Full wwPDB X-ray Structure Validation Report ⓘ

Oct 21, 2024 – 01:51 AM EDT

PDB ID	:	1NSL
Title	:	Crystal structure of Probable acetyltransferase
Authors	:	Brunzelle, J.S.; Korolev, S.V.; Wu, R.; Joachimiak, A.; Anderson, W.F.; Midwest Center for Structural Genomics (MCSG)
Deposited on	:	2003-01-27
Resolution	:	2.70 Å(reported)

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

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

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

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

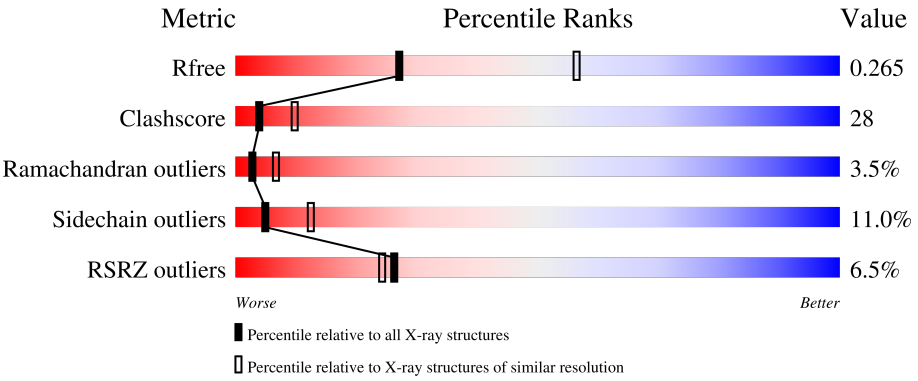
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 2.70 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	3333 (2.70-2.70)
Clashscore	180529	3684 (2.70-2.70)
Ramachandran outliers	177936	3633 (2.70-2.70)
Sidechain outliers	177891	3633 (2.70-2.70)
RSRZ outliers	164620	3333 (2.70-2.70)

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	184	3% 45% 39% 10%
1	B	184	14% 52% 34% 8%
1	C	184	2% 48% 40% 9%
1	D	184	3% 53% 36% 7%
1	E	184	10% 49% 41% 5%

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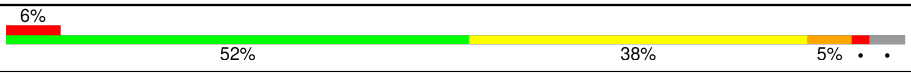
Mol	Chain	Length	Quality of chain
1	F	184	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 8614 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 Probable acetyltransferase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	176	Total	C	N	O	S	Se	0	0	0
			1416	904	248	257	4	3			
1	B	176	Total	C	N	O	S	Se	0	0	0
			1420	906	249	258	4	3			
1	C	180	Total	C	N	O	S	Se	0	0	0
			1440	916	254	263	4	3			
1	D	180	Total	C	N	O	S	Se	0	0	0
			1445	921	253	264	4	3			
1	E	179	Total	C	N	O	S	Se	0	0	0
			1444	920	254	263	4	3			
1	F	177	Total	C	N	O	S	Se	0	0	0
			1424	908	250	259	4	3			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	GLY	-	cloning artifact	UNP P96579
A	1	MSE	MET	modified residue	UNP P96579
A	81	MSE	MET	modified residue	UNP P96579
A	165	MSE	MET	modified residue	UNP P96579
B	0	GLY	-	cloning artifact	UNP P96579
B	1	MSE	MET	modified residue	UNP P96579
B	81	MSE	MET	modified residue	UNP P96579
B	165	MSE	MET	modified residue	UNP P96579
C	0	GLY	-	cloning artifact	UNP P96579
C	1	MSE	MET	modified residue	UNP P96579
C	81	MSE	MET	modified residue	UNP P96579
C	165	MSE	MET	modified residue	UNP P96579
D	0	GLY	-	cloning artifact	UNP P96579
D	1	MSE	MET	modified residue	UNP P96579
D	81	MSE	MET	modified residue	UNP P96579
D	165	MSE	MET	modified residue	UNP P96579
E	0	GLY	-	cloning artifact	UNP P96579

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Chain	Residue	Modelled	Actual	Comment	Reference
E	1	MSE	MET	modified residue	UNP P96579
E	81	MSE	MET	modified residue	UNP P96579
E	165	MSE	MET	modified residue	UNP P96579
F	0	GLY	-	cloning artifact	UNP P96579
F	1	MSE	MET	modified residue	UNP P96579
F	81	MSE	MET	modified residue	UNP P96579
F	165	MSE	MET	modified residue	UNP P96579

- Molecule 2 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Cl 1 1	0	0
2	B	1	Total Cl 1 1	0	0
2	C	1	Total Cl 1 1	0	0
2	D	1	Total Cl 1 1	0	0
2	E	1	Total Cl 1 1	0	0
2	F	1	Total Cl 1 1	0	0

- Molecule 3 is water.

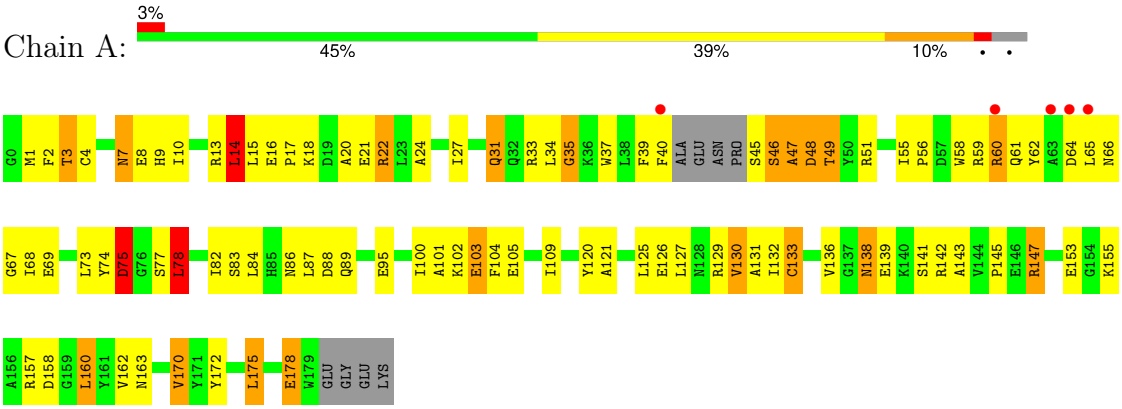
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	4	Total O 4 4	0	0
3	B	3	Total O 3 3	0	0
3	C	3	Total O 3 3	0	0
3	D	7	Total O 7 7	0	0
3	E	1	Total O 1 1	0	0
3	F	1	Total O 1 1	0	0

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.

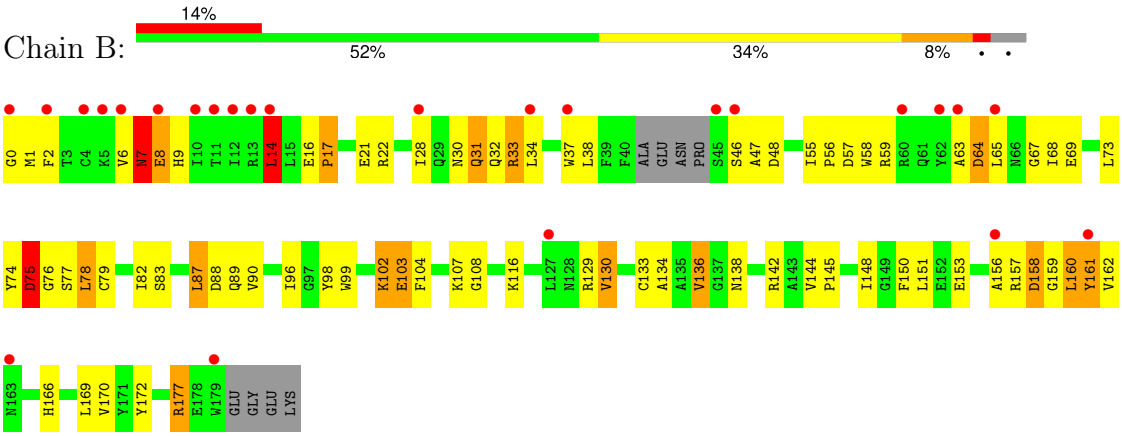
• Molecule 1: Probable acetyltransferase

Chain A:



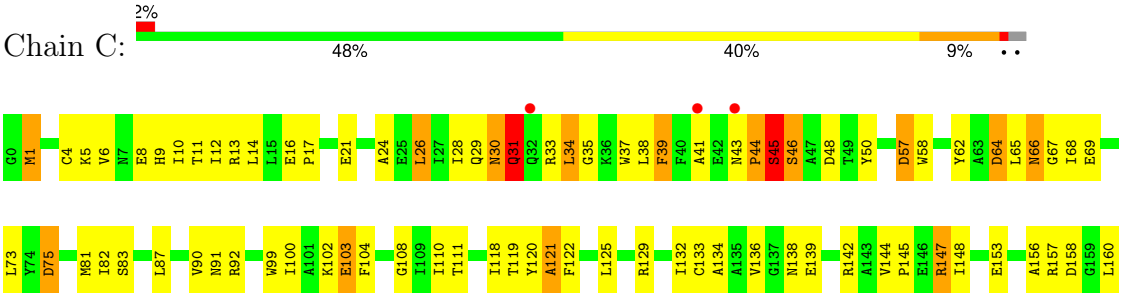
• Molecule 1: Probable acetyltransferase

Chain B:



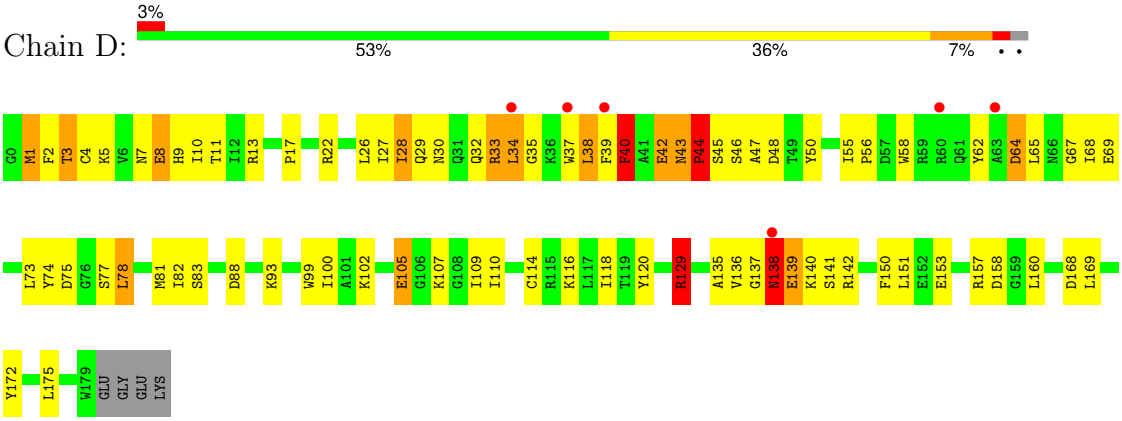
• Molecule 1: Probable acetyltransferase

Chain C:



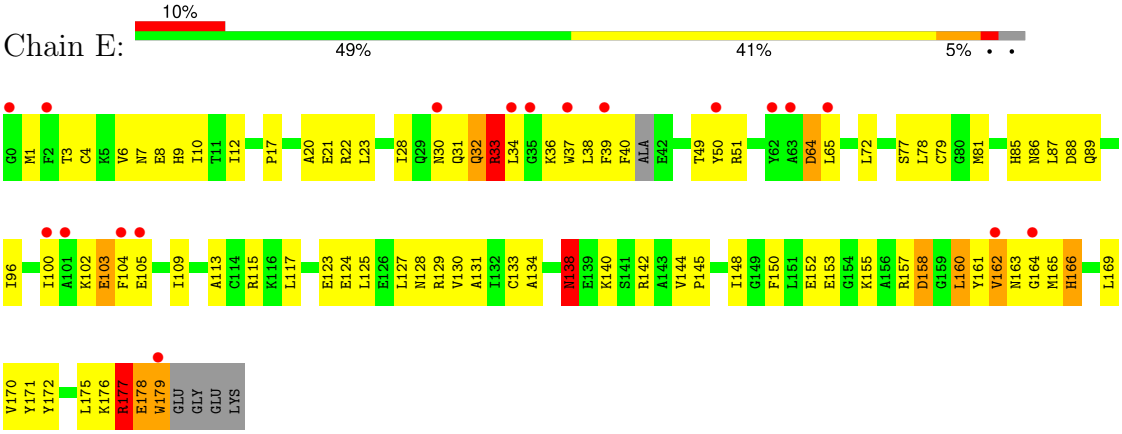
• Molecule 1: Probable acetyltransferase

Chain D:



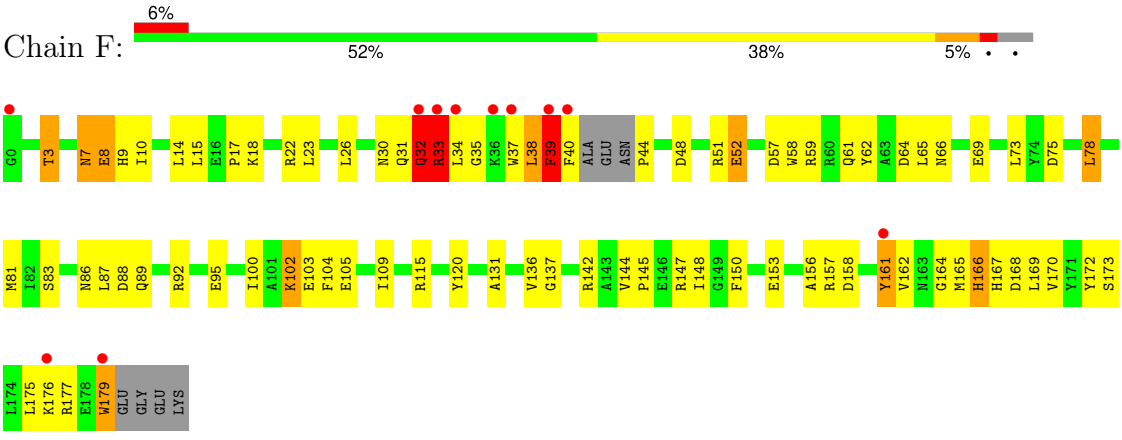
• Molecule 1: Probable acetyltransferase

Chain E:



• Molecule 1: Probable acetyltransferase

Chain F:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	59.34Å 134.19Å 91.06Å 90.00° 104.08° 90.00°	Depositor
Resolution (Å)	20.00 – 2.70 20.00 – 2.70	Depositor EDS
% Data completeness (in resolution range)	96.8 (20.00-2.70) 96.6 (20.00-2.70)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.94 (at 2.45Å)	Xtriage
Refinement program	REFMAC 5.0	Depositor
R, R_{free}	0.256 , 0.278 0.219 , 0.265	Depositor DCC
R_{free} test set	3120 reflections (8.51%)	wwPDB-VP
Wilson B-factor (Å^2)	59.2	Xtriage
Anisotropy	0.235	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 60.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	8614	wwPDB-VP
Average B, all atoms (Å^2)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.74% 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: CL

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	1.12	5/1440 (0.3%)	1.30	11/1935 (0.6%)
1	B	1.03	2/1444 (0.1%)	1.21	8/1940 (0.4%)
1	C	1.04	2/1465 (0.1%)	1.22	7/1972 (0.4%)
1	D	1.04	2/1471 (0.1%)	1.24	13/1980 (0.7%)
1	E	0.88	0/1469	1.08	3/1975 (0.2%)
1	F	0.98	1/1449 (0.1%)	1.19	10/1947 (0.5%)
All	All	1.02	12/8738 (0.1%)	1.21	52/11749 (0.4%)

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	42	GLU	CD-OE2	6.68	1.32	1.25
1	B	0	GLY	N-CA	6.65	1.56	1.46
1	C	133	CYS	CB-SG	-6.01	1.72	1.82
1	B	130	VAL	CB-CG1	-5.76	1.40	1.52
1	A	133	CYS	CB-SG	-5.74	1.72	1.81
1	F	39	PHE	CB-CG	-5.32	1.42	1.51
1	A	61	GLN	CG-CD	5.27	1.63	1.51
1	C	121	ALA	CA-CB	-5.22	1.41	1.52
1	A	170	VAL	CB-CG2	-5.19	1.42	1.52
1	A	62	TYR	CD2-CE2	-5.17	1.31	1.39
1	A	130	VAL	CB-CG1	-5.14	1.42	1.52
1	D	62	TYR	CD2-CE2	-5.08	1.31	1.39

All (52) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	64	ASP	CB-CG-OD2	8.96	126.37	118.30
1	B	57	ASP	CB-CG-OD2	8.39	125.85	118.30
1	B	87	LEU	CB-CG-CD1	-8.34	96.82	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	64	ASP	CB-CG-OD2	8.32	125.79	118.30
1	F	88	ASP	CB-CG-OD2	8.19	125.67	118.30
1	E	64	ASP	CB-CG-OD2	8.11	125.60	118.30
1	F	59	ARG	NE-CZ-NH1	-8.07	116.26	120.30
1	A	88	ASP	CB-CG-OD2	8.03	125.52	118.30
1	D	44	PRO	N-CA-C	7.94	132.74	112.10
1	A	60	ARG	NE-CZ-NH2	-7.72	116.44	120.30
1	C	168	ASP	CB-CG-OD2	7.23	124.80	118.30
1	B	88	ASP	CB-CG-OD2	7.16	124.74	118.30
1	D	129	ARG	NE-CZ-NH2	-7.08	116.76	120.30
1	D	129	ARG	NE-CZ-NH1	7.05	123.83	120.30
1	A	133	CYS	N-CA-CB	-6.89	98.20	110.60
1	B	158	ASP	CB-CG-OD2	6.58	124.23	118.30
1	A	65	LEU	CB-CG-CD1	-6.52	99.91	111.00
1	E	33	ARG	N-CA-C	-6.48	93.51	111.00
1	D	157	ARG	NE-CZ-NH2	-6.41	117.10	120.30
1	D	88	ASP	CB-CG-OD2	6.38	124.05	118.30
1	E	88	ASP	CB-CG-OD2	6.28	123.95	118.30
1	D	44	PRO	CA-C-N	-6.09	103.81	117.20
1	B	133	CYS	N-CA-CB	-5.99	99.82	110.60
1	C	48	ASP	CB-CG-OD2	5.98	123.68	118.30
1	A	75	ASP	CB-CG-OD2	5.92	123.63	118.30
1	F	115	ARG	NE-CZ-NH1	-5.91	117.34	120.30
1	F	75	ASP	CB-CG-OD2	5.90	123.61	118.30
1	A	35	GLY	N-CA-C	-5.87	98.42	113.10
1	F	59	ARG	NE-CZ-NH2	5.76	123.18	120.30
1	F	64	ASP	CB-CG-OD1	-5.70	113.17	118.30
1	F	168	ASP	CB-CG-OD2	5.70	123.42	118.30
1	A	14	LEU	CB-CG-CD1	-5.69	101.33	111.00
1	C	75	ASP	CB-CG-OD2	5.58	123.32	118.30
1	D	151	LEU	CA-CB-CG	5.57	128.12	115.30
1	D	168	ASP	CB-CG-OD2	5.57	123.31	118.30
1	C	57	ASP	CB-CG-OD1	5.49	123.24	118.30
1	C	169	LEU	CB-CG-CD2	-5.46	101.72	111.00
1	A	78	LEU	CA-CB-CG	5.45	127.83	115.30
1	C	43	ASN	N-CA-C	-5.42	96.37	111.00
1	F	33	ARG	N-CA-C	-5.38	96.46	111.00
1	B	14	LEU	CA-CB-CG	5.38	127.67	115.30
1	D	48	ASP	CB-CG-OD2	5.37	123.13	118.30
1	B	75	ASP	CB-CG-OD2	5.34	123.10	118.30
1	B	64	ASP	CB-CG-OD2	5.26	123.04	118.30
1	D	138	ASN	C-N-CA	-5.25	108.58	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	48	ASP	CB-CG-OD2	5.23	123.00	118.30
1	D	75	ASP	CB-CG-OD2	5.18	122.97	118.30
1	A	175	LEU	CA-CB-CG	-5.14	103.48	115.30
1	A	60	ARG	NE-CZ-NH1	5.12	122.86	120.30
1	A	64	ASP	CB-CG-OD1	5.10	122.89	118.30
1	D	64	ASP	CB-CG-OD2	5.09	122.89	118.30
1	D	158	ASP	CB-CG-OD1	5.08	122.88	118.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1416	0	1409	80	0
1	B	1420	0	1415	64	0
1	C	1440	0	1431	89	0
1	D	1445	0	1434	91	0
1	E	1444	0	1436	97	0
1	F	1424	0	1414	82	0
2	A	1	0	0	0	0
2	B	1	0	0	1	0
2	C	1	0	0	1	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
3	A	4	0	0	0	0
3	B	3	0	0	0	0
3	C	3	0	0	0	0
3	D	7	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
All	All	8614	0	8539	472	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 28.

All (472) 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:C:30:ASN:O	1:C:31:GLN:CB	1.92	1.16
1:F:165:MSE:HE2	1:F:167:HIS:HE1	1.06	1.14
1:A:138:ASN:ND2	1:A:138:ASN:O	1.83	1.12
1:A:138:ASN:HD22	1:A:138:ASN:C	1.46	1.08
1:A:138:ASN:ND2	1:A:141:SER:H	1.54	1.06
1:D:138:ASN:O	1:D:139:GLU:OE1	1.74	1.04
1:E:64:ASP:O	1:E:65:LEU:HB2	1.54	1.04
1:F:165:MSE:HE2	1:F:167:HIS:CE1	1.90	1.04
1:C:30:ASN:O	1:C:31:GLN:HB2	1.25	1.04
1:D:139:GLU:HG2	1:D:141:SER:HB3	1.39	1.03
1:C:39:PHE:HD2	1:C:39:PHE:O	1.42	1.02
1:D:139:GLU:HG3	1:D:141:SER:H	1.18	1.02
1:D:13:ARG:HG3	1:D:13:ARG:HH11	1.26	1.00
1:C:90:VAL:HG11	1:F:40:PHE:CE1	1.96	1.00
1:D:139:GLU:CG	1:D:141:SER:HB3	1.94	0.98
1:E:144:VAL:HB	1:E:145:PRO:HD3	1.47	0.96
1:E:162:VAL:HG12	1:E:163:ASN:H	1.32	0.95
1:A:138:ASN:HD21	1:A:141:SER:N	1.64	0.94
1:E:177:ARG:O	1:E:177:ARG:HG2	1.66	0.94
1:E:134:ALA:O	1:E:170:VAL:HG12	1.67	0.93
1:C:41:ALA:CB	1:C:44:PRO:HA	1.97	0.93
1:D:13:ARG:HG3	1:D:13:ARG:NH1	1.82	0.92
1:F:32:GLN:C	1:F:34:LEU:H	1.67	0.92
1:F:165:MSE:CE	1:F:167:HIS:HE1	1.84	0.91
1:A:7:ASN:ND2	1:A:8:GLU:O	2.04	0.90
1:C:39:PHE:O	1:C:39:PHE:CD2	2.24	0.90
1:D:139:GLU:HG3	1:D:141:SER:N	1.88	0.89
1:B:161:TYR:HE1	1:E:128:ASN:HD22	1.19	0.88
1:A:138:ASN:HD21	1:A:141:SER:H	0.89	0.88
1:B:6:VAL:O	1:B:7:ASN:HB3	1.70	0.88
1:C:41:ALA:HB3	1:C:44:PRO:HA	1.53	0.88
1:F:32:GLN:C	1:F:34:LEU:N	2.24	0.87
1:C:156:ALA:HB3	1:C:169:LEU:HB2	1.56	0.87
1:D:139:GLU:HB3	1:D:142:ARG:H	1.39	0.86
1:E:162:VAL:HG12	1:E:163:ASN:N	1.84	0.85
1:F:7:ASN:O	1:F:9:HIS:N	2.09	0.85
1:E:39:PHE:CE1	1:E:81:MSE:HE2	2.11	0.85
1:C:45:SER:HB3	1:C:50:TYR:HE1	1.39	0.84
1:A:138:ASN:ND2	1:A:138:ASN:C	2.27	0.83
1:B:7:ASN:O	1:B:7:ASN:ND2	2.11	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:64:ASP:O	1:C:65:LEU:HB2	1.78	0.82
1:C:90:VAL:HG11	1:F:40:PHE:HE1	1.43	0.81
1:C:142:ARG:O	1:C:145:PRO:HD2	1.81	0.80
1:D:39:PHE:O	1:D:40:PHE:HB3	1.81	0.80
1:B:158:ASP:HB2	1:E:175:LEU:HD21	1.65	0.79
1:C:33:ARG:O	1:C:35:GLY:N	2.15	0.79
1:D:138:ASN:O	1:D:139:GLU:HB2	1.82	0.79
1:E:177:ARG:O	1:E:177:ARG:CG	2.31	0.78
1:C:45:SER:HB3	1:C:50:TYR:CE1	2.20	0.77
1:C:153:GLU:OE2	1:F:157:ARG:N	2.16	0.77
1:A:129:ARG:NH1	1:A:153:GLU:OE2	2.16	0.77
1:B:22:ARG:NH2	1:B:77:SER:HB2	2.01	0.76
1:E:28:ILE:C	1:E:30:ASN:H	1.87	0.75
1:F:14:LEU:HD11	1:F:62:TYR:CD2	2.22	0.75
1:D:64:ASP:O	1:D:65:LEU:HB2	1.86	0.75
1:D:40:PHE:CG	1:D:40:PHE:O	2.39	0.75
1:B:160:LEU:HD22	1:B:162:VAL:HG23	1.69	0.74
1:C:14:LEU:HD11	1:C:62:TYR:CD2	2.23	0.73
1:D:3:THR:CG2	1:D:4:CYS:N	2.51	0.73
1:A:66:ASN:O	1:A:66:ASN:ND2	2.22	0.73
1:D:138:ASN:O	1:D:139:GLU:CB	2.30	0.73
1:D:27:ILE:O	1:D:27:ILE:HG22	1.89	0.72
1:E:39:PHE:HE1	1:E:81:MSE:HE2	1.54	0.72
1:C:33:ARG:NH2	1:C:100:ILE:O	2.22	0.72
1:A:103:GLU:HB3	1:A:104:PHE:CD1	2.25	0.72
1:A:121:ALA:HB1	1:A:127:LEU:HD12	1.71	0.72
1:D:129:ARG:NH2	1:D:153:GLU:OE2	2.22	0.72
1:E:96:ILE:HD12	1:E:130:VAL:CG1	2.21	0.70
1:F:86:ASN:HD22	1:F:95:GLU:CD	1.95	0.70
1:F:144:VAL:HB	1:F:145:PRO:HD3	1.71	0.70
1:D:40:PHE:O	1:D:40:PHE:CD1	2.45	0.70
1:C:39:PHE:CD2	1:C:39:PHE:C	2.65	0.70
1:E:22:ARG:NH2	1:E:77:SER:HB2	2.07	0.69
1:F:142:ARG:HD3	1:F:170:VAL:HG11	1.74	0.69
1:A:7:ASN:C	1:A:7:ASN:HD22	1.96	0.69
1:B:64:ASP:O	1:B:65:LEU:HB2	1.90	0.69
1:D:138:ASN:O	1:D:139:GLU:CD	2.30	0.69
1:F:177:ARG:C	1:F:179:TRP:H	1.93	0.69
1:D:13:ARG:HH11	1:D:13:ARG:CG	1.98	0.69
1:A:170:VAL:O	1:A:170:VAL:HG13	1.91	0.68
1:E:160:LEU:HD13	1:E:162:VAL:HG23	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:27:ILE:O	1:D:27:ILE:CG2	2.41	0.68
1:C:81:MSE:HE2	1:C:99:TRP:HE1	1.59	0.68
1:E:124:GLU:N	1:E:124:GLU:OE2	2.27	0.68
1:D:93:LYS:HB3	1:D:129:ARG:HG3	1.75	0.67
1:C:41:ALA:HB1	1:C:44:PRO:HA	1.73	0.67
1:D:139:GLU:HG2	1:D:141:SER:CB	2.21	0.67
1:E:33:ARG:O	1:E:37:TRP:HD1	1.77	0.67
1:A:86:ASN:HD22	1:A:95:GLU:CD	1.98	0.67
1:E:28:ILE:C	1:E:30:ASN:N	2.46	0.66
1:B:142:ARG:HD3	1:B:170:VAL:HG11	1.78	0.66
1:D:3:THR:HG23	1:D:4:CYS:N	2.10	0.66
1:E:89:GLN:OE1	1:E:89:GLN:HA	1.95	0.66
1:F:39:PHE:C	1:F:40:PHE:CD2	2.69	0.66
1:D:45:SER:HB3	1:D:50:TYR:HE1	1.61	0.66
1:C:161:TYR:CE1	1:F:92:ARG:HD2	2.31	0.65
1:B:28:ILE:C	1:B:30:ASN:H	1.98	0.65
1:B:144:VAL:HB	1:B:145:PRO:HD3	1.79	0.65
1:C:120:TYR:CG	1:D:1:MSE:HG3	2.32	0.65
1:E:33:ARG:O	1:E:37:TRP:CD1	2.49	0.65
1:F:153:GLU:HG3	1:F:173:SER:OG	1.97	0.65
1:D:58:TRP:CD1	1:D:69:GLU:HG3	2.32	0.65
1:F:158:ASP:OD2	1:F:166:HIS:ND1	2.29	0.65
1:A:3:THR:HG23	1:A:4:CYS:N	2.12	0.64
1:E:162:VAL:CG1	1:E:163:ASN:N	2.54	0.64
1:C:178:GLU:OE1	1:F:157:ARG:NH1	2.28	0.64
1:F:33:ARG:O	1:F:37:TRP:HD1	1.81	0.64
1:A:9:HIS:HA	1:A:75:ASP:OD1	1.97	0.64
1:A:73:LEU:HD23	1:A:78:LEU:HA	1.79	0.64
1:E:39:PHE:O	1:E:40:PHE:CB	2.46	0.64
1:F:166:HIS:H	1:F:166:HIS:CD2	2.16	0.64
1:B:9:HIS:CD2	1:B:75:ASP:OD1	2.51	0.64
1:D:26:LEU:HG	1:D:26:LEU:O	1.98	0.63
1:E:162:VAL:CG1	1:E:163:ASN:H	2.01	0.63
1:F:136:VAL:HG13	1:F:137:GLY:N	2.11	0.63
1:B:30:ASN:O	1:B:32:GLN:O	2.15	0.63
1:E:144:VAL:HB	1:E:145:PRO:CD	2.25	0.63
1:B:129:ARG:NH1	1:B:153:GLU:OE2	2.26	0.63
1:F:58:TRP:NE1	1:F:69:GLU:HG3	2.14	0.63
1:B:14:LEU:HD13	1:B:59:ARG:HG2	1.80	0.63
1:C:26:LEU:O	1:C:30:ASN:ND2	2.32	0.62
1:B:73:LEU:HD23	1:B:78:LEU:HA	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:7:ASN:O	1:F:10:ILE:N	2.26	0.62
1:F:32:GLN:NE2	1:F:35:GLY:HA3	2.15	0.62
1:F:39:PHE:CZ	1:F:81:MSE:CE	2.82	0.62
1:A:143:ALA:O	1:A:147:ARG:HD2	2.00	0.61
1:E:39:PHE:CE1	1:E:81:MSE:CE	2.81	0.61
1:E:79:CYS:HB2	1:E:104:PHE:CD1	2.35	0.61
1:B:157:ARG:N	1:E:153:GLU:OE2	2.27	0.61
1:F:39:PHE:CZ	1:F:81:MSE:HE3	2.35	0.61
1:F:32:GLN:HE22	1:F:35:GLY:HA3	1.66	0.61
1:E:7:ASN:O	1:E:9:HIS:N	2.33	0.61
1:B:33:ARG:HH21	1:B:102:LYS:HE3	1.66	0.61
1:C:33:ARG:NH2	1:C:102:LYS:N	2.49	0.61
1:B:7:ASN:O	1:B:9:HIS:N	2.28	0.61
1:A:3:THR:CG2	1:A:4:CYS:N	2.64	0.61
1:C:4:CYS:HB3	1:C:12:ILE:HB	1.83	0.60
1:E:39:PHE:HE1	1:E:81:MSE:CE	2.12	0.60
1:E:133:CYS:HB3	1:E:171:TYR:CD2	2.34	0.60
1:F:7:ASN:C	1:F:7:ASN:HD22	2.04	0.60
1:F:32:GLN:HA	1:F:32:GLN:OE1	1.97	0.60
1:D:1:MSE:CE	1:D:2:PHE:CZ	2.85	0.60
1:D:40:PHE:CD1	1:D:40:PHE:C	2.71	0.60
1:B:38:LEU:HD23	1:B:160:LEU:HD11	1.83	0.60
1:A:102:LYS:HA	1:A:105:GLU:HG3	1.83	0.60
1:B:58:TRP:CD1	1:B:69:GLU:HG3	2.37	0.60
1:C:108:GLY:HA2	2:C:184:CL:CL	2.38	0.60
1:A:142:ARG:O	1:A:145:PRO:HD2	2.02	0.59
1:C:157:ARG:N	1:F:153:GLU:OE2	2.24	0.59
1:F:39:PHE:O	1:F:40:PHE:CD2	2.55	0.59
1:B:55:ILE:HB	1:B:56:PRO:HD3	1.83	0.59
1:C:66:ASN:O	1:C:66:ASN:ND2	2.34	0.59
1:C:142:ARG:HD2	1:C:172:TYR:OH	2.01	0.59
1:D:74:TYR:CD1	1:D:109:ILE:CD1	2.85	0.59
1:D:137:GLY:O	1:D:138:ASN:O	2.20	0.59
1:D:93:LYS:CB	1:D:129:ARG:HG3	2.33	0.59
1:D:55:ILE:HB	1:D:56:PRO:HD3	1.85	0.58
1:E:177:ARG:O	1:E:178:GLU:HB2	2.03	0.58
1:A:24:ALA:HB3	1:A:47:ALA:HB2	1.85	0.58
1:C:129:ARG:NH1	1:C:153:GLU:OE2	2.32	0.58
1:E:150:PHE:HB3	1:E:172:TYR:HB3	1.85	0.58
1:F:176:LYS:O	1:F:179:TRP:CB	2.50	0.58
1:A:8:GLU:O	1:A:10:ILE:N	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:37:TRP:O	1:F:38:LEU:HG	2.03	0.58
1:D:64:ASP:O	1:D:65:LEU:CB	2.51	0.58
1:F:136:VAL:CG1	1:F:137:GLY:N	2.66	0.58
1:C:91:ASN:HA	1:F:161:TYR:HB2	1.86	0.58
1:A:58:TRP:CD1	1:A:69:GLU:HG3	2.38	0.58
1:E:155:LYS:HA	1:E:169:LEU:O	2.03	0.58
1:A:175:LEU:HB2	1:A:178:GLU:CG	2.34	0.58
1:A:46:SER:O	1:A:48:ASP:N	2.37	0.57
1:E:32:GLN:HG3	1:E:163:ASN:HD21	1.68	0.57
1:B:22:ARG:HH22	1:B:77:SER:HB2	1.68	0.57
1:F:32:GLN:O	1:F:35:GLY:N	2.33	0.57
1:D:114:CYS:O	1:D:118:ILE:HG13	2.04	0.56
1:E:105:GLU:OE2	1:E:140:LYS:HD3	2.05	0.56
1:F:100:ILE:CD1	1:F:109:ILE:HD12	2.34	0.56
1:D:100:ILE:HB	1:D:110:ILE:HD11	1.87	0.56
1:E:115:ARG:HG2	1:E:179:TRP:HH2	1.70	0.56
1:D:139:GLU:CG	1:D:141:SER:CB	2.77	0.56
1:C:161:TYR:CZ	1:F:92:ARG:HD2	2.40	0.56
1:D:33:ARG:O	1:D:35:GLY:N	2.39	0.56
1:C:58:TRP:CD1	1:C:69:GLU:HG3	2.41	0.56
1:D:82:ILE:HG12	1:D:83:SER:N	2.20	0.56
1:E:1:MSE:HG2	1:F:120:TYR:CD1	2.41	0.56
1:E:144:VAL:CB	1:E:145:PRO:HD3	2.31	0.56
1:B:22:ARG:HH22	1:B:77:SER:CB	2.18	0.56
1:E:7:ASN:C	1:E:9:HIS:H	2.09	0.56
1:C:6:VAL:HG21	1:C:10:ILE:HG22	1.88	0.56
1:F:176:LYS:O	1:F:179:TRP:HB2	2.05	0.56
1:F:102:LYS:HA	1:F:105:GLU:HG3	1.88	0.55
1:D:42:GLU:HG2	1:D:43:ASN:N	2.20	0.55
1:A:162:VAL:O	1:A:163:ASN:C	2.43	0.55
1:B:153:GLU:OE2	1:E:157:ARG:N	2.33	0.55
1:C:175:LEU:N	1:C:175:LEU:HD23	2.21	0.55
1:C:118:ILE:O	1:C:121:ALA:N	2.39	0.55
1:C:39:PHE:CE1	1:C:81:MSE:HE2	2.41	0.55
1:D:3:THR:HG23	1:D:4:CYS:H	1.71	0.55
1:A:24:ALA:CB	1:A:47:ALA:HB2	2.37	0.55
1:F:100:ILE:HD13	1:F:109:ILE:HD12	1.89	0.55
1:F:32:GLN:C	1:F:35:GLY:H	2.09	0.55
1:F:51:ARG:HG2	1:F:52:GLU:OE2	2.07	0.55
1:D:30:ASN:O	1:D:34:LEU:HG	2.07	0.55
1:A:89:GLN:HA	1:A:89:GLN:OE1	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:33:ARG:HH12	1:D:34:LEU:HD21	1.72	0.55
1:D:10:ILE:CD1	1:D:109:ILE:HA	2.37	0.54
1:F:166:HIS:H	1:F:166:HIS:HD2	1.53	0.54
1:B:32:GLN:C	1:B:34:LEU:H	2.10	0.54
1:D:139:GLU:HG3	1:D:141:SER:HB3	1.85	0.54
1:D:129:ARG:HH22	1:D:153:GLU:CD	2.10	0.54
1:D:33:ARG:NH1	1:D:34:LEU:HD21	2.23	0.54
1:B:96:ILE:HD12	1:B:130:VAL:HG11	1.89	0.54
1:D:1:MSE:HE1	1:D:2:PHE:CZ	2.43	0.54
1:A:46:SER:O	1:A:46:SER:OG	2.26	0.53
1:D:45:SER:CB	1:D:50:TYR:HE1	2.20	0.53
1:E:133:CYS:HB3	1:E:171:TYR:CE2	2.43	0.53
1:C:118:ILE:O	1:C:119:THR:C	2.47	0.53
1:D:139:GLU:CB	1:D:142:ARG:H	2.19	0.53
1:A:170:VAL:O	1:A:170:VAL:CG1	2.57	0.53
1:A:35:GLY:H	1:A:37:TRP:H	1.56	0.53
1:C:158:ASP:OD2	1:F:175:LEU:HD13	2.09	0.53
1:B:177:ARG:O	1:B:177:ARG:HG2	2.07	0.53
1:D:22:ARG:O	1:D:26:LEU:N	2.36	0.53
1:D:82:ILE:HG12	1:D:83:SER:H	1.73	0.53
1:D:45:SER:HB3	1:D:50:TYR:CE1	2.44	0.53
1:F:58:TRP:CD1	1:F:69:GLU:HG3	2.44	0.53
1:D:33:ARG:NH1	1:D:34:LEU:CD2	2.72	0.52
1:E:102:LYS:O	1:E:103:GLU:HB2	2.08	0.52
1:F:33:ARG:O	1:F:37:TRP:CD1	2.61	0.52
1:E:152:GLU:HG3	1:E:172:TYR:CE2	2.44	0.52
1:C:39:PHE:CE1	1:C:81:MSE:CE	2.93	0.52
1:C:45:SER:CB	1:C:50:TYR:HE1	2.15	0.52
1:C:162:VAL:O	1:C:163:ASN:C	2.45	0.52
1:D:7:ASN:O	1:D:9:HIS:N	2.42	0.52
1:E:22:ARG:HH22	1:E:77:SER:HB2	1.71	0.52
1:A:13:ARG:HG3	1:A:14:LEU:O	2.09	0.52
1:A:160:LEU:HD22	1:A:162:VAL:HG23	1.92	0.52
1:B:161:TYR:CE1	1:B:166:HIS:HB3	2.45	0.52
1:E:7:ASN:C	1:E:9:HIS:N	2.64	0.52
1:A:102:LYS:O	1:A:104:PHE:N	2.43	0.51
1:C:138:ASN:O	1:C:139:GLU:C	2.48	0.51
1:D:102:LYS:O	1:D:105:GLU:HB2	2.10	0.51
1:F:177:ARG:C	1:F:179:TRP:N	2.63	0.51
1:E:161:TYR:CZ	1:E:166:HIS:HD2	2.28	0.51
1:F:153:GLU:CG	1:F:173:SER:OG	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:122:PHE:CD1	1:C:176:LYS:HB2	2.45	0.51
1:B:158:ASP:HB2	1:E:175:LEU:CD2	2.40	0.51
1:C:91:ASN:O	1:C:92:ARG:HB2	2.10	0.51
1:D:39:PHE:O	1:D:40:PHE:CB	2.57	0.51
1:B:46:SER:C	1:B:48:ASP:N	2.62	0.51
1:E:7:ASN:OD1	1:E:9:HIS:HB2	2.11	0.51
1:C:30:ASN:ND2	1:C:30:ASN:N	2.59	0.51
1:F:26:LEU:O	1:F:30:ASN:ND2	2.43	0.50
1:C:13:ARG:HG3	1:C:14:LEU:O	2.11	0.50
1:D:46:SER:O	1:D:47:ALA:HB3	2.11	0.50
1:E:64:ASP:O	1:E:65:LEU:CB	2.32	0.50
1:E:129:ARG:HB2	1:E:175:LEU:HD23	1.93	0.50
1:F:32:GLN:HE21	1:F:162:VAL:HG13	1.77	0.50
1:D:10:ILE:HD11	1:D:109:ILE:HA	1.93	0.50
1:C:82:ILE:CG1	1:C:83:SER:N	2.74	0.50
1:C:157:ARG:HG3	1:F:153:GLU:OE2	2.12	0.50
1:C:161:TYR:OH	1:F:92:ARG:NH2	2.44	0.50
1:D:38:LEU:HD21	1:D:169:LEU:HD21	1.94	0.50
1:F:102:LYS:O	1:F:103:GLU:C	2.49	0.50
1:E:20:ALA:O	1:E:21:GLU:C	2.50	0.50
1:B:161:TYR:HE1	1:E:128:ASN:ND2	1.98	0.50
1:B:28:ILE:C	1:B:30:ASN:N	2.64	0.49
1:D:32:GLN:O	1:D:33:ARG:HB2	2.11	0.49
1:D:67:GLY:C	1:D:68:ILE:HG13	2.32	0.49
1:B:138:ASN:OD1	1:B:138:ASN:O	2.30	0.49
1:C:65:LEU:HD11	1:D:17:PRO:CD	2.43	0.49
1:E:142:ARG:O	1:E:145:PRO:HD2	2.12	0.49
1:A:1:MSE:HE3	1:A:2:PHE:CE2	2.47	0.49
1:A:86:ASN:ND2	1:A:95:GLU:CD	2.63	0.49
1:E:96:ILE:HD12	1:E:130:VAL:HG11	1.94	0.49
1:E:163:ASN:O	1:E:165:MSE:N	2.40	0.49
1:F:150:PHE:HB3	1:F:172:TYR:HB3	1.94	0.49
1:B:156:ALA:HB3	1:B:169:LEU:HB2	1.93	0.49
1:C:8:GLU:O	1:C:8:GLU:HG2	2.12	0.49
1:E:65:LEU:HD11	1:F:17:PRO:HD2	1.94	0.49
1:F:57:ASP:O	1:F:61:GLN:HG2	2.13	0.49
1:B:89:GLN:O	1:B:90:VAL:C	2.48	0.49
1:C:111:THR:HG21	1:C:147:ARG:CD	2.43	0.49
1:E:3:THR:H	1:F:3:THR:H	1.60	0.49
1:A:22:ARG:HG2	1:A:78:LEU:HD12	1.94	0.49
1:B:148:ILE:HG22	1:B:148:ILE:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:174:LEU:C	1:C:175:LEU:HD23	2.34	0.48
1:B:32:GLN:O	1:B:34:LEU:N	2.46	0.48
1:E:96:ILE:CD1	1:E:130:VAL:HG11	2.43	0.48
1:B:79:CYS:HB2	1:B:104:PHE:CD1	2.49	0.48
1:E:102:LYS:O	1:E:103:GLU:CB	2.59	0.48
1:A:20:ALA:O	1:A:21:GLU:C	2.51	0.48
1:E:12:ILE:HD11	1:E:113:ALA:HB1	1.94	0.48
1:A:142:ARG:HD3	1:A:170:VAL:HG11	1.96	0.48
1:C:132:ILE:HG21	1:C:145:PRO:HG3	1.95	0.48
1:E:96:ILE:CD1	1:E:130:VAL:CG1	2.91	0.48
1:E:138:ASN:C	1:E:138:ASN:HD22	2.17	0.48
1:E:176:LYS:O	1:E:178:GLU:N	2.47	0.48
1:B:82:ILE:CG1	1:B:83:SER:N	2.77	0.48
1:C:39:PHE:HE1	1:C:81:MSE:HE1	1.78	0.48
1:A:132:ILE:CG2	1:A:133:CYS:N	2.76	0.48
1:B:46:SER:C	1:B:48:ASP:H	2.17	0.48
1:B:108:GLY:HA2	2:B:184:CL:CL	2.50	0.48
1:F:158:ASP:CG	1:F:166:HIS:ND1	2.68	0.48
1:F:39:PHE:C	1:F:40:PHE:HD2	2.17	0.47
1:F:73:LEU:HD23	1:F:78:LEU:HA	1.96	0.47
1:C:100:ILE:HB	1:C:110:ILE:HD11	1.96	0.47
1:E:117:LEU:HD12	1:E:117:LEU:HA	1.59	0.47
1:C:65:LEU:HD11	1:D:17:PRO:HD2	1.97	0.47
1:B:156:ALA:HA	1:E:153:GLU:OE2	2.15	0.47
1:C:6:VAL:CG2	1:C:10:ILE:HG22	2.45	0.47
1:D:32:GLN:O	1:D:33:ARG:CB	2.62	0.47
1:D:135:ALA:O	1:D:136:VAL:C	2.51	0.47
1:B:158:ASP:O	1:B:160:LEU:N	2.48	0.47
1:E:161:TYR:OH	1:E:166:HIS:HD2	1.97	0.47
1:F:39:PHE:CE1	1:F:81:MSE:CE	2.97	0.47
1:C:142:ARG:NH1	1:C:172:TYR:OH	2.33	0.47
1:D:7:ASN:C	1:D:9:HIS:H	2.17	0.47
1:F:7:ASN:C	1:F:9:HIS:H	2.13	0.47
1:A:10:ILE:HA	1:A:73:LEU:O	2.15	0.47
1:C:103:GLU:H	1:C:103:GLU:HG3	1.11	0.47
1:E:6:VAL:HB	1:E:10:ILE:O	2.14	0.47
1:A:132:ILE:HG22	1:A:133:CYS:N	2.29	0.46
1:A:175:LEU:HB2	1:A:178:GLU:HG2	1.97	0.46
1:C:67:GLY:O	1:C:68:ILE:HG13	2.14	0.46
1:A:125:LEU:O	1:A:126:GLU:HB2	2.14	0.46
1:A:82:ILE:CG1	1:A:83:SER:N	2.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:28:ILE:HG22	1:D:29:GLN:N	2.31	0.46
1:E:161:TYR:CE1	1:E:166:HIS:HD2	2.33	0.46
1:A:67:GLY:C	1:A:68:ILE:HG13	2.36	0.46
1:C:144:VAL:N	1:C:145:PRO:CD	2.78	0.46
1:E:22:ARG:HH22	1:E:77:SER:CB	2.29	0.46
1:B:153:GLU:HB3	1:E:155:LYS:O	2.15	0.46
1:D:42:GLU:HG2	1:D:43:ASN:CG	2.36	0.46
1:D:107:LYS:HZ3	1:D:107:LYS:HG3	1.38	0.46
1:D:81:MSE:HE2	1:D:99:TRP:HE1	1.80	0.46
1:F:166:HIS:CD2	1:F:166:HIS:N	2.81	0.46
1:A:100:ILE:HD11	1:A:109:ILE:HD12	1.98	0.45
1:B:67:GLY:C	1:B:68:ILE:HG13	2.35	0.45
1:F:144:VAL:N	1:F:145:PRO:CD	2.79	0.45
1:B:107:LYS:H	1:B:107:LYS:HG2	1.56	0.45
1:C:9:HIS:HD1	1:C:75:ASP:CG	2.19	0.45
1:A:1:MSE:HE3	1:A:1:MSE:HB3	1.39	0.45
1:B:82:ILE:HG12	1:B:83:SER:N	2.32	0.45
1:B:151:LEU:O	1:B:172:TYR:HA	2.16	0.45
1:C:82:ILE:HG12	1:C:83:SER:N	2.32	0.45
1:E:17:PRO:HB3	1:E:51:ARG:HG3	1.98	0.45
1:E:72:LEU:HD23	1:E:72:LEU:HA	1.75	0.45
1:E:160:LEU:HD13	1:E:162:VAL:CG2	2.45	0.45
1:D:150:PHE:HB3	1:D:172:TYR:HB3	1.97	0.45
1:E:39:PHE:HB3	1:E:40:PHE:H	1.58	0.45
1:A:39:PHE:CD2	1:A:40:PHE:N	2.84	0.45
1:A:175:LEU:H	1:A:178:GLU:HG3	1.81	0.45
1:E:22:ARG:CG	1:E:22:ARG:O	2.64	0.45
1:B:34:LEU:HD21	1:B:99:TRP:CD2	2.52	0.45
1:E:22:ARG:O	1:E:22:ARG:HG2	2.17	0.45
1:E:28:ILE:O	1:E:30:ASN:N	2.49	0.45
1:E:79:CYS:HB2	1:E:104:PHE:CG	2.52	0.45
1:A:101:ALA:O	1:A:102:LYS:C	2.55	0.45
1:A:142:ARG:HD2	1:A:172:TYR:OH	2.16	0.45
1:F:15:LEU:HD13	1:F:23:LEU:HD22	1.99	0.45
1:D:74:TYR:CD1	1:D:109:ILE:HD11	2.52	0.44
1:E:123:GLU:C	1:E:124:GLU:OE2	2.56	0.44
1:C:24:ALA:O	1:C:28:ILE:HG13	2.17	0.44
1:D:7:ASN:C	1:D:9:HIS:N	2.71	0.44
1:D:10:ILE:HA	1:D:73:LEU:O	2.17	0.44
1:A:16:GLU:O	1:A:17:PRO:C	2.55	0.44
1:A:120:TYR:O	1:A:121:ALA:C	2.54	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1:MSE:HE3	1:D:1:MSE:HB3	1.61	0.44
1:E:39:PHE:O	1:E:40:PHE:HB3	2.17	0.44
1:C:1:MSE:HG2	1:D:120:TYR:CG	2.52	0.44
1:C:66:ASN:HA	1:C:87:LEU:HD13	1.99	0.44
1:D:82:ILE:CG1	1:D:83:SER:N	2.80	0.44
1:E:148:ILE:HG22	1:E:148:ILE:O	2.17	0.44
1:A:1:MSE:CE	1:A:2:PHE:CE2	3.01	0.44
1:E:142:ARG:HD3	1:E:170:VAL:HG11	2.00	0.44
1:A:158:ASP:HB2	1:D:175:LEU:HD21	1.99	0.44
1:A:7:ASN:ND2	1:A:7:ASN:C	2.68	0.44
1:A:22:ARG:NH2	1:A:77:SER:HB2	2.33	0.44
1:C:111:THR:HG21	1:C:147:ARG:HD2	1.98	0.44
1:D:140:LYS:H	1:D:140:LYS:HG2	1.56	0.44
1:F:69:GLU:OE2	1:F:83:SER:HB2	2.17	0.44
1:C:82:ILE:CG1	1:C:83:SER:H	2.31	0.44
1:F:37:TRP:O	1:F:38:LEU:CB	2.66	0.44
1:E:161:TYR:OH	1:E:166:HIS:CD2	2.71	0.43
1:C:9:HIS:ND1	1:C:75:ASP:OD2	2.52	0.43
1:A:9:HIS:O	1:A:75:ASP:N	2.52	0.43
1:A:46:SER:O	1:A:49:THR:N	2.48	0.43
1:C:35:GLY:C	1:C:37:TRP:N	2.71	0.43
1:F:89:GLN:OE1	1:F:89:GLN:HA	2.18	0.43
1:C:64:ASP:O	1:C:65:LEU:CB	2.55	0.43
1:E:161:TYR:CZ	1:E:166:HIS:CD2	3.06	0.43
1:B:1:MSE:HE3	1:B:2:PHE:CE2	2.53	0.43
1:D:139:GLU:HG3	1:D:141:SER:CB	2.47	0.43
1:C:148:ILE:HG22	1:C:148:ILE:O	2.19	0.43
1:F:102:LYS:O	1:F:104:PHE:N	2.51	0.43
1:F:156:ALA:HB3	1:F:169:LEU:HB2	2.00	0.43
1:B:138:ASN:OD1	1:B:138:ASN:C	2.57	0.43
1:C:5:LYS:HE3	1:C:8:GLU:HA	2.01	0.43
1:D:43:ASN:HA	1:D:44:PRO:HD2	1.69	0.43
1:E:128:ASN:OD1	1:E:128:ASN:O	2.37	0.43
1:C:33:ARG:C	1:C:35:GLY:H	2.22	0.43
1:C:39:PHE:HE1	1:C:81:MSE:CE	2.32	0.43
1:D:8:GLU:C	1:D:9:HIS:CD2	2.92	0.43
1:F:95:GLU:HA	1:F:131:ALA:O	2.17	0.43
1:A:39:PHE:O	1:A:40:PHE:HB3	2.19	0.43
1:C:30:ASN:O	1:C:31:GLN:HB3	2.04	0.43
1:F:142:ARG:O	1:F:145:PRO:HD2	2.19	0.43
1:A:8:GLU:C	1:A:10:ILE:H	2.22	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:131:ALA:HB1	1:A:172:TYR:O	2.18	0.42
1:A:139:GLU:OE1	1:A:139:GLU:HA	2.19	0.42
1:A:175:LEU:HA	1:A:175:LEU:HD23	1.34	0.42
1:E:1:MSE:HB3	1:E:1:MSE:HE3	1.51	0.42
1:A:73:LEU:HD23	1:A:78:LEU:CA	2.48	0.42
1:B:134:ALA:O	1:B:170:VAL:HG12	2.19	0.42
1:E:125:LEU:HB3	1:E:127:LEU:HG	2.01	0.42
1:A:67:GLY:HA2	1:A:84:LEU:O	2.20	0.42
1:A:27:ILE:O	1:A:31:GLN:N	2.52	0.42
1:A:55:ILE:N	1:A:56:PRO:CD	2.83	0.42
1:E:36:LYS:C	1:E:38:LEU:H	2.23	0.42
1:F:7:ASN:C	1:F:9:HIS:N	2.73	0.42
1:A:59:ARG:O	1:A:60:ARG:C	2.57	0.42
1:E:100:ILE:HD11	1:E:109:ILE:CD1	2.50	0.42
1:B:31:GLN:O	1:B:31:GLN:HG3	2.18	0.42
1:B:33:ARG:O	1:B:37:TRP:HD1	2.03	0.42
1:A:157:ARG:N	1:D:129:ARG:HH21	2.17	0.42
1:B:16:GLU:O	1:B:17:PRO:C	2.57	0.42
1:C:129:ARG:HH12	1:C:153:GLU:CD	2.21	0.42
1:F:86:ASN:HB2	1:F:95:GLU:HG3	2.02	0.42
1:A:14:LEU:CD1	1:A:59:ARG:HG2	2.50	0.42
1:C:120:TYR:OH	1:C:125:LEU:HD21	2.20	0.42
1:C:16:GLU:O	1:C:17:PRO:C	2.58	0.41
1:D:139:GLU:HG3	1:D:141:SER:CA	2.50	0.41
1:E:85:HIS:O	1:E:86:ASN:C	2.59	0.41
1:B:7:ASN:HD22	1:B:7:ASN:C	2.04	0.41
1:C:31:GLN:HB3	1:C:31:GLN:HE21	1.72	0.41
1:D:26:LEU:HD22	1:D:78:LEU:O	2.20	0.41
1:F:66:ASN:ND2	1:F:66:ASN:O	2.54	0.41
1:F:148:ILE:O	1:F:148:ILE:HG22	2.19	0.41
1:A:155:LYS:O	1:D:153:GLU:HB2	2.20	0.41
1:D:82:ILE:CG1	1:D:83:SER:H	2.33	0.41
1:C:102:LYS:C	1:C:104:PHE:H	2.23	0.41
1:D:9:HIS:O	1:D:74:TYR:HA	2.20	0.41
1:E:142:ARG:HD2	1:E:172:TYR:OH	2.20	0.41
1:F:22:ARG:O	1:F:26:LEU:HB2	2.20	0.41
1:A:39:PHE:O	1:A:40:PHE:CB	2.68	0.41
1:A:103:GLU:HB3	1:A:104:PHE:CE1	2.55	0.41
1:B:150:PHE:HB3	1:B:172:TYR:HB3	2.02	0.41
1:C:11:THR:OG1	1:C:73:LEU:HD12	2.20	0.41
1:D:9:HIS:N	1:D:9:HIS:CD2	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:39:PHE:CE1	1:F:81:MSE:HE1	2.55	0.41
1:B:74:TYR:O	1:B:76:GLY:N	2.53	0.41
1:C:38:LEU:HD11	1:C:134:ALA:HA	2.03	0.41
1:D:37:TRP:O	1:D:38:LEU:C	2.59	0.41
1:A:39:PHE:HD2	1:A:40:PHE:N	2.18	0.41
1:E:23:LEU:HD23	1:E:50:TYR:CD2	2.56	0.41
1:C:57:ASP:O	1:C:58:TRP:C	2.59	0.40
1:C:178:GLU:OE1	1:F:157:ARG:NH2	2.54	0.40
1:E:4:CYS:HB3	1:E:12:ILE:HB	2.03	0.40
1:E:179:TRP:CD1	1:E:179:TRP:C	2.94	0.40
1:B:1:MSE:HE3	1:B:1:MSE:HB3	1.93	0.40
1:C:34:LEU:HD23	1:C:34:LEU:HA	1.55	0.40
1:E:131:ALA:HA	1:E:172:TYR:O	2.20	0.40
1:E:134:ALA:O	1:E:170:VAL:CG1	2.54	0.40
1:E:157:ARG:O	1:E:158:ASP:HB2	2.20	0.40
1:B:32:GLN:O	1:B:33:ARG:HB2	2.21	0.40
1:B:166:HIS:ND1	1:B:166:HIS:O	2.54	0.40
1:A:9:HIS:O	1:A:74:TYR:HA	2.21	0.40
1:A:59:ARG:HB3	1:B:63:ALA:HB1	2.03	0.40
1:A:60:ARG:HH21	1:A:60:ARG:HD3	1.49	0.40
1:B:9:HIS:HD2	1:B:75:ASP:OD1	2.02	0.40
1:B:32:GLN:C	1:B:34:LEU:N	2.74	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	172/184 (94%)	149 (87%)	19 (11%)	4 (2%)	5 14
1	B	172/184 (94%)	150 (87%)	15 (9%)	7 (4%)	2 5
1	C	178/184 (97%)	153 (86%)	19 (11%)	6 (3%)	3 7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	D	178/184 (97%)	157 (88%)	15 (8%)	6 (3%)	3 7
1	E	175/184 (95%)	150 (86%)	16 (9%)	9 (5%)	1 3
1	F	173/184 (94%)	157 (91%)	11 (6%)	5 (3%)	3 9
All	All	1048/1104 (95%)	916 (87%)	95 (9%)	37 (4%)	3 7

All (37) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	103	GLU
1	B	8	GLU
1	C	34	LEU
1	D	33	ARG
1	D	34	LEU
1	D	40	PHE
1	D	44	PRO
1	D	138	ASN
1	E	103	GLU
1	E	162	VAL
1	E	164	GLY
1	E	178	GLU
1	F	8	GLU
1	F	38	LEU
1	A	47	ALA
1	A	75	ASP
1	B	103	GLU
1	C	31	GLN
1	D	38	LEU
1	E	31	GLN
1	F	164	GLY
1	A	31	GLN
1	C	45	SER
1	C	46	SER
1	C	163	ASN
1	E	8	GLU
1	E	138	ASN
1	E	177	ARG
1	F	31	GLN
1	B	7	ASN
1	B	75	ASP
1	E	33	ARG
1	F	32	GLN

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Mol	Chain	Res	Type
1	B	47	ALA
1	B	159	GLY
1	B	136	VAL
1	C	44	PRO

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	145/150 (97%)	124 (86%)	21 (14%)	2 7
1	B	146/150 (97%)	129 (88%)	17 (12%)	4 11
1	C	147/150 (98%)	133 (90%)	14 (10%)	7 17
1	D	148/150 (99%)	132 (89%)	16 (11%)	5 13
1	E	149/150 (99%)	137 (92%)	12 (8%)	9 23
1	F	146/150 (97%)	129 (88%)	17 (12%)	4 11
All	All	881/900 (98%)	784 (89%)	97 (11%)	5 12

All (97) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	THR
1	A	7	ASN
1	A	14	LEU
1	A	15	LEU
1	A	18	LYS
1	A	22	ARG
1	A	33	ARG
1	A	34	LEU
1	A	45	SER
1	A	46	SER
1	A	48	ASP
1	A	49	THR
1	A	51	ARG
1	A	78	LEU

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Mol	Chain	Res	Type
1	A	87	LEU
1	A	130	VAL
1	A	136	VAL
1	A	138	ASN
1	A	147	ARG
1	A	160	LEU
1	A	178	GLU
1	B	7	ASN
1	B	8	GLU
1	B	14	LEU
1	B	17	PRO
1	B	21	GLU
1	B	31	GLN
1	B	33	ARG
1	B	78	LEU
1	B	87	LEU
1	B	98	TYR
1	B	102	LYS
1	B	103	GLU
1	B	116	LYS
1	B	136	VAL
1	B	160	LEU
1	B	161	TYR
1	B	177	ARG
1	C	1	MSE
1	C	21	GLU
1	C	26	LEU
1	C	29	GLN
1	C	30	ASN
1	C	31	GLN
1	C	39	PHE
1	C	45	SER
1	C	46	SER
1	C	66	ASN
1	C	103	GLU
1	C	136	VAL
1	C	147	ARG
1	C	160	LEU
1	D	1	MSE
1	D	3	THR
1	D	5	LYS
1	D	8	GLU

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Mol	Chain	Res	Type
1	D	11	THR
1	D	28	ILE
1	D	40	PHE
1	D	43	ASN
1	D	44	PRO
1	D	77	SER
1	D	78	LEU
1	D	105	GLU
1	D	116	LYS
1	D	129	ARG
1	D	139	GLU
1	D	160	LEU
1	E	32	GLN
1	E	33	ARG
1	E	34	LEU
1	E	49	THR
1	E	78	LEU
1	E	87	LEU
1	E	138	ASN
1	E	158	ASP
1	E	160	LEU
1	E	166	HIS
1	E	177	ARG
1	E	179	TRP
1	F	3	THR
1	F	7	ASN
1	F	8	GLU
1	F	18	LYS
1	F	32	GLN
1	F	33	ARG
1	F	39	PHE
1	F	44	PRO
1	F	52	GLU
1	F	65	LEU
1	F	78	LEU
1	F	87	LEU
1	F	102	LYS
1	F	147	ARG
1	F	161	TYR
1	F	166	HIS
1	F	179	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	7	ASN
1	A	29	GLN
1	A	86	ASN
1	A	138	ASN
1	B	7	ASN
1	B	9	HIS
1	B	29	GLN
1	B	31	GLN
1	B	61	GLN
1	B	85	HIS
1	B	167	HIS
1	C	31	GLN
1	C	85	HIS
1	D	9	HIS
1	D	29	GLN
1	D	43	ASN
1	D	61	GLN
1	D	138	ASN
1	E	29	GLN
1	E	31	GLN
1	E	61	GLN
1	E	128	ASN
1	E	138	ASN
1	E	163	ASN
1	E	166	HIS
1	F	7	ASN
1	F	32	GLN
1	F	66	ASN
1	F	86	ASN
1	F	163	ASN
1	F	167	HIS

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 6 ligands modelled in this entry, 6 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	173/184 (94%)	0.13	5 (2%) 54 52	22, 30, 37, 45	0
1	B	173/184 (94%)	0.59	25 (14%) 7 6	23, 30, 36, 45	0
1	C	177/184 (96%)	-0.14	3 (1%) 69 68	24, 30, 37, 45	0
1	D	177/184 (96%)	0.07	6 (3%) 48 46	24, 30, 37, 43	0
1	E	176/184 (95%)	0.58	18 (10%) 13 13	23, 30, 37, 40	0
1	F	174/184 (94%)	0.17	11 (6%) 27 25	24, 30, 37, 45	0
All	All	1050/1104 (95%)	0.23	68 (6%) 26 24	22, 30, 37, 45	0

All (68) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	39	PHE	5.6
1	B	0	GLY	5.2
1	E	35	GLY	5.2
1	F	0	GLY	4.8
1	E	0	GLY	4.7
1	E	37	TRP	4.5
1	E	63	ALA	4.3
1	D	138	ASN	4.2
1	B	12	ILE	4.1
1	E	34	LEU	4.0
1	E	100	ILE	4.0
1	F	33	ARG	3.9
1	D	37	TRP	3.9
1	F	39	PHE	3.8
1	F	37	TRP	3.7
1	B	65	LEU	3.6
1	B	8	GLU	3.6
1	D	39	PHE	3.5
1	B	5	LYS	3.4

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Mol	Chain	Res	Type	RSRZ
1	F	40	PHE	3.3
1	F	32	GLN	3.2
1	B	14	LEU	3.1
1	B	4	CYS	3.1
1	B	13	ARG	3.1
1	E	164	GLY	3.1
1	B	6	VAL	3.0
1	B	63	ALA	3.0
1	E	2	PHE	3.0
1	E	105	GLU	3.0
1	B	62	TYR	3.0
1	E	162	VAL	2.9
1	D	34	LEU	2.9
1	E	101	ALA	2.8
1	B	127	LEU	2.8
1	A	64	ASP	2.8
1	B	10	ILE	2.8
1	B	156	ALA	2.7
1	F	34	LEU	2.7
1	C	43	ASN	2.6
1	A	65	LEU	2.6
1	D	63	ALA	2.6
1	E	62	TYR	2.6
1	B	11	THR	2.6
1	E	50	TYR	2.5
1	B	2	PHE	2.5
1	A	60	ARG	2.4
1	A	63	ALA	2.4
1	A	40	PHE	2.4
1	B	28	ILE	2.3
1	B	46	SER	2.3
1	F	161	TYR	2.3
1	B	60	ARG	2.3
1	B	34	LEU	2.3
1	E	65	LEU	2.3
1	E	104	PHE	2.2
1	F	179	TRP	2.2
1	C	41	ALA	2.2
1	B	161	TYR	2.2
1	C	32	GLN	2.2
1	B	163	ASN	2.1
1	B	179	TRP	2.1

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Mol	Chain	Res	Type	RSRZ
1	E	30	ASN	2.1
1	B	37	TRP	2.1
1	F	36	LYS	2.0
1	F	176	LYS	2.0
1	E	179	TRP	2.0
1	B	45	SER	2.0
1	D	60	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, 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
2	CL	E	184	1/1	0.74	0.16	84,84,84,84	1
2	CL	D	184	1/1	0.80	0.23	81,81,81,81	1
2	CL	A	184	1/1	0.86	0.12	82,82,82,82	0
2	CL	F	184	1/1	0.90	0.10	86,86,86,86	0
2	CL	C	184	1/1	0.91	0.12	74,74,74,74	0
2	CL	B	184	1/1	0.95	0.15	80,80,80,80	0

6.5 Other polymers (i)

There are no such residues in this entry.