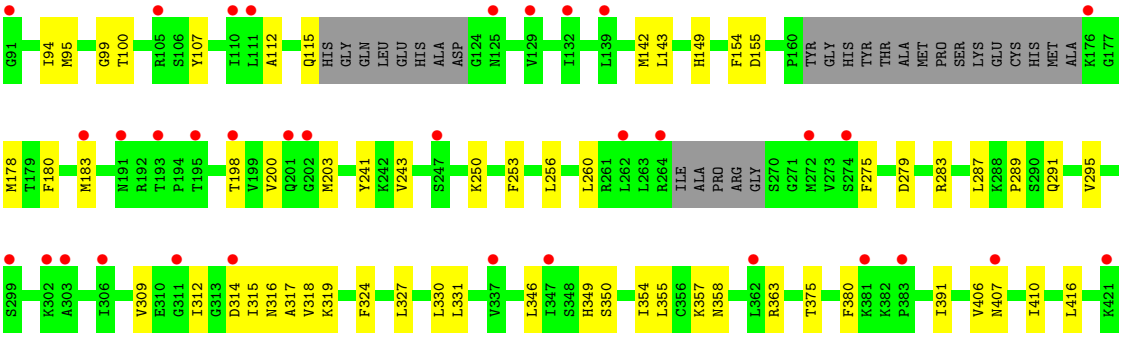




• Molecule 1: 5'-3' exonuclease family protein

Chain B:





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

Chain E:

• Molecule 3: DNA (5'-D(P*AP*TP*TP*AP*AP*GP*TP*GP*GP*T)-3')

Chain F:

• Molecule 4: DNA (5'-D(P*GP*TP*GP*AP*GP*GP*TP*A)-3')

Chain G:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	96.45Å 104.40Å 117.35Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.38 – 2.87 30.38 – 2.87	Depositor EDS
% Data completeness (in resolution range)	99.3 (30.38-2.87) 89.5 (30.38-2.87)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.72 (at 2.85Å)	Xtriage
Refinement program	PHENIX 1.21_5207	Depositor
R, R_{free}	0.269 , 0.315 0.269 , 0.316	Depositor DCC
R_{free} test set	25701 reflections (7.27%)	wwPDB-VP
Wilson B-factor (Å^2)	72.8	Xtriage
Anisotropy	0.690	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.41 , 89.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	9806	wwPDB-VP
Average B, all atoms (Å^2)	105.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.88% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG

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	0.45	0/2226	0.70	0/3025
1	B	0.30	0/2324	0.54	0/3153
2	E	0.56	0/401	0.90	0/612
3	F	0.51	0/235	0.75	0/360
4	G	0.53	0/192	0.75	0/294
All	All	0.41	0/5378	0.66	0/7444

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2188	2039	2079	37	0
1	B	2272	2176	2212	48	0
2	E	360	182	204	12	0
3	F	210	102	115	9	0
4	G	171	56	91	5	0
5	A	2	0	0	0	0
5	B	2	0	0	0	0
6	A	16	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	B	24	0	0	0	0
6	F	3	0	0	0	0
6	G	3	0	0	0	0
All	All	5251	4555	4701	94	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 9.

All (94) 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:A:249:ALA:HA	3:F:2:DT:OP1	1.53	1.08
1:A:250:LYS:HG2	3:F:2:DT:OP2	1.84	0.78
1:A:313:GLY:N	2:E:12:DA:H5'	2.01	0.76
1:A:248:PRO:O	3:F:2:DT:H5"	1.93	0.68
1:A:264:ARG:HH22	3:F:3:DT:P	2.17	0.67
1:A:143:LEU:HD12	1:A:380:PHE:CE2	2.29	0.67
2:E:2:DA:H62	4:G:7:DT:H3	1.45	0.65
1:A:248:PRO:O	3:F:2:DT:C5'	2.45	0.64
1:B:241:TYR:CE2	1:B:375:THR:HG21	2.33	0.64
1:B:107:TYR:HE1	1:B:198:THR:HG1	1.49	0.59
1:B:314:ASP:O	1:B:318:VAL:HG23	2.03	0.58
1:B:309:VAL:HG13	1:B:349:HIS:HB2	1.86	0.58
1:A:253:PHE:HA	1:A:256:LEU:HD23	1.87	0.56
1:B:324:PHE:CD2	1:B:330:LEU:HD13	2.41	0.56
1:B:312:ILE:HD12	1:B:312:ILE:N	2.22	0.55
1:A:192:ARG:HH22	3:F:1:DA:C5'	2.19	0.55
1:A:355:LEU:HD23	1:A:355:LEU:O	2.08	0.54
1:A:103:MET:HE2	1:A:202:GLY:C	2.32	0.54
1:A:140:LEU:HD22	1:A:412:ARG:HG2	1.90	0.54
2:E:1:DT:C6	2:E:1:DT:H5'	2.41	0.54
1:A:192:ARG:HH22	3:F:1:DA:H5"	1.73	0.54
1:A:132:ILE:HD11	1:A:202:GLY:HA2	1.89	0.53
1:B:253:PHE:HA	1:B:256:LEU:HD23	1.90	0.53
1:A:244:ARG:HD2	1:A:263:LEU:HD11	1.90	0.53
1:B:243:VAL:HB	1:B:260:LEU:HD22	1.91	0.53
1:B:406:VAL:HG23	1:B:410:ILE:HD11	1.92	0.52
1:B:327:LEU:CD1	1:B:331:LEU:HD21	2.39	0.51
1:B:241:TYR:HE2	1:B:375:THR:HG21	1.75	0.51
1:B:327:LEU:O	1:B:331:LEU:HD22	2.10	0.51
1:B:312:ILE:HD12	1:B:312:ILE:H	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:283:ARG:NH1	2:E:1:DT:OP1	2.38	0.50
1:B:287:LEU:HD11	1:B:295:VAL:HG21	1.93	0.50
1:A:139:LEU:O	1:A:143:LEU:HD23	2.11	0.50
1:B:330:LEU:HD11	1:B:346:LEU:CD1	2.42	0.49
1:A:104:TYR:CE1	1:A:199:VAL:HG21	2.47	0.49
1:A:409:ILE:HD12	1:A:409:ILE:N	2.29	0.48
2:E:8:DC:H1'	2:E:9:DA:H5'	1.95	0.48
1:B:275:PHE:CD1	1:B:279:ASP:HB2	2.50	0.47
1:B:391:ILE:HD11	1:B:410:ILE:HG23	1.95	0.47
1:B:350:SER:O	1:B:354:ILE:HD12	2.14	0.47
1:B:180:PHE:O	1:B:183[B]:MET:HG2	2.15	0.47
1:A:250:LYS:HB3	1:A:250:LYS:NZ	2.30	0.47
1:B:95:MET:HE1	1:B:142:MET:O	2.16	0.46
1:A:385:ASP:OD2	1:A:389:LYS:HG2	2.15	0.46
1:A:313:GLY:H	2:E:12:DA:H5'	1.78	0.46
1:B:316:ASN:O	1:B:317:ALA:C	2.58	0.46
1:A:218:ILE:HG23	1:A:373:PHE:CZ	2.51	0.46
1:A:139:LEU:HD13	1:A:143:LEU:HD23	1.97	0.45
1:A:313:GLY:HA3	2:E:12:DA:C5'	2.45	0.45
1:A:313:GLY:CA	2:E:12:DA:H5'	2.46	0.45
1:A:263:LEU:HD12	1:A:263:LEU:N	2.32	0.45
1:B:94:ILE:HD13	1:B:149:HIS:HB2	1.98	0.45
1:B:200:VAL:O	1:B:203:MET:HB3	2.17	0.45
1:B:112:ALA:O	1:B:115:GLN:HG3	2.17	0.45
1:B:143:LEU:HD22	1:B:380:PHE:CZ	2.52	0.45
1:B:327:LEU:HD23	1:B:357:LYS:CD	2.47	0.45
1:B:407:ASN:HA	1:B:410:ILE:HD12	1.99	0.45
4:G:7:DT:H2"	4:G:8:DA:C8	2.52	0.44
1:A:370:MET:HE2	1:A:370:MET:HB3	1.84	0.44
1:A:313:GLY:HA3	2:E:12:DA:H5"	2.00	0.43
2:E:6:DC:H2"	2:E:7:DA:H5'	2.00	0.43
1:A:250:LYS:HB3	1:A:250:LYS:HZ3	1.83	0.43
3:F:10:DT:H2"	4:G:1:DG:O4'	2.17	0.43
1:B:287:LEU:CD2	1:B:291:GLN:HB2	2.49	0.43
1:B:178:MET:HG2	1:B:183[A]:MET:HE3	2.01	0.43
1:A:274:SER:O	1:A:275:PHE:C	2.61	0.43
1:A:407:ASN:N	1:A:408:PRO:HD2	2.34	0.43
1:A:249:ALA:CA	3:F:2:DT:OP1	2.44	0.42
1:A:367:PRO:HG2	1:A:370:MET:HG3	2.00	0.42
1:B:316:ASN:O	1:B:319:LYS:N	2.52	0.42
1:B:330:LEU:HD21	1:B:346:LEU:HD11	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:3:DC:H2"	2:E:4:DC:H5'	2.00	0.42
4:G:5:DG:H2"	4:G:6:DG:H5'	2.01	0.42
1:B:99:GLY:HA3	1:B:154:PHE:CE1	2.55	0.42
1:A:185:TYR:CE2	1:A:187:ALA:HB3	2.55	0.42
1:B:275:PHE:CE1	1:B:279:ASP:HB2	2.54	0.42
1:A:178:MET:HE2	1:A:183:MET:CE	2.50	0.41
1:B:358:ASN:OD1	1:B:363:ARG:NH2	2.53	0.41
1:A:280:PHE:CZ	1:A:289:PRO:HA	2.55	0.41
1:B:183[A]:MET:HA	1:B:183[A]:MET:HE2	2.02	0.41
1:B:327:LEU:HD12	1:B:331:LEU:CD2	2.50	0.41
1:B:327:LEU:HD11	1:B:331:LEU:HD21	2.03	0.41
2:E:1:DT:H5'	2:E:1:DT:H6	1.84	0.41
1:B:250:LYS:O	1:B:253:PHE:HB2	2.20	0.41
1:B:315:ILE:CB	4:G:4:DA:OP2	2.69	0.41
1:B:324:PHE:CE2	1:B:330:LEU:HD13	2.56	0.41
1:B:327:LEU:O	1:B:330:LEU:HB3	2.20	0.41
1:A:264:ARG:HE	1:A:264:ARG:HB3	1.61	0.40
1:B:100:THR:HG21	1:B:155:ASP:HB2	2.03	0.40
1:B:241:TYR:CD2	1:B:375:THR:HG21	2.56	0.40
1:B:256:LEU:HB2	1:B:289:PRO:HB3	2.03	0.40
1:B:327:LEU:HD23	1:B:357:LYS:HD2	2.04	0.40
1:B:355:LEU:HD23	1:B:355:LEU:O	2.21	0.40
1:B:143:LEU:HB3	1:B:416:LEU:HD21	2.02	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	290/331 (88%)	283 (98%)	7 (2%)	0	100	100
1	B	297/331 (90%)	292 (98%)	5 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	587/662 (89%)	575 (98%)	12 (2%)	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	216/281 (77%)	214 (99%)	2 (1%)	75 91
1	B	234/281 (83%)	234 (100%)	0	100 100
All	All	450/562 (80%)	448 (100%)	2 (0%)	89 96

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	250	LYS
1	A	398	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	305	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 4 ligands modelled in this entry, 4 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

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, 95^{th} 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	300/331 (90%)	1.08	55 (18%) 4 4	49, 98, 154, 187	0
1	B	303/331 (91%)	0.87	34 (11%) 11 10	44, 102, 139, 163	1 (0%)
2	E	18/18 (100%)	0.97	2 (11%) 12 10	92, 128, 154, 155	0
3	F	10/10 (100%)	0.70	0 100 100	103, 121, 142, 143	0
4	G	8/8 (100%)	1.26	0 100 100	88, 111, 152, 160	0
All	All	639/698 (91%)	0.97	91 (14%) 7 6	44, 101, 146, 187	1 (0%)

All (91) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	183[A]	MET	4.7
1	A	407	ASN	4.7
1	A	128	TRP	4.5
1	B	407	ASN	4.1
1	B	264	ARG	4.1
1	A	213	MET	4.0
1	A	94	ILE	3.9
1	A	114	LEU	3.9
1	B	125	ASN	3.9
1	A	107	TYR	3.8
1	B	262	LEU	3.8
1	B	110	ILE	3.8
1	A	421	LYS	3.6
1	A	310	GLU	3.6
1	A	125	ASN	3.5
1	A	302	LYS	3.5
1	A	368	HIS	3.5
1	B	337	VAL	3.4
1	A	312	ILE	3.4
1	A	400	TYR	3.4

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Mol	Chain	Res	Type	RSRZ
1	A	397	LEU	3.4
1	A	337	VAL	3.4
1	B	362	LEU	3.3
1	B	421	LYS	3.3
1	B	347	ILE	3.2
1	A	346	LEU	3.2
1	A	305	ASN	3.2
1	A	239	ALA	3.1
1	A	271	GLY	3.1
1	B	314	ASP	3.1
1	A	308	GLY	3.0
1	A	410	ILE	3.0
1	B	302	LYS	3.0
1	A	91	GLY	2.9
1	B	306	ILE	2.9
1	B	201	GLN	2.8
1	A	297	ALA	2.8
1	A	272	MET	2.8
1	B	132	ILE	2.8
1	A	311	GLY	2.8
1	A	413	ALA	2.8
1	B	202	GLY	2.7
1	A	106	SER	2.7
1	A	108	TYR	2.7
2	E	3	DC	2.6
1	A	334	VAL	2.6
1	A	399	ALA	2.6
1	A	274	SER	2.6
1	B	105	ARG	2.6
1	A	129	VAL	2.6
1	A	406	VAL	2.5
1	A	394	LEU	2.5
1	A	204	GLN	2.5
1	B	176	LYS	2.5
1	B	311	GLY	2.4
1	A	414	ALA	2.4
1	B	247	SER	2.4
1	B	274	SER	2.4
1	A	417	TRP	2.4
1	B	272	MET	2.4
1	A	176	LYS	2.4
1	A	349	HIS	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	200	VAL	2.4
1	A	335	ASP	2.4
1	A	347	ILE	2.4
1	A	419	LYS	2.4
1	A	202	GLY	2.3
1	A	409	ILE	2.2
1	A	130	LEU	2.2
1	A	242	LYS	2.2
1	A	391	ILE	2.2
1	B	193	THR	2.2
1	B	195	THR	2.2
1	A	327	LEU	2.2
1	A	343	LYS	2.2
1	B	139	LEU	2.2
1	B	303	ALA	2.1
2	E	11	DC	2.1
1	A	341	ARG	2.1
1	B	381	LYS	2.1
1	A	404	SER	2.1
1	A	390	PHE	2.1
1	B	111	LEU	2.1
1	B	299	SER	2.1
1	A	187	ALA	2.1
1	B	129	VAL	2.1
1	B	91	GLY	2.1
1	A	416	LEU	2.0
1	B	383	PRO	2.0
1	B	191	ASN	2.0
1	B	198	THR	2.0

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

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

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands

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, 95^{th} 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
5	MG	A	501	1/1	0.65	0.38	98,98,98,98	0
5	MG	A	502	1/1	0.85	0.15	95,95,95,95	0
5	MG	B	502	1/1	0.91	0.12	143,143,143,143	0
5	MG	B	501	1/1	0.95	0.07	92,92,92,92	0

6.5 Other polymers

There are no such residues in this entry.