Full wwPDB X-ray Structure Validation Report (i)

Jan 23, 2021 – 03:13 PM EST

PDB ID	:	1Q6W
Title	:	X-Ray structure of Monoamine oxidase regulatory protein from Archaeoglobus fulgius
Authors	:	Fedorov, A.A.; Fedorov, E.V.; Thirumuruhan, R.; Almo, S.C.; Burley, S.K.; New York SGX Research Center for Structural Genomics (NYSGXRC)
Deposited on	:	2003-08-14
Resolution	:	2.81 Å(reported)

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

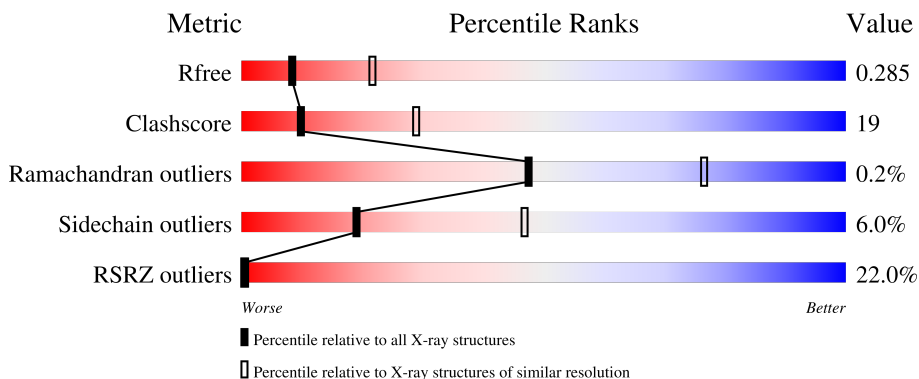|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.16
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.16

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 2.81 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	Percentile Ranks	Value
Rfree		0.285
Clashscore		19
Ramachandran outliers		0.2%
Sidechain outliers		6.0%
RSRZ outliers		22.0%

Worse   *Better*

■ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3617 (2.84-2.80)
Clashscore	141614	4060 (2.84-2.80)
Ramachandran outliers	138981	3978 (2.84-2.80)
Sidechain outliers	138945	3980 (2.84-2.80)
RSRZ outliers	127900	3552 (2.84-2.80)

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	161	2% / 60% 32% • 6%
1	B	161	% / 59% 32% • 6%
1	C	161	% / 61% 30% • 5%
1	D	161	% / 63% 29% • 6%
1	E	161	% / 63% 29% • 6%

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Full wwPDB X-ray Structure Validation Report

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Mol	Chain	Length	Quality of chain
1	F	161	% 60% 31% 6%
1	G	161	40% 57% 33% 7%
1	H	161	48% 53% 37% 7%
1	I	161	14% 52% 37% 7%
1	J	161	19% 55% 35% 7%
1	K	161	60% 57% 34% 7%
1	L	161	57% 60% 30% 7%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 14224 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 monoamine oxidase regulatory protein, putative.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	151	Total	C	N	O	Se		0	0	0
			1192	779	190	221	2				
1	B	151	Total	C	N	O	Se		0	0	0
			1192	779	190	221	2				
1	C	153	Total	C	N	O	S	Se	0	0	0
			1208	790	192	223	1	2			
1	D	151	Total	C	N	O	Se		0	0	0
			1192	779	190	221	2				
1	E	151	Total	C	N	O	Se		0	0	0
			1192	779	190	221	2				
1	F	151	Total	C	N	O	Se		0	0	0
			1192	779	190	221	2				
1	G	149	Total	C	N	O	Se		0	0	0
			1176	770	185	219	2				
1	H	149	Total	C	N	O	Se		0	0	0
			1176	770	185	219	2				
1	I	149	Total	C	N	O	Se		0	0	0
			1176	770	185	219	2				
1	J	149	Total	C	N	O	Se		0	0	0
			1176	770	185	219	2				
1	K	149	Total	C	N	O	Se		0	0	0
			1176	770	185	219	2				
1	L	149	Total	C	N	O	Se		0	0	0
			1176	770	185	219	2				

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	69	MSE	MET	modified residue	UNP O28346
A	78	MSE	MET	modified residue	UNP O28346
B	69	MSE	MET	modified residue	UNP O28346
B	78	MSE	MET	modified residue	UNP O28346
C	69	MSE	MET	modified residue	UNP O28346

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Chain	Residue	Modelled	Actual	Comment	Reference
C	78	MSE	MET	modified residue	UNP O28346
D	69	MSE	MET	modified residue	UNP O28346
D	78	MSE	MET	modified residue	UNP O28346
E	69	MSE	MET	modified residue	UNP O28346
E	78	MSE	MET	modified residue	UNP O28346
F	69	MSE	MET	modified residue	UNP O28346
F	78	MSE	MET	modified residue	UNP O28346
G	69	MSE	MET	modified residue	UNP O28346
G	78	MSE	MET	modified residue	UNP O28346
H	69	MSE	MET	modified residue	UNP O28346
H	78	MSE	MET	modified residue	UNP O28346
I	69	MSE	MET	modified residue	UNP O28346
I	78	MSE	MET	modified residue	UNP O28346
J	69	MSE	MET	modified residue	UNP O28346
J	78	MSE	MET	modified residue	UNP O28346
K	69	MSE	MET	modified residue	UNP O28346
K	78	MSE	MET	modified residue	UNP O28346
L	69	MSE	MET	modified residue	UNP O28346
L	78	MSE	MET	modified residue	UNP O28346

3 Residue-property plots ⓘ

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: monoamine oxidase regulatory protein, putative

Chain A:

- Molecule 1: monoamine oxidase regulatory protein, putative
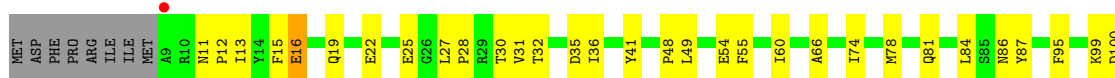
Chain B:

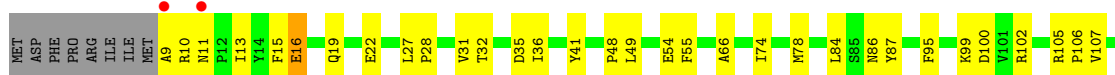- Molecule 1: monoamine oxidase regulatory protein, putative

Chain C:

- Molecule 1: monoamine oxidase regulatory protein, putative
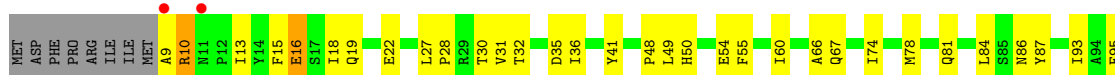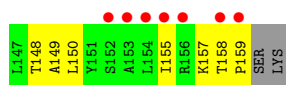
Chain D:

V101 R102 R105 P106 V107 T112 I113 S116 E121 E127 K128 S129 T133 E137 Q141 L145 T148 A149 L154 I155 R156 K157 T158 P159 SER LYS

• Molecule 1: monoamine oxidase regulatory protein, putative

Chain E:

%

63% 29% 6%

MET ASP PHE PRO ARG ILE ILE MET A9 R10 N11 P12 I13 Y14 F15 E16 Q19 E22 L27 P28 V31 T32 D35 I36 Y41 P48 L49 E54 F55 A66 I74 M78 L84 S85 N86 Y87 F95 K99 D100 V101 R102 R105 P106 V107

T112 I113 E121 E127 K128 S129 T133 Y134 K135 L136 E137 N140 Q141 E144 L145 T148 A149 L150 L154 I155 R156 K157 T158 P159 SER LYS

• Molecule 1: monoamine oxidase regulatory protein, putative

Chain F:

%

60% 31% 6%

MET ASP PHE PRO ARG ILE ILE MET A9 R10 N11 P12 I13 Y14 F15 E16 S17 I18 Q19 E22 L27 P28 R29 T30 V31 T32 D35 I36 Y41 P48 L49 H50 E54 F55 I60 A66 Q67 I74 M78 Q81 L84 S85 N86 Y87 I93 A94 F95

K99 D100 V101 R102 R105 P106 V107 T112 I113 E121 K122 E127 K128 S129 T133 Y134 K135 L136 E137 Q141 L145 T148 A149 L150 L154 I155 R156 K157 T158 P159 SER LYS
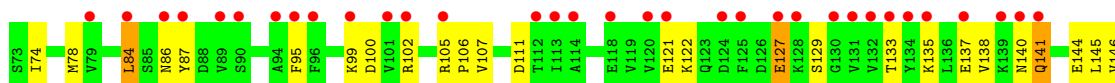
• Molecule 1: monoamine oxidase regulatory protein, putative

Chain G:

40%

57% 33% 7%

MET ASP PHE PRO ARG ILE ILE MET ALA ARG N11 P12 I13 Y14 F15 E16 S17 I18 Q19 I20 G21 E22 K23 I24 E25 G26 L27 P28 R29 T30 V31 T32 D35 I36 W37 Y41 A44 D45 P48 L49 H50 E54 F55 A56 T59 I60 F61 I65 A66 Q67 G68 L72

S73 I74 M78 V79 L84 S85 N86 Y87 D88 V89 S90 A94 F95 F96 K99 D100 V101 R102 R105 P106 V107 D111 T112 I113 A114 E118 V119 V120 E121 K122 Q123 D124 F125 D126 E127 K128 S129 G130 V131 V132 T133 Y134 K135 L136 E137 V138 K139 N140 Q141 E144 L145 V146

L147 T148 A149 L150 Y151 S152 A153 L154 I155 R156 K157 T158 P159 SER LYS

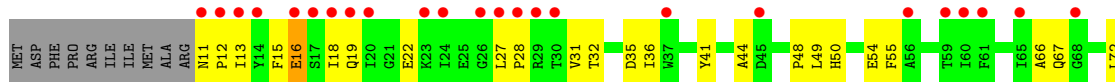• Molecule 1: monoamine oxidase regulatory protein, putative

Chain H:

48%

53% 37% 7%

MET ASP PHE PRO ARG ILE ILE MET ALA ARG N11 P12 I13 Y14 F15 E16 S17 I18 Q19 I20 G21 E22 K23 I24 E25 G26 L27 P28 V31 T32 E33 T34 D35 I36 W37 T38 F39 A40 Y41 L42 T43 A44 D45 F46 F47 P48 L49 H50 T51 D52 V53 E54 F55 A56 K57 F61 G62 K63

P64 I65 A66 Q67 G68 M69 I74 M78 Q81 L84 S85 N86 Y87 V92 I93 A94 F95 F96 G97 I98 K99 D100 V101 R102 F103 L104 R105 P106 V107 F108 T112 I113 A114 A115 S116 A117 E118 V119 V120 E121 K122 Q123 D124 F125 D126 E127 K128 S129 G130 V131 V132 T133 Y134 K135
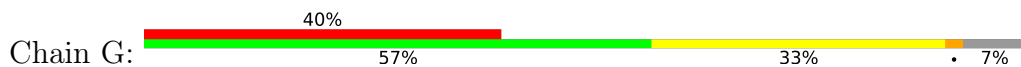
• Molecule 1: monoamine oxidase regulatory protein, putative
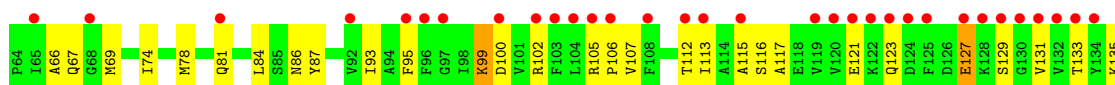
Chain I:

• Molecule 1: monoamine oxidase regulatory protein, putative

Chain J:

• Molecule 1: monoamine oxidase regulatory protein, putative
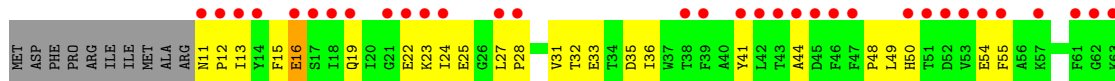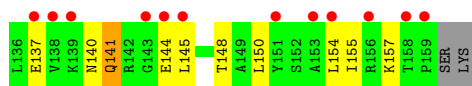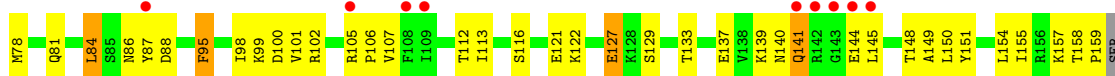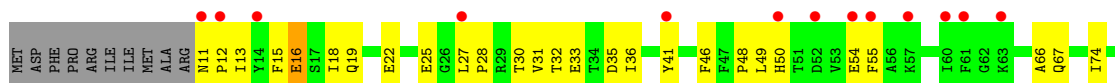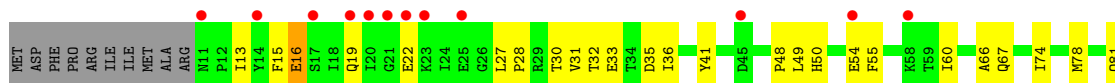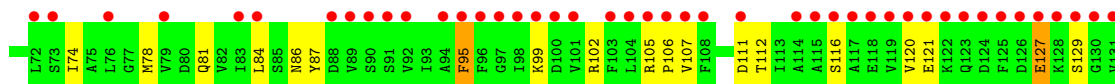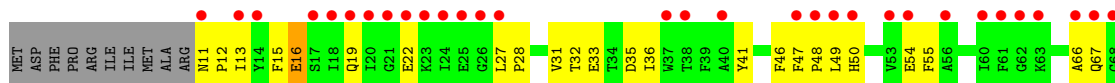
Chain K:

• Molecule 1: monoamine oxidase regulatory protein, putative

Chain L:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	127.74Å　136.50Å　127.43Å 90.00°　　90.00°　　90.00°	Depositor
Resolution (Å)	20.00　–　2.81 25.05　–　2.81	Depositor EDS
% Data completeness (in resolution range)	95.8 (20.00-2.81) 96.7 (25.05-2.81)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.84 (at 2.80Å)	Xtriage
Refinement program	CNS 1.0	Depositor
R, R_{free}	0.242　,　0.276 0.257　,　0.285	Depositor DCC
R_{free} test set	2763 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å^2)	56.7	Xtriage
Anisotropy	0.322	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 78.6	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.005 for l,-k,h	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	14224	wwPDB-VP
Average B, all atoms (Å^2)	96.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.79% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 ⓘ

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	0.47	0/1214	0.65	0/1643
1	B	0.48	0/1214	0.67	0/1643
1	C	0.46	0/1230	0.65	0/1664
1	D	0.43	0/1214	0.65	0/1643
1	E	0.43	0/1214	0.64	0/1643
1	F	0.46	0/1214	0.66	0/1643
1	G	0.31	0/1198	0.61	0/1622
1	H	0.31	0/1198	0.60	0/1622
1	I	0.35	0/1198	0.62	0/1622
1	J	0.31	0/1198	0.61	0/1622
1	K	0.29	0/1198	0.60	0/1622
1	L	0.30	0/1198	0.60	0/1622
All	All	0.39	0/14488	0.63	0/19611

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	1192	0	1218	46	1
1	B	1192	0	1218	51	0
1	C	1208	0	1238	43	1
1	D	1192	0	1218	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	1192	0	1218	42	0
1	F	1192	0	1218	47	0
1	G	1176	0	1200	52	0
1	H	1176	0	1200	59	0
1	I	1176	0	1200	60	0
1	J	1176	0	1200	55	0
1	K	1176	0	1200	56	0
1	L	1176	0	1200	46	0
All	All	14224	0	14528	552	1

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 19.

All (552) 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:H:41:TYR:HB3	1:K:41:TYR:HB3	1.25	1.11
1:D:41:TYR:HB3	1:F:41:TYR:HB3	1.37	1.06
1:A:74:ILE:HG22	1:A:78:MSE:HE2	1.39	1.05
1:G:99:LYS:HB3	1:G:150:LEU:HB3	1.36	1.04
1:E:74:ILE:HG22	1:E:78:MSE:HE2	1.40	1.03
1:D:74:ILE:HG22	1:D:78:MSE:HE2	1.40	1.02
1:L:74:ILE:HG22	1:L:78:MSE:HE2	1.42	1.01
1:I:74:ILE:HG22	1:I:78:MSE:HE2	1.42	1.01
1:J:41:TYR:HB3	1:L:41:TYR:HB3	1.41	1.01
1:G:41:TYR:HB3	1:I:41:TYR:HB3	1.39	1.01
1:B:74:ILE:HG22	1:B:78:MSE:HE2	1.41	1.01
1:F:74:ILE:HG22	1:F:78:MSE:HE2	1.41	1.00
1:C:74:ILE:HG22	1:C:78:MSE:HE2	1.41	0.99
1:H:74:ILE:HG22	1:H:78:MSE:HE2	1.41	0.99
1:A:86:ASN:HD21	1:F:86:ASN:HD21	1.07	0.99
1:B:141:GLN:NE2	1:B:141:GLN:H	1.62	0.98
1:K:74:ILE:HG22	1:K:78:MSE:HE2	1.43	0.98
1:I:86:ASN:HD21	1:K:86:ASN:HD21	1.05	0.97
1:J:74:ILE:HG22	1:J:78:MSE:HE2	1.42	0.97
1:A:141:GLN:NE2	1:A:141:GLN:H	1.63	0.97
1:B:41:TYR:HB3	1:E:41:TYR:HB3	1.43	0.96
1:G:74:ILE:HG22	1:G:78:MSE:HE2	1.42	0.96
1:C:141:GLN:H	1:C:141:GLN:NE2	1.63	0.96
1:H:86:ASN:HD21	1:J:86:ASN:HD21	1.08	0.96
1:F:141:GLN:H	1:F:141:GLN:NE2	1.62	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:141:GLN:H	1:L:141:GLN:NE2	1.65	0.94
1:D:141:GLN:NE2	1:D:141:GLN:H	1.65	0.94
1:A:41:TYR:HB3	1:C:41:TYR:HB3	1.46	0.94
1:E:141:GLN:H	1:E:141:GLN:HE21	0.94	0.94
1:K:141:GLN:NE2	1:K:141:GLN:H	1.64	0.93
1:H:141:GLN:NE2	1:H:141:GLN:H	1.65	0.93
1:G:141:GLN:H	1:G:141:GLN:NE2	1.65	0.92
1:E:10:ARG:HG3	1:E:11:ASN:H	1.33	0.92
1:K:141:GLN:HE21	1:K:141:GLN:H	0.93	0.92
1:E:141:GLN:H	1:E:141:GLN:NE2	1.66	0.92
1:I:141:GLN:HE21	1:I:141:GLN:H	0.96	0.91
1:J:141:GLN:H	1:J:141:GLN:NE2	1.66	0.91
1:I:141:GLN:NE2	1:I:141:GLN:H	1.67	0.91
1:L:141:GLN:H	1:L:141:GLN:HE21	0.94	0.91
1:J:141:GLN:H	1:J:141:GLN:HE21	0.96	0.91
1:G:102:ARG:HB2	1:G:148:THR:HG22	1.52	0.90
1:D:141:GLN:HE21	1:D:141:GLN:H	0.93	0.89
1:H:141:GLN:HE21	1:H:141:GLN:H	0.93	0.88
1:G:141:GLN:H	1:G:141:GLN:HE21	0.94	0.88
1:B:141:GLN:HE21	1:B:141:GLN:H	0.88	0.88
1:A:141:GLN:HE21	1:A:141:GLN:N	1.73	0.87
1:F:105:ARG:HG3	1:F:106:PRO:HD2	1.56	0.87
1:C:141:GLN:H	1:C:141:GLN:HE21	0.91	0.87
1:B:141:GLN:HE21	1:B:141:GLN:N	1.70	0.86
1:L:99:LYS:HB3	1:L:150:LEU:HB3	1.57	0.86
1:A:105:ARG:HG3	1:A:106:PRO:HD2	1.58	0.86
1:A:141:GLN:HE21	1:A:141:GLN:H	0.91	0.86
1:C:141:GLN:HE21	1:C:141:GLN:N	1.73	0.85
1:D:141:GLN:HE21	1:D:141:GLN:N	1.75	0.85
1:E:105:ARG:HG3	1:E:106:PRO:HD2	1.58	0.85
1:F:141:GLN:HE21	1:F:141:GLN:H	0.91	0.85
1:H:105:ARG:HG3	1:H:106:PRO:HD2	1.59	0.85
1:C:105:ARG:HG3	1:C:106:PRO:HD2	1.59	0.85
1:F:141:GLN:HE21	1:F:141:GLN:N	1.73	0.84
1:K:105:ARG:HG3	1:K:106:PRO:HD2	1.58	0.84
1:K:141:GLN:HE21	1:K:141:GLN:N	1.75	0.84
1:I:105:ARG:HG3	1:I:106:PRO:HD2	1.60	0.84
1:B:86:ASN:HD21	1:D:86:ASN:HD21	1.26	0.84
1:J:105:ARG:HG3	1:J:106:PRO:HD2	1.61	0.83
1:J:141:GLN:HE21	1:J:141:GLN:N	1.77	0.83
1:L:105:ARG:HG3	1:L:106:PRO:HD2	1.59	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:141:GLN:HE21	1:G:141:GLN:N	1.76	0.82
1:D:105:ARG:HG3	1:D:106:PRO:HD2	1.60	0.82
1:L:141:GLN:HE21	1:L:141:GLN:N	1.76	0.82
1:G:86:ASN:HD21	1:L:86:ASN:HD21	1.28	0.81
1:G:105:ARG:HG3	1:G:106:PRO:HD2	1.60	0.81
1:H:141:GLN:HE21	1:H:141:GLN:N	1.75	0.79
1:B:105:ARG:HG3	1:B:106:PRO:HD2	1.63	0.79
1:I:11:ASN:HD22	1:I:88:ASP:HB2	1.48	0.79
1:E:141:GLN:N	1:E:141:GLN:HE21	1.76	0.79
1:I:141:GLN:HE21	1:I:141:GLN:N	1.77	0.78
1:C:36:ILE:HD12	1:C:66:ALA:HA	1.68	0.76
1:K:36:ILE:HD12	1:K:66:ALA:HA	1.70	0.73
1:L:36:ILE:HD12	1:L:66:ALA:HA	1.70	0.73
1:J:129:SER:HA	1:J:157:LYS:HG3	1.71	0.73
1:H:36:ILE:HD12	1:H:66:ALA:HA	1.70	0.73
1:H:123:GLN:HG3	1:H:131:VAL:CG2	2.18	0.73
1:L:99:LYS:HE3	1:L:99:LYS:HA	1.71	0.73
1:K:112:THR:H	1:K:141:GLN:NE2	1.87	0.73
1:C:11:ASN:HB3	1:C:12:PRO:HD2	1.71	0.72
1:G:36:ILE:HD12	1:G:66:ALA:HA	1.70	0.72
1:I:36:ILE:HD12	1:I:66:ALA:HA	1.70	0.72
1:A:36:ILE:HD12	1:A:66:ALA:HA	1.72	0.72
1:A:102:ARG:HB2	1:A:148:THR:HG22	1.70	0.71
1:C:86:ASN:HD21	1:E:86:ASN:HD21	1.37	0.71
1:G:102:ARG:HB2	1:G:148:THR:CG2	2.20	0.70
1:E:36:ILE:HD12	1:E:66:ALA:HA	1.71	0.70
1:D:36:ILE:HD12	1:D:66:ALA:HA	1.74	0.70
1:G:129:SER:HA	1:G:157:LYS:HG3	1.74	0.70
1:J:36:ILE:HD12	1:J:66:ALA:HA	1.72	0.70
1:F:36:ILE:HD12	1:F:66:ALA:HA	1.72	0.70
1:I:112:THR:H	1:I:141:GLN:NE2	1.90	0.69
1:C:99:LYS:O	1:D:99:LYS:O	2.12	0.68
1:H:102:ARG:HB2	1:H:148:THR:HG22	1.75	0.68
1:H:11:ASN:N	1:H:12:PRO:HD2	2.08	0.68
1:F:129:SER:HA	1:F:157:LYS:HG3	1.76	0.68
1:B:36:ILE:HD12	1:B:66:ALA:HA	1.74	0.67
1:C:31:VAL:HG11	1:C:107:VAL:HG12	1.77	0.67
1:I:95:PHE:HZ	1:I:98:ILE:HD11	1.59	0.67
1:A:99:LYS:O	1:B:99:LYS:O	2.13	0.66
1:E:99:LYS:O	1:F:99:LYS:O	2.14	0.66
1:A:121:GLU:HB3	1:A:133:THR:HB	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:15:PHE:HA	1:J:155:ILE:HD11	1.78	0.66
1:C:11:ASN:CB	1:C:12:PRO:HD2	2.23	0.66
1:H:32:THR:HG23	1:H:35:ASP:H	1.61	0.65
1:H:112:THR:H	1:H:141:GLN:NE2	1.94	0.65
1:K:121:GLU:HB3	1:K:133:THR:HB	1.77	0.65
1:J:32:THR:HG23	1:J:35:ASP:H	1.62	0.65
1:K:32:THR:HG23	1:K:35:ASP:H	1.62	0.65
1:B:15:PHE:HA	1:B:155:ILE:HD11	1.79	0.65
1:J:112:THR:H	1:J:141:GLN:NE2	1.96	0.64
1:B:32:THR:HG23	1:B:35:ASP:H	1.60	0.64
1:E:31:VAL:HG11	1:E:107:VAL:HG12	1.78	0.64
1:E:32:THR:HG23	1:E:35:ASP:H	1.62	0.64
1:I:99:LYS:O	1:J:99:LYS:O	2.14	0.64
1:B:93:ILE:HD12	1:B:154:LEU:CD2	2.27	0.64
1:D:121:GLU:HB3	1:D:133:THR:HB	1.78	0.64
1:D:32:THR:HG23	1:D:35:ASP:H	1.62	0.64
1:I:81:GLN:HG3	1:K:81:GLN:HE21	1.62	0.64
1:C:32:THR:HG23	1:C:35:ASP:H	1.61	0.64
1:H:15:PHE:HA	1:H:155:ILE:HD11	1.80	0.63
1:F:121:GLU:HB3	1:F:133:THR:HB	1.80	0.63
1:G:32:THR:HG23	1:G:35:ASP:H	1.63	0.63
1:A:15:PHE:HA	1:A:155:ILE:HD11	1.81	0.63
1:I:81:GLN:HG3	1:K:81:GLN:NE2	2.12	0.63
1:I:81:GLN:NE2	1:K:81:GLN:HG3	2.12	0.63
1:C:102:ARG:HB2	1:C:148:THR:HG22	1.81	0.63
1:D:31:VAL:HG11	1:D:107:VAL:HG12	1.81	0.62
1:F:15:PHE:HA	1:F:155:ILE:HD11	1.81	0.62
1:L:32:THR:HG23	1:L:35:ASP:H	1.62	0.62
1:F:31:VAL:HG11	1:F:107:VAL:HG12	1.81	0.62
1:A:32:THR:HG23	1:A:35:ASP:H	1.64	0.62
1:F:32:THR:HG23	1:F:35:ASP:H	1.63	0.62
1:I:32:THR:HG23	1:I:35:ASP:H	1.64	0.62
1:I:102:ARG:HB2	1:I:148:THR:HG22	1.81	0.61
1:G:44:ALA:HB2	1:I:46:PHE:CE1	2.34	0.61
1:J:102:ARG:HB2	1:J:148:THR:HG22	1.82	0.61
1:J:31:VAL:HG11	1:J:107:VAL:HG12	1.82	0.61
1:B:102:ARG:HB2	1:B:148:THR:HG22	1.83	0.61
1:F:93:ILE:HD12	1:F:154:LEU:CD2	2.31	0.61
1:G:99:LYS:HG2	1:G:150:LEU:HD23	1.81	0.61
1:I:27:LEU:HD22	1:I:28:PRO:HD2	1.83	0.60
1:A:129:SER:HA	1:A:157:LYS:HG3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:10:ARG:HG3	1:E:11:ASN:N	2.10	0.60
1:A:158:THR:CG2	1:A:159:PRO:HD2	2.31	0.60
1:J:121:GLU:HB3	1:J:133:THR:HB	1.82	0.60
1:H:123:GLN:HG3	1:H:131:VAL:HG23	1.82	0.60
1:H:102:ARG:HB2	1:H:148:THR:CG2	2.31	0.60
1:L:102:ARG:HB2	1:L:148:THR:HG22	1.84	0.60
1:B:31:VAL:HG11	1:B:107:VAL:HG12	1.84	0.59
1:I:31:VAL:HG11	1:I:107:VAL:HG12	1.84	0.59
1:F:102:ARG:HB2	1:F:148:THR:HG22	1.83	0.59
1:K:31:VAL:HG11	1:K:107:VAL:HG12	1.84	0.59
1:F:27:LEU:HD22	1:F:28:PRO:HD2	1.84	0.59
1:I:121:GLU:HB3	1:I:133:THR:HB	1.85	0.59
1:I:95:PHE:CZ	1:I:98:ILE:HD11	2.38	0.58
1:D:102:ARG:HB2	1:D:148:THR:HG22	1.83	0.58
1:H:27:LEU:HD22	1:H:28:PRO:HD2	1.84	0.58
1:K:15:PHE:HA	1:K:155:ILE:HD11	1.85	0.58
1:I:100:ASP:O	1:I:149:ALA:HA	2.03	0.58
1:I:129:SER:HA	1:I:157:LYS:HG3	1.85	0.58
1:L:121:GLU:HB3	1:L:133:THR:HB	1.85	0.58
1:I:81:GLN:HE21	1:K:81:GLN:HG3	1.69	0.58
1:L:27:LEU:HD22	1:L:28:PRO:HD2	1.85	0.58
1:K:102:ARG:HB2	1:K:148:THR:HG22	1.86	0.58
1:G:11:ASN:N	1:G:12:PRO:HD2	2.19	0.58
1:G:27:LEU:HD22	1:G:28:PRO:HD2	1.85	0.58
1:B:27:LEU:HD22	1:B:28:PRO:HD2	1.85	0.58
1:J:27:LEU:HD22	1:J:28:PRO:HD2	1.85	0.58
1:C:100:ASP:O	1:C:149:ALA:HA	2.04	0.57
1:A:81:GLN:HG3	1:F:81:GLN:HE21	1.69	0.57
1:B:121:GLU:HB3	1:B:133:THR:HB	1.87	0.57
1:D:27:LEU:HD22	1:D:28:PRO:HD2	1.85	0.57
1:G:121:GLU:HB3	1:G:133:THR:HB	1.87	0.57
1:E:27:LEU:HD22	1:E:28:PRO:HD2	1.87	0.57
1:A:31:VAL:HG11	1:A:107:VAL:HG12	1.85	0.57
1:A:81:GLN:NE2	1:F:81:GLN:HG3	2.20	0.56
1:I:15:PHE:HA	1:I:155:ILE:HD11	1.86	0.56
1:H:31:VAL:HG11	1:H:107:VAL:HG12	1.87	0.56
1:A:81:GLN:HG3	1:F:81:GLN:NE2	2.20	0.56
1:D:127:GLU:H	1:D:127:GLU:CD	2.09	0.56
1:I:127:GLU:CD	1:I:127:GLU:H	2.09	0.56
1:A:102:ARG:HB2	1:A:148:THR:CG2	2.35	0.56
1:G:100:ASP:O	1:G:149:ALA:HA	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:27:LEU:HD22	1:K:28:PRO:HD2	1.87	0.56
1:C:127:GLU:H	1:C:127:GLU:CD	2.10	0.56
1:F:127:GLU:CD	1:F:127:GLU:H	2.09	0.56
1:G:127:GLU:H	1:G:127:GLU:CD	2.09	0.56
1:J:116:SER:O	1:J:136:LEU:HD12	2.06	0.56
1:E:127:GLU:CD	1:E:127:GLU:H	2.10	0.56
1:A:27:LEU:HD22	1:A:28:PRO:HD2	1.87	0.55
1:B:15:PHE:HB3	1:B:157:LYS:HG2	1.87	0.55
1:D:100:ASP:O	1:D:149:ALA:HA	2.06	0.55
1:J:15:PHE:HB3	1:J:157:LYS:HG2	1.88	0.55
1:L:127:GLU:CD	1:L:127:GLU:H	2.09	0.55
1:L:96:PHE:CE1	1:L:154:LEU:HD12	2.41	0.55
1:D:15:PHE:HA	1:D:155:ILE:HD11	1.88	0.55
1:E:102:ARG:HB2	1:E:148:THR:HG22	1.89	0.55
1:H:129:SER:HA	1:H:157:LYS:HG3	1.88	0.55
1:J:127:GLU:H	1:J:127:GLU:CD	2.09	0.55
1:H:127:GLU:CD	1:H:127:GLU:H	2.10	0.55
1:K:139:LYS:HA	1:K:144:GLU:O	2.06	0.55
1:K:11:ASN:N	1:K:12:PRO:HD2	2.21	0.55
1:H:86:ASN:ND2	1:J:86:ASN:HD21	1.92	0.55
1:B:127:GLU:H	1:B:127:GLU:CD	2.10	0.55
1:G:99:LYS:N	1:G:150:LEU:O	2.39	0.55
1:C:112:THR:H	1:C:141:GLN:NE2	2.05	0.54
1:C:27:LEU:HD22	1:C:28:PRO:HD2	1.88	0.54
1:E:36:ILE:CD1	1:E:66:ALA:HA	2.37	0.54
1:I:16:GLU:OE1	1:I:16:GLU:N	2.40	0.54
1:C:36:ILE:CD1	1:C:66:ALA:HA	2.35	0.54
1:E:16:GLU:OE1	1:E:16:GLU:N	2.41	0.54
1:K:129:SER:HA	1:K:157:LYS:HG3	1.89	0.54
1:E:121:GLU:HB3	1:E:133:THR:HB	1.90	0.54
1:K:127:GLU:CD	1:K:127:GLU:H	2.11	0.54
1:B:135:LYS:HA	1:B:150:LEU:HD12	1.90	0.53
1:I:98:ILE:HD13	1:I:151:TYR:CB	2.39	0.53
1:J:137:GLU:HG2	1:J:145:LEU:HD11	1.89	0.53
1:H:16:GLU:N	1:H:16:GLU:OE1	2.41	0.53
1:A:127:GLU:H	1:A:127:GLU:CD	2.11	0.53
1:G:36:ILE:CD1	1:G:66:ALA:HA	2.39	0.53
1:A:81:GLN:HE21	1:F:81:GLN:HG3	1.73	0.53
1:H:86:ASN:HD21	1:J:86:ASN:ND2	1.92	0.53
1:F:16:GLU:OE1	1:F:16:GLU:N	2.40	0.53
1:I:98:ILE:HD13	1:I:151:TYR:HB2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:123:GLN:HG3	1:H:131:VAL:HG22	1.89	0.53
1:G:15:PHE:HA	1:G:155:ILE:HD11	1.91	0.53
1:G:105:ARG:HB3	1:G:146:VAL:HG12	1.90	0.53
1:J:16:GLU:N	1:J:16:GLU:OE1	2.42	0.53
1:C:31:VAL:HG11	1:C:107:VAL:CG1	2.38	0.52
1:I:137:GLU:HG2	1:I:145:LEU:HD11	1.90	0.52
1:B:81:GLN:HG3	1:D:81:GLN:NE2	2.24	0.52
1:L:16:GLU:N	1:L:16:GLU:OE1	2.42	0.52
1:A:158:THR:HG23	1:A:159:PRO:HD2	1.91	0.52
1:B:81:GLN:NE2	1:D:81:GLN:HG3	2.24	0.52
1:A:32:THR:HG22	1:A:35:ASP:OD1	2.09	0.52
1:E:112:THR:H	1:E:141:GLN:NE2	2.07	0.52
1:D:16:GLU:N	1:D:16:GLU:OE1	2.42	0.52
1:K:99:LYS:HB3	1:K:150:LEU:HB3	1.91	0.52
1:C:10:ARG:HB3	1:C:10:ARG:HH11	1.74	0.52
1:I:102:ARG:HB2	1:I:148:THR:CG2	2.40	0.52
1:B:16:GLU:OE1	1:B:16:GLU:N	2.42	0.52
1:F:141:GLN:N	1:F:141:GLN:NE2	2.45	0.52
1:G:158:THR:CG2	1:G:159:PRO:HD2	2.40	0.52
1:G:16:GLU:N	1:G:16:GLU:OE1	2.43	0.52
1:K:36:ILE:CD1	1:K:66:ALA:HA	2.39	0.52
1:A:36:ILE:CD1	1:A:66:ALA:HA	2.40	0.51
1:I:36:ILE:CD1	1:I:66:ALA:HA	2.40	0.51
1:L:141:GLN:NE2	1:L:141:GLN:N	2.47	0.51
1:C:129:SER:OG	1:C:154:LEU:HD21	2.10	0.51
1:F:48:PRO:HB2	1:F:55:PHE:CG	2.46	0.51
1:H:36:ILE:CD1	1:H:66:ALA:HA	2.39	0.51
1:K:141:GLN:NE2	1:K:141:GLN:N	2.46	0.51
1:C:32:THR:HG22	1:C:35:ASP:OD1	2.10	0.51
1:E:31:VAL:HG11	1:E:107:VAL:CG1	2.41	0.51
1:L:129:SER:HA	1:L:157:LYS:HG3	1.92	0.51
1:C:10:ARG:HB3	1:C:10:ARG:NH1	2.26	0.51
1:J:33:GLU:CD	1:K:32:THR:OG1	2.49	0.51
1:D:112:THR:H	1:D:141:GLN:NE2	2.08	0.51
1:H:44:ALA:HB2	1:K:46:PHE:CE1	2.46	0.51
1:J:48:PRO:HB2	1:J:55:PHE:CG	2.45	0.51
1:H:11:ASN:N	1:H:12:PRO:CD	2.74	0.51
1:B:14:TYR:CE2	1:B:159:PRO:HD3	2.45	0.51
1:B:36:ILE:CD1	1:B:66:ALA:HA	2.41	0.51
1:C:16:GLU:N	1:C:16:GLU:OE1	2.44	0.51
1:D:32:THR:HG22	1:D:35:ASP:OD1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:81:GLN:HE21	1:D:81:GLN:HG3	1.76	0.51
1:K:11:ASN:N	1:K:12:PRO:CD	2.74	0.51
1:K:137:GLU:HG2	1:K:145:LEU:HD11	1.93	0.51
1:A:16:GLU:N	1:A:16:GLU:OE1	2.43	0.50
1:B:81:GLN:HG3	1:D:81:GLN:HE21	1.76	0.50
1:H:100:ASP:OD1	1:H:150:LEU:HB2	2.11	0.50
1:G:32:THR:HG22	1:G:35:ASP:OD1	2.11	0.50
1:F:31:VAL:HG11	1:F:107:VAL:CG1	2.41	0.50
1:L:48:PRO:HB2	1:L:55:PHE:CG	2.46	0.50
1:I:11:ASN:N	1:I:12:PRO:HD2	2.27	0.50
1:L:31:VAL:HG11	1:L:107:VAL:HG12	1.93	0.50
1:D:141:GLN:NE2	1:D:141:GLN:N	2.47	0.50
1:D:36:ILE:CD1	1:D:66:ALA:HA	2.40	0.50
1:G:48:PRO:HB2	1:G:55:PHE:CG	2.47	0.50
1:J:119:VAL:HG22	1:J:134:TYR:CE2	2.46	0.50
1:H:48:PRO:HB2	1:H:55:PHE:CG	2.46	0.50
1:K:16:GLU:OE1	1:K:16:GLU:N	2.41	0.50
1:L:135:LYS:HA	1:L:150:LEU:HD12	1.93	0.49
1:L:102:ARG:HB2	1:L:148:THR:CG2	2.42	0.49
1:E:48:PRO:HB2	1:E:55:PHE:CG	2.46	0.49
1:J:139:LYS:HA	1:J:144:GLU:O	2.12	0.49
1:A:93:ILE:HD12	1:A:154:LEU:CD2	2.42	0.49
1:C:48:PRO:HB2	1:C:55:PHE:CG	2.47	0.49
1:K:48:PRO:HB2	1:K:55:PHE:CG	2.47	0.49
1:E:78:MSE:HE1	1:E:113:ILE:HG13	1.92	0.49
1:F:137:GLU:HG2	1:F:145:LEU:HD11	1.93	0.49
1:I:48:PRO:HB2	1:I:55:PHE:CG	2.47	0.49
1:H:81:GLN:HG3	1:J:81:GLN:NE2	2.28	0.49
1:A:10:ARG:HH21	1:A:86:ASN:ND2	2.10	0.49
1:F:10:ARG:HH11	1:F:10:ARG:HA	1.78	0.49
1:J:135:LYS:HA	1:J:150:LEU:HD12	1.94	0.49
1:H:25:GLU:OE1	1:H:116:SER:HB3	2.13	0.49
1:A:31:VAL:HG11	1:A:107:VAL:CG1	2.41	0.49
1:H:81:GLN:NE2	1:J:81:GLN:HG3	2.28	0.49
1:F:15:PHE:HB3	1:F:157:LYS:HG2	1.94	0.49
1:K:31:VAL:HG11	1:K:107:VAL:CG1	2.43	0.49
1:L:99:LYS:HG2	1:L:150:LEU:HD23	1.95	0.49
1:G:18:ILE:O	1:G:122:LYS:NZ	2.31	0.49
1:I:32:THR:HG22	1:I:35:ASP:OD1	2.12	0.49
1:L:36:ILE:CD1	1:L:66:ALA:HA	2.39	0.49
1:C:121:GLU:HB3	1:C:133:THR:HB	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:32:THR:HG22	1:H:35:ASP:OD1	2.13	0.48
1:B:78:MSE:HE1	1:B:113:ILE:HG13	1.93	0.48
1:D:31:VAL:HG11	1:D:107:VAL:CG1	2.43	0.48
1:E:10:ARG:HG3	1:E:10:ARG:HH11	1.77	0.48
1:E:32:THR:HG22	1:E:35:ASP:OD1	2.12	0.48
1:J:31:VAL:HG11	1:J:107:VAL:CG1	2.43	0.48
1:C:141:GLN:N	1:C:141:GLN:NE2	2.45	0.48
1:D:19:GLN:O	1:D:22:GLU:HG3	2.13	0.48
1:I:27:LEU:HD22	1:I:28:PRO:CD	2.43	0.48
1:F:13:ILE:HG23	1:F:87:TYR:CD1	2.48	0.48
1:I:30:THR:HA	1:I:112:THR:HA	1.96	0.48
1:K:32:THR:HG22	1:K:35:ASP:OD1	2.14	0.48
1:C:137:GLU:HG2	1:C:145:LEU:HD11	1.94	0.48
1:C:15:PHE:HA	1:C:155:ILE:HD11	1.96	0.48
1:G:19:GLN:O	1:G:22:GLU:HG3	2.12	0.48
1:I:31:VAL:HG11	1:I:107:VAL:CG1	2.44	0.48
1:J:141:GLN:NE2	1:J:141:GLN:N	2.48	0.48
1:J:19:GLN:O	1:J:22:GLU:HG3	2.13	0.48
1:K:19:GLN:O	1:K:22:GLU:HG3	2.13	0.48
1:L:19:GLN:O	1:L:22:GLU:HG3	2.14	0.48
1:B:112:THR:H	1:B:141:GLN:NE2	2.11	0.48
1:B:100:ASP:O	1:B:149:ALA:HA	2.13	0.48
1:J:36:ILE:CD1	1:J:66:ALA:HA	2.42	0.48
1:B:48:PRO:HB2	1:B:55:PHE:CG	2.49	0.47
1:K:32:THR:O	1:K:35:ASP:HB2	2.14	0.47
1:C:102:ARG:HB2	1:C:148:THR:CG2	2.44	0.47
1:F:36:ILE:CD1	1:F:66:ALA:HA	2.42	0.47
1:H:81:GLN:HG3	1:J:81:GLN:HE21	1.79	0.47
1:K:111:ASP:HB3	1:K:141:GLN:HE22	1.79	0.47
1:B:141:GLN:NE2	1:B:141:GLN:N	2.44	0.47
1:B:140:ASN:HD21	1:B:144:GLU:HB2	1.80	0.47
1:B:32:THR:HG22	1:B:35:ASP:OD1	2.14	0.47
1:J:33:GLU:OE1	1:K:32:THR:OG1	2.33	0.47
1:E:74:ILE:HG22	1:E:78:MSE:CE	2.29	0.47
1:L:112:THR:H	1:L:141:GLN:NE2	2.12	0.47
1:F:19:GLN:O	1:F:22:GLU:HG3	2.15	0.47
1:G:141:GLN:NE2	1:G:141:GLN:N	2.47	0.47
1:J:32:THR:HG22	1:J:35:ASP:OD1	2.15	0.47
1:K:129:SER:OG	1:K:154:LEU:HD21	2.15	0.47
1:D:129:SER:OG	1:D:154:LEU:HD21	2.15	0.47
1:E:129:SER:HA	1:E:157:LYS:HG3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:140:ASN:HD21	1:G:144:GLU:HB2	1.80	0.47
1:I:19:GLN:O	1:I:22:GLU:HG3	2.14	0.47
1:J:32:THR:O	1:J:35:ASP:HB2	2.15	0.47
1:L:14:TYR:CD2	1:L:158:THR:HA	2.50	0.47
1:L:32:THR:HG22	1:L:35:ASP:OD1	2.15	0.47
1:G:32:THR:O	1:G:35:ASP:HB2	2.15	0.47
1:H:141:GLN:NE2	1:H:141:GLN:N	2.47	0.47
1:A:112:THR:H	1:A:141:GLN:NE2	2.13	0.46
1:G:135:LYS:HA	1:G:150:LEU:HD12	1.97	0.46
1:H:27:LEU:HD22	1:H:28:PRO:CD	2.45	0.46
1:L:140:ASN:HD21	1:L:144:GLU:HB2	1.80	0.46
1:E:15:PHE:HA	1:E:155:ILE:HD11	1.97	0.46
1:H:78:MSE:HE1	1:H:113:ILE:HG13	1.96	0.46
1:B:19:GLN:O	1:B:22:GLU:HG3	2.16	0.46
1:H:19:GLN:O	1:H:22:GLU:HG3	2.15	0.46
1:H:32:THR:OG1	1:I:33:GLU:CD	2.54	0.46
1:J:129:SER:CA	1:J:157:LYS:HG3	2.42	0.46
1:K:140:ASN:HD21	1:K:144:GLU:HB2	1.80	0.46
1:L:93:ILE:HD11	1:L:156:ARG:HD3	1.97	0.46
1:G:105:ARG:NH2	1:G:144:GLU:HB3	2.31	0.46
1:I:140:ASN:HD21	1:I:144:GLU:HB2	1.80	0.46
1:J:15:PHE:HA	1:J:155:ILE:CD1	2.44	0.46
1:B:129:SER:OG	1:B:154:LEU:HD21	2.15	0.46
1:K:120:VAL:HG11	1:K:135:LYS:HB2	1.98	0.46
1:B:13:ILE:HG23	1:B:87:TYR:CD1	2.50	0.46
1:B:31:VAL:HG11	1:B:107:VAL:CG1	2.45	0.46
1:G:137:GLU:HG2	1:G:145:LEU:HD11	1.97	0.46
1:H:32:THR:O	1:H:35:ASP:HB2	2.16	0.46
1:A:141:GLN:NE2	1:A:141:GLN:N	2.45	0.46
1:D:129:SER:HA	1:D:157:LYS:HG3	1.98	0.46
1:K:13:ILE:HG23	1:K:87:TYR:CD1	2.51	0.46
1:B:129:SER:HA	1:B:157:LYS:HG3	1.98	0.45
1:H:32:THR:OG1	1:I:33:GLU:OE1	2.33	0.45
1:K:95:PHE:O	1:L:103:PHE:CD1	2.69	0.45
1:F:32:THR:HG22	1:F:35:ASP:OD1	2.17	0.45
1:A:13:ILE:HG23	1:A:87:TYR:CD1	2.51	0.45
1:G:27:LEU:HD22	1:G:28:PRO:CD	2.46	0.45
1:J:27:LEU:HD22	1:J:28:PRO:CD	2.46	0.45
1:G:31:VAL:HG12	1:G:111:ASP:O	2.16	0.45
1:J:129:SER:OG	1:J:154:LEU:HD21	2.16	0.45
1:I:99:LYS:HB3	1:I:150:LEU:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:30:THR:HA	1:L:112:THR:HA	1.97	0.45
1:D:13:ILE:HG23	1:D:87:TYR:CD1	2.52	0.45
1:K:139:LYS:HD2	1:K:143:GLY:O	2.16	0.45
1:A:19:GLN:O	1:A:22:GLU:HG3	2.16	0.45
1:C:32:THR:O	1:C:35:ASP:HB2	2.16	0.45
1:C:78:MSE:HE1	1:C:113:ILE:HG13	1.97	0.45
1:D:27:LEU:HD22	1:D:28:PRO:CD	2.46	0.45
1:F:18:ILE:O	1:F:122:LYS:NZ	2.37	0.45
1:G:72:LEU:HD23	1:H:69:MSE:HE1	1.99	0.45
1:A:48:PRO:HB2	1:A:55:PHE:CG	2.52	0.45
1:D:32:THR:O	1:D:35:ASP:HB2	2.17	0.45
1:G:129:SER:N	1:G:157:LYS:HE2	2.31	0.45
1:H:23:LYS:HA	1:H:117:ALA:O	2.16	0.45
1:C:19:GLN:O	1:C:22:GLU:HG3	2.17	0.45
1:F:10:ARG:HA	1:F:10:ARG:NH1	2.32	0.45
1:C:13:ILE:HG23	1:C:87:TYR:CD1	2.52	0.45
1:J:13:ILE:HG23	1:J:87:TYR:CD1	2.52	0.44
1:L:27:LEU:HD22	1:L:28:PRO:CD	2.45	0.44
1:B:27:LEU:HD22	1:B:28:PRO:CD	2.47	0.44
1:D:15:PHE:HB3	1:D:157:LYS:HG2	1.98	0.44
1:K:116:SER:O	1:K:136:LEU:HD12	2.17	0.44
1:C:135:LYS:HA	1:C:150:LEU:HD12	1.99	0.44
1:L:31:VAL:HG11	1:L:107:VAL:CG1	2.47	0.44
1:L:32:THR:O	1:L:35:ASP:HB2	2.18	0.44
1:C:27:LEU:HD22	1:C:28:PRO:CD	2.47	0.44
1:I:32:THR:O	1:I:35:ASP:HB2	2.17	0.44
1:D:48:PRO:HB2	1:D:55:PHE:CG	2.51	0.44
1:J:111:ASP:HB3	1:J:141:GLN:HE22	1.82	0.44
1:K:135:LYS:HA	1:K:150:LEU:HD12	2.00	0.44
1:A:123:GLN:HB3	1:A:131:VAL:HG22	1.98	0.44
1:A:74:ILE:HG22	1:A:78:MSE:CE	2.29	0.44
1:B:102:ARG:HB2	1:B:148:THR:CG2	2.46	0.44
1:C:10:ARG:HG2	1:C:86:ASN:O	2.18	0.44
1:D:102:ARG:HB2	1:D:148:THR:CG2	2.48	0.44
1:G:138:VAL:O	1:G:146:VAL:HG22	2.18	0.44
1:L:13:ILE:HG23	1:L:87:TYR:CD1	2.53	0.44
1:F:15:PHE:HB3	1:F:16:GLU:OE1	2.18	0.44
1:E:19:GLN:O	1:E:22:GLU:HG3	2.17	0.44
1:F:100:ASP:O	1:F:149:ALA:HA	2.18	0.44
1:F:27:LEU:HD22	1:F:28:PRO:CD	2.47	0.44
1:G:13:ILE:HG23	1:G:87:TYR:CD1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:81:GLN:HE21	1:J:81:GLN:HG3	1.83	0.44
1:I:78:MSE:HE1	1:I:113:ILE:HG13	1.99	0.44
1:I:15:PHE:HB3	1:I:16:GLU:OE1	2.18	0.44
1:H:129:SER:OG	1:H:154:LEU:HD21	2.18	0.43
1:H:13:ILE:HG23	1:H:87:TYR:CD1	2.53	0.43
1:A:100:ASP:O	1:A:149:ALA:HA	2.18	0.43
1:H:140:ASN:HD21	1:H:144:GLU:HB2	1.82	0.43
1:E:140:ASN:HD21	1:E:144:GLU:HB2	1.84	0.43
1:F:9:ALA:HB1	1:F:87:TYR:O	2.18	0.43
1:C:84:LEU:HA	1:C:84:LEU:HD12	1.88	0.43
1:E:27:LEU:HD22	1:E:28:PRO:CD	2.48	0.43
1:F:112:THR:H	1:F:141:GLN:NE2	2.16	0.43
1:G:84:LEU:HA	1:G:84:LEU:HD12	1.90	0.43
1:A:137:GLU:HG2	1:A:145:LEU:HD11	2.00	0.43
1:E:141:GLN:N	1:E:141:GLN:NE2	2.48	0.43
1:J:60:ILE:HG12	1:J:60:ILE:O	2.18	0.43
1:F:78:MSE:HE1	1:F:113:ILE:HG13	1.99	0.43
1:K:47:PHE:CE1	1:L:89:VAL:HG21	2.54	0.43
1:A:32:THR:O	1:A:35:ASP:HB2	2.19	0.43
1:D:25:GLU:OE1	1:D:116:SER:HB3	2.19	0.43
1:A:15:PHE:HB3	1:A:16:GLU:OE1	2.19	0.43
1:L:15:PHE:HB3	1:L:16:GLU:OE1	2.19	0.43
1:E:129:SER:OG	1:E:154:LEU:HD21	2.18	0.43
1:J:30:THR:HA	1:J:112:THR:HA	2.01	0.43
1:K:15:PHE:HB3	1:K:157:LYS:HG2	2.00	0.43
1:C:50:HIS:CD2	1:C:67:GLN:HG3	2.54	0.42
1:D:78:MSE:HE1	1:D:113:ILE:HG13	2.01	0.42
1:I:13:ILE:HG23	1:I:87:TYR:CD1	2.54	0.42
1:I:139:LYS:HA	1:I:144:GLU:O	2.19	0.42
1:I:129:SER:OG	1:I:154:LEU:HD21	2.18	0.42
1:B:18:ILE:HG13	1:B:155:ILE:CD1	2.49	0.42
1:H:135:LYS:HA	1:H:150:LEU:HD12	2.00	0.42
1:G:86:ASN:ND2	1:L:86:ASN:HD21	2.07	0.42
1:A:27:LEU:HD22	1:A:28:PRO:CD	2.49	0.42
1:I:25:GLU:OE1	1:I:116:SER:HB3	2.19	0.42
1:L:140:ASN:ND2	1:L:144:GLU:HB2	2.35	0.42
1:A:15:PHE:HA	1:A:155:ILE:CD1	2.47	0.42
1:D:30:THR:HA	1:D:112:THR:HA	2.02	0.42
1:H:24:ILE:O	1:H:116:SER:HA	2.20	0.42
1:J:140:ASN:HD21	1:J:144:GLU:HB2	1.82	0.42
1:H:33:GLU:CD	1:L:32:THR:OG1	2.57	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:93:ILE:HD12	1:J:154:LEU:CD2	2.50	0.42
1:I:101:VAL:HB	1:J:98:ILE:HB	2.00	0.42
1:B:140:ASN:ND2	1:B:144:GLU:HB2	2.34	0.42
1:K:15:PHE:HB3	1:K:16:GLU:OE1	2.20	0.42
1:K:27:LEU:HD22	1:K:28:PRO:CD	2.49	0.42
1:E:140:ASN:HB2	1:E:141:GLN:NE2	2.35	0.42
1:H:99:LYS:HB3	1:H:150:LEU:HB3	2.01	0.42
1:J:157:LYS:O	1:J:159:PRO:HD3	2.19	0.42
1:E:13:ILE:HG23	1:E:87:TYR:CD1	2.55	0.42
1:I:99:LYS:N	1:I:150:LEU:O	2.51	0.42
1:B:137:GLU:HG2	1:B:145:LEU:HD11	2.01	0.41
1:B:15:PHE:HA	1:B:155:ILE:CD1	2.49	0.41
1:E:27:LEU:HA	1:E:28:PRO:HD3	1.91	0.41
1:H:137:GLU:HG2	1:H:145:LEU:HD11	2.02	0.41
1:H:50:HIS:CD2	1:H:67:GLN:HG3	2.55	0.41
1:I:158:THR:HA	1:I:159:PRO:HD3	1.91	0.41
1:J:78:MSE:HE1	1:J:113:ILE:HG13	2.01	0.41
1:K:139:LYS:HB2	1:K:139:LYS:NZ	2.35	0.41
1:K:140:ASN:ND2	1:K:144:GLU:HB2	2.35	0.41
1:A:50:HIS:CD2	1:A:67:GLN:HG3	2.54	0.41
1:E:15:PHE:HB3	1:E:16:GLU:OE1	2.20	0.41
1:F:129:SER:CA	1:F:157:LYS:HG3	2.47	0.41
1:I:141:GLN:NE2	1:I:141:GLN:N	2.49	0.41
1:F:135:LYS:HA	1:F:150:LEU:HD12	2.02	0.41
1:B:74:ILE:HG22	1:B:78:MSE:CE	2.31	0.41
1:D:11:ASN:CG	1:D:12:PRO:HD2	2.40	0.41
1:H:121:GLU:HB3	1:H:133:THR:HB	2.02	0.41
1:I:140:ASN:ND2	1:I:144:GLU:HB2	2.35	0.41
1:A:30:THR:HA	1:A:112:THR:HA	2.02	0.41
1:B:158:THR:HA	1:B:159:PRO:HD3	1.71	0.41
1:B:15:PHE:HB3	1:B:16:GLU:OE1	2.21	0.41
1:C:129:SER:HA	1:C:157:LYS:HG3	2.01	0.41
1:E:135:LYS:HA	1:E:150:LEU:HD12	2.02	0.41
1:F:50:HIS:CD2	1:F:67:GLN:HG3	2.56	0.41
1:G:27:LEU:HA	1:G:28:PRO:HD3	1.91	0.41
1:G:50:HIS:CD2	1:G:67:GLN:HG3	2.55	0.41
1:H:99:LYS:HD3	1:H:150:LEU:HD23	2.02	0.41
1:K:99:LYS:HD3	1:K:150:LEU:HD23	2.03	0.41
1:E:9:ALA:HB1	1:E:87:TYR:O	2.21	0.41
1:H:115:ALA:HA	1:H:137:GLU:O	2.20	0.41
1:I:18:ILE:O	1:I:122:LYS:NZ	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:84:LEU:HA	1:I:84:LEU:HD12	1.88	0.41
1:F:30:THR:HA	1:F:112:THR:HA	2.02	0.41
1:G:31:VAL:HG11	1:G:107:VAL:HG12	2.01	0.41
1:H:93:ILE:HD12	1:H:154:LEU:CD2	2.50	0.41
1:L:15:PHE:HB3	1:L:157:LYS:HG2	2.02	0.41
1:G:158:THR:HG22	1:G:159:PRO:HD2	2.02	0.41
1:K:50:HIS:CD2	1:K:67:GLN:HG3	2.56	0.41
1:B:32:THR:O	1:B:35:ASP:HB2	2.21	0.41
1:D:137:GLU:HG2	1:D:145:LEU:HD11	2.01	0.41
1:F:32:THR:O	1:F:35:ASP:HB2	2.21	0.41
1:G:129:SER:CA	1:G:157:LYS:HG3	2.47	0.41
1:I:50:HIS:CD2	1:I:67:GLN:HG3	2.56	0.41
1:L:96:PHE:HE1	1:L:154:LEU:HD12	1.86	0.41
1:L:31:VAL:HG12	1:L:111:ASP:O	2.20	0.41
1:B:30:THR:HA	1:B:112:THR:HA	2.03	0.41
1:B:93:ILE:HD12	1:B:154:LEU:HD22	2.02	0.41
1:D:15:PHE:HB3	1:D:16:GLU:OE1	2.21	0.41
1:E:32:THR:O	1:E:35:ASP:HB2	2.21	0.41
1:F:60:ILE:O	1:F:60:ILE:HG12	2.21	0.41
1:H:15:PHE:HB3	1:H:16:GLU:OE1	2.20	0.41
1:A:78:MSE:HE1	1:A:113:ILE:HG13	2.02	0.41
1:C:15:PHE:HB3	1:C:16:GLU:OE1	2.21	0.41
1:G:140:ASN:ND2	1:G:144:GLU:HB2	2.36	0.41
1:J:15:PHE:HB3	1:J:16:GLU:OE1	2.20	0.41
1:I:81:GLN:CG	1:K:81:GLN:HE21	2.33	0.41
1:D:60:ILE:O	1:D:60:ILE:HG12	2.21	0.40
1:E:137:GLU:HG2	1:E:145:LEU:HD11	2.03	0.40
1:G:15:PHE:HB3	1:G:16:GLU:OE1	2.20	0.40
1:G:32:THR:OG1	1:K:33:GLU:CD	2.59	0.40
1:L:147:LEU:HD23	1:L:148:THR:N	2.36	0.40
1:C:140:ASN:HD21	1:C:144:GLU:HB2	1.85	0.40
1:B:50:HIS:CD2	1:B:67:GLN:HG3	2.57	0.40
1:E:102:ARG:HB2	1:E:148:THR:CG2	2.50	0.40
1:H:140:ASN:ND2	1:H:144:GLU:HB2	2.37	0.40
1:J:50:HIS:CD2	1:J:67:GLN:HG3	2.56	0.40

All (1) 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:A:118:GLU:OE1	1:C:128:LYS:NZ[4_456]	2.16	0.04

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	149/161 (92%)	144 (97%)	5 (3%)	0	100	100
1	B	149/161 (92%)	143 (96%)	6 (4%)	0	100	100
1	C	151/161 (94%)	145 (96%)	6 (4%)	0	100	100
1	D	149/161 (92%)	145 (97%)	4 (3%)	0	100	100
1	E	149/161 (92%)	144 (97%)	5 (3%)	0	100	100
1	F	149/161 (92%)	144 (97%)	4 (3%)	1 (1%)	22	51
1	G	147/161 (91%)	143 (97%)	4 (3%)	0	100	100
1	H	147/161 (91%)	143 (97%)	3 (2%)	1 (1%)	22	51
1	I	147/161 (91%)	142 (97%)	5 (3%)	0	100	100
1	J	147/161 (91%)	144 (98%)	3 (2%)	0	100	100
1	K	147/161 (91%)	143 (97%)	4 (3%)	0	100	100
1	L	147/161 (91%)	142 (97%)	4 (3%)	1 (1%)	22	51
All	All	1778/1932 (92%)	1722 (97%)	53 (3%)	3 (0%)	47	76

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	L	99	LYS
1	F	10	ARG
1	H	99	LYS

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	130/138 (94%)	123 (95%)	7 (5%)	22	51
1	B	130/138 (94%)	122 (94%)	8 (6%)	18	45
1	C	132/138 (96%)	122 (92%)	10 (8%)	13	35
1	D	130/138 (94%)	123 (95%)	7 (5%)	22	51
1	E	130/138 (94%)	122 (94%)	8 (6%)	18	45
1	F	130/138 (94%)	122 (94%)	8 (6%)	18	45
1	G	129/138 (94%)	122 (95%)	7 (5%)	22	51
1	H	129/138 (94%)	122 (95%)	7 (5%)	22	51
1	I	129/138 (94%)	122 (95%)	7 (5%)	22	51
1	J	129/138 (94%)	120 (93%)	9 (7%)	15	39
1	K	129/138 (94%)	122 (95%)	7 (5%)	22	51
1	L	129/138 (94%)	120 (93%)	9 (7%)	15	39
All	All	1556/1656 (94%)	1462 (94%)	94 (6%)	19	47

All (94) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	16	GLU
1	A	49	LEU
1	A	54	GLU
1	A	84	LEU
1	A	95	PHE
1	A	127	GLU
1	A	141	GLN
1	B	16	GLU
1	B	49	LEU
1	B	54	GLU
1	B	84	LEU
1	B	95	PHE
1	B	100	ASP
1	B	127	GLU
1	B	141	GLN
1	C	7	ILE
1	C	10	ARG
1	C	16	GLU
1	C	49	LEU
1	C	54	GLU
1	C	84	LEU
1	C	95	PHE

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Mol	Chain	Res	Type
1	C	100	ASP
1	C	127	GLU
1	C	141	GLN
1	D	16	GLU
1	D	49	LEU
1	D	54	GLU
1	D	84	LEU
1	D	95	PHE
1	D	127	GLU
1	D	141	GLN
1	E	16	GLU
1	E	49	LEU
1	E	54	GLU
1	E	84	LEU
1	E	95	PHE
1	E	100	ASP
1	E	127	GLU
1	E	141	GLN
1	F	16	GLU
1	F	49	LEU
1	F	54	GLU
1	F	84	LEU
1	F	95	PHE
1	F	100	ASP
1	F	127	GLU
1	F	141	GLN
1	G	16	GLU
1	G	49	LEU
1	G	54	GLU
1	G	84	LEU
1	G	95	PHE
1	G	127	GLU
1	G	141	GLN
1	H	16	GLU
1	H	49	LEU
1	H	54	GLU
1	H	84	LEU
1	H	95	PHE
1	H	127	GLU
1	H	141	GLN
1	I	16	GLU
1	I	49	LEU

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Mol	Chain	Res	Type
1	I	54	GLU
1	I	84	LEU
1	I	95	PHE
1	I	127	GLU
1	I	141	GLN
1	J	16	GLU
1	J	49	LEU
1	J	54	GLU
1	J	84	LEU
1	J	95	PHE
1	J	100	ASP
1	J	127	GLU
1	J	139	LYS
1	J	141	GLN
1	K	16	GLU
1	K	49	LEU
1	K	54	GLU
1	K	84	LEU
1	K	95	PHE
1	K	127	GLU
1	K	141	GLN
1	L	11	ASN
1	L	16	GLU
1	L	49	LEU
1	L	54	GLU
1	L	84	LEU
1	L	95	PHE
1	L	99	LYS
1	L	127	GLU
1	L	141	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	81	GLN
1	A	86	ASN
1	A	141	GLN
1	B	81	GLN
1	B	141	GLN
1	C	81	GLN
1	C	86	ASN
1	C	141	GLN

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Mol	Chain	Res	Type
1	D	81	GLN
1	D	86	ASN
1	D	141	GLN
1	E	81	GLN
1	E	141	GLN
1	F	81	GLN
1	F	141	GLN
1	G	81	GLN
1	G	141	GLN
1	H	81	GLN
1	H	86	ASN
1	H	141	GLN
1	I	11	ASN
1	I	81	GLN
1	I	86	ASN
1	I	141	GLN
1	J	11	ASN
1	J	81	GLN
1	J	141	GLN
1	K	81	GLN
1	K	141	GLN
1	L	81	GLN
1	L	86	ASN
1	L	141	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7　Other polymers ⓘ

There are no such residues in this entry.

5.8　Polymer linkage issues ⓘ

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	149/161 (92%)	-0.27	3 (2%)	65	56	17, 38, 90, 134	0
1	B	149/161 (92%)	-0.30	1 (0%)	87	84	21, 40, 76, 116	0
1	C	151/161 (93%)	-0.18	1 (0%)	87	84	22, 45, 94, 122	0
1	D	149/161 (92%)	-0.21	1 (0%)	87	84	18, 44, 104, 153	0
1	E	149/161 (92%)	-0.19	2 (1%)	77	72	18, 41, 98, 129	0
1	F	149/161 (92%)	-0.30	2 (1%)	77	72	22, 39, 81, 125	0
1	G	147/161 (91%)	2.30	64 (43%)	0	0	76, 151, 187, 198	0
1	H	147/161 (91%)	2.18	77 (52%)	0	0	72, 159, 186, 199	0
1	I	147/161 (91%)	0.80	22 (14%)	2	1	43, 98, 152, 171	0
1	J	147/161 (91%)	1.10	30 (20%)	1	0	53, 121, 169, 200	0
1	K	147/161 (91%)	2.87	97 (65%)	0	0	108, 171, 197, 200	0
1	L	147/161 (91%)	3.17	91 (61%)	0	0	89, 172, 196, 200	0
All	All	1778/1932 (92%)	0.90	391 (21%)	0	0	17, 84, 186, 200	0

All (391) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	L	94	ALA	19.0
1	K	130	GLY	12.4
1	L	153	ALA	11.0
1	K	129	SER	10.3
1	L	154	LEU	10.1
1	G	124	ASP	8.6
1	G	153	ALA	8.3
1	J	127	GLU	8.3
1	K	92	VAL	8.1
1	L	79	VAL	7.8
1	L	119	VAL	7.6

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Mol	Chain	Res	Type	RSRZ
1	L	93	ILE	7.5
1	L	96	PHE	7.4
1	H	52	ASP	7.3
1	G	86	ASN	7.2
1	L	25	GLU	7.2
1	G	158	THR	6.8
1	G	159	PRO	6.3
1	L	13	ILE	6.3
1	L	31	VAL	6.3
1	H	21	GLY	6.3
1	K	20	ILE	6.2
1	L	86	ASN	6.2
1	L	111	ASP	6.2
1	H	24	ILE	6.2
1	K	159	PRO	6.2
1	L	121	GLU	6.1
1	G	29	ARG	6.0
1	K	22	GLU	6.0
1	K	21	GLY	6.0
1	K	155	ILE	5.9
1	L	130	GLY	5.9
1	L	17	SER	5.9
1	G	87	TYR	5.8
1	K	122	LYS	5.7
1	G	125	PHE	5.7
1	K	61	PHE	5.7
1	K	134	TYR	5.6
1	L	127	GLU	5.5
1	G	131	VAL	5.5
1	K	137	GLU	5.5
1	G	23	LYS	5.5
1	K	111	ASP	5.5
1	G	139	LYS	5.4
1	G	128	LYS	5.4
1	H	127	GLU	5.4
1	L	97	GLY	5.3
1	L	159	PRO	5.3
1	K	121	GLU	5.3
1	K	128	LYS	5.3
1	H	159	PRO	5.2
1	K	117	ALA	5.2
1	L	91	SER	5.2

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Mol	Chain	Res	Type	RSRZ
1	L	20	ILE	5.2
1	L	141	GLN	5.2
1	H	45	ASP	5.2
1	G	28	PRO	5.2
1	G	154	LEU	5.1
1	L	124	ASP	5.1
1	G	94	ALA	5.1
1	L	102	ARG	5.1
1	L	87	TYR	5.0
1	K	17	SER	4.9
1	K	13	ILE	4.9
1	K	150	LEU	4.9
1	L	155	ILE	4.9
1	H	54	GLU	4.9
1	G	14	TYR	4.9
1	G	20	ILE	4.9
1	G	26	GLY	4.8
1	J	124	ASP	4.8
1	G	19	GLN	4.8
1	L	23	LYS	4.8
1	I	11	ASN	4.8
1	K	127	GLU	4.8
1	L	95	PHE	4.7
1	K	145	LEU	4.7
1	K	89	VAL	4.7
1	L	131	VAL	4.7
1	K	94	ALA	4.7
1	K	143	GLY	4.7
1	L	148	THR	4.7
1	H	96	PHE	4.7
1	L	156	ARG	4.7
1	H	53	VAL	4.6
1	H	17	SER	4.6
1	G	16	GLU	4.6
1	L	120	VAL	4.6
1	K	11	ASN	4.6
1	L	15	PHE	4.6
1	L	82	VAL	4.6
1	K	99	LYS	4.5
1	L	125	PHE	4.5
1	L	88	ASP	4.5
1	H	14	TYR	4.5

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Mol	Chain	Res	Type	RSRZ
1	J	123	GLN	4.5
1	K	123	GLN	4.5
1	L	89	VAL	4.5
1	H	128	LYS	4.4
1	L	104	LEU	4.4
1	J	14	TYR	4.4
1	L	16	GLU	4.4
1	G	99	LYS	4.4
1	L	11	ASN	4.4
1	L	118	GLU	4.4
1	G	18	ILE	4.4
1	G	113	ILE	4.4
1	K	96	PHE	4.3
1	H	156	ARG	4.3
1	I	142	ARG	4.3
1	H	120	VAL	4.3
1	H	144	GLU	4.3
1	L	26	GLY	4.3
1	L	143	GLY	4.3
1	K	103	PHE	4.3
1	G	114	ALA	4.2
1	J	25	GLU	4.2
1	J	122	LYS	4.2
1	L	12	PRO	4.2
1	H	63	LYS	4.2
1	K	119	VAL	4.1
1	K	14	TYR	4.1
1	L	146	VAL	4.1
1	J	159	PRO	4.1
1	H	104	LEU	4.1
1	G	61	PHE	4.1
1	G	112	THR	4.0
1	K	131	VAL	4.0
1	K	60	ILE	4.0
1	K	106	PRO	4.0
1	K	26	GLY	4.0
1	K	133	THR	4.0
1	G	156	ARG	4.0
1	H	125	PHE	3.9
1	L	109	ILE	3.9
1	F	9	ALA	3.9
1	H	124	ASP	3.9

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Mol	Chain	Res	Type	RSRZ
1	K	76	LEU	3.9
1	K	142	ARG	3.9
1	K	62	GLY	3.9
1	L	133	THR	3.9
1	K	120	VAL	3.8
1	H	139	LYS	3.8
1	J	125	PHE	3.8
1	L	152	SER	3.8
1	I	57	LYS	3.8
1	B	9	ALA	3.8
1	L	52	ASP	3.8
1	G	37	TRP	3.7
1	L	71	VAL	3.7
1	L	135	LYS	3.7
1	L	67	GLN	3.7
1	G	30	THR	3.7
1	L	30	THR	3.7
1	H	22	GLU	3.7
1	K	24	ILE	3.7
1	H	145	LEU	3.7
1	G	11	ASN	3.7
1	I	12	PRO	3.7
1	L	158	THR	3.7
1	L	115	ALA	3.6
1	H	122	LYS	3.6
1	K	95	PHE	3.6
1	K	135	LYS	3.6
1	H	131	VAL	3.6
1	H	130	GLY	3.6
1	K	146	VAL	3.6
1	L	80	ASP	3.5
1	G	96	PHE	3.5
1	K	50	HIS	3.5
1	I	105	ARG	3.5
1	L	110	GLY	3.5
1	L	122	LYS	3.5
1	K	104	LEU	3.5
1	K	144	GLU	3.5
1	L	63	LYS	3.5
1	H	129	SER	3.4
1	H	106	PRO	3.4
1	E	11	ASN	3.4

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Mol	Chain	Res	Type	RSRZ
1	K	157	LYS	3.4
1	K	25	GLU	3.4
1	K	105	ARG	3.4
1	G	127	GLU	3.4
1	K	151	TYR	3.4
1	J	154	LEU	3.4
1	K	132	VAL	3.3
1	L	64	PRO	3.3
1	H	27	LEU	3.3
1	G	56	ALA	3.3
1	K	66	ALA	3.3
1	I	52	ASP	3.3
1	K	91	SER	3.3
1	H	23	LYS	3.3
1	L	114	ALA	3.3
1	L	116	SER	3.3
1	K	156	ARG	3.3
1	J	23	LYS	3.2
1	J	139	LYS	3.2
1	H	18	ILE	3.2
1	J	93	ILE	3.2
1	H	43	THR	3.2
1	H	19	GLN	3.2
1	G	27	LEU	3.2
1	L	50	HIS	3.2
1	H	38	THR	3.2
1	K	149	ALA	3.2
1	G	68	GLY	3.1
1	A	9	ALA	3.1
1	H	123	GLN	3.1
1	G	17	SER	3.1
1	L	105	ARG	3.1
1	H	44	ALA	3.1
1	K	47	PHE	3.1
1	G	140	ASN	3.1
1	J	129	SER	3.1
1	L	18	ILE	3.1
1	K	53	VAL	3.0
1	J	105	ARG	3.0
1	L	142	ARG	3.0
1	G	45	ASP	3.0
1	G	155	ILE	3.0

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Mol	Chain	Res	Type	RSRZ
1	K	84	LEU	3.0
1	K	63	LYS	3.0
1	K	19	GLN	3.0
1	J	11	ASN	3.0
1	K	126	ASP	3.0
1	I	61	PHE	3.0
1	L	51	THR	3.0
1	G	102	ARG	3.0
1	L	92	VAL	2.9
1	K	73	SER	2.9
1	L	129	SER	2.9
1	H	68	GLY	2.9
1	K	97	GLY	2.9
1	G	118	GLU	2.9
1	H	13	ILE	2.9
1	L	37	TRP	2.9
1	L	157	LYS	2.9
1	H	153	ALA	2.9
1	L	145	LEU	2.9
1	H	102	ARG	2.9
1	J	17	SER	2.9
1	G	121	GLU	2.9
1	G	141	GLN	2.8
1	K	48	PRO	2.8
1	G	60	ILE	2.8
1	H	100	ASP	2.8
1	J	22	GLU	2.8
1	K	49	LEU	2.8
1	E	9	ALA	2.8
1	H	62	GLY	2.8
1	K	88	ASP	2.8
1	L	99	LYS	2.8
1	K	101	VAL	2.8
1	I	27	LEU	2.8
1	G	132	VAL	2.8
1	L	101	VAL	2.8
1	H	97	GLY	2.8
1	L	58	LYS	2.8
1	A	10	ARG	2.8
1	H	134	TYR	2.8
1	H	47	PHE	2.8
1	K	23	LYS	2.8

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Mol	Chain	Res	Type	RSRZ
1	L	27	LEU	2.8
1	J	20	ILE	2.7
1	F	11	ASN	2.7
1	K	158	THR	2.7
1	G	13	ILE	2.7
1	G	152	SER	2.7
1	H	12	PRO	2.7
1	H	61	PHE	2.7
1	G	12	PRO	2.7
1	G	101	VAL	2.7
1	L	144	GLU	2.7
1	J	85	SER	2.7
1	H	113	ILE	2.7
1	H	108	PHE	2.6
1	H	16	GLU	2.6
1	G	105	ARG	2.6
1	L	29	ARG	2.6
1	L	90	SER	2.6
1	G	135	LYS	2.6
1	L	98	ILE	2.6
1	J	87	TYR	2.6
1	K	116	SER	2.6
1	G	84	LEU	2.6
1	K	27	LEU	2.6
1	K	108	PHE	2.6
1	H	119	VAL	2.5
1	K	100	ASP	2.5
1	K	114	ALA	2.5
1	H	132	VAL	2.5
1	L	32	THR	2.5
1	L	126	ASP	2.5
1	I	141	GLN	2.5
1	G	65	ILE	2.5
1	K	90	SER	2.5
1	J	54	GLU	2.5
1	K	148	THR	2.5
1	K	18	ILE	2.5
1	H	121	GLU	2.5
1	C	7	ILE	2.5
1	I	87	TYR	2.5
1	H	95	PHE	2.4
1	H	154	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	L	56	ALA	2.4
1	L	123	GLN	2.4
1	G	133	THR	2.4
1	H	133	THR	2.4
1	H	28	PRO	2.4
1	H	46	PHE	2.4
1	H	105	ARG	2.4
1	H	115	ALA	2.4
1	G	59	THR	2.4
1	H	138	VAL	2.4
1	I	54	GLU	2.4
1	L	24	ILE	2.4
1	H	158	THR	2.4
1	D	9	ALA	2.4
1	L	150	LEU	2.4
1	J	140	ASN	2.3
1	G	130	GLY	2.3
1	K	68	GLY	2.3
1	K	56	ALA	2.3
1	L	128	LYS	2.3
1	K	38	THR	2.3
1	L	151	TYR	2.3
1	K	67	GLN	2.3
1	K	107	VAL	2.3
1	K	115	ALA	2.3
1	H	143	GLY	2.3
1	J	19	GLN	2.3
1	H	57	LYS	2.3
1	K	54	GLU	2.3
1	J	45	ASP	2.3
1	H	42	LEU	2.2
1	H	39	PHE	2.2
1	G	89	VAL	2.2
1	G	95	PHE	2.2
1	I	108	PHE	2.2
1	K	83	ILE	2.2
1	H	41	TYR	2.2
1	I	109	ILE	2.2
1	J	153	ALA	2.2
1	H	11	ASN	2.2
1	I	63	LYS	2.2
1	J	21	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
1	H	55	PHE	2.2
1	L	106	PRO	2.2
1	G	79	VAL	2.2
1	L	134	TYR	2.2
1	H	51	THR	2.2
1	K	40	ALA	2.2
1	K	98	ILE	2.2
1	H	137	GLU	2.2
1	H	92	VAL	2.2
1	I	143	GLY	2.1
1	G	24	ILE	2.1
1	G	120	VAL	2.1
1	L	28	PRO	2.1
1	G	90	SER	2.1
1	H	112	THR	2.1
1	I	14	TYR	2.1
1	I	145	LEU	2.1
1	J	86	ASN	2.1
1	J	158	THR	2.1
1	K	72	LEU	2.1
1	H	65	ILE	2.1
1	G	134	TYR	2.1
1	K	118	GLU	2.1
1	K	140	ASN	2.1
1	K	37	TRP	2.1
1	H	103	PHE	2.1
1	K	125	PHE	2.1
1	K	124	ASP	2.1
1	L	21	GLY	2.1
1	K	79	VAL	2.1
1	J	58	LYS	2.1
1	H	81	GLN	2.1
1	I	60	ILE	2.1
1	J	155	ILE	2.1
1	A	127	GLU	2.1
1	I	55	PHE	2.1
1	K	154	LEU	2.0
1	K	153	ALA	2.0
1	I	144	GLU	2.0
1	I	50	HIS	2.0
1	G	137	GLU	2.0
1	H	151	TYR	2.0

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Mol	Chain	Res	Type	RSRZ
1	H	50	HIS	2.0
1	I	41	TYR	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.