Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 01:40 AM EDT

PDB ID	:	1AWR
Title	:	CYPA COMPLEXED WITH HAGPIA
Authors	:	Vajdos, F.F.
Deposited on	:	1997-10-04
Resolution	:	1.58 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:

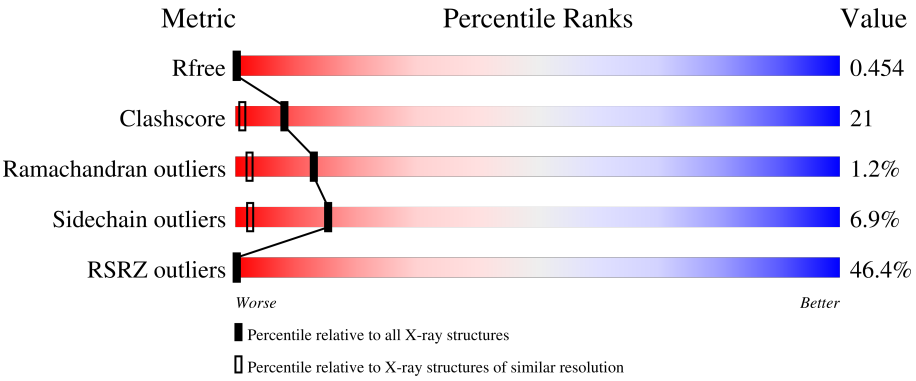
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.20.1
EDS	:	2.36.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.58 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	5534 (1.60-1.56)
Clashscore	141614	5861 (1.60-1.56)
Ramachandran outliers	138981	5708 (1.60-1.56)
Sidechain outliers	138945	5703 (1.60-1.56)
RSRZ outliers	127900	5431 (1.60-1.56)

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	164	24% 65% 32% .
1	B	164	76% 49% 45% 6%
1	C	164	51% 62% 35% .
1	D	164	37% 66% 30% .
1	E	164	24% 70% 25% 5%

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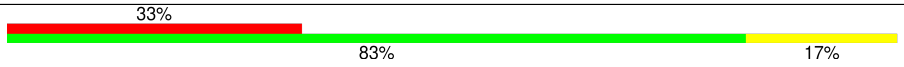
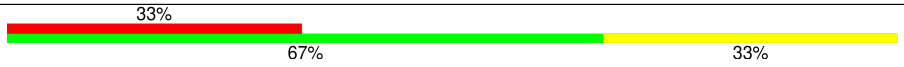
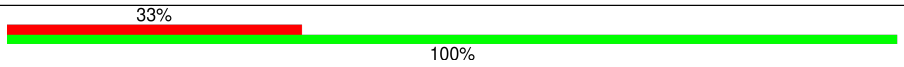
Mol	Chain	Length	Quality of chain
1	F	164	
2	G	6	
2	H	6	
2	I	6	
2	J	6	
2	K	6	
2	L	6	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 7963 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 CYCLOPHILIN A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	164	Total	C	N	O	S	0	0	0
			1258	797	217	236	8			
1	B	164	Total	C	N	O	S	0	0	0
			1258	797	217	236	8			
1	C	164	Total	C	N	O	S	0	0	0
			1258	797	217	236	8			
1	D	164	Total	C	N	O	S	0	0	0
			1258	797	217	236	8			
1	E	164	Total	C	N	O	S	0	0	0
			1258	797	217	236	8			
1	F	164	Total	C	N	O	S	0	0	0
			1258	797	217	236	8			

- Molecule 2 is a protein called PEPTIDE FROM THE HIV-1 CAPSID PROTEIN.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	G	6	Total	C	N	O	0	0	0
			40	25	8	7			
2	H	6	Total	C	N	O	0	0	0
			40	25	8	7			
2	I	6	Total	C	N	O	0	0	0
			40	25	8	7			
2	J	6	Total	C	N	O	0	0	0
			40	25	8	7			
2	K	6	Total	C	N	O	0	0	0
			40	25	8	7			
2	L	6	Total	C	N	O	0	0	0
			40	25	8	7			

- Molecule 3 is water.

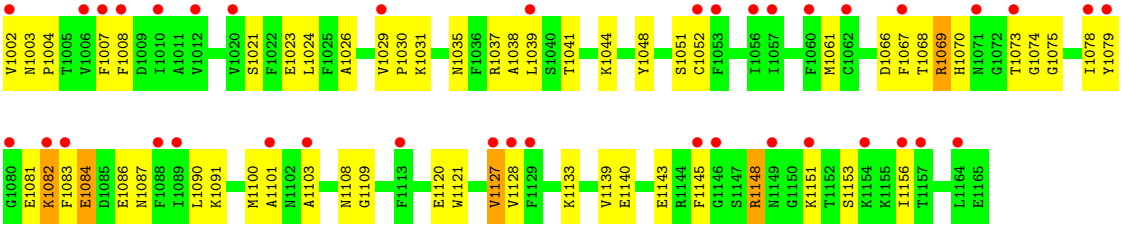
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	33	Total O 33 33	0	0
3	B	22	Total O 22 22	0	0
3	C	32	Total O 32 32	0	0
3	D	20	Total O 20 20	0	0
3	E	29	Total O 29 29	0	0
3	F	30	Total O 30 30	0	0
3	G	2	Total O 2 2	0	0
3	H	1	Total O 1 1	0	0
3	I	1	Total O 1 1	0	0
3	J	2	Total O 2 2	0	0
3	K	2	Total O 2 2	0	0
3	L	1	Total O 1 1	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

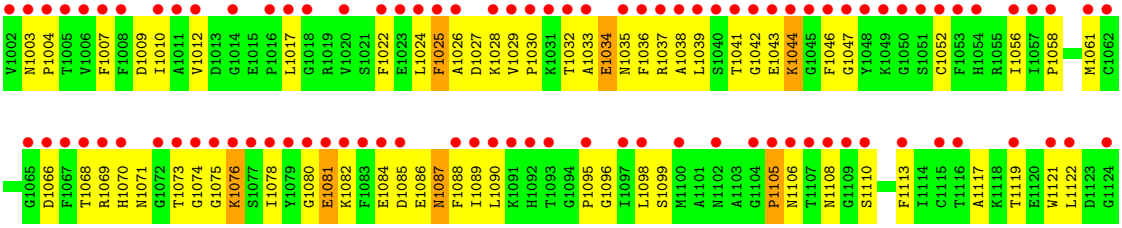
• Molecule 1: CYCLOPHILIN A

Chain A:



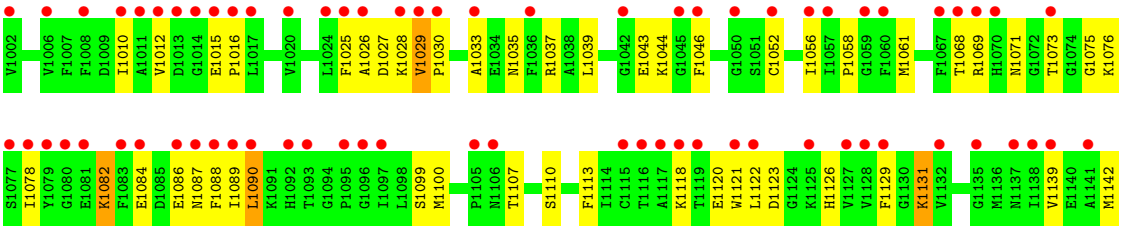
• Molecule 1: CYCLOPHILIN A

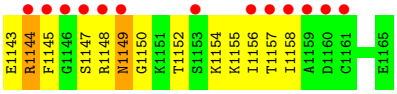
Chain B:



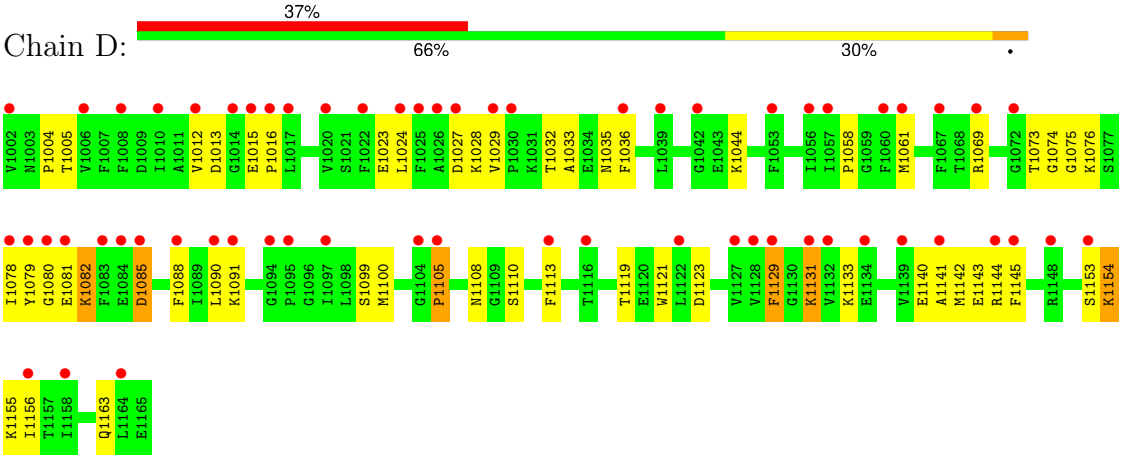
• Molecule 1: CYCLOPHILIN A

Chain C:

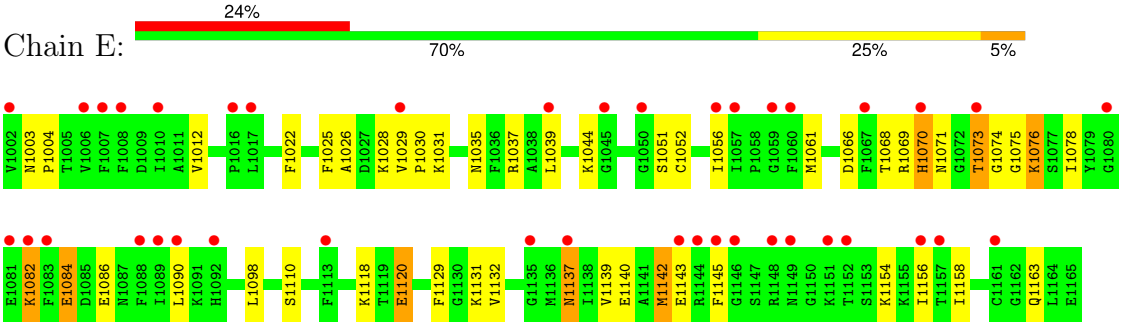




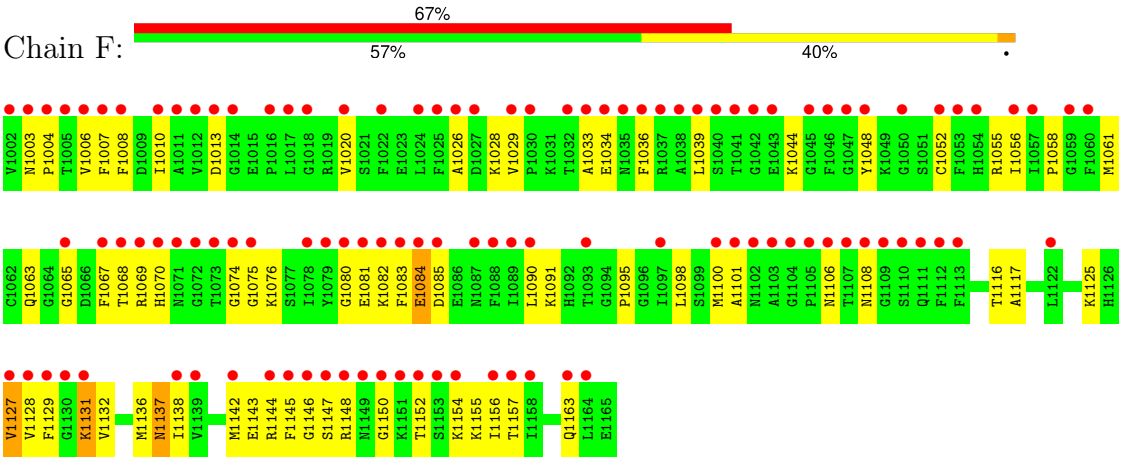
• Molecule 1: CYCLOPHILIN A



• Molecule 1: CYCLOPHILIN A



• Molecule 1: CYCLOPHILIN A



• Molecule 2: PEPTIDE FROM THE HIV-1 CAPSID PROTEIN

• Molecule 2: PEPTIDE FROM THE HIV-1 CAPSID PROTEIN

Chain H:

• Molecule 2: PEPTIDE FROM THE HIV-1 CAPSID PROTEIN

Chain I:

• Molecule 2: PEPTIDE FROM THE HIV-1 CAPSID PROTEIN

Chain J:

• Molecule 2: PEPTIDE FROM THE HIV-1 CAPSID PROTEIN

Chain K:

• Molecule 2: PEPTIDE FROM THE HIV-1 CAPSID PROTEIN

Chain L:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 41	Depositor
Cell constants a, b, c, α, β, γ	72.91Å 72.91Å 188.56Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 1.58 14.96 – 1.53	Depositor EDS
% Data completeness (in resolution range)	88.3 (15.00-1.58) 79.5 (14.96-1.53)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.09	Depositor
$< I/\sigma(I) >$ [1]	1.00 (at 1.53Å)	Xtriage
Refinement program	X-PLOR 3.843	Depositor
R, R_{free}	0.394 , 0.461 0.391 , 0.454	Depositor DCC
R_{free} test set	6255 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	12.9	Xtriage
Anisotropy	0.289	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 46.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	0.044 for h,-k,-l	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	7963	wwPDB-VP
Average B, all atoms (Å^2)	16.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 82.07 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 3.0506e-07. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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	0.62	0/1286	0.76	0/1723
1	B	0.63	0/1286	0.77	0/1723
1	C	0.64	0/1286	0.77	0/1723
1	D	0.58	0/1286	0.73	0/1723
1	E	0.64	0/1286	0.76	0/1723
1	F	0.60	0/1286	0.79	0/1723
2	G	0.63	0/41	0.89	0/54
2	H	0.65	0/41	0.72	0/54
2	I	0.74	0/41	0.90	0/54
2	J	0.78	0/41	0.91	0/54
2	K	0.76	0/41	0.92	0/54
2	L	0.57	0/41	0.62	0/54
All	All	0.62	0/7962	0.76	0/10662

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	1258	0	1225	41	0
1	B	1258	0	1225	73	0
1	C	1258	0	1225	62	0
1	D	1258	0	1225	47	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	1258	0	1225	39	0
1	F	1258	0	1225	65	0
2	G	40	0	37	3	0
2	H	40	0	37	1	0
2	I	40	0	37	1	0
2	J	40	0	37	2	0
2	K	40	0	37	0	0
2	L	40	0	37	1	0
3	A	33	0	0	7	0
3	B	22	0	0	6	0
3	C	32	0	0	4	0
3	D	20	0	0	3	0
3	E	29	0	0	0	0
3	F	30	0	0	12	0
3	G	2	0	0	0	0
3	H	1	0	0	0	0
3	I	1	0	0	0	0
3	J	2	0	0	0	0
3	K	2	0	0	0	0
3	L	1	0	0	0	0
All	All	7963	0	7572	327	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 21.

All (327) 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:F:1100:MET:HB2	1:F:1127:VAL:HG23	1.39	1.02
1:E:1069:ARG:HG2	1:E:1073:THR:HG22	1.48	0.93
1:F:1052:CYS:HB3	1:F:1155:LYS:HE2	1.51	0.92
1:C:1148:ARG:HH11	1:C:1148:ARG:HA	1.36	0.90
1:F:1048:TYR:HA	3:F:7016:HOH:O	1.70	0.90
1:E:1137:ASN:HD22	1:E:1137:ASN:H	1.13	0.90
1:A:1048:TYR:HA	3:A:7165:HOH:O	1.69	0.89
1:D:1023:GLU:HB2	1:D:1133:LYS:HE2	1.58	0.85
1:C:1090:LEU:HD12	1:C:1090:LEU:H	1.47	0.78
1:A:1127:VAL:HG11	3:A:7142:HOH:O	1.85	0.77
1:B:1024:LEU:HB3	1:B:1033:ALA:HB1	1.65	0.77
1:A:1067:PHE:HB3	3:A:7165:HOH:O	1.86	0.76
1:B:1010:ILE:HG13	1:B:1142:MET:HE1	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1100:MET:HB2	1:A:1127:VAL:HG23	1.66	0.75
1:D:1029:VAL:HG12	1:D:1032:THR:HB	1.69	0.75
1:C:1155:LYS:NZ	1:C:1155:LYS:HB3	2.01	0.74
1:C:1025:PHE:HZ	1:C:1131:LYS:HD2	1.53	0.73
1:B:1041:THR:OG1	1:B:1043:GLU:HG2	1.89	0.73
1:B:1038:ALA:HB1	1:B:1044:LYS:HD3	1.70	0.72
1:B:1044:LYS:HG2	1:B:1078:ILE:HG21	1.71	0.72
1:E:1137:ASN:HD22	1:E:1137:ASN:N	1.84	0.72
1:C:1148:ARG:HA	1:C:1148:ARG:NH1	2.05	0.72
1:F:1058:PRO:HD3	1:F:1146:GLY:O	1.92	0.70
1:D:1023:GLU:CB	1:D:1133:LYS:HE2	2.22	0.70
1:F:1052:CYS:CB	1:F:1155:LYS:HE2	2.20	0.70
1:C:1090:LEU:HD12	1:C:1090:LEU:N	2.04	0.70
1:C:1035:ASN:O	1:C:1039:LEU:HG	1.92	0.69
1:F:1084:GLU:HA	1:F:1106:ASN:HA	1.74	0.69
1:E:1044:LYS:HZ2	1:E:1078:ILE:HB	1.58	0.69
1:B:1032:THR:HG22	1:B:1129:PHE:CD2	2.28	0.69
1:D:1024:LEU:HB3	1:D:1033:ALA:HB1	1.75	0.69
1:E:1137:ASN:H	1:E:1137:ASN:ND2	1.90	0.69
1:C:1044:LYS:HG2	1:C:1078:ILE:HB	1.75	0.69
1:F:1146:GLY:HA2	1:F:1152:THR:HA	1.74	0.68
1:F:1127:VAL:HA	3:F:7029:HOH:O	1.94	0.68
1:F:1145:PHE:HB2	1:F:1156:ILE:HD11	1.75	0.68
1:B:1044:LYS:HB2	3:B:7163:HOH:O	1.94	0.68
1:A:1148:ARG:HA	1:A:1148:ARG:NE	2.09	0.68
1:D:1036:PHE:HB2	1:D:1129:PHE:HE2	1.58	0.68
1:D:1028:LYS:HD3	1:D:1090:LEU:HD21	1.75	0.67
1:D:1029:VAL:CG1	1:D:1032:THR:HB	2.25	0.67
1:D:1121:TRP:NE1	2:J:106:ALA:HB3	2.10	0.67
1:F:1074:GLY:HA2	3:F:7065:HOH:O	1.95	0.66
1:B:1029:VAL:HG12	1:B:1032:THR:HB	1.78	0.66
1:B:1149:ASN:ND2	1:B:1149:ASN:H	1.95	0.65
1:B:1090:LEU:HB2	1:B:1128:VAL:HB	1.80	0.64
1:F:1010:ILE:HG21	1:F:1142:MET:HE1	1.79	0.64
1:A:1026:ALA:O	1:A:1030:PRO:HG3	1.98	0.63
1:C:1139:VAL:HA	1:C:1142:MET:HE2	1.78	0.63
1:B:1030:PRO:O	1:B:1034:GLU:HB2	1.99	0.63
1:F:1076:LYS:HA	3:F:7002:HOH:O	1.97	0.63
1:E:1056:ILE:HG21	1:E:1143:GLU:HA	1.81	0.63
1:E:1082:LYS:H	1:E:1082:LYS:HD3	1.63	0.62
1:B:1087:ASN:HD22	1:B:1087:ASN:N	1.96	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1012:VAL:CG1	1:D:1154:LYS:HD3	2.30	0.62
1:B:1089:ILE:HG22	1:B:1090:LEU:HD23	1.82	0.62
1:C:1012:VAL:HG21	1:C:1145:PHE:HE2	1.64	0.62
1:B:1044:LYS:HG2	1:B:1078:ILE:CG2	2.30	0.61
1:B:1037:ARG:O	1:B:1041:THR:HG23	2.01	0.61
1:B:1096:GLY:HA2	1:B:1136:MET:SD	2.41	0.61
1:E:1118:LYS:NZ	1:E:1120:GLU:HB3	2.17	0.60
1:A:1073:THR:HG22	1:A:1073:THR:O	2.01	0.60
1:A:1035:ASN:O	1:A:1039:LEU:HG	2.02	0.59
1:B:1127:VAL:HG23	3:B:7118:HOH:O	2.02	0.59
1:D:1058:PRO:HA	1:D:1143:GLU:HG3	1.84	0.59
1:F:1145:PHE:CB	1:F:1156:ILE:HD11	2.32	0.59
1:F:1044:LYS:HB2	3:F:7004:HOH:O	2.02	0.59
1:A:1103:ALA:CB	2:G:101:HIS:CE1	2.85	0.59
1:F:1052:CYS:HB2	1:F:1156:ILE:O	2.03	0.59
1:B:1085:ASP:HA	1:B:1108:ASN:ND2	2.19	0.58
1:C:1144:ARG:C	1:C:1145:PHE:HD1	2.06	0.58
1:D:1131:LYS:O	1:D:1131:LYS:HD3	2.02	0.58
1:B:1056:ILE:HD12	1:B:1152:THR:HG21	1.85	0.58
1:C:1121:TRP:NE1	2:I:106:ALA:HB3	2.18	0.58
1:F:1036:PHE:HB2	1:F:1129:PHE:HE2	1.68	0.58
1:B:1085:ASP:HA	1:B:1108:ASN:HD21	1.69	0.58
1:B:1084:GLU:HB2	1:B:1106:ASN:OD1	2.03	0.57
1:C:1025:PHE:CD2	1:C:1090:LEU:HD22	2.40	0.57
1:D:1076:LYS:O	1:D:1110:SER:HB3	2.03	0.57
1:A:1029:VAL:HG12	1:A:1086:GLU:OE1	2.05	0.57
1:D:1012:VAL:HG11	1:D:1154:LYS:HD3	1.87	0.57
1:F:1148:ARG:HA	1:F:1148:ARG:NE	2.20	0.57
1:D:1085:ASP:HA	1:D:1108:ASN:HD21	1.70	0.56
1:B:1121:TRP:NE1	2:H:106:ALA:HB3	2.21	0.56
1:F:1136:MET:HG2	3:F:7149:HOH:O	2.04	0.56
1:A:1002:VAL:HG23	1:A:1003:ASN:H	1.70	0.56
1:C:1012:VAL:HG21	1:C:1145:PHE:CE2	2.41	0.55
1:C:1012:VAL:HG11	1:C:1145:PHE:CE2	2.42	0.55
1:C:1025:PHE:CZ	1:C:1131:LYS:HD2	2.38	0.55
1:F:1068:THR:HG23	1:F:1075:GLY:HA2	1.87	0.55
1:C:1058:PRO:HA	1:C:1143:GLU:HG3	1.87	0.55
1:D:1035:ASN:HB2	1:D:1079:TYR:HE2	1.71	0.55
1:B:1010:ILE:HG13	1:B:1142:MET:CE	2.36	0.55
1:E:1069:ARG:HD3	1:E:1074:GLY:HA3	1.88	0.55
1:F:1028:LYS:HB3	3:F:7048:HOH:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1083:PHE:O	1:A:1108:ASN:HB2	2.07	0.54
1:A:1109:GLY:HA3	3:A:7113:HOH:O	2.06	0.54
1:D:1012:VAL:HA	1:D:1155:LYS:O	2.06	0.54
1:D:1088:PHE:HA	3:D:7060:HOH:O	2.06	0.54
1:F:1101:ALA:O	2:L:102:ALA:HB1	2.07	0.54
1:B:1132:VAL:HG21	1:B:1136:MET:SD	2.48	0.54
1:E:1044:LYS:NZ	1:E:1078:ILE:HB	2.23	0.54
1:F:1029:VAL:HG13	3:F:7048:HOH:O	2.07	0.54
1:B:1136:MET:HG2	3:B:7094:HOH:O	2.06	0.53
1:E:1026:ALA:O	1:E:1030:PRO:HG3	2.08	0.53
1:E:1035:ASN:O	1:E:1039:LEU:HG	2.09	0.53
1:B:1052:CYS:CB	1:B:1155:LYS:HE3	2.39	0.53
1:D:1073:THR:HG22	1:D:1073:THR:O	2.08	0.53
1:C:1143:GLU:C	1:C:1145:PHE:H	2.12	0.53
1:E:1139:VAL:O	1:E:1142:MET:HB2	2.08	0.52
1:B:1122:LEU:HD22	1:B:1126:HIS:CD2	2.44	0.52
1:C:1155:LYS:HB3	1:C:1155:LYS:HZ3	1.73	0.52
1:E:1076:LYS:O	1:E:1110:SER:HB3	2.09	0.52
1:B:1037:ARG:NH1	1:B:1038:ALA:HA	2.25	0.52
1:D:1119:THR:HA	1:D:1121:TRP:CZ3	2.45	0.52
1:D:1153:SER:O	1:D:1154:LYS:HG3	2.10	0.52
1:C:1145:PHE:CD2	1:C:1156:ILE:HD11	2.45	0.52
1:C:1149:ASN:C	1:C:1149:ASN:HD22	2.13	0.52
1:A:1052:CYS:HB2	1:A:1156:ILE:O	2.10	0.52
1:C:1025:PHE:HB2	1:C:1029:VAL:HG23	1.92	0.52
1:B:1022:PHE:CD1	1:B:1098:LEU:HD22	2.45	0.52
1:D:1099:SER:HB3	1:D:1113:PHE:CZ	2.45	0.52
1:F:1138:ILE:HG22	1:F:1142:MET:CE	2.39	0.52
1:D:1044:LYS:HB2	3:D:7103:HOH:O	2.09	0.51
1:E:1118:LYS:HZ2	1:E:1120:GLU:HB3	1.75	0.51
1:F:1067:PHE:HB3	3:F:7016:HOH:O	2.11	0.51
1:F:1098:LEU:HG	1:F:1129:PHE:CE1	2.45	0.51
1:F:1131:LYS:HG2	1:F:1132:VAL:N	2.25	0.51
1:B:1012:VAL:CG2	1:B:1017:LEU:HD22	2.41	0.51
1:C:1123:ASP:HA	3:C:7028:HOH:O	2.10	0.51
1:D:1023:GLU:CA	1:D:1133:LYS:HE2	2.41	0.51
1:B:1024:LEU:HD13	1:B:1033:ALA:O	2.11	0.51
1:C:1030:PRO:HD2	1:C:1086:GLU:OE2	2.10	0.51
1:D:1069:ARG:HG2	1:D:1074:GLY:HA3	1.92	0.51
1:F:1010:ILE:HG13	1:F:1142:MET:CE	2.41	0.51
1:C:1012:VAL:HG11	1:C:1145:PHE:HE2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:1052:CYS:HB2	1:E:1156:ILE:O	2.12	0.50
1:F:1090:LEU:HD12	3:F:7048:HOH:O	2.11	0.50
1:A:1066:ASP:O	1:A:1070:HIS:HA	2.12	0.50
1:F:1056:ILE:HB	1:F:1146:GLY:HA3	1.94	0.50
1:B:1149:ASN:H	1:B:1149:ASN:HD22	1.58	0.50
1:F:1138:ILE:HG22	1:F:1142:MET:HE2	1.92	0.50
1:C:1058:PRO:HG2	3:C:7108:HOH:O	2.12	0.50
1:B:1029:VAL:CG1	1:B:1032:THR:HB	2.40	0.49
1:C:1145:PHE:HD2	1:C:1156:ILE:HD11	1.77	0.49
1:A:1090:LEU:HB2	1:A:1128:VAL:HB	1.94	0.49
1:F:1055:ARG:HA	1:F:1150:GLY:O	2.13	0.49
1:C:1028:LYS:C	1:C:1030:PRO:HD3	2.33	0.49
1:B:1028:LYS:HD3	1:B:1090:LEU:HD21	1.93	0.49
1:B:1073:THR:HG22	1:B:1073:THR:O	2.13	0.49
1:F:1137:ASN:N	1:F:1137:ASN:HD22	2.10	0.49
1:A:1082:LYS:H	1:A:1082:LYS:HD3	1.78	0.49
1:B:1025:PHE:CD2	1:B:1130:GLY:HA2	2.48	0.49
1:B:1121:TRP:HH2	3:B:7036:HOH:O	1.94	0.49
1:B:1027:ASP:OD1	1:B:1028:LYS:HG3	2.12	0.49
1:B:1029:VAL:HG21	1:B:1128:VAL:O	2.12	0.49
1:F:1007:PHE:O	1:F:1008:PHE:HD1	1.96	0.49
1:F:1076:LYS:HB2	1:F:1080:GLY:O	2.12	0.49
1:F:1137:ASN:HD22	1:F:1137:ASN:H	1.61	0.49
1:F:1090:LEU:C	1:F:1091:LYS:HD2	2.33	0.48
1:D:1081:GLU:HB3	1:D:1082:LYS:NZ	2.28	0.48
1:F:1085:ASP:HA	1:F:1108:ASN:ND2	2.28	0.48
1:F:1048:TYR:CE1	1:F:1065:GLY:HA2	2.49	0.48
1:B:1081:GLU:OE1	1:B:1081:GLU:N	2.46	0.48
1:B:1140:GLU:O	1:B:1143:GLU:HB2	2.13	0.48
1:C:1147:SER:OG	1:C:1148:ARG:N	2.47	0.48
1:B:1082:LYS:HB2	3:B:7032:HOH:O	2.14	0.48
1:B:1038:ALA:HB3	1:B:1078:ILE:HD13	1.95	0.48
1:C:1118:LYS:HE2	1:C:1120:GLU:HB3	1.96	0.48
1:D:1075:GLY:HA3	1:D:1110:SER:OG	2.13	0.48
1:B:1026:ALA:O	1:B:1030:PRO:HB3	2.14	0.48
1:C:1029:VAL:HG13	1:C:1087:ASN:HD21	1.79	0.48
1:A:1145:PHE:HB2	1:A:1156:ILE:HD11	1.96	0.47
1:B:1088:PHE:HA	3:B:7001:HOH:O	2.14	0.47
1:C:1088:PHE:HA	3:C:7133:HOH:O	2.15	0.47
1:A:1069:ARG:HE	1:A:1074:GLY:HA3	1.78	0.47
1:F:1132:VAL:HG21	1:F:1136:MET:SD	2.55	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1127:VAL:HA	3:A:7044:HOH:O	2.14	0.47
1:B:1066:ASP:O	1:B:1070:HIS:HA	2.15	0.47
1:B:1138:ILE:O	1:B:1142:MET:HE3	2.14	0.47
1:B:1119:THR:HA	1:B:1121:TRP:CZ3	2.50	0.47
1:C:1028:LYS:NZ	1:C:1090:LEU:HG	2.29	0.47
1:D:1100:MET:SD	1:D:1129:PHE:CZ	3.07	0.47
1:C:1099:SER:HB3	1:C:1113:PHE:CZ	2.50	0.46
1:D:1085:ASP:HA	1:D:1108:ASN:ND2	2.29	0.46
1:D:1145:PHE:HD2	1:D:1156:ILE:HD11	1.79	0.46
1:E:1068:THR:HG1	1:E:1075:GLY:H	1.59	0.46
1:A:1023:GLU:HB2	1:A:1133:LYS:HD2	1.96	0.46
1:B:1099:SER:HB3	1:B:1113:PHE:CZ	2.51	0.46
1:F:1090:LEU:CB	1:F:1128:VAL:HB	2.45	0.46
1:E:1028:LYS:C	1:E:1030:PRO:HD3	2.36	0.46
1:C:1037:ARG:NH2	1:C:1043:GLU:OE2	2.48	0.46
1:C:1142:MET:SD	1:C:1156:ILE:HG21	2.56	0.46
1:E:1012:VAL:CG1	1:E:1154:LYS:HD3	2.46	0.46
1:F:1006:VAL:HA	1:F:1163:GLN:HA	1.97	0.46
1:F:1090:LEU:HB3	1:F:1128:VAL:CG1	2.46	0.46
1:E:1071:ASN:OD1	1:E:1073:THR:HB	2.16	0.46
1:B:1058:PRO:HB2	1:B:1148:ARG:NH2	2.31	0.46
1:D:1121:TRP:HE1	2:J:106:ALA:HB3	1.79	0.46
1:E:1069:ARG:HD2	1:E:1069:ARG:N	2.31	0.46
1:B:1131:LYS:HD2	1:B:1132:VAL:O	2.14	0.46
1:D:1028:LYS:CD	1:D:1090:LEU:HD21	2.42	0.46
1:C:1143:GLU:O	1:C:1145:PHE:N	2.49	0.45
1:C:1145:PHE:N	1:C:1145:PHE:CD1	2.82	0.45
1:D:1145:PHE:CD1	1:D:1154:LYS:HD2	2.51	0.45
1:A:1101:ALA:O	2:G:102:ALA:HB1	2.16	0.45
1:E:1143:GLU:C	1:E:1145:PHE:H	2.20	0.45
1:C:1076:LYS:O	1:C:1110:SER:HB3	2.16	0.45
1:F:1008:PHE:HB2	1:F:1020:VAL:HG13	1.98	0.45
1:A:1044:LYS:HB2	3:A:7013:HOH:O	2.16	0.45
1:F:1010:ILE:HG13	1:F:1142:MET:HE1	1.97	0.45
1:B:1095:PRO:HG3	1:B:1117:ALA:HA	1.98	0.45
1:B:1056:ILE:HB	1:B:1152:THR:CG2	2.47	0.45
1:F:1003:ASN:HA	1:F:1004:PRO:HD3	1.78	0.45
1:C:1145:PHE:CD2	1:C:1154:LYS:HD2	2.51	0.44
1:D:1142:MET:HE2	1:D:1142:MET:HB2	1.86	0.44
1:A:1073:THR:O	1:A:1073:THR:CG2	2.65	0.44
1:E:1073:THR:O	1:E:1073:THR:CG2	2.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:1148:ARG:HA	1:F:1148:ARG:HE	1.83	0.44
1:D:1012:VAL:O	1:D:1013:ASP:HB2	2.18	0.44
1:B:1036:PHE:HB2	1:B:1129:PHE:HE2	1.82	0.44
1:F:1058:PRO:HG3	1:F:1143:GLU:O	2.17	0.44
1:F:1055:ARG:HB3	1:F:1063:GLN:HB3	2.00	0.44
1:A:1140:GLU:O	1:A:1143:GLU:HB2	2.18	0.44
1:B:1012:VAL:HG23	1:B:1017:LEU:HD22	2.00	0.43
1:C:1026:ALA:HA	1:C:1033:ALA:HB3	1.99	0.43
1:D:1005:THR:O	1:D:1163:GLN:HG3	2.18	0.43
1:E:1143:GLU:C	1:E:1145:PHE:N	2.71	0.43
1:F:1116:THR:HG21	1:F:1143:GLU:CD	2.38	0.43
1:E:1131:LYS:HE3	1:E:1131:LYS:HB3	1.82	0.43
1:B:1132:VAL:HG11	1:B:1136:MET:HA	2.00	0.43
1:E:1025:PHE:CD2	1:E:1090:LEU:HD13	2.53	0.43
1:E:1044:LYS:NZ	1:E:1078:ILE:HD12	2.34	0.43
1:C:1056:ILE:HG21	1:C:1143:GLU:HA	2.00	0.43
1:C:1087:ASN:CG	1:C:1089:ILE:HD12	2.37	0.43
1:A:1007:PHE:O	1:A:1008:PHE:HD1	2.02	0.43
1:A:1139:VAL:O	1:A:1143:GLU:HG2	2.18	0.43
1:F:1145:PHE:O	1:F:1152:THR:HG22	2.18	0.43
1:A:1083:PHE:N	1:A:1108:ASN:O	2.45	0.43
1:B:1035:ASN:ND2	1:B:1039:LEU:HD12	2.33	0.43
1:D:1032:THR:HG22	1:D:1129:PHE:CD2	2.54	0.43
1:F:1013:ASP:OD2	1:F:1154:LYS:HD3	2.17	0.43
1:F:1039:LEU:HD23	1:F:1039:LEU:HA	1.79	0.43
1:F:1100:MET:HB2	1:F:1127:VAL:CG2	2.30	0.43
1:E:1070:HIS:ND1	1:E:1070:HIS:N	2.67	0.43
1:A:1087:ASN:O	1:A:1127:VAL:HG12	2.19	0.43
1:B:1004:PRO:HB3	1:B:1163:GLN:NE2	2.33	0.43
1:E:1029:VAL:HG21	1:E:1129:PHE:HA	2.00	0.42
1:B:1075:GLY:HA3	1:B:1110:SER:OG	2.19	0.42
1:C:1044:LYS:HE2	1:C:1078:ILE:HD12	2.01	0.42
1:F:1095:PRO:HG3	1:F:1117:ALA:HA	2.01	0.42
1:C:1046:PHE:HZ	1:C:1078:ILE:HA	1.84	0.42
1:C:1100:MET:SD	1:C:1129:PHE:CE1	3.12	0.42
1:E:1037:ARG:HD2	1:E:1163:GLN:NE2	2.34	0.42
1:A:1038:ALA:HB3	1:A:1078:ILE:HG21	2.01	0.42
1:D:1044:LYS:HG3	1:D:1078:ILE:HG21	2.00	0.42
1:D:1119:THR:HA	1:D:1121:TRP:CH2	2.54	0.42
1:F:1008:PHE:HB2	1:F:1020:VAL:CG1	2.48	0.42
1:C:1056:ILE:O	1:C:1150:GLY:HA2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:1052:CYS:HA	1:F:1157:THR:HA	2.01	0.42
1:E:1044:LYS:HZ2	1:E:1078:ILE:HD12	1.85	0.42
1:C:1027:ASP:OD1	1:C:1027:ASP:N	2.48	0.42
1:D:1141:ALA:HA	1:D:1144:ARG:HE	1.84	0.42
1:C:1068:THR:HG1	1:C:1075:GLY:H	1.64	0.42
1:D:1091:LYS:HE2	1:D:1123:ASP:OD2	2.20	0.42
1:D:1145:PHE:CD2	1:D:1156:ILE:HD11	2.54	0.42
1:E:1098:LEU:HG	1:E:1129:PHE:CZ	2.55	0.42
1:A:1090:LEU:CB	1:A:1128:VAL:HB	2.49	0.42
1:C:1010:ILE:HG21	1:C:1142:MET:SD	2.60	0.42
1:C:1122:LEU:HB3	1:C:1126:HIS:HD2	1.84	0.42
1:B:1003:ASN:HD22	1:B:1026:ALA:H	1.67	0.42
1:B:1007:PHE:HE2	1:B:1009:ASP:OD2	2.02	0.42
1:C:1143:GLU:C	1:C:1145:PHE:N	2.73	0.42
1:C:1155:LYS:HB3	1:C:1155:LYS:HZ2	1.84	0.42
1:B:1046:PHE:HE2	1:B:1076:LYS:O	2.03	0.41
1:B:1078:ILE:C	1:B:1080:GLY:H	2.24	0.41
1:B:1148:ARG:HE	1:B:1148:ARG:HA	1.85	0.41
1:F:1070:HIS:CD2	3:F:7161:HOH:O	2.73	0.41
1:A:1051:SER:N	3:A:7151:HOH:O	2.53	0.41
1:E:1003:ASN:HA	1:E:1004:PRO:HD3	1.73	0.41
1:E:1031:LYS:HE2	1:E:1084:GLU:OE2	2.21	0.41
1:B:1087:ASN:N	1:B:1087:ASN:ND2	2.67	0.41
1:C:1052:CYS:HB2	1:C:1156:ILE:O	2.20	0.41
1:D:1090:LEU:HG	3:D:7137:HOH:O	2.21	0.41
1:C:1071:ASN:OD1	1:C:1073:THR:HB	2.20	0.41
1:C:1082:LYS:HG3	1:C:1107:THR:HA	2.01	0.41
1:C:1145:PHE:HD1	1:C:1145:PHE:N	2.18	0.41
1:D:1027:ASP:OD1	1:D:1028:LYS:HG3	2.19	0.41
1:E:1012:VAL:HG12	1:E:1154:LYS:HD3	2.03	0.41
1:F:1116:THR:HG21	1:F:1143:GLU:OE2	2.20	0.41
1:A:1121:TRP:CD1	2:G:106:ALA:HB3	2.55	0.41
1:B:1003:ASN:ND2	1:B:1026:ALA:H	2.18	0.41
1:C:1069:ARG:HB3	1:C:1071:ASN:OD1	2.20	0.41
1:D:1119:THR:HG22	1:D:1121:TRP:CZ2	2.56	0.41
1:B:1039:LEU:O	1:B:1047:GLY:HA3	2.21	0.41
1:B:1068:THR:OG1	1:B:1074:GLY:HA3	2.21	0.41
1:D:1004:PRO:HB3	1:D:1163:GLN:NE2	2.36	0.41
1:E:1073:THR:O	1:E:1073:THR:HG23	2.21	0.41
1:F:1145:PHE:CE1	1:F:1154:LYS:HD2	2.56	0.41
1:A:1003:ASN:HA	1:A:1004:PRO:HD3	1.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:1051:SER:OG	1:E:1158:ILE:HD12	2.20	0.41
1:F:1026:ALA:HA	1:F:1033:ALA:CB	2.50	0.41
1:A:1024:LEU:HD12	1:A:1037:ARG:HB2	2.03	0.41
1:A:1031:LYS:HE3	1:A:1079:TYR:CD2	2.56	0.41
1:B:1028:LYS:HD2	1:B:1090:LEU:HD11	2.02	0.41
1:B:1042:GLY:HA2	1:B:1046:PHE:O	2.21	0.41
1:C:1152:THR:HG21	3:C:7092:HOH:O	2.21	0.41
1:F:1091:LYS:HD2	1:F:1091:LYS:N	2.35	0.41
1:C:1012:VAL:CG2	1:C:1145:PHE:HE2	2.33	0.41
1:C:1157:THR:CG2	1:C:1158:ILE:N	2.84	0.41
1:D:1082:LYS:O	1:D:1082:LYS:HG2	2.20	0.41
1:A:1084:GLU:OE1	1:A:1084:GLU:N	2.54	0.40
1:A:1091:LYS:N	1:A:1091:LYS:HD2	2.36	0.40
1:B:1086:GLU:HG2	1:B:1087:ASN:ND2	2.36	0.40
1:B:1144:ARG:HE	1:B:1144:ARG:HB2	1.73	0.40
1:F:1028:LYS:CB	3:F:7048:HOH:O	2.68	0.40
1:F:1137:ASN:ND2	1:F:1138:ILE:HG12	2.36	0.40
1:E:1022:PHE:CE1	1:E:1132:VAL:HG22	2.57	0.40
1:F:1147:SER:HB2	1:F:1148:ARG:H	1.78	0.40
1:A:1068:THR:HG1	1:A:1075:GLY:H	1.66	0.40
1:C:1145:PHE:CE2	1:C:1154:LYS:HD2	2.56	0.40
1:F:1083:PHE:CD1	1:F:1108:ASN:O	2.75	0.40
1:A:1007:PHE:HA	1:A:1021:SER:HA	2.03	0.40
1:A:1037:ARG:O	1:A:1041:THR:HG23	2.21	0.40
1:B:1069:ARG:HH11	1:B:1069:ARG:HG3	1.86	0.40
1:D:1015:GLU:HA	1:D:1016:PRO:HD3	1.85	0.40
1:E:1066:ASP:O	1:E:1070:HIS:HA	2.21	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	162/164 (99%)	147 (91%)	14 (9%)	1 (1%)	25 8
1	B	162/164 (99%)	141 (87%)	18 (11%)	3 (2%)	8 1
1	C	162/164 (99%)	147 (91%)	12 (7%)	3 (2%)	8 1
1	D	162/164 (99%)	146 (90%)	13 (8%)	3 (2%)	8 1
1	E	162/164 (99%)	148 (91%)	13 (8%)	1 (1%)	25 8
1	F	162/164 (99%)	147 (91%)	14 (9%)	1 (1%)	25 8
2	G	4/6 (67%)	3 (75%)	1 (25%)	0	100 100
2	H	4/6 (67%)	3 (75%)	1 (25%)	0	100 100
2	I	4/6 (67%)	4 (100%)	0	0	100 100
2	J	4/6 (67%)	4 (100%)	0	0	100 100
2	K	4/6 (67%)	4 (100%)	0	0	100 100
2	L	4/6 (67%)	3 (75%)	1 (25%)	0	100 100
All	All	996/1020 (98%)	897 (90%)	87 (9%)	12 (1%)	13 2

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	1025	PHE
1	B	1105	PRO
1	D	1105	PRO
1	B	1071	ASN
1	D	1080	GLY
1	F	1081	GLU
1	A	1081	GLU
1	C	1016	PRO
1	C	1144	ARG
1	D	1154	LYS
1	E	1086	GLU
1	C	1015	GLU

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	132/132 (100%)	123 (93%)	9 (7%)	16 2
1	B	132/132 (100%)	122 (92%)	10 (8%)	13 2
1	C	132/132 (100%)	125 (95%)	7 (5%)	22 4
1	D	132/132 (100%)	125 (95%)	7 (5%)	22 4
1	E	132/132 (100%)	122 (92%)	10 (8%)	13 2
1	F	132/132 (100%)	122 (92%)	10 (8%)	13 2
2	G	3/3 (100%)	2 (67%)	1 (33%)	0 0
2	H	3/3 (100%)	3 (100%)	0	100 100
2	I	3/3 (100%)	3 (100%)	0	100 100
2	J	3/3 (100%)	2 (67%)	1 (33%)	0 0
2	K	3/3 (100%)	3 (100%)	0	100 100
2	L	3/3 (100%)	2 (67%)	1 (33%)	0 0
All	All	810/810 (100%)	754 (93%)	56 (7%)	15 2

All (56) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1061	MET
1	A	1069	ARG
1	A	1082	LYS
1	A	1084	GLU
1	A	1120	GLU
1	A	1127	VAL
1	A	1148	ARG
1	A	1151	LYS
1	A	1153	SER
1	B	1034	GLU
1	B	1044	LYS
1	B	1061	MET
1	B	1076	LYS
1	B	1081	GLU
1	B	1087	ASN
1	B	1105	PRO
1	B	1129	PHE
1	B	1140	GLU
1	B	1155	LYS
1	C	1029	VAL
1	C	1061	MET
1	C	1082	LYS

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Mol	Chain	Res	Type
1	C	1084	GLU
1	C	1090	LEU
1	C	1131	LYS
1	C	1149	ASN
1	D	1061	MET
1	D	1082	LYS
1	D	1085	ASP
1	D	1105	PRO
1	D	1129	PHE
1	D	1131	LYS
1	D	1140	GLU
1	E	1061	MET
1	E	1070	HIS
1	E	1073	THR
1	E	1076	LYS
1	E	1082	LYS
1	E	1084	GLU
1	E	1120	GLU
1	E	1137	ASN
1	E	1140	GLU
1	E	1142	MET
1	F	1034	GLU
1	F	1061	MET
1	F	1069	ARG
1	F	1082	LYS
1	F	1084	GLU
1	F	1125	LYS
1	F	1127	VAL
1	F	1131	LYS
1	F	1137	ASN
1	F	1144	ARG
2	G	101	HIS
2	J	101	HIS
2	L	101	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	1003	ASN
1	B	1087	ASN
1	B	1108	ASN
1	B	1149	ASN

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Mol	Chain	Res	Type
1	C	1149	ASN
1	D	1108	ASN
1	D	1163	GLN
1	E	1137	ASN
1	F	1070	HIS
1	F	1108	ASN
1	F	1137	ASN

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, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	164/164 (100%)	1.45	39 (23%) 0 0	5, 13, 20, 23	0
1	B	164/164 (100%)	3.23	124 (75%) 0 0	11, 20, 28, 34	0
1	C	164/164 (100%)	2.27	83 (50%) 0 0	5, 16, 25, 35	0
1	D	164/164 (100%)	1.94	61 (37%) 0 0	7, 18, 25, 33	0
1	E	164/164 (100%)	1.52	40 (24%) 0 0	3, 12, 21, 27	0
1	F	164/164 (100%)	2.90	110 (67%) 0 0	10, 18, 26, 30	0
2	G	6/6 (100%)	2.34	3 (50%) 0 0	13, 17, 21, 29	0
2	H	6/6 (100%)	2.43	3 (50%) 0 0	11, 14, 22, 24	0
2	I	6/6 (100%)	2.08	2 (33%) 0 0	6, 8, 11, 26	0
2	J	6/6 (100%)	1.71	2 (33%) 0 0	9, 10, 12, 18	0
2	K	6/6 (100%)	1.88	2 (33%) 0 0	7, 9, 20, 23	0
2	L	6/6 (100%)	2.94	4 (66%) 0 0	16, 19, 24, 24	0
All	All	1020/1020 (100%)	2.22	473 (46%) 0 0	3, 17, 26, 35	0

All (473) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	1080	GLY	12.4
1	B	1024	LEU	11.2
1	B	1025	PHE	10.2
1	F	1029	VAL	8.9
1	F	1078	ILE	8.3
1	B	1067	PHE	8.2
1	B	1104	GLY	8.0
1	F	1083	PHE	7.9
1	B	1079	TYR	7.6
1	B	1074	GLY	7.5
1	C	1012	VAL	7.5

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Mol	Chain	Res	Type	RSRZ
1	B	1046	PHE	7.4
1	C	1002	VAL	7.3
1	F	1080	GLY	6.9
1	F	1012	VAL	6.9
1	B	1011	ALA	6.9
1	B	1017	LEU	6.8
2	L	101	HIS	6.5
1	B	1129	PHE	6.3
1	F	1107	THR	6.3
1	F	1088	PHE	6.2
1	D	1002	VAL	6.2
1	C	1029	VAL	6.1
1	F	1039	LEU	6.1
1	D	1026	ALA	5.9
1	F	1127	VAL	5.8
1	B	1147	SER	5.8
1	C	1017	LEU	5.8
1	D	1079	TYR	5.7
1	F	1103	ALA	5.7
1	D	1078	ILE	5.6
1	B	1016	PRO	5.5
1	B	1077	SER	5.5
1	F	1128	VAL	5.5
1	B	1002	VAL	5.4
1	B	1090	LEU	5.4
1	B	1007	PHE	5.4
1	F	1153	SER	5.4
1	B	1080	GLY	5.4
2	H	106	ALA	5.3
1	C	1145	PHE	5.3
2	I	106	ALA	5.3
1	B	1032	THR	5.3
1	B	1083	PHE	5.2
1	B	1088	PHE	5.2
1	C	1089	ILE	5.1
1	F	1156	ILE	5.1
1	F	1030	PRO	5.1
1	B	1048	TYR	5.1
1	B	1156	ILE	5.1
1	B	1003	ASN	5.0
1	F	1038	ALA	5.0
1	F	1129	PHE	5.0

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Mol	Chain	Res	Type	RSRZ
1	B	1139	VAL	5.0
1	C	1011	ALA	4.9
1	F	1026	ALA	4.9
2	G	101	HIS	4.9
1	F	1089	ILE	4.9
1	C	1030	PRO	4.9
1	B	1035	ASN	4.9
1	F	1090	LEU	4.9
1	B	1084	GLU	4.8
1	D	1024	LEU	4.8
1	F	1027	ASP	4.8
1	B	1010	ILE	4.8
1	F	1032	THR	4.7
1	F	1079	TYR	4.7
1	C	1024	LEU	4.6
1	D	1104	GLY	4.6
1	D	1156	ILE	4.6
1	B	1012	VAL	4.6
1	B	1036	PHE	4.6
1	F	1145	PHE	4.6
1	F	1050	GLY	4.5
1	D	1025	PHE	4.5
1	B	1075	GLY	4.5
1	F	1010	ILE	4.5
2	K	101	HIS	4.5
1	E	1002	VAL	4.5
1	F	1002	VAL	4.5
1	F	1013	ASP	4.5
1	A	1002	VAL	4.4
1	B	1020	VAL	4.4
1	F	1147	SER	4.4
1	B	1109	GLY	4.3
1	C	1050	GLY	4.3
1	F	1068	THR	4.3
1	F	1164	LEU	4.3
1	F	1069	ARG	4.3
1	B	1041	THR	4.3
1	F	1045	GLY	4.3
1	F	1146	GLY	4.3
1	C	1069	ARG	4.3
1	F	1070	HIS	4.2
1	F	1150	GLY	4.2

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Mol	Chain	Res	Type	RSRZ
1	F	1033	ALA	4.2
1	F	1052	CYS	4.2
1	B	1152	THR	4.2
1	E	1152	THR	4.2
1	C	1028	LYS	4.2
1	D	1129	PHE	4.2
1	F	1025	PHE	4.2
1	A	1080	GLY	4.2
1	B	1029	VAL	4.2
1	C	1127	VAL	4.2
1	C	1088	PHE	4.1
1	B	1040	SER	4.1
1	A	1127	VAL	4.1
1	B	1127	VAL	4.1
1	B	1161	CYS	4.0
1	F	1101	ALA	4.0
1	B	1076	LYS	4.0
1	C	1014	GLY	4.0
1	B	1138	ILE	4.0
1	C	1156	ILE	4.0
1	C	1148	ARG	4.0
1	D	1081	GLU	4.0
1	F	1073	THR	4.0
1	B	1069	ARG	4.0
1	B	1052	CYS	4.0
1	A	1029	VAL	4.0
1	B	1153	SER	4.0
1	B	1155	LYS	3.9
1	F	1071	ASN	3.9
1	C	1153	SER	3.9
1	F	1041	THR	3.9
1	D	1083	PHE	3.9
1	E	1067	PHE	3.9
1	B	1037	ARG	3.9
1	C	1046	PHE	3.9
1	C	1067	PHE	3.9
1	B	1097	ILE	3.9
1	E	1010	ILE	3.9
1	B	1049	LYS	3.9
1	C	1093	THR	3.9
2	L	105	ILE	3.8
1	B	1141	ALA	3.8

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Mol	Chain	Res	Type	RSRZ
1	B	1038	ALA	3.8
1	B	1105	PRO	3.8
1	F	1157	THR	3.8
1	C	1083	PHE	3.7
1	F	1105	PRO	3.7
1	C	1015	GLU	3.7
1	F	1024	LEU	3.7
1	A	1145	PHE	3.7
1	C	1119	THR	3.7
1	F	1110	SER	3.7
1	F	1007	PHE	3.7
1	B	1072	GLY	3.7
1	E	1148	ARG	3.7
1	B	1050	GLY	3.6
1	B	1144	ARG	3.6
1	B	1154	LYS	3.6
1	E	1156	ILE	3.6
1	D	1084	GLU	3.6
1	C	1132	VAL	3.6
1	B	1078	ILE	3.6
1	B	1089	ILE	3.6
1	B	1142	MET	3.6
1	F	1163	GLN	3.6
1	A	1012	VAL	3.5
1	D	1127	VAL	3.5
1	C	1010	ILE	3.5
1	E	1080	GLY	3.5
1	B	1132	VAL	3.5
1	E	1145	PHE	3.5
1	D	1017	LEU	3.5
1	B	1070	HIS	3.5
1	C	1077	SER	3.5
1	B	1053	PHE	3.5
1	A	1060	PHE	3.4
1	F	1112	PHE	3.4
1	F	1085	ASP	3.4
1	B	1107	THR	3.4
1	B	1122	LEU	3.4
1	F	1122	LEU	3.4
1	F	1018	GLY	3.4
1	B	1082	LYS	3.4
1	D	1128	VAL	3.4

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Mol	Chain	Res	Type	RSRZ
1	F	1046	PHE	3.4
1	B	1164	LEU	3.3
1	C	1137	ASN	3.3
1	B	1128	VAL	3.3
1	D	1020	VAL	3.3
1	B	1085	ASP	3.3
1	A	1007	PHE	3.3
1	A	1129	PHE	3.3
1	B	1022	PHE	3.3
1	B	1145	PHE	3.3
1	D	1036	PHE	3.3
1	B	1039	LEU	3.3
1	B	1047	GLY	3.3
1	F	1017	LEU	3.3
1	B	1143	GLU	3.3
1	B	1030	PRO	3.3
1	D	1067	PHE	3.3
1	C	1116	THR	3.2
1	E	1088	PHE	3.2
1	C	1013	ASP	3.2
1	D	1012	VAL	3.2
1	F	1011	ALA	3.2
1	C	1141	ALA	3.2
1	A	1083	PHE	3.2
1	B	1018	GLY	3.2
1	A	1128	VAL	3.2
1	C	1078	ILE	3.2
1	B	1066	ASP	3.1
1	B	1148	ARG	3.1
1	B	1081	GLU	3.1
1	C	1056	ILE	3.1
1	F	1158	ILE	3.1
1	A	1146	GLY	3.1
1	C	1095	PRO	3.1
2	L	106	ALA	3.1
1	D	1069	ARG	3.1
1	F	1144	ARG	3.1
1	D	1010	ILE	3.1
1	C	1117	ALA	3.1
1	C	1068	THR	3.1
1	B	1042	GLY	3.1
1	B	1108	ASN	3.1

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Mol	Chain	Res	Type	RSRZ
1	F	1042	GLY	3.1
1	F	1008	PHE	3.1
1	B	1023	GLU	3.1
1	F	1003	ASN	3.1
2	K	106	ALA	3.1
1	B	1073	THR	3.1
1	D	1116	THR	3.1
1	F	1037	ARG	3.0
1	B	1146	GLY	3.0
1	F	1065	GLY	3.0
1	B	1159	ALA	3.0
1	C	1073	THR	3.0
1	F	1148	ARG	3.0
1	C	1122	LEU	3.0
2	H	101	HIS	3.0
1	F	1082	LYS	3.0
1	B	1113	PHE	3.0
1	F	1067	PHE	3.0
1	C	1118	LYS	3.0
1	A	1010	ILE	3.0
1	B	1056	ILE	3.0
1	E	1089	ILE	3.0
1	D	1053	PHE	3.0
1	C	1149	ASN	3.0
1	E	1039	LEU	3.0
1	D	1006	VAL	2.9
1	E	1007	PHE	2.9
1	A	1062	CYS	2.9
1	C	1079	TYR	2.9
1	C	1157	THR	2.9
1	B	1043	GLU	2.9
1	B	1045	GLY	2.9
1	D	1029	VAL	2.9
1	F	1084	GLU	2.9
1	E	1137	ASN	2.9
1	A	1056	ILE	2.9
1	C	1158	ILE	2.9
2	G	105	ILE	2.9
1	E	1082	LYS	2.9
1	C	1042	GLY	2.9
1	B	1006	VAL	2.9
1	F	1081	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	1157	THR	2.9
1	B	1026	ALA	2.9
1	F	1036	PHE	2.8
1	B	1091	LYS	2.8
1	E	1157	THR	2.8
2	G	102	ALA	2.8
1	C	1016	PRO	2.8
1	B	1093	THR	2.8
1	C	1025	PHE	2.8
1	F	1048	TYR	2.8
1	F	1154	LYS	2.8
1	D	1057	ILE	2.8
1	C	1147	SER	2.8
1	F	1108	ASN	2.8
1	C	1121	TRP	2.8
1	C	1144	ARG	2.8
1	F	1087	ASN	2.8
1	A	1103	ALA	2.8
1	C	1020	VAL	2.8
1	D	1145	PHE	2.8
1	B	1057	ILE	2.7
1	E	1081	GLU	2.7
2	I	105	ILE	2.7
1	F	1149	ASN	2.7
1	B	1028	LYS	2.7
1	C	1070	HIS	2.7
1	C	1052	CYS	2.7
1	F	1014	GLY	2.7
1	D	1030	PRO	2.7
1	D	1132	VAL	2.7
1	E	1008	PHE	2.7
1	F	1016	PRO	2.7
1	F	1113	PHE	2.7
1	B	1158	ILE	2.7
1	C	1106	ASN	2.7
1	C	1159	ALA	2.7
1	B	1163	GLN	2.7
1	D	1008	PHE	2.7
1	C	1090	LEU	2.7
1	C	1115	CYS	2.7
1	D	1061	MET	2.7
1	C	1081	GLU	2.6

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Mol	Chain	Res	Type	RSRZ
1	F	1057	ILE	2.6
1	F	1138	ILE	2.6
1	D	1027	ASP	2.6
1	B	1014	GLY	2.6
1	C	1045	GLY	2.6
1	C	1084	GLU	2.6
1	C	1086	GLU	2.6
1	C	1146	GLY	2.6
1	B	1116	THR	2.6
1	B	1058	PRO	2.6
1	B	1095	PRO	2.6
1	F	1004	PRO	2.6
1	B	1126	HIS	2.6
1	B	1149	ASN	2.6
1	A	1156	ILE	2.6
1	B	1124	GLY	2.6
1	E	1050	GLY	2.6
1	F	1072	GLY	2.6
1	E	1149	ASN	2.6
1	A	1039	LEU	2.6
1	A	1164	LEU	2.6
1	B	1008	PHE	2.6
1	A	1020	VAL	2.6
1	C	1057	ILE	2.6
1	F	1097	ILE	2.6
1	B	1068	THR	2.6
1	F	1035	ASN	2.6
1	C	1006	VAL	2.6
1	F	1139	VAL	2.6
1	F	1100	MET	2.5
2	L	102	ALA	2.5
1	D	1164	LEU	2.5
1	F	1053	PHE	2.5
1	D	1148	ARG	2.5
1	D	1014	GLY	2.5
1	D	1094	GLY	2.5
1	E	1161	CYS	2.5
1	D	1097	ILE	2.5
1	D	1016	PRO	2.5
1	B	1131	LYS	2.5
1	F	1054	HIS	2.5
1	D	1060	PHE	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	1052	CYS	2.5
1	D	1131	LYS	2.5
1	F	1006	VAL	2.5
1	B	1110	SER	2.5
1	C	1059	GLY	2.5
1	F	1074	GLY	2.5
1	A	1151	LYS	2.5
1	F	1040	SER	2.5
1	F	1142	MET	2.5
1	D	1015	GLU	2.4
1	F	1109	GLY	2.4
1	A	1008	PHE	2.4
1	C	1008	PHE	2.4
1	D	1022	PHE	2.4
1	D	1158	ILE	2.4
1	E	1016	PRO	2.4
1	D	1122	LEU	2.4
1	C	1139	VAL	2.4
1	F	1034	GLU	2.4
1	A	1078	ILE	2.4
1	D	1085	ASP	2.4
1	B	1098	LEU	2.4
1	D	1095	PRO	2.4
1	C	1135	GLY	2.4
1	D	1091	LYS	2.4
1	F	1060	PHE	2.4
2	J	106	ALA	2.4
1	C	1161	CYS	2.4
1	E	1056	ILE	2.4
1	D	1105	PRO	2.4
1	F	1102	ASN	2.3
1	E	1006	VAL	2.3
1	E	1151	LYS	2.3
1	A	1073	THR	2.3
1	B	1062	CYS	2.3
1	C	1105	PRO	2.3
1	E	1073	THR	2.3
1	F	1005	THR	2.3
1	C	1128	VAL	2.3
1	A	1082	LYS	2.3
1	A	1088	PHE	2.3
1	E	1060	PHE	2.3

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Mol	Chain	Res	Type	RSRZ
1	E	1070	HIS	2.3
1	E	1144	ARG	2.3
1	E	1057	ILE	2.3
2	H	105	ILE	2.3
1	F	1104	GLY	2.3
1	E	1090	LEU	2.3
1	E	1143	GLU	2.3
1	F	1093	THR	2.3
1	F	1152	THR	2.3
1	B	1031	LYS	2.3
1	B	1061	MET	2.3
1	C	1092	HIS	2.3
1	C	1060	PHE	2.3
1	D	1141	ALA	2.3
1	D	1144	ARG	2.3
1	C	1138	ILE	2.3
1	D	1090	LEU	2.3
1	C	1080	GLY	2.3
1	F	1020	VAL	2.3
1	B	1004	PRO	2.2
1	C	1026	ALA	2.2
1	A	1067	PHE	2.2
1	D	1088	PHE	2.2
1	D	1113	PHE	2.2
1	B	1115	CYS	2.2
1	A	1154	LYS	2.2
1	B	1106	ASN	2.2
1	C	1097	ILE	2.2
1	F	1056	ILE	2.2
1	F	1106	ASN	2.2
1	B	1065	GLY	2.2
1	C	1125	LYS	2.2
1	A	1071	ASN	2.2
1	E	1045	GLY	2.2
1	F	1059	GLY	2.2
1	F	1131	LYS	2.2
1	F	1111	GLN	2.2
1	D	1039	LEU	2.2
1	A	1157	THR	2.2
1	F	1151	LYS	2.2
1	D	1153	SER	2.2
1	F	1075	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	1100	MET	2.2
1	D	1056	ILE	2.2
1	B	1054	HIS	2.2
1	B	1092	HIS	2.2
1	A	1053	PHE	2.1
1	A	1101	ALA	2.1
1	F	1022	PHE	2.1
1	C	1087	ASN	2.1
1	F	1043	GLU	2.1
1	D	1139	VAL	2.1
1	E	1029	VAL	2.1
1	F	1130	GLY	2.1
1	E	1017	LEU	2.1
1	A	1057	ILE	2.1
1	B	1044	LYS	2.1
1	E	1146	GLY	2.1
1	B	1005	THR	2.1
1	A	1149	ASN	2.1
1	C	1096	GLY	2.1
1	D	1072	GLY	2.1
1	E	1059	GLY	2.1
1	B	1119	THR	2.1
1	B	1121	TRP	2.1
1	E	1083	PHE	2.1
1	B	1033	ALA	2.1
1	D	1134	GLU	2.0
1	E	1135	GLY	2.0
1	E	1092	HIS	2.0
1	B	1051	SER	2.0
1	C	1033	ALA	2.0
1	A	1113	PHE	2.0
1	B	1102	ASN	2.0
1	C	1036	PHE	2.0
1	C	1129	PHE	2.0
1	E	1113	PHE	2.0
1	D	1042	GLY	2.0
1	F	1047	GLY	2.0
1	A	1006	VAL	2.0
1	A	1079	TYR	2.0
1	A	1089	ILE	2.0
2	J	105	ILE	2.0
1	C	1160	ASP	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.