Full wwPDB X-ray Structure Validation Report (i)

May 21, 2024 – 02:04 PM EDT

PDB ID	:	8GCJ
Title	:	PCNA
Authors	:	Vandborg, B.C.; Bruning, J.B.
Deposited on	:	2023-03-01
Resolution	:	2.85 Å(reported)

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

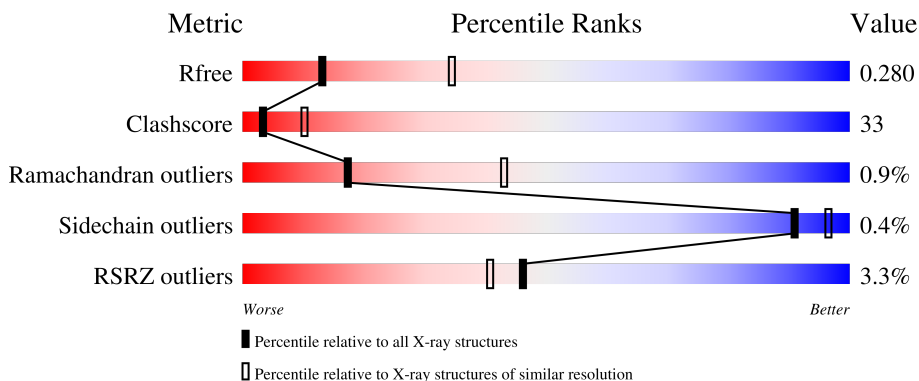|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1   Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.85 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.
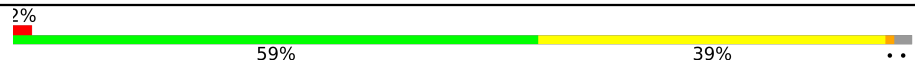
Metric	Percentile Ranks	Value
Rfree		0.280
Clashscore		33
Ramachandran outliers		0.9%
Sidechain outliers		0.4%
RSRZ outliers		3.3%

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	3168 (2.90-2.82)
Clashscore	141614	3438 (2.90-2.82)
Ramachandran outliers	138981	3348 (2.90-2.82)
Sidechain outliers	138945	3351 (2.90-2.82)
RSRZ outliers	127900	3103 (2.90-2.82)

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	261	2% 50% 44% · ·
1	B	261	3% 51% 44% · ·
1	C	261	5% 59% 35% · 5%
1	D	261	6% 55% 40% 5%
1	E	261	% 52% 45% · ·

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Mol	Chain	Length	Quality of chain
1	F	261	

2 Entry composition ⓘ

There are 2 unique types of molecules in this entry. The entry contains 11280 atoms, of which 29 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 Proliferating cell nuclear antigen.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	250	Total	C	H	N	O	S	0	1	0
			1851	1167	1	307	361	15			
1	C	249	Total	C	H	N	O	S	0	0	0
			1829	1151	10	299	354	15			
1	E	256	Total	C	H	N	O	S	0	0	0
			1880	1188	3	312	361	16			
1	F	257	Total	C	H	N	O	S	0	0	0
			1920	1205	4	315	380	16			
1	B	253	Total	C	H	N	O	S	0	0	0
			1868	1175	7	302	368	16			
1	D	249	Total	C	H	N	O	S	0	0	0
			1809	1140	4	302	348	15			

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	21	Total	O	0	0
			21	21		
2	C	36	Total	O	0	0
			36	36		
2	E	62	Total	O	0	0
			62	62		
2	F	1	Total	O	0	0
			1	1		
2	D	3	Total	O	0	0
			3	3		

3 Residue-property plots ⓘ

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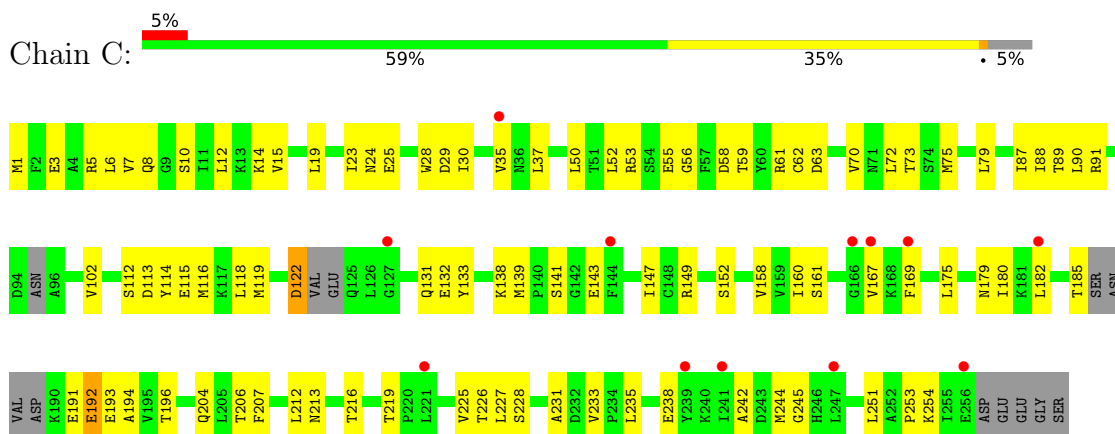tlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown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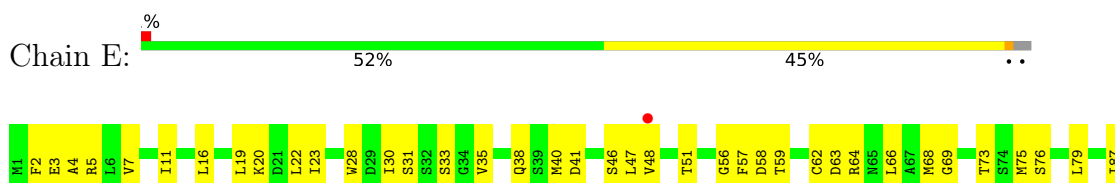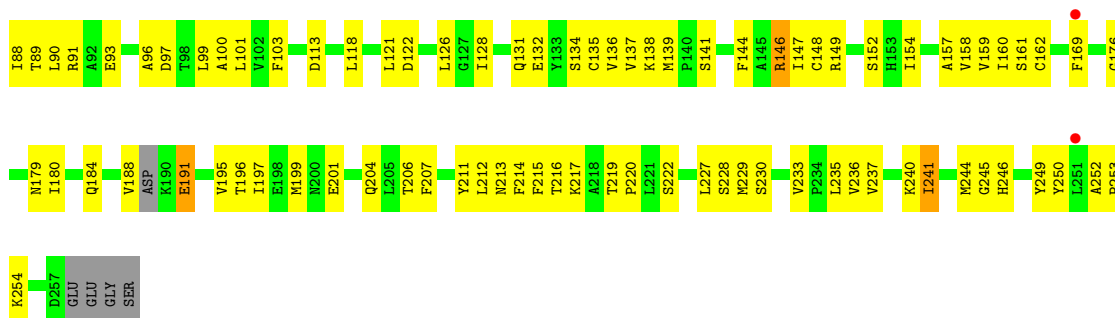
• Molecule 1: Proliferating cell nuclear antigen

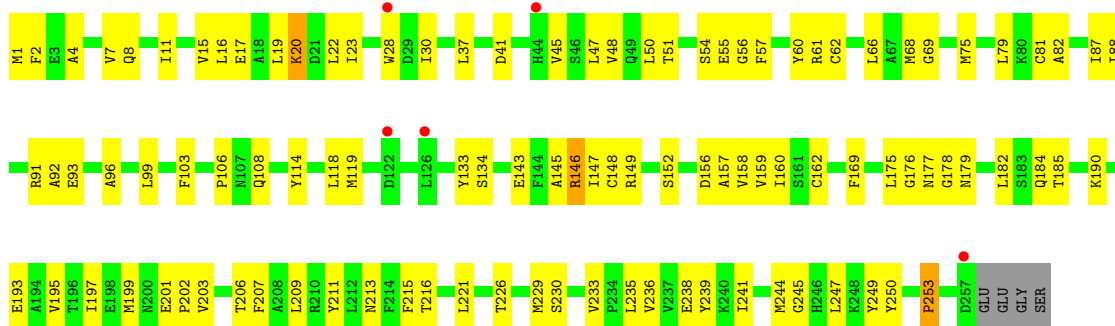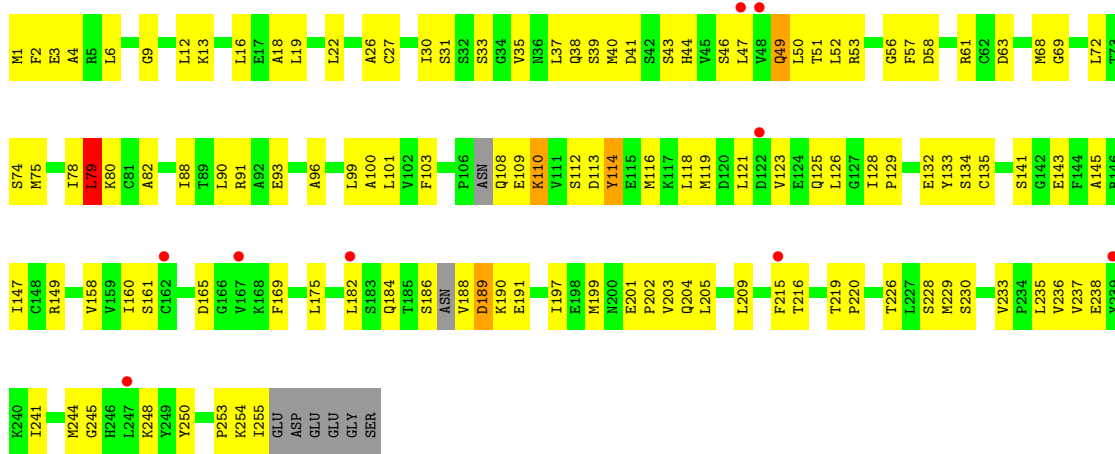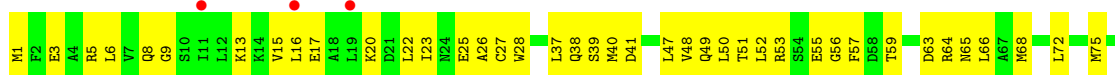Chain A:

• Molecule 1: Proliferating cell nuclear antigen

Chain C:

• Molecule 1: Proliferating cell nuclear antigen

Chain E:

I88 T89 L90 R91 A92 E93 A96 D97 T98 L99 A100 L101 V102 F103 D113 L118 L121 D122 L126 G127 I128 Q131 E132 Y133 S134 C135 V136 V137 K138 M139 P140 S141 F144 A145 R146 I147 C148 R149 S152 H153 I154 A157 V158 V159 I160 S161 C162 F169 G176

N179 I180 Q184 V188 ASP K190 E191 V195 T196 I197 E198 M199 N200 E201 Q204 L205 T206 F207 Y211 L212 N213 F214 F215 T216 K217 A218 T219 P220 L221 S222 L227 S228 M229 S230 V233 P234 L235 V236 V237 K240 I241 M244 G245 H246 Y249 Y250 L251 A252 P253

K254 D257 GLU GLY SER

• Molecule 1: Proliferating cell nuclear antigen

Chain F:

2%

59%　　　　　39%

M1 F2 E3 A4 V7 Q8 I11 V15 L16 E17 A18 L19 K20 D21 L22 I23 W28 D29 I30 L37 D41 H44 V45 S46 L47 V48 Q49 L50 T51 S54 E55 G56 F57 Y60 R61 C62 L66 A67 M68 G69 M75 L79 K80 C81 A82 I87 I88

R91 A92 E93 A96 L99 F103 P106 N107 Q108 Y114 L118 M119 D122 L126 Y133 S134 E143 F144 A145 R146 I147 C148 R149 S152 D156 A157 V158 V159 I160 S161 C162 F169 L175 G176 N177 G178 N179 L182 S183 Q184 T185 K190

E193 A194 V195 T196 I197 E198 M199 N200 E201 P202 V203 T206 F207 A208 L209 R210 Y211 L212 N213 F214 F215 T216 L221 T226 M229 S230 V233 P234 L235 V236 V237 E238 Y239 K240 I241 M244 G245 H246 L247 K248 Y249 Y250 P253 D257 GLU GLU GLY SER

• Molecule 1: Proliferating cell nuclear antigen

Chain B:

3%

51%　　　　　44%

M1 F2 E3 A4 R5 L6 G9 L12 K13 L16 E17 A18 L19 L22 A26 C27 I30 S31 S32 S33 G34 V35 N36 L37 Q38 S39 M40 D41 S42 S43 H44 V45 S46 L47 V48 Q49 L50 T51 L52 R53 G56 F57 D58 R61 C62 D63 M68 G69 L72 T73

S74 M75 I78 L79 K80 C81 A82 I88 T89 L90 R91 A92 E93 A96 L99 A100 L101 V102 F103 P106 ASN Q108 E109 K110 V111 S112 D113 Y114 E115 M116 K117 L118 M119 D120 L121 D122 V123 E124 Q125 L126 G127 I128 P129 E132 Y133 S134 C135 S141 G142 E143 F144 A145 R146

I147 C148 R149 V158 V159 I160 S161 C162 D165 G166 V167 K168 F169 L175 L182 S183 Q184 T185 S186 ASN V188 D189 K190 E191 I197 E198 M199 N200 E201 P202 V203 Q204 L205 L209 F215 T216 T219 P220 T226 L227 S228 M229 S230 V233 P234 L235 V236 V237 E238 Y239

K240 I241 M244 G245 H246 L247 K248 Y249 Y250 P253 K254 I255 GLU ASP GLU GLU GLY SER

• Molecule 1: Proliferating cell nuclear antigen

Chain D:

6%

55%　　　　　40%　　　5%

M1 F2 E3 A4 R5 L6 V7 Q8 G9 S10 I11 L12 K13 K14 V15 L16 E17 A18 L19 K20 D21 L22 I23 N24 E25 A26 C27 W28 L37 Q38 S39 M40 D41 L47 V48 Q49 L50 T51 L52 R53 S54 E55 G56 F57 D58 T59 D63 R64 N65 L66 A67 M68 L72 M75

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	147.10Å 85.19Å 149.81Å 90.00° 116.87° 90.00°	Depositor
Resolution (Å)	48.39 – 2.85 48.39 – 2.85	Depositor EDS
% Data completeness (in resolution range)	97.8 (48.39-2.85) 97.8 (48.39-2.85)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	5.25 (at 2.86Å)	Xtriage
Refinement program	PHENIX 1.18.2_3874	Depositor
R, R_{free}	0.231 , 0.278 0.232 , 0.280	Depositor DCC
R_{free} test set	1989 reflections (5.24%)	wwPDB-VP
Wilson B-factor (Å^2)	60.3	Xtriage
Anisotropy	0.945	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 64.5	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.000 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	11280	wwPDB-VP
Average B, all atoms (Å^2)	73.0	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 46.70 % 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 1.1023e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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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 (i)

5.1   Standard geometry (i)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
1	A	0.44	2/1872 (0.1%)	0.70	3/2535 (0.1%)
1	B	0.35	1/1884 (0.1%)	0.65	2/2554 (0.1%)
1	C	0.37	0/1842	0.74	2/2494 (0.1%)
1	D	0.38	2/1827 (0.1%)	0.66	0/2476
1	E	0.29	0/1902	0.61	1/2580 (0.0%)
1	F	0.31	0/1942	0.64	2/2630 (0.1%)
All	All	0.36	5/11269 (0.0%)	0.67	10/15269 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	64	ARG	CZ-NH2	7.17	1.42	1.33
1	D	238	GLU	CD-OE2	6.23	1.32	1.25
1	A	192	GLU	CD-OE2	6.07	1.32	1.25
1	B	110	LYS	CE-NZ	5.97	1.64	1.49
1	D	238	GLU	CD-OE1	5.36	1.31	1.25

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	122	ASP	CB-CG-OD1	-11.72	107.75	118.30
1	F	146	ARG	NE-CZ-NH2	-8.09	116.25	120.30
1	E	146	ARG	NE-CZ-NH1	-6.40	117.10	120.30
1	A	64	ARG	CA-CB-CG	6.05	126.72	113.40
1	A	192	GLU	OE1-CD-OE2	5.99	130.49	123.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	12	LEU	CB-CG-CD2	-5.46	101.73	111.00
1	B	79	LEU	CB-CG-CD2	-5.28	102.03	111.00
1	C	58	ASP	CB-CG-OD1	-5.08	113.73	118.30
1	B	49	GLN	CA-CB-CG	5.07	124.56	113.40
1	F	146	ARG	NE-CZ-NH1	5.05	122.83	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	95	ASN	Peptide

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	1850	1	1790	136	1
1	B	1861	7	1782	133	0
1	C	1819	10	1747	112	1
1	D	1805	4	1719	114	0
1	E	1877	3	1829	146	2
1	F	1916	4	1857	101	0
2	A	21	0	0	12	0
2	C	36	0	0	21	0
2	D	3	0	0	3	0
2	E	62	0	0	71	1
2	F	1	0	0	1	0
All	All	11251	29	10724	713	3

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 33.

All (713) 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:C:75:MET:HG3	1:C:116:MET:HE1	1.25	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:149:ARG:N	2:E:302:HOH:O	1.82	1.13
1:D:1:MET:N	1:D:94:ASP:OD1	1.83	1.12
1:D:238:GLU:OE1	1:D:248:LYS:HE2	1.55	1.07
1:B:114:TYR:HD2	1:D:178:GLY:HA3	1.00	1.06
1:B:114:TYR:CD2	1:D:178:GLY:HA3	1.92	1.05
1:E:5:ARG:HA	2:E:304:HOH:O	1.54	1.04
1:E:90:LEU:HA	2:E:307:HOH:O	1.57	1.02
1:E:141:SER:HB3	1:E:219:THR:HG23	1.42	1.01
1:B:51:THR:O	1:B:245:GLY:HA3	1.62	1.00
1:E:249:TYR:O	2:E:301:HOH:O	1.81	0.99
1:B:75:MET:HA	1:B:116:MET:HE1	1.43	0.99
1:F:143:GLU:OE1	1:D:110:LYS:NZ	1.95	0.98
1:E:135:CYS:O	2:E:303:HOH:O	1.83	0.95
1:B:93:GLU:HB2	1:B:96:ALA:HB2	1.46	0.95
1:E:88:ILE:O	2:E:304:HOH:O	1.84	0.95
1:C:167:VAL:HG22	1:C:169:PHE:HE1	1.31	0.94
1:A:108:GLN:OE1	1:A:110:LYS:N	2.00	0.93
1:C:12:LEU:HD11	1:C:90:LEU:HD11	1.51	0.93
1:E:101:LEU:HA	2:E:307:HOH:O	1.67	0.92
1:D:238:GLU:OE1	1:D:248:LYS:CE	2.17	0.92
1:E:217:LYS:O	2:E:305:HOH:O	1.87	0.90
1:B:114:TYR:HD2	1:D:178:GLY:CA	1.85	0.90
1:C:15:VAL:O	1:C:19:LEU:HD12	1.72	0.90
1:B:184:GLN:HG2	1:B:197:ILE:HD13	1.51	0.90
1:E:146:ARG:O	2:E:302:HOH:O	1.87	0.89
1:A:53:ARG:HG2	1:A:244:MET:O	1.71	0.89
1:E:228:SER:HA	2:E:303:HOH:O	1.73	0.89
1:C:141:SER:HB2	1:C:219:THR:HG23	1.51	0.88
1:E:136:VAL:HA	2:E:303:HOH:O	1.73	0.88
1:A:134:SER:N	1:A:230:SER:OG	2.06	0.88
1:D:241:ILE:HB	1:D:245:GLY:O	1.74	0.88
1:A:35:VAL:HG12	1:A:52:LEU:HB2	1.56	0.88
1:D:23:ILE:HG23	1:D:72:LEU:HD12	1.55	0.88
1:A:227:LEU:O	2:A:301:HOH:O	1.92	0.87
1:B:13:LYS:HZ3	1:B:80:LYS:HA	1.40	0.87
1:C:131:GLN:NE2	1:C:233:VAL:HG11	1.90	0.86
1:D:104:GLU:OE1	2:D:301:HOH:O	1.94	0.86
1:E:4:ALA:N	2:E:308:HOH:O	2.06	0.86
1:F:16:LEU:CD2	1:F:75:MET:HG2	2.05	0.86
1:A:108:GLN:HE22	1:A:110:LYS:HB2	1.40	0.86
1:E:244:MET:HE3	2:E:334:HOH:O	1.73	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:158:VAL:HG22	2:E:329:HOH:O	1.74	0.85
1:E:206:THR:HG23	2:E:312:HOH:O	1.77	0.84
1:B:141:SER:HB2	1:B:219:THR:HG23	1.59	0.84
1:E:93:GLU:HB3	1:E:96:ALA:HB2	1.58	0.84
1:B:27:CYS:SG	1:B:121:LEU:HD11	2.17	0.84
1:B:13:LYS:NZ	1:B:80:LYS:HA	1.94	0.83
1:A:146[B]:ARG:HG2	1:A:149:ARG:HH21	1.43	0.83
1:C:185:THR:OG1	1:C:194:ALA:HB1	1.79	0.83
1:A:2:PHE:CZ	1:A:30:ILE:HD11	2.14	0.83
1:A:165:ASP:HA	1:A:184:GLN:OE1	1.78	0.83
1:C:167:VAL:HG22	1:C:169:PHE:CE1	2.14	0.83
1:C:1:MET:HE2	1:C:61:ARG:HH22	1.42	0.82
1:C:233:VAL:O	2:C:301:HOH:O	1.97	0.82
1:D:143:GLU:O	1:D:147:ILE:HD12	1.80	0.82
1:B:51:THR:O	1:B:245:GLY:CA	2.26	0.82
1:C:167:VAL:CG2	1:C:169:PHE:HE1	1.91	0.81
1:E:40:MET:HE3	1:E:47:LEU:HD13	1.63	0.81
1:E:227:LEU:O	2:E:303:HOH:O	1.98	0.81
1:D:241:ILE:O	1:D:244:MET:HB3	1.78	0.81
1:A:179:ASN:OD1	1:E:113:ASP:HB3	1.80	0.81
1:F:179:ASN:HB3	1:D:113:ASP:OD1	1.81	0.81
1:F:93:GLU:HB3	1:F:96:ALA:HB2	1.62	0.81
1:C:219:THR:OG1	2:C:302:HOH:O	2.00	0.80
1:A:7:VAL:HG23	1:A:87:ILE:HD12	1.64	0.80
1:C:216:THR:O	1:C:219:THR:OG1	1.99	0.80
1:E:158:VAL:N	2:E:312:HOH:O	2.14	0.80
1:E:40:MET:CE	1:E:47:LEU:HD13	2.12	0.80
1:E:134:SER:N	1:E:230:SER:OG	2.15	0.80
1:C:113:ASP:HB3	1:E:179:ASN:OD1	1.81	0.80
1:E:16:LEU:HB3	2:E:331:HOH:O	1.82	0.80
1:B:16:LEU:HG	1:B:79:LEU:CD1	2.11	0.80
1:D:138:LYS:HG2	1:D:226:THR:HG22	1.64	0.80
1:A:236:VAL:O	2:A:302:HOH:O	2.00	0.79
1:D:158:VAL:HB	1:D:209:LEU:HD21	1.64	0.79
1:F:16:LEU:HD22	1:F:79:LEU:HD12	1.64	0.79
1:B:93:GLU:CB	1:B:96:ALA:HB2	2.12	0.79
1:D:185:THR:HG22	1:D:195:VAL:O	1.83	0.78
1:B:75:MET:HA	1:B:116:MET:CE	2.13	0.78
1:C:1:MET:CE	1:C:61:ARG:HH22	1.95	0.78
1:F:16:LEU:HD21	1:F:75:MET:CG	2.13	0.78
1:E:131:GLN:HB3	2:E:311:HOH:O	1.82	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:240:LYS:NZ	2:E:316:HOH:O	2.17	0.78
1:C:132:GLU:O	2:C:303:HOH:O	2.02	0.78
1:F:88:ILE:HG12	1:F:103:PHE:CD1	2.17	0.77
1:F:158:VAL:HG13	1:F:209:LEU:CD2	2.14	0.77
1:E:89:THR:HA	2:E:304:HOH:O	1.83	0.77
1:C:131:GLN:HE22	1:C:233:VAL:HG11	1.48	0.76
1:E:89:THR:OG1	2:E:306:HOH:O	2.03	0.76
1:C:10:SER:O	1:C:14:LYS:HG3	1.84	0.76
1:A:2:PHE:CE1	1:A:30:ILE:HD11	2.21	0.76
1:C:138:LYS:HG2	1:C:226:THR:HG22	1.66	0.76
1:B:18:ALA:O	1:B:19:LEU:HD23	1.86	0.76
1:B:30:ILE:HD13	1:B:68:MET:HE3	1.66	0.76
1:A:137:VAL:O	2:A:301:HOH:O	2.03	0.75
1:A:35:VAL:CG1	1:A:52:LEU:HB2	2.15	0.75
1:C:193:GLU:HA	2:C:329:HOH:O	1.86	0.75
1:E:148:CYS:HB3	2:E:326:HOH:O	1.85	0.75
1:E:199:MET:HG2	1:E:201:GLU:H	1.50	0.75
1:E:90:LEU:O	2:E:308:HOH:O	2.05	0.75
1:D:144:PHE:HA	1:D:147:ILE:CD1	2.17	0.75
1:C:73:THR:OG1	2:C:304:HOH:O	2.05	0.74
1:E:100:ALA:O	2:E:307:HOH:O	2.05	0.74
1:C:212:LEU:O	1:C:216:THR:HG23	1.86	0.74
1:C:50:LEU:HD11	1:C:52:LEU:CD2	2.17	0.74
1:B:186:SER:O	1:B:188:VAL:N	2.21	0.74
1:A:23:ILE:HG23	1:A:72:LEU:HD22	1.69	0.73
1:A:43:SER:O	1:A:45:VAL:HG22	1.87	0.73
1:B:61:ARG:NH2	1:B:63:ASP:OD2	2.18	0.73
1:D:40:MET:SD	1:D:47:LEU:HD13	2.28	0.73
1:A:5:ARG:HB3	1:A:59:THR:HB	1.69	0.73
1:E:16:LEU:HD21	1:E:75:MET:SD	2.28	0.73
1:E:62:CYS:O	2:E:310:HOH:O	2.06	0.73
1:A:134:SER:H	1:A:230:SER:HG	1.37	0.73
1:F:201:GLU:HG3	1:F:202:PRO:HD2	1.69	0.73
1:F:182:LEU:HD21	1:D:110:LYS:HE2	1.71	0.72
1:F:230:SER:O	1:F:233:VAL:HG22	1.88	0.72
1:B:75:MET:HE2	1:B:79:LEU:HD11	1.72	0.72
1:A:204:GLN:C	1:A:205:LEU:HD22	2.09	0.72
1:C:160:ILE:HD13	1:C:207:PHE:CD1	2.25	0.72
1:F:30:ILE:HB	1:F:66:LEU:HB2	1.71	0.72
1:E:228:SER:O	2:E:309:HOH:O	2.06	0.72
1:F:16:LEU:HD22	1:F:75:MET:HG2	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:221:LEU:HD22	1:F:241:ILE:HG12	1.72	0.72
1:A:99:LEU:HD23	1:A:116:MET:CE	2.20	0.72
1:B:226:THR:OG1	1:B:238:GLU:HB3	1.90	0.72
1:F:156:ASP:OD2	2:F:301:HOH:O	2.08	0.71
1:B:90:LEU:HD23	1:B:99:LEU:HD21	1.71	0.71
1:E:68:MET:HE1	1:E:99:LEU:HD13	1.72	0.71
1:A:110:LYS:HE2	1:C:180:ILE:HD12	1.72	0.71
1:E:3:GLU:OE2	1:E:91:ARG:NH2	2.22	0.71
1:D:212:LEU:O	1:D:216:THR:HG23	1.91	0.71
1:C:227:LEU:HG	2:C:305:HOH:O	1.90	0.71
1:C:143:GLU:O	1:C:147:ILE:HG13	1.90	0.70
1:D:160:ILE:HG21	1:D:229:MET:SD	2.31	0.70
1:A:26:ALA:HB1	1:A:37:LEU:HD11	1.73	0.70
1:A:133:TYR:CD2	1:A:228:SER:HB3	2.26	0.70
1:A:7:VAL:CG2	1:A:87:ILE:HD12	2.22	0.69
1:D:23:ILE:HG23	1:D:72:LEU:CD1	2.22	0.69
1:B:110:LYS:HD2	1:D:180:ILE:HD12	1.74	0.69
1:A:26:ALA:HB3	1:A:72:LEU:HD11	1.74	0.69
1:E:5:ARG:HG3	2:E:306:HOH:O	1.91	0.69
1:F:16:LEU:HD21	1:F:75:MET:HG2	1.72	0.69
1:A:13:LYS:NZ	1:A:79:LEU:O	2.24	0.69
1:E:132:GLU:O	2:E:311:HOH:O	2.10	0.69
1:C:50:LEU:HD11	1:C:52:LEU:HD21	1.75	0.69
1:C:231:ALA:O	1:C:233:VAL:HG23	1.93	0.68
1:A:88:ILE:HG12	1:A:103:PHE:CD1	2.27	0.68
1:B:254:LYS:O	1:B:255:ILE:HB	1.92	0.68
1:F:158:VAL:HG13	1:F:209:LEU:HD21	1.74	0.68
1:A:35:VAL:HG11	1:A:52:LEU:HD12	1.74	0.68
1:A:139:MET:SD	1:A:144:PHE:HB2	2.33	0.68
1:E:20:LYS:N	2:E:319:HOH:O	2.26	0.68
1:E:35:VAL:HG13	2:E:336:HOH:O	1.93	0.68
1:A:49:GLN:HB3	1:A:248:LYS:HB2	1.74	0.68
1:D:207:PHE:HB3	1:D:251:LEU:HD21	1.74	0.68
1:C:23:ILE:HB	1:C:72:LEU:CD1	2.24	0.68
1:C:253:PRO:HD3	2:C:301:HOH:O	1.94	0.68
1:F:199:MET:CE	1:F:202:PRO:HA	2.24	0.68
1:A:45:VAL:HG21	1:A:211:TYR:CZ	2.29	0.68
1:C:204:GLN:HB3	2:C:306:HOH:O	1.94	0.67
1:F:108:GLN:O	1:F:108:GLN:HG2	1.94	0.67
1:F:175:LEU:H	1:F:175:LEU:HD23	1.57	0.67
1:B:184:GLN:HG2	1:B:197:ILE:CD1	2.21	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:160:ILE:HD13	1:C:207:PHE:HD1	1.58	0.67
1:B:241:ILE:HB	1:B:245:GLY:O	1.93	0.67
1:C:6:LEU:HD23	1:C:8:GLN:H	1.59	0.67
1:F:16:LEU:HD21	1:F:75:MET:SD	2.35	0.67
1:C:122:ASP:OD1	1:C:122:ASP:N	2.26	0.67
1:E:220:PRO:HD2	2:E:305:HOH:O	1.93	0.67
1:D:1:MET:HB3	1:D:63:ASP:OD2	1.94	0.67
1:D:75:MET:HG3	1:D:116:MET:HE1	1.77	0.67
1:C:191:GLU:O	1:C:193:GLU:N	2.27	0.67
1:F:4:ALA:HB1	1:F:57:PHE:CD2	2.30	0.67
1:C:10:SER:HB2	1:C:14:LYS:HE3	1.76	0.66
1:C:226:THR:OG1	1:C:238:GLU:HG2	1.95	0.66
1:E:135:CYS:HB3	1:E:199:MET:HG3	1.77	0.66
1:B:75:MET:CA	1:B:116:MET:HE1	2.24	0.66
1:A:204:GLN:O	1:A:205:LEU:HD22	1.95	0.66
1:E:56:GLY:HA3	1:E:244:MET:HG3	1.78	0.66
1:A:45:VAL:HG21	1:A:211:TYR:CE1	2.30	0.66
1:E:59:THR:HG22	2:E:314:HOH:O	1.95	0.65
1:E:160:ILE:HG13	2:E:329:HOH:O	1.96	0.65
1:B:184:GLN:CG	1:B:197:ILE:HD13	2.23	0.65
1:E:179:ASN:OD1	1:E:179:ASN:O	2.14	0.65
1:A:135:CYS:SG	1:A:199:MET:HG2	2.36	0.65
1:A:216:THR:O	1:A:219:THR:OG1	2.05	0.65
1:E:197:ILE:HD13	2:E:354:HOH:O	1.95	0.65
1:B:4:ALA:HB1	1:B:57:PHE:CE2	2.30	0.65
1:A:93:GLU:HG2	1:A:94:ASP:H	1.60	0.65
1:C:6:LEU:HD23	1:C:8:GLN:N	2.12	0.65
1:F:143:GLU:O	1:F:147:ILE:HG13	1.96	0.65
1:E:237:VAL:N	2:E:301:HOH:O	2.01	0.65
1:B:27:CYS:O	1:B:37:LEU:HD13	1.96	0.65
1:D:144:PHE:HA	1:D:147:ILE:HD12	1.79	0.65
1:D:23:ILE:O	1:D:72:LEU:HD12	1.97	0.64
1:A:109:GLU:HG3	1:C:185:THR:HG22	1.79	0.64
1:E:3:GLU:O	2:E:314:HOH:O	2.15	0.64
1:E:19:LEU:HD22	1:E:48:VAL:HG11	1.78	0.64
1:A:146[B]:ARG:NH1	1:A:150:ASP:OD1	2.31	0.64
1:C:254:LYS:CD	1:C:254:LYS:H	2.09	0.64
1:B:1:MET:H2	1:B:63:ASP:HB2	1.63	0.64
1:E:235:LEU:HA	2:E:309:HOH:O	1.97	0.64
1:D:238:GLU:HB2	1:D:248:LYS:HG2	1.78	0.64
1:B:134:SER:N	1:B:230:SER:OG	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:45:VAL:HG21	1:A:211:TYR:OH	1.98	0.64
1:E:184:GLN:HA	1:E:195:VAL:O	1.99	0.63
1:F:134:SER:O	1:F:199:MET:HA	1.98	0.63
1:F:159:VAL:HG22	1:F:206:THR:OG1	1.98	0.63
1:D:241:ILE:O	1:D:241:ILE:HG22	1.99	0.63
1:C:139:MET:CE	1:C:182:LEU:HD13	2.28	0.63
1:E:214:PHE:O	1:E:217:LYS:HG3	1.98	0.63
1:F:55:GLU:OE1	1:F:55:GLU:N	2.23	0.63
1:F:69:GLY:O	1:F:118:LEU:HB2	1.98	0.63
1:C:12:LEU:CD1	1:C:90:LEU:HD11	2.25	0.63
1:E:138:LYS:HB3	1:E:196:THR:HG22	1.79	0.63
1:A:47:LEU:HB3	1:A:250:TYR:HB2	1.79	0.63
1:A:17:GLU:OE1	1:A:20:LYS:NZ	2.32	0.62
1:A:82:ALA:HB2	1:A:103:PHE:CD2	2.34	0.62
1:A:175:LEU:HD11	2:E:348:HOH:O	1.98	0.62
1:B:35:VAL:HG12	1:B:52:LEU:HB2	1.81	0.62
1:E:249:TYR:HB2	2:E:301:HOH:O	1.98	0.62
1:D:5:ARG:HB3	1:D:59:THR:HB	1.82	0.61
1:F:177:ASN:OD1	1:D:115:GLU:HB2	2.00	0.61
1:B:93:GLU:H	1:B:96:ALA:CB	2.13	0.61
1:A:53:ARG:HG2	1:A:244:MET:C	2.20	0.61
1:F:16:LEU:CD2	1:F:75:MET:CG	2.74	0.61
1:D:155:GLY:O	1:D:209:LEU:HD12	2.00	0.61
1:A:220:PRO:HA	2:A:308:HOH:O	2.00	0.61
1:E:161:SER:HB3	1:E:204:GLN:HG3	1.83	0.61
1:B:13:LYS:NZ	1:B:79:LEU:O	2.33	0.61
1:B:112:SER:OG	1:D:180:ILE:HD11	2.01	0.61
1:A:99:LEU:HD23	1:A:116:MET:HE2	1.83	0.61
1:B:22:LEU:HD22	1:B:41:ASP:HB3	1.82	0.61
1:D:66:LEU:HD23	1:D:68:MET:HE3	1.83	0.61
1:D:37:LEU:HD23	1:D:38:GLN:N	2.15	0.61
1:F:184:GLN:HE21	1:F:197:ILE:H	1.49	0.61
1:B:219:THR:N	1:B:220:PRO:HD2	2.16	0.61
1:A:151:LEU:HD21	1:A:180:ILE:HD11	1.83	0.60
1:E:97:ASP:O	1:E:118:LEU:HB2	1.99	0.60
1:A:93:GLU:HG2	1:A:94:ASP:N	2.15	0.60
1:C:213:ASN:ND2	2:C:311:HOH:O	2.34	0.60
1:B:16:LEU:HG	1:B:79:LEU:HD12	1.82	0.60
1:A:99:LEU:HB2	1:A:118:LEU:HD11	1.82	0.60
1:C:225:VAL:O	2:C:305:HOH:O	2.15	0.60
1:B:205:LEU:HD22	1:B:253:PRO:CG	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:128:ILE:HD12	1:B:129:PRO:HD2	1.83	0.60
1:B:51:THR:O	1:B:245:GLY:C	2.40	0.60
1:B:38:GLN:NE2	1:B:126:LEU:O	2.34	0.60
1:D:236:VAL:HG22	1:D:250:TYR:CD2	2.36	0.60
1:C:61:ARG:NH1	1:C:63:ASP:OD2	2.35	0.60
1:F:88:ILE:HG12	1:F:103:PHE:HD1	1.66	0.60
1:A:108:GLN:OE1	1:A:109:GLU:N	2.34	0.60
1:D:3:GLU:OE2	1:D:91:ARG:NE	2.33	0.59
1:D:13:LYS:NZ	1:D:79:LEU:O	2.35	0.59
1:D:238:GLU:OE1	1:D:248:LYS:HE3	2.01	0.59
1:F:23:ILE:HD11	1:F:48:VAL:HG21	1.84	0.59
1:F:157:ALA:N	1:F:209:LEU:HD23	2.17	0.59
1:B:215:PHE:HD2	1:B:237:VAL:HG21	1.67	0.59
1:A:75:MET:O	1:A:79:LEU:HD23	2.02	0.59
1:A:52:LEU:HB3	1:A:244:MET:CE	2.31	0.59
1:A:228:SER:N	2:A:302:HOH:O	2.35	0.59
1:C:161:SER:OG	2:C:306:HOH:O	2.17	0.59
1:F:19:LEU:CD2	1:F:48:VAL:HG11	2.32	0.59
1:F:236:VAL:HG22	1:F:250:TYR:CE2	2.38	0.59
1:B:149:ARG:HA	1:B:149:ARG:NE	2.17	0.59
1:E:38:GLN:OE1	1:E:128:ILE:HD11	2.01	0.59
1:D:49:GLN:OE1	1:D:246:HIS:HE1	1.84	0.59
1:D:93:GLU:HB2	1:D:96:ALA:HB2	1.84	0.59
1:A:100:ALA:C	1:A:101:LEU:HD12	2.23	0.58
1:E:252:ALA:O	2:E:315:HOH:O	2.17	0.58
1:F:133:TYR:HA	1:F:230:SER:OG	2.04	0.58
1:B:141:SER:CB	1:B:219:THR:HG23	2.31	0.58
1:B:201:GLU:N	1:B:201:GLU:OE1	2.36	0.58
1:A:105:ALA:HB2	1:A:110:LYS:HB3	1.86	0.58
1:A:99:LEU:HD23	1:A:116:MET:HE3	1.84	0.58
1:A:26:ALA:HB3	1:A:72:LEU:CD1	2.34	0.58
1:A:110:LYS:CE	1:C:180:ILE:HD12	2.33	0.58
1:F:158:VAL:CG1	1:F:209:LEU:HD21	2.33	0.58
1:C:50:LEU:HD11	1:C:52:LEU:HD22	1.85	0.58
1:F:7:VAL:HA	1:F:87:ILE:HG12	1.84	0.58
1:B:68:MET:HB3	1:B:118:LEU:HD22	1.85	0.57
1:F:236:VAL:HG22	1:F:250:TYR:CD2	2.40	0.57
1:F:229:MET:HG3	1:F:235:LEU:CD1	2.34	0.57
1:B:133:TYR:HA	1:B:230:SER:OG	2.03	0.57
1:A:160:ILE:HG12	1:A:169:PHE:CD1	2.39	0.57
1:A:56:GLY:HA3	1:A:244:MET:CB	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:160:ILE:HG12	1:B:169:PHE:HD1	1.67	0.57
1:A:105:ALA:CB	1:A:110:LYS:HB3	2.34	0.57
1:C:139:MET:HE1	1:C:182:LEU:CD1	2.34	0.57
1:A:254:LYS:CG	1:A:255:ILE:H	2.17	0.57
1:B:189:ASP:O	1:B:191:GLU:N	2.38	0.57
1:B:165:ASP:O	1:B:184:GLN:HG3	2.05	0.57
1:A:112:SER:HB3	1:A:114:TYR:CE1	2.39	0.56
1:A:175:LEU:H	1:A:175:LEU:HD23	1.69	0.56
1:D:51:THR:O	1:D:245:GLY:HA3	2.05	0.56
1:A:108:GLN:NE2	1:A:110:LYS:HB2	2.15	0.56
1:A:137:VAL:N	2:A:301:HOH:O	2.10	0.56
1:A:212:LEU:O	1:A:216:THR:HG23	2.06	0.56
1:C:23:ILE:HB	1:C:72:LEU:HD12	1.88	0.56
1:E:38:GLN:OE1	1:E:126:LEU:O	2.23	0.56
1:E:76:SER:HB2	2:E:331:HOH:O	2.04	0.56
1:B:161:SER:HB3	1:B:204:GLN:HG2	1.87	0.56
1:F:175:LEU:HD23	1:F:175:LEU:N	2.19	0.56
1:B:1:MET:HE1	1:B:91:ARG:HE	1.69	0.56
1:B:4:ALA:HB1	1:B:57:PHE:CD2	2.41	0.56
1:B:114:TYR:HA	1:D:178:GLY:HA2	1.86	0.56
1:D:68:MET:HB3	1:D:118:LEU:HD22	1.88	0.56
1:D:53:ARG:HB3	1:D:55:GLU:OE1	2.05	0.56
1:D:66:LEU:HD23	1:D:68:MET:CE	2.35	0.56
1:A:226:THR:OG1	1:A:238:GLU:HB3	2.04	0.56
1:F:226:THR:OG1	1:F:238:GLU:HB3	2.06	0.56
1:D:88:ILE:HG23	1:D:103:PHE:CE1	2.41	0.56
1:F:30:ILE:HD11	1:F:68:MET:HE1	1.89	0.55
1:B:229:MET:HG2	1:B:235:LEU:HD13	1.88	0.55
1:A:20:LYS:HE2	2:A:316:HOH:O	2.06	0.55
1:D:87:ILE:O	2:D:301:HOH:O	2.18	0.55
1:A:56:GLY:HA3	1:A:244:MET:HB2	1.89	0.55
1:A:236:VAL:HG22	1:A:250:TYR:CD1	2.40	0.55
1:C:131:GLN:HE22	1:C:233:VAL:CG1	2.19	0.55
1:A:18:ALA:C	1:A:19:LEU:HD12	2.27	0.55
1:D:22:LEU:HD11	1:D:41:ASP:HB3	1.87	0.55
1:C:114:TYR:OH	1:E:180:ILE:HD11	2.06	0.55
1:A:35:VAL:CG1	1:A:52:LEU:HD12	2.37	0.55
1:B:74:SER:O	1:B:78:ILE:HD12	2.06	0.55
1:B:114:TYR:CD2	1:D:178:GLY:CA	2.71	0.55
1:C:23:ILE:HB	1:C:72:LEU:HD11	1.89	0.55
1:A:61:ARG:NH1	1:A:63:ASP:OD2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:16:LEU:HD22	1:E:75:MET:HG2	1.88	0.55
1:E:157:ALA:HB1	2:E:312:HOH:O	2.07	0.55
1:B:78:ILE:HD13	1:B:116:MET:HE2	1.89	0.54
1:B:216:THR:O	1:B:219:THR:OG1	2.10	0.54
1:D:234:PRO:HB3	1:D:252:ALA:HA	1.89	0.54
1:E:28:TRP:HB3	2:E:336:HOH:O	2.06	0.54
1:E:33:SER:HB2	2:E:318:HOH:O	2.07	0.54
1:F:23:ILE:HD11	1:F:48:VAL:CG2	2.37	0.54
1:D:51:THR:O	1:D:52:LEU:HD23	2.07	0.54
1:F:50:LEU:HD13	1:F:247:LEU:HD13	1.89	0.54
1:B:132:GLU:OE2	1:B:132:GLU:HA	2.06	0.54
1:A:105:ALA:HB3	1:A:108:GLN:OE1	2.08	0.54
1:A:160:ILE:HG12	1:A:169:PHE:HD1	1.73	0.54
1:E:141:SER:CB	1:E:219:THR:HG23	2.28	0.54
1:E:40:MET:HE2	1:E:47:LEU:CD1	2.38	0.54
1:F:162:CYS:HB2	1:F:203:VAL:HG22	1.89	0.54
1:F:229:MET:CG	1:F:235:LEU:HD13	2.38	0.54
1:E:207:PHE:CE1	1:E:253:PRO:HG3	2.43	0.54
1:B:103:PHE:HB2	1:B:112:SER:HB2	1.88	0.54
1:A:52:LEU:HB3	1:A:244:MET:HE2	1.87	0.54
1:B:39:SER:OG	1:B:40:MET:N	2.41	0.54
1:B:161:SER:CB	1:B:204:GLN:HG2	2.38	0.54
1:C:206:THR:HG22	1:C:254:LYS:CD	2.38	0.54
1:C:160:ILE:CD1	1:C:207:PHE:HD1	2.21	0.53
1:F:19:LEU:HD22	1:F:48:VAL:HG11	1.90	0.53
1:B:1:MET:CE	1:B:91:ARG:HE	2.20	0.53
1:A:44:HIS:CB	1:D:25:GLU:OE1	2.57	0.53
1:B:121:LEU:C	1:B:121:LEU:HD12	2.29	0.53
1:E:121:LEU:HB2	2:E:330:HOH:O	2.08	0.53
1:E:149:ARG:HG2	2:E:302:HOH:O	2.09	0.53
1:F:145:ALA:HA	1:F:216:THR:HG21	1.89	0.53
1:D:23:ILE:HD12	1:D:40:MET:O	2.08	0.53
1:B:75:MET:CE	1:B:79:LEU:HD11	2.38	0.53
1:D:144:PHE:HA	1:D:147:ILE:HD13	1.91	0.53
1:E:19:LEU:CD2	1:E:48:VAL:HG11	2.38	0.53
1:E:162:CYS:HB3	2:E:354:HOH:O	2.08	0.53
1:D:22:LEU:HD12	1:D:22:LEU:O	2.09	0.53
1:D:6:LEU:HD23	1:D:6:LEU:O	2.09	0.53
1:A:13:LYS:NZ	1:A:80:LYS:HA	2.23	0.52
1:E:88:ILE:HG12	1:E:103:PHE:CD1	2.43	0.52
1:B:69:GLY:O	1:B:119:MET:HG2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:30:ILE:HD13	1:E:66:LEU:HB2	1.91	0.52
1:F:22:LEU:HD23	1:F:48:VAL:HG21	1.91	0.52
1:F:81:CYS:HB3	1:F:114:TYR:OH	2.10	0.52
1:C:115:GLU:O	1:E:176:GLY:HA3	2.09	0.52
1:E:93:GLU:CB	1:E:96:ALA:HB2	2.34	0.52
1:E:31:SER:HB2	2:E:342:HOH:O	2.10	0.52
1:E:229:MET:CG	1:E:235:LEU:HD13	2.39	0.52
1:B:16:LEU:HG	1:B:79:LEU:HD13	1.89	0.52
1:A:109:GLU:HA	1:A:109:GLU:OE1	2.10	0.52
1:C:158:VAL:HG13	1:C:160:ILE:HD11	1.91	0.52
1:E:199:MET:HB3	2:E:355:HOH:O	2.10	0.52
1:B:121:LEU:HD12	1:B:121:LEU:O	2.10	0.52
1:A:51:THR:O	1:A:245:GLY:HA3	2.09	0.52
1:E:16:LEU:HD22	1:E:79:LEU:HD12	1.90	0.52
1:E:63:ASP:C	1:E:64:ARG:HG2	2.31	0.52
1:B:6:LEU:HD23	1:B:12:LEU:HD23	1.90	0.52
1:A:113:ASP:HB3	2:A:320:HOH:O	2.09	0.52
1:A:190:LYS:HG2	1:A:193:GLU:OE1	2.10	0.52
1:C:53:ARG:HB3	1:C:55:GLU:OE1	2.10	0.52
1:B:228:SER:HB2	1:B:236:VAL:HB	1.93	0.52
1:D:47:LEU:HB3	1:D:250:TYR:HB2	1.92	0.52
1:E:148:CYS:O	1:E:152:SER:OG	2.21	0.51
1:B:133:TYR:CD2	1:B:228:SER:HB3	2.45	0.51
1:F:82:ALA:HB2	1:F:103:PHE:CE2	2.44	0.51
1:B:26:ALA:HB3	1:B:72:LEU:HD11	1.90	0.51
1:F:92:ALA:HB2	1:F:99:LEU:HD12	1.91	0.51
1:D:144:PHE:CA	1:D:147:ILE:HD12	2.40	0.51
1:D:216:THR:O	1:D:219:THR:OG1	2.09	0.51
1:E:69:GLY:N	2:E:313:HOH:O	2.15	0.51
1:E:197:ILE:HG21	2:E:354:HOH:O	2.11	0.51
1:B:47:LEU:HB3	1:B:250:TYR:HB2	1.92	0.51
1:B:49:GLN:HB3	1:B:248:LYS:HB2	1.93	0.51
1:D:64:ARG:O	1:D:66:LEU:HD13	2.10	0.51
1:E:188:VAL:O	1:E:191:GLU:HA	2.10	0.51
1:D:27:CYS:HA	1:D:68:MET:O	2.10	0.51
1:E:254:LYS:HE2	2:E:352:HOH:O	2.11	0.51
1:C:70:VAL:HG22	1:C:118:LEU:CD1	2.41	0.51
1:F:118:LEU:HD12	1:F:119:MET:N	2.26	0.51
1:A:137:VAL:CA	2:A:301:HOH:O	2.57	0.51
1:C:15:VAL:HG13	1:C:19:LEU:HD11	1.92	0.51
1:C:3:GLU:HB2	1:C:91:ARG:HG3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:138:LYS:HG2	1:C:226:THR:CG2	2.37	0.50
1:D:6:LEU:HD21	1:D:8:GLN:O	2.11	0.50
1:D:9:GLY:HA3	1:D:88:ILE:CD1	2.41	0.50
1:D:16:LEU:HG	1:D:79:LEU:HD12	1.93	0.50
1:D:87:ILE:HG22	2:D:301:HOH:O	2.11	0.50
1:D:208:ALA:O	1:D:212:LEU:HD13	2.11	0.50
1:E:22:LEU:N	2:E:324:HOH:O	2.44	0.50
1:E:237:VAL:CA	2:E:301:HOH:O	2.54	0.50
1:B:41:ASP:OD1	1:B:44:HIS:N	2.44	0.50
1:B:215:PHE:CD2	1:B:237:VAL:HG21	2.44	0.50
1:B:93:GLU:HB2	1:B:96:ALA:CB	2.30	0.50
1:C:192:GLU:HA	2:C:318:HOH:O	2.11	0.50
1:B:1:MET:N	1:B:63:ASP:HB2	2.26	0.50
1:D:1:MET:O	1:D:1:MET:HG3	2.10	0.50
1:E:207:PHE:CZ	1:E:235:LEU:HB2	2.47	0.50
1:F:230:SER:HB2	1:F:233:VAL:CG2	2.42	0.50
1:A:45:VAL:HG23	1:A:46:SER:N	2.26	0.50
1:E:237:VAL:HB	2:E:301:HOH:O	2.12	0.50
1:F:207:PHE:CZ	1:F:235:LEU:HB2	2.47	0.50
1:B:229:MET:HG2	1:B:235:LEU:CD1	2.42	0.50
1:B:56:GLY:HA3	1:B:244:MET:HG2	1.93	0.50
1:D:25:GLU:OE2	1:D:119:MET:SD	2.70	0.50
1:B:158:VAL:CG1	1:B:209:LEU:HD21	2.41	0.49
1:D:50:LEU:HD13	1:D:247:LEU:HD13	1.93	0.49
1:A:141:SER:HB2	1:A:219:THR:HG23	1.94	0.49
1:F:201:GLU:CG	1:F:202:PRO:HD2	2.39	0.49
1:F:82:ALA:HB2	1:F:103:PHE:CD2	2.47	0.49
1:B:165:ASP:OD1	1:B:165:ASP:N	2.45	0.49
1:B:1:MET:HE2	1:B:91:ARG:HG3	1.94	0.49
1:D:141:SER:HB3	1:D:219:THR:HG23	1.95	0.49
1:A:236:VAL:HG22	1:A:250:TYR:CE1	2.48	0.49
1:E:41:ASP:OD2	1:E:46:SER:OG	2.15	0.49
1:F:230:SER:HB2	1:F:233:VAL:HG21	1.94	0.49
1:C:6:LEU:HD21	1:C:8:GLN:HB2	1.93	0.49
1:C:73:THR:N	2:C:304:HOH:O	2.43	0.49
1:D:6:LEU:HB2	1:D:57:PHE:CD1	2.48	0.49
1:A:219:THR:N	1:A:220:PRO:HD2	2.26	0.49
1:C:139:MET:CE	1:C:182:LEU:CD1	2.89	0.49
1:F:47:LEU:HB3	1:F:250:TYR:HB2	1.95	0.49
1:F:156:ASP:OD1	1:F:156:ASP:N	2.45	0.49
1:C:23:ILE:C	1:C:72:LEU:HD12	2.33	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:75:MET:CG	1:C:116:MET:HE1	2.19	0.49
1:B:112:SER:OG	1:D:180:ILE:CD1	2.61	0.49
1:D:139:MET:HB2	1:D:140:PRO:CD	2.43	0.49
1:C:1:MET:HE3	1:C:61:ARG:HH22	1.77	0.48
1:F:156:ASP:C	1:F:209:LEU:HD23	2.34	0.48
1:F:158:VAL:HG13	1:F:209:LEU:HD22	1.93	0.48
1:A:102:VAL:HG22	1:A:113:ASP:OD1	2.14	0.48
1:B:75:MET:CG	1:B:116:MET:HE1	2.43	0.48
1:A:45:VAL:CG2	1:A:211:TYR:CE1	2.96	0.48
1:E:51:THR:O	1:E:245:GLY:HA3	2.13	0.48
1:E:137:VAL:HG13	1:E:197:ILE:HG12	1.95	0.48
1:B:75:MET:HG3	1:B:116:MET:HE1	1.95	0.48
1:E:213:ASN:N	2:E:326:HOH:O	2.46	0.48
1:F:201:GLU:HG3	1:F:202:PRO:CD	2.41	0.48
1:B:199:MET:HE2	1:B:201:GLU:C	2.34	0.48
1:A:2:PHE:CE1	1:A:4:ALA:HB2	2.48	0.48
1:C:56:GLY:HA3	1:C:244:MET:SD	2.54	0.48
1:E:31:SER:OG	2:E:318:HOH:O	2.20	0.48
1:F:28:TRP:CD2	1:F:37:LEU:HD12	2.49	0.48
1:A:113:ASP:HB2	1:C:179:ASN:HD22	1.78	0.48
1:E:134:SER:N	1:E:230:SER:HG	2.12	0.48
1:E:229:MET:HA	2:E:309:HOH:O	2.12	0.48
1:A:227:LEU:CA	2:A:301:HOH:O	2.62	0.48
1:C:7:VAL:HA	1:C:87:ILE:HG23	1.96	0.48
1:C:89:THR:HG21	2:C:324:HOH:O	2.14	0.48
1:D:93:GLU:HB2	1:D:96:ALA:CB	2.44	0.48
1:A:82:ALA:HB2	1:A:103:PHE:CE2	2.49	0.48
1:A:146[B]:ARG:NH1	1:A:149:ARG:HG2	2.28	0.48
1:E:141:SER:OG	1:E:222:SER:O	2.14	0.48
1:B:30:ILE:O	1:B:30:ILE:HG13	2.14	0.48
1:B:134:SER:HB2	1:B:203:VAL:HG21	1.96	0.48
1:D:38:GLN:HA	1:D:48:VAL:O	2.13	0.47
1:A:3:GLU:OE1	2:A:303:HOH:O	2.20	0.47
1:A:7:VAL:O	1:A:87:ILE:HD13	2.14	0.47
1:A:98:THR:HA	1:A:118:LEU:HD13	1.97	0.47
1:F:185:THR:CB	1:F:195:VAL:H	2.27	0.47
1:B:88:ILE:HG23	1:B:103:PHE:CE1	2.49	0.47
1:D:204:GLN:C	1:D:205:LEU:HD22	2.35	0.47
1:A:47:LEU:HD23	1:A:250:TYR:CD2	2.49	0.47
1:A:134:SER:O	1:A:200:ASN:N	2.44	0.47
1:A:18:ALA:HB1	1:A:218:ALA:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1:MET:CE	1:C:61:ARG:NH2	2.72	0.47
1:C:133:TYR:HA	2:C:303:HOH:O	2.13	0.47
1:E:38:GLN:OE1	1:E:128:ILE:CD1	2.63	0.47
1:E:3:GLU:OE2	1:E:91:ARG:NE	2.47	0.47
1:B:121:LEU:CD1	1:B:123:VAL:CB	2.93	0.47
1:C:112:SER:OG	1:E:180:ILE:HD12	2.15	0.47
1:D:25:GLU:O	1:D:26:ALA:HB2	2.15	0.47
1:A:37:LEU:HB3	1:A:50:LEU:HB3	1.96	0.47
1:C:175:LEU:O	1:C:175:LEU:HD12	2.15	0.47
1:C:133:TYR:CD2	1:C:228:SER:HB3	2.50	0.47
1:E:40:MET:CE	1:E:47:LEU:CD1	2.89	0.47
1:B:69:GLY:HA3	1:B:119:MET:HG3	1.97	0.47
1:B:41:ASP:OD2	1:B:46:SER:OG	2.20	0.46
1:B:230:SER:HB2	1:B:233:VAL:HG21	1.96	0.46
1:A:28:TRP:CD1	1:A:70:VAL:HG21	2.50	0.46
1:A:254:LYS:HG2	1:A:255:ILE:H	1.81	0.46
1:C:30:ILE:HG13	2:C:317:HOH:O	2.14	0.46
1:E:139:MET:HE2	1:E:144:PHE:HB2	1.96	0.46
1:B:93:GLU:H	1:B:96:ALA:HB2	1.79	0.46
1:F:158:VAL:CG1	1:F:209:LEU:HD11	2.46	0.46
1:B:3:GLU:HA	1:B:90:LEU:O	2.15	0.46
1:D:9:GLY:HA3	1:D:88:ILE:HG13	1.97	0.46
1:D:160:ILE:HD11	1:D:169:PHE:CE2	2.50	0.46
1:E:20:LYS:HG3	2:E:325:HOH:O	2.15	0.46
1:B:100:ALA:C	1:B:101:LEU:HD12	2.36	0.46
1:B:112:SER:HA	1:D:180:ILE:HD13	1.96	0.46
1:B:175:LEU:HD23	1:B:175:LEU:H	1.81	0.46
1:A:167:VAL:CG1	1:A:182:LEU:HB3	2.45	0.46
1:F:148:CYS:HB3	1:F:213:ASN:OD1	2.15	0.46
1:C:35:VAL:HG13	2:C:317:HOH:O	2.14	0.46
1:E:7:VAL:HA	1:E:87:ILE:HG23	1.96	0.46
1:F:30:ILE:HD11	1:F:68:MET:CE	2.45	0.46
1:F:51:THR:O	1:F:245:GLY:HA3	2.16	0.46
1:E:211:TYR:HA	1:E:214:PHE:CD2	2.51	0.46
1:D:56:GLY:HA3	1:D:244:MET:HE2	1.97	0.46
1:D:122:ASP:OD1	1:D:122:ASP:N	2.48	0.46
1:A:56:GLY:HA3	1:A:244:MET:HB3	1.97	0.46
1:C:50:LEU:CD1	1:C:52:LEU:HD22	2.46	0.46
1:C:52:LEU:HD12	1:C:244:MET:HG3	1.98	0.46
1:E:22:LEU:HB3	2:E:319:HOH:O	2.15	0.46
1:B:30:ILE:HD13	1:B:68:MET:CE	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:37:LEU:HB3	1:B:50:LEU:HB3	1.97	0.46
1:B:204:GLN:O	1:B:205:LEU:HG	2.16	0.46
1:B:219:THR:N	1:B:220:PRO:CD	2.77	0.46
1:D:82:ALA:HB2	1:D:103:PHE:CE2	2.51	0.46
1:A:234:PRO:HG3	1:A:252:ALA:HB2	1.96	0.46
1:E:215:PHE:N	1:E:215:PHE:CD1	2.84	0.46
1:A:83:GLY:O	1:A:86:ASP:HB2	2.17	0.45
1:D:88:ILE:HG23	1:D:103:PHE:CD1	2.51	0.45
1:A:207:PHE:CZ	1:A:235:LEU:HB2	2.51	0.45
1:A:241:ILE:H	1:A:246:HIS:HA	1.81	0.45
1:C:206:THR:O	1:C:253:PRO:HB3	2.17	0.45
1:E:16:LEU:CD2	1:E:75:MET:CG	2.95	0.45
1:F:1:MET:HE3	1:F:61:ARG:HH11	1.82	0.45
1:F:56:GLY:HA3	1:F:244:MET:HB2	1.99	0.45
1:D:212:LEU:HD11	1:D:251:LEU:CD2	2.47	0.45
1:D:219:THR:N	1:D:220:PRO:HD2	2.32	0.45
1:A:15:VAL:HG11	1:A:50:LEU:CD2	2.46	0.45
1:A:254:LYS:CG	1:A:255:ILE:N	2.80	0.45
1:B:26:ALA:HB1	1:B:37:LEU:HD11	1.99	0.45
1:D:64:ARG:O	1:D:66:LEU:CD1	2.64	0.45
1:E:16:LEU:CD2	1:E:75:MET:SD	3.01	0.45
1:E:40:MET:HE2	1:E:47:LEU:HD13	1.90	0.45
1:E:47:LEU:HB3	1:E:250:TYR:HB2	1.99	0.45
1:E:146:ARG:C	2:E:302:HOH:O	2.44	0.45
1:B:9:GLY:HA3	1:B:88:ILE:HG13	1.99	0.45
1:A:99:LEU:CD2	1:A:101:LEU:HD11	2.47	0.45
1:F:11:ILE:O	1:F:15:VAL:HG23	2.17	0.45
1:F:30:ILE:CB	1:F:66:LEU:HB2	2.44	0.45
1:D:23:ILE:HD11	1:D:39:SER:OG	2.16	0.45
1:A:13:LYS:HZ3	1:A:80:LYS:HA	1.82	0.45
1:C:114:TYR:CE1	1:E:154:ILE:CD1	3.00	0.45
1:F:178:GLY:HA2	1:D:114:TYR:CD1	2.52	0.45
1:D:143:GLU:O	1:D:147:ILE:CD1	2.60	0.45
1:A:28:TRP:HE1	1:A:70:VAL:HG11	1.82	0.45
1:E:220:PRO:HG2	2:E:305:HOH:O	2.17	0.45
1:A:131:GLN:OE1	1:A:132:GLU:N	2.50	0.45
1:E:160:ILE:CG1	2:E:329:HOH:O	2.59	0.45
1:D:218:ALA:HB1	1:D:221:LEU:HD12	1.99	0.45
1:F:20:LYS:HB3	1:F:20:LYS:HE2	1.50	0.44
1:F:56:GLY:O	1:F:244:MET:HE1	2.17	0.44
1:B:82:ALA:HB2	1:B:103:PHE:CD2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:17:GLU:HA	1:D:20:LYS:HZ2	1.82	0.44
1:E:160:ILE:N	2:E:329:HOH:O	2.50	0.44
1:B:99:LEU:HG	1:B:101:LEU:HD11	1.99	0.44
1:A:93:GLU:CG	1:A:94:ASP:H	2.23	0.44
1:C:5:ARG:HB2	1:C:59:THR:HB	2.00	0.44
1:E:147:ILE:HD13	1:E:169:PHE:CE2	2.52	0.44
1:E:147:ILE:HD13	1:E:169:PHE:CD2	2.53	0.44
1:F:30:ILE:HG22	1:F:62:CYS:SG	2.57	0.44
1:D:78:ILE:O	1:D:81:CYS:HB2	2.18	0.44
1:A:101:LEU:HD12	1:A:101:LEU:N	2.33	0.44
1:C:207:PHE:HB3	1:C:251:LEU:HD23	1.98	0.44
1:E:158:VAL:O	1:E:158:VAL:HG13	2.18	0.44
1:F:93:GLU:O	1:F:96:ALA:HB3	2.16	0.44
1:C:56:GLY:HA3	1:C:244:MET:CE	2.48	0.44
1:C:207:PHE:CE2	1:C:235:LEU:HB2	2.53	0.44
1:F:8:GLN:HB3	1:F:11:ILE:HG13	2.00	0.44
1:B:38:GLN:OE1	1:B:49:GLN:OE1	2.36	0.44
1:A:2:PHE:O	1:A:91:ARG:HA	2.17	0.44
1:E:16:LEU:HD23	2:E:331:HOH:O	2.17	0.44
1:E:122:ASP:OD1	1:E:122:ASP:N	2.50	0.44
1:B:13:LYS:NZ	1:B:80:LYS:CA	2.75	0.44
1:D:117:LYS:HG2	1:D:117:LYS:O	2.18	0.44
1:A:15:VAL:HG11	1:A:50:LEU:HD22	1.99	0.43
1:E:20:LYS:CD	1:E:73:THR:HA	2.47	0.43
1:E:246:HIS:HD2	2:E:347:HOH:O	2.00	0.43
1:B:135:CYS:SG	1:B:199:MET:CB	3.05	0.43
1:C:28:TRP:HB3	2:C:317:HOH:O	2.19	0.43
1:E:237:VAL:CB	2:E:301:HOH:O	2.66	0.43
1:A:151:LEU:HD21	1:A:180:ILE:CD1	2.46	0.43
1:E:212:LEU:O	1:E:216:THR:HG23	2.19	0.43
1:D:158:VAL:HB	1:D:209:LEU:CD2	2.41	0.43
1:C:147:ILE:HG21	1:C:169:PHE:CD2	2.54	0.43
1:C:149:ARG:O	1:C:152:SER:OG	2.20	0.43
1:E:159:VAL:C	2:E:329:HOH:O	2.56	0.43
1:E:217:LYS:NZ	2:E:324:HOH:O	2.42	0.43
1:F:17:GLU:OE2	1:F:17:GLU:HA	2.17	0.43
1:C:143:GLU:HG3	1:C:147:ILE:HD11	1.99	0.43
1:B:2:PHE:O	1:B:91:ARG:HA	2.18	0.43
1:D:15:VAL:HG11	1:D:50:LEU:HD21	1.99	0.43
1:B:43:SER:O	1:B:44:HIS:HB3	2.18	0.43
1:B:145:ALA:HA	1:B:216:THR:HG21	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:230:SER:O	1:E:233:VAL:HG22	2.17	0.43
1:B:113:ASP:HB3	1:D:179:ASN:HB2	1.99	0.43
1:D:65:ASN:C	1:D:66:LEU:HD12	2.39	0.43
1:D:75:MET:HG3	1:D:116:MET:CE	2.44	0.43
1:E:16:LEU:HD23	1:E:75:MET:HB3	2.00	0.43
1:B:125:GLN:HG3	1:B:126:LEU:N	2.33	0.43
1:B:205:LEU:HD22	1:B:253:PRO:HG2	1.98	0.43
1:B:135:CYS:SG	1:B:199:MET:HB3	2.59	0.43
1:D:160:ILE:CD1	1:D:169:PHE:CD2	3.02	0.43
1:B:88:ILE:HG23	1:B:103:PHE:CD1	2.54	0.42
1:E:11:ILE:HD13	2:E:346:HOH:O	2.19	0.42
1:F:176:GLY:HA3	1:D:115:GLU:O	2.18	0.42
1:F:229:MET:HG3	1:F:235:LEU:HD12	2.01	0.42
1:B:143:GLU:O	1:B:147:ILE:HG13	2.19	0.42
1:F:199:MET:HE1	1:F:202:PRO:HA	2.01	0.42
1:B:31:SER:O	1:B:33:SER:N	2.52	0.42
1:A:23:ILE:CG2	1:A:72:LEU:HD22	2.44	0.42
1:A:12:LEU:HD11	1:A:90:LEU:HD11	2.02	0.42
1:A:16:LEU:HG	1:A:75:MET:HG2	2.02	0.42
1:E:23:ILE:HD11	1:E:48:VAL:HG21	2.01	0.42
1:F:19:LEU:HD21	1:F:48:VAL:HG11	2.00	0.42
1:B:53:ARG:HH11	1:B:244:MET:C	2.23	0.42
1:A:3:GLU:HA	1:A:90:LEU:O	2.20	0.42
1:A:227:LEU:N	2:A:301:HOH:O	2.24	0.42
1:C:25:GLU:CD	1:C:119:MET:HE1	2.39	0.42
1:F:149:ARG:O	1:F:152:SER:OG	2.28	0.42
1:F:160:ILE:HG12	1:F:169:PHE:CD2	2.55	0.42
1:A:112:SER:OG	1:C:180:ILE:CD1	2.68	0.42
1:C:79:LEU:CD2	1:C:88:ILE:HD13	2.49	0.42
1:C:207:PHE:HB3	1:C:251:LEU:CD2	2.49	0.42
1:E:4:ALA:HB1	1:E:57:PHE:CD2	2.55	0.42
1:F:41:ASP:C	1:F:41:ASP:OD1	2.58	0.42
1:D:56:GLY:HA3	1:D:244:MET:CE	2.50	0.42
1:D:234:PRO:HB3	1:D:251:LEU:C	2.40	0.42
1:F:54:SER:HB2	1:F:60:TYR:CD2	2.55	0.42
1:B:230:SER:HB2	1:B:233:VAL:CG2	2.50	0.42
1:C:90:LEU:HD12	1:C:90:LEU:N	2.35	0.42
1:C:131:GLN:NE2	1:C:233:VAL:CG1	2.74	0.42
1:B:3:GLU:OE2	1:B:91:ARG:NH2	2.53	0.42
1:D:88:ILE:HG23	1:D:103:PHE:HE1	1.83	0.42
1:E:161:SER:CB	1:E:204:GLN:HG3	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:54:SER:CB	1:F:60:TYR:CD2	3.03	0.42
1:B:147:ILE:HD13	1:B:169:PHE:CD2	2.54	0.42
1:A:7:VAL:CG2	1:A:87:ILE:CD1	2.96	0.41
1:E:138:LYS:O	1:E:195:VAL:HA	2.19	0.41
1:A:158:VAL:HA	1:A:170:SER:O	2.20	0.41
1:A:230:SER:O	1:A:233:VAL:HG22	2.20	0.41
1:E:137:VAL:HG22	1:E:197:ILE:HG12	2.02	0.41
1:F:133:TYR:HA	1:F:230:SER:HG	1.85	0.41
1:F:216:THR:HA	1:F:239:TYR:OH	2.19	0.41
1:D:160:ILE:HD11	1:D:169:PHE:CD2	2.55	0.41
1:C:191:GLU:O	1:C:192:GLU:C	2.58	0.41
1:E:2:PHE:O	1:E:91:ARG:HA	2.21	0.41
1:B:108:GLN:HB3	1:B:109:GLU:H	1.43	0.41
1:D:149:ARG:O	1:D:152:SER:HB2	2.20	0.41
1:C:160:ILE:N	1:C:160:ILE:HD12	2.36	0.41
1:E:228:SER:HB2	1:E:236:VAL:HB	2.02	0.41
1:E:241:ILE:HG12	1:E:246:HIS:HA	2.02	0.41
1:F:2:PHE:O	1:F:91:ARG:HA	2.20	0.41
1:B:40:MET:HG3	1:B:47:LEU:HD12	2.01	0.41
1:D:140:PRO:HB2	1:D:143:GLU:HB3	2.01	0.41
1:C:149:ARG:HG2	2:C:332:HOH:O	2.20	0.41
1:E:131:GLN:HB3	1:E:131:GLN:HE21	1.61	0.41
1:B:199:MET:HE1	1:B:202:PRO:HD3	2.02	0.41
1:B:209:LEU:HD23	1:B:209:LEU:HA	1.84	0.41
1:F:201:GLU:CG	1:F:202:PRO:CD	2.99	0.41
1:F:45:VAL:HG21	1:F:211:TYR:OH	2.21	0.41
1:F:190:LYS:HB2	1:F:193:GLU:OE1	2.21	0.41
1:D:196:THR:O	1:D:196:THR:OG1	2.34	0.41
1:A:52:LEU:HD22	1:A:244:MET:CE	2.51	0.41
1:A:158:VAL:HG13	1:A:158:VAL:O	2.20	0.41
1:C:226:THR:HA	2:C:305:HOH:O	2.21	0.41
1:F:146:ARG:HD2	1:F:149:ARG:HH21	1.86	0.41
1:D:207:PHE:HB3	1:D:251:LEU:CD2	2.48	0.41
1:C:6:LEU:CD2	1:C:8:GLN:C	2.90	0.41
1:C:233:VAL:HG12	2:C:321:HOH:O	2.20	0.41
1:F:158:VAL:HG13	1:F:209:LEU:CD1	2.50	0.41
1:D:6:LEU:HB2	1:D:57:PHE:HD1	1.85	0.41
1:A:112:SER:OG	1:C:180:ILE:HD13	2.21	0.40
1:C:89:THR:HB	1:C:102:VAL:HB	2.04	0.40
1:C:133:TYR:CG	1:C:228:SER:HB3	2.56	0.40
1:C:169:PHE:N	1:C:169:PHE:CD1	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:180:ILE:HD13	1:D:180:ILE:HA	1.93	0.40
1:A:238:GLU:HG3	1:A:248:LYS:HG2	2.03	0.40
1:C:23:ILE:HG22	1:C:24:ASN:N	2.36	0.40
1:F:215:PHE:CD1	1:F:249:TYR:CD2	3.10	0.40
1:B:182:LEU:HA	1:B:182:LEU:HD23	1.82	0.40
1:A:28:TRP:CD1	1:A:70:VAL:CG2	3.05	0.40
1:C:37:LEU:C	1:C:37:LEU:HD23	2.42	0.40
1:E:68:MET:HE1	1:E:99:LEU:CD1	2.47	0.40
1:F:54:SER:HB3	1:F:60:TYR:CE2	2.56	0.40
1:E:219:THR:HB	1:E:220:PRO:HD3	2.03	0.40
1:F:207:PHE:CE1	1:F:253:PRO:HG3	2.55	0.40
1:D:28:TRP:CD1	1:D:28:TRP:N	2.90	0.40
1:C:196:THR:O	1:C:196:THR:OG1	2.35	0.40
1:E:207:PHE:HE1	1:E:253:PRO:HG3	1.85	0.40
1:B:58:ASP:O	1:B:58:ASP:OD1	2.40	0.40

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:ARG:NH2	2:E:310:HOH:O[3_455]	2.10	0.10
1:C:62:CYS:O	1:E:64:ARG:NH2[1_565]	2.18	0.02
1:E:5:ARG:NH2	1:E:58:ASP:OD2[2_656]	2.18	0.02

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	245/261 (94%)	224 (91%)	20 (8%)	1 (0%)	34	62
1	B	247/261 (95%)	217 (88%)	27 (11%)	3 (1%)	13	35
1	C	241/261 (92%)	220 (91%)	18 (8%)	3 (1%)	13	35

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	D	241/261 (92%)	224 (93%)	16 (7%)	1 (0%)	34	62
1	E	252/261 (97%)	235 (93%)	15 (6%)	2 (1%)	19	46
1	F	255/261 (98%)	237 (93%)	15 (6%)	3 (1%)	13	35
All	All	1481/1566 (95%)	1357 (92%)	111 (8%)	13 (1%)	17	43

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	192	GLU
1	C	242	ALA
1	E	241	ILE
1	F	106	PRO
1	B	190	LYS
1	D	244	MET
1	C	245	GLY
1	E	191	GLU
1	B	189	ASP
1	F	20	LYS
1	B	79	LEU
1	A	93	GLU
1	F	253	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	193/228 (85%)	191 (99%)	2 (1%)	76	91
1	B	193/228 (85%)	192 (100%)	1 (0%)	88	96
1	C	186/228 (82%)	185 (100%)	1 (0%)	88	96
1	D	182/228 (80%)	180 (99%)	2 (1%)	73	90
1	E	196/228 (86%)	196 (100%)	0	100	100
1	F	204/228 (90%)	204 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	1154/1368 (84%)	1148 (100%)	6 (0%)	91 96

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	146[A]	ARG
1	A	146[B]	ARG
1	C	29	ASP
1	B	114	TYR
1	D	210	ARG
1	D	238	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	44	HIS
1	C	131	GLN
1	C	179	ASN
1	E	131	GLN
1	F	179	ASN
1	F	184	GLN
1	B	38	GLN
1	B	184	GLN
1	D	246	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	250/261 (95%)	0.02	5 (2%)	65	62	45, 74, 98, 122	0
1	B	253/261 (96%)	0.08	9 (3%)	42	37	54, 80, 106, 127	0
1	C	249/261 (95%)	0.05	12 (4%)	30	26	46, 70, 102, 113	0
1	D	249/261 (95%)	0.06	16 (6%)	19	15	58, 79, 107, 117	0
1	E	256/261 (98%)	-0.10	3 (1%)	79	78	30, 57, 96, 114	0
1	F	257/261 (98%)	0.01	5 (1%)	66	64	46, 65, 101, 120	0
All	All	1514/1566 (96%)	0.02	50 (3%)	46	41	30, 72, 104, 127	0

All (50) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	166	GLY	6.0
1	C	221	LEU	5.9
1	F	122	ASP	4.8
1	B	162	CYS	4.5
1	D	221	LEU	3.9
1	A	167	VAL	3.5
1	D	16	LEU	3.4
1	C	35	VAL	3.4
1	D	250	TYR	3.1
1	B	47	LEU	3.1
1	D	245	GLY	3.0
1	B	48	VAL	3.0
1	B	239	TYR	2.9
1	D	169	PHE	2.9
1	D	167	VAL	2.8
1	A	127	GLY	2.7
1	C	169	PHE	2.7
1	C	256	GLU	2.6
1	F	257	ASP	2.6

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Mol	Chain	Res	Type	RSRZ
1	F	126	LEU	2.5
1	B	122	ASP	2.5
1	C	182	LEU	2.5
1	B	167	VAL	2.4
1	D	247	LEU	2.4
1	D	160	ILE	2.4
1	C	247	LEU	2.4
1	D	19	LEU	2.3
1	D	129	PRO	2.3
1	B	182	LEU	2.3
1	C	127	GLY	2.3
1	E	169	PHE	2.3
1	F	44	HIS	2.3
1	A	90	LEU	2.3
1	A	126	LEU	2.3
1	C	144	PHE	2.3
1	D	125	GLN	2.2
1	C	241	ILE	2.2
1	D	171	ALA	2.2
1	C	239	TYR	2.2
1	C	167	VAL	2.2
1	F	28	TRP	2.1
1	B	215	PHE	2.1
1	B	247	LEU	2.1
1	D	11	ILE	2.1
1	D	239	TYR	2.1
1	D	246	HIS	2.0
1	A	211	TYR	2.0
1	E	251	LEU	2.0
1	D	107	ASN	2.0
1	E	48	VAL	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.