



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 28, 2023 – 04:26 AM EDT

PDB ID : 3K7A
Title : Crystal Structure of an RNA polymerase II-TFIIB complex
Authors : Liu, X.; Bushnell, D.A.; Wang, D.; Calero, G.; Kornberg, R.D.
Deposited on : 2009-10-12
Resolution : 3.80 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
Xtriage (Phenix) : 1.13
EDS : 2.35
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) : 2.35

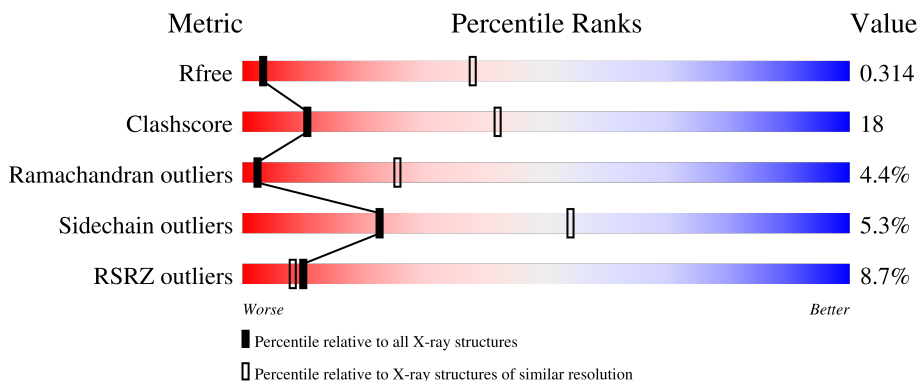
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION


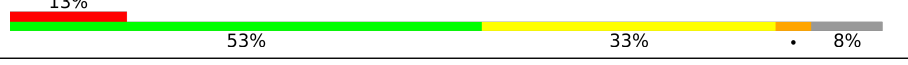



The reported resolution of this entry is 3.80 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.




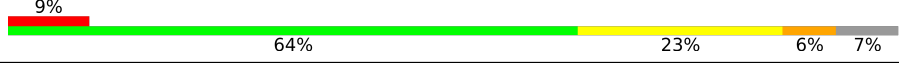
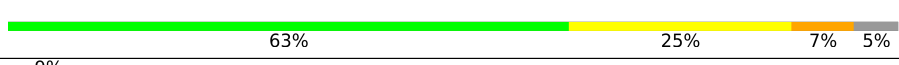
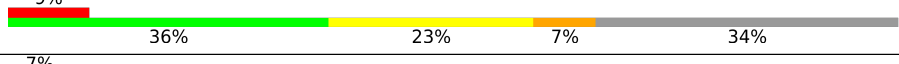
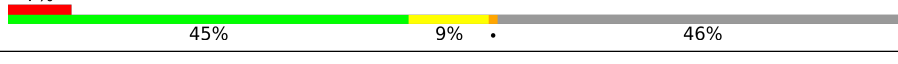
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1212 (4.00-3.60)
Clashscore	141614	1288 (4.00-3.60)
Ramachandran outliers	138981	1243 (4.00-3.60)
Sidechain outliers	138945	1237 (4.00-3.60)
RSRZ outliers	127900	1121 (4.00-3.60)

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	1733	
2	B	1224	
3	C	318	
4	E	215	
5	F	155	

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Mol	Chain	Length	Quality of chain
6	H	146	
7	I	122	
8	J	70	
9	K	120	
10	L	70	
11	M	345	

2 Entry composition [i](#)

There are 12 unique types of molecules in this entry. The entry contains 29029 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 DNA-directed RNA polymerase II subunit RPB1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	1408	11052	6966	1936	2089	61	0	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase II subunit RPB2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	1122	8845	5595	1551	1644	55	0	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase II subunit RPB3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	266	2095	1317	348	417	13	0	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	E	214	1752	1111	309	321	11	0	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	F	84	679	434	115	127	3	0	0	0

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	H	133	1068	673	180	211	4	0	0	0

- Molecule 7 is a protein called DNA-directed RNA polymerase II subunit RPB9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	I	118	967	594	178	185	10	0	0	0

- Molecule 8 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	J	65	532	339	93	94	6	0	0	0

- Molecule 9 is a protein called DNA-directed RNA polymerase II subunit RPB11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	K	114	919	590	156	171	2	0	0	0

- Molecule 10 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	L	46	363	224	72	63	4	0	0	0

- Molecule 11 is a protein called Transcription initiation factor IIB.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
11	M	187	748	374	187	187	0	0	0

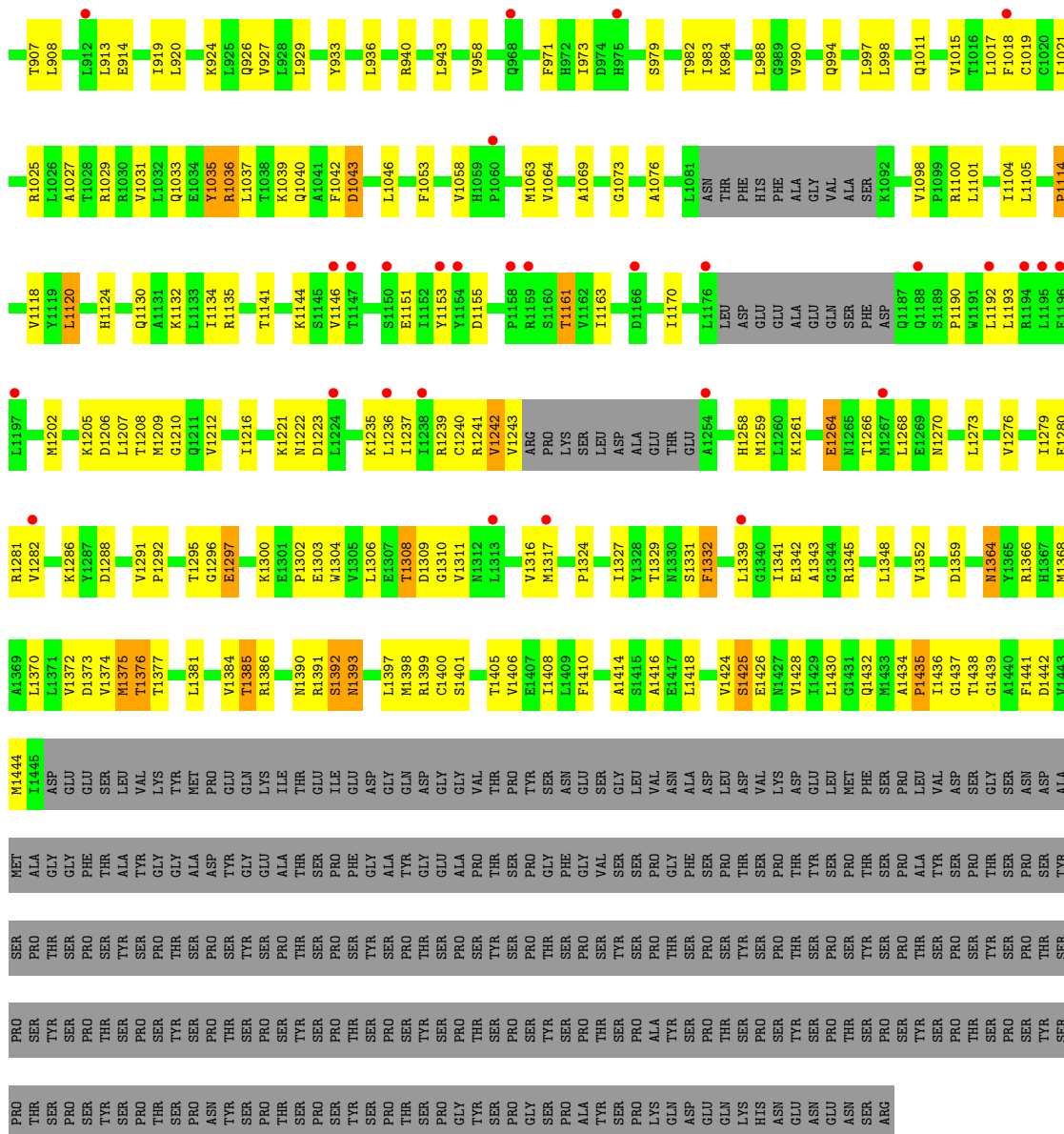
- Molecule 12 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
12	A	2	Total	Zn	0	0
			2	2		
12	B	1	Total	Zn	0	0
			1	1		
12	C	1	Total	Zn	0	0
			1	1		
12	I	2	Total	Zn	0	0
			2	2		
12	J	1	Total	Zn	0	0
			1	1		

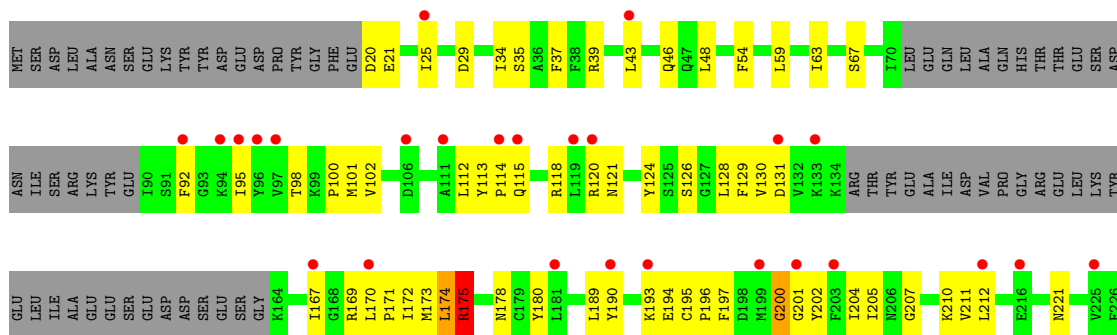
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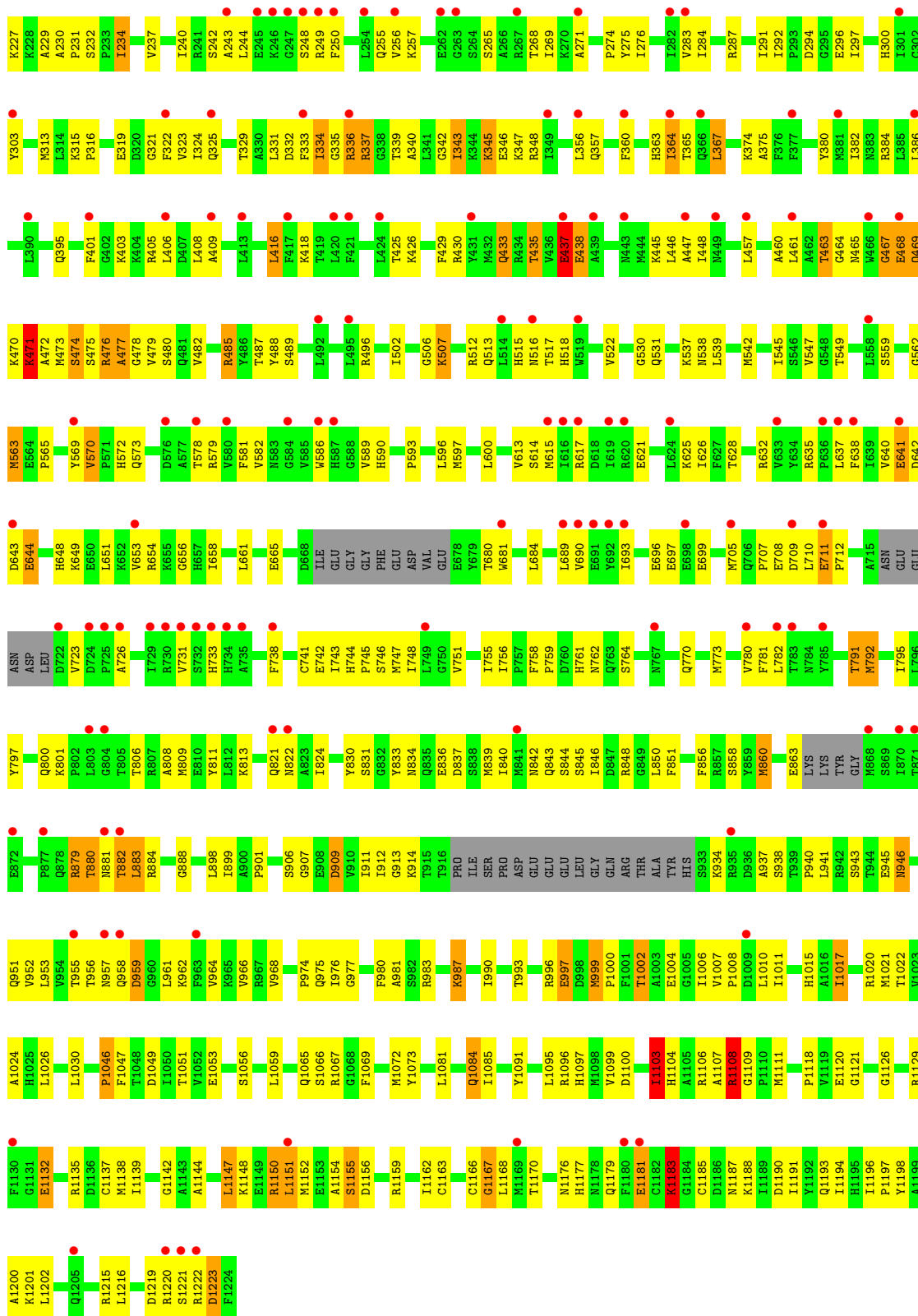
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
12	L	1	Total 1	Zn 1	0	0
12	M	1	Total 1	Zn 1	0	0



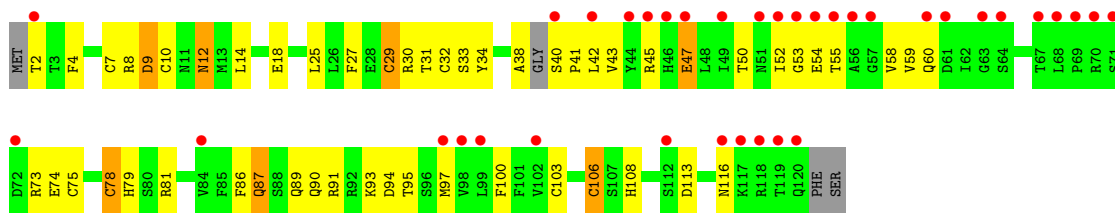
● Molecule 2: DNA-directed RNA polymerase II subunit RPB2



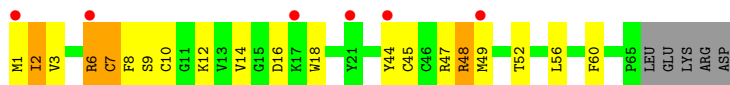


• Molecule 3: DNA-directed RNA polymerase II subunit RPB3

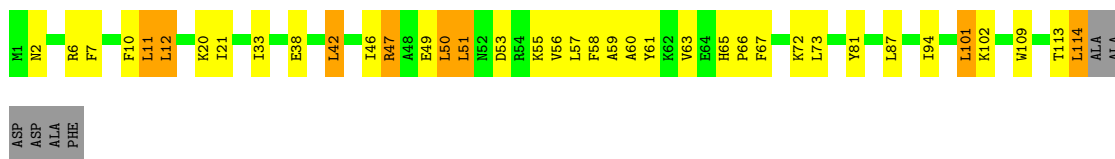




- Molecule 8: DNA-directed RNA polymerases I, II, and III subunit RPABC5



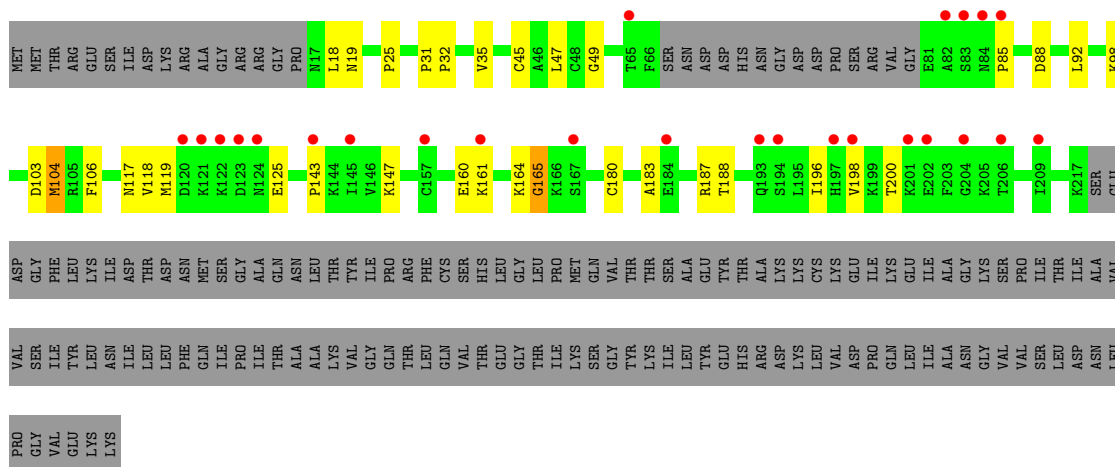
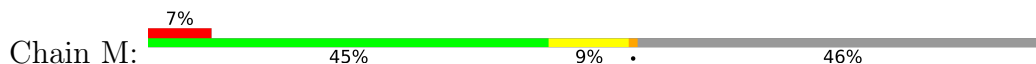
- Molecule 9: DNA-directed RNA polymerase II subunit RPB11



- Molecule 10: DNA-directed RNA polymerases I, II, and III subunit RPABC4



- Molecule 11: Transcription initiation factor IIB



4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	204.15Å 216.21Å 420.98Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.80 148.44 – 3.80	Depositor EDS
% Data completeness (in resolution range)	95.5 (50.00-3.80) 95.5 (148.44-3.80)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.09	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.55 (at 3.78Å)	Xtrriage
Refinement program	REFMAC 5.5.0088, CNS 1.2	Depositor
R, R_{free}	0.263 , 0.313 0.266 , 0.314	Depositor DCC
R_{free} test set	8341 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å ²)	126.3	Xtrriage
Anisotropy	0.598	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 151.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.41$, $\langle L^2 \rangle = 0.24$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	29029	wwPDB-VP
Average B, all atoms (Å ²)	188.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.98% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

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	0.52	0/11248	0.67	0/15211
2	B	0.50	0/9016	0.65	0/12165
3	C	0.47	0/2133	0.64	0/2891
4	E	0.41	0/1788	0.56	0/2406
5	F	0.61	0/691	0.72	0/933
6	H	0.45	0/1086	0.61	0/1470
7	I	0.44	0/984	0.61	0/1323
8	J	0.50	0/541	0.66	0/727
9	K	0.55	0/937	0.68	0/1265
10	L	0.52	0/365	0.78	0/485
11	M	0.34	0/746	0.80	2/929 (0.2%)
All	All	0.50	0/29535	0.66	2/39805 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
11	M	165	GLY	N-CA-C	-5.23	100.03	113.10
11	M	161	LYS	N-CA-C	5.08	124.73	111.00

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	11052	0	11130	470	0
2	B	8845	0	8816	373	0
3	C	2095	0	2051	71	0
4	E	1752	0	1776	33	0
5	F	679	0	701	24	0
6	H	1068	0	1040	51	0
7	I	967	0	925	45	0
8	J	532	0	542	32	0
9	K	919	0	929	46	0
10	L	363	0	386	12	0
11	M	748	0	200	22	0
12	A	2	0	0	0	0
12	B	1	0	0	0	0
12	C	1	0	0	0	0
12	I	2	0	0	0	0
12	J	1	0	0	0	0
12	L	1	0	0	0	0
12	M	1	0	0	0	0
All	All	29029	0	28496	1060	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 18.

All (1060) 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)
2:B:899:ILE:HD11	2:B:911:ILE:HA	1.23	1.10
6:H:81:PRO:HB2	6:H:82:PRO:HD3	1.29	1.07
1:A:567:LYS:HB2	1:A:568:PRO:CD	1.83	1.06
1:A:441:PRO:HD2	1:A:498:ARG:NH2	1.69	1.05
1:A:855:THR:HG21	1:A:857:ARG:HE	0.94	1.05
1:A:1364:ASN:ND2	1:A:1366:ARG:HG2	1.70	1.04
2:B:726:ALA:HB1	2:B:1051:THR:HG21	1.40	1.02
2:B:120:ARG:HG2	2:B:955:THR:HG21	1.41	1.02
1:A:567:LYS:HB2	1:A:568:PRO:HD2	1.00	1.00
1:A:567:LYS:CB	1:A:568:PRO:HD2	1.94	0.97
10:L:32:ALA:HB3	10:L:55:ILE:HD12	1.47	0.97
1:A:567:LYS:HB3	6:H:96:VAL:H	1.27	0.96
1:A:855:THR:HG21	1:A:857:ARG:NE	1.78	0.96
2:B:824:ILE:HG12	8:J:48:ARG:HH12	1.31	0.96
2:B:437:GLU:HG2	2:B:438:GLU:H	1.31	0.95
2:B:174:LEU:O	2:B:175:ARG:HB2	1.65	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:955:THR:HG22	2:B:956:THR:H	1.30	0.93
6:H:81:PRO:HB2	6:H:82:PRO:CD	2.00	0.90
2:B:334:ILE:HG22	2:B:336:ARG:O	1.72	0.90
2:B:899:ILE:CD1	2:B:911:ILE:HA	2.02	0.89
7:I:75:CYS:SG	7:I:108:HIS:HB3	2.12	0.89
1:A:312:PRO:HG3	11:M:98:LYS:H	1.37	0.89
1:A:1364:ASN:HD22	1:A:1366:ARG:HG2	1.35	0.88
1:A:1329:THR:HG22	1:A:1331:SER:H	1.38	0.87
8:J:3:VAL:HG21	8:J:18:TRP:HB2	1.56	0.87
1:A:868:TYR:HD2	1:A:1058:VAL:HG21	1.38	0.87
1:A:239:LEU:HD12	1:A:240:PRO:HD2	1.57	0.86
1:A:672:ASP:H	1:A:736:ASN:HD21	1.22	0.86
2:B:1007:VAL:HG22	2:B:1008:PRO:HD2	1.56	0.85
1:A:902:LEU:HG	1:A:926:GLN:HG3	1.56	0.85
1:A:901:LEU:H	1:A:926:GLN:NE2	1.75	0.84
9:K:113:THR:O	9:K:114:LEU:HB2	1.77	0.84
2:B:801:LYS:O	8:J:52:THR:HG23	1.78	0.84
1:A:768:GLN:HG2	1:A:816:HIS:HA	1.59	0.83
1:A:367:PRO:HG2	1:A:370:ILE:HD12	1.61	0.83
6:H:95:TYR:HE2	6:H:97:MET:HG3	1.44	0.82
3:C:56:THR:HG21	3:C:145:CYS:SG	2.20	0.82
1:A:66:LYS:HE3	11:M:18:LEU:N	1.95	0.82
2:B:322:PHE:CZ	7:I:30:ARG:HG3	2.15	0.82
2:B:1065:GLN:HE21	2:B:1067:ARG:H	1.25	0.81
1:A:15:LYS:HB3	2:B:1220:ARG:HG2	1.63	0.81
2:B:1084:GLN:CD	2:B:1084:GLN:H	1.84	0.81
2:B:839:MET:CE	2:B:1010:LEU:HD11	2.10	0.81
1:A:1370:LEU:O	1:A:1374:VAL:HG23	1.81	0.81
2:B:1159:ARG:HE	2:B:1193:GLN:HE21	1.28	0.81
3:C:56:THR:HG22	3:C:57:VAL:H	1.46	0.81
1:A:913:LEU:HD12	1:A:914:GLU:H	1.46	0.80
5:F:81:THR:HG21	5:F:136:ARG:HD3	1.61	0.80
6:H:95:TYR:CE2	6:H:97:MET:HG3	2.16	0.80
1:A:65:LEU:CD1	11:M:19:ASN:O	2.31	0.79
3:C:124:LEU:O	3:C:127:ARG:HG2	1.83	0.79
1:A:830:LYS:HG3	1:A:1098:VAL:HG21	1.65	0.78
1:A:472:LEU:O	1:A:475:THR:HB	1.82	0.78
2:B:726:ALA:CB	2:B:1051:THR:HG21	2.12	0.78
2:B:205:ILE:HD11	2:B:461:LEU:HD23	1.64	0.78
1:A:1021:LEU:O	1:A:1025:ARG:HG2	1.84	0.77
3:C:167:HIS:HD2	3:C:169:LYS:H	1.29	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:59:ILE:HG22	6:H:60:ALA:N	2.00	0.76
2:B:46:GLN:HE22	2:B:496:ARG:HA	1.51	0.76
1:A:567:LYS:NZ	6:H:46:LEU:HB2	2.00	0.76
2:B:29:ASP:HB3	2:B:658:ILE:HD13	1.68	0.76
2:B:515:HIS:H	2:B:518:HIS:HD2	1.33	0.76
2:B:227:LYS:HB2	2:B:395:GLN:OE1	1.86	0.75
1:A:61:ILE:HG22	1:A:62:ASP:H	1.51	0.75
2:B:1106:ARG:HH21	2:B:1109:GLY:H	1.34	0.75
1:A:18:GLN:HG2	1:A:1418:LEU:HD13	1.69	0.75
2:B:101:MET:HB2	2:B:169:ARG:HH12	1.51	0.75
2:B:843:GLN:HB2	2:B:993:THR:HB	1.68	0.74
1:A:855:THR:HG23	1:A:857:ARG:HG3	1.69	0.74
7:I:75:CYS:SG	7:I:108:HIS:CD2	2.81	0.74
1:A:1385:THR:HG22	1:A:1386:ARG:H	1.54	0.73
2:B:839:MET:HE3	2:B:1010:LEU:HD11	1.68	0.73
1:A:93:VAL:HG13	1:A:301:ALA:HB1	1.70	0.73
1:A:567:LYS:HB3	6:H:96:VAL:N	2.01	0.73
1:A:1153:TYR:HA	7:I:41:PRO:HB2	1.69	0.73
10:L:48:CYS:SG	10:L:49:LYS:N	2.61	0.73
2:B:335:GLY:HA2	2:B:348:ARG:HD2	1.70	0.73
2:B:911:ILE:HD11	2:B:941:LEU:HD12	1.71	0.73
1:A:336:ILE:HD12	1:A:1405:THR:HG21	1.71	0.72
8:J:3:VAL:HG21	8:J:18:TRP:CB	2.18	0.72
1:A:1424:VAL:HG11	2:B:1139:ILE:HD13	1.70	0.72
1:A:524:VAL:HG12	1:A:525:GLN:H	1.54	0.72
2:B:269:ILE:HD11	2:B:386:LEU:HD21	1.70	0.72
1:A:1441:PHE:CZ	5:F:89:GLU:HA	2.25	0.72
1:A:1118:VAL:HG22	1:A:1306:LEU:HB2	1.71	0.72
2:B:25:ILE:HD12	2:B:651:LEU:HD12	1.70	0.71
1:A:672:ASP:H	1:A:736:ASN:ND2	1.87	0.71
1:A:868:TYR:CE1	1:A:1064:VAL:HG11	2.26	0.71
9:K:60:ALA:O	9:K:73:LEU:HD12	1.91	0.71
1:A:828:ALA:HB2	2:B:530:GLY:HA2	1.72	0.71
1:A:265:LYS:HZ1	1:A:322:VAL:HB	1.56	0.71
1:A:413:ILE:HA	11:M:49:GLY:O	1.91	0.71
8:J:1:MET:HG3	8:J:60:PHE:HE2	1.56	0.71
1:A:66:LYS:HE3	11:M:18:LEU:H	1.55	0.70
1:A:262:LEU:HG	1:A:323:LYS:CE	2.21	0.70
1:A:441:PRO:CD	1:A:498:ARG:NH2	2.51	0.70
3:C:39:ALA:HA	3:C:164:ALA:HB3	1.71	0.70
7:I:75:CYS:SG	7:I:108:HIS:HD2	2.14	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1436:ILE:HG22	1:A:1437:GLY:N	2.06	0.70
2:B:912:ILE:O	2:B:938:SER:HB2	1.90	0.70
3:C:57:VAL:HG11	8:J:60:PHE:HB3	1.73	0.70
1:A:1397:LEU:O	1:A:1400:CYS:HB2	1.91	0.70
2:B:1065:GLN:HE21	2:B:1067:ARG:N	1.89	0.70
1:A:367:PRO:CG	1:A:370:ILE:HD12	2.21	0.70
2:B:1072:MET:HE2	2:B:1085:ILE:HB	1.73	0.70
1:A:49:LYS:HB3	1:A:55:ASP:HB2	1.72	0.70
1:A:1436:ILE:HG22	1:A:1437:GLY:H	1.57	0.70
2:B:172:ILE:HD13	2:B:178:ASN:HB3	1.74	0.70
2:B:983:ARG:HD2	2:B:1091:TYR:HD2	1.57	0.70
2:B:437:GLU:CG	2:B:438:GLU:H	2.05	0.69
1:A:58:LEU:HD22	1:A:80:HIS:O	1.92	0.69
1:A:913:LEU:HD12	1:A:914:GLU:N	2.07	0.69
1:A:343:LYS:HE3	2:B:1151:LEU:O	1.93	0.69
2:B:570:VAL:HB	2:B:573:GLN:HB3	1.74	0.69
1:A:253:ASN:O	1:A:254:GLU:HB2	1.93	0.69
2:B:842:ASN:ND2	2:B:845:SER:H	1.91	0.69
1:A:445:ASN:HB2	1:A:454:SER:O	1.93	0.69
1:A:901:LEU:HG	1:A:926:GLN:HE21	1.56	0.69
2:B:559:SER:HA	2:B:563:MET:HB3	1.75	0.69
2:B:474:SER:HA	2:B:476:ARG:HG2	1.76	0.68
1:A:230:ARG:HD2	1:A:233:TRP:CZ2	2.28	0.68
1:A:907:THR:HG22	1:A:908:LEU:N	2.09	0.68
1:A:438:ASP:OD1	1:A:462:VAL:HG23	1.93	0.68
3:C:262:LEU:HD11	9:K:87:LEU:HD23	1.74	0.68
5:F:127:GLU:O	5:F:129:LYS:HG3	1.94	0.68
1:A:869:GLY:O	4:E:204:THR:HG21	1.95	0.67
1:A:446:ARG:HD2	1:A:480:ALA:HB2	1.77	0.67
2:B:465:ASN:HA	2:B:476:ARG:HA	1.77	0.67
2:B:744:HIS:HD2	2:B:746:SER:H	1.41	0.67
3:C:66:ARG:NH2	8:J:3:VAL:O	2.28	0.67
1:A:1114:PRO:HB2	1:A:1311:VAL:HG23	1.76	0.67
1:A:1295:THR:HG23	1:A:1297:GLU:OE1	1.95	0.67
1:A:914:GLU:HB2	1:A:979:SER:O	1.95	0.67
1:A:14:VAL:H	1:A:1432:GLN:HE22	1.43	0.66
3:C:67:LEU:HA	3:C:70:ILE:HD12	1.76	0.66
6:H:106:GLU:C	6:H:108:SER:H	1.96	0.66
1:A:535:THR:HG21	1:A:617:VAL:H	1.60	0.66
2:B:999:MET:HG3	2:B:1000:PRO:HD2	1.78	0.66
2:B:651:LEU:HD11	2:B:707:PRO:HB3	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:367:PRO:HB3	1:A:466:SER:HA	1.78	0.66
3:C:45:ALA:HA	3:C:72:LEU:HD12	1.78	0.66
1:A:332:LYS:H	1:A:337:ARG:HB2	1.61	0.66
2:B:296:GLU:O	2:B:300:HIS:HD2	1.79	0.66
1:A:1444:MET:HE1	5:F:135:ARG:HE	1.59	0.65
1:A:683:ILE:HG21	1:A:801:GLU:HG3	1.79	0.65
2:B:287:ARG:HG2	2:B:292:ILE:HA	1.78	0.65
2:B:955:THR:HG22	2:B:956:THR:N	2.09	0.65
9:K:65:HIS:HD2	9:K:67:PHE:H	1.40	0.65
2:B:569:TYR:CD1	2:B:589:VAL:HG21	2.31	0.65
10:L:55:ILE:HG13	10:L:56:LEU:H	1.61	0.65
3:C:93:ASP:O	3:C:127:ARG:NH2	2.29	0.65
1:A:845:LEU:HD12	1:A:1069:ALA:HB2	1.78	0.65
9:K:65:HIS:CD2	9:K:67:PHE:HB2	2.31	0.65
1:A:1276:VAL:HB	1:A:1279:ILE:HD12	1.78	0.65
1:A:1406:VAL:HG12	1:A:1410:PHE:CE1	2.31	0.65
8:J:9:SER:HB2	8:J:45:CYS:HB2	1.78	0.65
1:A:1368:MET:O	1:A:1372:VAL:HG23	1.96	0.65
2:B:1106:ARG:NH1	2:B:1118:PRO:HB3	2.12	0.65
2:B:977:GLY:HA3	2:B:1099:VAL:HG21	1.79	0.65
2:B:1107:ALA:O	2:B:1108:ARG:HG2	1.97	0.65
1:A:28:ARG:HG2	1:A:83:HIS:CE1	2.31	0.64
1:A:1118:VAL:CG2	1:A:1306:LEU:HB2	2.26	0.64
1:A:1132:LYS:O	1:A:1135:ARG:HB3	1.97	0.64
1:A:982:THR:HG22	1:A:984:LYS:H	1.62	0.64
1:A:1428:VAL:HG13	2:B:1151:LEU:HD23	1.79	0.64
2:B:200:GLY:HA2	2:B:202:TYR:CE2	2.32	0.64
1:A:578:LEU:O	1:A:578:LEU:HG	1.96	0.64
1:A:868:TYR:CD2	1:A:1058:VAL:HG21	2.27	0.64
1:A:57:ARG:HB3	1:A:68:GLN:HG3	1.79	0.64
1:A:1341:ILE:HG22	4:E:182:ASP:OD2	1.98	0.64
6:H:81:PRO:CB	6:H:82:PRO:HD3	2.16	0.64
9:K:21:ILE:HG12	9:K:33:ILE:HG12	1.79	0.64
1:A:590:ARG:NH2	1:A:620:LYS:HB3	2.13	0.64
1:A:1242:VAL:HG12	1:A:1243:VAL:H	1.63	0.64
1:A:391:LEU:HD22	1:A:400:PRO:O	1.97	0.64
1:A:406:ILE:HB	1:A:431:LYS:HB2	1.78	0.64
6:H:81:PRO:CB	6:H:82:PRO:CD	2.72	0.64
1:A:704:ALA:HB2	1:A:710:LEU:HG	1.78	0.64
2:B:1104:HIS:NE2	2:B:1126:GLY:O	2.31	0.64
1:A:826:ASP:O	1:A:830:LYS:HB2	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:515:HIS:HD2	2:B:517:THR:OG1	1.81	0.63
11:M:187:ARG:CA	11:M:188:THR:C	2.66	0.63
2:B:882:THR:O	2:B:883:LEU:HB2	1.97	0.63
1:A:512:VAL:HA	1:A:519:PRO:HA	1.79	0.63
1:A:382:PRO:HD2	5:F:104:ASN:OD1	1.99	0.63
1:A:75:ASN:O	1:A:76:GLU:HB3	1.98	0.63
7:I:29:CYS:SG	7:I:31:THR:HG22	2.38	0.63
2:B:1065:GLN:HG2	2:B:1069:PHE:HB2	1.81	0.63
2:B:1181:GLU:HG2	2:B:1188:LYS:HE2	1.81	0.63
1:A:265:LYS:NZ	1:A:322:VAL:HB	2.12	0.63
7:I:7:CYS:SG	7:I:8:ARG:O	2.56	0.63
2:B:1096:ARG:O	2:B:1097:HIS:HB2	1.99	0.62
1:A:1286:LYS:HE2	1:A:1302:PRO:HB2	1.80	0.62
7:I:7:CYS:HB2	7:I:14:LEU:HD21	1.80	0.62
7:I:55:THR:HG23	7:I:58:VAL:HG21	1.79	0.62
1:A:381:THR:HG22	1:A:383:TYR:H	1.64	0.62
1:A:779:PHE:CE1	1:A:785:PRO:HD3	2.35	0.62
2:B:1159:ARG:NE	2:B:1193:GLN:HE21	1.96	0.62
1:A:1144:LYS:HB2	1:A:1268:LEU:O	1.99	0.62
1:A:32:VAL:HG21	1:A:68:GLN:NE2	2.14	0.62
1:A:381:THR:HG23	1:A:382:PRO:HD2	1.81	0.62
1:A:243:PRO:HB2	1:A:245:PRO:HD2	1.81	0.62
2:B:945:GLU:O	2:B:946:ASN:HB3	1.99	0.62
3:C:112:ASN:ND2	3:C:146:LYS:HG2	2.14	0.62
6:H:56:THR:HB	6:H:145:ARG:HG2	1.81	0.62
1:A:901:LEU:HD23	1:A:907:THR:HG23	1.81	0.62
1:A:1397:LEU:HB2	1:A:1426:GLU:HG2	1.80	0.62
2:B:100:PRO:HG2	2:B:124:TYR:CZ	2.35	0.61
2:B:406:LEU:HD12	2:B:545:ILE:HD11	1.81	0.61
2:B:581:PHE:HB2	2:B:625:LYS:HG2	1.80	0.61
2:B:705:MET:H	2:B:710:LEU:HD12	1.64	0.61
1:A:323:LYS:HZ2	1:A:324:SER:H	1.47	0.61
3:C:166:GLU:HG3	9:K:10:PHE:HZ	1.65	0.61
6:H:32:THR:HG22	6:H:33:GLN:HG3	1.82	0.61
1:A:298:PHE:O	1:A:302:THR:HB	1.99	0.61
2:B:118:ARG:HG3	2:B:204:ILE:HD13	1.83	0.61
3:C:166:GLU:HG3	9:K:10:PHE:CZ	2.35	0.61
1:A:253:ASN:H	1:A:253:ASN:HD22	1.46	0.61
1:A:251:SER:HB3	1:A:258:GLY:HA3	1.83	0.61
1:A:711:ARG:NH1	7:I:95:THR:HB	2.15	0.61
1:A:1153:TYR:HA	7:I:41:PRO:CB	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1002:THR:HG23	2:B:1004:GLU:H	1.64	0.61
8:J:1:MET:H2	8:J:56:LEU:H	1.48	0.61
1:A:375:THR:OG1	1:A:433:GLU:HB3	2.01	0.60
2:B:515:HIS:H	2:B:518:HIS:CD2	2.18	0.60
3:C:47:ASP:HA	10:L:69:ALA:HB3	1.83	0.60
1:A:1444:MET:HE1	5:F:135:ARG:NE	2.16	0.60
2:B:977:GLY:HA3	2:B:1099:VAL:CG2	2.32	0.60
1:A:214:ILE:HG22	1:A:218:ASP:HB2	1.82	0.60
2:B:1162:ILE:HD11	2:B:1194:ILE:HD13	1.84	0.60
1:A:323:LYS:HZ2	1:A:324:SER:N	1.98	0.60
1:A:338:GLY:HA2	2:B:1129:ARG:HH22	1.67	0.60
1:A:899:VAL:HG22	1:A:1029:ARG:HG2	1.83	0.60
3:C:46:ILE:HD12	3:C:67:LEU:O	2.01	0.60
1:A:24:PRO:HD2	1:A:233:TRP:CD1	2.37	0.60
1:A:65:LEU:HG	11:M:19:ASN:O	2.01	0.60
2:B:726:ALA:HB1	2:B:1051:THR:CG2	2.24	0.60
7:I:75:CYS:HB2	7:I:103:CYS:SG	2.38	0.60
1:A:516:SER:O	1:A:518:LYS:N	2.35	0.60
1:A:693:VAL:HG21	1:A:721:PHE:HE1	1.67	0.60
1:A:855:THR:CG2	1:A:857:ARG:HE	1.89	0.60
2:B:613:VAL:HG22	2:B:628:THR:HG23	1.83	0.60
9:K:65:HIS:HD2	9:K:67:PHE:HB2	1.66	0.60
11:M:103:ASP:O	11:M:106:PHE:N	2.35	0.60
1:A:534:LEU:O	1:A:574:GLY:HA3	2.02	0.59
2:B:542:MET:CE	2:B:747:MET:HG3	2.32	0.59
1:A:376:TYR:OH	1:A:498:ARG:HD2	2.03	0.59
2:B:957:ASN:O	2:B:959:ASP:N	2.35	0.59
6:H:82:PRO:O	6:H:84:ALA:N	2.32	0.59
1:A:567:LYS:HZ1	6:H:46:LEU:HB2	1.66	0.59
2:B:824:ILE:HG12	8:J:48:ARG:NH1	2.11	0.59
4:E:16:PHE:CZ	4:E:20:LYS:HE2	2.37	0.59
2:B:516:ASN:H	2:B:516:ASN:HD22	1.51	0.59
3:C:167:HIS:CD2	3:C:169:LYS:H	2.16	0.59
1:A:1151:GLU:HG2	7:I:42:LEU:HD13	1.85	0.59
1:A:1436:ILE:CG2	2:B:1142:GLY:HA2	2.33	0.59
5:F:82:THR:HG22	5:F:84:TYR:H	1.68	0.59
1:A:709:THR:CG2	7:I:94:ASP:HA	2.32	0.59
1:A:23:SER:HB3	1:A:233:TRP:CZ2	2.37	0.59
2:B:653:VAL:HG22	2:B:689:LEU:HB3	1.84	0.59
3:C:46:ILE:HG13	3:C:72:LEU:HD11	1.84	0.59
2:B:211:VAL:O	2:B:480:SER:HA	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:100:THR:HG23	6:H:138:GLU:HA	1.85	0.59
1:A:1242:VAL:HG12	1:A:1243:VAL:N	2.17	0.58
1:A:1329:THR:HG22	1:A:1331:SER:N	2.16	0.58
2:B:579:ARG:HB2	2:B:586:TRP:NE1	2.18	0.58
6:H:38:LEU:HD13	6:H:125:LEU:HD13	1.84	0.58
9:K:47:ARG:HD3	9:K:59:ALA:O	2.03	0.58
1:A:262:LEU:HG	1:A:323:LYS:NZ	2.17	0.58
3:C:248:ILE:HD11	9:K:101:LEU:HD22	1.83	0.58
2:B:130:VAL:HG21	2:B:167:ILE:HD12	1.85	0.58
2:B:446:LEU:O	2:B:448:ILE:HG12	2.03	0.58
2:B:342:GLY:O	2:B:343:ILE:CB	2.51	0.58
4:E:176:PRO:O	4:E:212:ARG:HA	2.02	0.58
1:A:48:ALA:O	1:A:49:LYS:HG3	2.03	0.58
1:A:451:HIS:HB3	1:A:453:MET:H	1.68	0.58
2:B:614:SER:H	2:B:632:ARG:HH12	1.52	0.58
4:E:100:ILE:HG23	4:E:105:PHE:HB2	1.85	0.58
1:A:575:LYS:HB3	1:A:612:ILE:CG2	2.33	0.58
1:A:1372:VAL:O	1:A:1376:THR:HB	2.03	0.58
1:A:1398:MET:HG2	1:A:1425:SER:OG	2.03	0.58
2:B:363:HIS:O	2:B:364:ILE:HB	2.04	0.58
2:B:637:LEU:HD12	2:B:693:ILE:HD12	1.85	0.58
11:M:180:CYS:O	11:M:183:ALA:O	2.21	0.58
1:A:1031:VAL:HG13	1:A:1037:LEU:HD12	1.85	0.58
1:A:262:LEU:HD22	1:A:303:TYR:CE1	2.39	0.58
1:A:1193:LEU:HB3	1:A:1240:CYS:HB2	1.86	0.58
1:A:1438:THR:HB	2:B:1144:ALA:HB3	1.86	0.58
2:B:121:ASN:HA	2:B:207:GLY:HA3	1.85	0.58
2:B:635:ARG:NH1	2:B:742:GLU:OE2	2.36	0.58
2:B:830:TYR:CE2	2:B:1000:PRO:HD3	2.38	0.58
2:B:842:ASN:HD22	2:B:845:SER:H	1.51	0.58
1:A:23:SER:HB3	1:A:233:TRP:CE2	2.39	0.57
1:A:518:LYS:HB2	1:A:519:PRO:HD2	1.85	0.57
1:A:629:LEU:O	1:A:633:VAL:HG23	2.04	0.57
1:A:1324:PRO:HB2	4:E:142:VAL:HG11	1.85	0.57
2:B:426:LYS:HZ1	2:B:430:ARG:HH22	1.52	0.57
2:B:579:ARG:HB2	2:B:586:TRP:HE1	1.68	0.57
4:E:147:HIS:CD2	4:E:149:LEU:H	2.22	0.57
1:A:11:LEU:O	1:A:12:ARG:HG2	2.03	0.57
1:A:369:SER:CB	9:K:2:ASN:HD21	2.18	0.57
1:A:1223:ASP:HA	1:A:1243:VAL:HG12	1.86	0.57
1:A:1384:VAL:HG12	1:A:1384:VAL:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:709:THR:HG23	7:I:94:ASP:HA	1.86	0.57
2:B:549:THR:HB	2:B:628:THR:CG2	2.34	0.57
2:B:506:GLY:O	2:B:507:LYS:CB	2.52	0.57
2:B:822:ASN:HD22	8:J:52:THR:HG21	1.70	0.57
7:I:75:CYS:SG	7:I:108:HIS:CB	2.91	0.57
3:C:56:THR:HG23	3:C:147:LEU:HD23	1.85	0.57
11:M:45:CYS:O	11:M:49:GLY:HA2	2.05	0.57
1:A:1192:LEU:HD11	1:A:1239:ARG:HB3	1.86	0.57
6:H:62:SER:OG	6:H:63:LEU:N	2.37	0.57
1:A:441:PRO:HD2	1:A:498:ARG:HH21	1.61	0.57
1:A:605:MET:HE3	1:A:614:PHE:O	2.04	0.57
1:A:332:LYS:H	1:A:337:ARG:CB	2.16	0.56
1:A:367:PRO:CB	1:A:466:SER:HA	2.34	0.56
2:B:46:GLN:NE2	2:B:496:ARG:HA	2.20	0.56
1:A:828:ALA:CB	2:B:530:GLY:HA2	2.35	0.56
1:A:95:PHE:HE2	1:A:1414:ALA:HB2	1.69	0.56
1:A:855:THR:CG2	1:A:857:ARG:HG3	2.35	0.56
1:A:1261:LYS:HA	1:A:1264:GLU:HB3	1.87	0.56
2:B:345:LYS:HA	2:B:348:ARG:HE	1.70	0.56
3:C:70:ILE:HD11	3:C:144:ILE:HG12	1.87	0.56
6:H:24:CYS:HB2	6:H:44:VAL:HG21	1.87	0.56
1:A:351:THR:HG23	2:B:1103:ILE:HA	1.88	0.56
1:A:907:THR:CG2	1:A:908:LEU:N	2.68	0.56
2:B:1084:GLN:CD	2:B:1084:GLN:N	2.56	0.56
1:A:73:GLY:O	1:A:75:ASN:N	2.37	0.56
1:A:535:THR:HG21	1:A:616:VAL:HA	1.87	0.56
1:A:1308:THR:HG23	1:A:1309:ASP:N	2.20	0.56
2:B:745:PRO:O	2:B:748:ILE:HG12	2.06	0.56
2:B:911:ILE:HD11	2:B:941:LEU:CD1	2.33	0.56
1:A:567:LYS:HZ2	6:H:46:LEU:HB2	1.68	0.56
2:B:792:MET:HA	2:B:856:PHE:O	2.06	0.56
6:H:59:ILE:HG22	6:H:60:ALA:H	1.71	0.56
1:A:351:THR:CG2	2:B:1103:ILE:HG23	2.35	0.56
8:J:48:ARG:HH21	8:J:49:MET:HE1	1.70	0.56
1:A:210:ILE:O	1:A:214:ILE:HG13	2.06	0.56
1:A:351:THR:HG21	1:A:466:SER:O	2.06	0.56
2:B:256:VAL:HG11	2:B:382:ILE:HG12	1.87	0.56
1:A:65:LEU:CG	11:M:19:ASN:O	2.54	0.55
1:A:648:ASN:O	1:A:652:VAL:HG23	2.06	0.55
2:B:642:ASP:HB3	2:B:649:LYS:HE3	1.88	0.55
7:I:74:GLU:HB3	7:I:79:HIS:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:253:ASN:O	1:A:254:GLU:CB	2.55	0.55
2:B:899:ILE:HG13	2:B:911:ILE:O	2.06	0.55
1:A:528:LEU:O	1:A:531:ILE:HG22	2.06	0.55
1:A:738:LYS:HG3	1:A:740:LEU:HG	1.88	0.55
1:A:1212:VAL:O	1:A:1216:ILE:HG13	2.07	0.55
1:A:1209:MET:SD	1:A:1236:LEU:HB3	2.46	0.55
2:B:800:GLN:HB3	8:J:52:THR:HG22	1.89	0.55
1:A:899:VAL:CG2	1:A:1029:ARG:HG2	2.37	0.55
2:B:1135:ARG:HG3	2:B:1147:LEU:HD21	1.87	0.55
1:A:1308:THR:HG21	1:A:1310:GLY:O	2.06	0.55
2:B:437:GLU:HG2	2:B:438:GLU:N	2.13	0.55
1:A:312:PRO:HG3	11:M:98:LYS:N	2.15	0.55
1:A:1391:ARG:O	1:A:1393:ASN:N	2.40	0.55
2:B:485:ARG:NH2	2:B:782:LEU:HD11	2.22	0.55
1:A:65:LEU:HD11	11:M:19:ASN:O	2.07	0.54
1:A:1364:ASN:HD21	1:A:1366:ARG:HH11	1.54	0.54
1:A:1376:THR:HG23	4:E:212:ARG:NH2	2.21	0.54
2:B:67:SER:HB2	2:B:92:PHE:HD1	1.71	0.54
2:B:470:LYS:O	2:B:471:LYS:HG3	2.07	0.54
2:B:475:SER:C	2:B:477:ALA:H	2.09	0.54
1:A:1332:PHE:H	1:A:1332:PHE:HD2	1.52	0.54
1:A:682:THR:HG23	1:A:728:LYS:HE3	1.89	0.54
11:M:143:PRO:O	11:M:147:LYS:CA	2.56	0.54
1:A:1039:LYS:O	1:A:1043:ASP:HB2	2.07	0.54
2:B:1198:TYR:CE1	2:B:1201:LYS:HD2	2.42	0.54
6:H:80:ARG:HG2	9:K:57:LEU:HD22	1.89	0.54
9:K:65:HIS:CD2	9:K:67:PHE:H	2.23	0.54
10:L:51:CYS:SG	10:L:51:CYS:O	2.66	0.54
1:A:31:SER:CB	1:A:83:HIS:HB2	2.38	0.54
1:A:1235:LYS:HB3	1:A:1237:ILE:HD11	1.89	0.54
1:A:1392:SER:O	1:A:1393:ASN:HB2	2.07	0.54
2:B:996:ARG:HG3	2:B:1007:VAL:HG11	1.88	0.54
6:H:106:GLU:C	6:H:108:SER:N	2.61	0.54
1:A:549:MET:SD	1:A:577:ILE:HD12	2.48	0.54
2:B:801:LYS:O	8:J:52:THR:CG2	2.52	0.54
2:B:952:VAL:HG22	2:B:966:VAL:HG13	1.90	0.54
6:H:24:CYS:HB2	6:H:44:VAL:CG2	2.38	0.54
8:J:44:TYR:HA	8:J:47:ARG:HB2	1.89	0.54
3:C:143:LEU:HD21	3:C:146:LYS:HE3	1.88	0.54
1:A:868:TYR:CE1	1:A:1064:VAL:CG1	2.91	0.54
2:B:496:ARG:HH11	2:B:539:LEU:HB2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1208:THR:HG22	1:A:1210:GLY:H	1.73	0.54
6:H:31:THR:O	6:H:32:THR:CB	2.55	0.54
7:I:78:CYS:SG	7:I:106:CYS:HB3	2.48	0.54
1:A:442:VAL:O	1:A:457:ALA:HA	2.08	0.54
1:A:1308:THR:CG2	1:A:1309:ASP:N	2.70	0.54
1:A:443:LEU:HD11	2:B:1138:MET:SD	2.48	0.53
1:A:1308:THR:CG2	1:A:1310:GLY:H	2.21	0.53
3:C:51:VAL:HG22	3:C:155:LEU:HD22	1.90	0.53
2:B:644:GLU:HG3	2:B:654:ARG:HH22	1.71	0.53
3:C:180:TYR:HB3	3:C:228:PHE:CD2	2.43	0.53
4:E:135:PHE:HD2	4:E:140:LEU:HD21	1.73	0.53
1:A:336:ILE:HD12	1:A:1405:THR:CG2	2.38	0.53
1:A:1017:LEU:HB2	4:E:206:GLY:H	1.73	0.53
1:A:1436:ILE:CG2	1:A:1437:GLY:H	2.21	0.53
3:C:62:PHE:O	3:C:66:ARG:HG3	2.08	0.53
2:B:102:VAL:HG22	2:B:112:LEU:HD22	1.91	0.53
2:B:1007:VAL:HG22	2:B:1008:PRO:CD	2.33	0.53
8:J:1:MET:H1	8:J:56:LEU:HB2	1.73	0.53
9:K:7:PHE:O	9:K:11:LEU:HB2	2.08	0.53
8:J:8:PHE:H	8:J:49:MET:CE	2.20	0.53
1:A:886:ILE:HD11	1:A:943:LEU:HB3	1.91	0.53
6:H:31:THR:O	6:H:32:THR:HB	2.07	0.53
6:H:40:LEU:HD13	6:H:123:MET:HB2	1.89	0.53
1:A:35:ILE:HD12	1:A:241:VAL:HG21	1.91	0.53
5:F:90:ARG:HD3	5:F:155:LEU:HD12	1.90	0.53
2:B:34:ILE:O	2:B:37:PHE:HB3	2.09	0.53
2:B:172:ILE:HD13	2:B:178:ASN:CB	2.37	0.53
2:B:291:ILE:HD12	2:B:375:ALA:HB1	1.89	0.53
2:B:597:MET:SD	2:B:617:ARG:HB2	2.49	0.53
2:B:1084:GLN:H	2:B:1084:GLN:NE2	2.07	0.53
1:A:441:PRO:HD2	1:A:498:ARG:CZ	2.37	0.53
2:B:467:GLY:HA3	2:B:473:MET:HE3	1.91	0.53
2:B:975:GLN:HG2	2:B:976:ILE:H	1.74	0.52
4:E:135:PHE:HB3	4:E:140:LEU:HD11	1.92	0.52
6:H:125:LEU:HG	6:H:130:ARG:NH1	2.24	0.52
1:A:741:ASN:HD22	1:A:744:LYS:H	1.56	0.52
2:B:98:THR:O	2:B:126:SER:HB2	2.09	0.52
3:C:55:THR:HB	3:C:152:GLU:H	1.75	0.52
1:A:369:SER:HB3	9:K:2:ASN:HD21	1.74	0.52
1:A:566:ILE:HD11	6:H:98:TYR:HB2	1.92	0.52
1:A:871:ASP:OD1	1:A:1366:ARG:NH2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:756:ILE:HG12	2:B:770:GLN:HG2	1.90	0.52
2:B:1020:ARG:HB2	2:B:1022:THR:HG22	1.91	0.52
1:A:1114:PRO:HB2	1:A:1311:VAL:CG2	2.40	0.52
1:A:784:LEU:HB3	1:A:786:HIS:HD2	1.75	0.52
1:A:1161:THR:HG23	1:A:1239:ARG:HH21	1.74	0.52
1:A:1190:PRO:HG3	7:I:18:GLU:OE2	2.10	0.52
1:A:1291:VAL:CG1	1:A:1292:PRO:HD2	2.40	0.52
1:A:1434:ALA:O	1:A:1436:ILE:N	2.39	0.52
2:B:102:VAL:HG23	2:B:112:LEU:HB2	1.91	0.52
6:H:12:VAL:O	6:H:52:GLN:HA	2.10	0.52
3:C:99:LEU:CD2	3:C:120:ILE:HG12	2.40	0.52
1:A:33:ALA:O	1:A:83:HIS:HB3	2.10	0.52
1:A:340:LEU:HD21	2:B:1200:ALA:HB2	1.92	0.52
1:A:709:THR:HG21	7:I:93:LYS:O	2.09	0.52
1:A:890:ASP:H	1:A:1296:GLY:HA3	1.74	0.52
2:B:839:MET:HE1	2:B:1010:LEU:HD11	1.91	0.52
6:H:58:THR:HB	6:H:143:LEU:HB2	1.90	0.52
1:A:335:ARG:HA	1:A:339:ASN:HB2	1.92	0.52
1:A:783:THR:O	1:A:784:LEU:HD23	2.10	0.52
2:B:171:PRO:HD2	2:B:457:LEU:HD13	1.92	0.52
2:B:487:THR:HG22	2:B:489:SER:H	1.75	0.52
2:B:1154:ALA:O	2:B:1155:SER:CB	2.58	0.52
2:B:1166:CYS:O	2:B:1168:LEU:N	2.42	0.52
3:C:174:ALA:O	8:J:10:CYS:O	2.28	0.52
1:A:535:THR:CG2	1:A:616:VAL:HA	2.40	0.51
2:B:128:LEU:HB3	2:B:167:ILE:O	2.09	0.51
5:F:93:ILE:HD13	5:F:148:VAL:CG2	2.40	0.51
11:M:103:ASP:O	11:M:104:MET:C	2.48	0.51
1:A:1308:THR:CG2	1:A:1310:GLY:O	2.57	0.51
2:B:173:MET:O	2:B:175:ARG:N	2.44	0.51
2:B:542:MET:HE1	2:B:743:ILE:CB	2.40	0.51
1:A:262:LEU:HG	1:A:323:LYS:HZ3	1.74	0.51
1:A:850:VAL:HG21	1:A:1058:VAL:HG11	1.93	0.51
1:A:1339:LEU:HD13	4:E:147:HIS:CD2	2.45	0.51
2:B:955:THR:HG23	10:L:54:ARG:O	2.10	0.51
1:A:21:LEU:HD11	1:A:1414:ALA:HA	1.92	0.51
1:A:494:SER:O	1:A:498:ARG:HG3	2.09	0.51
1:A:690:VAL:HG11	1:A:794:PRO:HD3	1.91	0.51
2:B:1159:ARG:HD3	2:B:1193:GLN:HG3	1.93	0.51
1:A:1343:ALA:HB2	4:E:150:VAL:HG22	1.92	0.51
2:B:711:GLU:N	2:B:712:PRO:CD	2.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:980:PHE:CE1	2:B:990:ILE:HD11	2.46	0.51
4:E:145:THR:HG21	4:E:187:TYR:CE2	2.45	0.51
5:F:93:ILE:HD11	5:F:134:ILE:HD11	1.91	0.51
1:A:499:ALA:O	1:A:503:GLN:HB2	2.11	0.51
2:B:401:PHE:HB2	2:B:517:THR:OG1	2.11	0.51
2:B:542:MET:HE1	2:B:743:ILE:HB	1.92	0.51
2:B:770:GLN:HG2	2:B:983:ARG:O	2.11	0.51
5:F:138:LEU:HB3	5:F:139:PRO:HD2	1.93	0.51
7:I:73:ARG:O	7:I:81:ARG:HA	2.10	0.51
1:A:575:LYS:HB3	1:A:612:ILE:HG21	1.93	0.51
2:B:336:ARG:O	2:B:337:ARG:CB	2.59	0.51
2:B:898:LEU:HD21	2:B:964:VAL:HG11	1.93	0.51
2:B:898:LEU:CD2	2:B:964:VAL:HG11	2.41	0.51
3:C:180:TYR:HB3	3:C:228:PHE:HD2	1.76	0.51
8:J:7:CYS:SG	8:J:49:MET:HE3	2.51	0.51
1:A:283:GLY:O	1:A:285:PRO:HD3	2.11	0.51
1:A:262:LEU:HD22	1:A:303:TYR:HE1	1.76	0.51
2:B:640:VAL:HG12	2:B:640:VAL:O	2.11	0.51
2:B:955:THR:CG2	2:B:956:THR:H	2.12	0.51
8:J:12:LYS:O	8:J:14:VAL:HG23	2.11	0.51
1:A:670:ILE:O	1:A:737:LEU:HD21	2.10	0.50
2:B:426:LYS:NZ	2:B:430:ARG:HH22	2.10	0.50
2:B:710:LEU:HA	2:B:733:HIS:HB3	1.93	0.50
1:A:348:SER:HA	1:A:489:LEU:O	2.11	0.50
1:A:451:HIS:HB3	1:A:453:MET:N	2.27	0.50
2:B:200:GLY:HA2	2:B:202:TYR:HE2	1.73	0.50
2:B:244:LEU:O	2:B:249:ARG:HG2	2.12	0.50
1:A:1064:VAL:HG12	1:A:1370:LEU:HD22	1.92	0.50
2:B:274:PRO:HB2	2:B:275:TYR:HD1	1.76	0.50
2:B:758:PHE:HB2	2:B:1024:ALA:HB1	1.94	0.50
6:H:59:ILE:CG2	6:H:60:ALA:N	2.71	0.50
1:A:388:LEU:O	1:A:392:VAL:HG23	2.10	0.50
1:A:605:MET:CE	1:A:614:PHE:O	2.59	0.50
1:A:775:ILE:HG13	1:A:798:GLY:HA3	1.93	0.50
2:B:43:LEU:HD11	2:B:811:TYR:O	2.11	0.50
6:H:91:ASP:C	6:H:93:TYR:H	2.13	0.50
1:A:546:VAL:HG13	1:A:577:ILE:HG21	1.92	0.50
1:A:787:PHE:HE1	1:A:815:PHE:HZ	1.58	0.50
3:C:142:VAL:H	8:J:16:ASP:HB3	1.77	0.50
2:B:781:PHE:CE2	2:B:795:ILE:HD11	2.46	0.50
2:B:1220:ARG:O	2:B:1222:ARG:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:101:ALA:HB2	6:H:116:TYR:CE2	2.47	0.50
1:A:1018:PHE:O	1:A:1021:LEU:HB3	2.12	0.50
1:A:1345:ARG:HG3	1:A:1376:THR:HG21	1.93	0.50
2:B:130:VAL:HG12	2:B:131:ASP:N	2.27	0.50
2:B:416:LEU:HD11	2:B:460:ALA:CB	2.41	0.50
2:B:800:GLN:HB3	8:J:52:THR:CG2	2.41	0.50
2:B:983:ARG:HD2	2:B:1091:TYR:CD2	2.41	0.50
3:C:56:THR:HG22	3:C:57:VAL:N	2.21	0.50
1:A:1170:ILE:HD11	1:A:1239:ARG:NH1	2.27	0.50
2:B:1051:THR:HG22	2:B:1053:GLU:H	1.77	0.50
3:C:241:ASP:HB3	9:K:109:TRP:CE2	2.46	0.50
7:I:14:LEU:HB3	7:I:27:PHE:HB3	1.93	0.50
8:J:8:PHE:H	8:J:49:MET:HE1	1.77	0.50
1:A:709:THR:HG22	1:A:711:ARG:H	1.76	0.50
1:A:736:ASN:O	1:A:737:LEU:HB2	2.12	0.50
2:B:640:VAL:O	2:B:641:GLU:C	2.50	0.50
1:A:407:ARG:HG2	1:A:430:TRP:CE2	2.46	0.49
1:A:868:TYR:HD2	1:A:1058:VAL:CG2	2.16	0.49
1:A:973:ILE:HG21	1:A:1036:ARG:O	2.11	0.49
2:B:243:ALA:HA	2:B:250:PHE:O	2.12	0.49
2:B:356:LEU:HA	2:B:360:PHE:HB3	1.94	0.49
6:H:5:LEU:O	6:H:133:ASN:HB3	2.12	0.49
1:A:317:LYS:O	1:A:318:SER:O	2.30	0.49
2:B:205:ILE:CD1	2:B:461:LEU:HD23	2.39	0.49
1:A:108:MET:O	1:A:109:HIS:HB2	2.13	0.49
1:A:1281:ARG:O	1:A:1282:VAL:HG23	2.13	0.49
2:B:380:TYR:O	2:B:384:ARG:HG2	2.12	0.49
2:B:705:MET:N	2:B:710:LEU:HD12	2.27	0.49
3:C:167:HIS:CD2	3:C:169:LYS:HG2	2.46	0.49
3:C:248:ILE:HG21	9:K:102:LYS:HB2	1.92	0.49
5:F:81:THR:HG22	5:F:82:THR:N	2.27	0.49
9:K:47:ARG:HH11	9:K:47:ARG:HB3	1.77	0.49
1:A:711:ARG:HH11	7:I:95:THR:HB	1.76	0.49
2:B:25:ILE:HD11	2:B:653:VAL:HB	1.93	0.49
2:B:1194:ILE:HD12	2:B:1196:ILE:HG23	1.93	0.49
1:A:359:LEU:HD22	1:A:363:GLN:HB2	1.94	0.49
9:K:33:ILE:HD13	9:K:87:LEU:HD22	1.95	0.49
1:A:376:TYR:CZ	1:A:498:ARG:HD2	2.47	0.49
1:A:490:HIS:HB3	2:B:1150:ARG:NH1	2.27	0.49
2:B:102:VAL:CG2	2:B:112:LEU:HB2	2.43	0.49
2:B:237:VAL:HG22	2:B:257:LYS:HG2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:836:GLU:O	2:B:837:ASP:HB2	2.12	0.49
1:A:858:ASN:C	1:A:858:ASN:HD22	2.16	0.49
1:A:1105:LEU:HA	1:A:1375:MET:HE3	1.94	0.49
2:B:839:MET:O	2:B:990:ILE:HA	2.12	0.49
2:B:1166:CYS:HB2	2:B:1215:ARG:HH11	1.77	0.49
3:C:36:VAL:HG21	3:C:251:LEU:HB2	1.93	0.49
1:A:1348:LEU:O	1:A:1352:VAL:HG23	2.13	0.49
2:B:600:LEU:HB3	2:B:615:MET:SD	2.53	0.49
6:H:89:LEU:C	6:H:91:ASP:H	2.15	0.49
1:A:351:THR:HG23	2:B:1103:ILE:HG23	1.93	0.49
1:A:825:ILE:HD11	2:B:512:ARG:O	2.12	0.49
1:A:1342:GLU:OE2	4:E:212:ARG:NH1	2.44	0.49
1:A:1435:PRO:HA	1:A:1439:GLY:O	2.12	0.49
2:B:981:ALA:HB2	2:B:1095:LEU:HD11	1.94	0.49
2:B:1148:LYS:O	2:B:1152:MET:HB2	2.12	0.49
1:A:519:PRO:HD3	1:A:631:HIS:CD2	2.48	0.49
1:A:849:MET:HB3	1:A:1063:MET:SD	2.53	0.49
2:B:240:ILE:HG23	2:B:240:ILE:O	2.13	0.49
2:B:899:ILE:HD12	2:B:911:ILE:HG23	1.93	0.49
5:F:101:ILE:HD11	5:F:124:GLU:OE1	2.13	0.49
1:A:590:ARG:HB3	1:A:605:MET:N	2.28	0.48
1:A:751:SER:OG	2:B:1015:HIS:CE1	2.66	0.48
1:A:901:LEU:HD22	1:A:919:ILE:HG22	1.93	0.48
1:A:1364:ASN:ND2	1:A:1366:ARG:HH11	2.11	0.48
2:B:248:SER:H	2:B:418:LYS:NZ	2.12	0.48
2:B:642:ASP:O	2:B:644:GLU:N	2.46	0.48
2:B:1002:THR:HG23	2:B:1004:GLU:N	2.27	0.48
2:B:1002:THR:HG22	2:B:1006:ILE:H	1.78	0.48
2:B:1197:PRO:O	2:B:1200:ALA:HB3	2.13	0.48
4:E:90:VAL:HA	4:E:120:ALA:HB2	1.93	0.48
5:F:86:THR:HG23	5:F:89:GLU:CD	2.32	0.48
7:I:113:ASP:OD2	7:I:116:ASN:HB2	2.13	0.48
1:A:1317:MET:HG2	1:A:1327:ILE:HG21	1.94	0.48
9:K:7:PHE:HA	9:K:10:PHE:CE2	2.47	0.48
1:A:1261:LYS:HE2	7:I:43:VAL:HG11	1.95	0.48
1:A:1266:THR:HA	1:A:1270:ASN:HD22	1.79	0.48
2:B:1017:ILE:HD13	2:B:1026:LEU:HD21	1.95	0.48
3:C:177:GLU:HB2	3:C:231:ASN:HB3	1.94	0.48
1:A:114:LEU:HD12	1:A:142:CYS:O	2.12	0.48
1:A:839:ARG:NH1	2:B:1132:GLU:OE1	2.47	0.48
1:A:855:THR:HG23	1:A:857:ARG:CG	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:780:VAL:HG21	8:J:56:LEU:HD13	1.96	0.48
2:B:806:THR:HG22	2:B:808:ALA:H	1.76	0.48
5:F:93:ILE:HD13	5:F:148:VAL:HG21	1.95	0.48
1:A:901:LEU:H	1:A:926:GLN:HE21	1.55	0.48
2:B:516:ASN:H	2:B:516:ASN:ND2	2.12	0.48
1:A:84:ILE:HG22	1:A:239:LEU:O	2.14	0.48
1:A:105:CYS:SG	1:A:138:ILE:HG22	2.53	0.48
1:A:135:PHE:HD1	1:A:222:LEU:HD22	1.78	0.48
9:K:47:ARG:HB3	9:K:47:ARG:NH1	2.29	0.48
9:K:49:GLU:HG3	9:K:94:ILE:HG12	1.96	0.48
1:A:1223:ASP:HA	1:A:1243:VAL:CG1	2.44	0.48
2:B:879:ARG:HD2	2:B:883:LEU:HD23	1.94	0.48
1:A:42:ASP:OD1	1:A:45:GLN:O	2.32	0.48
1:A:257:ARG:NH2	11:M:88:ASP:O	2.46	0.48
1:A:866:PHE:C	1:A:867:ILE:HG13	2.34	0.48
1:A:997:LEU:HB3	1:A:1053:PHE:CE2	2.49	0.48
2:B:696:GLU:O	2:B:699:GLU:HB2	2.13	0.48
3:C:255:VAL:HG21	9:K:94:ILE:HG21	1.96	0.48
2:B:48:LEU:HD21	2:B:175:ARG:HB3	1.96	0.47
2:B:95:ILE:HG13	2:B:129:PHE:O	2.14	0.47
1:A:116:ASP:HB2	1:A:118:HIS:CD2	2.49	0.47
1:A:862:ASN:OD1	4:E:174:GLN:HA	2.14	0.47
2:B:303:TYR:HH	2:B:586:TRP:HZ3	1.60	0.47
2:B:806:THR:HB	2:B:809:MET:HG3	1.96	0.47
2:B:1120:GLU:HG2	2:B:1121:GLY:N	2.29	0.47
1:A:70:CYS:O	1:A:72:GLU:HG2	2.14	0.47
1:A:76:GLU:CG	1:A:76:GLU:O	2.62	0.47
1:A:315:LEU:O	1:A:317:LYS:O	2.32	0.47
2:B:315:LYS:HE3	7:I:4:PHE:CD2	2.48	0.47
2:B:470:LYS:C	2:B:472:ALA:H	2.17	0.47
2:B:705:MET:H	2:B:710:LEU:CD1	2.28	0.47
1:A:724:GLU:O	1:A:728:LYS:HG2	2.15	0.47
1:A:872:GLY:C	1:A:1058:VAL:HG23	2.35	0.47
1:A:1390:ASN:ND2	1:A:1399:ARG:HA	2.30	0.47
2:B:405:ARG:NH1	2:B:632:ARG:HG2	2.30	0.47
2:B:821:GLN:HE22	2:B:851:PHE:H	1.62	0.47
2:B:1100:ASP:HA	2:B:1103:ILE:HD11	1.96	0.47
11:M:143:PRO:O	11:M:147:LYS:N	2.47	0.47
1:A:1364:ASN:HD21	1:A:1366:ARG:NH1	2.13	0.47
2:B:276:ILE:HG23	2:B:337:ARG:CB	2.44	0.47
1:A:1027:ALA:O	1:A:1031:VAL:HG23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1239:ARG:HH22	1:A:1241:ARG:HH21	1.63	0.47
1:A:1288:ASP:OD1	1:A:1300:LYS:NZ	2.47	0.47
2:B:54:PHE:O	2:B:59:LEU:HB2	2.14	0.47
2:B:756:ILE:O	2:B:759:PRO:HD3	2.15	0.47
4:E:205:SER:O	4:E:206:GLY:C	2.52	0.47
7:I:53:GLY:O	7:I:89:GLN:HB2	2.14	0.47
1:A:1207:LEU:HD13	1:A:1273:LEU:HD23	1.96	0.47
2:B:773:MET:SD	2:B:987:LYS:HD2	2.55	0.47
2:B:846:ILE:HG23	2:B:974:PRO:HG2	1.96	0.47
3:C:37:MET:HA	3:C:41:ILE:HD11	1.96	0.47
3:C:241:ASP:O	3:C:245:VAL:HG23	2.15	0.47
9:K:55:LYS:HB3	9:K:81:TYR:HD1	1.79	0.47
1:A:984:LYS:O	1:A:988:LEU:HB2	2.15	0.47
1:A:1130:GLN:HE21	1:A:1134:ILE:HD11	1.80	0.47
6:H:93:TYR:HA	6:H:145:ARG:HB3	1.97	0.47
1:A:49:LYS:HB3	1:A:55:ASP:CB	2.44	0.47
1:A:207:ILE:HA	1:A:210:ILE:HD12	1.96	0.47
1:A:663:SER:OG	1:A:664:THR:N	2.48	0.47
3:C:31:ASN:O	3:C:35:ARG:HG3	2.14	0.47
11:M:164:LYS:O	11:M:165:GLY:C	2.52	0.47
6:H:4:THR:HA	6:H:60:ALA:HB2	1.96	0.46
1:A:302:THR:HA	1:A:305:ASP:O	2.15	0.46
1:A:367:PRO:HB3	1:A:465:TYR:O	2.15	0.46
1:A:563:PRO:HG3	1:A:572:TRP:CZ2	2.50	0.46
2:B:363:HIS:O	2:B:364:ILE:CB	2.63	0.46
3:C:8:VAL:HA	3:C:21:ILE:O	2.15	0.46
3:C:46:ILE:HA	3:C:159:ALA:HA	1.95	0.46
5:F:111:LEU:C	5:F:113:GLY:H	2.18	0.46
1:A:14:VAL:HB	1:A:1430:LEU:HD13	1.97	0.46
1:A:257:ARG:NH1	11:M:85:PRO:O	2.48	0.46
1:A:367:PRO:HG2	1:A:370:ILE:CD1	2.41	0.46
1:A:456:MET:HB2	1:A:478:TYR:OH	2.15	0.46
1:A:514:PRO:O	1:A:875:ALA:HB1	2.15	0.46
2:B:1073:TYR:OH	3:C:179:GLU:HG3	2.15	0.46
11:M:45:CYS:C	11:M:47:LEU:H	2.16	0.46
1:A:324:SER:O	1:A:326:ARG:N	2.45	0.46
1:A:763:ALA:O	1:A:803:SER:HB3	2.14	0.46
2:B:189:LEU:HD13	2:B:196:PRO:HA	1.98	0.46
2:B:1069:PHE:HA	2:B:1085:ILE:O	2.15	0.46
7:I:29:CYS:HB3	7:I:34:TYR:HB3	1.98	0.46
9:K:20:LYS:HB2	9:K:20:LYS:HE3	1.61	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:507:VAL:O	1:A:508:PRO:C	2.52	0.46
1:A:638:GLY:O	1:A:639:PRO:C	2.54	0.46
1:A:800:VAL:HA	1:A:812:GLU:OE2	2.16	0.46
2:B:25:ILE:HD12	2:B:651:LEU:CD1	2.43	0.46
2:B:115:GLN:HG2	2:B:193:LYS:HB2	1.97	0.46
2:B:582:VAL:HG22	2:B:626:ILE:HB	1.97	0.46
2:B:693:ILE:HG23	2:B:697:GLU:HB3	1.97	0.46
3:C:55:THR:HG22	3:C:55:THR:O	2.16	0.46
4:E:61:GLN:HE21	4:E:105:PHE:HE2	1.64	0.46
5:F:118:LEU:O	5:F:122:MET:HG3	2.15	0.46
7:I:86:PHE:HD1	7:I:87:GLN:O	1.99	0.46
1:A:388:LEU:HA	1:A:388:LEU:HD23	1.76	0.46
1:A:836:TYR:CE2	1:A:840:ARG:HD2	2.51	0.46
1:A:1015:VAL:HG12	1:A:1019:CYS:SG	2.56	0.46
2:B:34:ILE:HG12	2:B:542:MET:HE2	1.98	0.46
2:B:863:GLU:OE1	2:B:962:LYS:HB2	2.16	0.46
3:C:44:LEU:HD23	3:C:130:GLY:HA2	1.98	0.46
2:B:614:SER:N	2:B:632:ARG:HH12	2.14	0.46
3:C:251:LEU:O	3:C:255:VAL:HG23	2.16	0.46
1:A:451:HIS:O	2:B:1137:CYS:SG	2.68	0.46
2:B:357:GLN:O	2:B:374:LYS:NZ	2.49	0.46
2:B:365:THR:HG23	2:B:367:LEU:H	1.81	0.46
5:F:109:VAL:CG1	5:F:110:ASP:N	2.79	0.46
7:I:8:ARG:HG3	7:I:9:ASP:CG	2.36	0.46
7:I:75:CYS:SG	7:I:103:CYS:HB2	2.55	0.46
1:A:32:VAL:HG21	1:A:68:GLN:HE22	1.79	0.46
1:A:243:PRO:HB2	1:A:245:PRO:CD	2.44	0.46
1:A:1373:ASP:O	1:A:1377:THR:HG23	2.16	0.46
2:B:468:GLU:O	2:B:470:LYS:N	2.49	0.46
1:A:335:ARG:HA	1:A:339:ASN:HD22	1.82	0.45
1:A:1385:THR:HG22	1:A:1386:ARG:HG2	1.98	0.45
2:B:880:THR:HA	2:B:881:ASN:HA	1.74	0.45
2:B:1190:ASP:O	2:B:1191:ILE:HG13	2.16	0.45
1:A:329:LEU:HD23	1:A:335:ARG:HG3	1.98	0.45
1:A:1120:LEU:HD23	1:A:1124:HIS:O	2.16	0.45
3:C:52:GLU:HB3	3:C:154:LYS:HB3	1.98	0.45
3:C:53:THR:O	3:C:153:LEU:HA	2.16	0.45
1:A:16:GLU:HB3	1:A:1418:LEU:HD11	1.98	0.45
1:A:1120:LEU:HD13	1:A:1304:TRP:O	2.16	0.45
1:A:1291:VAL:HG12	1:A:1292:PRO:HD2	1.96	0.45
1:A:1436:ILE:HB	2:B:1144:ALA:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:325:GLN:HE22	7:I:12:ASN:ND2	2.14	0.45
2:B:345:LYS:O	2:B:347:LYS:N	2.49	0.45
2:B:542:MET:HE2	2:B:747:MET:HG3	1.99	0.45
2:B:830:TYR:CZ	2:B:1000:PRO:HD3	2.52	0.45
1:A:676:MET:HA	1:A:679:ILE:HD12	1.98	0.45
2:B:437:GLU:CG	2:B:438:GLU:N	2.77	0.45
2:B:463:THR:HB	2:B:464:GLY:H	1.55	0.45
2:B:938:SER:O	2:B:940:PRO:HD3	2.17	0.45
10:L:53:HIS:C	10:L:55:ILE:H	2.20	0.45
1:A:584:ASN:O	1:A:637:LYS:HE3	2.16	0.45
1:A:971:PHE:CE2	1:A:1040:GLN:HG2	2.52	0.45
1:A:1146:VAL:HG11	1:A:1202:MET:SD	2.56	0.45
2:B:542:MET:HE3	2:B:747:MET:HG3	1.98	0.45
2:B:743:ILE:H	2:B:743:ILE:HG12	1.64	0.45
1:A:185:TRP:O	1:A:197:PRO:HB3	2.16	0.45
1:A:850:VAL:HG23	1:A:1064:VAL:CG2	2.45	0.45
2:B:1106:ARG:NH2	2:B:1109:GLY:H	2.07	0.45
3:C:177:GLU:O	3:C:230:MET:HA	2.16	0.45
1:A:1035:TYR:O	1:A:1037:LEU:N	2.50	0.45
2:B:955:THR:HA	10:L:54:ARG:O	2.17	0.45
2:B:1065:GLN:HB3	2:B:1069:PHE:O	2.16	0.45
1:A:399:HIS:C	1:A:401:GLY:H	2.20	0.45
1:A:475:THR:HG22	1:A:476:SER:N	2.32	0.45
1:A:1399:ARG:HB2	1:A:1408:ILE:HG21	1.99	0.45
2:B:755:ILE:HG22	2:B:755:ILE:O	2.17	0.45
2:B:842:ASN:ND2	2:B:845:SER:N	2.62	0.45
1:A:74:MET:O	1:A:75:ASN:HB2	2.17	0.45
1:A:97:ALA:HA	1:A:100:LYS:HE3	1.98	0.45
2:B:21:GLU:HB2	2:B:656:GLY:HA3	1.99	0.45
2:B:113:TYR:HB3	2:B:114:PRO:HD2	1.99	0.45
2:B:570:VAL:HG12	2:B:572:HIS:CE1	2.52	0.45
3:C:165:LYS:O	9:K:6:ARG:NH1	2.49	0.45
9:K:12:LEU:HD12	9:K:12:LEU:H	1.82	0.45
1:A:335:ARG:O	1:A:339:ASN:N	2.49	0.45
1:A:535:THR:HG21	1:A:617:VAL:N	2.30	0.45
6:H:106:GLU:O	6:H:108:SER:N	2.50	0.45
1:A:440:ASP:O	1:A:460:VAL:HG23	2.17	0.44
1:A:1406:VAL:HG12	1:A:1410:PHE:HE1	1.80	0.44
2:B:834:ASN:HB3	2:B:840:ILE:HG13	1.98	0.44
2:B:1170:THR:HG22	2:B:1183:LYS:HZ2	1.82	0.44
3:C:84:ARG:NE	9:K:11:LEU:HD21	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:320:ARG:HA	1:A:321:PRO:C	2.38	0.44
1:A:384:ASN:O	1:A:385:ILE:C	2.54	0.44
1:A:642:CYS:O	1:A:645:LEU:HB3	2.16	0.44
1:A:661:GLY:HA3	2:B:1081:LEU:HD22	2.00	0.44
1:A:738:LYS:HE3	3:C:193:TYR:O	2.17	0.44
3:C:260:LEU:O	3:C:264:GLN:HG3	2.17	0.44
1:A:17:VAL:HA	2:B:1215:ARG:O	2.18	0.44
2:B:1163:CYS:HB3	2:B:1166:CYS:O	2.16	0.44
3:C:114:TYR:CD2	3:C:140:ASN:HB3	2.52	0.44
1:A:356:ASP:OD2	9:K:65:HIS:HE1	2.00	0.44
1:A:590:ARG:HB2	1:A:605:MET:HB3	1.98	0.44
1:A:1170:ILE:HD11	1:A:1239:ARG:CZ	2.47	0.44
1:A:1281:ARG:HB2	1:A:1309:ASP:HB2	1.99	0.44
4:E:75:MET:CE	4:E:155:ARG:HH22	2.31	0.44
8:J:1:MET:N	8:J:56:LEU:HB2	2.31	0.44
1:A:352:VAL:HB	2:B:1099:VAL:CG2	2.47	0.44
1:A:590:ARG:HH21	1:A:620:LYS:HB3	1.83	0.44
1:A:841:LEU:O	1:A:845:LEU:HG	2.17	0.44
1:A:898:ARG:HD3	1:A:933:TYR:CD1	2.53	0.44
2:B:283:VAL:HG13	2:B:297:ILE:HD13	1.99	0.44
2:B:324:ILE:HG23	2:B:329:THR:HB	2.00	0.44
2:B:661:LEU:HD11	2:B:684:LEU:HD21	1.99	0.44
1:A:154:SER:HB3	1:A:162:VAL:HG23	1.99	0.44
1:A:590:ARG:O	1:A:591:PHE:HB2	2.17	0.44
1:A:666:ILE:HD12	1:A:666:ILE:H	1.82	0.44
1:A:672:ASP:HB2	1:A:736:ASN:HD21	1.82	0.44
1:A:1235:LYS:HB3	1:A:1237:ILE:CD1	2.48	0.44
2:B:35:SER:O	2:B:39:ARG:HG3	2.17	0.44
4:E:46:TYR:CE2	4:E:58:MET:HA	2.53	0.44
1:A:889:SER:HB3	1:A:1297:GLU:HG3	1.99	0.44
1:A:1033:GLN:O	1:A:1036:ARG:NH1	2.49	0.44
2:B:380:TYR:CE1	2:B:384:ARG:HD3	2.52	0.44
2:B:830:TYR:HB3	2:B:831:SER:H	1.56	0.44
2:B:1166:CYS:HB2	2:B:1215:ARG:NH1	2.33	0.44
4:E:19:VAL:O	4:E:23:VAL:HG23	2.18	0.44
7:I:45:ARG:HE	7:I:47:GLU:HG3	1.82	0.44
1:A:323:LYS:NZ	1:A:324:SER:H	2.16	0.44
1:A:924:LYS:O	1:A:927:VAL:HB	2.18	0.44
2:B:487:THR:CG2	2:B:488:TYR:N	2.80	0.44
2:B:562:GLY:HA3	2:B:590:HIS:CE1	2.53	0.44
3:C:33:LEU:O	3:C:37:MET:HE2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:123:MET:HE3	6:H:142:LEU:HD22	1.98	0.44
9:K:61:TYR:HA	9:K:72:LYS:O	2.18	0.44
1:A:260:ASP:OD1	1:A:261:ASP:N	2.51	0.44
1:A:689:LYS:O	1:A:693:VAL:HG23	2.17	0.44
1:A:867:ILE:HG22	1:A:872:GLY:N	2.33	0.44
2:B:221:ASN:OD1	2:B:242:SER:HA	2.18	0.44
2:B:956:THR:HA	2:B:961:LEU:O	2.18	0.44
3:C:99:LEU:HD22	3:C:120:ILE:HG12	2.00	0.44
7:I:54:GLU:HB3	7:I:100:PHE:CZ	2.53	0.44
1:A:31:SER:HB2	1:A:83:HIS:HB2	1.99	0.43
1:A:243:PRO:CB	1:A:245:PRO:HD2	2.46	0.43
1:A:384:ASN:OD1	1:A:388:LEU:HD12	2.17	0.43
2:B:201:GLY:H	2:B:202:TYR:HD2	1.66	0.43
3:C:38:ILE:HG13	3:C:176:ILE:HD12	2.00	0.43
3:C:67:LEU:HD23	3:C:70:ILE:HD12	2.00	0.43
7:I:59:VAL:HG12	7:I:60:GLN:H	1.83	0.43
1:A:14:VAL:H	1:A:1432:GLN:NE2	2.12	0.43
1:A:41:MET:HA	1:A:49:LYS:HA	1.99	0.43
1:A:567:LYS:CB	1:A:568:PRO:CD	2.67	0.43
1:A:599:SER:HB2	1:A:603:ASN:H	1.82	0.43
2:B:313:MET:O	2:B:316:PRO:HD2	2.18	0.43
4:E:46:TYR:CD2	4:E:58:MET:HG2	2.53	0.43
6:H:95:TYR:HE2	6:H:97:MET:CG	2.24	0.43
9:K:58:PHE:CD2	9:K:59:ALA:N	2.86	0.43
1:A:550:LEU:HB3	1:A:556:TRP:CE2	2.54	0.43
2:B:433:GLN:O	2:B:435:THR:N	2.51	0.43
2:B:1187:ASN:OD1	2:B:1190:ASP:HB3	2.19	0.43
10:L:36:SER:O	10:L:37:LYS:C	2.56	0.43
2:B:174:LEU:O	2:B:175:ARG:CB	2.50	0.43
3:C:211:ASP:HA	3:C:212:PRO:HD3	1.90	0.43
1:A:605:MET:HE3	1:A:605:MET:HA	1.99	0.43
3:C:33:LEU:HD11	3:C:248:ILE:HG13	2.00	0.43
1:A:357:PRO:HD2	2:B:833:TYR:CZ	2.53	0.43
1:A:588:LEU:O	1:A:606:LEU:HA	2.19	0.43
1:A:1042:PHE:HE2	1:A:1046:LEU:HD11	1.84	0.43
1:A:1428:VAL:HG13	2:B:1151:LEU:CD2	2.47	0.43
2:B:569:TYR:CE1	2:B:589:VAL:HG21	2.52	0.43
9:K:10:PHE:N	9:K:10:PHE:CD2	2.86	0.43
9:K:53:ASP:HB3	9:K:56:VAL:HG23	2.01	0.43
1:A:87:ALA:HB3	1:A:276:LEU:HD23	2.00	0.43
1:A:219:PHE:O	1:A:222:LEU:O	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:467:GLY:HA3	2:B:473:MET:CE	2.47	0.43
2:B:860:MET:HA	2:B:964:VAL:O	2.18	0.43
5:F:107:VAL:HG12	5:F:109:VAL:H	1.83	0.43
7:I:2:THR:HA	7:I:40:SER:OG	2.18	0.43
1:A:253:ASN:H	1:A:253:ASN:ND2	2.15	0.43
1:A:760:GLN:HE21	1:A:765:VAL:HG13	1.83	0.43
2:B:426:LYS:HZ3	2:B:430:ARG:HH12	1.65	0.43
2:B:1046:PRO:HB2	2:B:1047:PHE:H	1.63	0.43
2:B:1072:MET:CE	2:B:1085:ILE:HB	2.44	0.43
6:H:143:LEU:N	6:H:143:LEU:HD12	2.34	0.43
9:K:11:LEU:HD12	9:K:11:LEU:HA	1.76	0.43
9:K:51:LEU:HD13	9:K:59:ALA:HB3	2.00	0.43
1:A:599:SER:HA	1:A:600:PRO:HD2	1.87	0.43
2:B:212:LEU:HD13	2:B:409:ALA:HA	2.01	0.43
2:B:476:ARG:C	2:B:478:GLY:H	2.22	0.43
1:A:378:GLU:OE1	1:A:434:ARG:NH1	2.49	0.43
1:A:1100:ARG:O	1:A:1104:ILE:HG13	2.19	0.43
2:B:169:ARG:O	2:B:457:LEU:HD12	2.19	0.43
2:B:227:LYS:H	2:B:395:GLN:CD	2.23	0.43
2:B:291:ILE:HD13	2:B:300:HIS:NE2	2.34	0.43
2:B:1222:ARG:O	2:B:1223:ASP:C	2.58	0.43
6:H:35:GLN:HB3	6:H:111:LEU:HD21	2.01	0.43
6:H:82:PRO:HB2	6:H:83:GLN:H	1.67	0.43
9:K:38:GLU:HA	9:K:38:GLU:OE1	2.19	0.43
1:A:351:THR:HG21	2:B:1103:ILE:HG23	1.99	0.42
1:A:389:THR:OG1	1:A:426:LEU:HD12	2.19	0.42
1:A:897:TYR:CD2	1:A:936:LEU:HD13	2.52	0.42
1:A:1042:PHE:CE2	1:A:1046:LEU:HD11	2.53	0.42
2:B:248:SER:H	2:B:418:LYS:HE3	1.84	0.42
2:B:329:THR:HA	2:B:332:ASP:HB3	2.01	0.42
2:B:850:LEU:HD12	8:J:8:PHE:CD1	2.54	0.42
3:C:44:LEU:HD22	3:C:129:ILE:HG12	2.00	0.42
6:H:56:THR:O	6:H:144:ILE:HA	2.20	0.42
7:I:59:VAL:HG12	7:I:60:GLN:N	2.34	0.42
1:A:443:LEU:HD21	1:A:455:MET:HB3	2.01	0.42
1:A:711:ARG:HA	7:I:97:MET:HE1	2.01	0.42
3:C:61:GLU:HB3	10:L:67:PHE:CE2	2.55	0.42
4:E:29:PHE:HB2	4:E:65:THR:HG22	2.00	0.42
6:H:102:TYR:CZ	6:H:115:TYR:HB3	2.54	0.42
1:A:31:SER:OG	1:A:83:HIS:HB2	2.19	0.42
1:A:114:LEU:HD13	1:A:171:GLN:HE22	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1161:THR:HG22	1:A:1163:ILE:H	1.83	0.42
1:A:1424:VAL:CG1	2:B:1139:ILE:HD13	2.47	0.42
2:B:39:ARG:HE	2:B:665:GLU:HG2	1.84	0.42
2:B:590:HIS:CD2	2:B:596:LEU:HD22	2.54	0.42
2:B:710:LEU:HD22	2:B:733:HIS:HB3	2.00	0.42
2:B:1167:GLY:HA3	2:B:1216:LEU:N	2.34	0.42
1:A:359:LEU:HD22	1:A:363:GLN:CB	2.49	0.42
2:B:321:GLY:C	2:B:323:VAL:H	2.23	0.42
2:B:488:TYR:CE2	2:B:813:LYS:HB2	2.55	0.42
2:B:833:TYR:CE1	9:K:66:PRO:HG3	2.54	0.42
2:B:1166:CYS:O	2:B:1166:CYS:SG	2.77	0.42
4:E:133:GLU:HB3	4:E:135:PHE:HE1	1.83	0.42
6:H:97:MET:HB3	6:H:118:PHE:CD2	2.54	0.42
11:M:117:ASN:C	11:M:119:MET:H	2.23	0.42
1:A:457:ALA:HB3	1:A:506:ALA:HA	2.01	0.42
1:A:575:LYS:HD2	6:H:120:GLY:HA3	2.00	0.42
1:A:19:PHE:O	1:A:1416:ALA:HA	2.19	0.42
1:A:65:LEU:HD12	11:M:19:ASN:O	2.15	0.42
1:A:98:LYS:O	1:A:102:VAL:HG23	2.20	0.42
1:A:275:SER:O	1:A:279:LEU:HG	2.19	0.42
1:A:315:LEU:O	1:A:316:GLN:C	2.58	0.42
1:A:334:GLY:O	1:A:335:ARG:C	2.57	0.42
1:A:406:ILE:HG22	1:A:407:ARG:N	2.34	0.42
1:A:737:LEU:HB3	1:A:738:LYS:H	1.63	0.42
2:B:473:MET:C	2:B:475:SER:H	2.23	0.42
1:A:41:MET:HE1	1:A:257:ARG:HG2	2.02	0.42
1:A:337:ARG:HD3	1:A:839:ARG:HH12	1.85	0.42
1:A:850:VAL:HG23	1:A:1064:VAL:HG21	2.01	0.42
1:A:1392:SER:O	1:A:1393:ASN:CB	2.67	0.42
2:B:316:PRO:HA	2:B:319:GLU:HG3	2.02	0.42
4:E:77:SER:HB2	4:E:105:PHE:HD2	1.84	0.42
4:E:94:LYS:HG3	4:E:98:ILE:CD1	2.50	0.42
4:E:96:PHE:CE2	4:E:110:PHE:HB2	2.55	0.42
8:J:1:MET:N	8:J:56:LEU:H	2.17	0.42
1:A:332:LYS:HG3	1:A:333:GLU:HG2	2.02	0.42
2:B:416:LEU:HD11	2:B:460:ALA:HB2	2.01	0.42
2:B:845:SER:HB2	8:J:8:PHE:HB3	2.02	0.42
2:B:856:PHE:HA	2:B:968:VAL:O	2.20	0.42
1:A:513:SER:HB3	1:A:520:CYS:HB3	2.01	0.42
1:A:1073:GLY:O	1:A:1076:ALA:HB3	2.19	0.42
1:A:1101:LEU:O	1:A:1105:LEU:HG	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1161:THR:HG23	1:A:1239:ARG:NH2	2.35	0.42
1:A:1332:PHE:CD1	1:A:1348:LEU:HD13	2.55	0.42
1:A:1348:LEU:HD22	1:A:1381:LEU:HD21	2.02	0.42
2:B:429:PHE:O	2:B:433:GLN:HG3	2.20	0.42
2:B:711:GLU:N	2:B:712:PRO:HD3	2.35	0.42
2:B:843:GLN:HG3	9:K:6:ARG:HH21	1.84	0.42
4:E:112:TYR:CE2	4:E:134:THR:HB	2.54	0.42
1:A:67:CYS:O	1:A:70:CYS:SG	2.77	0.42
1:A:95:PHE:O	1:A:99:ILE:HG13	2.20	0.42
1:A:261:ASP:O	1:A:264:PHE:HB2	2.19	0.42
2:B:578:THR:OG1	2:B:593:PRO:HG3	2.19	0.42
2:B:681:TRP:CH2	2:B:690:VAL:HG11	2.55	0.42
2:B:791:THR:O	2:B:792:MET:HB2	2.20	0.42
2:B:999:MET:HB3	2:B:1007:VAL:HG21	2.01	0.42
2:B:1177:HIS:C	2:B:1179:GLN:H	2.23	0.42
4:E:150:VAL:HA	4:E:151:PRO:HD3	1.91	0.42
1:A:340:LEU:HD21	2:B:1200:ALA:CA	2.50	0.41
1:A:530:GLY:HA3	1:A:657:LEU:HD22	2.02	0.41
1:A:589:GLN:HG2	1:A:606:LEU:HD13	2.02	0.41
1:A:1141:THR:O	1:A:1273:LEU:HB2	2.19	0.41
1:A:1308:THR:HG23	1:A:1309:ASP:H	1.83	0.41
2:B:195:CYS:SG	2:B:197:PHE:HB2	2.60	0.41
2:B:287:ARG:NH2	2:B:294:ASP:OD2	2.53	0.41
3:C:3:GLU:HB3	3:C:4:GLU:H	1.69	0.41
7:I:25:LEU:HB3	7:I:38:ALA:HB2	2.01	0.41
2:B:255:GLN:O	2:B:271:ALA:HA	2.20	0.41
2:B:1056:SER:HB3	2:B:1066:SER:HB2	2.02	0.41
3:C:254:LYS:HB3	9:K:42:LEU:HD11	2.03	0.41
8:J:1:MET:H2	8:J:56:LEU:N	2.16	0.41
9:K:63:VAL:HG23	9:K:63:VAL:O	2.19	0.41
1:A:442:VAL:HB	1:A:489:LEU:HD11	2.02	0.41
1:A:668:ASP:HB3	1:A:743:VAL:HG23	2.03	0.41
1:A:1348:LEU:HD23	1:A:1372:VAL:HG13	2.02	0.41
2:B:476:ARG:O	2:B:478:GLY:N	2.53	0.41
2:B:842:ASN:HD22	2:B:845:SER:HB3	1.86	0.41
2:B:880:THR:O	2:B:934:LYS:HB2	2.20	0.41
1:A:203:SER:O	1:A:207:ILE:HG12	2.20	0.41
1:A:453:MET:HB3	1:A:477:PRO:HB3	2.01	0.41
2:B:284:ILE:HD13	2:B:333:PHE:CD2	2.55	0.41
2:B:711:GLU:H	2:B:712:PRO:HD3	1.86	0.41
2:B:913:GLY:HA2	2:B:938:SER:HB2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:33:ILE:CD1	9:K:87:LEU:HD22	2.50	0.41
1:A:402:ALA:HB1	1:A:433:GLU:O	2.20	0.41
1:A:516:SER:C	1:A:518:LYS:H	2.23	0.41
1:A:885:THR:O	1:A:940:ARG:HG3	2.20	0.41
1:A:1011:GLN:O	1:A:1015:VAL:HG23	2.21	0.41
2:B:1168:LEU:HD21	2:B:1215:ARG:HD3	2.02	0.41
3:C:167:HIS:CD2	3:C:169:LYS:CG	3.04	0.41
3:C:194:GLU:O	3:C:195:GLN:HG3	2.21	0.41
7:I:75:CYS:SG	7:I:108:HIS:CG	3.13	0.41
1:A:515:GLN:HG3	1:A:516:SER:N	2.36	0.41
1:A:571:LEU:HD22	6:H:46:LEU:HD11	2.02	0.41
1:A:872:GLY:O	1:A:1058:VAL:HG23	2.20	0.41
1:A:1205:LYS:O	1:A:1207:LEU:N	2.54	0.41
2:B:100:PRO:HD2	2:B:180:TYR:CE1	2.55	0.41
2:B:210:LYS:NZ	2:B:482:VAL:HG22	2.35	0.41
2:B:522:VAL:CG1	2:B:537:LYS:HB3	2.51	0.41
4:E:124:VAL:HG13	4:E:132:ILE:HB	2.03	0.41
7:I:29:CYS:SG	7:I:32:CYS:N	2.94	0.41
1:A:494:SER:HB2	1:A:497:THR:OG1	2.20	0.41
1:A:596:THR:O	1:A:598:LEU:N	2.52	0.41
1:A:885:THR:HG22	1:A:940:ARG:HA	2.02	0.41
2:B:121:ASN:N	2:B:121:ASN:HD22	2.18	0.41
5:F:90:ARG:HD3	5:F:155:LEU:CD1	2.49	0.41
6:H:49:VAL:HG12	6:H:50:ALA:N	2.35	0.41
7:I:50:THR:C	7:I:90:GLN:HE22	2.24	0.41
7:I:91:ARG:HA	7:I:91:ARG:HD3	1.85	0.41
9:K:7:PHE:CD1	9:K:7:PHE:C	2.94	0.41
1:A:1017:LEU:HB3	4:E:205:SER:HA	2.01	0.41
1:A:1316:VAL:O	1:A:1316:VAL:HG12	2.21	0.41
2:B:487:THR:HG22	2:B:488:TYR:N	2.35	0.41
2:B:842:ASN:HD22	2:B:845:SER:N	2.17	0.41
2:B:914:LYS:HB3	2:B:937:ALA:O	2.21	0.41
2:B:1202:LEU:HA	2:B:1202:LEU:HD23	1.69	0.41
1:A:188:ASP:HB3	1:A:192:GLY:HA3	2.03	0.41
1:A:344:ARG:O	2:B:1118:PRO:HG2	2.20	0.41
1:A:456:MET:HB3	1:A:507:VAL:HG22	2.03	0.41
1:A:711:ARG:HA	7:I:97:MET:CE	2.51	0.41
1:A:855:THR:CG2	1:A:857:ARG:CG	2.98	0.41
2:B:190:TYR:CZ	2:B:196:PRO:HG3	2.56	0.41
2:B:287:ARG:HA	2:B:291:ILE:O	2.21	0.41
2:B:475:SER:C	2:B:477:ALA:N	2.75	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:638:PHE:HB2	2:B:741:CYS:HB3	2.02	0.41
2:B:708:GLU:O	2:B:712:PRO:HD3	2.21	0.41
2:B:999:MET:HA	2:B:999:MET:CE	2.51	0.41
2:B:1147:LEU:HD22	2:B:1151:LEU:HD22	2.02	0.41
5:F:101:ILE:HD12	5:F:121:ALA:HB2	2.02	0.41
9:K:46:ILE:HG22	9:K:50:LEU:HD12	2.03	0.41
10:L:55:ILE:H	10:L:55:ILE:HG12	1.70	0.41
1:A:110:CYS:SG	1:A:167:CYS:SG	3.15	0.41
1:A:1259:MET:C	1:A:1261:LYS:H	2.24	0.41
2:B:229:ALA:HB1	2:B:231:PRO:HD2	2.02	0.41
2:B:329:THR:O	2:B:333:PHE:N	2.54	0.41
2:B:761:HIS:HB2	2:B:1024:ALA:HB2	2.01	0.41
2:B:840:ILE:HB	2:B:1011:ILE:HB	2.03	0.41
2:B:844:SER:O	2:B:848:ARG:HG3	2.21	0.41
2:B:1096:ARG:O	2:B:1097:HIS:CB	2.68	0.41
2:B:1103:ILE:H	2:B:1103:ILE:HG13	1.70	0.41
1:A:565:ILE:HG23	1:A:567:LYS:HG2	2.03	0.40
2:B:67:SER:HB2	2:B:92:PHE:CD1	2.55	0.40
2:B:401:PHE:C	2:B:403:LYS:H	2.24	0.40
2:B:640:VAL:HG12	2:B:649:LYS:HG2	2.03	0.40
2:B:906:SER:O	2:B:909:ASP:OD1	2.39	0.40
3:C:69:LEU:O	8:J:6:ARG:HD2	2.22	0.40
5:F:87:LYS:HE2	5:F:88:TYR:CZ	2.56	0.40
10:L:48:CYS:HB3	10:L:51:CYS:O	2.21	0.40
1:A:13:THR:HB	1:A:15:LYS:HE2	2.02	0.40
1:A:154:SER:HB3	1:A:162:VAL:CG2	2.51	0.40
1:A:343:LYS:CE	2:B:1151:LEU:O	2.66	0.40
1:A:436:ILE:HD11	1:A:491:VAL:HG11	2.04	0.40
1:A:546:VAL:HG21	1:A:572:TRP:CE3	2.56	0.40
1:A:1308:THR:HG23	1:A:1310:GLY:H	1.86	0.40
1:A:1376:THR:CG2	4:E:212:ARG:NH2	2.84	0.40
2:B:621:GLU:OE2	2:B:621:GLU:HA	2.21	0.40
3:C:255:VAL:HG21	9:K:94:ILE:CG2	2.51	0.40
6:H:36:CYS:HA	6:H:126:GLU:O	2.20	0.40
9:K:63:VAL:O	9:K:63:VAL:CG2	2.69	0.40
1:A:1291:VAL:HA	1:A:1292:PRO:HD3	1.89	0.40
2:B:170:LEU:HA	2:B:171:PRO:HD2	1.80	0.40
2:B:479:VAL:O	2:B:480:SER:HB3	2.20	0.40
2:B:522:VAL:HG11	2:B:537:LYS:HD2	2.02	0.40
2:B:563:MET:O	2:B:565:PRO:HD3	2.20	0.40
2:B:1104:HIS:CE1	2:B:1126:GLY:O	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:162:GLY:HA3	3:C:170:TRP:CE2	2.55	0.40
5:F:109:VAL:HG21	5:F:124:GLU:HA	2.02	0.40
1:A:661:GLY:O	1:A:662:PHE:HB2	2.22	0.40
1:A:681:GLU:HA	1:A:684:ALA:HB3	2.03	0.40
1:A:929:LEU:HD21	1:A:983:ILE:HG21	2.04	0.40
1:A:990:VAL:O	1:A:994:GLN:HG3	2.21	0.40
2:B:230:ALA:N	2:B:231:PRO:HD2	2.37	0.40
2:B:232:SER:OG	2:B:234:ILE:HD12	2.22	0.40
2:B:997:GLU:CD	3:C:39:ALA:HB2	2.41	0.40
2:B:1030:LEU:HD12	2:B:1059:LEU:HD22	2.04	0.40
3:C:37:MET:HA	3:C:41:ILE:CD1	2.51	0.40
7:I:8:ARG:O	7:I:10:CYS:N	2.54	0.40
8:J:48:ARG:HE	8:J:49:MET:HE2	1.87	0.40
1:A:44:THR:O	1:A:45:GLN:HB2	2.21	0.40
1:A:91:PHE:HB2	1:A:297:GLN:HE22	1.87	0.40
1:A:151:ASP:HA	1:A:162:VAL:O	2.20	0.40
2:B:323:VAL:O	2:B:323:VAL:HG12	2.21	0.40
5:F:138:LEU:HD23	5:F:138:LEU:HA	1.84	0.40
8:J:1:MET:HG3	8:J:60:PHE:CE2	2.45	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	1398/1733 (81%)	1184 (85%)	154 (11%)	60 (4%)	2	26
2	B	1108/1224 (90%)	943 (85%)	105 (10%)	60 (5%)	2	22
3	C	264/318 (83%)	236 (89%)	20 (8%)	8 (3%)	4	33
4	E	212/215 (99%)	194 (92%)	18 (8%)	0	100	100
5	F	82/155 (53%)	74 (90%)	7 (8%)	1 (1%)	13	50

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	H	129/146 (88%)	98 (76%)	22 (17%)	9 (7%)	1	17
7	I	114/122 (93%)	97 (85%)	15 (13%)	2 (2%)	8	42
8	J	63/70 (90%)	56 (89%)	5 (8%)	2 (3%)	4	32
9	K	112/120 (93%)	106 (95%)	6 (5%)	0	100	100
10	L	44/70 (63%)	22 (50%)	14 (32%)	8 (18%)	0	2
11	M	183/345 (53%)	152 (83%)	19 (10%)	12 (7%)	1	19
All	All	3709/4518 (82%)	3162 (85%)	385 (10%)	162 (4%)	2	25

All (162) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	48	ALA
1	A	54	ASN
1	A	55	ASP
1	A	109	HIS
1	A	250	ILE
1	A	254	GLU
1	A	318	SER
1	A	335	ARG
1	A	424	ILE
1	A	517	ASN
1	A	543	LEU
1	A	567	LYS
1	A	846	GLU
1	A	903	ASN
1	A	1036	ARG
1	A	1206	ASP
1	A	1392	SER
2	B	175	ARG
2	B	337	ARG
2	B	339	THR
2	B	343	ILE
2	B	364	ILE
2	B	367	LEU
2	B	447	ALA
2	B	469	GLN
2	B	507	LYS
2	B	531	GLN
2	B	643	ASP
2	B	648	HIS

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Mol	Chain	Res	Type
2	B	731	VAL
2	B	958	GLN
2	B	1046	PRO
2	B	1155	SER
2	B	1176	ASN
2	B	1183	LYS
2	B	1221	SER
2	B	1223	ASP
3	C	215	GLU
6	H	32	THR
6	H	81	PRO
8	J	2	ILE
8	J	6	ARG
10	L	64	LEU
11	M	25	PRO
11	M	31	PRO
11	M	32	PRO
11	M	35	VAL
11	M	104	MET
11	M	125	GLU
11	M	200	THR
1	A	67	CYS
1	A	74	MET
1	A	75	ASN
1	A	167	CYS
1	A	312	PRO
1	A	316	GLN
1	A	404	TYR
1	A	597	LEU
1	A	904	THR
1	A	1114	PRO
1	A	1393	ASN
2	B	174	LEU
2	B	200	GLY
2	B	346	GLU
2	B	445	LYS
2	B	477	ALA
2	B	502	ILE
2	B	882	THR
2	B	946	ASN
2	B	1108	ARG
3	C	110	THR

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Mol	Chain	Res	Type
3	C	142	VAL
6	H	82	PRO
10	L	55	ILE
1	A	35	ILE
1	A	87	ALA
1	A	257	ARG
1	A	421	ALA
1	A	422	GLY
1	A	430	TRP
1	A	536	LEU
1	A	598	LEU
1	A	920	LEU
1	A	1221	LYS
1	A	1280	GLU
2	B	345	LYS
2	B	435	THR
2	B	467	GLY
2	B	471	LYS
2	B	476	ARG
2	B	880	THR
2	B	959	ASP
2	B	1017	ILE
2	B	1103	ILE
3	C	4	GLU
6	H	128	ASN
6	H	135	LEU
7	I	9	ASP
7	I	47	GLU
10	L	42	ARG
10	L	56	LEU
11	M	160	GLU
1	A	194	ALA
1	A	282	ASN
1	A	290	GLU
1	A	308	ILE
1	A	592	ASP
1	A	737	LEU
1	A	998	LEU
2	B	336	ARG
2	B	474	SER
2	B	751	VAL
2	B	879	ARG

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Mol	Chain	Res	Type
2	B	883	LEU
2	B	1156	ASP
2	B	1181	GLU
3	C	6	PRO
3	C	90	ASP
3	C	174	ALA
3	C	227	THR
6	H	62	SER
6	H	140	ALA
10	L	35	SER
11	M	196	ILE
1	A	72	GLU
1	A	255	SER
1	A	317	LYS
1	A	322	VAL
1	A	332	LYS
1	A	599	SER
1	A	790	ASP
2	B	340	ALA
2	B	438	GLU
2	B	463	THR
2	B	468	GLU
2	B	641	GLU
2	B	738	PHE
2	B	888	GLY
2	B	1167	GLY
5	F	112	GLU
6	H	59	ILE
10	L	26	THR
10	L	37	LYS
10	L	46	VAL
11	M	118	VAL
1	A	653	VAL
1	A	958	VAL
1	A	1242	VAL
2	B	433	GLN
2	B	437	GLU
2	B	792	MET
2	B	884	ARG
11	M	92	LEU
11	M	198	VAL
1	A	84	ILE

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Mol	Chain	Res	Type
2	B	711	GLU
2	B	901	PRO
1	A	775	ILE
6	H	107	VAL
1	A	1435	PRO
2	B	907	GLY
1	A	410	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	1224/1520 (80%)	1158 (95%)	66 (5%)	22	53
2	B	953/1061 (90%)	901 (94%)	52 (6%)	21	53
3	C	234/274 (85%)	225 (96%)	9 (4%)	33	61
4	E	196/197 (100%)	192 (98%)	4 (2%)	55	75
5	F	74/137 (54%)	70 (95%)	4 (5%)	22	53
6	H	117/128 (91%)	110 (94%)	7 (6%)	19	50
7	I	113/116 (97%)	106 (94%)	7 (6%)	18	49
8	J	60/65 (92%)	57 (95%)	3 (5%)	24	55
9	K	99/102 (97%)	91 (92%)	8 (8%)	11	41
10	L	40/57 (70%)	34 (85%)	6 (15%)	3	18
All	All	3110/3657 (85%)	2944 (95%)	166 (5%)	22	54

All (166) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	PHE
1	A	93	VAL
1	A	226	GLU
1	A	252	PHE
1	A	253	ASN
1	A	302	THR

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Mol	Chain	Res	Type
1	A	306	ASN
1	A	313	GLN
1	A	315	LEU
1	A	320	ARG
1	A	323	LYS
1	A	326	ARG
1	A	351	THR
1	A	354	SER
1	A	385	ILE
1	A	403	LYS
1	A	434	ARG
1	A	443	LEU
1	A	445	ASN
1	A	450	LEU
1	A	451	HIS
1	A	461	LYS
1	A	463	ILE
1	A	466	SER
1	A	474	VAL
1	A	475	THR
1	A	493	GLN
1	A	494	SER
1	A	503	GLN
1	A	504	LEU
1	A	529	CYS
1	A	545	GLN
1	A	596	THR
1	A	598	LEU
1	A	618	GLU
1	A	622	VAL
1	A	629	LEU
1	A	666	ILE
1	A	738	LYS
1	A	740	LEU
1	A	756	ILE
1	A	768	GLN
1	A	774	ARG
1	A	821	ARG
1	A	855	THR
1	A	858	ASN
1	A	1035	TYR
1	A	1043	ASP

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Mol	Chain	Res	Type
1	A	1120	LEU
1	A	1155	ASP
1	A	1161	THR
1	A	1222	ASN
1	A	1258	HIS
1	A	1264	GLU
1	A	1297	GLU
1	A	1303	GLU
1	A	1308	THR
1	A	1332	PHE
1	A	1359	ASP
1	A	1364	ASN
1	A	1375	MET
1	A	1376	THR
1	A	1385	THR
1	A	1401	SER
1	A	1425	SER
1	A	1442	ASP
2	B	20	ASP
2	B	63	ILE
2	B	175	ARG
2	B	194	GLU
2	B	234	ILE
2	B	265	SER
2	B	268	THR
2	B	331	LEU
2	B	334	ILE
2	B	408	LEU
2	B	416	LEU
2	B	425	THR
2	B	437	GLU
2	B	469	GLN
2	B	471	LYS
2	B	485	ARG
2	B	513	GLN
2	B	538	ASN
2	B	547	VAL
2	B	563	MET
2	B	570	VAL
2	B	644	GLU
2	B	680	THR
2	B	709	ASP

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Mol	Chain	Res	Type
2	B	723	VAL
2	B	762	ASN
2	B	764	SER
2	B	791	THR
2	B	797	TYR
2	B	858	SER
2	B	860	MET
2	B	909	ASP
2	B	943	SER
2	B	951	GLN
2	B	953	LEU
2	B	987	LYS
2	B	997	GLU
2	B	999	MET
2	B	1002	THR
2	B	1021	MET
2	B	1049	ASP
2	B	1084	GLN
2	B	1103	ILE
2	B	1108	ARG
2	B	1111	MET
2	B	1132	GLU
2	B	1147	LEU
2	B	1150	ARG
2	B	1151	LEU
2	B	1183	LYS
2	B	1185	CYS
2	B	1219	ASP
3	C	22	LEU
3	C	25	VAL
3	C	26	ASP
3	C	56	THR
3	C	57	VAL
3	C	69	LEU
3	C	77	ILE
3	C	109	SER
3	C	233	GLU
4	E	41	ASP
4	E	84	ASP
4	E	104	ASN
4	E	153	HIS
5	F	79	ARG

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Mol	Chain	Res	Type
5	F	86	THR
5	F	90	ARG
5	F	110	ASP
6	H	2	SER
6	H	27	GLU
6	H	63	LEU
6	H	76	THR
6	H	109	LYS
6	H	110	ASP
6	H	135	LEU
7	I	12	ASN
7	I	29	CYS
7	I	33	SER
7	I	52	ILE
7	I	78	CYS
7	I	87	GLN
7	I	106	CYS
8	J	2	ILE
8	J	7	CYS
8	J	48	ARG
9	K	11	LEU
9	K	12	LEU
9	K	42	LEU
9	K	47	ARG
9	K	50	LEU
9	K	51	LEU
9	K	101	LEU
9	K	114	LEU
10	L	38	LEU
10	L	42	ARG
10	L	50	ASP
10	L	54	ARG
10	L	65	VAL
10	L	68	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	18	GLN
1	A	68	GLN
1	A	83	HIS
1	A	92	HIS

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Mol	Chain	Res	Type
1	A	118	HIS
1	A	225	ASN
1	A	253	ASN
1	A	313	GLN
1	A	316	GLN
1	A	339	ASN
1	A	435	HIS
1	A	445	ASN
1	A	503	GLN
1	A	517	ASN
1	A	736	ASN
1	A	741	ASN
1	A	757	ASN
1	A	768	GLN
1	A	858	ASN
1	A	903	ASN
1	A	926	GLN
1	A	965	GLN
1	A	968	GLN
1	A	1130	GLN
1	A	1173	HIS
1	A	1270	ASN
1	A	1364	ASN
1	A	1390	ASN
1	A	1432	GLN
2	B	46	GLN
2	B	121	ASN
2	B	236	HIS
2	B	300	HIS
2	B	513	GLN
2	B	515	HIS
2	B	516	ASN
2	B	518	HIS
2	B	744	HIS
2	B	822	ASN
2	B	842	ASN
2	B	975	GLN
2	B	986	GLN
2	B	1015	HIS
2	B	1065	GLN
2	B	1093	GLN
2	B	1117	GLN

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Mol	Chain	Res	Type
2	B	1193	GLN
3	C	65	HIS
3	C	73	GLN
3	C	112	ASN
3	C	167	HIS
3	C	242	GLN
3	C	252	GLN
4	E	5	ASN
4	E	101	GLN
4	E	104	ASN
4	E	114	ASN
4	E	147	HIS
7	I	12	ASN
7	I	90	GLN
7	I	108	HIS
9	K	29	ASN
9	K	65	HIS
9	K	76	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 9 ligands modelled in this entry, 9 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

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 [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1408/1733 (81%)	0.44	69 (4%) 29 25	82, 172, 267, 498	0
2	B	1122/1224 (91%)	0.84	155 (13%) 2 3	68, 183, 297, 489	0
3	C	266/318 (83%)	0.33	1 (0%) 92 89	93, 166, 244, 317	0
4	E	214/215 (99%)	0.47	20 (9%) 8 7	109, 202, 304, 500	0
5	F	84/155 (54%)	0.23	0 100 100	82, 135, 188, 256	0
6	H	133/146 (91%)	0.34	7 (5%) 26 23	118, 220, 305, 358	0
7	I	118/122 (96%)	1.51	36 (30%) 0 0	132, 237, 353, 412	0
8	J	65/70 (92%)	0.59	6 (9%) 9 7	106, 169, 237, 266	0
9	K	114/120 (95%)	0.22	0 100 100	94, 148, 208, 270	0
10	L	46/70 (65%)	0.62	6 (13%) 3 4	137, 208, 293, 359	0
11	M	187/345 (54%)	0.53	25 (13%) 3 3	111, 242, 373, 500	0
All	All	3757/4518 (83%)	0.58	325 (8%) 10 8	68, 181, 296, 500	0

All (325) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
11	M	121	LYS	16.1
7	I	119	THR	10.2
7	I	120	GLN	10.0
7	I	53	GLY	9.4
11	M	83	SER	9.2
11	M	120	ASP	9.1
7	I	118	ARG	9.0
2	B	882	THR	8.9
7	I	52	ILE	8.6
11	M	84	ASN	8.1
7	I	40	SER	7.9
4	E	93	MET	7.5

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Mol	Chain	Res	Type	RSRZ
11	M	124	ASN	7.0
2	B	637	LEU	6.8
2	B	730	ARG	6.6
1	A	318	SER	6.6
7	I	60	GLN	6.3
7	I	55	THR	6.2
1	A	1197	LEU	6.1
1	A	44	THR	6.1
7	I	49	ILE	6.0
2	B	735	ALA	5.9
2	B	1220	ARG	5.9
2	B	868	MET	5.8
11	M	122	LYS	5.6
2	B	732	SER	5.6
1	A	252	PHE	5.3
2	B	247	GLY	5.3
7	I	2	THR	5.2
2	B	731	VAL	5.2
2	B	729	ILE	5.1
2	B	638	PHE	5.1
2	B	283	VAL	5.1
1	A	1150	SER	5.0
2	B	325	GLN	5.0
1	A	1159	ARG	4.9
7	I	57	GLY	4.7
11	M	194	SER	4.7
2	B	322	PHE	4.7
1	A	1317	MET	4.7
2	B	726	ALA	4.7
1	A	2	VAL	4.6
2	B	615	MET	4.6
2	B	734	HIS	4.6
7	I	71	SER	4.4
1	A	1153	TYR	4.4
2	B	804	GLY	4.4
6	H	60	ALA	4.3
7	I	117	LYS	4.3
2	B	431	TYR	4.2
2	B	705	MET	4.2
2	B	785	TYR	4.2
2	B	576	ASP	4.1
2	B	267	ARG	4.1

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Mol	Chain	Res	Type	RSRZ
7	I	116	ASN	4.1
7	I	67	THR	4.0
2	B	303	TYR	4.0
2	B	689	LEU	4.0
2	B	349	ILE	3.9
4	E	109	ILE	3.9
2	B	246	LYS	3.9
1	A	1339	LEU	3.9
7	I	70	ARG	3.8
4	E	53	PRO	3.8
2	B	636	PRO	3.8
2	B	587	HIS	3.8
2	B	360	PHE	3.8
11	M	201	LYS	3.7
2	B	243	ALA	3.7
2	B	1180	PHE	3.7
7	I	42	LEU	3.7
1	A	1254	ALA	3.7
2	B	620	ARG	3.6
1	A	251	SER	3.6
2	B	495	LEU	3.6
11	M	206	THR	3.6
2	B	725	PRO	3.5
8	J	1	MET	3.5
2	B	617	ARG	3.5
2	B	390	LEU	3.5
2	B	733	HIS	3.5
2	B	356	LEU	3.5
2	B	578	THR	3.5
1	A	975	HIS	3.5
2	B	698	GLU	3.5
2	B	106	ASP	3.5
2	B	437	GLU	3.5
4	E	110	PHE	3.4
1	A	1154	TYR	3.4
2	B	457	LEU	3.4
1	A	258	GLY	3.4
2	B	468	GLU	3.4
1	A	62	ASP	3.4
2	B	420	LEU	3.4
2	B	1221	SER	3.4
1	A	818	MET	3.4

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Mol	Chain	Res	Type	RSRZ
7	I	84	VAL	3.4
2	B	693	ILE	3.3
10	L	47	ARG	3.3
2	B	692	TYR	3.3
1	A	710	LEU	3.3
2	B	461	LEU	3.3
2	B	738	PHE	3.3
2	B	514	LEU	3.3
2	B	643	ASP	3.2
7	I	68	LEU	3.2
2	B	569	TYR	3.2
2	B	181	LEU	3.2
1	A	1192	LEU	3.2
2	B	120	ARG	3.2
1	A	253	ASN	3.2
2	B	111	ALA	3.2
1	A	179	LEU	3.2
7	I	51	ASN	3.2
6	H	134	ASN	3.1
2	B	935	ARG	3.1
7	I	112	SER	3.1
4	E	125	PRO	3.1
1	A	1282	VAL	3.1
2	B	92	PHE	3.1
11	M	82	ALA	3.1
1	A	1146	VAL	3.1
2	B	443	ASN	3.1
1	A	1195	LEU	3.0
2	B	377	PHE	3.0
4	E	135	PHE	3.0
1	A	778	GLY	3.0
2	B	263	GLY	3.0
2	B	43	LEU	3.0
1	A	1188	GLN	3.0
11	M	197	HIS	3.0
7	I	64	SER	3.0
1	A	117	GLU	3.0
2	B	586	TRP	2.9
2	B	955	THR	2.9
2	B	449	ASN	2.9
11	M	65	THR	2.9
6	H	116	TYR	2.9

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Mol	Chain	Res	Type	RSRZ
2	B	201	GLY	2.9
1	A	1313	LEU	2.9
2	B	333	PHE	2.9
2	B	96	TYR	2.9
7	I	56	ALA	2.9
1	A	257	ARG	2.9
2	B	1222	ARG	2.9
2	B	193	LYS	2.9
11	M	184	GLU	2.9
10	L	58	LYS	2.9
2	B	199	MET	2.9
1	A	811	GLN	2.9
6	H	59	ILE	2.9
2	B	1181	GLU	2.9
1	A	1267	MET	2.8
2	B	386	LEU	2.8
2	B	271	ALA	2.8
10	L	32	ALA	2.8
4	E	107	THR	2.8
7	I	72	ASP	2.8
2	B	94	LYS	2.8
2	B	245	GLU	2.8
2	B	584	GLY	2.8
11	M	193	GLN	2.7
11	M	145	ILE	2.7
2	B	877	PRO	2.7
2	B	1169	MET	2.7
11	M	143	PRO	2.7
2	B	558	LEU	2.7
7	I	99	LEU	2.7
2	B	97	VAL	2.7
2	B	131	ASP	2.7
2	B	167	ILE	2.7
2	B	424	LEU	2.7
2	B	439	ALA	2.7
2	B	633	VAL	2.7
1	A	852	TYR	2.7
8	J	44	TYR	2.7
1	A	235	ILE	2.7
1	A	1147	THR	2.7
7	I	63	GLY	2.7
1	A	1158	PRO	2.7

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Mol	Chain	Res	Type	RSRZ
2	B	114	PRO	2.7
4	E	97	VAL	2.7
1	A	343	LYS	2.6
1	A	785	PRO	2.6
7	I	61	ASP	2.6
7	I	102	VAL	2.6
2	B	421	PHE	2.6
2	B	248	SER	2.6
2	B	466	TRP	2.6
4	E	111	VAL	2.6
2	B	95	ILE	2.6
11	M	123	ASP	2.6
2	B	681	TRP	2.6
2	B	803	LEU	2.6
11	M	204	GLY	2.6
11	M	85	PRO	2.6
2	B	709	ASP	2.6
2	B	1009	ASP	2.6
4	E	80	VAL	2.6
11	M	157	CYS	2.6
1	A	1196	GLU	2.6
1	A	256	GLN	2.6
1	A	135	PHE	2.6
2	B	364	ILE	2.5
2	B	871	THR	2.5
1	A	163	SER	2.5
2	B	881	ASN	2.5
1	A	700	ASN	2.5
2	B	957	ASN	2.5
10	L	26	THR	2.5
2	B	336	ARG	2.5
2	B	841	MET	2.5
2	B	767	ASN	2.5
1	A	336	ILE	2.5
2	B	25	ILE	2.5
2	B	406	LEU	2.5
4	E	122	LYS	2.5
11	M	167	SER	2.5
2	B	381	MET	2.5
2	B	722	ASP	2.5
2	B	872	GLU	2.5
2	B	203	PHE	2.5

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Mol	Chain	Res	Type	RSRZ
3	C	30	ALA	2.5
1	A	912	LEU	2.4
2	B	691	GLU	2.4
2	B	724	ASP	2.4
1	A	789	LYS	2.4
7	I	44	TYR	2.4
2	B	133	LYS	2.4
2	B	1151	LEU	2.4
2	B	822	ASN	2.4
2	B	119	LEU	2.4
1	A	775	ILE	2.4
2	B	301	ILE	2.4
7	I	97	MET	2.4
1	A	113	LEU	2.4
4	E	129	PRO	2.4
7	I	45	ARG	2.4
1	A	300	VAL	2.4
1	A	1018	PHE	2.4
7	I	54	GLU	2.4
1	A	1176	LEU	2.4
11	M	198	VAL	2.4
2	B	963	PHE	2.3
2	B	580	VAL	2.3
1	A	1238	ILE	2.3
2	B	516	ASN	2.3
2	B	262	GLU	2.3
1	A	91	PHE	2.3
2	B	212	LEU	2.3
6	H	55	LEU	2.3
2	B	783	THR	2.3
2	B	417	PHE	2.3
2	B	616	ILE	2.3
2	B	409	ALA	2.3
4	E	215	MET	2.3
11	M	161	LYS	2.3
2	B	958	GLN	2.3
2	B	870	ILE	2.3
4	E	190	LEU	2.3
7	I	98	VAL	2.3
1	A	1224	LEU	2.3
2	B	653	VAL	2.3
2	B	249	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
2	B	619	ILE	2.2
2	B	780	VAL	2.2
2	B	250	PHE	2.2
2	B	447	ALA	2.2
2	B	690	VAL	2.2
1	A	883	LEU	2.2
2	B	254	LEU	2.2
2	B	749	LEU	2.2
2	B	782	LEU	2.2
6	H	113	ALA	2.2
2	B	190	TYR	2.2
1	A	92	HIS	2.2
7	I	47	GLU	2.2
1	A	181	LEU	2.2
1	A	1236	LEU	2.2
1	A	355	GLY	2.2
2	B	641	GLU	2.2
2	B	366	GLN	2.2
1	A	1194	ARG	2.2
1	A	303	TYR	2.2
2	B	1205	GLN	2.2
2	B	216	GLU	2.1
2	B	282	ILE	2.1
2	B	711	GLU	2.1
1	A	1060	PRO	2.1
2	B	492	LEU	2.1
2	B	401	PHE	2.1
10	L	27	LEU	2.1
11	M	202	GLU	2.1
10	L	54	ARG	2.1
4	E	153	HIS	2.1
4	E	211	TYR	2.1
4	E	20	LYS	2.1
2	B	413	LEU	2.1
4	E	78	LEU	2.1
7	I	46	HIS	2.1
1	A	317	LYS	2.1
2	B	170	LEU	2.1
2	B	225	VAL	2.1
8	J	6	ARG	2.1
2	B	519	TRP	2.1
1	A	1166	ASP	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	256	VAL	2.1
1	A	105	CYS	2.1
11	M	209	ILE	2.1
1	A	68	GLN	2.0
1	A	968	GLN	2.0
2	B	115	GLN	2.0
2	B	821	GLN	2.0
4	E	121	MET	2.0
7	I	69	PRO	2.0
8	J	49	MET	2.0
1	A	622	VAL	2.0
2	B	624	LEU	2.0
8	J	17	LYS	2.0
1	A	240	PRO	2.0
1	A	821	ARG	2.0
2	B	1130	PHE	2.0
8	J	21	TYR	2.0
6	H	126	GLU	2.0
4	E	100	ILE	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
12	ZN	B	1307	1/1	0.88	0.27	195,195,195,195	0
12	ZN	M	346	1/1	0.89	0.50	193,193,193,193	0
12	ZN	I	204	1/1	0.94	0.18	311,311,311,311	0
12	ZN	I	203	1/1	0.98	0.25	218,218,218,218	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
12	ZN	A	1734	1/1	0.98	0.24	205,205,205,205	0
12	ZN	L	105	1/1	0.98	0.18	215,215,215,215	0
12	ZN	C	319	1/1	0.98	0.31	191,191,191,191	0
12	ZN	A	1735	1/1	0.99	0.20	183,183,183,183	0
12	ZN	J	101	1/1	1.00	0.22	177,177,177,177	0

6.5 Other polymers [i](#)

There are no such residues in this entry.