Full wwPDB X-ray Structure Validation Report ⓘ

Aug 19, 2023 – 06:58 PM EDT

PDB ID	:	2GK0
Title	:	Structure of Catalytic Elimination Antibody 13G5 from a twinned crystal in space group C2
Authors	:	Debler, E.W.; Wilson, I.A.
Deposited on	:	2006-03-31
Resolution	:	2.45 Å(reported)

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

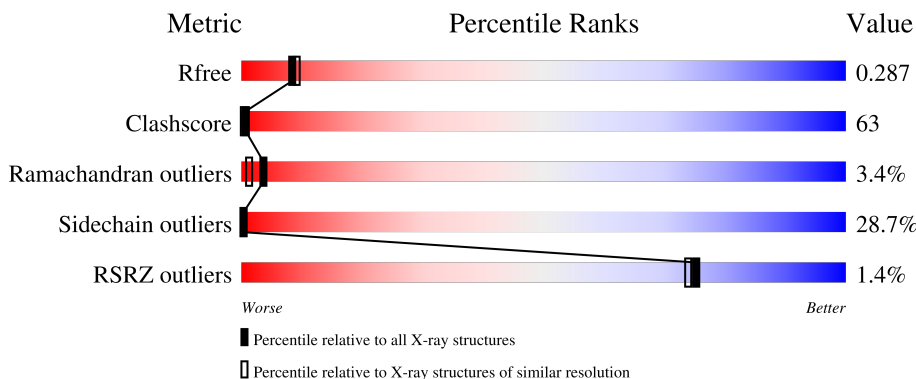|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation 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 2.45 Å.

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

Metric	Percentile Ranks	Value
Rfree		0.287
Clashscore		63
Ramachandran outliers		3.4%
Sidechain outliers		28.7%
RSRZ outliers		1.4%

Worse *Better*

■ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	1544 (2.48-2.44)
Clashscore	141614	1613 (2.48-2.44)
Ramachandran outliers	138981	1598 (2.48-2.44)
Sidechain outliers	138945	1598 (2.48-2.44)
RSRZ outliers	127900	1523 (2.48-2.44)

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	217	.% 18% 62% 20%
1	L	217	.% 26% 51% 23%
2	B	221	.% 19% 57% 21% •
2	H	221	2% 25% 56% 19%

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 6692 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 Catalytic elimination antibody 13G5 light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	L	217	Total 1683	C 1053	N 286	O 338	S 6	0	0	0
1	A	217	Total 1683	C 1053	N 286	O 338	S 6	0	0	0

- Molecule 2 is a protein called Catalytic elimination antibody 13G5 heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	221	Total 1649	C 1043	N 270	O 327	S 9	0	0	0
2	B	216	Total 1606	C 1012	N 265	O 320	S 9	0	0	0

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	L	18	Total 18	O 18	0	0
3	H	24	Total 24	O 24	0	0
3	A	12	Total 12	O 12	0	0
3	B	17	Total 17	O 17	0	0

3 Residue-property plots ⓘ

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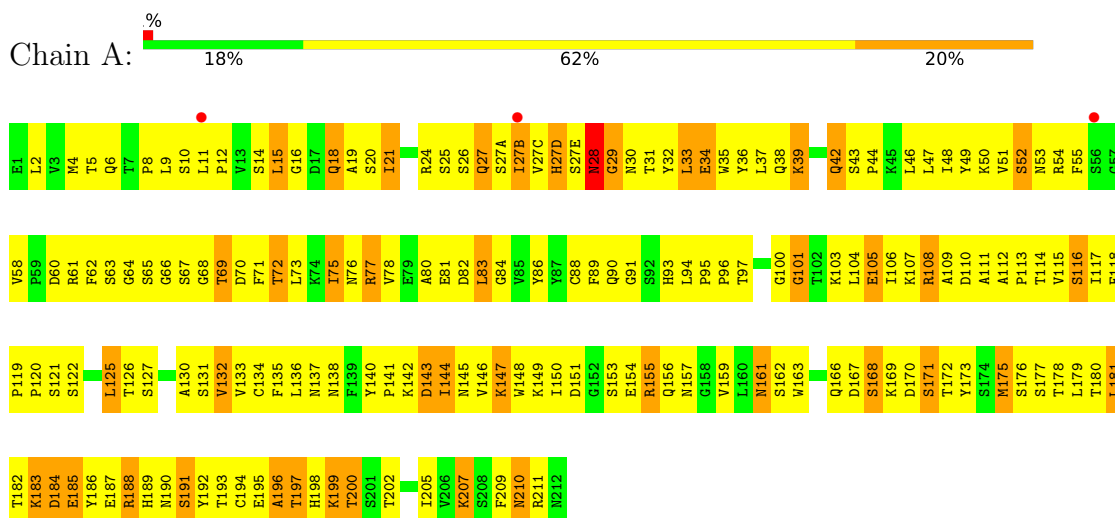s are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without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

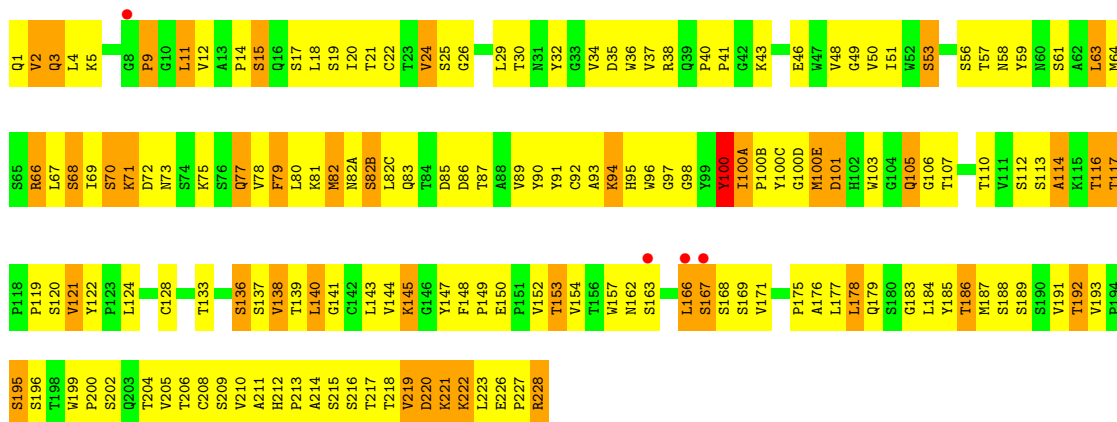• Molecule 1: Catalytic elimination antibody 13G5 light chain

Chain L:

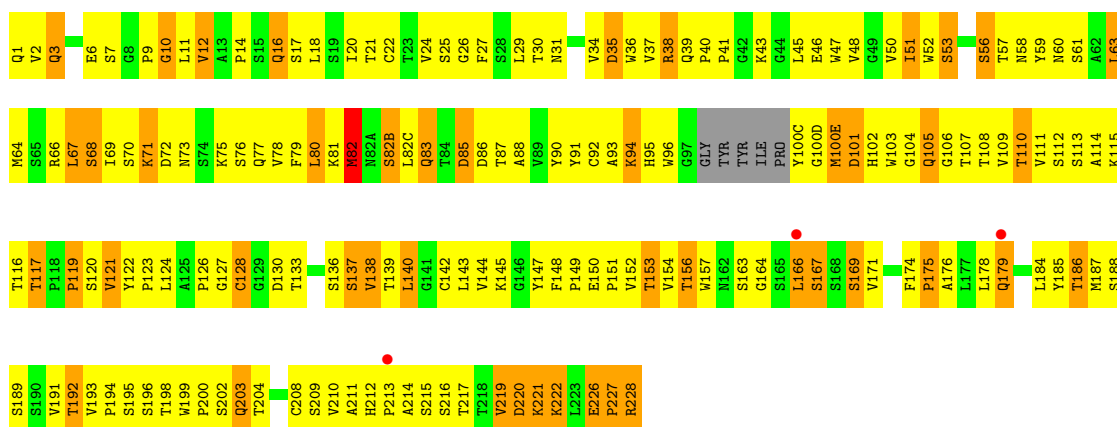• Molecule 1: Catalytic elimination antibody 13G5 light chain

Chain A:

• Molecule 2: Catalytic elimination antibody 13G5 heavy chain

Chain H:

Q1 V2 Q3 L4 K5 G8 P9 G10 L11 V12 A13 P14 S15 Q16 S17 L18 S19 I20 T21 C22 T23 V24 S25 G26 L29 T30 N31 Y32 G33 V34 D35 W36 V37 R38 Q39 P40 P41 G42 K43 E46 W47 V48 G49 V50 I51 W52 S53 S56 T57 N58 Y59 N60 S61 A62 L63 M64

S65 R66 L67 S68 I69 S70 K71 D72 N73 S74 K75 S76 Q77 V78 F79 L80 K81 M82 N82A S82B L82C Q83 T84 D85 D86 T87 A88 V89 Y90 Y91 C92 A93 K94 H95 W96 G97 G98 Y99 Y100 I100A P100B Y100C G100D M100E D101 H102 W103 G104 Q105 G106 T107 T110 V111 S112 S113 A114 K115 T116 T117

P118 P119 S120 V121 Y122 P123 L124 C128 T133 S136 S137 V138 T139 L140 G141 C142 L143 V144 K145 G146 Y147 F148 P149 E150 P151 V152 T153 V154 T156 W157 N162 S163 L166 S167 S168 S169 V171 P175 A176 L177 L178 Q179 S180 G183 L184 Y185 T186 M187 S188 S189 S190 V191 T192 V193 P194

S195 S196 T198 W199 P200 S202 Q203 T204 V205 T206 C208 S209 V210 A211 H212 P213 A214 S215 S216 T217 T218 V219 D220 K221 K222 L223 E226 P227 R228

● Molecule 2: Catalytic elimination antibody 13G5 heavy chain

Chain B:

%

19%   57%   21% ●

Q1 V2 Q3 E6 S7 G8 P9 G10 L11 V12 A13 P14 S15 Q16 S17 L18 S19 I20 T21 C22 T23 V24 S25 G26 F27 S28 L29 T30 N31 V34 D35 W36 V37 R38 Q39 P40 P41 G42 K43 G44 L45 E46 W47 V48 G49 V50 I51 W52 S53 S56 T57 N58 Y59 N60 S61 A62 L63

M64 S65 R66 L67 S68 I69 S70 K71 D72 N73 S74 K75 S76 Q77 V78 F79 L80 K81 M82 N82A S82B L82C Q83 T84 D85 D86 T87 A88 V89 Y90 Y91 C92 A93 K94 H95 W96 G97 GLY TYR TYR ILE PRO Y100C G100D M100E D101 H102 W103 G104 Q105 G106 T107 T108 V109 T110 V111 S112 S113 A114 K115

T116 T117 P118 P119 S120 V121 Y122 P123 L124 A125 P126 G127 C128 G129 D130 T133 S136 S137 V138 T139 L140 G141 C142 L143 V144 K145 G146 Y147 F148 P149 E150 P151 V152 T153 V154 T156 W157 N162 S163 G164 S165 L166 S167 S168 S169 V171 F174 P175 A176 L177 L178 Q179 L184 Y185 T186 M187 S188

S189 S190 V191 T192 V193 P194 S195 S196 T198 W199 P200 S202 Q203 T204 C208 S209 V210 A211 H212 P213 A214 S215 S216 T217 T218 V219 D220 K221 K222 L223 E226 P227 R228

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	67.88Å 84.62Å 150.07Å 90.00° 90.03° 90.00°	Depositor
Resolution (Å)	10.00 – 2.45 49.92 – 2.44	Depositor EDS
% Data completeness (in resolution range)	(Not available) (10.00-2.45) 97.5 (49.92-2.44)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.09	Depositor
$< I/\sigma(I) >$ [1]	1.91 (at 2.45Å)	Xtriage
Refinement program	SHELXL-97	Depositor
R, R_{free}	0.191 , 0.255 0.220 , 0.287	Depositor DCC
R_{free} test set	1566 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å^2)	39.4	Xtriage
Anisotropy	0.377	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 101.9	EDS
L-test for twinning[2]	$< |L| > = 0.44, < L^2 > = 0.27$	Xtriage
Estimated twinning fraction	0.457 for -h,-k,l	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	6692	wwPDB-VP
Average B, all atoms (Å^2)	45.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.42% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.

[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z|$ >5	RMSZ	#$|Z|$ >5
1	A	0.39	0/1722	0.82	1/2337 (0.0%)
1	L	0.40	1/1722 (0.1%)	0.80	0/2337
2	B	0.35	0/1649	0.86	1/2257 (0.0%)
2	H	0.41	2/1696 (0.1%)	0.84	2/2324 (0.1%)
All	All	0.39	3/6789 (0.0%)	0.83	4/9255 (0.0%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	2	VAL	CB-CG1	5.33	1.64	1.52
1	L	212	ASN	CG-OD1	5.32	1.35	1.24
2	H	9	PRO	N-CD	5.18	1.55	1.47

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	100(E)	MET	C-N-CA	7.25	139.83	121.70
2	H	100(E)	MET	C-N-CA	6.79	138.69	121.70
1	A	28	ASN	C-N-CA	5.10	133.00	122.30
2	H	100	TYR	C-N-CA	5.00	134.20	121.70

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	1683	0	1628	242	0
1	L	1683	0	1628	196	0
2	B	1606	0	1564	225	1
2	H	1649	0	1604	191	0
3	A	12	0	0	0	0
3	B	17	0	0	0	0
3	H	24	0	0	0	0
3	L	18	0	0	0	0
All	All	6692	0	6424	819	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 63.

All (819) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:94:LEU:HD23	1:A:96:PRO:HD3	1.40	1.01
1:L:115:VAL:HG22	1:L:136:LEU:HG	1.46	0.98
1:A:19:ALA:HB3	1:A:75:ILE:HD12	1.45	0.97
1:A:190:ASN:HA	1:A:211:ARG:HB2	1.47	0.96
2:B:12:VAL:HG23	2:B:111:VAL:HG22	1.46	0.96
2:H:171:VAL:HG22	2:H:191:VAL:HG23	1.46	0.96
2:H:152:VAL:HG12	2:H:212:HIS:HB2	1.47	0.95
1:A:117:ILE:HD12	1:A:194:CYS:HB2	1.49	0.94
2:H:40:PRO:HB2	2:H:43:LYS:HD2	1.49	0.94
1:A:83:LEU:HD13	1:A:106:ILE:HD12	1.48	0.93
2:B:87:THR:HG23	2:B:111:VAL:H	1.33	0.93
2:B:20:ILE:HG21	2:B:107:THR:HG21	1.51	0.93
2:H:97:GLY:HA3	2:H:100(C):TYR:H	1.35	0.92
2:H:100:TYR:O	2:H:100(A):ILE:HG23	1.68	0.92
1:A:52:SER:HA	1:A:64:GLY:HA3	1.52	0.92
1:L:39:LYS:HB2	1:L:42:GLN:HG3	1.54	0.90
2:B:138:VAL:HG21	2:B:199:TRP:HB3	1.54	0.89
2:B:20:ILE:HD11	2:B:109:VAL:HG21	1.54	0.88
2:B:144:VAL:HB	2:B:187:MET:HG3	1.56	0.88
1:L:94:LEU:HD23	1:L:95:PRO:HA	1.57	0.86
1:L:190:ASN:HA	1:L:211:ARG:HH11	1.40	0.85
2:B:40:PRO:HB2	2:B:43:LYS:HD3	1.58	0.83
2:H:20:ILE:HG21	2:H:107:THR:HG21	1.60	0.83
2:H:213:PRO:HA	2:H:216:SER:HA	1.60	0.83
2:B:171:VAL:HG22	2:B:191:VAL:HG23	1.61	0.83
2:B:137:SER:HA	2:B:194:PRO:HA	1.60	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:66:GLY:HA2	1:A:71:PHE:HA	1.62	0.81
1:L:182:THR:HG23	1:L:185:GLU:OE2	1.81	0.81
2:B:119:PRO:HB3	2:B:147:TYR:HB3	1.62	0.81
2:H:178:LEU:HD21	2:H:183:GLY:HA2	1.63	0.80
1:A:54:ARG:HH21	1:A:63:SER:HA	1.47	0.80
1:A:33:LEU:HD23	1:A:51:VAL:HA	1.63	0.80
2:H:63:LEU:HB2	2:H:67:LEU:HD21	1.64	0.80
2:B:29:LEU:HD13	2:B:71:LYS:HG3	1.64	0.80
2:H:49:GLY:HA3	2:H:69:ILE:HD11	1.63	0.79
1:A:189:HIS:HB2	1:A:192:TYR:OH	1.81	0.79
2:B:114:ALA:HB3	2:B:148:PHE:CE2	2.18	0.79
1:L:113:PRO:HG2	1:L:205:ILE:HD12	1.65	0.79
1:A:120:PRO:HD3	1:A:132:VAL:HG13	1.65	0.78
1:A:147:LYS:HG3	1:A:154:GLU:OE1	1.83	0.78
2:B:123:PRO:HD3	2:B:221:LYS:HZ3	1.48	0.78
2:B:116:THR:HG22	2:B:215:SER:HB3	1.64	0.78
1:L:150:ILE:HD11	1:L:179:LEU:HD21	1.66	0.77
1:A:18:GLN:HB2	1:A:76:ASN:HA	1.65	0.77
2:H:22:CYS:HB3	2:H:78:VAL:HB	1.64	0.77
2:B:50:VAL:HG12	2:B:58:ASN:HB2	1.65	0.77
2:B:128:CYS:HB2	2:B:228:ARG:HA	1.67	0.76
1:A:46:LEU:HD21	1:A:49:TYR:HB3	1.67	0.76
2:B:166:LEU:HG	2:B:191:VAL:HG21	1.64	0.76
2:H:41:PRO:HD3	2:H:87:THR:O	1.85	0.76
1:A:49:TYR:HB2	2:B:100(C):TYR:O	1.86	0.76
2:B:222:LYS:HE3	2:B:226:GLU:OE1	1.86	0.76
1:A:189:HIS:O	1:A:211:ARG:HD3	1.86	0.76
2:B:29:LEU:O	2:B:53:SER:HB3	1.87	0.75
2:B:67:LEU:HD22	2:B:82:MET:HG2	1.69	0.75
2:H:41:PRO:O	2:H:43:LYS:HE3	1.87	0.75
1:L:73:LEU:HD23	1:L:75:ILE:HD11	1.67	0.75
2:H:11:LEU:O	2:H:12:VAL:HG13	1.87	0.75
1:A:55:PHE:O	1:A:58:VAL:HB	1.87	0.75
1:A:185:GLU:HA	1:A:188:ARG:HD2	1.69	0.75
2:H:19:SER:HA	2:H:80:LEU:O	1.87	0.74
1:L:27(D):HIS:HB3	1:L:28:ASN:OD1	1.88	0.74
2:B:72:ASP:OD1	2:B:75:LYS:HB2	1.88	0.74
1:L:147:LYS:HG3	1:L:154:GLU:HG2	1.69	0.74
2:H:153:THR:HG23	2:H:211:ALA:HB3	1.67	0.74
1:L:150:ILE:HG13	1:L:155:ARG:HG2	1.69	0.73
2:B:38:ARG:HD2	2:B:88:ALA:HB3	1.68	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:144:ILE:HG12	1:A:197:THR:O	1.89	0.73
1:L:1:GLU:N	1:L:95:PRO:HD2	2.04	0.73
1:A:159:VAL:HG22	1:A:179:LEU:HB2	1.69	0.73
1:A:12:PRO:HA	1:A:105:GLU:O	1.88	0.73
2:H:150:GLU:OE2	2:H:176:ALA:HB3	1.89	0.73
2:B:122:TYR:HA	2:B:221:LYS:HZ2	1.54	0.73
1:A:117:ILE:HG21	1:A:207:LYS:O	1.89	0.72
2:B:29:LEU:HD13	2:B:71:LYS:HE2	1.72	0.72
1:A:33:LEU:HA	1:A:89:PHE:O	1.89	0.72
1:A:54:ARG:NH2	1:A:63:SER:HA	2.04	0.72
1:A:50:LYS:HB2	1:A:53:ASN:HD22	1.54	0.72
2:B:228:ARG:HG3	2:B:228:ARG:O	1.89	0.72
2:B:11:LEU:HD12	2:B:110:THR:HG22	1.72	0.71
2:H:19:SER:HB3	2:H:81:LYS:HD3	1.72	0.71
2:H:124:LEU:HD21	2:H:143:LEU:HB2	1.72	0.71
1:L:115:VAL:HA	1:L:135:PHE:O	1.91	0.71
2:H:66:ARG:O	2:H:82:MET:HG3	1.89	0.71
2:H:63:LEU:HD12	2:H:67:LEU:HD11	1.72	0.71
1:A:83:LEU:HD23	1:A:167:ASP:O	1.89	0.71
2:H:121:VAL:HG21	2:H:219:VAL:HB	1.72	0.71
1:A:80:ALA:O	1:A:83:LEU:HB2	1.91	0.71
1:A:125:LEU:O	1:A:183:LYS:HD2	1.91	0.70
1:A:48:ILE:HA	1:A:53:ASN:O	1.92	0.70
2:H:100(A):ILE:O	2:H:100(A):ILE:HD12	1.92	0.70
1:A:27(B):ILE:HG12	1:A:90:GLN:HG3	1.72	0.70
1:A:147:LYS:HD2	1:A:195:GLU:HG3	1.74	0.70
1:L:13:VAL:HG12	1:L:105:GLU:O	1.92	0.70
1:A:33:LEU:HD21	1:A:35:TRP:HE1	1.57	0.70
2:H:94:LYS:HG2	2:H:101:ASP:HB3	1.74	0.69
1:A:52:SER:HB3	1:A:64:GLY:O	1.91	0.69
1:A:187:GLU:HG3	1:A:211:ARG:NH2	2.06	0.69
2:B:59:TYR:HE1	2:B:69:ILE:H	1.39	0.69
2:H:149:PRO:HD2	2:H:214:ALA:HB1	1.74	0.69
1:A:108:ARG:NH2	1:A:111:ALA:HB2	2.06	0.69
2:H:162:ASN:ND2	2:H:166:LEU:HD23	2.08	0.69
1:L:143:ASP:HB2	1:L:199:LYS:HE3	1.75	0.69
1:L:206:VAL:O	1:L:207:LYS:HD3	1.93	0.69
2:H:37:VAL:HG21	2:H:100(E):MET:HE1	1.75	0.69
2:H:66:ARG:O	2:H:82:MET:HA	1.93	0.69
2:H:208:CYS:O	2:H:220:ASP:HA	1.93	0.69
1:A:116:SER:OG	2:B:139:THR:HG21	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:210:VAL:O	2:H:218:THR:HG23	1.93	0.68
1:A:27(D):HIS:HB3	1:A:28:ASN:OD1	1.94	0.68
2:B:154:VAL:HG21	2:B:189:SER:HB2	1.75	0.68
1:L:12:PRO:HA	1:L:105:GLU:HG2	1.75	0.68
1:A:119:PRO:HA	1:A:132:VAL:HG13	1.74	0.68
2:B:37:VAL:HG13	2:B:46:GLU:O	1.94	0.68
2:H:4:LEU:HG	2:H:24:VAL:HG22	1.75	0.68
1:A:184:ASP:O	1:A:188:ARG:HG2	1.94	0.68
1:L:32:TYR:OH	2:H:100(A):ILE:HD13	1.93	0.67
2:B:36:TRP:O	2:B:48:VAL:HB	1.94	0.67
2:B:93:ALA:HB1	2:B:100(E):MET:HB3	1.75	0.67
1:A:161:ASN:HA	1:A:176:SER:O	1.94	0.67
1:A:108:ARG:HG2	1:A:171:SER:HB2	1.74	0.67
1:A:138:ASN:HA	1:A:172:THR:HB	1.77	0.67
2:B:122:TYR:HA	2:B:221:LYS:NZ	2.09	0.67
2:B:18:LEU:HD21	2:B:109:VAL:HG11	1.75	0.67
1:L:147:LYS:HD2	1:L:149:LYS:HD2	1.77	0.67
1:L:150:ILE:HG22	1:L:189:HIS:CD2	2.30	0.67
1:A:130:ALA:O	1:A:180:THR:HG23	1.95	0.67
1:L:133:VAL:HG21	2:H:143:LEU:HD13	1.75	0.67
2:B:90:TYR:O	2:B:107:THR:HG22	1.95	0.67
1:A:80:ALA:HA	1:A:106:ILE:HD13	1.76	0.66
2:B:138:VAL:HG23	2:B:193:VAL:O	1.94	0.66
1:A:108:ARG:HD3	1:A:140:TYR:CD2	2.30	0.66
1:L:190:ASN:HA	1:L:211:ARG:NH1	2.11	0.66
1:A:141:PRO:HG2	1:A:199:LYS:HE3	1.76	0.66
1:A:147:LYS:HD3	1:A:149:LYS:HE3	1.77	0.66
1:L:189:HIS:HB2	1:L:192:TYR:OH	1.96	0.66
1:A:191:SER:HA	1:A:210:ASN:HA	1.77	0.66
1:L:184:ASP:O	1:L:187:GLU:HB3	1.96	0.65
2:B:22:CYS:HB3	2:B:78:VAL:HB	1.78	0.65
2:H:176:ALA:HB2	2:H:187:MET:HB3	1.77	0.65
2:B:11:LEU:O	2:B:12:VAL:HG13	1.95	0.65
1:L:4:MET:HA	1:L:24:ARG:O	1.96	0.65
1:L:21:ILE:O	1:L:72:THR:HA	1.96	0.65
2:H:171:VAL:HG22	2:H:191:VAL:CG2	2.23	0.65
1:L:1:GLU:H1	1:L:95:PRO:HD2	1.60	0.65
1:L:15:LEU:HD11	1:L:108:ARG:HB3	1.79	0.65
2:B:6:GLU:OE2	2:B:91:TYR:HA	1.96	0.65
2:B:7:SER:O	2:B:20:ILE:HG23	1.96	0.65
2:H:63:LEU:HD13	2:H:67:LEU:HD21	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:34:VAL:HG22	2:H:94:LYS:HA	1.78	0.64
2:B:147:TYR:O	2:B:185:TYR:HB2	1.98	0.64
2:H:145:LYS:HD2	2:H:186:THR:OG1	1.96	0.64
1:L:193:THR:HA	1:L:208:SER:HA	1.78	0.64
1:A:21:ILE:O	1:A:72:THR:HA	1.98	0.64
2:B:96:TRP:HA	2:B:101:ASP:OD2	1.97	0.64
2:B:108:THR:HG21	2:B:151:PRO:HD3	1.78	0.64
1:L:193:THR:HG23	1:L:208:SER:HB2	1.79	0.64
1:A:2:LEU:HG	1:A:27:GLN:HG2	1.80	0.64
1:L:37:LEU:HD12	1:L:38:GLN:H	1.63	0.64
2:B:157:TRP:CZ3	2:B:208:CYS:HB3	2.33	0.64
2:H:9:PRO:HG2	2:H:18:LEU:HD13	1.78	0.63
1:A:117:ILE:HD13	1:A:207:LYS:O	1.98	0.63
1:L:13:VAL:HG11	1:L:104:LEU:HD11	1.81	0.63
1:L:22:SER:HA	1:L:71:PHE:O	1.98	0.63
1:A:66:GLY:HA3	1:A:71:PHE:HD2	1.62	0.63
1:A:33:LEU:HD11	1:A:35:TRP:NE1	2.14	0.63
1:L:13:VAL:O	1:L:106:ILE:HA	1.99	0.63
1:L:182:THR:OG1	1:L:185:GLU:HG3	1.99	0.63
2:H:72:ASP:OD2	2:H:75:LYS:HD3	1.98	0.63
1:A:113:PRO:HG2	1:A:205:ILE:HD12	1.81	0.63
1:L:108:ARG:HD3	1:L:171:SER:O	1.98	0.63
2:H:206:THR:HG23	2:H:221:LYS:O	1.99	0.63
2:H:157:TRP:HZ3	2:H:223:LEU:HD11	1.64	0.63
1:L:191:SER:HA	1:L:210:ASN:HA	1.79	0.63
2:B:178:LEU:HG	2:B:179:GLN:H	1.62	0.63
1:L:46:LEU:HD23	1:L:55:PHE:CD2	2.33	0.62
1:L:107:LYS:HA	1:L:140:TYR:OH	1.99	0.62
1:A:106:ILE:O	1:A:140:TYR:OH	2.13	0.62
1:L:25:SER:HB3	1:L:27(B):ILE:HD12	1.81	0.62
1:A:34:GLU:OE2	2:B:100(D):GLY:HA2	1.99	0.62
1:A:38:GLN:HG3	1:A:42:GLN:O	1.99	0.62
1:A:49:TYR:HE2	2:B:100(C):TYR:HD2	1.44	0.62
1:L:134:CYS:HB2	1:L:148:TRP:CH2	2.34	0.62
1:L:181:LEU:HD13	1:L:185:GLU:HB2	1.81	0.62
2:H:30:THR:O	2:H:53:SER:HB2	2.00	0.62
2:B:179:GLN:HG2	2:B:179:GLN:O	1.98	0.62
1:L:62:PHE:CD2	1:L:75:ILE:HG12	2.34	0.62
1:A:117:ILE:HD12	1:A:194:CYS:CB	2.28	0.62
1:A:187:GLU:HA	1:A:211:ARG:NH2	2.15	0.62
2:B:213:PRO:HA	2:B:216:SER:HA	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:62:PHE:CE1	1:A:75:ILE:HG12	2.35	0.62
1:L:46:LEU:HD21	1:L:49:TYR:HB3	1.82	0.62
1:A:16:GLY:O	1:A:77:ARG:HD3	2.00	0.62
2:H:120:SER:HB2	2:H:145:LYS:O	1.98	0.61
1:L:119:PRO:HB3	1:L:209:PHE:CZ	2.35	0.61
1:A:190:ASN:HD21	1:A:210:ASN:HB3	1.65	0.61
1:L:33:LEU:HD22	1:L:71:PHE:CD2	2.35	0.61
1:L:149:LYS:HA	1:L:153:SER:O	2.00	0.61
1:L:108:ARG:HD2	1:L:171:SER:HB2	1.83	0.61
1:A:83:LEU:HD21	1:A:166:GLN:NE2	2.15	0.61
1:A:182:THR:HG23	1:A:185:GLU:OE2	1.99	0.61
1:A:186:TYR:CZ	1:A:211:ARG:HD2	2.35	0.61
2:B:152:VAL:HG21	2:B:187:MET:HG2	1.83	0.61
1:A:188:ARG:N	1:A:211:ARG:HH12	1.98	0.61
1:L:120:PRO:HD3	1:L:132:VAL:HG13	1.82	0.61
1:A:146:VAL:HG22	1:A:196:ALA:HB2	1.81	0.61
2:B:123:PRO:HD3	2:B:221:LYS:NZ	2.16	0.60
1:L:133:VAL:HG11	2:H:143:LEU:HD13	1.83	0.60
1:L:146:VAL:HG22	1:L:196:ALA:HB2	1.83	0.60
1:A:120:PRO:HD3	1:A:132:VAL:HG22	1.82	0.60
2:B:209:SER:HA	2:B:220:ASP:HA	1.83	0.60
1:L:83:LEU:HD12	1:L:106:ILE:HD12	1.82	0.60
1:L:146:VAL:HG22	1:L:196:ALA:CB	2.31	0.60
1:L:167:ASP:O	1:L:171:SER:HA	2.02	0.60
1:A:190:ASN:ND2	1:A:210:ASN:HB3	2.16	0.60
2:H:66:ARG:HH11	2:H:66:ARG:HB3	1.65	0.60
1:A:119:PRO:HB3	1:A:209:PHE:CE2	2.37	0.60
1:L:19:ALA:O	1:L:74:LYS:HA	2.01	0.60
2:H:96:TRP:HB2	2:H:101:ASP:HB2	1.82	0.60
2:H:50:VAL:HG12	2:H:58:ASN:O	2.01	0.60
2:B:68:SER:OG	2:B:81:LYS:HB2	2.02	0.60
2:B:35:ASP:HB2	2:B:93:ALA:HB3	1.83	0.60
1:A:115:VAL:HG22	1:A:136:LEU:HG	1.84	0.59
1:A:142:LYS:HD2	1:A:173:TYR:CZ	2.37	0.59
2:B:53:SER:HA	2:B:71:LYS:NZ	2.17	0.59
1:A:33:LEU:HG	1:A:33:LEU:O	2.02	0.59
2:B:2:VAL:HG22	2:B:27:PHE:HD1	1.66	0.59
1:A:2:LEU:HA	1:A:26:SER:OG	2.02	0.59
2:B:51:ILE:HD11	2:B:71:LYS:HD2	1.84	0.59
1:L:39:LYS:HE2	1:L:81:GLU:O	2.03	0.59
1:A:159:VAL:HG23	1:A:179:LEU:HD13	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:156:THR:O	2:B:208:CYS:HA	2.02	0.59
1:A:18:GLN:CB	1:A:76:ASN:HA	2.31	0.59
1:A:150:ILE:HG23	1:A:192:TYR:CE1	2.38	0.59
1:L:54:ARG:CZ	1:L:60:ASP:HA	2.33	0.58
2:H:80:LEU:O	2:H:80:LEU:HD23	2.02	0.58
2:B:122:TYR:O	2:B:142:CYS:HA	2.03	0.58
1:A:119:PRO:HB3	1:A:209:PHE:CZ	2.38	0.58
2:B:194:PRO:HB2	2:B:196:SER:OG	2.03	0.58
1:A:190:ASN:HA	1:A:211:ARG:CB	2.30	0.58
1:L:139:PHE:HE1	1:L:142:LYS:HA	1.68	0.58
1:A:39:LYS:HB2	1:A:42:GLN:HG3	1.85	0.58
1:L:147:LYS:CD	1:L:154:GLU:HG2	2.33	0.58
1:L:147:LYS:CG	1:L:154:GLU:HG2	2.33	0.58
2:H:4:LEU:HD22	2:H:92:CYS:O	2.04	0.58
1:A:147:LYS:HD3	1:A:149:LYS:HG3	1.86	0.58
2:B:90:TYR:HE1	2:B:109:VAL:HB	1.67	0.58
2:B:138:VAL:HG12	2:B:139:THR:H	1.68	0.58
1:A:37:LEU:HD12	1:A:38:GLN:N	2.19	0.58
1:L:78:VAL:HA	1:L:82:ASP:OD2	2.03	0.58
1:L:192:TYR:HB2	1:L:209:PHE:CE1	2.38	0.58
1:A:44:PRO:HG2	2:B:103:TRP:CZ3	2.39	0.58
1:L:40:PRO:O	1:L:42:GLN:HG2	2.03	0.58
2:H:124:LEU:HD21	2:H:143:LEU:CB	2.34	0.58
1:L:119:PRO:HB3	1:L:209:PHE:CE2	2.38	0.58
2:H:63:LEU:O	2:H:67:LEU:HG	2.03	0.58
1:A:145:ASN:O	1:A:196:ALA:HA	2.04	0.58
2:B:11:LEU:HA	2:B:110:THR:O	2.02	0.58
2:B:144:VAL:HG22	2:B:210:VAL:HG21	1.85	0.58
1:L:37:LEU:HD22	1:L:86:TYR:CZ	2.39	0.57
1:A:37:LEU:HD11	1:A:84:GLY:HA3	1.87	0.57
2:B:20:ILE:HB	2:B:80:LEU:HD22	1.85	0.57
1:A:27(B):ILE:HD11	1:A:90:GLN:OE1	2.04	0.57
1:A:120:PRO:CG	1:A:132:VAL:HG22	2.34	0.57
1:A:46:LEU:HD23	1:A:55:PHE:CG	2.40	0.57
2:B:91:TYR:HE1	2:B:105:GLN:O	1.87	0.57
1:A:37:LEU:HD12	1:A:38:GLN:H	1.69	0.57
1:A:181:LEU:HB2	1:A:185:GLU:OE2	2.05	0.57
2:B:34:VAL:HG13	2:B:93:ALA:O	2.04	0.57
2:B:83:GLN:HB2	2:B:86:ASP:OD1	2.05	0.57
2:H:71:LYS:HE2	2:H:73:ASN:OD1	2.05	0.56
1:A:117:ILE:CG2	1:A:207:LYS:HB3	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2:VAL:HA	2:B:26:GLY:HA3	1.85	0.56
2:B:57:THR:CB	2:B:69:ILE:HB	2.34	0.56
2:B:66:ARG:HD2	2:B:82(B):SER:HB3	1.87	0.56
1:L:34:GLU:HG3	1:L:89:PHE:HD2	1.69	0.56
1:L:147:LYS:HD3	1:L:154:GLU:HG2	1.87	0.56
2:B:178:LEU:HA	2:B:184:LEU:O	2.04	0.56
1:L:27(B):ILE:HD11	1:L:90:GLN:HB2	1.86	0.56
1:L:37:LEU:HD12	1:L:38:GLN:N	2.20	0.56
1:A:182:THR:OG1	1:A:185:GLU:HG3	2.05	0.56
2:B:36:TRP:HZ3	2:B:90:TYR:O	1.88	0.56
1:L:95:PRO:HG2	2:H:61:SER:OG	2.06	0.56
2:H:36:TRP:O	2:H:48:VAL:HB	2.05	0.56
1:A:46:LEU:HD11	1:A:49:TYR:HB3	1.86	0.56
1:A:118:PHE:HE1	2:B:126:PRO:HG3	1.70	0.56
1:A:120:PRO:HG3	1:A:132:VAL:HG22	1.88	0.56
1:A:118:PHE:CZ	2:B:140:LEU:HA	2.41	0.56
1:A:188:ARG:HG3	1:A:189:HIS:CD2	2.41	0.56
1:A:21:ILE:HG13	1:A:73:LEU:HD23	1.88	0.56
1:L:120:PRO:HD2	1:L:186:TYR:OH	2.05	0.56
2:H:20:ILE:HD13	2:H:107:THR:CG2	2.36	0.56
1:A:15:LEU:HA	1:A:78:VAL:O	2.06	0.56
1:A:115:VAL:HA	1:A:135:PHE:O	2.06	0.56
1:L:112:ALA:HA	1:L:200:THR:HG21	1.85	0.56
2:H:11:LEU:HG	2:H:12:VAL:N	2.20	0.56
2:H:19:SER:HB3	2:H:81:LYS:HA	1.88	0.56
1:A:146:VAL:HG22	1:A:196:ALA:CB	2.35	0.56
2:B:51:ILE:HD12	2:B:57:THR:CG2	2.36	0.56
2:B:87:THR:HG23	2:B:111:VAL:N	2.12	0.56
2:B:200:PRO:HB3	2:B:227:PRO:HG3	1.87	0.56
2:B:29:LEU:HB3	2:B:71:LYS:HE2	1.88	0.55
2:B:153:THR:HG23	2:B:211:ALA:HB3	1.88	0.55
2:B:156:THR:HG22	2:B:164:GLY:N	2.21	0.55
2:B:174:PHE:HD1	2:B:188:SER:O	1.90	0.55
1:L:27(C):VAL:HA	1:L:31:THR:HB	1.88	0.55
1:A:50:LYS:HE2	1:A:53:ASN:ND2	2.22	0.55
2:B:124:LEU:O	2:B:140:LEU:HB3	2.06	0.55
1:L:112:ALA:CA	1:L:200:THR:HG21	2.36	0.55
1:A:96:PRO:HG2	2:B:47:TRP:CG	2.42	0.55
2:B:119:PRO:CB	2:B:147:TYR:HB3	2.35	0.55
1:L:124:GLN:HB2	2:H:122:TYR:CE1	2.41	0.55
1:A:21:ILE:HB	1:A:73:LEU:HB3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:157:TRP:HB2	2:B:166:LEU:HB2	1.88	0.55
2:H:93:ALA:HB1	2:H:100(E):MET:HB3	1.89	0.55
1:A:4:MET:HA	1:A:24:ARG:O	2.07	0.55
2:B:40:PRO:HA	2:B:88:ALA:HB2	1.89	0.55
1:A:120:PRO:CD	1:A:132:VAL:HG22	2.37	0.55
1:A:150:ILE:HG13	1:A:155:ARG:HG2	1.88	0.55
1:A:117:ILE:HB	1:A:134:CYS:SG	2.47	0.55
2:B:145:LYS:HA	2:B:186:THR:OG1	2.07	0.55
1:L:32:TYR:CE1	2:H:100(A):ILE:HD13	2.41	0.55
1:L:125:LEU:HD22	1:L:183:LYS:HD3	1.88	0.54
1:L:150:ILE:O	1:L:151:ASP:HB2	2.05	0.54
1:A:149:LYS:H	1:A:193:THR:HB	1.71	0.54
2:B:29:LEU:CD1	2:B:71:LYS:HG3	2.35	0.54
2:B:147:TYR:OH	2:B:150:GLU:OE2	2.25	0.54
1:L:3:VAL:HB	1:L:26:SER:HB3	1.89	0.54
2:B:50:VAL:CG1	2:B:58:ASN:HB2	2.34	0.54
1:L:12:PRO:HA	1:L:105:GLU:HB3	1.90	0.54
2:H:117:THR:OG1	2:H:184:LEU:HD21	2.08	0.54
1:A:50:LYS:CB	1:A:53:ASN:HD22	2.20	0.54
1:A:150:ILE:HG23	1:A:192:TYR:CD1	2.42	0.54
1:A:183:LYS:O	1:A:187:GLU:HB2	2.07	0.54
2:B:3:GLN:HG3	2:B:25:SER:OG	2.07	0.54
2:B:96:TRP:N	2:B:101:ASP:HB2	2.22	0.54
2:H:215:SER:O	2:H:217:THR:HG23	2.06	0.54
2:H:228:ARG:O	2:H:228:ARG:HG3	2.08	0.54
1:A:136:LEU:HD21	1:A:146:VAL:HG22	1.89	0.54
1:L:39:LYS:HB2	1:L:42:GLN:CG	2.34	0.54
2:H:36:TRP:HZ2	2:H:78:VAL:O	1.91	0.54
2:H:119:PRO:HB3	2:H:147:TYR:HB3	1.89	0.54
1:A:141:PRO:HD2	1:A:199:LYS:HG3	1.88	0.54
2:H:34:VAL:HG13	2:H:93:ALA:O	2.07	0.54
2:H:210:VAL:O	2:H:218:THR:HA	2.06	0.54
1:A:192:TYR:HB2	1:A:209:PHE:CE1	2.43	0.54
2:H:77:GLN:HB3	2:H:79:PHE:CE1	2.43	0.53
1:L:148:TRP:HB3	1:L:179:LEU:HD22	1.89	0.53
1:A:2:LEU:HD23	1:A:26:SER:OG	2.08	0.53
1:A:66:GLY:HA3	1:A:71:PHE:CD2	2.42	0.53
2:H:157:TRP:CH2	2:H:208:CYS:HB3	2.43	0.53
1:A:46:LEU:HD23	1:A:55:PHE:CD1	2.43	0.53
2:B:79:PHE:HB3	2:B:81:LYS:NZ	2.22	0.53
1:A:168:SER:O	1:A:169:LYS:HD3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:11:LEU:HD12	2:B:110:THR:CG2	2.39	0.53
1:L:139:PHE:CE1	1:L:142:LYS:HA	2.43	0.53
1:L:184:ASP:O	1:L:188:ARG:HG2	2.09	0.53
2:H:59:TYR:CD2	2:H:67:LEU:HB2	2.44	0.53
2:H:143:LEU:HD12	2:H:188:SER:HB3	1.91	0.53
2:H:154:VAL:HG22	2:H:210:VAL:HG22	1.91	0.53
1:L:32:TYR:CZ	2:H:100(A):ILE:HD13	2.44	0.53
1:L:36:TYR:CZ	1:L:46:LEU:HD13	2.44	0.53
1:A:27:GLN:O	1:A:69:THR:HG23	2.09	0.53
1:A:27(D):HIS:HB2	1:A:30:ASN:H	1.73	0.53
1:L:27(B):ILE:HG13	1:L:90:GLN:HG3	1.91	0.52
1:A:49:TYR:CE2	2:B:100(C):TYR:HD2	2.25	0.52
1:A:138:ASN:OD1	1:A:170:ASP:OD2	2.26	0.52
2:B:80:LEU:O	2:B:80:LEU:HD23	2.09	0.52
2:H:83:GLN:O	2:H:86:ASP:HB2	2.09	0.52
1:A:55:PHE:HB3	1:A:58:VAL:CG2	2.40	0.52
1:A:187:GLU:HA	1:A:211:ARG:CZ	2.40	0.52
2:B:40:PRO:CB	2:B:43:LYS:HD3	2.33	0.52
1:A:142:LYS:HD2	1:A:173:TYR:CE1	2.45	0.52
1:A:163:TRP:O	2:B:175:PRO:HG2	2.09	0.52
2:B:18:LEU:CD2	2:B:109:VAL:HG11	2.40	0.52
2:B:94:LYS:O	2:B:100(E):MET:HA	2.10	0.52
2:H:4:LEU:HG	2:H:24:VAL:CG2	2.38	0.52
2:B:150:GLU:OE2	2:B:176:ALA:HB2	2.10	0.52
1:L:144:ILE:HG13	1:L:198:HIS:CD2	2.44	0.52
2:H:61:SER:HA	2:H:64:MET:CE	2.40	0.52
1:A:117:ILE:HG22	1:A:207:LYS:HB3	1.91	0.52
1:L:190:ASN:O	1:L:211:ARG:HB2	2.11	0.51
1:A:95:PRO:HG2	2:B:61:SER:OG	2.10	0.51
1:A:162:SER:O	1:A:175:MET:HA	2.10	0.51
1:L:4:MET:SD	1:L:27(B):ILE:HD11	2.49	0.51
2:B:179:GLN:O	2:B:184:LEU:HB2	2.10	0.51
1:A:166:GLN:HE21	1:A:171:SER:HB3	1.76	0.51
2:B:82:MET:O	2:B:82(C):LEU:HD21	2.10	0.51
1:L:147:LYS:HD3	1:L:154:GLU:CG	2.41	0.51
2:H:149:PRO:HD2	2:H:214:ALA:CB	2.40	0.51
1:A:49:TYR:CE1	1:A:53:ASN:HB3	2.45	0.51
2:H:67:LEU:O	2:H:68:SER:HB3	2.10	0.51
2:B:60:ASN:HB3	2:B:63:LEU:CD1	2.40	0.51
2:B:116:THR:HA	2:B:148:PHE:O	2.09	0.51
1:A:46:LEU:CD2	1:A:49:TYR:HB3	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:141:PRO:HB2	1:A:143:ASP:OD2	2.11	0.51
2:B:66:ARG:NH1	2:B:82(B):SER:O	2.44	0.51
1:L:190:ASN:HD21	1:L:212:ASN:ND2	2.09	0.51
2:H:162:ASN:OD1	2:H:205:VAL:HA	2.10	0.51
2:B:117:THR:OG1	2:B:148:PHE:HB3	2.10	0.51
1:L:94:LEU:HD13	2:H:58:ASN:HD22	1.76	0.51
2:H:19:SER:CB	2:H:81:LYS:HD3	2.41	0.51
2:H:105:GLN:HG2	2:H:106:GLY:N	2.25	0.51
1:L:15:LEU:CD2	1:L:106:ILE:HG21	2.41	0.51
1:L:32:TYR:HD2	1:L:92:SER:HA	1.76	0.51
1:L:36:TYR:CE2	1:L:46:LEU:HD13	2.46	0.51
1:L:37:LEU:HD22	1:L:86:TYR:CE2	2.46	0.51
1:L:139:PHE:HD1	1:L:141:PRO:O	1.94	0.50
1:L:150:ILE:HG13	1:L:155:ARG:CG	2.41	0.50
2:H:211:ALA:HA	2:H:218:THR:OG1	2.11	0.50
1:L:49:TYR:CZ	1:L:53:ASN:HB3	2.47	0.50
1:L:142:LYS:O	1:L:142:LYS:HG2	2.12	0.50
2:H:116:THR:HG22	2:H:116:THR:O	2.09	0.50
1:A:55:PHE:HB3	1:A:58:VAL:HG21	1.93	0.50
1:A:108:ARG:HD3	1:A:140:TYR:CG	2.46	0.50
2:B:204:THR:HG23	2:B:204:THR:O	2.11	0.50
1:L:20:SER:HA	1:L:73:LEU:O	2.12	0.50
1:L:20:SER:OG	1:L:74:LYS:HG2	2.12	0.50
2:B:90:TYR:CE1	2:B:109:VAL:HB	2.45	0.50
2:H:14:PRO:O	2:H:15:SER:CB	2.59	0.50
2:H:66:ARG:HB3	2:H:66:ARG:NH1	2.26	0.50
2:H:138:VAL:CG2	2:H:195:SER:HA	2.42	0.50
2:H:168:SER:O	2:H:168:SER:OG	2.29	0.50
1:A:159:VAL:CG2	1:A:179:LEU:HD13	2.42	0.50
2:B:10:GLY:O	2:B:109:VAL:HA	2.12	0.50
2:H:138:VAL:HG12	2:H:139:THR:H	1.76	0.50
1:A:34:GLU:OE1	1:A:49:TYR:HB2	2.11	0.50
2:B:36:TRP:NE1	2:B:80:LEU:HB2	2.26	0.50
1:L:54:ARG:HD3	1:L:58:VAL:HG12	1.94	0.50
1:L:212:ASN:OD1	1:A:156:GLN:O	2.30	0.50
2:B:60:ASN:HB3	2:B:63:LEU:HD12	1.94	0.50
2:B:94:LYS:HB3	2:B:102:HIS:O	2.12	0.50
1:L:90:GLN:OE1	1:L:93:HIS:O	2.30	0.50
1:L:123:GLU:O	1:L:126:THR:OG1	2.25	0.50
2:H:204:THR:OG1	2:H:222:LYS:HE3	2.12	0.50
2:H:72:ASP:HB2	2:H:79:PHE:HZ	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:209:SER:HA	2:H:220:ASP:HA	1.94	0.49
1:A:100:GLY:O	1:A:101:GLY:O	2.30	0.49
1:A:154:GLU:O	1:A:155:ARG:HD3	2.11	0.49
1:A:34:GLU:OE1	2:B:100(C):TYR:O	2.29	0.49
1:L:83:LEU:CD1	1:L:106:ILE:HD12	2.41	0.49
1:L:124:GLN:HB2	2:H:122:TYR:CD1	2.47	0.49
2:H:154:VAL:HA	2:H:209:SER:O	2.12	0.49
1:A:151:ASP:OD1	1:A:191:SER:O	2.30	0.49
2:B:157:TRP:HB2	2:B:166:LEU:CB	2.42	0.49
2:H:2:VAL:CG2	2:H:26:GLY:HA3	2.42	0.49
1:L:133:VAL:CG2	2:H:143:LEU:HD13	2.40	0.49
1:A:150:ILE:O	1:A:151:ASP:HB2	2.11	0.49
1:L:34:GLU:OE1	2:H:100(C):TYR:O	2.30	0.49
2:H:199:TRP:CH2	2:H:227:PRO:HG3	2.47	0.49
1:A:140:TYR:CD1	1:A:141:PRO:HA	2.47	0.49
1:A:149:LYS:HB2	1:A:193:THR:CB	2.43	0.49
2:H:162:ASN:HB2	2:H:166:LEU:HB2	1.95	0.49
2:B:105:GLN:OE1	2:B:106:GLY:O	2.30	0.49
1:L:182:THR:OG1	1:L:184:ASP:HB2	2.13	0.49
2:H:72:ASP:CG	2:H:75:LYS:HB2	2.33	0.49
2:H:90:TYR:O	2:H:107:THR:HG22	2.13	0.49
2:B:30:THR:OG1	2:B:31:ASN:OD1	2.30	0.49
2:B:94:LYS:CG	2:B:101:ASP:HB3	2.42	0.49
1:L:125:LEU:HD22	1:L:183:LYS:CD	2.42	0.49
2:B:51:ILE:HB	2:B:57:THR:HG22	1.94	0.49
2:H:34:VAL:HG22	2:H:93:ALA:O	2.13	0.49
2:H:63:LEU:CD1	2:H:67:LEU:HD21	2.43	0.49
1:A:120:PRO:HA	1:A:131:SER:O	2.13	0.48
2:B:20:ILE:HD13	2:B:90:TYR:HB2	1.94	0.48
2:H:20:ILE:CG2	2:H:107:THR:HG21	2.38	0.48
2:H:36:TRP:CD1	2:H:69:ILE:HG12	2.48	0.48
2:B:40:PRO:HB2	2:B:43:LYS:HB2	1.95	0.48
2:B:209:SER:HB2	2:B:220:ASP:OD2	2.13	0.48
1:L:83:LEU:HD22	1:L:166:GLN:O	2.13	0.48
2:H:63:LEU:HB2	2:H:67:LEU:CD2	2.38	0.48
1:A:146:VAL:HG21	1:A:175:MET:SD	2.53	0.48
2:B:213:PRO:C	2:B:216:SER:H	2.17	0.48
1:L:12:PRO:HA	1:L:105:GLU:CG	2.43	0.48
1:L:24:ARG:HA	1:L:69:THR:O	2.13	0.48
1:L:175:MET:HG2	1:L:176:SER:N	2.28	0.48
2:H:87:THR:HG23	2:H:110:THR:HA	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:89:PHE:CD1	1:A:97:THR:O	2.67	0.48
1:A:147:LYS:CD	1:A:149:LYS:HE3	2.42	0.48
2:B:87:THR:CG2	2:B:111:VAL:H	2.18	0.48
2:B:108:THR:CG2	2:B:151:PRO:HD3	2.43	0.48
1:L:27(D):HIS:HB2	1:L:30:ASN:O	2.13	0.48
2:B:16:GLN:HB3	2:B:17:SER:H	1.49	0.48
2:B:72:ASP:CG	2:B:75:LYS:HB2	2.33	0.48
1:L:192:TYR:O	1:L:209:PHE:N	2.46	0.48
2:B:36:TRP:CD2	2:B:80:LEU:HD13	2.48	0.48
1:A:190:ASN:CG	1:A:211:ARG:H	2.17	0.48
1:L:145:ASN:O	1:L:196:ALA:HA	2.13	0.48
1:A:120:PRO:HD3	1:A:132:VAL:CG1	2.40	0.48
2:H:81:LYS:O	2:H:82:MET:HB2	2.14	0.47
1:A:83:LEU:HD21	1:A:166:GLN:CD	2.35	0.47
1:A:186:TYR:O	1:A:211:ARG:NH1	2.46	0.47
2:B:20:ILE:HB	2:B:80:LEU:CD2	2.44	0.47
1:L:79:GLU:CB	1:L:81:GLU:HG3	2.44	0.47
1:A:81:GLU:HG2	1:A:169:LYS:HE2	1.96	0.47
2:B:222:LYS:HD2	2:B:226:GLU:OE2	2.14	0.47
1:L:73:LEU:CD2	1:L:75:ILE:HD11	2.41	0.47
1:L:148:TRP:CD1	1:L:179:LEU:HD13	2.49	0.47
2:H:166:LEU:HD11	2:H:193:VAL:HG12	1.97	0.47
2:B:57:THR:HG21	2:B:69:ILE:HB	1.95	0.47
1:L:108:ARG:CD	1:L:171:SER:HB2	2.44	0.47
2:H:94:LYS:HG3	2:H:95:HIS:N	2.28	0.47
2:H:116:THR:HA	2:H:148:PHE:O	2.14	0.47
1:A:8:PRO:HG2	1:A:11:LEU:HB2	1.95	0.47
1:A:69:THR:HB	1:A:70:ASP:OD1	2.13	0.47
2:B:91:TYR:CE1	2:B:106:GLY:HA3	2.49	0.47
1:L:181:LEU:HB2	1:L:185:GLU:OE1	2.14	0.47
2:B:38:ARG:HG3	2:B:39:GLN:N	2.28	0.47
1:L:25:SER:CB	1:L:27(B):ILE:HD12	2.43	0.47
2:H:20:ILE:HD13	2:H:107:THR:HG21	1.97	0.47
2:H:38:ARG:HA	2:H:89:VAL:O	2.13	0.47
2:H:162:ASN:HB2	2:H:166:LEU:HD23	1.96	0.47
1:L:54:ARG:HD3	1:L:59:PRO:O	2.14	0.47
2:H:19:SER:HB3	2:H:81:LYS:CD	2.43	0.47
2:H:64:MET:HA	2:H:67:LEU:HG	1.95	0.47
2:H:157:TRP:CZ3	2:H:208:CYS:HB3	2.49	0.47
1:A:16:GLY:C	1:A:77:ARG:HA	2.35	0.47
1:A:38:GLN:NE2	1:A:42:GLN:O	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:83:LEU:HD12	1:A:104:LEU:O	2.15	0.47
2:B:22:CYS:HB3	2:B:78:VAL:O	2.14	0.47
2:B:53:SER:HA	2:B:71:LYS:HZ2	1.80	0.47
2:B:86:ASP:O	2:B:90:TYR:OH	2.30	0.47
1:L:44:PRO:HG2	2:H:103:TRP:CZ3	2.50	0.47
1:A:170:ASP:OD1	1:A:172:THR:OG1	2.30	0.47
1:A:187:GLU:HG3	1:A:211:ARG:HH22	1.79	0.47
2:B:94:LYS:HG2	2:B:101:ASP:HB3	1.97	0.47
2:H:97:GLY:CA	2:H:100(C):TYR:H	2.17	0.47
1:A:147:LYS:HG2	1:A:148:TRP:N	2.29	0.47
2:H:38:ARG:HG2	2:H:46:GLU:HB2	1.97	0.47
2:B:88:ALA:O	2:B:109:VAL:O	2.33	0.47
2:B:95:HIS:C	2:B:101:ASP:HB2	2.35	0.47
2:H:9:PRO:HG2	2:H:18:LEU:CD1	2.44	0.46
2:H:66:ARG:NH2	2:H:86:ASP:OD2	2.49	0.46
2:H:71:LYS:HE2	2:H:73:ASN:CG	2.36	0.46
2:H:97:GLY:HA3	2:H:100(B):PRO:HA	1.97	0.46
1:A:117:ILE:HA	1:A:134:CYS:HA	1.97	0.46
2:H:206:THR:HA	2:H:221:LYS:O	2.15	0.46
1:A:52:SER:HA	1:A:64:GLY:CA	2.34	0.46
1:A:83:LEU:HD22	1:A:106:ILE:CD1	2.45	0.46
1:A:141:PRO:HD2	1:A:198:HIS:NE2	2.31	0.46
1:A:147:LYS:HG3	1:A:154:GLU:CD	2.34	0.46
1:L:192:TYR:O	1:L:208:SER:HA	2.16	0.46
2:H:186:THR:O	2:H:186:THR:HG22	2.14	0.46
1:A:32:TYR:HD2	1:A:91:GLY:O	1.98	0.46
1:A:35:TRP:CZ2	1:A:88:CYS:HB3	2.51	0.46
1:A:120:PRO:CB	1:A:125:LEU:HD21	2.45	0.46
2:B:169:SER:O	2:B:191:VAL:HA	2.15	0.46
1:L:42:GLN:HG2	1:L:42:GLN:H	1.47	0.46
1:L:131:SER:HA	1:L:180:THR:HA	1.97	0.46
1:A:51:VAL:CG1	1:A:66:GLY:HA3	2.46	0.46
2:B:2:VAL:HG22	2:B:27:PHE:CD1	2.48	0.46
2:B:51:ILE:CB	2:B:57:THR:HG22	2.45	0.46
2:H:63:LEU:CD1	2:H:67:LEU:HD11	2.43	0.46
1:A:34:GLU:HB2	1:A:36:TYR:CE1	2.51	0.46
1:A:36:TYR:CZ	2:B:100(E):MET:HE3	2.50	0.46
2:B:121:VAL:HG21	2:B:210:VAL:HB	1.97	0.46
2:H:40:PRO:HG2	2:H:43:LYS:HB2	1.98	0.46
1:L:12:PRO:HA	1:L:105:GLU:CB	2.46	0.46
1:L:119:PRO:HA	1:L:132:VAL:HG13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:71:LYS:HG2	2:H:72:ASP:N	2.29	0.46
1:A:54:ARG:NE	1:A:62:PHE:O	2.47	0.46
1:A:149:LYS:HB2	1:A:193:THR:HB	1.96	0.46
2:B:147:TYR:OH	2:B:150:GLU:HG2	2.15	0.46
2:B:154:VAL:HG23	2:B:187:MET:HE3	1.97	0.46
1:L:89:PHE:CZ	1:L:96:PRO:HB2	2.51	0.46
1:L:135:PHE:HE1	1:L:176:SER:HG	1.63	0.46
1:L:182:THR:CG2	1:L:185:GLU:OE2	2.60	0.46
1:L:193:THR:HA	1:L:208:SER:CA	2.46	0.46
2:H:66:ARG:NH1	2:H:82(A):ASN:O	2.48	0.46
1:A:25:SER:CB	1:A:27(B):ILE:HD12	2.45	0.46
1:A:130:ALA:C	1:A:180:THR:HG23	2.36	0.46
1:A:149:LYS:HA	1:A:153:SER:O	2.16	0.46
2:B:66:ARG:NH2	2:B:83:GLN:OE1	2.49	0.46
2:B:96:TRP:HB2	2:B:101:ASP:HA	1.97	0.46
1:L:113:PRO:HG2	1:L:205:ILE:CD1	2.42	0.46
1:L:147:LYS:HE2	1:L:147:LYS:HB3	1.33	0.46
2:H:204:THR:O	2:H:204:THR:HG23	2.16	0.46
2:B:35:ASP:OD1	2:B:95:HIS:NE2	2.49	0.46
1:L:203:SER:OG	1:L:204:PRO:HD2	2.16	0.45
2:H:169:SER:HB3	2:H:192:THR:HB	1.98	0.45
1:A:83:LEU:CD1	1:A:106:ILE:HD12	2.34	0.45
1:A:130:ALA:O	1:A:180:THR:HA	2.17	0.45
2:B:94:LYS:O	2:B:101:ASP:N	2.50	0.45
2:B:22:CYS:HB2	2:B:36:TRP:CZ2	2.51	0.45
2:B:50:VAL:O	2:B:58:ASN:N	2.47	0.45
1:L:189:HIS:O	1:L:211:ARG:NH1	2.50	0.45
2:H:157:TRP:CZ3	2:H:223:LEU:HD11	2.49	0.45
1:A:10:SER:HB2	1:A:103:LYS:HB3	1.98	0.45
1:A:47:LEU:HD11	1:A:86:TYR:CD2	2.51	0.45
1:A:184:ASP:HB3	1:A:188:ARG:NH1	2.31	0.45
1:A:207:LYS:HD3	1:A:207:LYS:HA	1.65	0.45
1:L:125:LEU:O	1:L:183:LYS:HG3	2.15	0.45
2:H:35:ASP:OD2	2:H:95:HIS:NE2	2.49	0.45
2:H:59:TYR:CB	2:H:64:MET:HB3	2.47	0.45
2:H:91:TYR:HE1	2:H:105:GLN:O	2.00	0.45
2:H:169:SER:O	2:H:191:VAL:HA	2.15	0.45
1:A:38:GLN:OE1	2:B:39:GLN:NE2	2.50	0.45
1:L:153:SER:OG	1:L:154:GLU:N	2.50	0.45
2:H:20:ILE:HD13	2:H:107:THR:HG23	1.96	0.45
2:H:70:SER:HB2	2:H:79:PHE:HD2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:83:GLN:N	2:H:86:ASP:OD2	2.50	0.45
1:A:143:ASP:HB2	1:A:199:LYS:NZ	2.31	0.45
2:B:208:CYS:O	2:B:221:LYS:N	2.50	0.45
1:L:38:GLN:OE1	1:L:44:PRO:HG3	2.16	0.45
1:L:133:VAL:CG1	2:H:143:LEU:HD13	2.46	0.45
2:H:40:PRO:HG2	2:H:43:LYS:CB	2.46	0.45
2:B:35:ASP:OD2	2:B:47:TRP:NE1	2.49	0.45
2:B:46:GLU:O	2:B:48:VAL:HG23	2.17	0.45
2:B:117:THR:N	2:B:148:PHE:O	2.50	0.45
1:A:108:ARG:NE	1:A:109:ALA:O	2.50	0.45
2:B:45:LEU:HD23	2:B:45:LEU:N	2.32	0.45
2:B:51:ILE:HA	2:B:57:THR:HG22	1.97	0.45
1:L:13:VAL:N	1:L:105:GLU:O	2.50	0.45
1:A:27(C):VAL:HG12	1:A:29:GLY:HA2	1.99	0.45
1:A:166:GLN:NE2	1:A:171:SER:HB3	2.32	0.45
2:H:141:GLY:HA3	2:H:189:SER:O	2.18	0.44
2:H:199:TRP:CG	2:H:200:PRO:HA	2.52	0.44
2:B:24:VAL:HG22	2:B:27:PHE:CZ	2.52	0.44
2:B:221:LYS:HD2	2:B:221:LYS:HA	1.91	0.44
2:H:12:VAL:CG2	2:H:82(C):LEU:HD13	2.46	0.44
2:H:21:THR:HA	2:H:79:PHE:HA	2.00	0.44
2:H:120:SER:N	2:H:145:LYS:O	2.50	0.44
1:A:189:HIS:HB2	1:A:192:TYR:CZ	2.50	0.44
1:L:161:ASN:HA	1:L:176:SER:O	2.17	0.44
2:H:72:ASP:HB2	2:H:79:PHE:CZ	2.51	0.44
1:A:34:GLU:HB2	1:A:36:TYR:HE1	1.81	0.44
2:B:72:ASP:O	2:B:76:SER:N	2.50	0.44
1:L:34:GLU:OE2	2:H:100(D):GLY:HA2	2.17	0.44
2:H:212:HIS:CE1	2:H:214:ALA:HB3	2.52	0.44
2:B:120:SER:N	2:B:145:LYS:O	2.50	0.44
1:L:13:VAL:CG1	1:L:104:LEU:HD11	2.45	0.44
1:L:148:TRP:CE2	1:L:179:LEU:HB2	2.53	0.44
2:H:117:THR:N	2:H:148:PHE:O	2.50	0.44
2:B:212:HIS:N	2:B:213:PRO:HD3	2.33	0.44
2:B:220:ASP:OD1	2:B:220:ASP:N	2.49	0.44
1:L:90:GLN:NE2	1:L:97:THR:OG1	2.50	0.44
1:L:143:ASP:HB2	1:L:199:LYS:CE	2.47	0.44
2:H:206:THR:OG1	2:H:222:LYS:HG2	2.17	0.44
2:B:7:SER:OG	2:B:21:THR:OG1	2.35	0.44
2:B:209:SER:HB2	2:B:220:ASP:HB3	1.99	0.44
2:H:17:SER:OG	2:H:82(A):ASN:HA	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:100(A):ILE:O	2:H:100(A):ILE:CD1	2.65	0.44
1:A:162:SER:OG	2:B:175:PRO:HD2	2.16	0.44
2:B:20:ILE:HD12	2:B:80:LEU:CD2	2.47	0.44
2:H:124:LEU:HD21	2:H:143:LEU:N	2.33	0.44
2:B:147:TYR:CE2	2:B:152:VAL:HG13	2.52	0.44
1:L:143:ASP:O	1:L:198:HIS:HD2	2.01	0.43
2:H:67:LEU:N	2:H:67:LEU:HD23	2.32	0.43
1:L:123:GLU:HG2	1:L:124:GLN:H	1.83	0.43
1:L:195:GLU:OE1	1:L:206:VAL:HG22	2.17	0.43
2:B:35:ASP:N	2:B:93:ALA:O	2.50	0.43
2:B:47:TRP:HZ2	2:B:50:VAL:HB	1.82	0.43
2:B:50:VAL:HG11	2:B:52:TRP:CZ2	2.53	0.43
2:H:162:ASN:CG	2:H:166:LEU:HD23	2.38	0.43
1:A:147:LYS:CD	1:A:149:LYS:HG3	2.46	0.43
1:A:188:ARG:HG3	1:A:189:HIS:HD2	1.80	0.43
2:B:29:LEU:HD11	2:B:77:GLN:O	2.18	0.43
1:L:125:LEU:HD11	1:L:186:TYR:HE2	1.82	0.43
2:H:162:ASN:CB	2:H:166:LEU:HD23	2.48	0.43
2:B:20:ILE:CG2	2:B:107:THR:HG21	2.36	0.43
2:B:79:PHE:HB3	2:B:81:LYS:HZ3	1.83	0.43
2:B:178:LEU:HG	2:B:179:GLN:N	2.32	0.43
2:H:11:LEU:HD11	2:H:114:ALA:O	2.19	0.43
2:B:52:TRP:NE1	2:B:58:ASN:OD1	2.43	0.43
2:B:57:THR:OG1	2:B:69:ILE:HB	2.16	0.43
2:B:147:TYR:CE2	2:B:150:GLU:HG2	2.54	0.43
1:L:27(B):ILE:O	1:L:31:THR:HB	2.19	0.43
2:H:29:LEU:HB2	2:H:73:ASN:OD1	2.19	0.43
2:H:32:TYR:O	2:H:53:SER:HB3	2.18	0.43
2:H:40:PRO:CB	2:H:43:LYS:HD2	2.33	0.43
1:A:125:LEU:O	1:A:183:LYS:CD	2.63	0.43
1:L:34:GLU:HB2	1:L:36:TYR:CE1	2.54	0.43
1:L:155:ARG:HD2	1:L:155:ARG:HA	1.68	0.43
2:H:121:VAL:O	2:H:122:TYR:CD1	2.71	0.43
2:H:121:VAL:HG13	2:H:144:VAL:HG22	2.01	0.43
2:H:140:LEU:HD21	2:H:199:TRP:CE3	2.53	0.43
2:B:213:PRO:O	2:B:216:SER:N	2.51	0.43
1:L:6:GLN:OE1	1:L:101:GLY:N	2.49	0.43
1:L:188:ARG:HA	1:A:163:TRP:CZ3	2.53	0.43
2:H:4:LEU:HD23	2:H:92:CYS:SG	2.59	0.43
1:A:8:PRO:HG3	1:A:11:LEU:HD13	2.00	0.43
2:B:53:SER:HA	2:B:71:LYS:HZ1	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:96:TRP:HB2	2:H:101:ASP:CB	2.46	0.43
1:A:61:ARG:HH22	1:A:82:ASP:CG	2.21	0.43
1:A:136:LEU:HD21	1:A:196:ALA:HB1	2.00	0.43
1:A:141:PRO:CD	1:A:198:HIS:HE2	2.32	0.43
1:L:131:SER:CB	1:L:180:THR:HG1	2.31	0.42
2:H:9:PRO:O	2:H:11:LEU:N	2.50	0.42
2:H:122:TYR:O	2:H:143:LEU:N	2.52	0.42
2:H:220:ASP:OD1	2:H:220:ASP:N	2.52	0.42
1:A:108:ARG:NH2	1:A:109:ALA:O	2.50	0.42
2:B:157:TRP:HB3	2:B:166:LEU:HD23	2.01	0.42
1:L:81:GLU:HG3	1:L:81:GLU:H	1.61	0.42
1:L:145:ASN:O	1:L:197:THR:N	2.51	0.42
1:A:141:PRO:HD2	1:A:198:HIS:HE2	1.83	0.42
2:B:59:TYR:CE1	2:B:69:ILE:HD12	2.54	0.42
2:B:154:VAL:HG23	2:B:187:MET:CE	2.49	0.42
1:L:142:LYS:HB2	1:L:173:TYR:CE2	2.54	0.42
2:H:147:TYR:O	2:H:185:TYR:HB2	2.19	0.42
2:H:213:PRO:C	2:H:216:SER:H	2.23	0.42
1:A:6:GLN:HG3	1:A:88:CYS:SG	2.60	0.42
1:L:79:GLU:HB3	1:L:81:GLU:HG3	2.01	0.42
2:H:162:ASN:ND2	2:H:166:LEU:CD2	2.81	0.42
1:A:136:LEU:HD21	1:A:196:ALA:CB	2.49	0.42
1:A:118:PHE:HD1	2:B:126:PRO:HA	1.85	0.42
2:B:9:PRO:O	2:B:11:LEU:N	2.50	0.42
2:B:66:ARG:HD2	2:B:82(B):SER:CB	2.49	0.42
2:B:73:ASN:C	2:B:76:SER:H	2.22	0.42
1:L:124:GLN:HG3	2:H:122:TYR:CE2	2.54	0.42
1:A:159:VAL:HA	1:A:178:THR:O	2.19	0.42
1:L:27(B):ILE:O	1:L:27(B):ILE:HG23	2.20	0.42
1:L:63:SER:O	1:L:73:LEU:HA	2.20	0.42
1:A:108:ARG:HH22	1:A:111:ALA:HB2	1.80	0.42
2:B:29:LEU:HD21	2:B:78:VAL:CG2	2.50	0.42
2:B:198:THR:C	2:B:203:GLN:H	2.23	0.42
1:L:13:VAL:O	1:L:107:LYS:N	2.50	0.42
1:L:147:LYS:HD3	1:L:154:GLU:CD	2.40	0.42
1:A:136:LEU:HD13	1:A:175:MET:CG	2.49	0.42
2:B:116:THR:HG21	2:B:215:SER:N	2.35	0.42
1:L:37:LEU:O	1:L:45:LYS:N	2.52	0.42
1:A:21:ILE:HG13	1:A:73:LEU:HB3	2.01	0.42
1:A:27(D):HIS:O	1:A:29:GLY:HA2	2.20	0.42
1:A:62:PHE:HE1	1:A:75:ILE:HG12	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:147:LYS:HD2	1:A:195:GLU:HB2	2.02	0.42
1:A:195:GLU:O	1:A:196:ALA:HB2	2.20	0.42
2:B:139:THR:OG1	2:B:192:THR:OG1	2.30	0.42
2:B:186:THR:O	2:B:186:THR:HG22	2.20	0.42
2:B:215:SER:O	2:B:217:THR:HG23	2.20	0.42
1:L:103:LYS:NZ	1:L:165:ASP:OD2	2.53	0.42
1:L:141:PRO:HB2	1:L:143:ASP:OD2	2.20	0.42
2:H:18:LEU:HB3	2:H:82(C):LEU:HD21	2.02	0.42
1:A:106:ILE:HB	1:A:166:GLN:HE22	1.85	0.42
1:A:136:LEU:HD13	1:A:175:MET:HG2	2.02	0.42
2:B:121:VAL:HG21	2:B:219:VAL:O	2.20	0.42
1:L:194:CYS:HB3	1:L:207:LYS:O	2.20	0.41
2:B:6:GLU:OE2	2:B:92:CYS:N	2.50	0.41
2:B:12:VAL:O	2:B:111:VAL:HA	2.19	0.41
1:L:18:GLN:HB2	1:L:76:ASN:OD1	2.20	0.41
2:H:36:TRP:HE1	2:H:69:ILE:HG23	1.86	0.41
2:B:24:VAL:HG21	2:B:29:LEU:HD21	2.01	0.41
2:B:30:THR:OG1	2:B:31:ASN:N	2.53	0.41
2:B:51:ILE:HD13	2:B:71:LYS:HB3	2.01	0.41
1:L:47:LEU:HA	1:L:58:VAL:HG21	2.03	0.41
2:H:94:LYS:NZ	2:H:101:ASP:OD2	2.50	0.41
1:A:54:ARG:NH2	1:A:62:PHE:O	2.50	0.41
1:A:169:LYS:HD3	1:A:169:LYS:HA	1.86	0.41
2:B:83:GLN:HB3	2:B:85:ASP:OD1	2.20	0.41
1:L:27(B):ILE:CG1	1:L:90:GLN:HG3	2.50	0.41
1:L:161:ASN:OD1	1:L:177:SER:OG	2.34	0.41
1:L:189:HIS:O	1:L:211:ARG:HD3	2.20	0.41
1:A:48:ILE:HD13	1:A:54:ARG:HA	2.02	0.41
1:A:81:GLU:HG2	1:A:169:LYS:CE	2.50	0.41
1:L:34:GLU:HG3	1:L:89:PHE:CD2	2.54	0.41
1:L:108:ARG:CZ	1:L:108:ARG:HB2	2.46	0.41
1:L:185:GLU:HG3	1:L:185:GLU:H	1.39	0.41
1:A:83:LEU:HD22	1:A:106:ILE:HD13	2.02	0.41
1:A:96:PRO:HG2	2:B:47:TRP:CD2	2.55	0.41
2:B:14:PRO:O	2:B:82(C):LEU:HB2	2.20	0.41
2:B:148:PHE:HA	2:B:149:PRO:HA	1.63	0.41
1:L:33:LEU:HD22	1:L:71:PHE:CG	2.55	0.41
2:H:18:LEU:HD12	2:H:19:SER:H	1.84	0.41
1:A:141:PRO:CD	1:A:199:LYS:HG3	2.50	0.41
2:B:83:GLN:HB3	2:B:85:ASP:H	1.85	0.41
2:B:116:THR:CG2	2:B:215:SER:HB3	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:149:PRO:HA	2:B:185:TYR:CE2	2.56	0.41
1:A:144:ILE:HG23	1:A:145:ASN:N	2.35	0.41
1:L:37:LEU:HB2	1:L:47:LEU:HD11	2.02	0.41
2:H:61:SER:HA	2:H:64:MET:HE1	2.02	0.41
2:H:116:THR:CG2	2:H:215:SER:HB3	2.51	0.41
1:A:2:LEU:HD13	1:A:90:GLN:OE1	2.21	0.41
1:A:61:ARG:NH1	1:A:82:ASP:OD2	2.50	0.41
1:A:133:VAL:HG13	1:A:178:THR:OG1	2.21	0.41
1:L:27(B):ILE:O	1:L:92:SER:OG	2.29	0.41
1:L:192:TYR:HB2	1:L:209:PHE:CD1	2.56	0.41
2:H:86:ASP:O	2:H:90:TYR:OH	2.34	0.41
1:A:135:PHE:CD1	1:A:176:SER:HA	2.56	0.41
1:A:185:GLU:O	1:A:189:HIS:HD2	2.04	0.41
2:B:36:TRP:NE1	2:B:79:PHE:O	2.49	0.41
2:B:116:THR:HG21	2:B:214:ALA:C	2.42	0.41
2:B:149:PRO:HA	2:B:185:TYR:CD2	2.56	0.41
2:B:154:VAL:HG21	2:B:189:SER:CB	2.47	0.41
2:B:169:SER:HB2	2:B:192:THR:O	2.21	0.41
1:L:66:GLY:HA3	1:L:71:PHE:CD2	2.56	0.41
1:L:167:ASP:N	1:L:172:THR:O	2.47	0.41
1:L:190:ASN:ND2	1:L:212:ASN:ND2	2.69	0.41
1:L:199:LYS:H	1:L:199:LYS:HG2	1.32	0.41
2:H:63:LEU:C	2:H:67:LEU:HG	2.42	0.41
2:H:141:GLY:HA2	2:H:157:TRP:CZ2	2.55	0.41
1:A:47:LEU:O	1:A:58:VAL:HG11	2.21	0.41
1:A:86:TYR:O	1:A:101:GLY:HA2	2.21	0.41
1:A:120:PRO:HB2	1:A:125:LEU:HD21	2.02	0.41
1:A:181:LEU:HB2	1:A:182:THR:H	1.47	0.40
2:B:67:LEU:N	2:B:67:LEU:HD23	2.36	0.40
1:L:153:SER:HB2	2:B:41:PRO:HB2	2.03	0.40
2:H:59:TYR:HB3	2:H:64:MET:HB3	2.03	0.40
2:B:11:LEU:HG	2:B:12:VAL:N	2.37	0.40
2:B:37:VAL:HG12	2:B:38:ARG:N	2.36	0.40
1:L:117:ILE:HG21	1:L:207:LYS:O	2.21	0.40
1:L:143:ASP:O	1:L:199:LYS:HE3	2.21	0.40
2:H:3:GLN:HG3	2:H:25:SER:OG	2.21	0.40
2:H:162:ASN:HD22	2:H:166:LEU:HD23	1.83	0.40
1:A:27(D):HIS:HB2	1:A:30:ASN:N	2.36	0.40
1:A:114:THR:HB	1:A:137:ASN:HB2	2.03	0.40
1:A:198:HIS:CD2	1:A:199:LYS:HG2	2.56	0.40
2:B:6:GLU:OE1	2:B:106:GLY:N	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:47:LEU:HD23	1:L:58:VAL:HG21	2.03	0.40
1:L:135:PHE:HE1	1:L:176:SER:OG	2.04	0.40
2:H:11:LEU:O	2:H:12:VAL:CG1	2.65	0.40
2:H:57:THR:HG21	2:H:69:ILE:O	2.22	0.40
1:A:110:ASP:HA	1:A:140:TYR:O	2.22	0.40
1:A:185:GLU:HG3	1:A:185:GLU:H	1.46	0.40
2:B:11:LEU:HD11	2:B:112:SER:OG	2.21	0.40
2:H:59:TYR:HD2	2:H:67:LEU:HB2	1.85	0.40
2:H:72:ASP:HB3	2:H:75:LYS:HB2	2.03	0.40
1:A:112:ALA:HA	1:A:200:THR:HG21	2.03	0.40
1:A:187:GLU:HA	1:A:211:ARG:HH22	1.86	0.40
1:A:190:ASN:ND2	1:A:191:SER:N	2.70	0.40
2:B:100(E):MET:HB2	2:B:103:TRP:NE1	2.37	0.40
2:B:178:LEU:HG	2:B:184:LEU:O	2.21	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:53:SER:O	2:B:56:SER:OG[2_556]	2.05	0.15

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	215/217 (99%)	182 (85%)	27 (13%)	6 (3%)	5	2
1	L	215/217 (99%)	186 (86%)	27 (13%)	2 (1%)	17	19
2	B	212/221 (96%)	178 (84%)	24 (11%)	10 (5%)	2	1
2	H	219/221 (99%)	180 (82%)	28 (13%)	11 (5%)	2	0
All	All	861/876 (98%)	726 (84%)	106 (12%)	29 (3%)	3	1

All (29) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	H	68	SER
1	A	101	GLY
2	B	167	SER
1	L	184	ASP
2	H	82	MET
2	H	98	GLY
2	H	100(A)	ILE
2	H	167	SER
1	A	29	GLY
1	A	184	ASP
2	B	82	MET
2	B	127	GLY
2	H	101	ASP
2	H	114	ALA
2	H	136	SER
1	A	196	ALA
2	B	101	ASP
2	B	175	PRO
1	L	68	GLY
2	H	175	PRO
1	A	27	GLN
2	H	82(B)	SER
2	H	116	THR
2	B	68	SER
2	B	119	PRO
1	A	68	GLY
2	B	227	PRO
2	B	10	GLY
2	B	104	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	194/194 (100%)	135 (70%)	59 (30%)	0	0

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WORLDWIDE
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PROTEIN DATA BANK

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	L	194/194 (100%)	134 (69%)	60 (31%)	0	0
2	B	187/191 (98%)	135 (72%)	52 (28%)	0	0
2	H	191/191 (100%)	142 (74%)	49 (26%)	0	0
All	All	766/770 (100%)	546 (71%)	220 (29%)	0	0

All (220) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	L	1	GLU
1	L	14	SER
1	L	15	LEU
1	L	18	GLN
1	L	20	SER
1	L	24	ARG
1	L	27(B)	ILE
1	L	27(E)	SER
1	L	30	ASN
1	L	31	THR
1	L	34	GLU
1	L	42	GLN
1	L	43	SER
1	L	52	SER
1	L	55	PHE
1	L	60	ASP
1	L	65	SER
1	L	67	SER
1	L	69	THR
1	L	72	THR
1	L	75	ILE
1	L	76	ASN
1	L	81	GLU
1	L	83	LEU
1	L	90	GLN
1	L	93	HIS
1	L	94	LEU
1	L	103	LYS
1	L	107	LYS
1	L	108	ARG
1	L	116	SER
1	L	121	SER
1	L	122	SER

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Mol	Chain	Res	Type
1	L	126	THR
1	L	127	SER
1	L	132	VAL
1	L	144	ILE
1	L	147	LYS
1	L	149	LYS
1	L	150	ILE
1	L	155	ARG
1	L	160	LEU
1	L	161	ASN
1	L	165	ASP
1	L	168	SER
1	L	171	SER
1	L	175	MET
1	L	177	SER
1	L	181	LEU
1	L	183	LYS
1	L	185	GLU
1	L	188	ARG
1	L	191	SER
1	L	197	THR
1	L	199	LYS
1	L	200	THR
1	L	202	THR
1	L	207	LYS
1	L	209	PHE
1	L	211	ARG
2	H	1	GLN
2	H	3	GLN
2	H	5	LYS
2	H	11	LEU
2	H	15	SER
2	H	24	VAL
2	H	51	ILE
2	H	53	SER
2	H	56	SER
2	H	63	LEU
2	H	66	ARG
2	H	70	SER
2	H	71	LYS
2	H	77	GLN
2	H	79	PHE

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Mol	Chain	Res	Type
2	H	82(B)	SER
2	H	85	ASP
2	H	94	LYS
2	H	100	TYR
2	H	105	GLN
2	H	112	SER
2	H	113	SER
2	H	117	THR
2	H	121	VAL
2	H	128	CYS
2	H	133	THR
2	H	136	SER
2	H	137	SER
2	H	138	VAL
2	H	140	LEU
2	H	145	LYS
2	H	153	THR
2	H	163	SER
2	H	166	LEU
2	H	167	SER
2	H	177	LEU
2	H	178	LEU
2	H	179	GLN
2	H	186	THR
2	H	192	THR
2	H	195	SER
2	H	196	SER
2	H	202	SER
2	H	219	VAL
2	H	220	ASP
2	H	221	LYS
2	H	222	LYS
2	H	226	GLU
2	H	228	ARG
1	A	5	THR
1	A	9	LEU
1	A	14	SER
1	A	15	LEU
1	A	18	GLN
1	A	20	SER
1	A	21	ILE
1	A	27(A)	SER

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Mol	Chain	Res	Type
1	A	27(B)	ILE
1	A	27(D)	HIS
1	A	27(E)	SER
1	A	28	ASN
1	A	31	THR
1	A	33	LEU
1	A	34	GLU
1	A	39	LYS
1	A	42	GLN
1	A	43	SER
1	A	52	SER
1	A	60	ASP
1	A	65	SER
1	A	67	SER
1	A	69	THR
1	A	72	THR
1	A	75	ILE
1	A	77	ARG
1	A	83	LEU
1	A	93	HIS
1	A	105	GLU
1	A	107	LYS
1	A	108	ARG
1	A	116	SER
1	A	121	SER
1	A	122	SER
1	A	125	LEU
1	A	126	THR
1	A	127	SER
1	A	132	VAL
1	A	143	ASP
1	A	144	ILE
1	A	147	LYS
1	A	155	ARG
1	A	157	ASN
1	A	161	ASN
1	A	168	SER
1	A	171	SER
1	A	175	MET
1	A	177	SER
1	A	181	LEU
1	A	183	LYS

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Mol	Chain	Res	Type
1	A	185	GLU
1	A	188	ARG
1	A	191	SER
1	A	197	THR
1	A	199	LYS
1	A	200	THR
1	A	202	THR
1	A	207	LYS
1	A	210	ASN
2	B	1	GLN
2	B	3	GLN
2	B	12	VAL
2	B	16	GLN
2	B	35	ASP
2	B	38	ARG
2	B	51	ILE
2	B	53	SER
2	B	56	SER
2	B	63	LEU
2	B	64	MET
2	B	67	LEU
2	B	70	SER
2	B	71	LYS
2	B	80	LEU
2	B	82	MET
2	B	82(B)	SER
2	B	83	GLN
2	B	85	ASP
2	B	94	LYS
2	B	105	GLN
2	B	110	THR
2	B	113	SER
2	B	115	LYS
2	B	117	THR
2	B	121	VAL
2	B	128	CYS
2	B	130	ASP
2	B	133	THR
2	B	136	SER
2	B	137	SER
2	B	138	VAL
2	B	140	LEU

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Mol	Chain	Res	Type
2	B	143	LEU
2	B	153	THR
2	B	156	THR
2	B	163	SER
2	B	166	LEU
2	B	167	SER
2	B	169	SER
2	B	179	GLN
2	B	186	THR
2	B	192	THR
2	B	195	SER
2	B	202	SER
2	B	203	GLN
2	B	219	VAL
2	B	220	ASP
2	B	221	LYS
2	B	222	LYS
2	B	226	GLU
2	B	228	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
1	L	42	GLN
1	L	90	GLN
1	L	212	ASN
2	H	31	ASN
2	H	58	ASN
2	H	102	HIS
2	H	172	HIS
1	A	27	GLN
1	A	53	ASN
1	A	76	ASN
1	A	166	GLN
1	A	189	HIS
2	B	39	GLN
2	B	102	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	217/217 (100%)	-0.14	3 (1%)	75	74	21, 45, 62, 74	0
1	L	217/217 (100%)	-0.29	2 (0%)	84	85	20, 45, 62, 74	0
2	B	216/221 (97%)	-0.20	3 (1%)	75	74	17, 45, 72, 91	0
2	H	221/221 (100%)	-0.23	4 (1%)	68	65	17, 45, 71, 91	0
All	All	871/876 (99%)	-0.21	12 (1%)	75	74	17, 45, 66, 91	0

All (12) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	166	LEU	6.3
2	H	167	SER	5.6
2	H	166	LEU	4.1
2	H	163	SER	3.4
1	A	56	SER	3.0
1	A	11	LEU	2.9
1	A	27(B)	ILE	2.8
2	H	8	GLY	2.8
2	B	213	PRO	2.5
2	B	179	GLN	2.3
1	L	192	TYR	2.2
1	L	179	LEU	2.1

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.