Full wwPDB X-ray Structure Validation Report ⓘ

Nov 14, 2024 – 12:28 PM EST

PDB ID	:	9BIF
Title	:	Fab B11-OspCA complex
Authors	:	Rudolph, M.J.; Mantis, N.
Deposited on	:	2024-04-23
Resolution	:	3.09 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

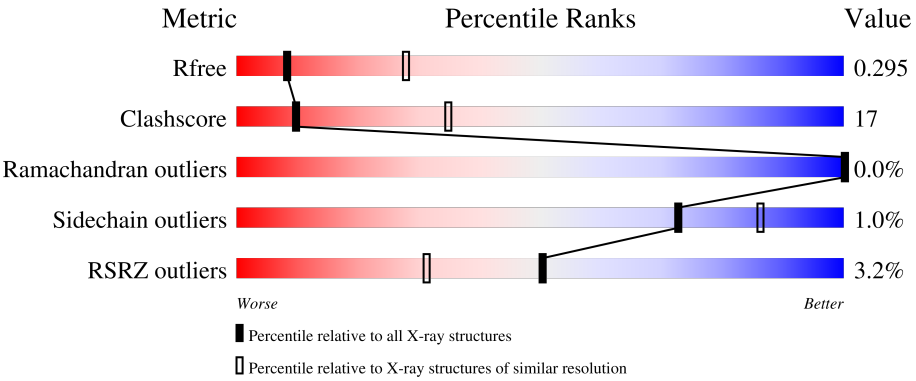
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.20.1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.09 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1351 (3.10-3.10)
Clashscore	180529	1454 (3.10-3.10)
Ramachandran outliers	177936	1391 (3.10-3.10)
Sidechain outliers	177891	1391 (3.10-3.10)
RSRZ outliers	164620	1351 (3.10-3.10)

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	C	228	59% 32% 6%
1	G	228	3% 57% 36% 5%
1	H	228	3% 55% 37% 6%
1	J	228	4% 55% 36% 6%
1	O	228	7% 57% 36% 6%

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Mol	Chain	Length	Quality of chain
1	Q	228	2% 59% 31% 6%
1	U	228	10% 57% 33% 7%
1	W	228	3% 55% 36% 6%
2	D	215	% 75% 23%
2	I	215	% 66% 31%
2	K	215	3% 70% 28%
2	L	215	2% 73% 26%
2	P	215	7% 59% 38%
2	R	215	67% 32%
2	V	215	9% 65% 33%
2	X	215	65% 34%
3	A	164	2% 67% 26% 5%
3	B	164	64% 31%
3	E	164	2% 70% 26%
3	F	164	2% 79% 14% 6%
3	M	164	4% 66% 27% 6%
3	N	164	2% 70% 26%
3	S	164	% 70% 26%
3	T	164	% 73% 22% 5%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
5	CL	S	302	-	-	X	-
5	CL	W	301	-	-	X	-

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 35581 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 VH-CH1 domain of B11 Fab.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	H	214	Total	C	N	O	S	0	0	0
			1592	1005	266	315	6			
1	C	215	Total	C	N	O	S	0	0	0
			1604	1014	267	317	6			
1	G	216	Total	C	N	O	S	0	0	0
			1613	1020	269	318	6			
1	J	215	Total	C	N	O	S	0	0	0
			1604	1014	267	317	6			
1	O	215	Total	C	N	O	S	0	0	0
			1604	1014	267	317	6			
1	Q	215	Total	C	N	O	S	0	0	0
			1604	1014	267	317	6			
1	U	213	Total	C	N	O	S	0	0	0
			1586	1002	265	313	6			
1	W	215	Total	C	N	O	S	0	0	0
			1604	1014	267	317	6			

- Molecule 2 is a protein called VH-VL domain of B11 Fab.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	L	214	Total	C	N	O	S	0	0	0
			1656	1034	285	332	5			
2	D	215	Total	C	N	O	S	0	0	0
			1662	1037	286	333	6			
2	I	212	Total	C	N	O	S	0	0	0
			1638	1024	283	326	5			
2	K	214	Total	C	N	O	S	0	0	0
			1656	1034	285	332	5			
2	P	210	Total	C	N	O	S	0	0	0
			1623	1016	278	324	5			
2	R	214	Total	C	N	O	S	0	0	0
			1656	1034	285	332	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	V	211	Total	C	N	O	S	0	0	0
			1634	1022	282	325	5			
2	X	214	Total	C	N	O	S	0	0	0
			1656	1034	285	332	5			

- Molecule 3 is a protein called Outer surface protein C.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	155	Total	C	N	O	S	0	0	0
			1161	724	198	237	2			
3	B	157	Total	C	N	O	S	0	0	0
			1174	732	200	240	2			
3	E	158	Total	C	N	O	S	0	0	0
			1182	737	201	242	2			
3	F	154	Total	C	N	O	S	0	0	0
			1154	720	197	235	2			
3	M	154	Total	C	N	O	S	0	0	0
			1154	720	197	235	2			
3	N	158	Total	C	N	O	S	0	0	0
			1183	737	201	243	2			
3	S	157	Total	C	N	O	S	0	0	0
			1177	733	200	242	2			
3	T	156	Total	C	N	O	S	0	0	0
			1170	729	199	240	2			

- Molecule 4 is PRASEODYMIUM ION (three-letter code: PR) (formula: Pr).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	L	1	Total	Pr	0	0
			1	1		
4	D	1	Total	Pr	0	0
			1	1		
4	I	1	Total	Pr	0	0
			1	1		
4	K	1	Total	Pr	0	0
			1	1		
4	P	1	Total	Pr	0	0
			1	1		
4	R	1	Total	Pr	0	0
			1	1		
4	S	1	Total	Pr	0	0
			1	1		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	X	1	Total Pr 1 1	0	0

- Molecule 5 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total Cl 1 1	0	0
5	O	1	Total Cl 1 1	0	0
5	S	1	Total Cl 1 1	0	0
5	T	1	Total Cl 1 1	0	0
5	W	1	Total Cl 1 1	0	0
5	X	1	Total Cl 1 1	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	H	10	Total O 10 10	0	0
6	L	7	Total O 7 7	0	0
6	A	7	Total O 7 7	0	0
6	B	10	Total O 10 10	0	0
6	C	10	Total O 10 10	0	0
6	D	15	Total O 15 15	0	0
6	G	11	Total O 11 11	0	0
6	I	13	Total O 13 13	0	0
6	E	4	Total O 4 4	0	0
6	F	6	Total O 6 6	0	0

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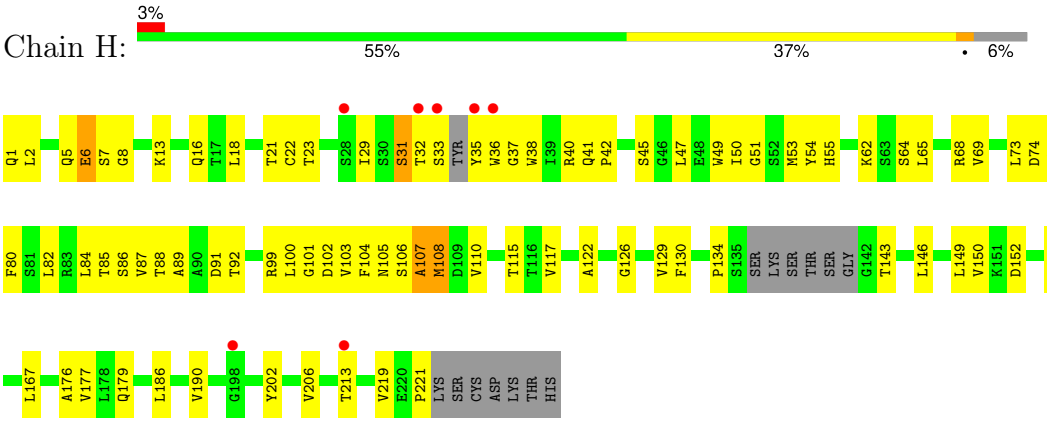
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	J	8	Total O 8 8	0	0
6	K	7	Total O 7 7	0	0
6	O	4	Total O 4 4	0	0
6	P	2	Total O 2 2	0	0
6	M	3	Total O 3 3	0	0
6	N	4	Total O 4 4	0	0
6	Q	19	Total O 19 19	0	0
6	R	14	Total O 14 14	0	0
6	U	4	Total O 4 4	0	0
6	V	6	Total O 6 6	0	0
6	S	11	Total O 11 11	0	0
6	T	7	Total O 7 7	0	0
6	W	22	Total O 22 22	0	0
6	X	16	Total O 16 16	0	0

3 Residue-property plots (i)

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

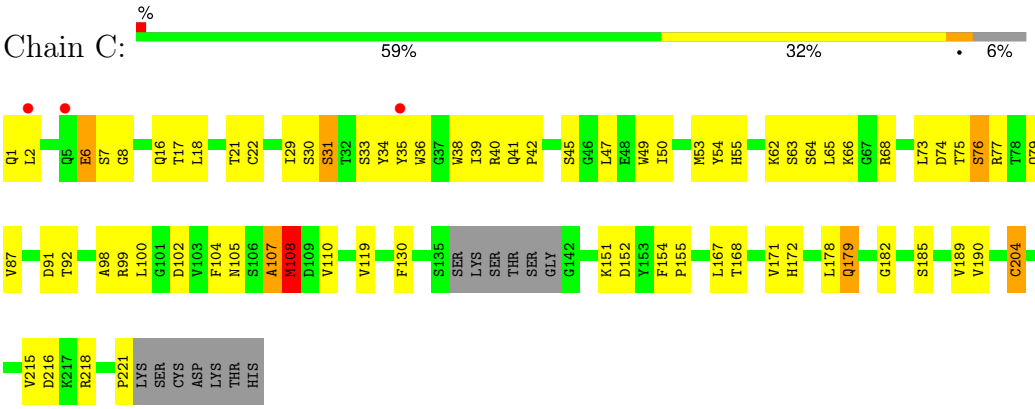
• Molecule 1: VH-CH1 domain of B11 Fab

Chain H:



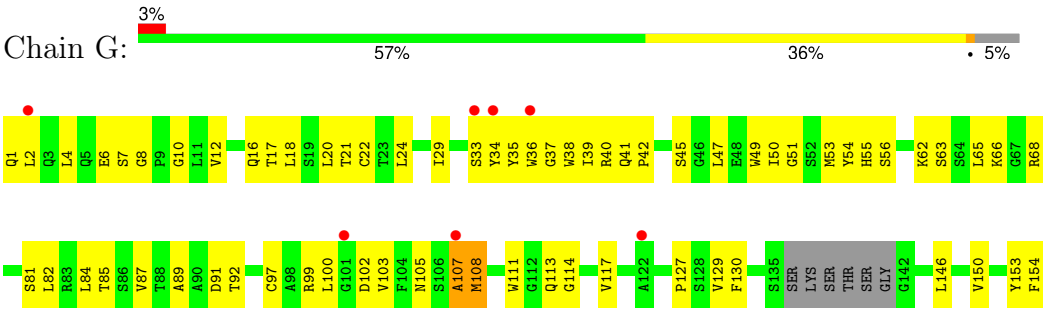
• Molecule 1: VH-CH1 domain of B11 Fab

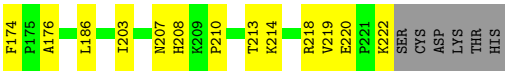
Chain C:



• Molecule 1: VH-CH1 domain of B11 Fab

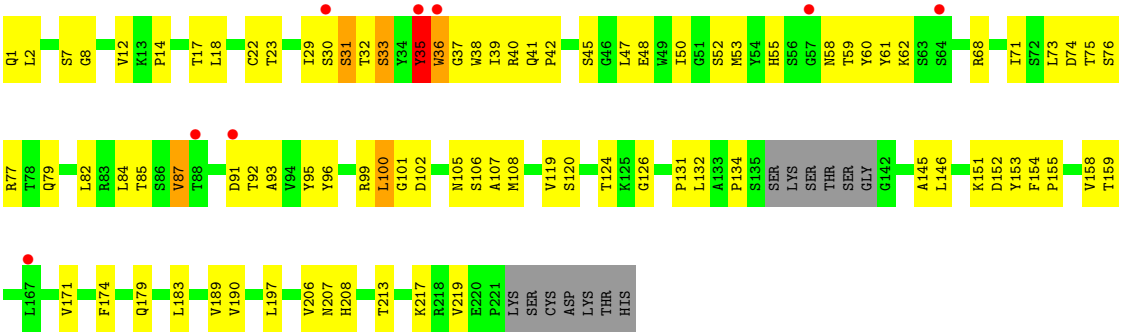
Chain G:





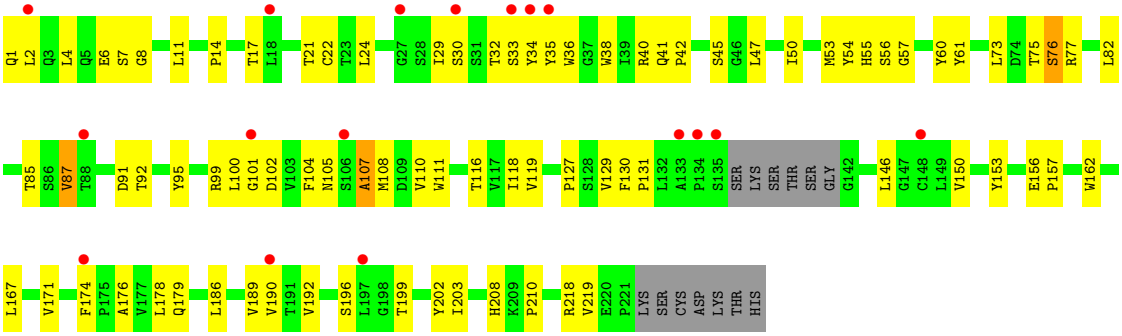
• Molecule 1: VH-CH1 domain of B11 Fab

Chain J:



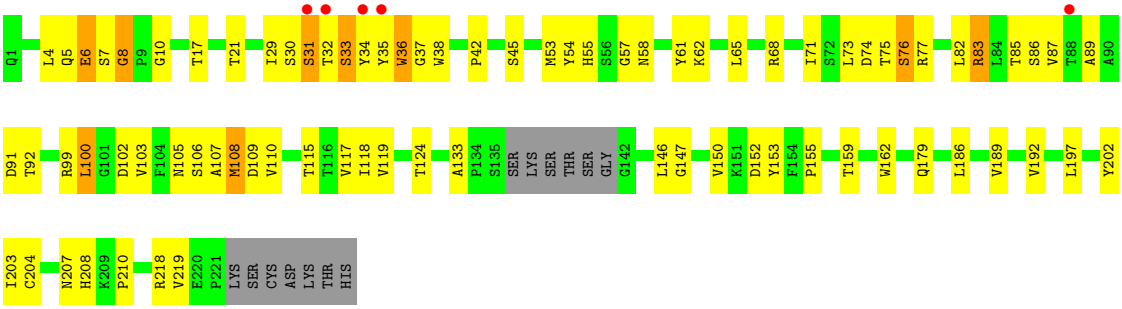
• Molecule 1: VH-CH1 domain of B11 Fab

Chain O:



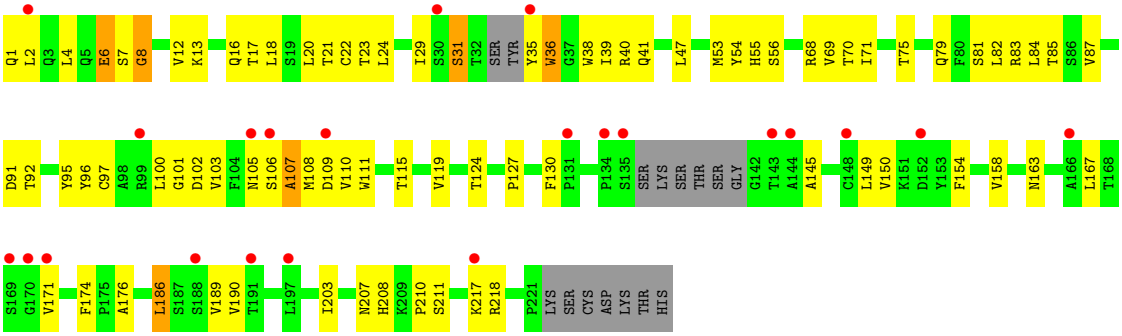
• Molecule 1: VH-CH1 domain of B11 Fab

Chain Q:



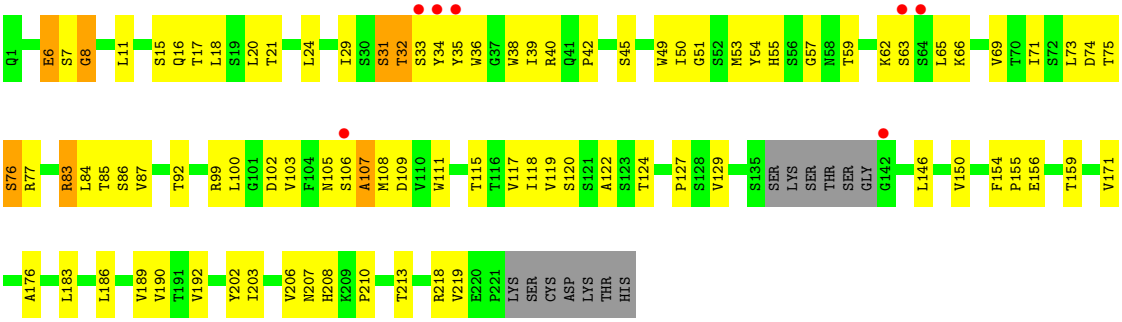
• Molecule 1: VH-CH1 domain of B11 Fab

Chain U:



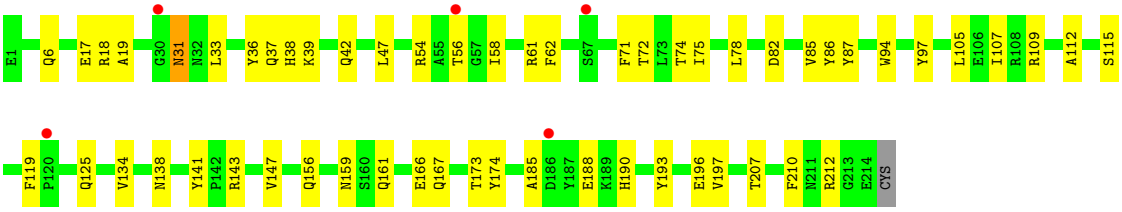
• Molecule 1: VH-CH1 domain of B11 Fab

Chain W:



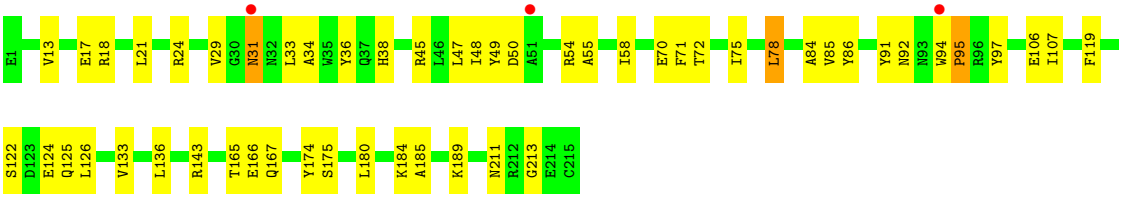
• Molecule 2: VH-VL domain of B11 Fab

Chain L:



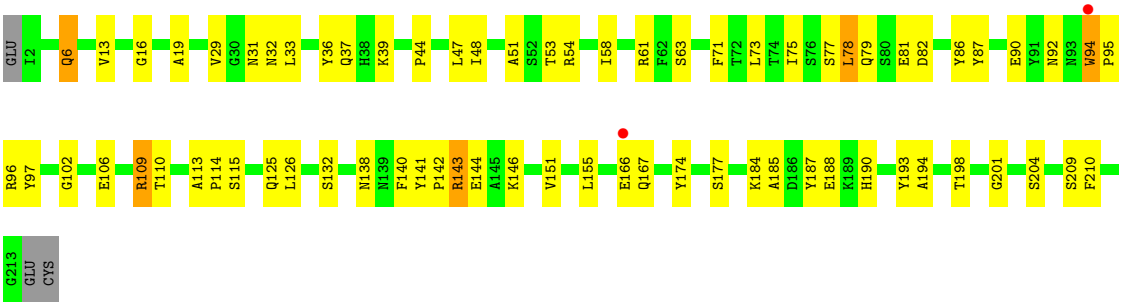
• Molecule 2: VH-VL domain of B11 Fab

Chain D:



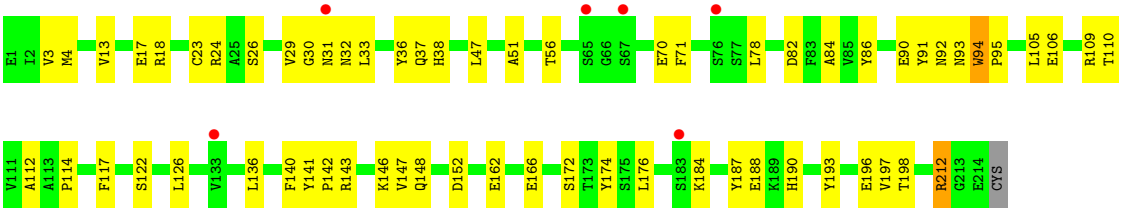
• Molecule 2: VH-VL domain of B11 Fab

Chain I:



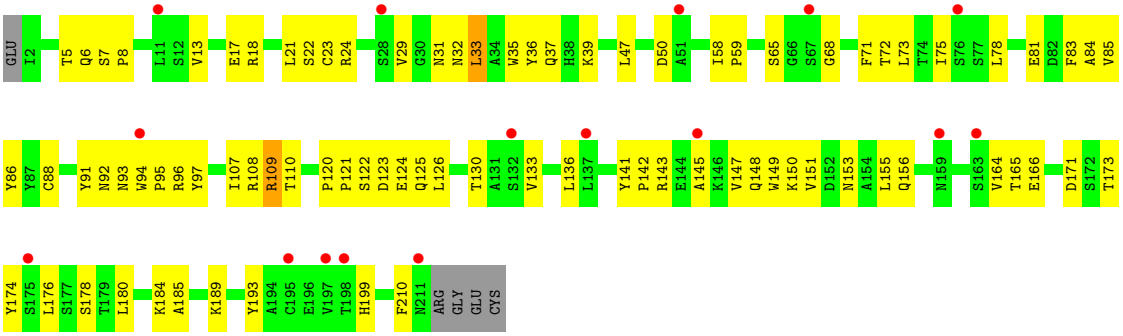
• Molecule 2: VH-VL domain of B11 Fab

Chain K:



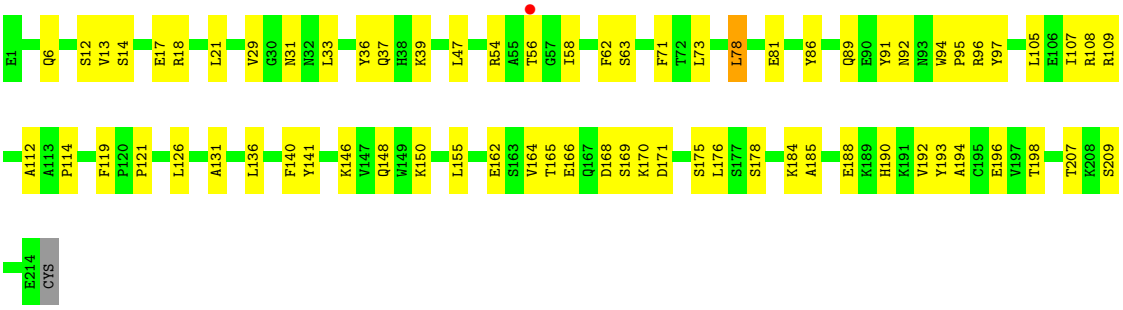
• Molecule 2: VH-VL domain of B11 Fab

Chain P:



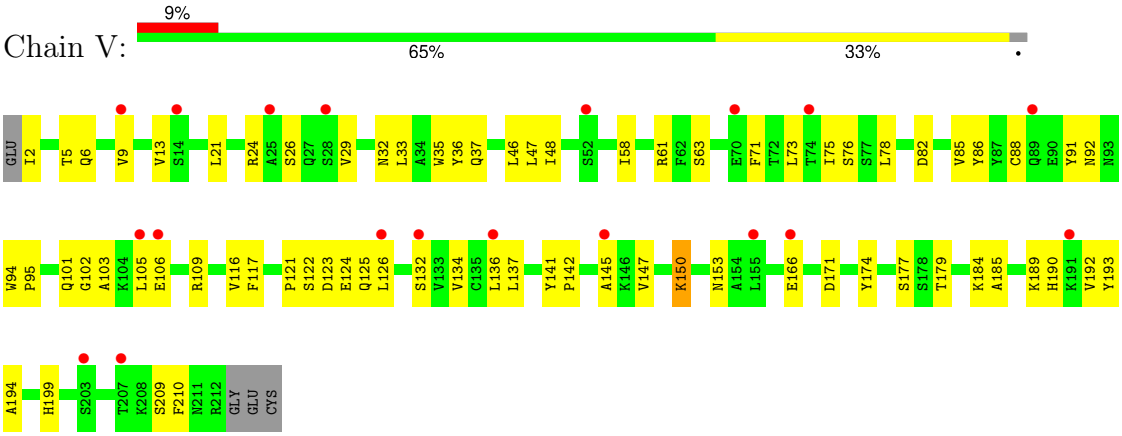
• Molecule 2: VH-VL domain of B11 Fab

Chain R:



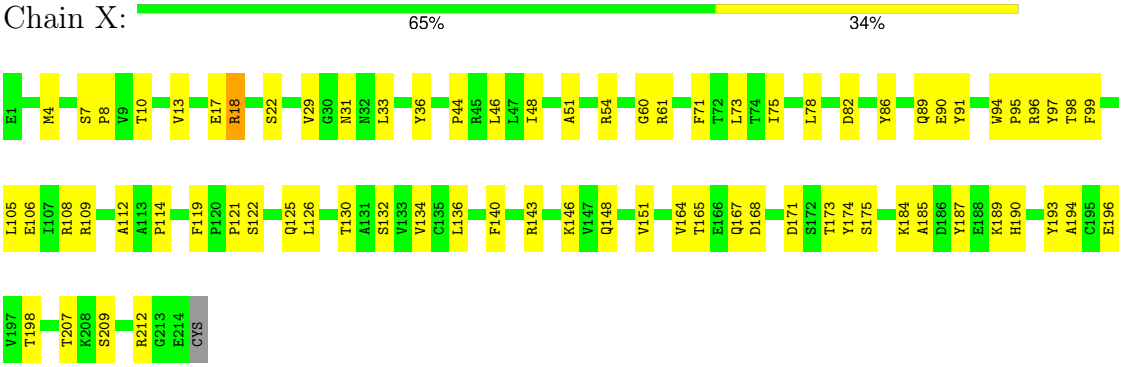
• Molecule 2: VH-VL domain of B11 Fab

Chain V:



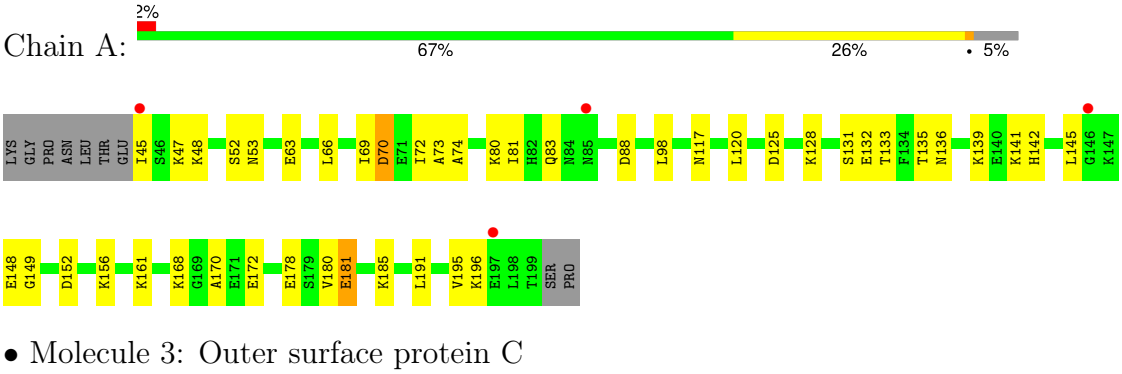
• Molecule 2: VH-VL domain of B11 Fab

Chain X:



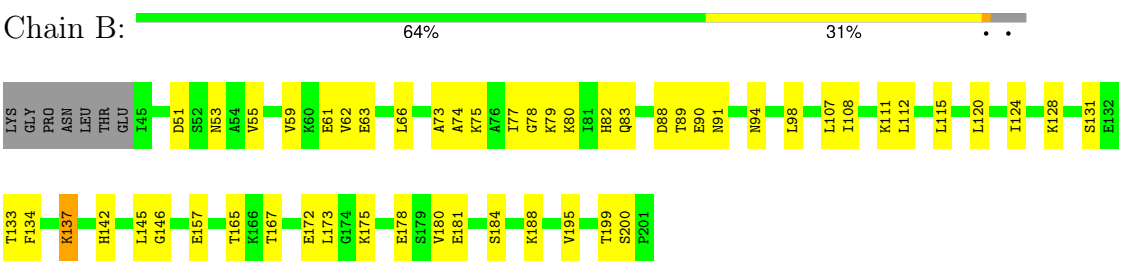
• Molecule 3: Outer surface protein C

Chain A:



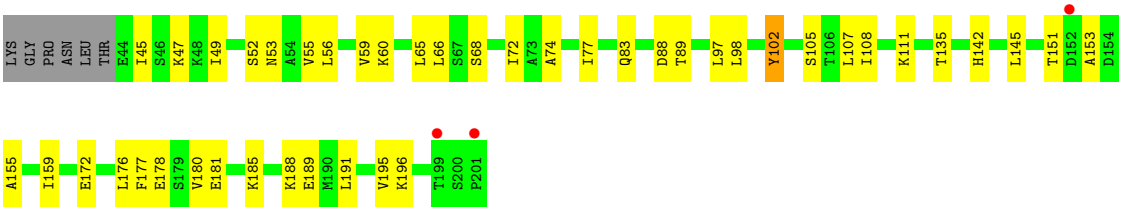
• Molecule 3: Outer surface protein C

Chain B:

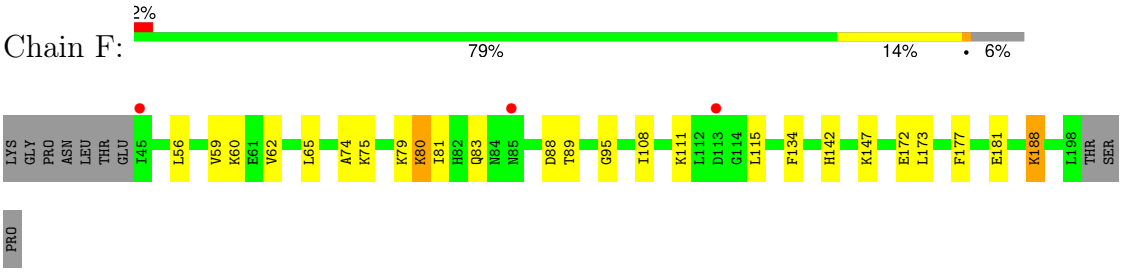


• Molecule 3: Outer surface protein C

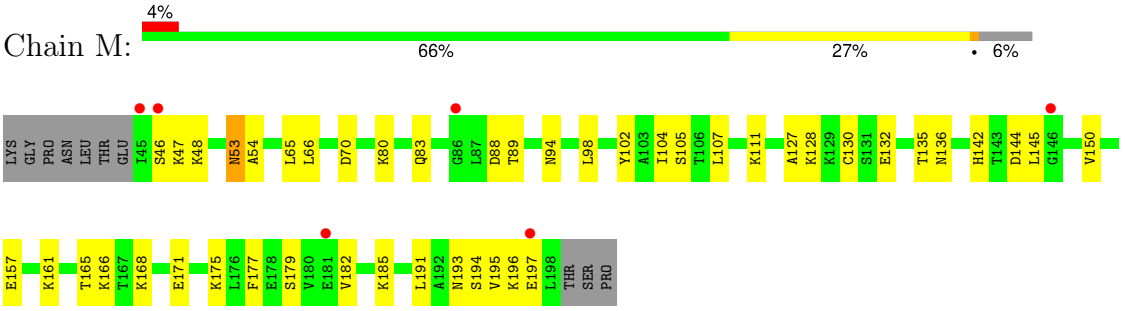
Chain E:



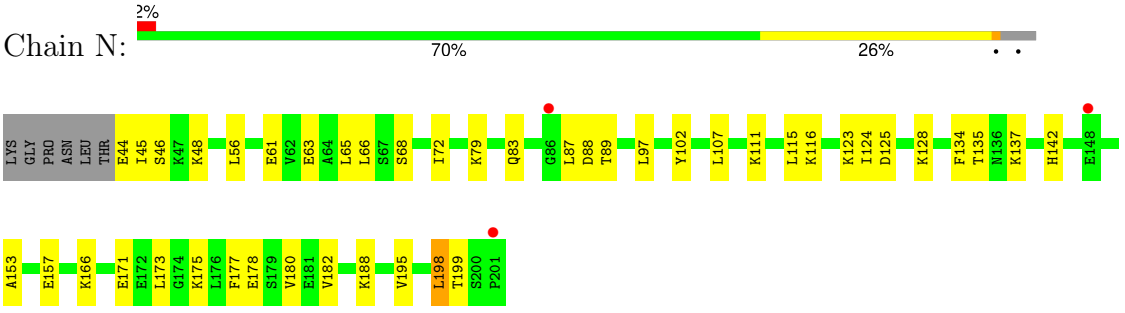
• Molecule 3: Outer surface protein C



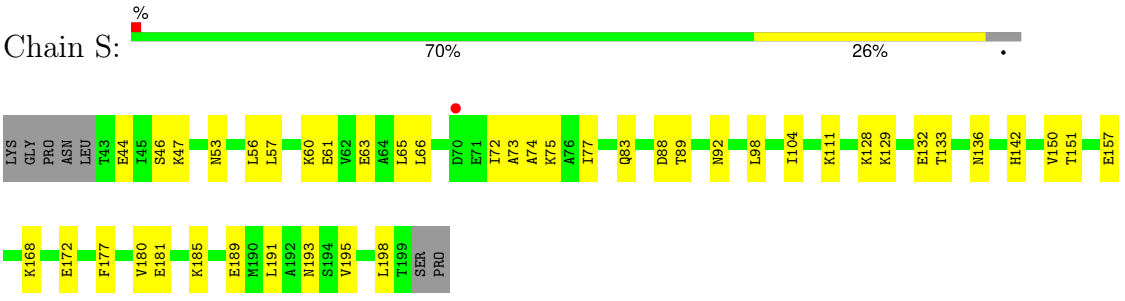
• Molecule 3: Outer surface protein C



• Molecule 3: Outer surface protein C

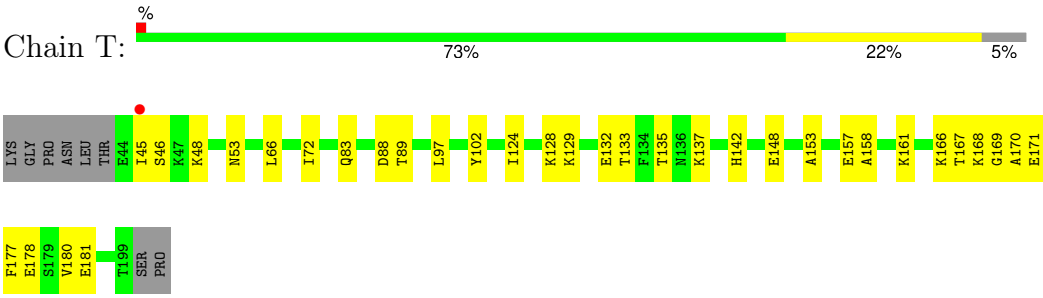


• Molecule 3: Outer surface protein C



• Molecule 3: Outer surface protein C

Chain T:


%
73%
22%
5%
LYS GLY PRO ASN LEU THR E44 I45 S46 K47 K48 N53 L66 I72 Q83 D88 T89 L97 Y102 I124 K128 K129 E132 T133 F134 T135 N136 K137 H142 E148 A153 E157 A158 K161 K166 T167 K168 G169 A170 E171 E172 L173 G174
F177 E178 S179 V180 E181 T199 SER PRO

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	96.74Å 97.29Å 168.34Å 97.60° 90.27° 106.21°	Depositor
Resolution (Å)	48.62 – 3.09 48.62 – 3.09	Depositor EDS
% Data completeness (in resolution range)	90.0 (48.62-3.09) 90.0 (48.62-3.09)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.39 (at 3.07Å)	Xtriage
Refinement program	PHENIX (1.20.1_4487: ???)	Depositor
R, R_{free}	0.240 , 0.295 0.240 , 0.295	Depositor DCC
R_{free} test set	5243 reflections (4.91%)	wwPDB-VP
Wilson B-factor (Å^2)	52.5	Xtriage
Anisotropy	0.672	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 53.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	35581	wwPDB-VP
Average B, all atoms (Å^2)	66.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 15.12% of the height of the origin peak. No significant pseudotranslation is detected.*

[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)

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

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	C	0.30	0/1643	0.69	3/2245 (0.1%)
1	G	0.30	0/1652	0.69	1/2256 (0.0%)
1	H	0.28	0/1629	0.66	1/2224 (0.0%)
1	J	0.30	0/1643	0.68	2/2245 (0.1%)
1	O	0.27	0/1643	0.66	1/2245 (0.0%)
1	Q	0.31	0/1643	0.73	3/2245 (0.1%)
1	U	0.28	0/1623	0.66	2/2216 (0.1%)
1	W	0.30	0/1643	0.70	2/2245 (0.1%)
2	D	0.37	1/1699 (0.1%)	0.64	0/2308
2	I	0.32	0/1675	0.65	1/2276 (0.0%)
2	K	0.31	0/1693	0.64	0/2300
2	L	0.30	0/1693	0.59	0/2300
2	P	0.31	0/1660	0.62	1/2257 (0.0%)
2	R	0.31	0/1693	0.63	0/2300
2	V	0.31	0/1671	0.63	0/2271
2	X	0.31	0/1693	0.62	0/2300
3	A	0.24	0/1166	0.49	0/1559
3	B	0.25	0/1180	0.47	0/1579
3	E	0.26	0/1188	0.49	0/1590
3	F	0.24	0/1159	0.45	0/1549
3	M	0.25	0/1159	0.45	0/1549
3	N	0.24	0/1189	0.49	1/1591 (0.1%)
3	S	0.24	0/1182	0.47	0/1581
3	T	0.26	0/1175	0.46	0/1571
All	All	0.29	1/35994 (0.0%)	0.61	18/48802 (0.0%)

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	C	0	5
1	G	0	2
1	H	0	4
1	J	0	6
1	O	0	3
1	Q	0	6
1	U	0	3
1	W	0	4
2	I	0	2
2	K	0	2
2	P	0	1
All	All	0	38

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	95	PRO	N-CD	-8.29	1.36	1.47

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	Q	107	ALA	C-N-CA	7.24	139.80	121.70
1	H	107	ALA	C-N-CA	7.20	139.71	121.70
1	G	107	ALA	C-N-CA	7.20	139.71	121.70
1	C	107	ALA	C-N-CA	6.82	138.74	121.70
1	C	31	SER	C-N-CA	6.67	138.38	121.70
1	W	107	ALA	C-N-CA	6.34	137.55	121.70
1	J	107	ALA	C-N-CA	6.34	137.55	121.70
1	O	107	ALA	C-N-CA	6.25	137.32	121.70
1	U	107	ALA	C-N-CA	6.11	136.99	121.70
3	N	198	LEU	CA-CB-CG	5.94	128.96	115.30
2	P	33	LEU	CA-CB-CG	5.63	128.25	115.30
1	Q	100	LEU	CA-CB-CG	5.50	127.95	115.30
1	U	186	LEU	CA-CB-CG	5.49	127.94	115.30
1	W	31	SER	C-N-CA	5.45	135.34	121.70
1	C	108	MET	N-CA-C	-5.30	96.70	111.00
2	I	78	LEU	CB-CG-CD1	-5.23	102.11	111.00
1	Q	197	LEU	CA-CB-CG	5.16	127.16	115.30
1	J	100	LEU	CA-CB-CG	5.12	127.08	115.30

There are no chirality outliers.

All (38) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	108	MET	Peptide
1	C	6	GLU	Peptide
1	C	63	SER	Peptide
1	C	76	SER	Peptide
1	C	8	GLY	Peptide
1	G	108	MET	Peptide
1	G	76	SER	Peptide
1	H	108	MET	Peptide
1	H	31	SER	Peptide
1	H	6	GLU	Peptide
1	H	76	SER	Peptide
2	I	31	ASN	Peptide
2	I	6	GLN	Peptide
1	J	31	SER	Peptide
1	J	33	SER	Peptide
1	J	35	TYR	Peptide
1	J	36	TRP	Peptide
1	J	76	SER	Peptide
1	J	87	VAL	Peptide
2	K	93	ASN	Peptide
2	K	94	TRP	Peptide
1	O	6	GLU	Peptide
1	O	76	SER	Peptide
1	O	87	VAL	Peptide
2	P	93	ASN	Peptide
1	Q	108	MET	Peptide
1	Q	31	SER	Peptide
1	Q	33	SER	Peptide
1	Q	6	GLU	Peptide
1	Q	76	SER	Peptide
1	Q	8	GLY	Peptide
1	U	31	SER	Peptide
1	U	6	GLU	Peptide
1	U	8	GLY	Peptide
1	W	32	THR	Peptide
1	W	6	GLU	Peptide
1	W	76	SER	Peptide
1	W	8	GLY	Peptide

5.2 Too-close contacts (i)

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	C	1604	0	1580	66	1
1	G	1613	0	1593	82	0
1	H	1592	0	1570	81	0
1	J	1604	0	1580	79	0
1	O	1604	0	1580	73	0
1	Q	1604	0	1580	75	0
1	U	1586	0	1565	79	0
1	W	1604	0	1580	83	0
2	D	1662	0	1603	47	0
2	I	1638	0	1584	59	0
2	K	1656	0	1599	56	0
2	L	1656	0	1599	47	0
2	P	1623	0	1568	74	0
2	R	1656	0	1599	54	0
2	V	1634	0	1581	60	0
2	X	1656	0	1599	59	1
3	A	1161	0	1222	33	0
3	B	1174	0	1234	39	0
3	E	1182	0	1237	36	0
3	F	1154	0	1215	19	0
3	M	1154	0	1215	42	0
3	N	1183	0	1240	38	0
3	S	1177	0	1235	33	0
3	T	1170	0	1228	26	0
4	D	1	0	0	0	0
4	I	1	0	0	0	0
4	K	1	0	0	0	0
4	L	1	0	0	0	0
4	P	1	0	0	0	0
4	R	1	0	0	0	0
4	S	1	0	0	0	0
4	X	1	0	0	0	0
5	A	1	0	0	0	0
5	O	1	0	0	1	0
5	S	1	0	0	3	0
5	T	1	0	0	0	0
5	W	1	0	0	4	0
5	X	1	0	0	0	0
6	A	7	0	0	2	0
6	B	10	0	0	6	0
6	C	10	0	0	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	D	15	0	0	3	0
6	E	4	0	0	0	0
6	F	6	0	0	0	0
6	G	11	0	0	4	0
6	H	10	0	0	1	0
6	I	13	0	0	6	0
6	J	8	0	0	1	0
6	K	7	0	0	4	0
6	L	7	0	0	3	0
6	M	3	0	0	4	0
6	N	4	0	0	1	0
6	O	4	0	0	2	0
6	P	2	0	0	3	0
6	Q	19	0	0	10	0
6	R	14	0	0	3	0
6	S	11	0	0	4	0
6	T	7	0	0	5	0
6	U	4	0	0	3	0
6	V	6	0	0	1	0
6	W	22	0	0	5	0
6	X	16	0	0	2	0
All	All	35581	0	35186	1219	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 17.

All (1219) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:141:TYR:HD1	2:I:142:PRO:HA	1.11	1.12
2:X:54:ARG:HH12	2:X:60:GLY:HA2	1.23	1.00
2:P:148:GLN:HG3	2:P:155:LEU:HD11	1.43	0.99
2:I:141:TYR:CD1	2:I:142:PRO:HA	1.98	0.98
1:O:101:GLY:O	6:O:401:HOH:O	1.83	0.97
2:K:190:HIS:O	6:K:401:HOH:O	1.80	0.97
2:I:188:GLU:O	6:I:401:HOH:O	1.85	0.95
3:B:51:ASP:O	6:B:301:HOH:O	1.83	0.94
2:L:161:GLN:NE2	6:L:401:HOH:O	1.99	0.94
3:S:75:LYS:NZ	6:S:401:HOH:O	2.00	0.93
1:H:13:LYS:HE2	1:H:122:ALA:HB2	1.48	0.93
2:I:19:ALA:HB2	2:I:78:LEU:HD11	1.49	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:94:TRP:CG	2:D:95:PRO:HD3	2.06	0.90
3:M:185:LYS:N	6:M:301:HOH:O	2.05	0.89
2:V:141:TYR:CD1	2:V:142:PRO:HA	2.07	0.89
2:X:126:LEU:O	6:X:401:HOH:O	1.91	0.88
6:U:304:HOH:O	5:S:302:CL:CL	2.27	0.88
1:W:154:PHE:HD1	1:W:155:PRO:HA	1.35	0.88
3:B:188:LYS:NZ	6:B:303:HOH:O	2.05	0.88
2:P:149:TRP:HE1	2:P:178:SER:HG	1.20	0.87
1:J:1:GLN:HG2	1:J:2:LEU:H	1.37	0.87
1:O:1:GLN:HG2	1:O:2:LEU:H	1.39	0.86
2:D:126:LEU:HD12	2:D:184:LYS:HG3	1.56	0.86
1:J:58:ASN:OD1	6:J:301:HOH:O	1.92	0.86
1:U:1:GLN:HG2	1:U:2:LEU:H	1.40	0.84
3:S:185:LYS:NZ	5:S:302:CL:CL	2.47	0.84
1:W:7:SER:HB2	1:W:21:THR:H	1.41	0.84
1:W:33:SER:HA	1:W:55:HIS:HB3	1.57	0.84
1:U:41:GLN:HB3	1:U:47:LEU:HD23	1.60	0.84
1:J:154:PHE:HD1	1:J:155:PRO:HA	1.42	0.84
1:J:36:TRP:HB3	1:J:52:SER:HB3	1.60	0.83
1:J:146:LEU:HD13	1:J:219:VAL:HG11	1.61	0.83
2:V:26:SER:O	6:V:301:HOH:O	1.97	0.83
5:W:301:CL:CL	6:W:409:HOH:O	2.33	0.83
1:Q:83:ARG:NH2	6:Q:302:HOH:O	2.10	0.82
2:K:122:SER:OG	6:K:402:HOH:O	1.96	0.82
2:K:109:ARG:HH21	2:K:141:TYR:HB3	1.43	0.82
5:W:301:CL:CL	6:W:420:HOH:O	2.35	0.81
1:O:203:ILE:HG12	1:O:218:ARG:HG2	1.61	0.81
1:Q:203:ILE:HG12	1:Q:218:ARG:HG2	1.62	0.81
1:Q:33:SER:HB3	1:Q:55:HIS:ND1	1.95	0.81
2:L:38:HIS:O	6:L:402:HOH:O	1.99	0.81
2:P:47:LEU:HD23	2:P:58:ILE:HD13	1.63	0.81
1:O:24:LEU:HD11	1:O:29:ILE:HG13	1.64	0.80
2:D:47:LEU:HD23	2:D:58:ILE:HD13	1.63	0.79
2:V:109:ARG:H	2:V:141:TYR:HE2	1.29	0.79
1:C:215:VAL:O	6:C:301:HOH:O	2.00	0.78
1:W:35:TYR:H	1:W:99:ARG:HG3	1.48	0.78
1:H:143:THR:O	6:H:301:HOH:O	2.00	0.78
1:C:53:MET:HG2	1:C:54:TYR:H	1.49	0.78
2:D:31:ASN:ND2	2:D:50:ASP:O	2.17	0.78
3:T:170:ALA:N	6:T:402:HOH:O	2.17	0.77
1:O:129:VAL:HG12	1:O:150:VAL:HG12	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:1:GLN:HG2	1:H:2:LEU:H	1.49	0.76
1:Q:7:SER:HB2	1:Q:21:THR:H	1.51	0.76
1:C:204:CYS:O	6:C:301:HOH:O	2.02	0.76
1:H:29:ILE:HD12	1:H:35:TYR:CE1	2.21	0.76
2:K:146:LYS:HB3	2:K:198:THR:HB	1.67	0.75
2:D:165:THR:HG22	2:D:175:SER:H	1.51	0.75
1:J:31:SER:O	1:J:33:SER:OG	2.05	0.75
3:B:128:LYS:O	6:B:302:HOH:O	2.05	0.75
2:D:24:ARG:HH12	2:D:70:GLU:HG2	1.52	0.74
2:I:6:GLN:HE22	2:I:87:TYR:HA	1.52	0.74
1:C:1:GLN:HG2	1:C:2:LEU:H	1.51	0.74
2:D:94:TRP:CD1	2:D:95:PRO:HD3	2.22	0.74
2:P:31:ASN:OD1	2:P:68:GLY:N	2.20	0.74
1:W:100:LEU:HD13	2:X:97:TYR:HE2	1.52	0.74
2:I:47:LEU:HD23	2:I:58:ILE:HD13	1.69	0.74
1:W:42:PRO:HG2	1:W:45:SER:HB3	1.68	0.74
1:Q:29:ILE:HG12	1:Q:35:TYR:HB2	1.70	0.74
2:L:6:GLN:NE2	2:L:86:TYR:O	2.21	0.74
2:L:47:LEU:HD23	2:L:58:ILE:HD13	1.69	0.74
2:P:94:TRP:HE1	3:M:185:LYS:HB3	1.52	0.73
1:C:79:GLN:O	6:C:302:HOH:O	2.07	0.73
3:E:47:LYS:HE3	2:K:56:THR:HG21	1.71	0.73
1:J:53:MET:HG2	1:J:59:THR:HG22	1.71	0.73
1:Q:68:ARG:NH2	1:Q:91:ASP:OD2	2.21	0.73
3:M:70:ASP:OD2	3:M:161:LYS:NZ	2.22	0.72
1:H:68:ARG:NH2	1:H:91:ASP:OD2	2.23	0.72
1:W:102:ASP:OD1	1:W:103:VAL:N	2.22	0.72
1:O:33:SER:OG	1:O:55:HIS:HB3	1.89	0.72
1:Q:4:LEU:HD11	1:Q:35:TYR:HE2	1.55	0.72
1:Q:92:THR:HB	1:Q:119:VAL:H	1.53	0.72
2:R:165:THR:HG22	2:R:175:SER:H	1.53	0.72
1:G:34:TYR:HB3	1:G:55:HIS:HB3	1.70	0.72
3:N:56:LEU:HD11	3:N:188:LYS:HG2	1.71	0.71
1:H:36:TRP:HB2	1:H:53:MET:H	1.55	0.71
1:O:53:MET:HG2	1:O:54:TYR:H	1.55	0.71
1:W:83:ARG:NH2	6:W:403:HOH:O	2.23	0.70
1:H:42:PRO:HG2	1:H:45:SER:HB3	1.72	0.70
1:H:99:ARG:N	1:H:110:VAL:O	2.23	0.70
3:B:137:LYS:NZ	6:B:304:HOH:O	2.20	0.70
2:I:190:HIS:O	6:I:401:HOH:O	2.10	0.70
1:U:106:SER:HG	2:V:91:TYR:HE2	1.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:116:THR:O	6:O:402:HOH:O	2.08	0.70
2:V:109:ARG:NH1	2:V:171:ASP:O	2.25	0.70
3:N:44:GLU:HA	3:N:46:SER:H	1.56	0.70
1:H:146:LEU:HD13	1:H:219:VAL:HG21	1.73	0.70
2:L:56:THR:HG21	3:A:47:LYS:HE3	1.73	0.70
1:G:154:PHE:HD1	1:G:155:PRO:HA	1.57	0.70
1:Q:146:LEU:HD13	1:Q:219:VAL:HG21	1.73	0.69
2:V:47:LEU:HD23	2:V:58:ILE:HD13	1.74	0.69
1:Q:133:ALA:O	6:Q:301:HOH:O	2.10	0.69
1:U:150:VAL:HB	6:U:302:HOH:O	1.92	0.69
1:Q:106:SER:HB3	2:R:91:TYR:HE2	1.56	0.69
3:M:65:LEU:HD12	3:M:104:ILE:HG23	1.73	0.69
3:B:157:GLU:OE2	3:B:167:THR:OG1	2.11	0.69
1:G:53:MET:HG2	1:G:54:TYR:H	1.56	0.69
1:U:68:ARG:NH2	1:U:91:ASP:OD2	2.26	0.69
2:V:141:TYR:HD1	2:V:142:PRO:HA	1.58	0.69
1:G:34:TYR:O	1:G:35:TYR:HD1	1.76	0.69
1:J:37:GLY:H	1:J:100:LEU:HG	1.57	0.69
5:W:301:CL:CL	2:X:95:PRO:HG3	2.30	0.69
3:E:77:ILE:HD11	3:E:159:ILE:HD11	1.75	0.69
1:G:102:ASP:OD1	1:G:103:VAL:N	2.26	0.68
2:P:32:ASN:O	6:P:401:HOH:O	2.11	0.68
1:Q:36:TRP:O	6:Q:303:HOH:O	2.11	0.68
1:Q:36:TRP:CD1	1:Q:100:LEU:HG	2.28	0.68
2:R:94:TRP:CD1	2:R:95:PRO:HA	2.28	0.68
1:O:41:GLN:HB2	1:O:47:LEU:HD23	1.76	0.68
1:U:107:ALA:HB1	1:U:108:MET:HB2	1.76	0.68
1:G:6:GLU:OE1	1:G:113:GLN:N	2.26	0.68
3:E:111:LYS:NZ	1:J:30:SER:OG	2.18	0.68
2:X:143:ARG:HE	2:X:164:VAL:HG21	1.59	0.68
1:H:108:MET:HB3	2:L:36:TYR:OH	1.93	0.68
1:G:7:SER:OG	1:G:8:GLY:N	2.26	0.68
1:G:35:TYR:CE1	1:G:99:ARG:HD3	2.28	0.68
3:S:88:ASP:OD1	3:S:89:THR:N	2.27	0.68
3:T:88:ASP:OD1	3:T:89:THR:N	2.27	0.68
1:C:218:ARG:NH2	6:C:305:HOH:O	2.25	0.68
2:R:164:VAL:HG22	2:R:176:LEU:HD12	1.74	0.67
1:U:176:ALA:HB2	1:U:186:LEU:HD23	1.74	0.67
1:W:154:PHE:CD1	1:W:155:PRO:HA	2.26	0.67
1:O:146:LEU:HD13	1:O:219:VAL:HG21	1.76	0.67
1:H:100:LEU:HD22	1:H:108:MET:HG3	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:126:GLY:HA3	1:H:213:THR:HG21	1.75	0.67
3:S:129:LYS:NZ	6:S:405:HOH:O	2.26	0.67
1:J:68:ARG:NH2	1:J:91:ASP:OD2	2.28	0.67
1:G:24:LEU:HD22	1:G:35:TYR:CD2	2.29	0.67
3:A:98:LEU:HD13	3:A:145:LEU:HD12	1.76	0.67
1:W:203:ILE:HG22	1:W:218:ARG:HB3	1.77	0.67
1:W:7:SER:OG	1:W:8:GLY:N	2.24	0.67
1:J:100:LEU:HD22	1:J:108:MET:SD	2.35	0.67
1:G:68:ARG:NH2	1:G:91:ASP:OD2	2.28	0.67
2:X:4:MET:HE1	2:X:29:VAL:HG11	1.77	0.66
1:W:53:MET:HG2	1:W:54:TYR:H	1.58	0.66
1:U:106:SER:HB2	2:V:94:TRP:CZ2	2.30	0.66
1:H:41:GLN:HB2	1:H:47:LEU:HD23	1.75	0.66
3:A:148:GLU:HB3	3:B:90:GLU:OE2	1.95	0.66
1:G:42:PRO:HG2	1:G:45:SER:HB3	1.77	0.66
1:Q:31:SER:OG	6:Q:304:HOH:O	2.12	0.66
2:V:134:VAL:HG12	2:V:179:THR:HG22	1.76	0.66
3:N:65:LEU:O	3:N:68:SER:OG	2.13	0.66
2:L:6:GLN:HE22	2:L:87:TYR:HA	1.60	0.66
3:M:111:LYS:HE3	1:Q:30:SER:OG	1.96	0.66
1:U:105:ASN:ND2	1:U:109:ASP:OD2	2.25	0.66
3:T:48:LYS:HG2	6:T:403:HOH:O	1.95	0.66
1:Q:33:SER:OG	6:Q:306:HOH:O	2.14	0.66
1:O:208:HIS:CD2	1:O:210:PRO:HD2	2.32	0.65
1:G:222:LYS:O	6:G:301:HOH:O	2.13	0.65
1:C:36:TRP:O	1:C:100:LEU:HG	1.96	0.65
1:Q:152:ASP:OD1	1:Q:179:GLN:NE2	2.29	0.65
1:U:102:ASP:OD1	1:U:103:VAL:N	2.29	0.65
1:G:99:ARG:NH1	6:G:305:HOH:O	2.29	0.65
2:D:45:ARG:NH2	6:D:404:HOH:O	2.29	0.65
2:I:53:THR:HG21	3:E:196:LYS:HD2	1.77	0.65
1:O:131:PRO:HB3	1:O:219:VAL:HG12	1.77	0.65
1:G:220:GLU:HB2	1:G:222:LYS:HE2	1.78	0.65
3:A:196:LYS:NZ	6:A:403:HOH:O	2.30	0.64
1:C:62:LYS:HE3	1:C:65:LEU:HD23	1.80	0.64
3:M:54:ALA:O	6:Q:304:HOH:O	2.14	0.64
1:C:92:THR:HB	1:C:119:VAL:H	1.61	0.64
1:W:40:ARG:HB3	1:W:50:ILE:HD11	1.80	0.64
1:Q:102:ASP:OD1	1:Q:103:VAL:N	2.30	0.64
3:B:61:GLU:OE2	3:B:111:LYS:NZ	2.30	0.64
3:B:80:LYS:HE2	3:B:90:GLU:HB2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:107:LEU:O	3:E:111:LYS:HG2	1.96	0.64
2:P:145:ALA:HB2	2:P:199:HIS:HD2	1.63	0.64
1:C:68:ARG:NH2	1:C:91:ASP:OD2	2.31	0.64
2:P:6:GLN:NE2	2:P:88:CYS:SG	2.70	0.64
1:Q:7:SER:OG	1:Q:8:GLY:N	2.31	0.64
2:L:54:ARG:NH1	2:L:62:PHE:O	2.31	0.64
1:H:53:MET:HG2	1:H:54:TYR:H	1.63	0.64
2:P:5:THR:HB	2:P:24:ARG:HB2	1.79	0.64
1:O:108:MET:HB3	2:P:36:TYR:OH	1.98	0.63
3:N:88:ASP:OD1	3:N:89:THR:N	2.31	0.63
3:A:142:HIS:CD2	3:B:83:GLN:HB3	2.33	0.63
2:V:37:GLN:HG3	2:V:86:TYR:CE1	2.33	0.63
2:K:187:TYR:O	2:K:193:TYR:OH	2.16	0.63
1:H:177:VAL:HG11	2:L:161:GLN:HG3	1.80	0.63
1:U:7:SER:OG	1:U:8:GLY:N	2.31	0.63
1:Q:108:MET:HB3	2:R:36:TYR:OH	1.99	0.63
2:X:54:ARG:NH1	2:X:60:GLY:HA2	2.07	0.63
1:G:17:THR:HG23	1:G:85:THR:HB	1.80	0.63
3:B:91:ASN:ND2	6:B:305:HOH:O	2.31	0.63
3:M:196:LYS:HE2	3:M:196:LYS:HA	1.80	0.63
1:C:35:TYR:H	1:C:99:ARG:HG3	1.64	0.62
3:N:45:ILE:HD13	3:N:48:LYS:HE3	1.81	0.62
1:U:145:ALA:HB3	2:V:117:PHE:HD2	1.64	0.62
1:W:36:TRP:O	1:W:100:LEU:HG	1.99	0.62
1:C:208:HIS:CD2	1:C:210:PRO:HD2	2.35	0.62
1:J:7:SER:OG	1:J:8:GLY:N	2.33	0.62
1:J:42:PRO:HG2	1:J:45:SER:HB3	1.81	0.62
2:L:33:LEU:HD13	2:L:71:PHE:CG	2.35	0.62
3:S:44:GLU:H	3:S:47:LYS:HD2	1.65	0.62
1:O:7:SER:OG	1:O:8:GLY:N	2.29	0.62
3:M:105:SER:OG	3:M:135:THR:OG1	2.17	0.62
3:M:144:ASP:OD2	3:M:168:LYS:NZ	2.26	0.62
1:J:36:TRP:O	1:J:53:MET:N	2.33	0.62
2:V:116:VAL:O	2:V:117:PHE:HD1	1.82	0.62
2:L:188:GLU:O	2:L:212:ARG:NH2	2.32	0.61
3:M:157:GLU:HG2	3:M:165:THR:HG23	1.82	0.61
2:V:29:VAL:HA	2:V:92:ASN:ND2	2.16	0.61
3:T:181:GLU:HG2	1:W:54:TYR:CE2	2.35	0.61
2:X:121:PRO:HB2	2:X:126:LEU:HD21	1.82	0.61
2:K:166:GLU:N	2:K:166:GLU:OE1	2.32	0.61
2:D:75:ILE:HD11	2:D:86:TYR:HE2	1.62	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:56:SER:HB2	3:M:161:LYS:HE3	1.82	0.61
2:D:75:ILE:HD11	2:D:86:TYR:CE2	2.35	0.61
1:W:7:SER:CB	1:W:21:THR:H	2.12	0.61
1:W:108:MET:HB3	2:X:36:TYR:OH	2.00	0.61
1:C:100:LEU:HD22	1:C:108:MET:HE2	1.81	0.61
1:J:36:TRP:HB2	1:J:100:LEU:HD12	1.81	0.61
1:Q:100:LEU:HD13	2:R:97:TYR:OH	2.01	0.61
1:G:56:SER:HB2	3:E:177:PHE:HD2	1.65	0.60
3:F:177:PHE:O	3:F:181:GLU:HG3	2.01	0.60
1:J:93:ALA:HB3	1:J:95:TYR:HE1	1.66	0.60
3:N:115:LEU:HB3	3:N:124:ILE:HD13	1.82	0.60
2:V:32:ASN:HD22	2:V:92:ASN:HA	1.66	0.60
3:B:131:SER:HB3	6:B:302:HOH:O	2.02	0.60
1:Q:7:SER:CB	1:Q:21:THR:H	2.14	0.60
2:V:137:LEU:HD11	2:V:147:VAL:HG21	1.83	0.60
1:Q:5:GLN:NE2	6:Q:307:HOH:O	2.23	0.60
3:F:65:LEU:HB2	3:F:108:ILE:HD11	1.84	0.60
1:J:40:ARG:HB3	1:J:50:ILE:HD11	1.84	0.60
2:K:30:GLY:N	6:K:404:HOH:O	2.33	0.60
1:U:31:SER:OG	6:U:301:HOH:O	2.15	0.60
1:J:154:PHE:CD1	1:J:155:PRO:HA	2.32	0.60
1:U:108:MET:HB3	2:V:36:TYR:OH	2.01	0.60
2:X:114:PRO:HB3	2:X:140:PHE:HB3	1.82	0.60
3:E:151:THR:HG22	3:E:153:ALA:H	1.67	0.60
1:O:107:ALA:HB1	1:O:108:MET:HB2	1.83	0.60
3:N:178:GLU:OE2	1:Q:58:ASN:ND2	2.32	0.60
1:Q:87:VAL:O	1:Q:119:VAL:HG11	2.01	0.60
3:S:53:ASN:HA	3:S:191:LEU:HD12	1.82	0.60
2:X:33:LEU:HB3	2:X:51:ALA:HB2	1.84	0.60
1:C:62:LYS:NZ	1:C:64:SER:OG	2.26	0.60
1:U:54:TYR:CE2	3:S:181:GLU:HG2	2.37	0.60
3:T:137:LYS:HG2	3:T:169:GLY:HA2	1.83	0.60
1:W:17:THR:HG23	1:W:85:THR:HB	1.84	0.60
1:O:1:GLN:HG2	1:O:2:LEU:N	2.15	0.60
2:P:37:GLN:HG3	2:P:86:TYR:CE1	2.37	0.60
1:Q:106:SER:HB3	2:R:91:TYR:CE2	2.37	0.60
1:U:12:VAL:HG21	1:U:18:LEU:HB3	1.84	0.60
1:H:106:SER:HB2	2:L:94:TRP:CE2	2.36	0.59
1:C:49:TRP:O	1:C:62:LYS:HD3	2.02	0.59
3:E:178:GLU:HA	3:E:181:GLU:HG2	1.84	0.59
1:G:1:GLN:HG2	1:G:2:LEU:H	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:13:LYS:HB2	1:U:16:GLN:HG3	1.84	0.59
1:U:163:ASN:HD22	1:U:167:LEU:HB2	1.67	0.59
3:F:59:VAL:HG12	3:F:115:LEU:HD11	1.84	0.59
1:Q:42:PRO:HG2	1:Q:45:SER:HB3	1.82	0.59
1:H:36:TRP:NE1	1:H:100:LEU:HB2	2.17	0.59
3:B:75:LYS:O	3:B:79:LYS:HD2	2.02	0.59
3:B:98:LEU:HG	3:B:145:LEU:HD22	1.83	0.59
2:P:94:TRP:HE1	3:M:185:LYS:CB	2.15	0.59
1:G:129:VAL:HG22	1:G:150:VAL:HG12	1.85	0.59
2:R:54:ARG:NH2	2:R:62:PHE:O	2.35	0.59
1:U:176:ALA:HA	1:U:186:LEU:HB3	1.85	0.59
2:I:13:VAL:HG21	2:I:78:LEU:HD13	1.85	0.59
1:J:131:PRO:HB3	1:J:217:LYS:HE3	1.85	0.59
1:U:130:PHE:HB2	1:U:149:LEU:HB3	1.84	0.59
1:H:65:LEU:HD13	1:H:68:ARG:HD3	1.84	0.59
1:O:61:TYR:O	2:P:96:ARG:NH1	2.34	0.59
2:X:17:GLU:O	2:X:78:LEU:HD23	2.03	0.59
1:U:24:LEU:HD11	1:U:29:ILE:HG13	1.85	0.59
1:U:36:TRP:O	1:U:100:LEU:HG	2.02	0.59
3:T:158:ALA:HA	6:T:402:HOH:O	2.03	0.59
2:K:3:VAL:HB	2:K:26:SER:HB3	1.85	0.58
3:S:44:GLU:HG3	3:S:46:SER:H	1.67	0.58
2:X:143:ARG:HH21	2:X:164:VAL:HG21	1.68	0.58
1:J:37:GLY:HA3	1:J:100:LEU:HD11	1.84	0.58
1:J:41:GLN:HB2	1:J:47:LEU:HD23	1.85	0.58
1:Q:17:THR:HG23	1:Q:85:THR:HB	1.85	0.58
1:J:171:VAL:HG22	1:J:190:VAL:HG22	1.85	0.58
2:K:24:ARG:NH2	2:K:70:GLU:HA	2.19	0.58
2:V:33:LEU:HD21	2:V:88:CYS:HB2	1.85	0.58
1:C:53:MET:HG2	1:C:54:TYR:N	2.17	0.58
2:D:185:ALA:O	2:D:189:LYS:HG2	2.04	0.58
1:J:1:GLN:HG2	1:J:2:LEU:N	2.14	0.58
1:G:24:LEU:HD22	1:G:35:TYR:CE2	2.38	0.58
1:J:106:SER:HG	2:K:91:TYR:HE2	1.52	0.58
2:R:150:LYS:NZ	6:R:404:HOH:O	2.37	0.58
1:W:53:MET:HG3	1:W:59:THR:HG22	1.86	0.58
2:X:126:LEU:HD11	2:X:187:TYR:CD2	2.38	0.58
1:H:36:TRP:CD1	1:H:100:LEU:HB2	2.39	0.57
1:C:105:ASN:HB3	2:D:49:TYR:CD2	2.39	0.57
2:P:94:TRP:NE1	3:M:185:LYS:HD3	2.19	0.57
3:T:148:GLU:N	3:T:148:GLU:OE1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:102:ASP:HB3	1:C:105:ASN:OD1	2.04	0.57
2:D:17:GLU:O	2:D:78:LEU:HD23	2.04	0.57
1:U:1:GLN:HG2	1:U:2:LEU:N	2.16	0.57
2:V:75:ILE:HD11	2:V:86:TYR:CE2	2.39	0.57
2:D:94:TRP:CD2	2:D:95:PRO:HD3	2.40	0.57
2:R:6:GLN:NE2	6:R:403:HOH:O	2.36	0.57
1:Q:38:TRP:CE2	1:Q:82:LEU:HB2	2.39	0.57
1:C:207:ASN:ND2	6:C:307:HOH:O	2.37	0.57
2:I:190:HIS:HB2	2:I:193:TYR:HE1	1.70	0.57
3:F:62:VAL:HG13	3:F:108:ILE:HD12	1.85	0.57
1:Q:31:SER:N	1:Q:32:THR:HA	2.20	0.57
1:H:102:ASP:OD1	1:H:103:VAL:N	2.37	0.57
1:Q:36:TRP:HB2	1:Q:53:MET:H	1.69	0.57
2:X:33:LEU:HD13	2:X:71:PHE:CG	2.40	0.57
2:L:37:GLN:HB2	2:L:47:LEU:HD11	1.87	0.57
2:I:39:LYS:NZ	2:I:81:GLU:OE2	2.34	0.57
1:O:36:TRP:O	1:O:100:LEU:HG	2.04	0.57
1:U:20:LEU:O	1:U:82:LEU:N	2.27	0.57
2:V:13:VAL:HG21	2:V:78:LEU:HD21	1.87	0.57
2:V:126:LEU:HD12	2:V:184:LYS:HD3	1.87	0.57
3:T:166:LYS:HB2	3:T:171:GLU:HG2	1.87	0.57
1:G:146:LEU:HD13	1:G:219:VAL:HG21	1.87	0.57
3:E:142:HIS:CD2	3:F:83:GLN:HB2	2.40	0.57
1:J:92:THR:HB	1:J:119:VAL:HG12	1.87	0.57
1:O:42:PRO:HG2	1:O:45:SER:HB3	1.85	0.57
3:N:66:LEU:HD11	3:N:180:VAL:HG21	1.87	0.56
3:A:63:GLU:HA	3:A:66:LEU:HB2	1.87	0.56
2:D:17:GLU:HG3	2:D:18:ARG:H	1.70	0.56
1:O:87:VAL:O	1:O:119:VAL:HG11	2.05	0.56
2:R:47:LEU:HD23	2:R:58:ILE:HD13	1.85	0.56
2:X:109:ARG:HH12	2:X:112:ALA:CB	2.19	0.56
1:H:6:GLU:HB3	1:H:115:THR:HB	1.85	0.56
2:D:49:TYR:HE1	2:D:55:ALA:HA	1.69	0.56
1:G:18:LEU:HD23	1:G:87:VAL:HG11	1.88	0.56
1:G:69:VAL:HG22	1:G:84:LEU:HD13	1.86	0.56
1:J:101:GLY:HA2	1:J:106:SER:O	2.05	0.56
2:R:146:LYS:HB3	2:R:198:THR:HB	1.86	0.56
2:V:35:TRP:CD1	2:V:48:ILE:HD11	2.40	0.56
1:J:37:GLY:N	1:J:100:LEU:HG	2.20	0.56
2:P:147:VAL:HG11	2:P:178:SER:HB2	1.87	0.56
1:Q:4:LEU:HD11	1:Q:35:TYR:CE2	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:129:VAL:HG22	1:W:150:VAL:HG12	1.88	0.56
2:I:94:TRP:HB3	2:I:95:PRO:HD3	1.86	0.56
2:V:194:ALA:HB2	2:V:209:SER:HB3	1.87	0.56
2:D:126:LEU:O	2:D:184:LYS:HD2	2.05	0.56
1:U:87:VAL:HG13	1:U:91:ASP:HB2	1.88	0.56
1:W:34:TYR:HB3	1:W:99:ARG:HD2	1.87	0.56
1:G:7:SER:HB2	1:G:21:THR:O	2.06	0.56
3:T:45:ILE:O	6:T:403:HOH:O	2.18	0.56
2:L:156:GLN:OE1	2:L:159:ASN:ND2	2.36	0.56
1:O:36:TRP:HB2	1:O:53:MET:H	1.71	0.56
3:S:195:VAL:O	3:S:198:LEU:HD23	2.06	0.56
3:T:158:ALA:O	6:T:402:HOH:O	2.17	0.56
1:H:18:LEU:HD22	1:H:117:VAL:HG11	1.88	0.55
1:H:130:PHE:HB2	1:H:149:LEU:HB3	1.88	0.55
1:W:102:ASP:HB3	1:W:105:ASN:OD1	2.06	0.55
1:H:73:LEU:HD21	1:H:77:ARG:HD3	1.89	0.55
2:K:91:TYR:O	2:K:94:TRP:HB2	2.06	0.55
1:O:7:SER:CB	1:O:21:THR:H	2.20	0.55
3:M:66:LEU:HB3	3:M:177:PHE:CZ	2.42	0.55
1:Q:100:LEU:HB3	1:Q:108:MET:HG3	1.88	0.55
1:W:18:LEU:HD22	1:W:117:VAL:HG11	1.87	0.55
1:W:33:SER:HA	1:W:55:HIS:CB	2.32	0.55
1:W:54:TYR:CE2	1:W:55:HIS:CE1	2.94	0.55
1:H:29:ILE:HG12	1:H:77:ARG:O	2.05	0.55
1:G:176:ALA:HB2	1:G:186:LEU:HD23	1.89	0.55
2:I:151:VAL:HG13	2:I:193:TYR:CE1	2.41	0.55
1:C:36:TRP:CD1	1:C:100:LEU:HB2	2.42	0.55
1:C:41:GLN:HB2	1:C:47:LEU:HD23	1.89	0.55
1:O:92:THR:HB	1:O:119:VAL:H	1.71	0.55
3:M:98:LEU:HD12	3:M:150:VAL:HG21	1.89	0.55
1:C:100:LEU:HD22	1:C:108:MET:HG3	1.88	0.55
3:N:153:ALA:O	3:N:157:GLU:HG3	2.07	0.55
3:E:55:VAL:O	3:E:59:VAL:HG13	2.07	0.55
1:Q:68:ARG:NH2	1:Q:86:SER:O	2.37	0.55
2:L:115:SER:HB2	2:L:138:ASN:HB3	1.88	0.55
1:G:4:LEU:HD22	1:G:22:CYS:SG	2.46	0.55
2:R:17:GLU:HG3	2:R:18:ARG:H	1.72	0.55
1:H:18:LEU:HG	1:H:84:LEU:HB3	1.88	0.55
2:D:33:LEU:HD22	2:D:71:PHE:CG	2.42	0.55
2:I:193:TYR:HB2	2:I:210:PHE:CE1	2.42	0.55
3:E:77:ILE:HD12	3:E:155:ALA:HB1	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:146:LEU:HD13	1:W:219:VAL:HG21	1.89	0.55
2:P:39:LYS:NZ	2:P:81:GLU:O	2.31	0.55
3:N:124:ILE:HG22	3:N:128:LYS:HE2	1.88	0.55
2:R:33:LEU:HD22	2:R:71:PHE:CG	2.42	0.55
1:U:36:TRP:CE3	1:U:54:TYR:HA	2.42	0.55
1:U:39:ILE:N	1:U:96:TYR:O	2.36	0.55
1:W:100:LEU:HD13	2:X:97:TYR:CE2	2.40	0.55
2:P:17:GLU:HG3	2:P:18:ARG:H	1.71	0.54
2:P:133:VAL:HG21	2:P:193:TYR:HD2	1.72	0.54
3:B:88:ASP:OD1	3:B:89:THR:N	2.39	0.54
1:W:16:GLN:O	1:W:87:VAL:HG22	2.08	0.54
1:Q:35:TYR:HA	1:Q:99:ARG:HG2	1.89	0.54
1:J:35:TYR:CD1	1:J:99:ARG:HG2	2.42	0.54
5:O:301:CL:CL	3:M:185:LYS:NZ	2.77	0.54
3:N:44:GLU:HA	3:N:46:SER:N	2.22	0.54
2:P:13:VAL:HA	2:P:108:ARG:HD2	1.89	0.54
1:W:24:LEU:HD13	1:W:35:TYR:CD2	2.43	0.54
1:C:7:SER:HB2	1:C:21:THR:H	1.73	0.54
1:G:10:GLY:HA2	1:G:117:VAL:HG13	1.90	0.54
1:Q:36:TRP:HE3	1:Q:54:TYR:HA	1.72	0.54
3:A:69:ILE:O	3:A:70:ASP:HB2	2.08	0.54
1:J:158:VAL:HG22	1:J:208:HIS:HD2	1.73	0.54
2:K:17:GLU:HG3	2:K:18:ARG:H	1.72	0.54
2:I:29:VAL:HG11	2:I:90:GLU:HG3	1.90	0.54
2:P:150:LYS:HB3	2:P:153:ASN:HA	1.90	0.54
3:A:48:LYS:NZ	3:A:52:SER:HB3	2.23	0.54
3:A:83:GLN:HB3	3:B:142:HIS:ND1	2.23	0.54
1:G:36:TRP:CZ3	2:I:95:PRO:HB3	2.43	0.54
1:G:36:TRP:HZ3	2:I:95:PRO:HB3	1.72	0.54
1:O:35:TYR:CD1	1:O:99:ARG:HB3	2.42	0.54
2:P:109:ARG:HD2	2:P:110:THR:H	1.72	0.54
2:I:109:ARG:NE	2:I:110:THR:O	2.41	0.53
2:K:109:ARG:HH22	2:K:112:ALA:CB	2.21	0.53
2:P:151:VAL:HG13	2:P:193:TYR:CE1	2.42	0.53
2:R:148:GLN:HB3	2:R:196:GLU:HG2	1.90	0.53
3:A:70:ASP:O	3:A:74:ALA:N	2.39	0.53
3:E:65:LEU:HB2	3:E:108:ILE:HD11	1.90	0.53
3:F:88:ASP:OD1	3:F:89:THR:N	2.40	0.53
2:K:148:GLN:HB2	2:K:196:GLU:HG2	1.90	0.53
3:S:128:LYS:NZ	6:S:406:HOH:O	2.40	0.53
2:X:165:THR:HG22	2:X:175:SER:H	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:107:ALA:HB1	2:L:97:TYR:HE2	1.74	0.53
3:A:66:LEU:O	3:A:69:ILE:O	2.26	0.53
2:K:109:ARG:HD3	2:K:172:SER:HB2	1.91	0.53
1:O:14:PRO:HA	1:O:87:VAL:HG23	1.89	0.53
1:W:54:TYR:HD1	5:W:301:CL:CL	2.28	0.53
2:L:109:ARG:HH22	2:L:112:ALA:CB	2.22	0.53
1:G:4:LEU:HD21	1:G:24:LEU:HD22	1.89	0.53
3:E:98:LEU:HD22	3:E:145:LEU:HD12	1.91	0.53
3:N:195:VAL:O	3:N:198:LEU:HD22	2.08	0.53
1:Q:124:THR:HG22	1:Q:155:PRO:HD3	1.90	0.53
2:R:17:GLU:HG3	2:R:18:ARG:N	2.23	0.53
2:V:5:THR:OG1	2:V:24:ARG:HB2	2.09	0.53
3:M:182:VAL:C	6:M:301:HOH:O	2.46	0.53
1:W:18:LEU:HD23	1:W:87:VAL:HG11	1.91	0.53
2:L:82:ASP:O	2:L:86:TYR:OH	2.21	0.53
1:C:16:GLN:O	1:C:87:VAL:HG22	2.09	0.53
1:G:35:TYR:C	1:G:36:TRP:HD1	2.12	0.53
1:O:104:PHE:HE1	3:M:195:VAL:HG21	1.73	0.53
2:P:32:ASN:HB3	2:P:91:TYR:CE1	2.44	0.53
1:Q:61:TYR:OH	1:Q:71:ILE:N	2.27	0.53
1:U:56:SER:OG	3:S:181:GLU:OE2	2.26	0.53
3:B:82:HIS:HB2	3:B:88:ASP:HB2	1.91	0.53
1:C:171:VAL:HG22	1:C:190:VAL:HG22	1.90	0.53
1:O:111:TRP:HZ2	2:P:36:TYR:HE2	1.57	0.53
2:P:193:TYR:HB2	2:P:210:PHE:CE1	2.44	0.53
2:R:94:TRP:HA	2:R:96:ARG:H	1.73	0.53
2:V:61:ARG:NE	2:V:82:ASP:OD2	2.38	0.53
2:V:125:GLN:HE22	2:V:132:SER:HB2	1.74	0.53
3:S:157:GLU:HB3	3:S:168:LYS:HG2	1.91	0.53
2:I:6:GLN:HE21	2:I:102:GLY:CA	2.21	0.53
1:J:48:GLU:HG2	1:J:62:LYS:HE3	1.90	0.53
1:O:75:THR:O	1:O:76:SER:OG	2.25	0.53
2:I:32:ASN:HD22	2:I:92:ASN:HA	1.74	0.53
1:J:92:THR:HB	1:J:119:VAL:H	1.74	0.53
2:K:126:LEU:HD12	2:K:184:LYS:HD3	1.91	0.53
1:H:104:PHE:HE1	3:B:195:VAL:HG21	1.74	0.52
3:A:45:ILE:O	6:A:401:HOH:O	2.19	0.52
1:G:6:GLU:CD	1:G:114:GLY:H	2.12	0.52
3:S:63:GLU:HA	3:S:66:LEU:HD12	1.90	0.52
1:W:154:PHE:HD1	1:W:155:PRO:CA	2.16	0.52
3:B:66:LEU:HD11	3:B:180:VAL:HG21	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:48:ILE:HD13	2:D:54:ARG:HA	1.91	0.52
1:G:39:ILE:HD13	1:G:111:TRP:CH2	2.44	0.52
1:J:32:THR:HB	1:J:55:HIS:CG	2.44	0.52
1:O:167:LEU:HD21	1:O:190:VAL:HG11	1.91	0.52
2:P:13:VAL:HG21	2:P:78:LEU:HD21	1.91	0.52
2:R:185:ALA:O	2:R:188:GLU:HG2	2.09	0.52
3:A:53:ASN:HA	3:A:191:LEU:HD12	1.91	0.52
1:U:189:VAL:HG11	2:V:136:LEU:HD11	1.91	0.52
1:H:33:SER:HB3	1:H:55:HIS:ND1	2.25	0.52
1:H:38:TRP:CE2	1:H:82:LEU:HB2	2.44	0.52
3:B:133:THR:HG22	3:B:172:GLU:HG2	1.91	0.52
1:O:171:VAL:HG22	1:O:190:VAL:HG22	1.91	0.52
1:U:145:ALA:HB3	2:V:117:PHE:CD2	2.45	0.52
1:H:36:TRP:HE1	1:H:100:LEU:HB2	1.74	0.52
2:K:109:ARG:HH22	2:K:112:ALA:HB3	1.75	0.52
1:O:7:SER:HB2	1:O:21:THR:H	1.75	0.52
1:W:35:TYR:N	1:W:99:ARG:HG3	2.23	0.52
2:X:36:TYR:CZ	2:X:46:LEU:HD13	2.45	0.52
2:X:196:GLU:HG3	2:X:207:THR:HG22	1.91	0.52
2:P:75:ILE:HD11	2:P:86:TYR:CE2	2.45	0.52
2:X:121:PRO:HB2	2:X:126:LEU:CD2	2.40	0.52
1:H:29:ILE:HG13	1:H:77:ARG:HB3	1.91	0.52
2:L:17:GLU:O	2:L:78:LEU:HD23	2.10	0.52
2:V:35:TRP:HB2	2:V:48:ILE:HG12	1.91	0.52
3:B:178:GLU:O	3:B:181:GLU:HG3	2.10	0.52
3:F:60:LYS:NZ	1:J:32:THR:O	2.28	0.52
2:K:33:LEU:HD22	2:K:71:PHE:CG	2.45	0.52
2:K:78:LEU:HD22	2:K:105:LEU:HD21	1.91	0.52
2:L:185:ALA:O	2:L:188:GLU:HG2	2.10	0.52
1:G:127:PRO:HB3	1:G:153:TYR:HB3	1.92	0.52
1:J:18:LEU:HG	1:J:84:LEU:HB3	1.92	0.52
1:O:29:ILE:HG12	1:O:35:TYR:HB2	1.92	0.52
2:X:106:GLU:OE2	2:X:174:TYR:OH	2.18	0.52
1:H:29:ILE:HD12	1:H:35:TYR:CD1	2.44	0.51
1:J:23:THR:HA	1:J:79:GLN:HB3	1.92	0.51
3:M:166:LYS:HB3	3:M:171:GLU:N	2.24	0.51
1:W:105:ASN:HD21	1:W:109:ASP:HB3	1.75	0.51
2:K:162:GLU:HG3	2:K:176:LEU:HD21	1.92	0.51
2:P:65:SER:HB2	2:P:72:THR:CG2	2.40	0.51
3:S:133:THR:HG22	3:S:172:GLU:HG2	1.93	0.51
2:X:48:ILE:HD12	2:X:73:LEU:HD13	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:44:GLU:CD	3:N:45:ILE:HA	2.30	0.51
1:U:36:TRP:HB2	1:U:53:MET:H	1.74	0.51
3:T:161:LYS:NZ	1:W:57:GLY:H	2.08	0.51
1:H:129:VAL:HG12	1:H:150:VAL:HG22	1.91	0.51
2:I:61:ARG:NH2	6:I:405:HOH:O	2.29	0.51
3:S:104:ILE:HD11	3:T:72:ILE:HG23	1.92	0.51
3:E:188:LYS:NZ	3:E:189:GLU:OE2	2.30	0.51
3:M:102:TYR:CE2	3:N:87:LEU:HG	2.46	0.51
1:Q:100:LEU:HA	1:Q:108:MET:HA	1.92	0.51
2:I:166:GLU:OE1	2:I:166:GLU:N	2.39	0.51
2:I:204:SER:O	6:I:402:HOH:O	2.18	0.51
1:O:130:PHE:CE2	2:P:125:GLN:HB2	2.46	0.51
2:V:21:LEU:HB2	2:V:73:LEU:HB3	1.91	0.51
3:T:66:LEU:HD11	3:T:180:VAL:HG21	1.93	0.51
3:T:102:TYR:CE1	3:T:135:THR:HG23	2.45	0.51
1:C:40:ARG:HB3	1:C:50:ILE:HD11	1.92	0.51
2:D:106:GLU:OE1	2:D:174:TYR:OH	2.29	0.51
2:P:7:SER:OG	2:P:22:SER:HB2	2.11	0.51
1:W:100:LEU:HD22	1:W:108:MET:SD	2.51	0.51
1:O:17:THR:HG23	1:O:85:THR:HB	1.93	0.51
1:Q:37:GLY:HA3	6:Q:303:HOH:O	2.10	0.51
2:R:29:VAL:HA	2:R:92:ASN:ND2	2.26	0.51
2:V:78:LEU:HD22	2:V:105:LEU:HD21	1.92	0.51
3:A:178:GLU:O	3:A:181:GLU:HG3	2.10	0.50
1:C:62:LYS:HZ1	1:C:64:SER:HG	1.52	0.50
2:I:115:SER:HB2	2:I:138:ASN:HB3	1.93	0.50
2:I:125:GLN:OE1	2:I:132:SER:N	2.44	0.50
2:V:150:LYS:HD3	2:V:153:ASN:HA	1.92	0.50
3:B:59:VAL:HG22	3:B:115:LEU:HD21	1.93	0.50
1:C:108:MET:HB3	2:D:36:TYR:OH	2.11	0.50
1:J:120:SER:HB3	1:J:154:PHE:CZ	2.46	0.50
2:P:23:CYS:HB3	2:P:71:PHE:HB2	1.93	0.50
1:U:7:SER:CB	1:U:21:THR:H	2.24	0.50
3:S:177:PHE:O	3:S:181:GLU:HG3	2.11	0.50
1:W:59:THR:HG21	1:W:71:ILE:O	2.11	0.50
2:X:122:SER:O	2:X:126:LEU:HD23	2.11	0.50
2:D:34:ALA:HB2	2:D:91:TYR:HE2	1.76	0.50
2:I:61:ARG:HG3	2:I:75:ILE:HG23	1.92	0.50
2:I:126:LEU:O	2:I:184:LYS:HD2	2.11	0.50
3:M:142:HIS:ND1	3:N:83:GLN:HB3	2.26	0.50
2:L:109:ARG:NH2	2:L:173:THR:HG22	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:48:LYS:HZ1	3:A:52:SER:HB3	1.75	0.50
1:W:49:TRP:O	1:W:62:LYS:HD2	2.10	0.50
1:W:156:GLU:O	6:W:401:HOH:O	2.20	0.50
2:L:109:ARG:HH22	2:L:112:ALA:HB2	1.76	0.50
1:G:41:GLN:HB2	1:G:47:LEU:HD23	1.92	0.50
3:F:80:LYS:HD2	3:F:81:ILE:O	2.10	0.50
2:K:114:PRO:HB3	2:K:140:PHE:HB3	1.94	0.50
2:V:36:TYR:CE1	2:V:46:LEU:HD13	2.46	0.50
3:S:46:SER:OG	6:S:402:HOH:O	2.19	0.50
3:S:56:LEU:O	3:S:60:LYS:HG2	2.12	0.50
1:C:75:THR:O	1:C:76:SER:OG	2.22	0.50
1:O:7:SER:HG	1:O:8:GLY:H	1.59	0.50
1:U:92:THR:HB	1:U:119:VAL:H	1.76	0.50
1:U:101:GLY:HA2	1:U:106:SER:O	2.11	0.50
1:W:36:TRP:CE3	1:W:54:TYR:HA	2.47	0.50
3:A:69:ILE:O	3:A:70:ASP:CB	2.59	0.50
1:C:107:ALA:HB2	2:D:97:TYR:HE2	1.76	0.50
3:E:172:GLU:OE1	3:E:172:GLU:N	2.43	0.50
1:J:36:TRP:HA	1:J:53:MET:O	2.12	0.50
2:V:150:LYS:HE3	2:V:194:ALA:HB3	1.93	0.50
1:W:6:GLU:HB3	1:W:115:THR:HB	1.94	0.50
3:A:161:LYS:HA	3:A:170:ALA:HB1	1.94	0.50
3:E:53:ASN:HA	3:E:191:LEU:HD12	1.93	0.50
3:E:66:LEU:HB3	3:E:177:PHE:CZ	2.47	0.50
1:J:36:TRP:C	1:J:53:MET:H	2.15	0.50
1:O:11:LEU:HA	1:O:118:ILE:O	2.11	0.50
3:M:182:VAL:O	6:M:301:HOH:O	2.18	0.50
1:H:129:VAL:HG11	1:H:206:VAL:HG21	1.94	0.50
2:D:24:ARG:NH2	6:D:407:HOH:O	2.45	0.50
1:G:75:THR:O	1:G:76:SER:OG	2.26	0.50
1:G:111:TRP:CE3	2:I:44:PRO:HD2	2.47	0.50
1:O:53:MET:HG2	1:O:54:TYR:N	2.26	0.50
1:H:37:GLY:HA3	1:H:100:LEU:HD11	1.94	0.49
2:I:16:GLY:N	6:I:404:HOH:O	2.44	0.49
1:Q:162:TRP:CZ3	1:Q:204:CYS:HB3	2.47	0.49
1:U:18:LEU:HG	1:U:84:LEU:HB3	1.94	0.49
2:K:109:ARG:NH2	2:K:141:TYR:HB3	2.18	0.49
2:R:12:SER:HB3	2:R:108:ARG:HB3	1.94	0.49
1:H:35:TYR:HA	1:H:99:ARG:HG2	1.94	0.49
2:I:33:LEU:HB3	2:I:51:ALA:HB2	1.94	0.49
2:I:37:GLN:HG3	2:I:86:TYR:CZ	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:98:LEU:HD23	3:F:81:ILE:HG13	1.94	0.49
1:G:29:ILE:O	3:F:111:LYS:HE3	2.12	0.49
1:G:203:ILE:HG22	1:G:218:ARG:HG2	1.93	0.49
3:E:102:TYR:HA	3:E:105:SER:HB3	1.94	0.49
2:P:94:TRP:HB3	2:P:95:PRO:CD	2.42	0.49
1:U:29:ILE:HG12	1:U:35:TYR:N	2.27	0.49
3:S:98:LEU:HD11	3:S:150:VAL:HG11	1.94	0.49
1:W:11:LEU:HD11	1:W:122:ALA:HA	1.94	0.49
1:W:33:SER:HA	1:W:55:HIS:CG	2.48	0.49
1:H:74:ASP:O	1:H:77:ARG:HA	2.13	0.49
3:B:55:VAL:HG21	3:B:120:LEU:HD12	1.94	0.49
1:U:53:MET:CG	1:U:54:TYR:H	2.25	0.49
2:V:106:GLU:OE1	2:V:174:TYR:OH	2.15	0.49
3:N:198:LEU:HD23	3:N:199:THR:H	1.76	0.49
1:U:127:PRO:HB2	1:U:150:VAL:HG13	1.95	0.49
2:V:35:TRP:HD1	2:V:48:ILE:HD11	1.75	0.49
3:T:153:ALA:O	3:T:157:GLU:HG3	2.13	0.49
1:Q:36:TRP:HD1	1:Q:100:LEU:HG	1.72	0.49
1:Q:105:ASN:HD21	1:Q:109:ASP:HB3	1.77	0.49
1:H:163:ASN:HD21	1:H:202:TYR:HA	1.78	0.49
1:G:56:SER:HB2	3:E:177:PHE:CD2	2.46	0.49
2:K:37:GLN:HB2	2:K:47:LEU:HD11	1.95	0.49
1:U:167:LEU:HD21	1:U:190:VAL:HG11	1.94	0.49
1:C:167:LEU:HD21	1:C:190:VAL:HG11	1.95	0.49
1:G:38:TRP:C	1:G:39:ILE:HG13	2.33	0.49
2:I:185:ALA:O	2:I:188:GLU:HG2	2.11	0.49
1:J:179:GLN:HG2	1:J:183:LEU:O	2.12	0.49
1:O:73:LEU:HD11	1:O:77:ARG:HB2	1.95	0.49
1:O:162:TRP:HB3	1:O:167:LEU:HD23	1.94	0.49
2:P:96:ARG:C	2:P:97:TYR:HD1	2.16	0.49
1:Q:54:TYR:CE2	1:Q:55:HIS:CE1	3.01	0.49
1:G:12:VAL:HG21	1:G:18:LEU:HB3	1.95	0.49
3:M:83:GLN:HB2	3:N:142:HIS:ND1	2.28	0.49
1:Q:6:GLU:HB3	1:Q:115:THR:HB	1.94	0.49
3:S:66:LEU:HD11	3:S:180:VAL:HG21	1.95	0.49
1:J:36:TRP:CE3	2:K:95:PRO:HB3	2.47	0.48
2:P:148:GLN:CG	2:P:155:LEU:HD11	2.30	0.48
3:M:53:ASN:HA	3:M:191:LEU:HD12	1.94	0.48
3:M:107:LEU:O	3:M:111:LYS:HG2	2.13	0.48
1:W:192:VAL:HG11	1:W:202:TYR:OH	2.12	0.48
1:G:35:TYR:CD1	1:G:99:ARG:HD3	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:146:LYS:HB3	2:I:198:THR:HB	1.95	0.48
2:P:7:SER:OG	2:P:8:PRO:HD3	2.12	0.48
1:U:38:TRP:CE2	1:U:82:LEU:HB2	2.48	0.48
1:U:54:TYR:HD1	5:S:302:CL:CL	2.33	0.48
2:V:193:TYR:HB2	2:V:210:PHE:CE1	2.47	0.48
1:W:176:ALA:HA	1:W:186:LEU:HB3	1.95	0.48
3:A:131:SER:O	3:A:135:THR:HG23	2.13	0.48
1:C:155:PRO:O	1:C:208:HIS:NE2	2.32	0.48
2:D:166:GLU:CD	2:D:166:GLU:H	2.16	0.48
2:I:187:TYR:CD1	2:I:193:TYR:HE2	2.31	0.48
3:M:46:SER:HB2	3:N:198:LEU:HD11	1.94	0.48
3:A:125:ASP:HA	3:A:128:LYS:HD3	1.94	0.48
1:G:108:MET:HB3	2:I:36:TYR:OH	2.12	0.48
2:X:61:ARG:NH1	2:X:82:ASP:OD1	2.46	0.48
2:X:91:TYR:O	2:X:94:TRP:HB3	2.12	0.48
1:H:22:CYS:HB3	1:H:80:PHE:CE1	2.48	0.48
1:G:53:MET:HG2	1:G:54:TYR:N	2.28	0.48
3:M:94:ASN:HB2	3:M:150:VAL:HG23	1.96	0.48
1:Q:147:GLY:HA2	1:Q:162:TRP:CZ2	2.48	0.48
2:R:148:GLN:HG2	2:R:155:LEU:HD11	1.94	0.48
3:T:157:GLU:OE1	3:T:167:THR:OG1	2.31	0.48
1:W:208:HIS:CD2	1:W:210:PRO:HD2	2.49	0.48
2:X:54:ARG:HD2	6:X:411:HOH:O	2.12	0.48
1:H:31:SER:N	1:H:32:THR:HA	2.28	0.48
3:T:133:THR:HG22	3:T:172:GLU:HG2	1.95	0.48
1:W:127:PRO:HD2	1:W:213:THR:HG21	1.95	0.48
3:B:112:LEU:O	3:B:128:LYS:NZ	2.47	0.48
1:J:124:THR:HG22	1:J:155:PRO:HD3	1.95	0.48
2:P:109:ARG:NH1	2:P:171:ASP:O	2.46	0.48
1:U:100:LEU:HD22	1:U:108:MET:HG3	1.95	0.48
1:U:130:PHE:CD2	2:V:125:GLN:HG2	2.49	0.48
2:X:109:ARG:HH12	2:X:112:ALA:HB2	1.78	0.48
1:H:29:ILE:CG1	1:H:77:ARG:HB3	2.43	0.48
2:L:85:VAL:O	6:L:402:HOH:O	2.20	0.48
3:A:81:ILE:HD12	3:A:81:ILE:H	1.79	0.48
1:C:33:SER:HB2	1:C:36:TRP:HZ3	1.79	0.48
1:C:34:TYR:CD1	1:C:99:ARG:HD2	2.49	0.48
3:N:102:TYR:HE1	3:N:135:THR:HG23	1.78	0.48
2:R:170:LYS:NZ	6:R:402:HOH:O	2.26	0.48
2:I:48:ILE:HD13	2:I:54:ARG:HA	1.95	0.48
2:K:33:LEU:HD22	2:K:71:PHE:CD1	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:102:TYR:CE1	3:N:135:THR:HG23	2.49	0.48
1:Q:100:LEU:HD13	2:R:97:TYR:CE2	2.49	0.48
2:R:194:ALA:HB2	2:R:209:SER:HB3	1.95	0.48
2:V:2:ILE:HA	2:V:26:SER:OG	2.14	0.48
1:W:92:THR:HB	1:W:119:VAL:H	1.78	0.48
2:L:143:ARG:HB2	2:L:174:TYR:CE2	2.48	0.47
3:N:63:GLU:OE2	1:Q:54:TYR:OH	2.20	0.47
2:R:17:GLU:O	2:R:78:LEU:HD23	2.13	0.47
2:R:54:ARG:HE	2:R:54:ARG:HB3	1.52	0.47
2:R:78:LEU:HD13	2:R:105:LEU:HD21	1.95	0.47
1:G:37:GLY:HA2	1:G:51:GLY:O	2.14	0.47
1:J:61:TYR:HE1	1:J:71:ILE:HG13	1.78	0.47
1:J:87:VAL:O	1:J:119:VAL:HG21	2.14	0.47
1:Q:33:SER:CA	1:Q:55:HIS:HB3	2.44	0.47
2:R:14:SER:N	2:R:108:ARG:HG2	2.29	0.47
3:S:92:ASN:HA	3:S:151:THR:HA	1.96	0.47
1:W:63:SER:HA	1:W:66:LYS:HE3	1.96	0.47
1:H:18:LEU:HD21	1:H:84:LEU:HD23	1.96	0.47
1:Q:34:TYR:HB3	1:Q:99:ARG:HD3	1.95	0.47
2:V:9:VAL:O	2:V:103:ALA:HA	2.14	0.47
1:G:208:HIS:CD2	1:G:210:PRO:HD2	2.50	0.47
3:M:47:LYS:HE3	2:R:56:THR:HG21	1.96	0.47
1:H:7:SER:OG	1:H:8:GLY:N	2.43	0.47
1:H:40:ARG:HB3	1:H:50:ILE:HD11	1.96	0.47
2:D:85:VAL:C	2:D:86:TYR:HD1	2.17	0.47
1:G:34:TYR:O	1:G:35:TYR:CD1	2.62	0.47
2:P:92:ASN:N	6:P:401:HOH:O	2.33	0.47
1:Q:74:ASP:O	1:Q:77:ARG:HA	2.15	0.47
2:V:121:PRO:HB2	2:V:126:LEU:HD21	1.97	0.47
1:W:38:TRP:C	1:W:39:ILE:HG13	2.34	0.47
3:F:56:LEU:O	3:F:60:LYS:HG2	2.14	0.47
3:F:188:LYS:NZ	1:J:102:ASP:O	2.34	0.47
1:J:12:VAL:O	1:J:119:VAL:HA	2.15	0.47
2:P:29:VAL:HG21	2:P:33:LEU:HD21	1.97	0.47
1:Q:33:SER:HA	1:Q:55:HIS:HB3	1.95	0.47
1:H:36:TRP:CZ2	1:H:101:GLY:HA3	2.49	0.47
1:C:209:LYS:HB3	1:C:210:PRO:HD3	1.96	0.47
1:G:29:ILE:HG23	1:G:34:TYR:HA	1.96	0.47
1:G:154:PHE:HD1	1:G:155:PRO:CA	2.27	0.47
1:J:37:GLY:HA2	1:J:52:SER:HA	1.97	0.47
1:J:126:GLY:HA3	1:J:213:THR:HG21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:7:SER:HB2	1:O:21:THR:O	2.15	0.47
2:P:35:TRP:C	2:P:36:TYR:HD1	2.18	0.47
2:R:192:VAL:C	2:R:193:TYR:HD1	2.18	0.47
2:V:6:GLN:H	2:V:101:GLN:NE2	2.12	0.47
1:W:77:ARG:H	1:W:77:ARG:HG2	1.29	0.47
3:A:133:THR:HG22	3:A:172:GLU:HG2	1.97	0.47
1:C:54:TYR:CE2	1:C:55:HIS:CE1	3.03	0.47
1:C:98:ALA:HA	1:C:110:VAL:O	2.15	0.47
1:J:145:ALA:HB3	2:K:117:PHE:HD2	1.80	0.47
3:M:48:LYS:HG3	3:M:194:SER:HB3	1.97	0.47
2:R:166:GLU:H	2:R:166:GLU:CD	2.18	0.47
1:U:124:THR:HA	1:U:154:PHE:HD2	1.80	0.47
1:U:208:HIS:HE1	1:U:210:PRO:HB2	1.79	0.47
3:A:141:LYS:NZ	3:A:168:LYS:HG2	2.30	0.47
1:J:154:PHE:HD1	1:J:155:PRO:CA	2.22	0.47
1:H:156:GLU:CG	1:H:157:PRO:HA	2.46	0.46
3:A:80:LYS:N	3:A:88:ASP:O	2.46	0.46
1:C:74:ASP:O	1:C:77:ARG:HA	2.15	0.46
3:N:63:GLU:HG2	1:Q:55:HIS:HE2	1.80	0.46
2:V:190:HIS:HB2	2:V:193:TYR:HE1	1.80	0.46
1:H:7:SER:CB	1:H:21:THR:H	2.27	0.46
3:B:172:GLU:HA	3:B:175:LYS:HE3	1.97	0.46
1:J:153:TYR:CE2	1:J:158:VAL:HG23	2.50	0.46
3:B:63:GLU:OE2	3:B:184:SER:OG	2.27	0.46
1:C:221:PRO:O	6:C:303:HOH:O	2.20	0.46
1:G:38:TRP:CZ3	1:G:97:CYS:HB3	2.51	0.46
1:G:176:ALA:HA	1:G:186:LEU:HB3	1.97	0.46
1:O:127:PRO:HB3	1:O:153:TYR:HB3	1.98	0.46
2:R:33:LEU:HD22	2:R:71:PHE:CD1	2.50	0.46
2:V:33:LEU:HD13	2:V:71:PHE:CG	2.50	0.46
2:I:16:GLY:O	2:I:77:SER:HA	2.15	0.46
2:P:35:TRP:CE2	2:P:73:LEU:HB2	2.50	0.46
1:U:203:ILE:HG12	1:U:218:ARG:CB	2.45	0.46
2:V:192:VAL:C	2:V:193:TYR:HD1	2.18	0.46
2:D:13:VAL:HG21	2:D:78:LEU:HD21	1.97	0.46
2:P:141:TYR:CD1	2:P:142:PRO:HA	2.50	0.46
3:N:72:ILE:HB	3:N:97:LEU:HD11	1.98	0.46
1:U:4:LEU:HD21	1:U:35:TYR:CD2	2.49	0.46
1:U:36:TRP:HE1	1:U:100:LEU:C	2.18	0.46
2:L:33:LEU:HD13	2:L:71:PHE:CD1	2.49	0.46
2:D:38:HIS:O	2:D:84:ALA:HB1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:6:GLN:NE2	2:I:86:TYR:O	2.47	0.46
2:I:194:ALA:HB2	2:I:209:SER:HB3	1.98	0.46
1:J:93:ALA:HB3	1:J:95:TYR:CE1	2.49	0.46
1:O:91:ASP:O	1:O:95:TYR:OH	2.23	0.46
2:P:164:VAL:HG22	2:P:176:LEU:HD12	1.98	0.46
1:U:208:HIS:CE1	1:U:210:PRO:HB2	2.50	0.46
1:W:108:MET:HE1	2:X:99:PHE:HZ	1.80	0.46
2:X:8:PRO:HB2	2:X:10:THR:O	2.16	0.46
2:X:17:GLU:HG3	2:X:18:ARG:H	1.81	0.46
2:R:63:SER:O	2:R:73:LEU:HD12	2.15	0.46
1:G:103:VAL:O	3:E:188:LYS:HE2	2.16	0.46
1:G:203:ILE:HG21	1:G:218:ARG:NH1	2.31	0.46
3:F:95:GLY:HA3	3:F:147:LYS:O	2.16	0.46
1:U:13:LYS:O	1:U:16:GLN:HB2	2.16	0.46
3:S:66:LEU:HB3	3:S:177:PHE:CZ	2.50	0.46
1:W:189:VAL:HG21	2:X:136:LEU:HD22	1.97	0.46
1:G:49:TRP:CZ3	2:I:96:ARG:HD3	2.51	0.46
2:P:133:VAL:HB	2:P:180:LEU:HB3	1.97	0.46
1:Q:53:MET:CG	1:Q:54:TYR:H	2.29	0.46
3:T:161:LYS:HZ1	1:W:57:GLY:H	1.63	0.46
2:L:193:TYR:HB2	2:L:210:PHE:CE1	2.51	0.46
1:C:100:LEU:HD13	2:D:97:TYR:CE1	2.50	0.46
2:P:173:THR:C	2:P:174:TYR:HD1	2.19	0.46
1:H:62:LYS:NZ	1:H:64:SER:OG	2.22	0.45
1:H:105:ASN:O	1:H:106:SER:OG	2.26	0.45
3:E:47:LYS:HE3	2:K:56:THR:CG2	2.44	0.45
1:O:189:VAL:HG11	2:P:136:LEU:HD22	1.96	0.45
2:P:133:VAL:HG21	2:P:193:TYR:CD2	2.51	0.45
1:Q:150:VAL:HB	1:Q:186:LEU:HD23	1.98	0.45
2:V:63:SER:O	2:V:73:LEU:HD12	2.17	0.45
2:L:78:LEU:HD13	2:L:105:LEU:HD21	1.97	0.45
3:A:148:GLU:HG2	3:A:149:GLY:N	2.31	0.45
1:C:154:PHE:CD1	1:C:155:PRO:HA	2.51	0.45
1:J:131:PRO:CB	1:J:217:LYS:HE3	2.46	0.45
1:H:54:TYR:CE2	1:H:55:HIS:CE1	3.04	0.45
1:G:21:THR:HA	1:G:81:SER:HA	1.97	0.45
1:G:63:SER:HA	1:G:66:LYS:HG3	1.98	0.45
2:K:29:VAL:HA	2:K:92:ASN:ND2	2.30	0.45
1:O:40:ARG:HB3	1:O:50:ILE:HD11	1.97	0.45
1:Q:57:GLY:HA2	1:Q:73:LEU:HD22	1.97	0.45
3:T:177:PHE:O	3:T:181:GLU:HG3	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:29:ILE:HD13	1:H:29:ILE:N	2.32	0.45
2:L:39:LYS:HB2	2:L:42:GLN:OE1	2.17	0.45
1:C:29:ILE:HG13	1:C:29:ILE:O	2.16	0.45
1:C:107:ALA:CB	2:D:97:TYR:HE2	2.30	0.45
1:C:130:PHE:HE1	2:D:124:GLU:OE1	1.99	0.45
2:D:29:VAL:HA	2:D:92:ASN:ND2	2.31	0.45
1:G:24:LEU:CD2	1:G:35:TYR:CD2	2.99	0.45
2:P:108:ARG:HA	2:P:141:TYR:OH	2.16	0.45
2:P:125:GLN:HG2	2:P:130:THR:O	2.16	0.45
2:X:167:GLN:HG3	2:X:174:TYR:CZ	2.51	0.45
1:C:189:VAL:HG11	2:D:136:LEU:HD22	1.98	0.45
1:O:176:ALA:HA	1:O:186:LEU:HB3	1.98	0.45
3:N:61:GLU:OE2	3:N:111:LYS:NZ	2.42	0.45
1:U:106:SER:OG	2:V:91:TYR:HE2	1.98	0.45
2:V:109:ARG:HG3	2:V:141:TYR:HD2	1.82	0.45
1:H:107:ALA:CB	2:L:97:TYR:HE2	2.29	0.45
3:B:134:PHE:CE1	3:B:173:LEU:HB2	2.51	0.45
1:C:17:THR:HG23	1:C:85:THR:HB	1.98	0.45
1:C:29:ILE:HD11	1:C:77:ARG:NE	2.32	0.45
1:G:16:GLN:O	1:G:87:VAL:HG22	2.17	0.45
2:I:19:ALA:CB	2:I:78:LEU:HD11	2.35	0.45
3:M:98:LEU:HD13	3:M:145:LEU:HD22	1.97	0.45
1:Q:36:TRP:HD1	6:Q:303:HOH:O	1.99	0.45
3:S:73:ALA:HA	3:S:77:ILE:HG13	1.98	0.45
1:H:37:GLY:HA2	1:H:51:GLY:O	2.17	0.45
1:G:102:ASP:HB3	1:G:105:ASN:OD1	2.17	0.45
2:P:150:LYS:HD3	2:P:153:ASN:OD1	2.16	0.45
1:U:21:THR:HA	1:U:81:SER:HA	1.98	0.45
2:V:166:GLU:CD	2:V:166:GLU:H	2.19	0.45
1:H:49:TRP:O	1:H:62:LYS:HD3	2.16	0.45
1:H:176:ALA:HA	1:H:186:LEU:HB3	1.98	0.45
3:B:124:ILE:HG22	3:B:128:LYS:HE2	1.98	0.45
1:C:68:ARG:NH1	1:C:91:ASP:OD1	2.49	0.45
1:O:4:LEU:HA	1:O:4:LEU:HD23	1.72	0.45
2:R:21:LEU:N	2:R:73:LEU:O	2.46	0.45
2:I:63:SER:O	2:I:73:LEU:HD12	2.16	0.45
1:J:17:THR:HG23	1:J:85:THR:HB	1.99	0.45
3:M:132:GLU:HG2	3:M:136:ASN:OD1	2.16	0.45
1:Q:87:VAL:O	1:Q:89:ALA:N	2.43	0.45
1:H:1:GLN:HG2	1:H:2:LEU:N	2.25	0.45
1:G:54:TYR:CE2	1:G:55:HIS:CE1	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:147:VAL:HG22	2:K:197:VAL:HG22	1.99	0.45
1:O:36:TRP:CD1	1:O:100:LEU:HB2	2.53	0.45
2:P:91:TYR:N	6:P:401:HOH:O	2.41	0.45
1:Q:62:LYS:HD3	1:Q:65:LEU:HD23	1.98	0.45
2:V:185:ALA:O	2:V:189:LYS:HG2	2.17	0.45
3:E:181:GLU:O	3:E:185:LYS:HG3	2.17	0.44
1:J:158:VAL:HG11	1:J:206:VAL:HG13	1.99	0.44
2:K:13:VAL:HG21	2:K:78:LEU:HD21	2.00	0.44
3:M:128:LYS:HE2	6:M:302:HOH:O	2.16	0.44
1:H:100:LEU:HA	1:H:108:MET:HA	1.99	0.44
2:L:107:ILE:O	2:L:167:GLN:NE2	2.49	0.44
3:E:56:LEU:O	3:E:60:LYS:HG2	2.18	0.44
3:E:102:TYR:CE1	3:E:135:THR:HG23	2.52	0.44
1:J:7:SER:HG	1:J:8:GLY:N	2.15	0.44
2:K:37:GLN:HB2	2:K:47:LEU:HD21	1.99	0.44
1:O:196:SER:HA	1:O:199:THR:HB	1.99	0.44
1:G:29:ILE:O	6:G:302:HOH:O	2.21	0.44
3:N:63:GLU:HA	3:N:66:LEU:HD12	2.00	0.44
2:R:121:PRO:HG2	2:R:131:ALA:HB1	2.00	0.44
1:W:107:ALA:HB1	1:W:108:MET:HB2	1.98	0.44
3:A:152:ASP:O	3:A:156:LYS:HG3	2.18	0.44
1:G:20:LEU:O	1:G:82:LEU:N	2.40	0.44
3:E:72:ILE:HB	3:E:97:LEU:HD11	1.99	0.44
2:K:17:GLU:HG3	2:K:18:ARG:N	2.32	0.44
1:O:29:ILE:HG22	1:O:33:SER:OG	2.16	0.44
2:R:148:GLN:HG2	2:R:155:LEU:CD1	2.47	0.44
1:U:130:PHE:CD2	1:U:149:LEU:HD22	2.53	0.44
1:W:171:VAL:HG22	1:W:190:VAL:HG22	2.00	0.44
2:X:185:ALA:O	2:X:189:LYS:HG2	2.16	0.44
1:H:134:PRO:HD2	1:H:221:PRO:HA	1.99	0.44
2:L:37:GLN:HG3	2:L:86:TYR:CE1	2.52	0.44
1:G:75:THR:HG21	3:E:74:ALA:HB1	1.99	0.44
1:J:189:VAL:HG11	2:K:136:LEU:HD22	1.98	0.44
2:K:94:TRP:CG	2:K:94:TRP:O	2.69	0.44
1:U:17:THR:HG22	1:U:85:THR:OG1	2.16	0.44
1:U:38:TRP:NE1	1:U:82:LEU:HB2	2.32	0.44
1:W:122:ALA:O	6:W:402:HOH:O	2.21	0.44
2:X:143:ARG:HH21	2:X:164:VAL:CG2	2.30	0.44
2:D:122:SER:OG	2:D:125:GLN:HG3	2.17	0.44
1:G:65:LEU:HB3	1:G:69:VAL:HG23	1.99	0.44
2:P:143:ARG:HB2	2:P:174:TYR:CE2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:125:ASP:OD2	6:N:301:HOH:O	2.21	0.44
3:T:72:ILE:HB	3:T:97:LEU:HD11	2.00	0.44
3:A:132:GLU:HG2	3:A:136:ASN:ND2	2.33	0.44
1:C:38:TRP:C	1:C:39:ILE:HG13	2.37	0.44
2:D:33:LEU:HD22	2:D:71:PHE:CD1	2.52	0.44
1:J:40:ARG:NH1	1:J:91:ASP:OD1	2.47	0.44
1:U:174:PHE:CZ	2:V:177:SER:HB3	2.53	0.44
1:C:179:GLN:HE22	1:C:185:SER:HB3	1.83	0.44
3:E:49:ILE:HD12	3:E:195:VAL:HG22	1.99	0.44
2:P:185:ALA:O	2:P:189:LYS:HG2	2.17	0.44
1:W:49:TRP:CZ3	2:X:96:ARG:HG3	2.53	0.44
2:L:31:ASN:O	2:L:31:ASN:ND2	2.50	0.44
3:B:107:LEU:O	3:B:111:LYS:HG2	2.18	0.44
1:G:36:TRP:HB3	1:G:53:MET:H	1.82	0.44
1:G:40:ARG:HB3	1:G:50:ILE:HD11	2.00	0.44
1:G:207:ASN:OD1	1:G:214:LYS:HG3	2.18	0.44
1:O:60:TYR:CD2	2:P:95:PRO:HG3	2.53	0.44
2:P:94:TRP:HE1	3:M:185:LYS:HD3	1.81	0.44
2:P:123:ASP:OD1	2:P:124:GLU:N	2.51	0.44
2:R:119:PHE:HE2	2:R:136:LEU:HD23	1.81	0.44
1:U:40:ARG:HB3	1:U:95:TYR:CD1	2.53	0.44
2:L:62:PHE:N	2:L:62:PHE:CD1	2.86	0.43
3:B:78:GLY:N	3:B:94:ASN:OD1	2.33	0.43
1:G:62:LYS:HB3	1:G:65:LEU:HD12	2.00	0.43
1:J:18:LEU:HD23	1:J:87:VAL:HG12	1.99	0.43
3:N:66:LEU:HD22	3:N:177:PHE:CE1	2.53	0.43
2:V:122:SER:O	2:V:126:LEU:HD23	2.18	0.43
2:X:151:VAL:HG22	2:X:193:TYR:HD1	1.82	0.43
1:C:42:PRO:HG2	1:C:45:SER:HB3	2.00	0.43
1:G:33:SER:C	1:G:34:TYR:CG	2.91	0.43
3:E:66:LEU:HD22	3:E:177:PHE:CE1	2.52	0.43
2:K:37:GLN:HG3	2:K:86:TYR:CZ	2.53	0.43
2:K:147:VAL:HA	2:K:196:GLU:O	2.18	0.43
1:O:107:ALA:HB2	2:P:97:TYR:OH	2.18	0.43
2:P:109:ARG:CD	2:P:110:THR:H	2.32	0.43
2:R:169:SER:OG	2:R:170:LYS:HD2	2.18	0.43
2:R:196:GLU:HB2	2:R:207:THR:HG22	2.00	0.43
2:X:78:LEU:HD13	2:X:105:LEU:HD21	2.00	0.43
2:X:148:GLN:N	2:X:148:GLN:OE1	2.51	0.43
1:H:89:ALA:O	1:H:92:THR:HG22	2.18	0.43
2:L:119:PHE:HB2	2:L:134:VAL:HG22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1:GLN:HG2	1:C:2:LEU:N	2.27	0.43
1:C:151:LYS:HG2	1:C:152:ASP:CG	2.38	0.43
2:R:126:LEU:O	2:R:184:LYS:HD2	2.17	0.43
3:A:185:LYS:HZ2	2:D:94:TRP:HD1	1.59	0.43
1:C:18:LEU:HD23	1:C:87:VAL:HG11	2.00	0.43
2:D:119:PHE:HE2	2:D:136:LEU:HD23	1.83	0.43
2:I:33:LEU:HD22	2:I:71:PHE:CG	2.53	0.43
2:I:126:LEU:HD11	2:I:187:TYR:CD2	2.54	0.43
2:P:121:PRO:HB2	2:P:126:LEU:HD21	2.00	0.43
1:Q:4:LEU:HD13	1:Q:110:VAL:HG12	2.00	0.43
2:R:94:TRP:HE1	2:R:97:TYR:HH	1.66	0.43
1:U:7:SER:HB2	1:U:21:THR:O	2.19	0.43
1:W:74:ASP:O	1:W:77:ARG:HA	2.18	0.43
1:H:130:PHE:CE2	2:L:125:GLN:HG3	2.53	0.43
1:J:60:TYR:CD1	2:K:95:PRO:HG3	2.53	0.43
2:K:33:LEU:HB3	2:K:51:ALA:HB2	2.01	0.43
3:M:88:ASP:OD1	3:M:89:THR:N	2.49	0.43
1:W:75:THR:O	1:W:76:SER:OG	2.29	0.43
2:X:190:HIS:O	2:X:212:ARG:HD3	2.18	0.43
1:H:104:PHE:CE1	3:B:195:VAL:HG21	2.53	0.43
2:I:143:ARG:HB2	2:I:174:TYR:CE2	2.54	0.43
2:K:32:ASN:HB2	2:K:92:ASN:HB3	2.00	0.43
2:K:188:GLU:O	2:K:212:ARG:NH1	2.50	0.43
1:U:69:VAL:HG12	1:U:84:LEU:HD13	2.01	0.43
1:W:65:LEU:O	1:W:69:VAL:HG22	2.19	0.43
1:W:69:VAL:HG13	1:W:84:LEU:HD13	2.01	0.43
2:X:90:GLU:HB3	2:X:98:THR:OG1	2.19	0.43
2:L:61:ARG:NH1	2:L:82:ASP:OD2	2.52	0.43
3:A:195:VAL:HG21	1:C:104:PHE:HE2	1.83	0.43
1:C:172:HIS:CE1	2:D:175:SER:HG	2.36	0.43
2:K:31:ASN:OD1	2:K:51:ALA:HB3	2.19	0.43
1:Q:36:TRP:CE3	1:Q:54:TYR:HA	2.52	0.43
1:Q:100:LEU:HG	6:Q:303:HOH:O	2.18	0.43
2:L:19:ALA:HB2	2:L:78:LEU:HD22	1.99	0.43
1:G:34:TYR:HB2	1:G:36:TRP:HE1	1.84	0.43
1:J:108:MET:HB3	2:K:36:TYR:OH	2.19	0.43
2:K:13:VAL:CG2	2:K:78:LEU:HD21	2.49	0.43
3:N:166:LYS:HB3	3:N:171:GLU:N	2.33	0.43
2:V:94:TRP:CE3	2:V:95:PRO:HA	2.53	0.43
2:V:126:LEU:HD12	2:V:184:LYS:CD	2.48	0.43
1:W:57:GLY:O	1:W:59:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:181:GLU:O	3:A:185:LYS:HG2	2.19	0.43
3:F:134:PHE:CE1	3:F:173:LEU:HB2	2.53	0.43
1:J:14:PRO:HA	1:J:87:VAL:HG23	1.99	0.43
1:O:38:TRP:CD1	1:O:82:LEU:HB2	2.53	0.43
2:P:155:LEU:HD12	2:P:155:LEU:HA	1.74	0.43
3:M:65:LEU:HD13	3:N:68:SER:HB3	2.01	0.43
3:N:107:LEU:O	3:N:111:LYS:HD3	2.19	0.43
1:Q:75:THR:O	1:Q:76:SER:OG	2.28	0.43
1:Q:153:TYR:OH	1:Q:186:LEU:HD22	2.19	0.43
1:Q:189:VAL:HG21	2:R:136:LEU:HD22	2.01	0.43
2:X:119:PHE:CD1	2:X:134:VAL:HG23	2.54	0.43
1:H:167:LEU:HD21	1:H:190:VAL:HG11	2.00	0.43
2:L:17:GLU:HG3	2:L:18:ARG:H	1.84	0.43
3:F:75:LYS:O	3:F:79:LYS:HG3	2.19	0.43
2:K:109:ARG:HH21	2:K:141:TYR:CB	2.22	0.43
3:S:142:HIS:ND1	3:T:83:GLN:HB3	2.34	0.43
3:T:124:ILE:HG22	3:T:128:LYS:HE2	2.00	0.43
1:W:53:MET:HG2	1:W:54:TYR:N	2.31	0.43
1:G:38:TRP:CE2	1:G:82:LEU:HB2	2.55	0.42
3:E:176:LEU:O	3:E:180:VAL:HG23	2.19	0.42
1:J:12:VAL:HG11	1:J:18:LEU:HB3	2.01	0.42
2:K:212:ARG:HG2	6:K:401:HOH:O	2.19	0.42
3:M:193:ASN:O	3:M:197:GLU:HG3	2.18	0.42
1:U:53:MET:CG	1:U:54:TYR:N	2.82	0.42
1:H:152:ASP:OD1	1:H:179:GLN:NE2	2.52	0.42
2:L:72:THR:HG22	2:L:74:THR:HG23	2.00	0.42
3:A:139:LYS:HD3	3:B:83:GLN:O	2.19	0.42
1:C:66:LYS:C	1:C:68:ARG:H	2.21	0.42
1:J:106:SER:OG	2:K:91:TYR:HE2	2.02	0.42
1:J:159:THR:OG1	1:J:207:ASN:HB3	2.19	0.42
1:O:2:LEU:HB3	1:O:110:VAL:HG21	2.01	0.42
1:Q:108:MET:CE	2:R:89:GLN:HE22	2.32	0.42
1:U:130:PHE:HD2	1:U:149:LEU:HD22	1.84	0.42
1:U:171:VAL:HG22	1:U:190:VAL:HG22	2.00	0.42
2:V:85:VAL:C	2:V:86:TYR:HD1	2.21	0.42
3:S:53:ASN:OD1	3:S:57:LEU:HD13	2.20	0.42
1:W:159:THR:OG1	1:W:207:ASN:HB3	2.19	0.42
2:D:143:ARG:HG2	2:D:143:ARG:HH11	1.84	0.42
2:I:6:GLN:HE21	2:I:102:GLY:C	2.22	0.42
1:J:29:ILE:HG23	1:J:35:TYR:CD2	2.54	0.42
2:K:23:CYS:HB3	2:K:71:PHE:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:176:ALA:HB2	1:O:186:LEU:HD23	2.01	0.42
1:U:7:SER:HB2	1:U:21:THR:H	1.83	0.42
1:W:154:PHE:HB2	1:W:183:LEU:HD23	2.02	0.42
1:H:102:ASP:HB3	1:H:105:ASN:OD1	2.19	0.42
3:A:72:ILE:HG13	3:A:73:ALA:N	2.34	0.42
3:B:199:THR:O	3:B:200:SER:OG	2.29	0.42
1:G:130:PHE:CD2	2:I:125:GLN:HB2	2.53	0.42
2:I:79:GLN:HA	6:I:404:HOH:O	2.18	0.42
2:I:113:ALA:HB2	2:I:201:GLY:O	2.19	0.42
2:K:4:MET:CE	2:K:90:GLU:HB2	2.50	0.42
1:O:34:TYR:O	1:O:99:ARG:HB2	2.19	0.42
1:O:57:GLY:H	3:M:161:LYS:HE2	1.83	0.42
1:O:178:LEU:HD13	1:O:179:GLN:O	2.19	0.42
2:P:120:PRO:HB3	2:P:210:PHE:CE2	2.54	0.42
1:W:7:SER:OG	1:W:20:LEU:HA	2.20	0.42
1:H:62:LYS:HE3	1:H:65:LEU:HD23	2.00	0.42
1:H:65:LEU:O	1:H:69:VAL:HG22	2.19	0.42
2:L:61:ARG:NH1	2:L:82:ASP:OD1	2.52	0.42
3:B:80:LYS:CE	3:B:90:GLU:HB2	2.48	0.42
3:E:68:SER:O	3:E:72:ILE:HG12	2.19	0.42
1:O:56:SER:HB3	3:M:177:PHE:CD1	2.55	0.42
2:R:162:GLU:HA	2:R:178:SER:HA	2.00	0.42
1:U:23:THR:HA	1:U:79:GLN:HB3	2.01	0.42
1:U:75:THR:HG21	3:S:74:ALA:HB1	2.01	0.42
3:S:61:GLU:OE2	3:S:111:LYS:HD2	2.19	0.42
1:W:129:VAL:HG21	1:W:206:VAL:HG21	2.01	0.42
2:X:4:MET:HE1	2:X:29:VAL:CG1	2.49	0.42
2:L:147:VAL:HG22	2:L:197:VAL:HG22	2.02	0.42
2:D:133:VAL:HB	2:D:180:LEU:HB3	2.02	0.42
1:J:154:PHE:CD1	1:J:155:PRO:CA	3.02	0.42
1:O:111:TRP:HZ2	2:P:36:TYR:CE2	2.38	0.42
1:O:156:GLU:CG	1:O:157:PRO:HA	2.50	0.42
2:P:17:GLU:CG	2:P:18:ARG:H	2.31	0.42
2:P:39:LYS:HG2	2:P:84:ALA:HB2	2.01	0.42
2:R:114:PRO:HB3	2:R:140:PHE:HB3	2.02	0.42
2:V:61:ARG:HB2	2:V:76:SER:O	2.19	0.42
2:X:94:TRP:HA	2:X:96:ARG:N	2.34	0.42
1:H:75:THR:HG21	3:B:74:ALA:HB1	2.01	0.42
2:L:166:GLU:H	2:L:166:GLU:CD	2.22	0.42
2:I:106:GLU:HB2	2:I:167:GLN:NE2	2.35	0.42
1:J:36:TRP:CE3	1:J:53:MET:O	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:174:PHE:HE1	1:J:189:VAL:HG22	1.85	0.42
1:C:216:ASP:HA	6:C:301:HOH:O	2.20	0.42
2:D:126:LEU:CD1	2:D:184:LYS:HG3	2.40	0.42
1:G:2:LEU:HD13	6:G:303:HOH:O	2.20	0.42
1:J:39:ILE:HD11	1:J:108:MET:SD	2.60	0.42
2:K:152:ASP:OD2	2:K:190:HIS:HB3	2.20	0.42
2:P:35:TRP:CD2	2:P:73:LEU:HB2	2.54	0.42
2:P:47:LEU:HA	2:P:58:ILE:CD1	2.50	0.42
3:M:80:LYS:N	3:M:88:ASP:O	2.52	0.42
1:U:38:TRP:CZ3	1:U:97:CYS:HB3	2.55	0.42
2:X:167:GLN:HA	2:X:173:THR:O	2.19	0.42
2:L:190:HIS:O	2:L:212:ARG:NE	2.42	0.42
1:C:6:GLU:HG2	1:C:22:CYS:SG	2.60	0.42
1:G:37:GLY:HA3	1:G:100:LEU:HD11	2.00	0.42
1:G:127:PRO:HD2	1:G:213:THR:HG21	2.01	0.42
2:I:187:TYR:CE1	2:I:193:TYR:HE2	2.37	0.42
1:O:30:SER:OG	3:N:111:LYS:HE2	2.20	0.42
1:O:130:PHE:CD2	2:P:125:GLN:HB2	2.54	0.42
1:Q:102:ASP:HB3	1:Q:105:ASN:OD1	2.20	0.42
1:Q:159:THR:OG1	1:Q:207:ASN:HB3	2.19	0.42
1:U:7:SER:HG	1:U:8:GLY:H	1.65	0.42
2:V:6:GLN:HG3	2:V:102:GLY:H	1.84	0.42
2:X:13:VAL:N	2:X:108:ARG:HG3	2.34	0.42
2:X:168:ASP:HB3	2:X:171:ASP:OD1	2.19	0.42
1:C:100:LEU:HA	1:C:108:MET:HA	2.00	0.42
1:G:203:ILE:CG2	1:G:218:ARG:HG2	2.49	0.42
2:K:109:ARG:HG2	2:K:110:THR:H	1.85	0.42
1:O:32:THR:O	1:O:33:SER:OG	2.31	0.42
3:N:79:LYS:HB3	3:N:87:LEU:HD22	2.01	0.42
3:N:134:PHE:CZ	3:N:173:LEU:HD13	2.55	0.42
3:N:134:PHE:CE1	3:N:173:LEU:HB2	2.55	0.42
2:R:37:GLN:HG3	2:R:86:TYR:CZ	2.55	0.42
3:B:62:VAL:HG13	3:B:108:ILE:HG23	2.02	0.41
2:D:94:TRP:O	6:D:401:HOH:O	2.22	0.41
1:G:174:PHE:N	1:G:174:PHE:CD1	2.87	0.41
2:I:94:TRP:HB3	2:I:95:PRO:CD	2.50	0.41
2:I:155:LEU:H	2:I:155:LEU:HD12	1.85	0.41
1:J:105:ASN:OD1	1:J:105:ASN:O	2.38	0.41
2:R:39:LYS:HE3	2:R:81:GLU:O	2.20	0.41
3:T:129:LYS:O	3:T:132:GLU:HG2	2.20	0.41
3:T:174:GLY:O	3:T:178:GLU:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:75:ILE:HD11	2:X:86:TYR:CE2	2.55	0.41
2:X:121:PRO:HB3	2:X:132:SER:H	1.85	0.41
1:H:85:THR:HA	1:H:86:SER:HA	1.88	0.41
2:P:85:VAL:C	2:P:86:TYR:HD1	2.23	0.41
1:Q:87:VAL:HA	1:Q:91:ASP:OD2	2.20	0.41
2:R:108:ARG:HA	2:R:141:TYR:OH	2.19	0.41
1:W:124:THR:HG22	1:W:155:PRO:HD3	2.02	0.41
1:C:30:SER:O	1:C:31:SER:OG	2.37	0.41
2:K:141:TYR:CG	2:K:142:PRO:HA	2.56	0.41
1:O:192:VAL:HG11	1:O:202:TYR:OH	2.20	0.41
2:R:190:HIS:HB2	2:R:193:TYR:HE1	1.85	0.41
1:U:158:VAL:HG13	1:U:207:ASN:O	2.20	0.41
3:S:72:ILE:HG13	3:S:73:ALA:N	2.35	0.41
1:W:7:SER:HB2	1:W:21:THR:N	2.21	0.41
1:W:108:MET:HE1	2:X:99:PHE:CZ	2.55	0.41
1:W:108:MET:HE2	2:X:89:GLN:OE1	2.21	0.41
1:H:5:GLN:HG2	1:H:23:THR:O	2.20	0.41
1:J:29:ILE:HG13	1:J:73:LEU:HD11	2.03	0.41
1:J:151:LYS:HG2	1:J:152:ASP:CG	2.41	0.41
1:O:174:PHE:CD1	2:P:165:THR:HG23	2.56	0.41
2:P:166:GLU:CD	2:P:166:GLU:H	2.23	0.41
1:Q:10:GLY:HA2	1:Q:117:VAL:HA	2.02	0.41
2:R:13:VAL:C	2:R:108:ARG:HG2	2.39	0.41
2:V:36:TYR:HE1	2:V:46:LEU:HD13	1.85	0.41
3:S:61:GLU:O	3:S:65:LEU:HG	2.21	0.41
2:X:94:TRP:HA	2:X:96:ARG:H	1.85	0.41
2:X:194:ALA:HB2	2:X:209:SER:HB3	2.01	0.41
1:H:7:SER:HG	1:H:21:THR:H	1.66	0.41
1:H:35:TYR:HE2	1:H:80:PHE:CD1	2.38	0.41
1:G:174:PHE:N	1:G:174:PHE:HD1	2.18	0.41
3:F:134:PHE:HA	3:F:172:GLU:HB2	2.02	0.41
1:O:22:CYS:HB2	1:O:38:TRP:CH2	2.55	0.41
1:O:54:TYR:CE2	1:O:55:HIS:CE1	3.08	0.41
3:M:130:CYS:SG	3:M:175:LYS:HE3	2.61	0.41
3:N:125:ASP:HA	3:N:128:LYS:HE3	2.03	0.41
1:U:70:THR:HB	1:U:83:ARG:HB3	2.03	0.41
2:V:145:ALA:HB2	2:V:199:HIS:HD2	1.86	0.41
2:X:125:GLN:HG2	2:X:130:THR:O	2.21	0.41
1:G:162:TRP:HA	1:G:203:ILE:O	2.20	0.41
2:I:61:ARG:NH1	2:I:82:ASP:OD1	2.54	0.41
2:K:143:ARG:HB2	2:K:174:TYR:CE2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:168:ASP:HB3	2:R:171:ASP:OD1	2.20	0.41
1:H:35:TYR:OH	1:H:80:PHE:HB3	2.21	0.41
3:M:142:HIS:CE1	3:N:83:GLN:HB3	2.56	0.41
3:N:123:LYS:HD3	3:N:182:VAL:HG12	2.02	0.41
3:N:175:LYS:HD3	3:N:175:LYS:HA	1.93	0.41
1:Q:192:VAL:HG11	1:Q:202:TYR:CE1	2.55	0.41
1:U:18:LEU:HD21	1:U:84:LEU:HD23	2.02	0.41
1:U:39:ILE:HD13	1:U:111:TRP:CZ3	2.55	0.41
2:X:7:SER:OG	2:X:22:SER:HB2	2.20	0.41
1:H:31:SER:C	1:H:33:SER:H	2.23	0.41
1:H:88:THR:HG22	1:H:89:ALA:H	1.84	0.41
2:L:62:PHE:N	2:L:62:PHE:HD1	2.19	0.41
3:B:142:HIS:O	3:B:146:GLY:N	2.44	0.41
2:D:165:THR:HG23	2:D:166:GLU:O	2.21	0.41
1:G:89:ALA:O	1:G:92:THR:HG22	2.21	0.41
2:I:114:PRO:HB3	2:I:140:PHE:HB3	2.01	0.41
3:E:52:SER:O	3:E:55:VAL:HG12	2.21	0.41
1:J:132:LEU:HA	1:J:132:LEU:HD12	1.70	0.41
2:K:82:ASP:O	2:K:86:TYR:OH	2.24	0.41
2:P:83:PHE:CZ	2:P:107:ILE:HG12	2.56	0.41
1:Q:7:SER:HB2	1:Q:21:THR:N	2.28	0.41
1:U:53:MET:HE3	1:U:71:ILE:HG22	2.02	0.41
3:S:132:GLU:HG2	3:S:136:ASN:ND2	2.36	0.41
1:W:35:TYR:HD1	1:W:99:ARG:HB2	1.86	0.41
2:L:61:ARG:O	2:L:75:ILE:HA	2.21	0.41
1:C:18:LEU:HD21	1:C:84:LEU:HD23	2.03	0.41
1:C:53:MET:SD	1:C:73:LEU:HB3	2.61	0.41
1:G:174:PHE:CE2	2:I:177:SER:HB3	2.55	0.41
3:E:45:ILE:H	3:E:45:ILE:HG13	1.71	0.41
3:E:102:TYR:HD2	3:F:81:ILE:HD12	1.86	0.41
1:O:102:ASP:HB3	1:O:105:ASN:OD1	2.20	0.41
2:R:107:ILE:H	2:R:107:ILE:HG13	1.71	0.41
2:R:109:ARG:NH2	2:R:112:ALA:HB2	2.36	0.41
1:U:4:LEU:HD12	1:U:110:VAL:O	2.20	0.41
1:U:54:TYR:CE2	1:U:55:HIS:CD2	3.09	0.41
3:S:198:LEU:HD22	3:T:46:SER:CB	2.50	0.41
1:W:7:SER:HB2	1:W:21:THR:O	2.21	0.41
1:W:15:SER:O	1:W:86:SER:HB2	2.21	0.41
2:X:109:ARG:HH12	2:X:112:ALA:HB3	1.84	0.41
1:H:16:GLN:O	1:H:87:VAL:HG22	2.21	0.41
2:L:196:GLU:HG2	2:L:207:THR:HG22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:178:LEU:HD21	1:C:182:GLY:HA2	2.02	0.41
2:D:211:ASN:O	2:D:213:GLY:N	2.54	0.41
3:E:83:GLN:HB3	3:F:142:HIS:ND1	2.36	0.41
1:O:131:PRO:O	2:P:122:SER:OG	2.39	0.41
1:Q:208:HIS:CD2	1:Q:210:PRO:HD2	2.56	0.41
1:U:53:MET:HG3	1:U:54:TYR:H	1.86	0.41
1:U:208:HIS:CE1	1:U:211:SER:H	2.39	0.41
1:W:120:SER:HB3	1:W:154:PHE:HZ	1.86	0.41
2:X:146:LYS:HB3	2:X:198:THR:HB	2.03	0.41
1:H:32:THR:HB	1:H:55:HIS:CD2	2.56	0.40
3:A:117:ASN:ND2	3:A:120:LEU:HD23	2.36	0.40
3:B:165:THR:HG21	1:J:183:LEU:HD21	2.03	0.40
1:C:49:TRP:CZ3	1:C:62:LYS:HA	2.56	0.40
1:J:134:PRO:HG2	1:J:197:LEU:HD21	2.02	0.40
2:K:106:GLU:OE2	2:K:174:TYR:OH	2.37	0.40
1:U:149:LEU:HD11	2:V:125:GLN:NE2	2.36	0.40
3:S:189:GLU:HG2	3:S:193:ASN:OD1	2.20	0.40
1:W:106:SER:HB2	2:X:94:TRP:CD2	2.56	0.40
1:H:53:MET:HG2	1:H:54:TYR:N	2.31	0.40
1:H:88:THR:HG22	1:H:89:ALA:N	2.36	0.40
1:C:36:TRP:NE1	1:C:100:LEU:O	2.39	0.40
3:E:88:ASP:OD1	3:E:89:THR:N	2.51	0.40
1:J:39:ILE:O	1:J:96:TYR:N	2.39	0.40
2:K:38:HIS:O	2:K:84:ALA:HB1	2.21	0.40
1:O:4:LEU:HD21	1:O:35:TYR:CE1	2.56	0.40
2:P:58:ILE:HA	2:P:59:PRO:HD3	1.97	0.40
2:L:109:ARG:HH21	2:L:141:TYR:HB3	1.86	0.40
3:F:74:ALA:HB1	1:J:75:THR:HG21	2.04	0.40
1:J:38:TRP:CE2	1:J:82:LEU:HB2	2.56	0.40
1:O:30:SER:N	1:O:33:SER:HA	2.36	0.40
2:P:21:LEU:O	2:P:72:THR:HA	2.21	0.40
3:M:127:ALA:HA	3:M:179:SER:HB3	2.02	0.40
1:U:6:GLU:HB3	1:U:115:THR:HB	2.02	0.40
3:S:83:GLN:HB2	3:T:142:HIS:CE1	2.57	0.40
1:W:31:SER:N	1:W:32:THR:HA	2.37	0.40
1:W:92:THR:OG1	1:W:118:ILE:HA	2.21	0.40
1:H:13:LYS:O	1:H:16:GLN:HB2	2.20	0.40
3:A:66:LEU:HD11	3:A:180:VAL:HG21	2.03	0.40
3:B:73:ALA:HA	3:B:77:ILE:HG13	2.04	0.40
3:B:137:LYS:HA	3:B:137:LYS:HD3	1.92	0.40
2:D:21:LEU:O	2:D:72:THR:HA	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:107:ILE:O	2:D:167:GLN:NE2	2.51	0.40
1:G:107:ALA:HB1	2:I:97:TYR:HE2	1.87	0.40
2:I:47:LEU:HA	2:I:58:ILE:CD1	2.52	0.40
2:I:73:LEU:HD21	2:I:86:TYR:HD2	1.86	0.40
1:J:74:ASP:O	1:J:77:ARG:HA	2.21	0.40
1:O:99:ARG:HG2	1:O:110:VAL:HB	2.03	0.40
2:P:149:TRP:HB2	2:P:156:GLN:HB2	2.02	0.40
1:W:29:ILE:HG12	1:W:35:TYR:HB2	2.04	0.40
1:W:51:GLY:HA3	1:W:71:ILE:HD11	2.02	0.40
1:W:111:TRP:CE3	2:X:44:PRO:HD2	2.56	0.40
1:H:35:TYR:CE2	1:H:80:PHE:CD1	3.09	0.40
2:D:50:ASP:H	2:D:91:TYR:HH	1.68	0.40
1:Q:35:TYR:N	1:Q:99:ARG:HG2	2.36	0.40
1:Q:92:THR:OG1	1:Q:118:ILE:HA	2.22	0.40
2:R:37:GLN:HG3	2:R:86:TYR:CE2	2.56	0.40
1:U:217:LYS:HD3	1:U:218:ARG:O	2.22	0.40
2:V:123:ASP:OD1	2:V:124:GLU:N	2.55	0.40
1:W:29:ILE:HD12	1:W:73:LEU:HD13	2.04	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:168:THR:OG1	2:X:18:ARG:NH2[1_565]	2.15	0.05

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	211/228 (92%)	207 (98%)	4 (2%)	0	100	100
1	G	212/228 (93%)	209 (99%)	3 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	H	208/228 (91%)	204 (98%)	4 (2%)	0	100	100
1	J	211/228 (92%)	207 (98%)	4 (2%)	0	100	100
1	O	211/228 (92%)	207 (98%)	4 (2%)	0	100	100
1	Q	211/228 (92%)	205 (97%)	6 (3%)	0	100	100
1	U	207/228 (91%)	203 (98%)	4 (2%)	0	100	100
1	W	211/228 (92%)	205 (97%)	6 (3%)	0	100	100
2	D	213/215 (99%)	212 (100%)	1 (0%)	0	100	100
2	I	210/215 (98%)	210 (100%)	0	0	100	100
2	K	212/215 (99%)	210 (99%)	2 (1%)	0	100	100
2	L	212/215 (99%)	211 (100%)	1 (0%)	0	100	100
2	P	208/215 (97%)	207 (100%)	1 (0%)	0	100	100
2	R	212/215 (99%)	210 (99%)	2 (1%)	0	100	100
2	V	209/215 (97%)	208 (100%)	1 (0%)	0	100	100
2	X	212/215 (99%)	211 (100%)	1 (0%)	0	100	100
3	A	153/164 (93%)	152 (99%)	0	1 (1%)	19	51
3	B	155/164 (94%)	153 (99%)	2 (1%)	0	100	100
3	E	156/164 (95%)	155 (99%)	1 (1%)	0	100	100
3	F	152/164 (93%)	151 (99%)	1 (1%)	0	100	100
3	M	152/164 (93%)	152 (100%)	0	0	100	100
3	N	156/164 (95%)	156 (100%)	0	0	100	100
3	S	155/164 (94%)	154 (99%)	1 (1%)	0	100	100
3	T	154/164 (94%)	154 (100%)	0	0	100	100
All	All	4603/4856 (95%)	4553 (99%)	49 (1%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	70	ASP

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	C	184/196 (94%)	181 (98%)	3 (2%)	58	79
1	G	185/196 (94%)	185 (100%)	0	100	100
1	H	183/196 (93%)	183 (100%)	0	100	100
1	J	184/196 (94%)	182 (99%)	2 (1%)	70	84
1	O	184/196 (94%)	184 (100%)	0	100	100
1	Q	184/196 (94%)	182 (99%)	2 (1%)	70	84
1	U	182/196 (93%)	180 (99%)	2 (1%)	70	84
1	W	184/196 (94%)	183 (100%)	1 (0%)	86	92
2	D	186/186 (100%)	184 (99%)	2 (1%)	70	84
2	I	183/186 (98%)	179 (98%)	4 (2%)	47	71
2	K	185/186 (100%)	184 (100%)	1 (0%)	86	92
2	L	185/186 (100%)	184 (100%)	1 (0%)	86	92
2	P	182/186 (98%)	179 (98%)	3 (2%)	58	79
2	R	185/186 (100%)	183 (99%)	2 (1%)	70	84
2	V	183/186 (98%)	182 (100%)	1 (0%)	86	92
2	X	185/186 (100%)	182 (98%)	3 (2%)	58	79
3	A	126/134 (94%)	125 (99%)	1 (1%)	79	89
3	B	128/134 (96%)	126 (98%)	2 (2%)	58	79
3	E	128/134 (96%)	127 (99%)	1 (1%)	79	89
3	F	125/134 (93%)	123 (98%)	2 (2%)	58	79
3	M	125/134 (93%)	124 (99%)	1 (1%)	79	89
3	N	129/134 (96%)	127 (98%)	2 (2%)	58	79
3	S	128/134 (96%)	128 (100%)	0	100	100
3	T	127/134 (95%)	125 (98%)	2 (2%)	58	79
All	All	3960/4128 (96%)	3922 (99%)	38 (1%)	73	86

All (38) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	L	31	ASN
3	A	181	GLU
3	B	53	ASN

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Mol	Chain	Res	Type
3	B	137	LYS
1	C	179	GLN
1	C	204	CYS
1	C	209	LYS
2	D	31	ASN
2	D	78	LEU
2	I	94	TRP
2	I	109	ARG
2	I	143	ARG
2	I	144	GLU
3	E	102	TYR
3	F	80	LYS
3	F	188	LYS
1	J	22	CYS
1	J	35	TYR
2	K	212	ARG
2	P	50	ASP
2	P	109	ARG
2	P	184	LYS
3	M	53	ASN
3	N	116	LYS
3	N	137	LYS
1	Q	36	TRP
1	Q	83	ARG
2	R	31	ASN
2	R	78	LEU
1	U	22	CYS
1	U	36	TRP
2	V	150	LYS
3	T	53	ASN
3	T	168	LYS
1	W	83	ARG
2	X	18	ARG
2	X	31	ASN
2	X	184	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
2	L	92	ASN
3	A	142	HIS
2	D	31	ASN

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Mol	Chain	Res	Type
1	G	55	HIS
2	I	6	GLN
1	U	163	ASN
2	V	32	ASN
2	V	125	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 14 ligands modelled in this entry, 14 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	C	215/228 (94%)	0.26	3 (1%) 73 56	40, 59, 84, 94	0
1	G	216/228 (94%)	0.23	7 (3%) 50 31	35, 63, 91, 102	0
1	H	214/228 (93%)	0.31	7 (3%) 49 30	47, 67, 88, 111	0
1	J	215/228 (94%)	0.40	8 (3%) 45 27	50, 68, 91, 107	0
1	O	215/228 (94%)	0.65	17 (7%) 20 11	52, 89, 135, 152	0
1	Q	215/228 (94%)	0.11	5 (2%) 61 42	16, 43, 75, 92	0
1	U	213/228 (93%)	0.84	22 (10%) 13 8	41, 88, 169, 180	0
1	W	215/228 (94%)	0.03	7 (3%) 49 30	17, 41, 75, 94	0
2	D	215/215 (100%)	-0.07	3 (1%) 73 56	34, 52, 77, 101	0
2	I	212/215 (98%)	-0.02	2 (0%) 81 66	30, 48, 78, 89	0
2	K	214/215 (99%)	0.23	6 (2%) 55 35	39, 65, 103, 115	0
2	L	214/215 (99%)	0.27	5 (2%) 61 42	38, 66, 103, 116	0
2	P	210/215 (97%)	0.91	16 (7%) 21 12	73, 110, 137, 144	0
2	R	214/215 (99%)	-0.07	1 (0%) 87 75	18, 39, 70, 90	0
2	V	211/215 (98%)	1.05	19 (9%) 17 10	73, 132, 162, 176	0
2	X	214/215 (99%)	-0.11	0 100 100	17, 43, 79, 98	0
3	A	155/164 (94%)	0.29	4 (2%) 57 38	47, 67, 90, 104	0
3	B	157/164 (95%)	0.04	0 100 100	47, 66, 92, 132	0
3	E	158/164 (96%)	0.14	3 (1%) 66 47	44, 67, 93, 121	0
3	F	154/164 (93%)	0.09	3 (1%) 66 47	47, 63, 82, 91	0
3	M	154/164 (93%)	0.12	6 (3%) 44 26	37, 57, 82, 104	0
3	N	158/164 (96%)	-0.13	3 (1%) 66 47	25, 44, 72, 102	0
3	S	157/164 (95%)	-0.07	1 (0%) 85 72	28, 47, 70, 97	0
3	T	156/164 (95%)	-0.11	1 (0%) 85 72	26, 43, 73, 95	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
All	All	4671/4856 (96%)	0.24	149 (3%) 50 31	16, 61, 127, 180	0

All (149) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	U	106	SER	5.2
1	H	35	TYR	5.2
1	W	34	TYR	4.8
1	W	33	SER	4.5
1	U	35	TYR	4.3
2	P	198	THR	4.1
1	U	144	ALA	4.1
1	C	35	TYR	3.9
1	O	148	CYS	3.7
1	W	35	TYR	3.7
1	O	134	PRO	3.7
1	U	148	CYS	3.6
2	V	105	LEU	3.5
2	L	120	PRO	3.5
1	O	34	TYR	3.5
2	I	94	TRP	3.5
3	A	146	GLY	3.4
1	Q	35	TYR	3.3
2	K	31	ASN	3.3
3	A	45	ILE	3.2
1	J	30	SER	3.2
3	M	197	GLU	3.1
2	P	145	ALA	3.1
1	O	106	SER	3.1
2	V	203	SER	3.1
3	F	85	ASN	3.1
2	P	195	CYS	3.1
1	W	106	SER	3.0
2	V	191	LYS	3.0
1	C	2	LEU	3.0
2	D	51	ALA	3.0
1	J	57	GLY	3.0
1	U	99	ARG	3.0
3	T	45	ILE	3.0
1	J	35	TYR	3.0
2	V	28	SER	3.0
1	G	34	TYR	2.9

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Mol	Chain	Res	Type	RSRZ
1	U	143	THR	2.9
1	Q	31	SER	2.9
2	K	183	SER	2.9
3	A	85	ASN	2.8
1	O	174	PHE	2.8
1	Q	34	TYR	2.8
1	J	64	SER	2.8
1	U	105	ASN	2.8
2	D	94	TRP	2.8
1	U	217	LYS	2.8
1	O	88	THR	2.8
1	U	171	VAL	2.7
2	V	9	VAL	2.7
2	P	94	TRP	2.7
1	U	135	SER	2.7
2	I	166	GLU	2.7
3	M	45	ILE	2.7
1	G	107	ALA	2.7
1	O	30	SER	2.6
1	U	170	GLY	2.6
2	V	145	ALA	2.6
2	L	56	THR	2.6
1	H	36	TRP	2.6
1	O	35	TYR	2.6
1	U	30	SER	2.6
2	P	211	ASN	2.6
3	N	86	GLY	2.6
1	G	122	ALA	2.6
3	M	181	GLU	2.6
1	H	32	THR	2.5
2	P	132	SER	2.5
1	G	2	LEU	2.5
1	O	33	SER	2.5
2	D	31	ASN	2.5
1	J	88	THR	2.5
1	U	2	LEU	2.5
1	U	188	SER	2.5
2	P	67	SER	2.5
1	O	133	ALA	2.4
1	O	190	VAL	2.4
2	L	67	SER	2.4
2	P	11	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	Q	32	THR	2.4
1	W	142	GLY	2.4
1	O	2	LEU	2.4
1	U	109	ASP	2.4
1	U	152	ASP	2.4
2	P	51	ALA	2.4
3	F	113	ASP	2.4
1	Q	88	THR	2.4
2	P	175	SER	2.3
1	G	33	SER	2.3
2	P	28	SER	2.3
2	V	132	SER	2.3
2	V	25	ALA	2.3
1	H	213	THR	2.3
1	O	18	LEU	2.3
2	K	67	SER	2.3
3	S	70	ASP	2.3
3	M	146	GLY	2.3
1	U	197	LEU	2.3
1	U	169	SER	2.3
2	V	14	SER	2.3
2	V	70	GLU	2.3
2	V	106	GLU	2.3
1	G	36	TRP	2.3
3	F	45	ILE	2.3
2	V	89	GLN	2.3
2	V	155	LEU	2.3
2	P	159	ASN	2.2
2	V	126	LEU	2.2
3	A	197	GLU	2.2
2	L	186	ASP	2.2
2	V	207	THR	2.2
2	L	30	GLY	2.2
2	K	76	SER	2.2
1	J	36	TRP	2.2
1	H	198	GLY	2.2
3	E	199	THR	2.2
2	V	136	LEU	2.2
1	H	33	SER	2.2
2	R	56	THR	2.2
2	V	74	THR	2.2
3	M	86	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
3	N	201	PRO	2.1
1	H	28	SER	2.1
2	P	197	VAL	2.1
3	M	46	SER	2.1
1	O	27	GLY	2.1
1	J	167	LEU	2.1
1	W	64	SER	2.1
2	K	65	SER	2.1
2	P	163	SER	2.1
1	U	166	ALA	2.1
2	V	166	GLU	2.1
2	P	137	LEU	2.1
2	K	133	VAL	2.1
1	O	135	SER	2.1
1	W	63	SER	2.1
3	E	152	ASP	2.1
1	G	101	GLY	2.1
1	U	191	THR	2.1
1	C	5	GLN	2.1
1	O	197	LEU	2.1
2	P	76	SER	2.0
2	V	52	SER	2.0
1	J	91	ASP	2.0
1	U	131	PRO	2.0
1	U	134	PRO	2.0
3	N	148	GLU	2.0
3	E	201	PRO	2.0
1	O	101	GLY	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,

median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	CL	A	301	1/1	0.86	0.11	38,38,38,38	0
5	CL	S	302	1/1	0.86	0.13	52,52,52,52	0
5	CL	O	301	1/1	0.87	0.09	37,37,37,37	0
4	PR	P	301	1/1	0.87	0.12	164,164,164,164	1
4	PR	S	301	1/1	0.90	0.15	237,237,237,237	0
5	CL	W	301	1/1	0.93	0.07	49,49,49,49	0
4	PR	I	301	1/1	0.97	0.05	67,67,67,67	1
5	CL	T	301	1/1	0.97	0.13	42,42,42,42	0
4	PR	X	301	1/1	0.97	0.09	111,111,111,111	0
5	CL	X	302	1/1	0.97	0.06	36,36,36,36	0
4	PR	D	301	1/1	0.98	0.07	109,109,109,109	0
4	PR	R	301	1/1	0.98	0.06	75,75,75,75	0
4	PR	L	301	1/1	0.99	0.05	89,89,89,89	0
4	PR	K	301	1/1	0.99	0.02	81,81,81,81	0

6.5 Other polymers (i)

There are no such residues in this entry.