



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 7, 2024 – 01:20 AM EDT

PDB ID : 4HFO
Title : Biogenic amine-binding protein selenomethionine derivative
Authors : Andersen, J.F.; Xu, X.; Chang, B.; Mans, B.J.; Ribeiro, J.M.
Deposited on : 2012-10-05
Resolution : 3.00 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
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

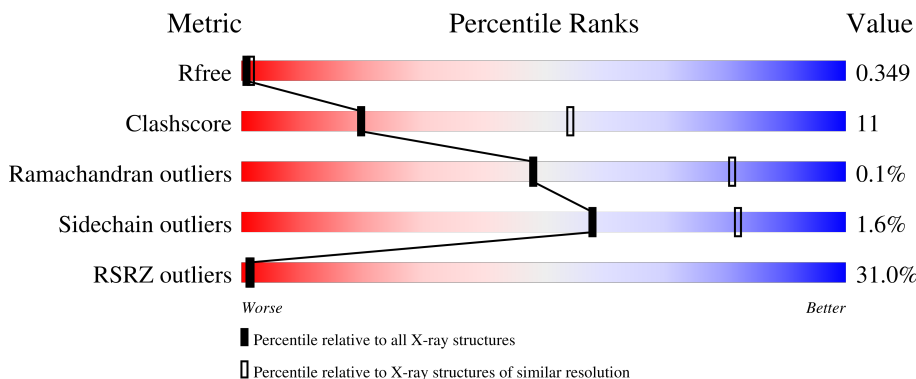
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 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.



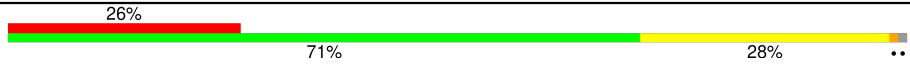
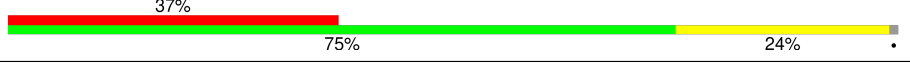

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	2511 (3.00-3.00)
Clashscore	180529	2866 (3.00-3.00)
Ramachandran outliers	177936	2778 (3.00-3.00)
Sidechain outliers	177891	2781 (3.00-3.00)
RSRZ outliers	164620	2523 (3.00-3.00)

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	195	 19% 77% 22%
1	B	195	 20% 72% 27%
1	C	195	 33% 75% 24%
1	D	195	 23% 81% 17%
1	I	195	 33% 78% 21%

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Mol	Chain	Length	Quality of chain
1	J	195	
1	K	195	
1	L	195	

2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 12360 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 Biogenic amine-binding protein.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	S	Se			
1	A	195	1552	980	253	313	4	2	0	0	0
1	B	194	1543	974	251	312	4	2	0	0	0
1	C	193	1542	975	251	310	4	2	0	0	0
1	D	194	1543	974	251	312	4	2	0	0	0
1	I	195	1552	980	253	313	4	2	0	0	0
1	J	194	1543	974	251	312	4	2	0	0	0
1	K	193	1542	975	251	310	4	2	0	0	0
1	L	194	1543	974	251	312	4	2	0	0	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	25	MSE	ILE	conflict	UNP Q86PT9
A	134	MSE	LEU	conflict	UNP Q86PT9
B	25	MSE	ILE	conflict	UNP Q86PT9
B	134	MSE	LEU	conflict	UNP Q86PT9
C	25	MSE	ILE	conflict	UNP Q86PT9
C	134	MSE	LEU	conflict	UNP Q86PT9
D	25	MSE	ILE	conflict	UNP Q86PT9
D	134	MSE	LEU	conflict	UNP Q86PT9
I	25	MSE	ILE	conflict	UNP Q86PT9
I	134	MSE	LEU	conflict	UNP Q86PT9
J	25	MSE	ILE	conflict	UNP Q86PT9
J	134	MSE	LEU	conflict	UNP Q86PT9
K	25	MSE	ILE	conflict	UNP Q86PT9

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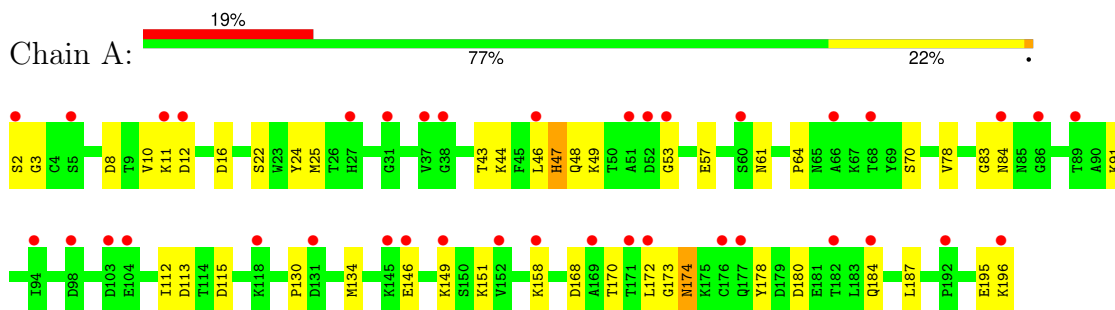
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Chain	Residue	Modelled	Actual	Comment	Reference
K	134	MSE	LEU	conflict	UNP Q86PT9
L	25	MSE	ILE	conflict	UNP Q86PT9
L	134	MSE	LEU	conflict	UNP Q86PT9

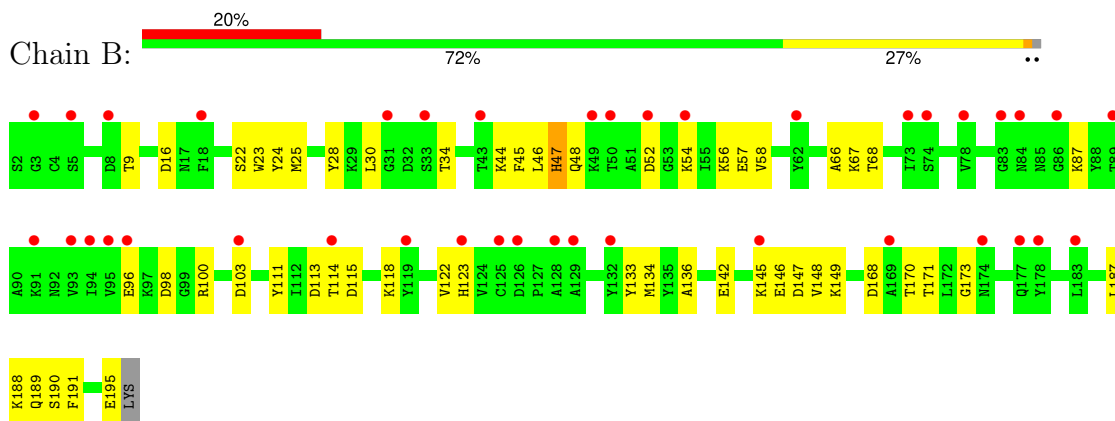
3 Residue-property plots [i](#)

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.

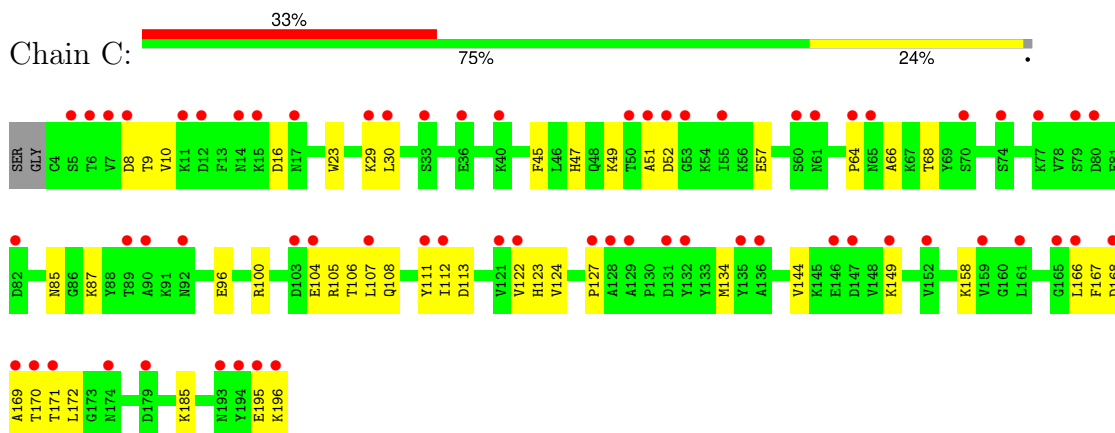
- Molecule 1: Biogenic amine-binding protein



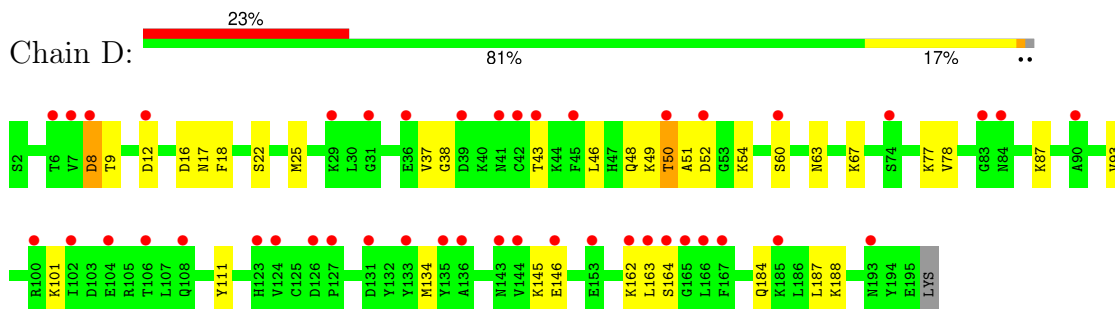
- Molecule 1: Biogenic amine-binding protein



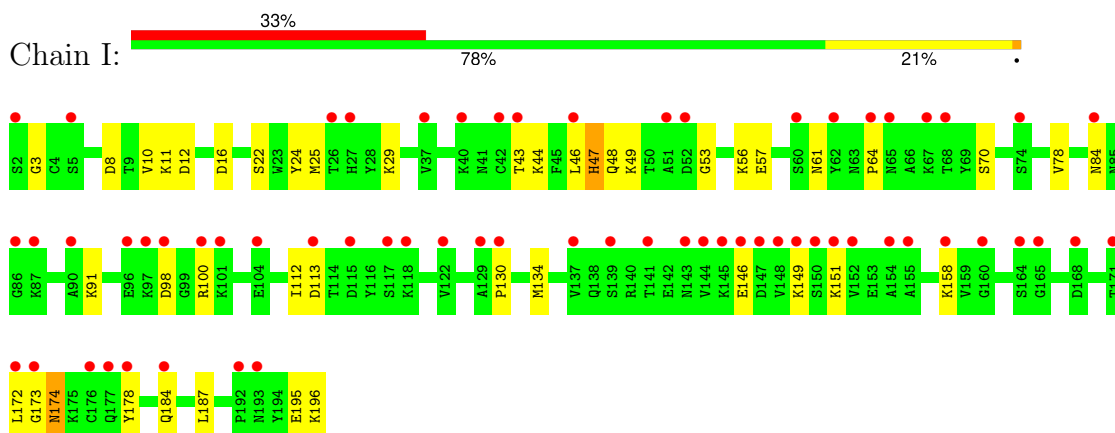
- Molecule 1: Biogenic amine-binding protein



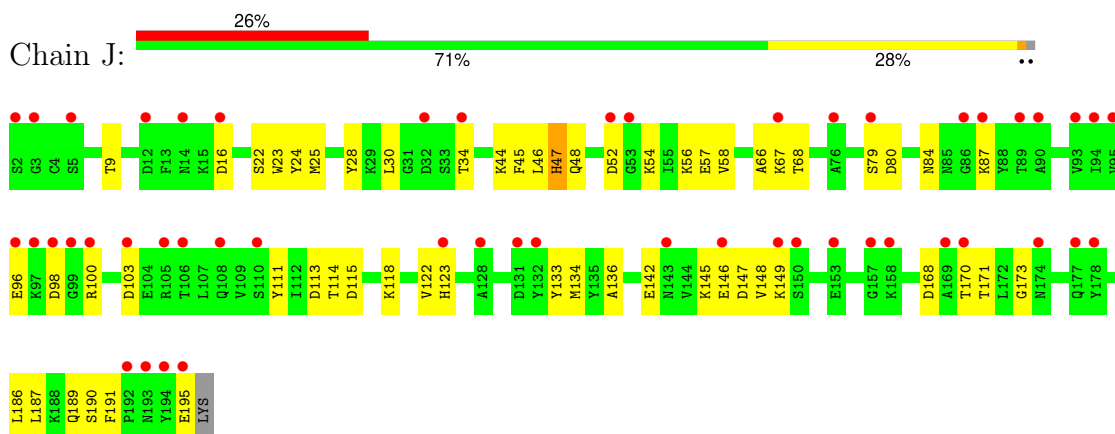
- Molecule 1: Biogenic amine-binding protein



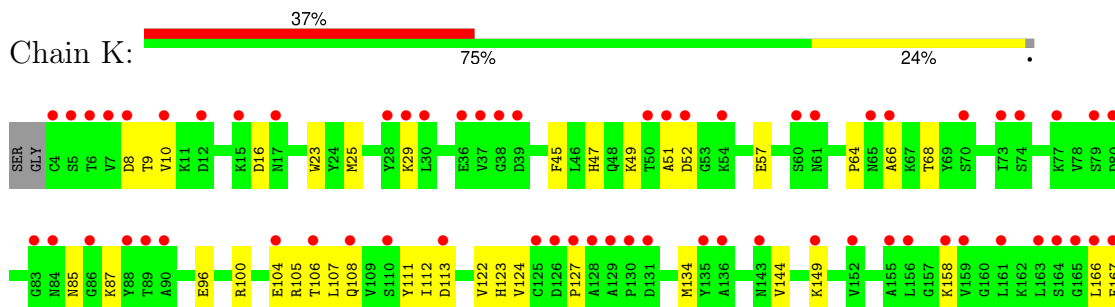
- Molecule 1: Biogenic amine-binding protein



- Molecule 1: Biogenic amine-binding protein

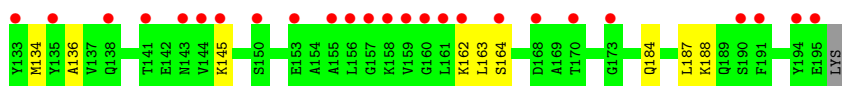
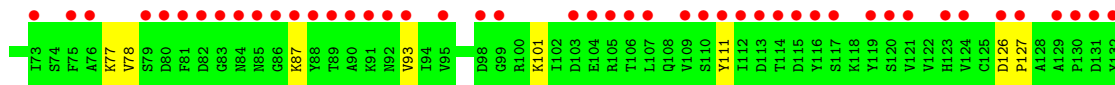
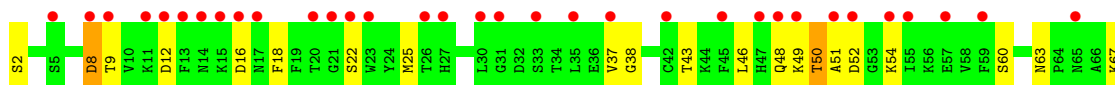
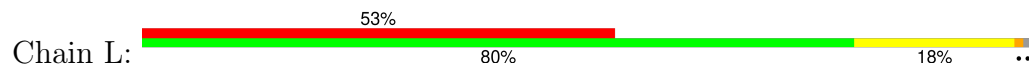


- Molecule 1: Biogenic amine-binding protein





- Molecule 1: Biogenic amine-binding protein



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	102.16Å 70.66Å 108.41Å 90.00° 99.16° 90.00°	Depositor
Resolution (Å)	42.66 – 3.00 42.66 – 3.00	Depositor EDS
% Data completeness (in resolution range)	99.4 (42.66-3.00) 99.5 (42.66-3.00)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	6.18 (at 3.01Å)	Xtrriage
Refinement program	PHENIX 1.7.1_743	Depositor
R, R_{free}	0.321 , 0.349 0.323 , 0.349	Depositor DCC
R_{free} test set	1541 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å ²)	51.0	Xtrriage
Anisotropy	0.165	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 65.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.84	EDS
Total number of atoms	12360	wwPDB-VP
Average B, all atoms (Å ²)	83.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 66.02 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 6.4577e-06. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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](#)

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	0.32	0/1581	0.50	0/2129
1	B	0.30	0/1572	0.48	0/2118
1	C	0.32	0/1571	0.48	0/2116
1	D	0.35	0/1572	0.49	0/2118
1	I	0.32	0/1581	0.51	0/2129
1	J	0.30	0/1572	0.48	0/2118
1	K	0.32	0/1571	0.48	0/2116
1	L	0.35	0/1572	0.50	0/2118
All	All	0.32	0/12592	0.49	0/16962

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 [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	1552	0	1497	49	6
1	B	1543	0	1484	39	10
1	C	1542	0	1489	41	1
1	D	1543	0	1484	33	0
1	I	1552	0	1497	38	8
1	J	1543	0	1484	47	2
1	K	1542	0	1489	34	6
1	L	1543	0	1484	29	1

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	12360	0	11908	274	19

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 11.

All (274) 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:11:LYS:NZ	1:J:80:ASP:HA	1.59	1.17
1:C:112:ILE:HG23	1:C:158:LYS:HE3	1.23	1.16
1:L:25:MSE:HE1	1:L:134:MSE:SE	2.00	1.11
1:K:112:ILE:HG23	1:K:158:LYS:HE3	1.23	1.11
1:A:11:LYS:NZ	1:J:80:ASP:OD1	1.88	1.06
1:C:168:ASP:O	1:C:171:THR:HG22	1.63	0.99
1:K:168:ASP:O	1:K:171:THR:HG22	1.63	0.98
1:L:162:LYS:HZ2	1:L:164:SER:H	1.07	0.96
1:A:83:GLY:HA2	1:I:98:ASP:OD2	1.64	0.96
1:A:11:LYS:HZ1	1:J:80:ASP:CA	1.80	0.95
1:A:11:LYS:HZ1	1:J:80:ASP:HA	1.26	0.95
1:A:11:LYS:CE	1:J:80:ASP:HA	1.97	0.94
1:D:162:LYS:HZ2	1:D:164:SER:H	1.09	0.92
1:A:11:LYS:HZ3	1:J:80:ASP:CG	1.77	0.88
1:K:112:ILE:CG2	1:K:158:LYS:HE3	2.06	0.86
1:A:25:MSE:HE1	1:A:134:MSE:SE	2.25	0.85
1:A:11:LYS:NZ	1:J:80:ASP:CA	2.35	0.85
1:B:25:MSE:HE1	1:B:134:MSE:SE	2.26	0.85
1:K:112:ILE:HG23	1:K:158:LYS:CE	2.07	0.84
1:C:112:ILE:HG23	1:C:158:LYS:CE	2.08	0.84
1:J:25:MSE:HE1	1:J:134:MSE:SE	2.28	0.83
1:C:112:ILE:CG2	1:C:158:LYS:HE3	2.06	0.83
1:I:25:MSE:HE1	1:I:134:MSE:SE	2.32	0.78
1:A:11:LYS:HE2	1:J:80:ASP:HA	1.66	0.77
1:L:16:ASP:OD1	1:L:49:LYS:HE2	1.83	0.77
1:D:16:ASP:OD1	1:D:49:LYS:HE2	1.83	0.77
1:B:24:TYR:CE1	1:B:44:LYS:HD2	2.20	0.76
1:J:24:TYR:CE1	1:J:44:LYS:HD2	2.20	0.75
1:J:9:THR:HG21	1:J:87:LYS:HB2	1.69	0.73
1:D:25:MSE:HE1	1:D:134:MSE:SE	2.38	0.73
1:B:9:THR:HG21	1:B:87:LYS:HB2	1.69	0.71
1:L:50:THR:HG21	1:L:52:ASP:OD2	1.91	0.71
1:A:11:LYS:NZ	1:J:80:ASP:CB	2.54	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:22:SER:HB3	1:I:46:LEU:HD23	1.73	0.70
1:A:83:GLY:CA	1:I:98:ASP:OD2	2.37	0.70
1:D:50:THR:HG21	1:D:52:ASP:OD2	1.91	0.70
1:A:22:SER:HB3	1:A:46:LEU:HD23	1.73	0.69
1:L:52:ASP:OD1	1:L:54:LYS:HG3	1.93	0.69
1:J:66:ALA:O	1:J:68:THR:HG23	1.92	0.69
1:K:29:LYS:HB2	1:K:166:LEU:CD2	2.22	0.69
1:D:52:ASP:OD1	1:D:54:LYS:HG3	1.92	0.69
1:B:34:THR:HG21	1:C:185:LYS:NZ	2.08	0.69
1:L:162:LYS:HZ2	1:L:164:SER:N	1.87	0.69
1:B:66:ALA:O	1:B:68:THR:HG23	1.92	0.69
1:C:29:LYS:HB2	1:C:166:LEU:CD2	2.22	0.69
1:D:50:THR:HG21	1:D:52:ASP:CG	2.13	0.68
1:L:50:THR:HG21	1:L:52:ASP:CG	2.13	0.68
1:A:11:LYS:HZ1	1:J:80:ASP:CB	2.08	0.67
1:D:50:THR:CG2	1:D:52:ASP:CG	2.63	0.67
1:A:11:LYS:HE3	1:A:12:ASP:OD2	1.96	0.66
1:L:50:THR:CG2	1:L:52:ASP:CG	2.64	0.66
1:B:25:MSE:HE2	1:B:136:ALA:CB	2.25	0.66
1:C:51:ALA:HB2	1:I:184:GLN:HG2	1.78	0.66
1:B:34:THR:HG21	1:C:185:LYS:HZ3	1.60	0.65
1:D:162:LYS:HD2	1:D:163:LEU:N	2.12	0.65
1:I:11:LYS:HE3	1:I:12:ASP:OD2	1.96	0.65
1:L:162:LYS:HD2	1:L:163:LEU:N	2.12	0.64
1:B:147:ASP:OD1	1:B:148:VAL:HG13	1.97	0.64
1:J:147:ASP:OD1	1:J:148:VAL:HG13	1.97	0.64
1:J:145:LYS:O	1:J:148:VAL:HG22	1.98	0.63
1:K:105:ARG:HG3	1:K:107:LEU:CD1	2.29	0.63
1:D:162:LYS:HZ2	1:D:164:SER:N	1.89	0.63
1:B:145:LYS:O	1:B:148:VAL:HG22	1.98	0.63
1:C:52:ASP:OD2	1:I:44:LYS:NZ	2.30	0.63
1:J:191:PHE:O	1:J:195:GLU:HG2	1.98	0.63
1:C:105:ARG:HG3	1:C:107:LEU:CD1	2.29	0.62
1:L:8:ASP:OD1	1:L:8:ASP:N	2.24	0.62
1:B:191:PHE:O	1:B:195:GLU:HG2	1.99	0.62
1:A:195:GLU:O	1:A:196:LYS:HB2	2.00	0.62
1:I:195:GLU:O	1:I:196:LYS:HB2	2.00	0.62
1:C:106:THR:O	1:C:127:PRO:HD2	2.01	0.61
1:I:8:ASP:H	1:I:158:LYS:HZ1	1.48	0.61
1:K:106:THR:O	1:K:127:PRO:HD2	2.01	0.61
1:K:111:TYR:CE2	1:K:122:VAL:HB	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:111:TYR:CE2	1:C:122:VAL:HB	2.35	0.60
1:J:54:LYS:HE2	1:J:195:GLU:HA	1.84	0.60
1:B:142:GLU:O	1:B:170:THR:HG21	2.02	0.60
1:I:8:ASP:O	1:I:158:LYS:HE2	2.02	0.59
1:J:142:GLU:O	1:J:170:THR:HG21	2.02	0.59
1:A:8:ASP:O	1:A:158:LYS:HE2	2.02	0.59
1:A:83:GLY:O	1:I:100:ARG:CZ	2.50	0.59
1:B:54:LYS:HE2	1:B:195:GLU:HA	1.84	0.59
1:A:174:ASN:OD1	1:A:174:ASN:N	2.36	0.59
1:J:25:MSE:CE	1:J:134:MSE:SE	3.01	0.58
1:J:25:MSE:HE2	1:J:136:ALA:CB	2.34	0.58
1:A:115:ASP:HB2	1:J:84:ASN:ND2	2.18	0.58
1:K:25:MSE:HE1	1:K:134:MSE:SE	2.52	0.58
1:I:174:ASN:OD1	1:I:174:ASN:N	2.36	0.58
1:C:29:LYS:HB2	1:C:166:LEU:HD22	1.86	0.57
1:I:3:GLY:HA2	1:I:130:PRO:CB	2.34	0.57
1:L:22:SER:HB3	1:L:46:LEU:HD23	1.86	0.57
1:A:11:LYS:HE2	1:J:79:SER:O	2.05	0.57
1:A:47:HIS:HB3	1:A:57:GLU:HA	1.86	0.57
1:B:25:MSE:CE	1:B:134:MSE:SE	3.01	0.57
1:D:8:ASP:OD1	1:D:8:ASP:N	2.24	0.57
1:A:195:GLU:O	1:A:196:LYS:CB	2.53	0.57
1:I:47:HIS:HB3	1:I:57:GLU:HA	1.86	0.57
1:D:50:THR:HG23	1:D:52:ASP:H	1.70	0.57
1:I:10:VAL:HG22	1:I:113:ASP:HA	1.87	0.57
1:L:162:LYS:HD2	1:L:163:LEU:H	1.68	0.57
1:A:10:VAL:HG22	1:A:113:ASP:HA	1.87	0.56
1:D:22:SER:HB3	1:D:46:LEU:HD23	1.86	0.56
1:K:29:LYS:HB2	1:K:166:LEU:HD22	1.86	0.56
1:C:8:ASP:HB2	1:C:158:LYS:NZ	2.20	0.56
1:K:8:ASP:HB2	1:K:158:LYS:NZ	2.20	0.56
1:A:3:GLY:HA2	1:A:130:PRO:CB	2.34	0.56
1:A:83:GLY:C	1:I:100:ARG:CZ	2.73	0.56
1:I:195:GLU:O	1:I:196:LYS:CB	2.53	0.56
1:D:162:LYS:HD2	1:D:163:LEU:H	1.69	0.56
1:L:25:MSE:CE	1:L:134:MSE:SE	2.92	0.56
1:C:9:THR:HG21	1:C:87:LYS:HB2	1.89	0.55
1:K:9:THR:HG21	1:K:87:LYS:HB2	1.89	0.55
1:L:50:THR:HG23	1:L:52:ASP:H	1.70	0.54
1:B:98:ASP:OD2	1:B:100:ARG:NH2	2.32	0.54
1:A:12:ASP:HA	1:A:84:ASN:ND2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:104:GLU:HG2	1:K:105:ARG:N	2.23	0.53
1:I:12:ASP:HA	1:I:84:ASN:ND2	2.23	0.53
1:J:146:GLU:HA	1:J:149:LYS:HG3	1.90	0.53
1:C:104:GLU:HG2	1:C:105:ARG:N	2.23	0.53
1:A:8:ASP:H	1:A:158:LYS:HZ1	1.57	0.53
1:B:96:GLU:HB2	1:B:98:ASP:OD1	2.08	0.53
1:J:115:ASP:OD2	1:J:118:LYS:HB2	2.09	0.53
1:B:146:GLU:HA	1:B:149:LYS:HG3	1.90	0.53
1:K:158:LYS:O	1:K:158:LYS:HG3	2.09	0.53
1:C:158:LYS:O	1:C:158:LYS:HG3	2.09	0.53
1:K:64:PRO:HG2	1:K:172:LEU:HD13	1.92	0.52
1:B:115:ASP:OD2	1:B:118:LYS:HB2	2.09	0.52
1:J:96:GLU:HB2	1:J:98:ASP:OD1	2.09	0.52
1:A:2:SER:CB	1:D:17:ASN:OD1	2.58	0.52
1:I:48:GLN:HG2	1:I:187:LEU:HD11	1.92	0.52
1:C:64:PRO:HG2	1:C:172:LEU:HD13	1.92	0.52
1:C:104:GLU:CG	1:C:105:ARG:N	2.73	0.52
1:K:104:GLU:CG	1:K:105:ARG:N	2.73	0.51
1:A:48:GLN:HG2	1:A:187:LEU:HD11	1.92	0.51
1:K:167:PHE:CE2	1:K:169:ALA:HA	2.46	0.51
1:J:98:ASP:OD2	1:J:100:ARG:NH2	2.32	0.51
1:I:146:GLU:HA	1:I:149:LYS:HG3	1.92	0.51
1:D:48:GLN:HG2	1:D:187:LEU:HD11	1.93	0.51
1:C:167:PHE:CE2	1:C:169:ALA:HA	2.46	0.51
1:J:48:GLN:HG2	1:J:187:LEU:HD11	1.94	0.50
1:A:146:GLU:HA	1:A:149:LYS:HG3	1.92	0.50
1:B:48:GLN:HG2	1:B:187:LEU:HD11	1.94	0.50
1:D:63:ASN:O	1:D:67:LYS:N	2.44	0.50
1:B:47:HIS:HB3	1:B:57:GLU:HA	1.93	0.50
1:I:25:MSE:HE1	1:I:134:MSE:CE	2.41	0.50
1:L:9:THR:HG21	1:L:87:LYS:HB2	1.93	0.50
1:L:50:THR:CG2	1:L:52:ASP:OD1	2.60	0.50
1:D:50:THR:CG2	1:D:52:ASP:OD1	2.60	0.50
1:J:47:HIS:HB3	1:J:57:GLU:HA	1.93	0.50
1:L:48:GLN:HG2	1:L:187:LEU:HD11	1.93	0.49
1:D:9:THR:HG21	1:D:87:LYS:HB2	1.93	0.49
1:K:9:THR:OG1	1:K:85:ASN:HB3	2.12	0.49
1:C:23:TRP:HB2	1:C:45:PHE:CZ	2.47	0.49
1:K:23:TRP:HB2	1:K:45:PHE:CZ	2.47	0.49
1:B:52:ASP:OD2	1:B:54:LYS:HB2	2.13	0.49
1:B:111:TYR:CE2	1:B:122:VAL:HB	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:52:ASP:OD2	1:J:54:LYS:HB2	2.13	0.49
1:B:190:SER:HA	1:B:195:GLU:OE2	2.12	0.49
1:J:111:TYR:CE2	1:J:122:VAL:HB	2.47	0.48
1:A:53:GLY:O	1:A:78:VAL:HG23	2.13	0.48
1:J:25:MSE:SE	1:J:28:TYR:CD2	3.16	0.48
1:D:25:MSE:CE	1:D:134:MSE:SE	3.11	0.48
1:L:63:ASN:O	1:L:67:LYS:N	2.44	0.48
1:J:190:SER:HA	1:J:195:GLU:OE2	2.12	0.48
1:A:8:ASP:H	1:A:158:LYS:NZ	2.11	0.48
1:I:53:GLY:O	1:I:78:VAL:HG23	2.14	0.48
1:C:9:THR:OG1	1:C:85:ASN:HB3	2.12	0.48
1:I:25:MSE:SE	1:I:43:THR:HG21	2.63	0.48
1:K:167:PHE:CZ	1:K:169:ALA:HA	2.50	0.47
1:B:34:THR:HG21	1:C:185:LYS:HD3	1.97	0.47
1:I:24:TYR:CE2	1:I:44:LYS:HD2	2.49	0.47
1:B:133:TYR:CZ	1:D:146:GLU:HB2	2.50	0.47
1:A:24:TYR:CE2	1:A:44:LYS:HD2	2.50	0.47
1:C:144:VAL:O	1:C:149:LYS:HE3	2.15	0.46
1:I:112:ILE:HG23	1:I:158:LYS:HD3	1.98	0.46
1:C:167:PHE:CZ	1:C:169:ALA:HA	2.50	0.46
1:K:144:VAL:O	1:K:149:LYS:HE3	2.15	0.46
1:C:16:ASP:OD1	1:C:49:LYS:HE2	2.16	0.46
1:C:66:ALA:O	1:C:68:THR:HG23	2.16	0.46
1:C:195:GLU:O	1:C:196:LYS:HB2	2.16	0.46
1:K:16:ASP:OD1	1:K:49:LYS:HE2	2.16	0.46
1:A:112:ILE:HG23	1:A:158:LYS:HD3	1.98	0.46
1:J:34:THR:HG21	1:K:185:LYS:HZ3	1.81	0.46
1:K:195:GLU:O	1:K:196:LYS:HB2	2.16	0.46
1:B:23:TRP:HB2	1:B:45:PHE:CZ	2.50	0.46
1:C:30:LEU:HD13	1:C:134:MSE:HE3	1.96	0.46
1:C:10:VAL:CG2	1:C:113:ASP:HA	2.46	0.45
1:I:8:ASP:H	1:I:158:LYS:NZ	2.11	0.45
1:K:10:VAL:CG2	1:K:113:ASP:HA	2.46	0.45
1:K:66:ALA:O	1:K:68:THR:HG23	2.16	0.45
1:I:16:ASP:OD1	1:I:49:LYS:CE	2.64	0.45
1:L:184:GLN:O	1:L:188:LYS:HG2	2.17	0.45
1:B:25:MSE:HE2	1:B:136:ALA:HB2	1.98	0.45
1:C:52:ASP:CG	1:I:44:LYS:HZ1	2.19	0.45
1:J:23:TRP:HB2	1:J:45:PHE:CZ	2.50	0.45
1:A:11:LYS:NZ	1:J:80:ASP:CG	2.50	0.45
1:D:184:GLN:O	1:D:188:LYS:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:16:ASP:OD1	1:A:49:LYS:CE	2.64	0.45
1:J:168:ASP:O	1:J:171:THR:HG22	2.16	0.45
1:A:2:SER:HB2	1:D:17:ASN:OD1	2.17	0.45
1:B:168:ASP:O	1:B:171:THR:HG22	2.16	0.45
1:B:25:MSE:SE	1:B:28:TYR:CD2	3.20	0.44
1:J:30:LEU:HD12	1:J:133:TYR:O	2.17	0.44
1:J:34:THR:HG21	1:K:185:LYS:HD3	1.99	0.44
1:C:122:VAL:HG22	1:C:123:HIS:N	2.32	0.44
1:K:108:GLN:CG	1:K:127:PRO:HG3	2.47	0.44
1:K:122:VAL:HG22	1:K:123:HIS:N	2.32	0.44
1:B:30:LEU:HD12	1:B:133:TYR:O	2.17	0.44
1:J:56:LYS:NZ	1:J:189:GLN:O	2.51	0.44
1:C:108:GLN:CG	1:C:127:PRO:HG3	2.48	0.44
1:B:56:LYS:NZ	1:B:189:GLN:O	2.51	0.44
1:L:37:VAL:HG13	1:L:38:GLY:N	2.33	0.44
1:L:145:LYS:HE2	1:L:145:LYS:HB3	1.79	0.44
1:B:113:ASP:O	1:B:114:THR:HB	2.18	0.43
1:J:113:ASP:O	1:J:114:THR:HB	2.18	0.43
1:A:11:LYS:HZ3	1:J:80:ASP:CB	2.24	0.43
1:A:61:ASN:HB2	1:A:70:SER:OG	2.19	0.43
1:B:34:THR:HG21	1:C:185:LYS:CE	2.48	0.43
1:A:2:SER:HB3	1:D:17:ASN:OD1	2.18	0.43
1:L:25:MSE:HE3	1:L:136:ALA:CB	2.49	0.43
1:A:151:LYS:HE3	1:A:151:LYS:HB2	1.87	0.43
1:I:61:ASN:HB2	1:I:70:SER:OG	2.19	0.43
1:B:22:SER:HB3	1:B:46:LEU:CD2	2.49	0.43
1:C:96:GLU:OE2	1:C:100:ARG:NH2	2.47	0.43
1:D:37:VAL:HG13	1:D:38:GLY:N	2.33	0.43
1:B:133:TYR:CE1	1:D:146:GLU:HB2	2.54	0.43
1:J:22:SER:HB3	1:J:46:LEU:CD2	2.49	0.43
1:I:151:LYS:HE3	1:I:151:LYS:HB2	1.87	0.42
1:A:10:VAL:CG2	1:A:113:ASP:HA	2.49	0.42
1:I:10:VAL:CG2	1:I:113:ASP:HA	2.49	0.42
1:I:64:PRO:HG2	1:I:172:LEU:HD22	2.01	0.42
1:L:43:THR:HA	1:L:60:SER:O	2.19	0.42
1:C:51:ALA:HB2	1:I:184:GLN:CG	2.48	0.42
1:D:43:THR:HA	1:D:60:SER:O	2.19	0.42
1:J:122:VAL:HG22	1:J:123:HIS:N	2.35	0.42
1:C:8:ASP:HB2	1:C:158:LYS:HZ3	1.84	0.42
1:K:96:GLU:OE2	1:K:100:ARG:NH2	2.47	0.41
1:A:64:PRO:HG2	1:A:172:LEU:HD22	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:34:THR:CG2	1:C:185:LYS:NZ	2.82	0.41
1:L:50:THR:HG21	1:L:52:ASP:OD1	2.21	0.41
1:A:25:MSE:SE	1:A:43:THR:HG21	2.70	0.41
1:A:83:GLY:O	1:I:100:ARG:NH2	2.54	0.41
1:D:93:VAL:CG1	1:D:101:LYS:HG3	2.51	0.41
1:A:44:LYS:HB2	1:A:178:TYR:CD1	2.55	0.41
1:D:50:THR:HG22	1:D:52:ASP:OD1	2.21	0.41
1:I:44:LYS:HB2	1:I:178:TYR:CD1	2.55	0.41
1:L:93:VAL:CG1	1:L:101:LYS:HG3	2.50	0.41
1:B:122:VAL:HG22	1:B:123:HIS:N	2.35	0.41
1:I:29:LYS:O	1:I:134:MSE:HA	2.21	0.41
1:B:171:THR:C	1:B:173:GLY:H	2.24	0.41
1:C:107:LEU:HD23	1:C:124:VAL:HG11	2.02	0.41
1:D:18:PHE:CZ	1:D:111:TYR:CZ	3.08	0.41
1:D:50:THR:HG23	1:D:51:ALA:N	2.35	0.41
1:L:50:THR:HG23	1:L:51:ALA:N	2.35	0.41
1:B:45:PHE:CB	1:B:58:VAL:O	2.69	0.41
1:D:50:THR:HG21	1:D:52:ASP:OD1	2.21	0.41
1:L:18:PHE:CZ	1:L:111:TYR:CZ	3.08	0.40
1:I:47:HIS:CB	1:I:56:LYS:O	2.70	0.40
1:J:58:VAL:HG11	1:J:186:LEU:HB2	2.03	0.40
1:B:100:ARG:HE	1:B:100:ARG:HB2	1.69	0.40
1:C:47:HIS:CD2	1:C:57:GLU:HG2	2.57	0.40
1:J:171:THR:C	1:J:173:GLY:H	2.24	0.40
1:K:47:HIS:CD2	1:K:57:GLU:HG2	2.57	0.40
1:C:107:LEU:HD23	1:C:124:VAL:CG1	2.52	0.40
1:D:162:LYS:NZ	1:D:164:SER:H	1.95	0.40
1:J:45:PHE:CB	1:J:58:VAL:O	2.70	0.40
1:K:8:ASP:HB2	1:K:158:LYS:HZ3	1.86	0.40
1:L:50:THR:HG22	1:L:52:ASP:OD1	2.21	0.40
1:A:83:GLY:HA2	1:I:100:ARG:NE	2.36	0.40
1:A:168:ASP:OD1	1:A:170:THR:OG1	2.33	0.40
1:D:145:LYS:HE2	1:D:145:LYS:HB3	1.80	0.40
1:K:107:LEU:HD23	1:K:124:VAL:HG11	2.02	0.40
1:K:124:VAL:O	1:K:134:MSE:N	2.51	0.40
1:L:126:ASP:HA	1:L:127:PRO:HD2	1.84	0.40

All (19) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:16:ASP:O	1:J:67:LYS:NZ[2_546]	1.00	1.20
1:B:142:GLU:CD	1:I:146:GLU:OE2[2_645]	1.08	1.12
1:B:142:GLU:OE2	1:I:146:GLU:OE1[2_645]	1.26	0.94
1:A:184:GLN:CG	1:K:51:ALA:CB[1_545]	1.32	0.88
1:B:142:GLU:OE2	1:I:146:GLU:CD[2_645]	1.35	0.85
1:B:142:GLU:OE2	1:I:146:GLU:OE2[2_645]	1.41	0.79
1:B:142:GLU:CG	1:I:146:GLU:OE2[2_645]	1.65	0.55
1:B:188:LYS:NZ	1:C:106:THR:OG1[2_645]	1.78	0.42
1:A:184:GLN:CD	1:K:51:ALA:CB[1_545]	1.81	0.39
1:A:44:LYS:NZ	1:K:52:ASP:OD2[1_545]	1.87	0.33
1:A:184:GLN:NE2	1:K:51:ALA:CB[1_545]	1.92	0.28
1:A:180:ASP:OD1	1:K:52:ASP:OD2[1_545]	1.95	0.25
1:I:8:ASP:OD1	1:L:2:SER:O[2_656]	1.96	0.24
1:J:16:ASP:C	1:J:67:LYS:NZ[2_546]	1.96	0.24
1:B:142:GLU:CD	1:I:146:GLU:CD[2_645]	1.97	0.23
1:B:142:GLU:OE1	1:I:146:GLU:OE2[2_645]	2.02	0.18
1:B:16:ASP:CA	1:B:67:LYS:NZ[2_645]	2.09	0.11
1:A:44:LYS:NZ	1:K:52:ASP:CG[1_545]	2.16	0.04
1:B:16:ASP:CB	1:B:67:LYS:NZ[2_645]	2.18	0.02

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	193/195 (99%)	186 (96%)	6 (3%)	1 (0%)	25	61
1	B	192/195 (98%)	184 (96%)	8 (4%)	0	100	100
1	C	191/195 (98%)	185 (97%)	6 (3%)	0	100	100
1	D	192/195 (98%)	187 (97%)	5 (3%)	0	100	100
1	I	193/195 (99%)	186 (96%)	6 (3%)	1 (0%)	25	61
1	J	192/195 (98%)	184 (96%)	8 (4%)	0	100	100
1	K	191/195 (98%)	185 (97%)	6 (3%)	0	100	100
1	L	192/195 (98%)	187 (97%)	5 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	1536/1560 (98%)	1484 (97%)	50 (3%)	2 (0%)	48 81

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	173	GLY
1	I	173	GLY

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	173/171 (101%)	170 (98%)	3 (2%)	56 81
1	B	172/171 (101%)	170 (99%)	2 (1%)	67 86
1	C	172/171 (101%)	171 (99%)	1 (1%)	84 93
1	D	172/171 (101%)	167 (97%)	5 (3%)	37 70
1	I	173/171 (101%)	170 (98%)	3 (2%)	56 81
1	J	172/171 (101%)	170 (99%)	2 (1%)	67 86
1	K	172/171 (101%)	171 (99%)	1 (1%)	84 93
1	L	172/171 (101%)	167 (97%)	5 (3%)	37 70
All	All	1378/1368 (101%)	1356 (98%)	22 (2%)	58 82

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	47	HIS
1	A	91	LYS
1	A	174	ASN
1	B	47	HIS
1	B	103	ASP
1	C	170	THR
1	D	8	ASP
1	D	12	ASP

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Mol	Chain	Res	Type
1	D	50	THR
1	D	77	LYS
1	D	78	VAL
1	I	47	HIS
1	I	91	LYS
1	I	174	ASN
1	J	47	HIS
1	J	103	ASP
1	K	170	THR
1	L	8	ASP
1	L	12	ASP
1	L	50	THR
1	L	77	LYS
1	L	78	VAL

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

Mol	Chain	Res	Type
1	A	123	HIS
1	B	123	HIS
1	I	123	HIS
1	I	184	GLN
1	J	84	ASN
1	J	123	HIS
1	L	17	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](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	193/195 (98%)	1.24	38 (19%) 3 3	16, 56, 166, 320	0
1	B	192/195 (98%)	1.41	39 (20%) 3 2	21, 72, 172, 556	0
1	C	191/195 (97%)	1.61	64 (33%) 1 1	15, 69, 185, 315	0
1	D	192/195 (98%)	1.41	44 (22%) 2 2	19, 62, 181, 342	0
1	I	193/195 (98%)	1.56	64 (33%) 1 1	18, 66, 185, 392	0
1	J	192/195 (98%)	1.48	50 (26%) 2 2	12, 57, 207, 522	0
1	K	191/195 (97%)	1.97	73 (38%) 1 1	17, 62, 241, 558	0
1	L	192/195 (98%)	2.27	104 (54%) 0 0	19, 77, 244, 554	0
All	All	1536/1560 (98%)	1.62	476 (30%) 1 1	12, 65, 199, 558	0

All (476) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	74	SER	11.1
1	K	60	SER	11.0
1	K	89	THR	8.6
1	K	90	ALA	8.2
1	K	128	ALA	7.9
1	B	73	ILE	7.8
1	A	31	GLY	7.2
1	L	89	THR	7.1
1	L	57	GLU	7.1
1	J	95	VAL	6.9
1	C	60	SER	6.9
1	J	169	ALA	6.7
1	K	169	ALA	6.7
1	K	127	PRO	6.6
1	D	166	LEU	6.4
1	K	166	LEU	6.4

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Mol	Chain	Res	Type	RSRZ
1	B	169	ALA	6.4
1	J	99	GLY	6.4
1	J	94	ILE	6.2
1	C	55	ILE	6.2
1	C	132	TYR	6.1
1	D	136	ALA	6.1
1	K	171	THR	6.1
1	L	86	GLY	6.1
1	K	159	VAL	6.0
1	A	86	GLY	6.0
1	K	50	THR	6.0
1	D	163	LEU	5.9
1	A	60	SER	5.9
1	L	194	TYR	5.9
1	B	119	TYR	5.8
1	A	46	LEU	5.7
1	K	30	LEU	5.6
1	I	115	ASP	5.6
1	B	178	TYR	5.5
1	L	116	TYR	5.5
1	K	126	ASP	5.5
1	B	94	ILE	5.4
1	K	108	GLN	5.3
1	L	173	GLY	5.3
1	L	107	LEU	5.3
1	I	165	GLY	5.2
1	K	61	ASN	5.2
1	L	79	SER	5.2
1	C	89	THR	5.1
1	L	13	PHE	5.1
1	A	5	SER	5.0
1	L	37	VAL	5.0
1	I	155	ALA	5.0
1	C	128	ALA	4.9
1	J	106	THR	4.9
1	L	90	ALA	4.9
1	C	7	VAL	4.8
1	C	149	LYS	4.8
1	B	129	ALA	4.8
1	D	90	ALA	4.8
1	K	152	VAL	4.8
1	I	118	LYS	4.8

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Mol	Chain	Res	Type	RSRZ
1	A	66	ALA	4.8
1	K	51	ALA	4.7
1	L	92	ASN	4.7
1	C	30	LEU	4.6
1	A	104	GLU	4.6
1	L	17	ASN	4.6
1	L	195	GLU	4.6
1	C	166	LEU	4.6
1	C	70	SER	4.5
1	I	46	LEU	4.5
1	K	86	GLY	4.5
1	L	103	ASP	4.5
1	D	102	ILE	4.5
1	I	145	LYS	4.5
1	A	184	GLN	4.4
1	D	135	TYR	4.4
1	L	119	TYR	4.4
1	L	160	GLY	4.4
1	A	131	ASP	4.4
1	D	52	ASP	4.4
1	L	52	ASP	4.4
1	D	124	VAL	4.4
1	D	45	PHE	4.4
1	C	146	GLU	4.3
1	K	52	ASP	4.3
1	K	164	SER	4.3
1	A	149	LYS	4.3
1	L	8	ASP	4.3
1	D	127	PRO	4.3
1	J	192	PRO	4.3
1	A	53	GLY	4.3
1	I	74	SER	4.2
1	I	171	THR	4.2
1	K	156	LEU	4.2
1	J	3	GLY	4.2
1	J	12	ASP	4.2
1	I	117	SER	4.1
1	K	192	PRO	4.1
1	C	179	ASP	4.1
1	I	147	ASP	4.1
1	L	82	ASP	4.1
1	L	156	LEU	4.1

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Mol	Chain	Res	Type	RSRZ
1	I	52	ASP	4.1
1	L	76	ALA	4.1
1	I	184	GLN	4.1
1	K	161	LEU	4.1
1	L	85	ASN	4.1
1	J	157	GLY	4.0
1	L	157	GLY	4.0
1	J	178	TYR	4.0
1	K	70	SER	4.0
1	J	128	ALA	4.0
1	L	112	ILE	4.0
1	I	37	VAL	4.0
1	K	77	LYS	4.0
1	I	86	GLY	3.9
1	I	5	SER	3.9
1	I	62	TYR	3.9
1	L	35	LEU	3.9
1	I	164	SER	3.9
1	B	62	TYR	3.9
1	K	179	ASP	3.9
1	L	115	ASP	3.9
1	A	146	GLU	3.9
1	C	74	SER	3.9
1	C	135	TYR	3.9
1	A	2	SER	3.8
1	B	84	ASN	3.8
1	L	51	ALA	3.8
1	J	132	TYR	3.8
1	L	111	TYR	3.8
1	L	153	GLU	3.8
1	D	164	SER	3.8
1	I	139	SER	3.8
1	J	86	GLY	3.8
1	I	141	THR	3.8
1	J	123	HIS	3.8
1	A	171	THR	3.7
1	A	152	VAL	3.7
1	C	77	LYS	3.7
1	J	14	ASN	3.7
1	L	91	LYS	3.7
1	L	159	VAL	3.7
1	I	176	CYS	3.7

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Mol	Chain	Res	Type	RSRZ
1	L	104	GLU	3.6
1	K	80	ASP	3.6
1	L	49	LYS	3.6
1	J	108	GLN	3.6
1	J	158	LYS	3.6
1	L	55	ILE	3.6
1	D	108	GLN	3.6
1	B	74	SER	3.6
1	C	194	TYR	3.6
1	B	177	GLN	3.5
1	C	90	ALA	3.5
1	L	135	TYR	3.5
1	B	93	VAL	3.5
1	B	95	VAL	3.5
1	D	8	ASP	3.5
1	J	110	SER	3.5
1	J	193	ASN	3.5
1	I	27	HIS	3.5
1	J	194	TYR	3.5
1	J	170	THR	3.5
1	C	40	LYS	3.5
1	A	94	ILE	3.5
1	C	131	ASP	3.5
1	J	131	ASP	3.5
1	K	12	ASP	3.5
1	I	104	GLU	3.4
1	K	125	CYS	3.4
1	K	106	THR	3.4
1	L	16	ASP	3.4
1	L	164	SER	3.4
1	I	151	LYS	3.4
1	B	89	THR	3.4
1	K	74	SER	3.4
1	L	30	LEU	3.4
1	C	104	GLU	3.4
1	I	65	ASN	3.4
1	L	84	ASN	3.4
1	C	147	ASP	3.4
1	L	12	ASP	3.4
1	C	170	THR	3.4
1	C	159	VAL	3.3
1	L	23	TRP	3.3

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Mol	Chain	Res	Type	RSRZ
1	B	54	LYS	3.3
1	L	162	LYS	3.3
1	A	103	ASP	3.3
1	C	52	ASP	3.3
1	K	5	SER	3.3
1	C	17	ASN	3.3
1	K	66	ALA	3.3
1	K	167	PHE	3.3
1	D	104	GLU	3.3
1	C	161	LEU	3.3
1	D	162	LYS	3.3
1	L	26	THR	3.3
1	I	98	ASP	3.3
1	J	174	ASN	3.3
1	K	165	GLY	3.3
1	K	17	ASN	3.3
1	J	53	GLY	3.3
1	C	121	VAL	3.2
1	C	51	ALA	3.2
1	I	2	SER	3.2
1	J	79	SER	3.2
1	I	84	ASN	3.2
1	C	171	THR	3.2
1	K	113	ASP	3.2
1	L	161	LEU	3.2
1	I	146	GLU	3.2
1	K	163	LEU	3.2
1	L	88	TYR	3.2
1	C	152	VAL	3.2
1	K	10	VAL	3.2
1	L	54	LYS	3.2
1	A	27	HIS	3.2
1	B	3	GLY	3.1
1	D	100	ARG	3.1
1	I	152	VAL	3.1
1	L	65	ASN	3.1
1	L	42	CYS	3.1
1	A	37	VAL	3.1
1	I	90	ALA	3.1
1	K	194	TYR	3.1
1	A	98	ASP	3.1
1	L	133	TYR	3.1

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Mol	Chain	Res	Type	RSRZ
1	L	158	LYS	3.1
1	B	123	HIS	3.1
1	J	76	ALA	3.1
1	C	82	ASP	3.0
1	D	144	VAL	3.0
1	K	4	CYS	3.0
1	B	128	ALA	3.0
1	L	132	TYR	3.0
1	L	114	THR	3.0
1	I	87	LYS	3.0
1	J	52	ASP	3.0
1	A	51	ALA	3.0
1	D	42	CYS	3.0
1	K	104	GLU	3.0
1	L	45	PHE	3.0
1	J	103	ASP	3.0
1	C	193	ASN	3.0
1	L	87	LYS	2.9
1	B	132	TYR	2.9
1	C	127	PRO	2.9
1	A	52	ASP	2.9
1	D	50	THR	2.9
1	L	22	SER	2.9
1	C	92	ASN	2.9
1	C	8	ASP	2.9
1	D	39	ASP	2.9
1	I	143	ASN	2.9
1	J	143	ASN	2.9
1	L	75	PHE	2.9
1	K	136	ALA	2.9
1	A	12	ASP	2.9
1	L	80	ASP	2.9
1	C	64	PRO	2.9
1	A	11	LYS	2.9
1	C	15	LYS	2.9
1	K	130	PRO	2.9
1	D	167	PHE	2.9
1	C	129	ALA	2.8
1	C	50	THR	2.8
1	L	20	THR	2.8
1	L	144	VAL	2.8
1	I	137	VAL	2.8

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Mol	Chain	Res	Type	RSRZ
1	D	123	HIS	2.8
1	L	155	ALA	2.8
1	I	96	GLU	2.8
1	L	109	VAL	2.8
1	L	59	PHE	2.8
1	I	60	SER	2.8
1	J	5	SER	2.8
1	K	193	ASN	2.8
1	C	5	SER	2.8
1	C	168	ASP	2.8
1	D	193	ASN	2.8
1	K	84	ASN	2.8
1	I	26	THR	2.8
1	B	83	GLY	2.8
1	C	79	SER	2.7
1	K	8	ASP	2.7
1	L	31	GLY	2.7
1	C	11	LYS	2.7
1	K	149	LYS	2.7
1	K	158	LYS	2.7
1	J	2	SER	2.7
1	L	126	ASP	2.7
1	C	61	ASN	2.7
1	K	129	ALA	2.7
1	I	113	ASP	2.7
1	B	96	GLU	2.7
1	A	118	LYS	2.7
1	B	43	THR	2.7
1	L	47	HIS	2.7
1	L	5	SER	2.7
1	C	65	ASN	2.7
1	L	81	PHE	2.7
1	C	196	LYS	2.7
1	L	130	PRO	2.7
1	B	183	LEU	2.7
1	I	154	ALA	2.7
1	C	195	GLU	2.6
1	I	150	SER	2.6
1	K	196	LYS	2.6
1	L	113	ASP	2.6
1	L	124	VAL	2.6
1	A	196	LYS	2.6

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Mol	Chain	Res	Type	RSRZ
1	I	67	LYS	2.6
1	I	193	ASN	2.6
1	K	38	GLY	2.6
1	D	60	SER	2.6
1	A	84	ASN	2.6
1	A	192	PRO	2.6
1	C	169	ALA	2.6
1	J	150	SER	2.6
1	I	148	VAL	2.6
1	L	95	VAL	2.6
1	K	15	LYS	2.6
1	I	144	VAL	2.6
1	C	103	ASP	2.6
1	B	103	ASP	2.5
1	C	80	ASP	2.5
1	K	174	ASN	2.5
1	A	172	LEU	2.5
1	L	83	GLY	2.5
1	J	93	VAL	2.5
1	J	34	THR	2.5
1	L	170	THR	2.5
1	B	125	CYS	2.5
1	D	84	ASN	2.5
1	I	178	TYR	2.5
1	I	40	LYS	2.5
1	B	78	VAL	2.5
1	J	96	GLU	2.5
1	B	114	THR	2.5
1	J	177	GLN	2.5
1	B	8	ASP	2.5
1	L	191	PHE	2.4
1	A	158	LYS	2.4
1	D	185	LYS	2.4
1	K	170	THR	2.4
1	L	15	LYS	2.4
1	L	145	LYS	2.4
1	L	120	SER	2.4
1	B	174	ASN	2.4
1	J	195	GLU	2.4
1	B	49	LYS	2.4
1	I	158	LYS	2.4
1	A	182	THR	2.4

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Mol	Chain	Res	Type	RSRZ
1	L	121	VAL	2.4
1	C	14	ASN	2.4
1	C	174	ASN	2.4
1	L	11	LYS	2.4
1	K	6	THR	2.4
1	B	33	SER	2.4
1	L	117	SER	2.4
1	L	190	SER	2.4
1	B	126	ASP	2.4
1	I	149	LYS	2.4
1	J	67	LYS	2.4
1	B	86	GLY	2.4
1	L	21	GLY	2.4
1	L	106	THR	2.4
1	A	177	GLN	2.4
1	I	101	LYS	2.3
1	K	88	TYR	2.3
1	K	110	SER	2.3
1	D	131	ASP	2.3
1	K	131	ASP	2.3
1	C	107	LEU	2.3
1	I	64	PRO	2.3
1	C	33	SER	2.3
1	K	79	SER	2.3
1	D	36	GLU	2.3
1	I	51	ALA	2.3
1	K	155	ALA	2.3
1	J	100	ARG	2.3
1	J	105	ARG	2.3
1	L	9	THR	2.3
1	L	73	ILE	2.3
1	L	48	GLN	2.3
1	C	36	GLU	2.3
1	J	32	ASP	2.3
1	J	146	GLU	2.3
1	K	39	ASP	2.3
1	A	169	ALA	2.3
1	I	173	GLY	2.3
1	A	68	THR	2.3
1	D	165	GLY	2.3
1	L	93	VAL	2.3
1	K	29	LYS	2.3

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Mol	Chain	Res	Type	RSRZ
1	I	172	LEU	2.3
1	K	28	TYR	2.3
1	J	97	LYS	2.3
1	J	149	LYS	2.3
1	J	98	ASP	2.2
1	I	100	ARG	2.2
1	K	7	VAL	2.2
1	K	36	GLU	2.2
1	L	150	SER	2.2
1	L	131	ASP	2.2
1	A	89	THR	2.2
1	D	43	THR	2.2
1	B	18	PHE	2.2
1	D	12	ASP	2.2
1	D	41	ASN	2.2
1	L	105	ARG	2.2
1	C	29	LYS	2.2
1	I	122	VAL	2.2
1	K	65	ASN	2.2
1	C	6	THR	2.2
1	D	6	THR	2.2
1	C	122	VAL	2.2
1	I	129	ALA	2.2
1	C	165	GLY	2.2
1	K	83	GLY	2.2
1	L	110	SER	2.2
1	K	143	ASN	2.2
1	B	52	ASP	2.2
1	D	106	THR	2.2
1	L	168	ASP	2.2
1	L	138	GLN	2.2
1	A	145	LYS	2.1
1	K	195	GLU	2.1
1	L	27	HIS	2.1
1	J	89	THR	2.1
1	B	31	GLY	2.1
1	A	176	CYS	2.1
1	D	146	GLU	2.1
1	D	153	GLU	2.1
1	L	127	PRO	2.1
1	I	68	THR	2.1
1	L	141	THR	2.1

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Mol	Chain	Res	Type	RSRZ
1	L	14	ASN	2.1
1	A	38	GLY	2.1
1	D	31	GLY	2.1
1	L	98	ASP	2.1
1	I	192	PRO	2.1
1	C	136	ALA	2.1
1	L	129	ALA	2.1
1	I	43	THR	2.1
1	L	33	SER	2.1
1	K	54	LYS	2.1
1	B	91	LYS	2.1
1	D	29	LYS	2.1
1	I	97	LYS	2.1
1	I	177	GLN	2.1
1	L	143	ASN	2.1
1	J	16	ASP	2.1
1	D	7	VAL	2.1
1	K	37	VAL	2.1
1	L	123	HIS	2.1
1	B	145	LYS	2.0
1	J	87	LYS	2.0
1	C	53	GLY	2.0
1	I	160	GLY	2.0
1	C	12	ASP	2.0
1	D	126	ASP	2.0
1	I	130	PRO	2.0
1	C	112	ILE	2.0
1	J	90	ALA	2.0
1	B	50	THR	2.0
1	C	111	TYR	2.0
1	D	133	TYR	2.0
1	K	135	TYR	2.0
1	B	5	SER	2.0
1	D	143	ASN	2.0
1	I	168	ASP	2.0
1	J	153	GLU	2.0
1	K	73	ILE	2.0
1	D	83	GLY	2.0
1	I	42	CYS	2.0
1	L	99	GLY	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](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.