



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 27, 2014 – 12:51 AM GMT

PDB ID : 3E47  
Title : Crystal Structure of the Yeast 20S Proteasome in Complex with Homobelactosin C  
Authors : Groll, M.; Larionov, O.V.; de Meijere, A.  
Deposited on : 2008-08-10  
Resolution : 3.00 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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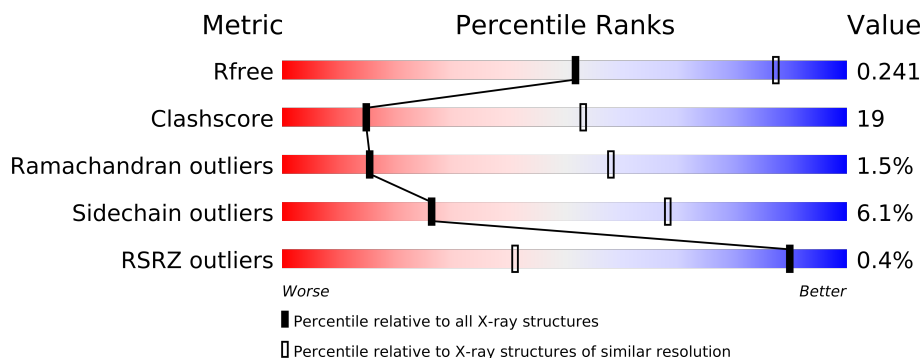
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.15 2013  
Xtriage (Phenix) : dev-1323  
EDS : stable22639  
Percentile statistics : 21963  
Refmac : 5.8.0049  
CCP4 : 6.3.0 (Settle)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : stable22683

# 1 Overall quality at a glance

The reported resolution of this entry is 3.00 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.









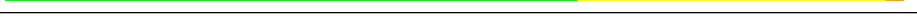


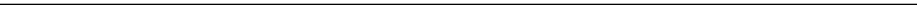




Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	66092	1216 (3.00-3.00)
Clashscore	79885	1594 (3.00-3.00)
Ramachandran outliers	78287	1537 (3.00-3.00)
Sidechain outliers	78261	1540 (3.00-3.00)
RSRZ outliers	66119	1217 (3.00-3.00)

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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	250	
1	O	250	
2	B	244	
2	P	244	
3	C	241	
3	Q	241	
4	D	242	
4	R	242	
5	E	233	
5	S	233	
6	F	244	
6	T	244	
7	G	243	
7	U	243	

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Mol	Chain	Length	Quality of chain
8	H	222	
8	V	222	
9	I	204	
9	W	204	
10	J	198	
10	X	198	
11	K	212	
11	Y	212	
12	L	222	
12	Z	222	
13	1	233	
13	M	233	
14	2	196	
14	N	196	

## 2 Entry composition

There are 16 unique types of molecules in this entry. The entry contains 50490 atoms, of which 0 are hydrogen and 0 are deuterium.

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 Proteasome component Y7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	250	Total	C	N	O	S	0	0	0
			1915	1219	315	377	4			
1	O	250	Total	C	N	O	S	0	0	0
			1915	1219	315	377	4			

- Molecule 2 is a protein called Proteasome component Y13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	244	Total	C	N	O	S	0	0	0
			1905	1201	321	380	3			
2	P	244	Total	C	N	O	S	0	0	0
			1905	1201	321	380	3			

- Molecule 3 is a protein called Proteasome component PRE6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	241	Total	C	N	O	S	0	0	0
			1891	1181	331	375	4			
3	Q	241	Total	C	N	O	S	0	0	0
			1891	1181	331	375	4			

- Molecule 4 is a protein called Proteasome component PUP2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	242	Total	C	N	O	S	0	0	0
			1862	1162	314	379	7			
4	R	242	Total	C	N	O	S	0	0	0
			1862	1162	314	379	7			

- Molecule 5 is a protein called Proteasome component PRE5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	233	Total	C	N	O	S	0	0	0
			1795	1129	312	350	4			
5	S	233	Total	C	N	O	S	0	0	0
			1795	1129	312	350	4			

- Molecule 6 is a protein called Proteasome component C1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	244	Total	C	N	O	S	0	0	0
			1897	1205	330	358	4			
6	T	244	Total	C	N	O	S	0	0	0
			1897	1205	330	358	4			

- Molecule 7 is a protein called Proteasome component C7-alpha.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	243	Total	C	N	O	S	0	0	0
			1921	1221	322	370	8			
7	U	243	Total	C	N	O	S	0	0	0
			1921	1221	322	370	8			

- Molecule 8 is a protein called Proteasome component PUP1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	222	Total	C	N	O	S	0	0	0
			1685	1061	293	324	7			
8	V	222	Total	C	N	O	S	0	0	0
			1685	1061	293	324	7			

- Molecule 9 is a protein called Proteasome component PUP3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	204	Total	C	N	O	S	0	0	0
			1581	1010	258	305	8			
9	W	204	Total	C	N	O	S	0	0	0
			1581	1010	258	305	8			

- Molecule 10 is a protein called Proteasome component C11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	198	Total	C	N	O	S	0	0	0
			1585	1005	269	305	6			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	X	198	Total	C	N	O	S	0	0	0
			1585	1005	269	305	6			

- Molecule 11 is a protein called Proteasome component PRE2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	212	Total	C	N	O	S	0	0	0
			1643	1045	280	311	7			
11	Y	212	Total	C	N	O	S	0	0	0
			1643	1045	280	311	7			

- Molecule 12 is a protein called Proteasome component C5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	222	Total	C	N	O	S	0	0	0
			1757	1115	303	335	4			
12	Z	222	Total	C	N	O	S	0	0	0
			1757	1115	303	335	4			

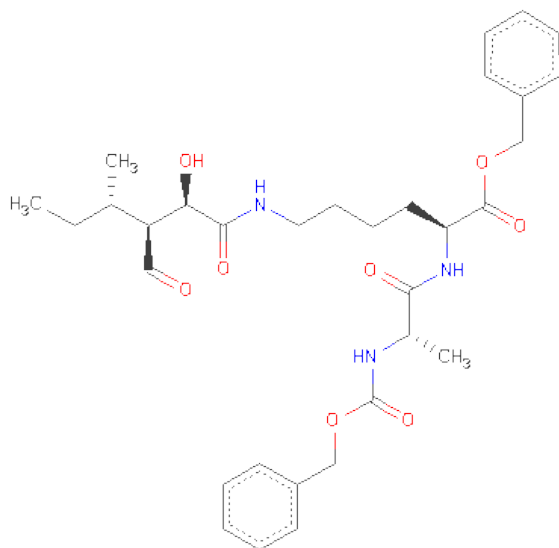
- Molecule 13 is a protein called Proteasome component PRE4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	233	Total	C	N	O	S	0	0	0
			1824	1154	312	351	7			
13	1	233	Total	C	N	O	S	0	0	0
			1824	1154	312	351	7			

- Molecule 14 is a protein called Proteasome component PRE3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	196	Total	C	N	O	S	0	0	0
			1512	955	250	300	7			
14	2	196	Total	C	N	O	S	0	0	0
			1512	955	250	300	7			

- Molecule 15 is BENZYL N-[(BENZYLOXY)CARBONYL]-L-ALANYL-N 6 -[(2R,3S,4S)-3-FORMYL-2-HYDROXY-4-METHYLHEXANOYL]-L-LYSINATE (three-letter code: ESY) (formula: C<sub>32</sub>H<sub>43</sub>N<sub>3</sub>O<sub>8</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
15	K	1	Total	C	N	O	0	0
			43	32	3	8		
15	Y	1	Total	C	N	O	0	0
			43	32	3	8		

- Molecule 16 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	A	38	Total	O	0	0
			38	38		
16	B	31	Total	O	0	0
			31	31		
16	C	24	Total	O	0	0
			24	24		
16	D	25	Total	O	0	0
			25	25		
16	E	15	Total	O	0	0
			15	15		
16	F	27	Total	O	0	0
			27	27		
16	G	41	Total	O	0	0
			41	41		
16	H	28	Total	O	0	0
			28	28		
16	I	42	Total	O	0	0
			42	42		
16	J	32	Total	O	0	0
			32	32		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	K	25	Total 25	O 25	0	0
16	L	35	Total 35	O 35	0	0
16	M	43	Total 43	O 43	0	0
16	N	38	Total 38	O 38	0	0
16	O	18	Total 18	O 18	0	0
16	P	20	Total 20	O 20	0	0
16	Q	17	Total 17	O 17	0	0
16	R	23	Total 23	O 23	0	0
16	S	16	Total 16	O 16	0	0
16	T	26	Total 26	O 26	0	0
16	U	38	Total 38	O 38	0	0
16	V	33	Total 33	O 33	0	0
16	W	39	Total 39	O 39	0	0
16	X	38	Total 38	O 38	0	0
16	Y	24	Total 24	O 24	0	0
16	Z	36	Total 36	O 36	0	0
16	1	45	Total 45	O 45	0	0
16	2	41	Total 41	O 41	0	0

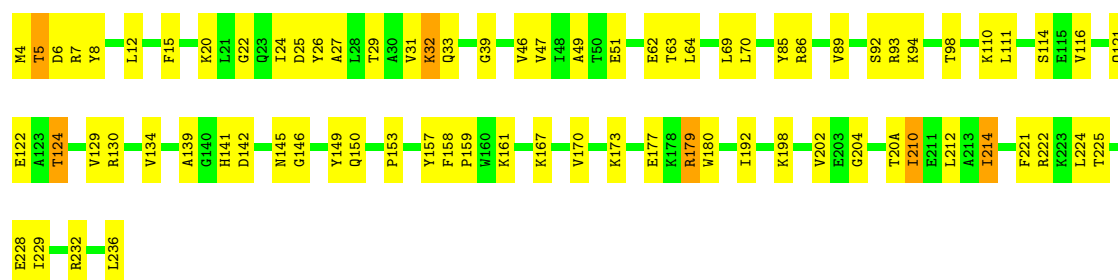


### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

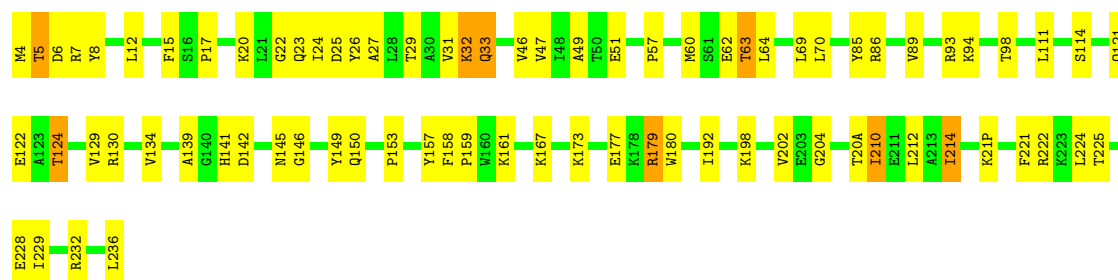
#### • Molecule 1: Proteasome component Y7

Chain A:



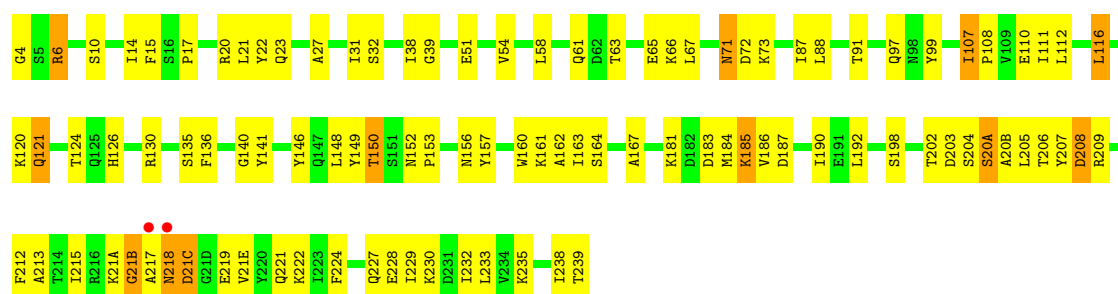
#### • Molecule 1: Proteasome component Y7

Chain O:



#### • Molecule 2: Proteasome component Y13

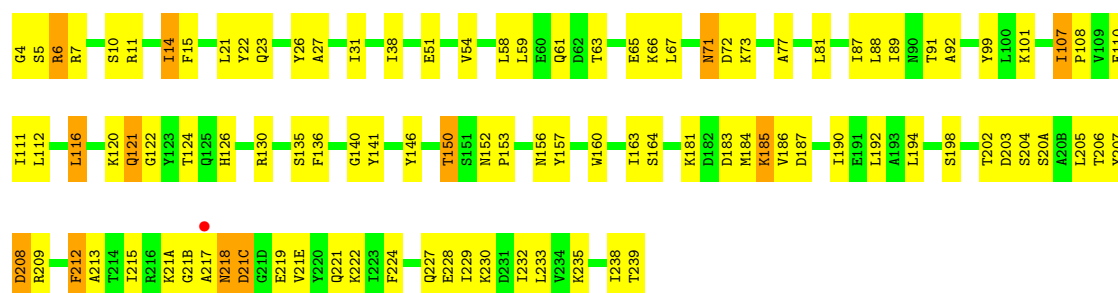
Chain B:



#### • Molecule 2: Proteasome component Y13

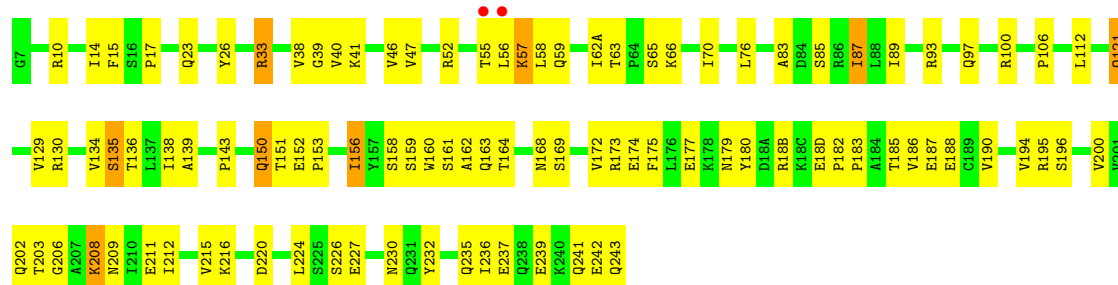
Chain P:





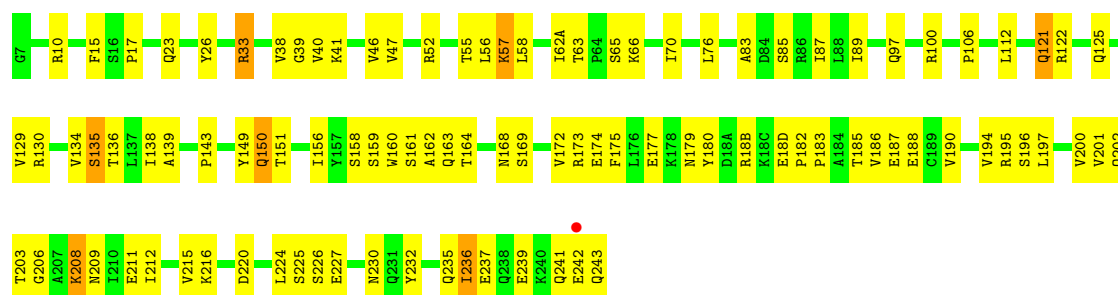
• Molecule 3: Proteasome component PRE6

Chain C:



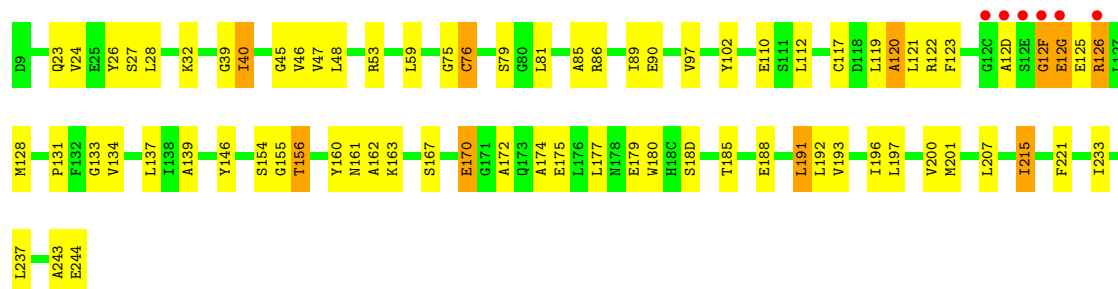
• Molecule 3: Proteasome component PRE6

Chain Q:



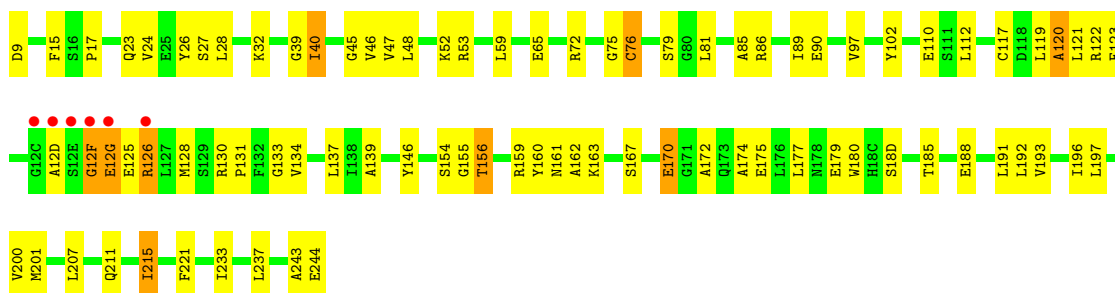
• Molecule 4: Proteasome component PUP2

Chain D:



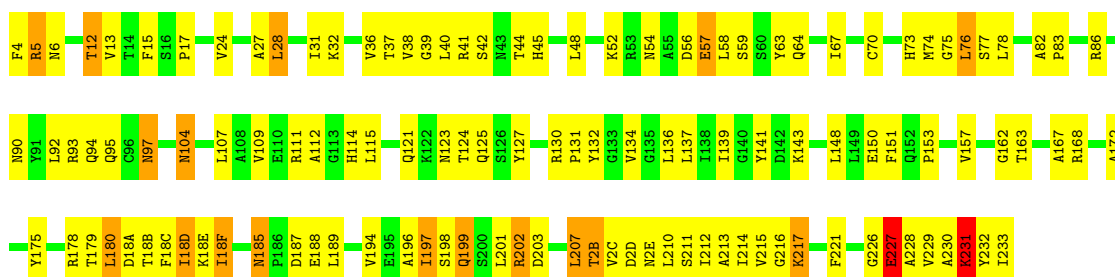
• Molecule 4: Proteasome component PUP2

Chain R:



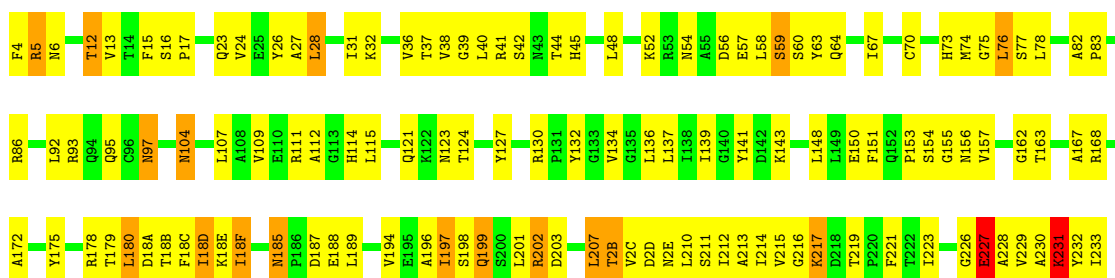
• Molecule 5: Proteasome component PRE5

Chain E:



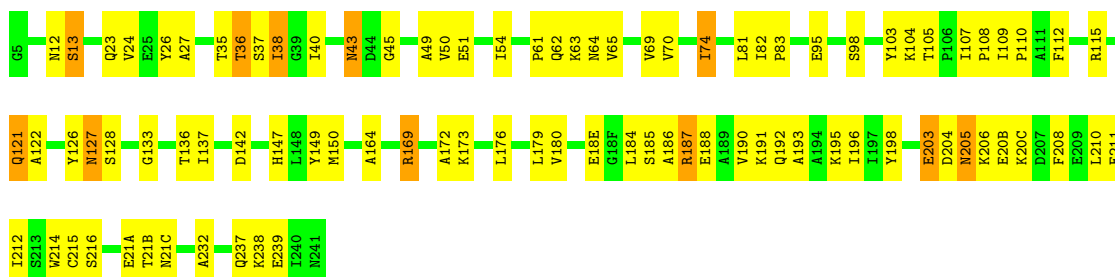
• Molecule 5: Proteasome component PRE5

Chain S:



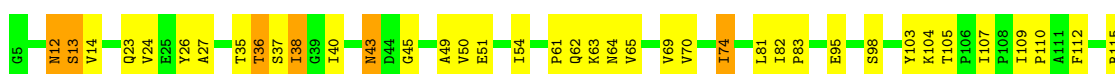
• Molecule 6: Proteasome component C1

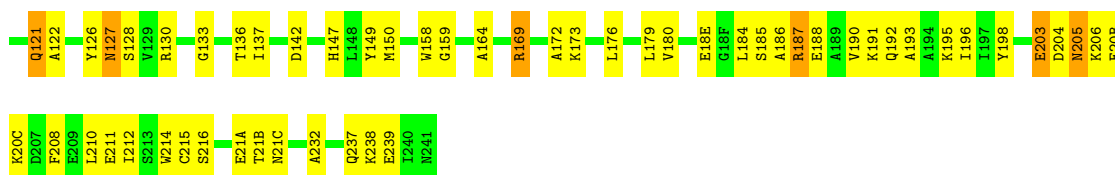
Chain F:



• Molecule 6: Proteasome component C1

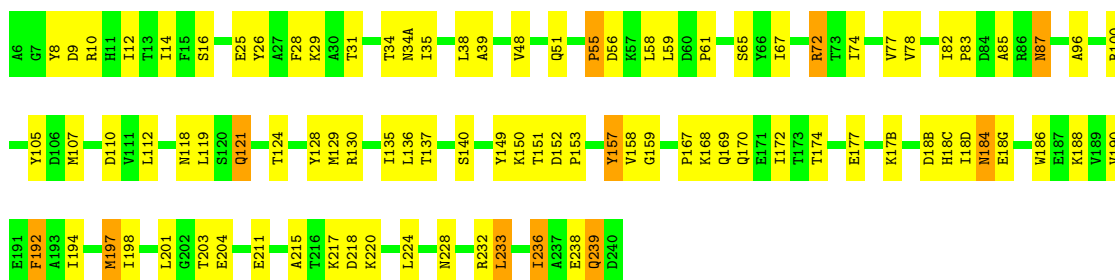
Chain T:





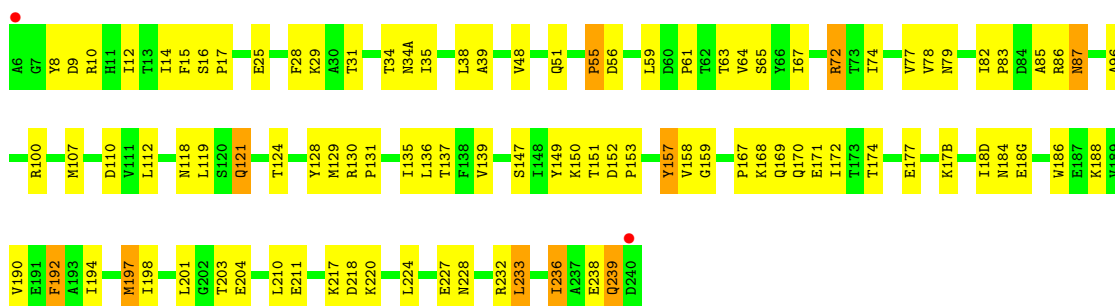
• Molecule 7: Proteasome component C7-alpha

Chain G:



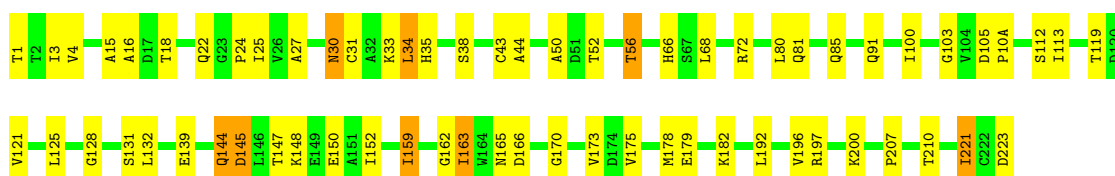
• Molecule 7: Proteasome component C7-alpha

Chain U:



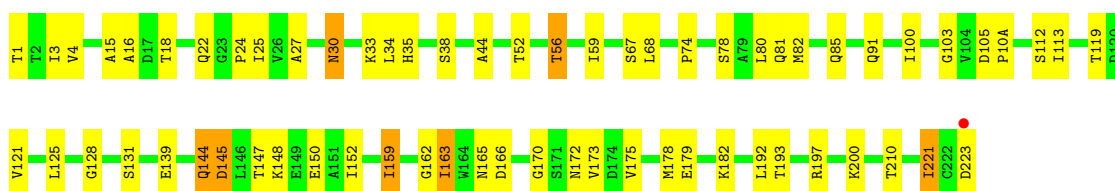
• Molecule 8: Proteasome component PUP1

Chain H:



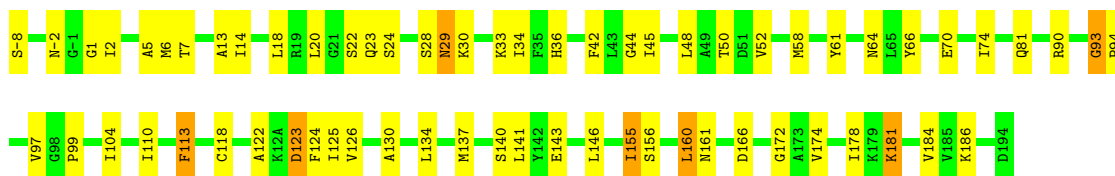
• Molecule 8: Proteasome component PUP1

Chain V:



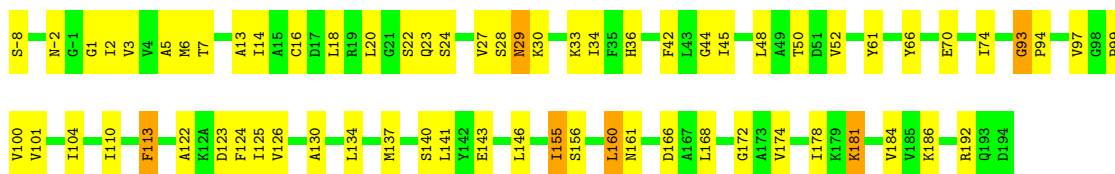
• Molecule 9: Proteasome component PUP3

Chain I:



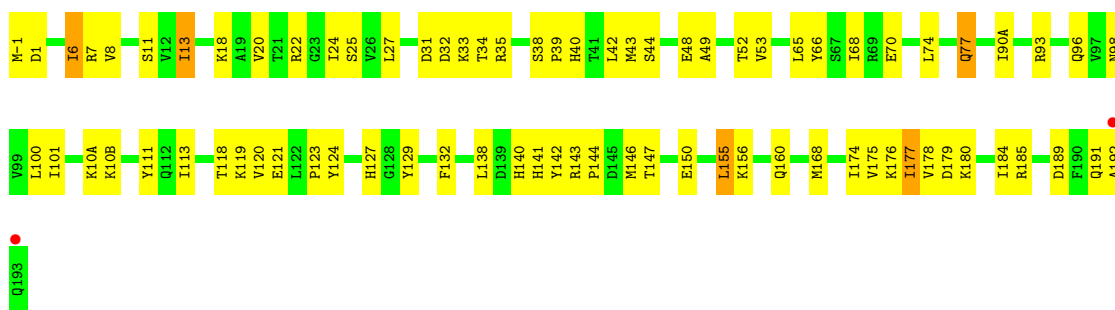
- Molecule 9: Proteasome component PUP3

Chain W:



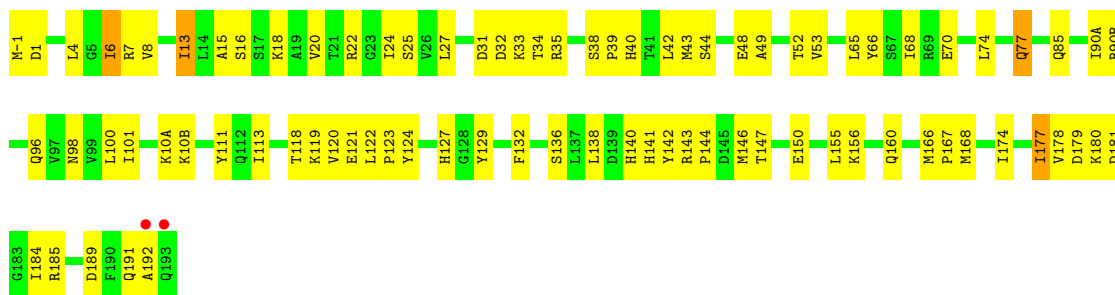
- Molecule 10: Proteasome component C11

Chain J:



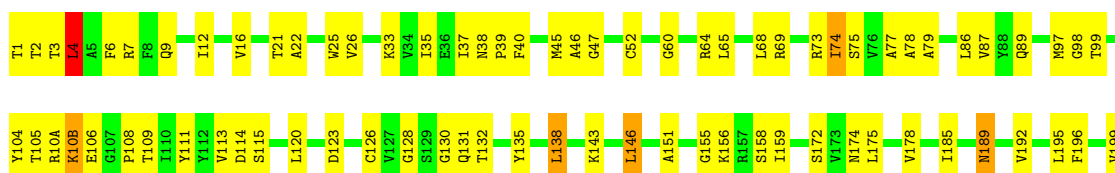
- Molecule 10: Proteasome component C11

Chain X:



- Molecule 11: Proteasome component PRE2

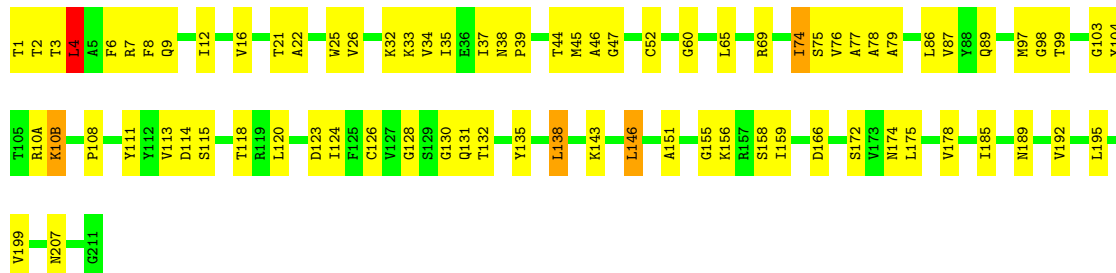
Chain K:





• Molecule 11: Proteasome component PRE2

Chain Y:



• Molecule 12: Proteasome component C5

Chain L:



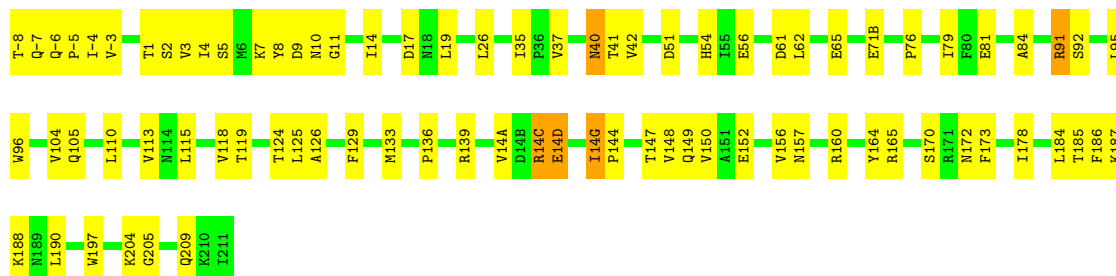
• Molecule 12: Proteasome component C5

Chain Z:



• Molecule 13: Proteasome component PRE4

Chain M:



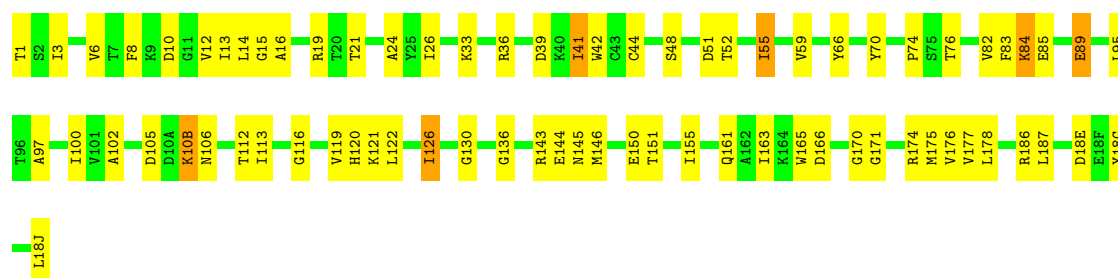
- Molecule 13: Proteasome component PRE4

Chain 1:



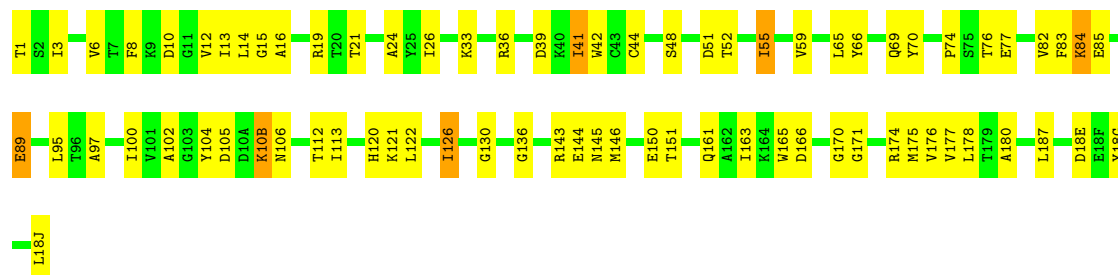
- Molecule 14: Proteasome component PRE3

Chain N:



- Molecule 14: Proteasome component PRE3

Chain 2:



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	135.49Å 301.06Å 144.45Å 90.00° 112.78° 90.00°	Depositor
Resolution (Å)	15.00 – 3.00 20.00 – 3.00	Depositor EDS
% Data completeness (in resolution range)	99.1 (15.00-3.00) 99.2 (20.00-3.00)	Depositor EDS
$R_{merge}$	0.10	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.38 (at 2.98Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, $R_{free}$	0.218 , 0.245 0.217 , 0.241	Depositor DCC
$R_{free}$ test set	10389 reflections (4.97%)	DCC
Wilson B-factor (Å <sup>2</sup> )	52.5	Xtriage
Anisotropy	0.774	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.30 , 19.9	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.34$	Xtriage
Outliers	0 of 209812 reflections	Xtriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	50490	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.41% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.



## 5 Model quality

### 5.1 Standard geometry

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

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	0.41	0/1952	0.65	0/2642
1	O	0.40	0/1952	0.65	0/2642
2	B	0.39	0/1935	0.64	0/2618
2	P	0.40	0/1935	0.65	0/2618
3	C	0.37	0/1920	0.64	0/2598
3	Q	0.37	0/1920	0.64	0/2598
4	D	0.38	0/1887	0.64	0/2541
4	R	0.39	0/1887	0.64	0/2541
5	E	0.38	0/1823	0.61	0/2463
5	S	0.38	0/1823	0.61	0/2463
6	F	0.39	0/1937	0.61	0/2614
6	T	0.41	0/1937	0.63	0/2614
7	G	0.42	0/1959	0.64	0/2652
7	U	0.43	0/1959	0.64	0/2652
8	H	0.41	0/1716	0.68	0/2326
8	V	0.40	0/1716	0.68	0/2326
9	I	0.42	0/1611	0.66	0/2174
9	W	0.42	0/1611	0.68	0/2174
10	J	0.41	0/1613	0.64	0/2173
10	X	0.41	0/1613	0.65	0/2173
11	K	0.43	0/1680	0.66	1/2274 (0.0%)
11	Y	0.40	0/1680	0.66	1/2274 (0.0%)
12	L	0.42	0/1795	0.68	1/2420 (0.0%)
12	Z	0.40	0/1795	0.68	0/2420
13	1	0.42	0/1855	0.68	1/2514 (0.0%)
13	M	0.41	0/1855	0.67	1/2514 (0.0%)
14	2	0.41	0/1541	0.65	0/2087
14	N	0.42	0/1541	0.65	0/2087
All	All	0.40	0/50448	0.65	5/68192 (0.0%)

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	1	95	LEU	N-CA-C	-5.62	95.83	111.00
13	M	95	LEU	N-CA-C	-5.49	96.18	111.00
12	L	95	TYR	N-CA-C	-5.31	96.67	111.00
11	K	4	LEU	CA-CB-CG	5.14	127.13	115.30
11	Y	4	LEU	CA-CB-CG	5.05	126.93	115.30

There are no chirality outliers.

There are no planarity outliers.

## 5.2 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1915	0	1926	60	0
1	O	1915	0	1926	66	0
2	B	1905	0	1901	85	0
2	P	1905	0	1901	89	0
3	C	1891	0	1900	100	0
3	Q	1891	0	1900	98	0
4	D	1862	0	1836	63	0
4	R	1862	0	1836	77	0
5	E	1795	0	1797	116	0
5	S	1795	0	1797	121	0
6	F	1897	0	1886	81	0
6	T	1897	0	1886	86	0
7	G	1921	0	1910	85	0
7	U	1921	0	1910	94	0
8	H	1685	0	1688	45	0
8	V	1685	0	1688	44	0
9	I	1581	0	1574	55	0
9	W	1581	0	1574	55	0
10	J	1585	0	1590	67	0
10	X	1585	0	1590	73	0
11	K	1643	0	1594	66	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	Y	1643	0	1594	68	0
12	L	1757	0	1711	66	0
12	Z	1757	0	1711	67	0
13	1	1824	0	1832	68	0
13	M	1824	0	1832	64	0
14	2	1512	0	1481	58	0
14	N	1512	0	1481	57	0
15	K	43	0	42	5	0
15	Y	43	0	42	5	0
16	1	45	0	0	7	0
16	2	41	0	0	2	0
16	A	38	0	0	2	0
16	B	31	0	0	3	0
16	C	24	0	0	2	0
16	D	25	0	0	0	0
16	E	15	0	0	3	0
16	F	27	0	0	1	0
16	G	41	0	0	1	0
16	H	28	0	0	3	0
16	I	42	0	0	2	0
16	J	32	0	0	0	0
16	K	25	0	0	3	0
16	L	35	0	0	4	0
16	M	43	0	0	4	0
16	N	38	0	0	2	0
16	O	18	0	0	3	0
16	P	20	0	0	1	0
16	Q	17	0	0	2	0
16	R	23	0	0	3	0
16	S	16	0	0	1	0
16	T	26	0	0	2	0
16	U	38	0	0	4	0
16	V	33	0	0	2	0
16	W	39	0	0	2	0
16	X	38	0	0	3	0
16	Y	24	0	0	2	0
16	Z	36	0	0	3	0
All	All	50490	0	49336	1891	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 19.

All (1891) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:10(B):LYS:H	11:K:10(B):LYS:HD2	1.07	1.11
11:Y:10(B):LYS:HD2	11:Y:10(B):LYS:H	1.07	1.11
2:P:202:THR:HG22	2:P:204:SER:H	1.16	1.05
2:B:202:THR:HG22	2:B:204:SER:H	1.16	1.03
11:Y:35:ILE:HD11	11:Y:45:MET:HE2	1.40	1.03
3:C:185:THR:HB	3:C:188:GLU:HG2	1.42	1.01
3:Q:163:GLN:NE2	3:Q:164:THR:H	1.59	1.00
7:G:96:ALA:HA	7:G:107:MET:HE2	1.42	1.00
11:K:35:ILE:HD11	11:K:45:MET:HE2	1.44	1.00
3:Q:185:THR:HB	3:Q:188:GLU:HG2	1.41	1.00
3:C:163:GLN:NE2	3:C:164:THR:H	1.60	0.99
2:B:15:PHE:H	3:C:23:GLN:HE22	0.99	0.99
14:N:161:GLN:HE21	14:2:136:GLY:HA2	1.28	0.98
3:Q:163:GLN:HE21	3:Q:164:THR:N	1.62	0.98
3:C:163:GLN:HE21	3:C:164:THR:N	1.62	0.98
14:N:136:GLY:HA2	14:2:161:GLN:HE21	1.27	0.97
7:U:96:ALA:HA	7:U:107:MET:HE2	1.48	0.93
2:B:124:THR:HG22	3:C:130:ARG:HH21	1.33	0.92
6:T:95:GLU:HG2	6:T:115:ARG:HB3	1.51	0.92
6:F:95:GLU:HG2	6:F:115:ARG:HB3	1.52	0.90
2:B:71:ASN:ND2	2:B:72:ASP:H	1.71	0.87
12:Z:7:ALA:HB2	12:Z:110:VAL:HG23	1.57	0.87
11:Y:35:ILE:HD11	11:Y:45:MET:CE	2.04	0.86
11:Y:10(B):LYS:N	11:Y:10(B):LYS:HD2	1.90	0.86
2:P:71:ASN:ND2	2:P:72:ASP:H	1.74	0.85
2:P:124:THR:HG22	3:Q:130:ARG:HH21	1.42	0.85
11:K:10(B):LYS:N	11:K:10(B):LYS:HD2	1.90	0.85
3:Q:185:THR:HG22	3:Q:187:GLU:H	1.40	0.85
7:G:18(G):GLU:HG2	7:G:188:LYS:CB	2.08	0.84
11:K:10(B):LYS:H	11:K:10(B):LYS:CD	1.91	0.84
11:K:35:ILE:HD11	11:K:45:MET:CE	2.08	0.84
12:L:7:ALA:HB2	12:L:110:VAL:HG23	1.60	0.83
4:D:97:VAL:HG21	11:K:65:LEU:HD13	1.58	0.83
6:T:35:THR:HG21	6:T:51:GLU:O	1.80	0.82
2:P:15:PHE:H	3:Q:23:GLN:HE22	1.25	0.82
10:J:168:MET:HG2	10:X:168:MET:HE2	1.60	0.82
7:U:18(G):GLU:HG2	7:U:188:LYS:CB	2.09	0.82
6:F:35:THR:HG21	6:F:51:GLU:O	1.78	0.81
2:B:124:THR:CG2	3:C:130:ARG:HH21	1.94	0.81
13:1:157:ASN:ND2	13:1:160:ARG:HH11	1.79	0.81
3:C:185:THR:HG22	3:C:187:GLU:H	1.44	0.81
7:G:18(G):GLU:HG2	7:G:188:LYS:HB2	1.63	0.80
1:O:124:THR:HG22	2:P:130:ARG:HH21	1.44	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:164:THR:HG21	3:C:172:VAL:HG13	1.63	0.80
3:Q:15:PHE:H	4:R:23:GLN:HE22	1.29	0.80
7:G:67:ILE:HG13	7:G:211:GLU:HG2	1.64	0.80
3:C:15:PHE:H	4:D:23:GLN:HE22	1.29	0.80
14:N:136:GLY:HA2	14:2:161:GLN:NE2	1.97	0.79
11:K:21:THR:HG22	11:K:26:VAL:HA	1.65	0.79
2:B:20:ARG:NE	3:C:33:ARG:HH21	1.81	0.79
7:U:18(G):GLU:HG2	7:U:188:LYS:HB2	1.62	0.79
3:Q:164:THR:HG21	3:Q:172:VAL:HG13	1.64	0.79
11:Y:21:THR:HG22	11:Y:26:VAL:HA	1.66	0.78
10:J:168:MET:HE2	10:X:168:MET:HG2	1.65	0.78
7:U:121:GLN:O	7:U:124:THR:HB	1.83	0.78
5:S:2(C):VAL:HG13	5:S:2(D):ASP:H	1.49	0.78
12:Z:43:MET:HB2	12:Z:101:ILE:HG22	1.65	0.78
14:N:161:GLN:NE2	14:2:136:GLY:HA2	1.98	0.78
5:S:52:LYS:HB3	5:S:63:TYR:O	1.83	0.78
5:E:2(C):VAL:HG13	5:E:2(D):ASP:H	1.48	0.78
14:N:48:SER:HB3	14:N:51:ASP:HB2	1.66	0.78
7:U:67:ILE:HG13	7:U:211:GLU:HG2	1.64	0.78
1:O:86:ARG:HE	7:U:118:ASN:HD21	1.31	0.78
7:G:96:ALA:CA	7:G:107:MET:HE2	2.15	0.77
5:E:198:SER:HA	5:E:201:LEU:HG	1.66	0.77
5:E:48:LEU:HG	5:E:139:ILE:HD13	1.67	0.77
2:P:160:TRP:CE2	2:P:163:ILE:HD12	2.20	0.77
13:M:157:ASN:ND2	13:M:160:ARG:HH11	1.82	0.76
13:1:76:PRO:HD2	13:1:105:GLN:OE1	1.85	0.76
14:2:48:SER:HB3	14:2:51:ASP:HB2	1.66	0.76
13:1:152:GLU:O	13:1:156:VAL:HG23	1.86	0.76
5:S:198:SER:HA	5:S:201:LEU:HG	1.66	0.76
3:Q:159:SER:HB2	16:Q:256:HOH:O	1.86	0.76
3:Q:33:ARG:HH11	3:Q:33:ARG:HB2	1.50	0.75
8:H:128:GLY:O	8:H:131:SER:HB2	1.87	0.75
2:B:181:LYS:O	2:B:184:MET:HG3	1.87	0.75
3:C:33:ARG:HB2	3:C:33:ARG:HH11	1.50	0.75
4:R:97:VAL:HG21	11:Y:65:LEU:HD13	1.67	0.75
1:O:130:ARG:HH21	7:U:124:THR:HG22	1.50	0.75
5:E:15:PHE:HB2	6:F:23:GLN:HE22	1.52	0.75
7:G:121:GLN:O	7:G:124:THR:HB	1.86	0.75
13:M:152:GLU:O	13:M:156:VAL:HG23	1.87	0.75
1:A:124:THR:HG22	2:B:130:ARG:HH21	1.49	0.75
7:U:59:LEU:O	7:U:61:PRO:HD3	1.87	0.75
10:X:143:ARG:O	10:X:146:MET:HG3	1.86	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:P:202:THR:HG22	2:P:204:SER:N	1.99	0.74
2:B:202:THR:HG22	2:B:204:SER:N	1.99	0.74
1:A:130:ARG:HH21	7:G:124:THR:HG22	1.53	0.74
8:V:128:GLY:O	8:V:131:SER:HB2	1.87	0.74
13:1:37:VAL:HG11	13:1:79:ILE:HD13	1.69	0.74
1:O:121:GLN:O	1:O:124:THR:HB	1.87	0.74
1:O:86:ARG:HH21	7:U:118:ASN:HD22	1.34	0.74
1:A:86:ARG:HE	7:G:118:ASN:HD21	1.36	0.74
5:E:52:LYS:HB3	5:E:63:TYR:O	1.88	0.74
10:J:143:ARG:O	10:J:146:MET:HG3	1.88	0.74
12:Z:166:HIS:HD2	12:Z:168:GLN:H	1.35	0.73
2:B:160:TRP:CE2	2:B:163:ILE:HD12	2.22	0.73
6:T:40:ILE:HD12	6:T:193:ALA:HB2	1.70	0.73
5:S:132:TYR:O	5:S:153:PRO:HB3	1.88	0.73
9:W:192:ARG:HG3	16:W:200:HOH:O	1.88	0.73
14:2:112:THR:HG22	14:2:120:HIS:HB2	1.71	0.73
5:S:48:LEU:HG	5:S:139:ILE:HD13	1.69	0.73
5:E:132:TYR:O	5:E:153:PRO:HB3	1.88	0.73
13:M:40:ASN:H	13:M:40:ASN:HD22	1.35	0.73
5:E:75:GLY:HA3	5:E:221:PHE:CE2	2.24	0.73
5:S:75:GLY:HA3	5:S:221:PHE:CE2	2.23	0.73
2:B:61:GLN:OE1	2:B:208:ASP:HA	1.89	0.73
3:C:40:VAL:HG12	3:C:162:ALA:HB1	1.71	0.73
9:W:29:ASN:H	9:W:29:ASN:HD22	1.37	0.73
2:P:61:GLN:OE1	2:P:208:ASP:HA	1.88	0.73
11:Y:131:GLN:HG3	11:Y:132:THR:N	2.04	0.73
12:L:166:HIS:HD2	12:L:168:GLN:H	1.36	0.72
6:F:69:VAL:HG12	16:F:248:HOH:O	1.88	0.72
2:P:181:LYS:O	2:P:184:MET:HG3	1.88	0.72
9:W:137:MET:HE3	9:W:141:LEU:HD11	1.71	0.72
8:V:163:ILE:HG23	8:V:170:GLY:HA2	1.71	0.72
7:G:198:ILE:HG23	7:G:203:THR:O	1.89	0.72
3:Q:40:VAL:HG12	3:Q:162:ALA:HB1	1.71	0.72
6:T:82:ILE:HB	6:T:83:PRO:HD3	1.72	0.72
6:F:40:ILE:HD12	6:F:193:ALA:HB2	1.72	0.72
7:U:96:ALA:CA	7:U:107:MET:HE2	2.19	0.72
10:X:156:LYS:O	10:X:160:GLN:HG3	1.89	0.71
7:U:198:ILE:HG23	7:U:203:THR:O	1.90	0.71
3:C:33:ARG:CB	3:C:33:ARG:HH11	2.03	0.71
3:Q:33:ARG:HH11	3:Q:33:ARG:CB	2.03	0.71
13:M:139:ARG:HH11	8:V:165:ASN:HD22	1.37	0.71
13:1:157:ASN:HD22	13:1:160:ARG:HH11	1.38	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:33:ARG:HB2	3:C:33:ARG:NH1	2.05	0.71
11:K:131:GLN:HG3	11:K:132:THR:N	2.04	0.71
10:X:52:THR:HG23	10:X:53:VAL:N	2.05	0.71
2:B:15:PHE:N	3:C:23:GLN:HE22	1.83	0.71
10:J:38:SER:HB2	10:J:39:PRO:HD2	1.73	0.71
1:O:124:THR:CG2	2:P:130:ARG:HH21	2.04	0.71
9:W:29:ASN:H	9:W:29:ASN:ND2	1.89	0.71
8:H:163:ILE:HG23	8:H:170:GLY:HA2	1.73	0.71
7:G:59:LEU:O	7:G:61:PRO:HD3	1.91	0.70
1:A:86:ARG:HH21	7:G:118:ASN:HD22	1.39	0.70
10:X:38:SER:HB2	10:X:39:PRO:HD2	1.73	0.70
10:J:156:LYS:O	10:J:160:GLN:HG3	1.91	0.70
5:E:2(C):VAL:HG13	5:E:2(D):ASP:N	2.06	0.70
3:C:41:LYS:HG2	3:C:161:SER:O	1.90	0.70
1:O:130:ARG:HH21	7:U:124:THR:CG2	2.04	0.70
1:O:20:LYS:HE3	1:O:25:ASP:OD1	1.92	0.70
10:J:25:SER:HB2	11:K:131:GLN:HE22	1.56	0.70
10:J:-1:MET:HG2	10:J:1:ASP:H	1.56	0.70
1:A:170:VAL:HG23	16:A:250:HOH:O	1.90	0.70
14:N:112:THR:HG22	14:N:120:HIS:HB2	1.73	0.70
3:Q:41:LYS:HG2	3:Q:161:SER:O	1.92	0.70
10:X:32:ASP:OD2	10:X:34:THR:HG22	1.90	0.70
10:X:-1:MET:HG2	10:X:1:ASP:H	1.56	0.70
13:1:40:ASN:HD22	13:1:40:ASN:H	1.36	0.70
1:A:121:GLN:O	1:A:124:THR:HB	1.92	0.70
3:Q:33:ARG:HB2	3:Q:33:ARG:NH1	2.05	0.69
2:P:126:HIS:HB3	3:Q:129:VAL:HG12	1.74	0.69
11:Y:7:ARG:HG2	11:Y:108:PRO:HB2	1.74	0.69
8:V:52:THR:O	8:V:56:THR:HB	1.92	0.69
1:A:20:LYS:HE3	1:A:25:ASP:OD1	1.91	0.69
10:J:52:THR:HG23	10:J:53:VAL:N	2.06	0.69
5:S:175:TYR:HB2	5:S:199:GLN:HG2	1.74	0.69
6:F:82:ILE:HB	6:F:83:PRO:HD3	1.73	0.69
5:S:2(C):VAL:HG13	5:S:2(D):ASP:N	2.08	0.69
5:E:17:PRO:HA	6:F:26:TYR:CD2	2.28	0.69
2:B:51:GLU:OE2	2:B:202:THR:HG23	1.93	0.69
5:E:82:ALA:HB3	5:E:83:PRO:HD3	1.75	0.69
9:I:29:ASN:H	9:I:29:ASN:ND2	1.91	0.69
9:I:29:ASN:H	9:I:29:ASN:HD22	1.39	0.69
11:K:33:LYS:HE2	15:K:2000:ESY:H23	1.75	0.69
8:V:3:ILE:HG22	8:V:16:ALA:HB2	1.75	0.69
9:I:137:MET:HE3	9:I:141:LEU:HD11	1.74	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:43:MET:HB2	12:L:101:ILE:HG22	1.72	0.69
8:H:165:ASN:HD22	13:1:139:ARG:HH11	1.40	0.69
13:M:76:PRO:HD2	13:M:105:GLN:OE1	1.93	0.69
5:E:175:TYR:HB2	5:E:199:GLN:HG2	1.74	0.69
1:A:124:THR:CG2	2:B:130:ARG:HH21	2.06	0.68
2:P:65:GLU:HG3	2:P:66:LYS:HG3	1.73	0.68
7:G:12:ILE:HG13	7:G:14:ILE:HG23	1.75	0.68
8:H:52:THR:O	8:H:56:THR:HB	1.93	0.68
2:B:65:GLU:HG3	2:B:66:LYS:HG3	1.74	0.68
10:J:32:ASP:OD2	10:J:34:THR:HG22	1.92	0.68
11:Y:33:LYS:HE2	15:Y:2000:ESY:H23	1.75	0.68
13:M:37:VAL:HG11	13:M:79:ILE:HD13	1.75	0.68
5:E:12:THR:HG21	5:E:124:THR:HA	1.75	0.68
2:P:219:GLU:HG2	2:P:21(E):VAL:N	2.09	0.68
5:E:48:LEU:HD13	5:E:77:SER:HB3	1.75	0.68
13:1:42:VAL:HG23	13:1:178:ILE:HD11	1.76	0.68
13:M:42:VAL:HG23	13:M:178:ILE:HD11	1.75	0.68
5:E:167:ALA:HB3	16:E:246:HOH:O	1.93	0.68
10:X:25:SER:HB2	11:Y:131:GLN:HE22	1.59	0.68
7:G:18(G):GLU:HG2	7:G:188:LYS:HB3	1.76	0.68
2:P:51:GLU:OE2	2:P:202:THR:HG23	1.93	0.67
4:D:40:ILE:HG13	4:D:193:VAL:HG23	1.76	0.67
6:T:210:LEU:HD12	6:T:211:GLU:H	1.59	0.67
11:K:7:ARG:HG2	11:K:108:PRO:HB2	1.75	0.67
4:D:177:LEU:HD13	5:E:58:LEU:HD11	1.76	0.67
3:Q:65:SER:HB2	16:Q:247:HOH:O	1.92	0.67
7:U:151:THR:HG22	7:U:157:TYR:HB2	1.76	0.67
1:O:15:PHE:H	2:P:23:GLN:HE22	1.40	0.67
4:R:12(D):ALA:HB3	4:R:126:ARG:HD3	1.76	0.67
5:S:111:ARG:HG3	16:S:243:HOH:O	1.93	0.67
9:W:1:GLY:HA3	9:W:33:LYS:HE2	1.76	0.67
5:S:48:LEU:HD13	5:S:77:SER:HB3	1.75	0.67
14:2:10(B):LYS:C	14:2:10(B):LYS:HD3	2.15	0.67
4:R:40:ILE:HG13	4:R:193:VAL:HG23	1.75	0.67
7:U:12:ILE:HG13	7:U:14:ILE:HG23	1.76	0.67
2:B:219:GLU:HG2	2:B:21(E):VAL:N	2.09	0.67
11:Y:174:ASN:HD21	11:Y:189:ASN:HB2	1.60	0.67
5:S:227:GLU:N	5:S:227:GLU:CD	2.48	0.67
13:M:157:ASN:HD22	13:M:160:ARG:HH11	1.40	0.67
13:M:14(D):GLU:O	13:M:14(G):ILE:HG13	1.95	0.67
6:F:37:SER:HB3	6:F:50:VAL:HG23	1.76	0.67
4:D:12(D):ALA:HB3	4:D:126:ARG:HD3	1.78	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:1:14(D):GLU:O	13:1:14(G):ILE:HG13	1.95	0.67
5:S:12:THR:HG21	5:S:124:THR:HA	1.74	0.66
5:S:18(D):ILE:O	5:S:18(D):ILE:HG12	1.94	0.66
9:I:1:GLY:HA3	9:I:33:LYS:HE2	1.77	0.66
3:Q:163:GLN:HE21	3:Q:164:THR:H	0.78	0.66
13:M:8:TYR:CE2	13:M:148:VAL:HG22	2.30	0.66
2:P:124:THR:CG2	3:Q:130:ARG:HH21	2.09	0.66
2:B:163:ILE:HG12	2:B:164:SER:H	1.60	0.66
4:R:102:TYR:O	12:Z:81:ARG:HG3	1.95	0.66
4:R:12(F):GLY:O	4:R:12(G):GLU:HB2	1.95	0.66
7:G:151:THR:HG22	7:G:157:TYR:HB2	1.78	0.66
5:E:86:ARG:HH11	5:E:86:ARG:HG3	1.59	0.66
7:U:87:ASN:HD22	7:U:87:ASN:C	1.99	0.66
12:Z:-7:ASN:HD22	12:Z:-6:PRO:HD2	1.61	0.65
2:B:126:HIS:HB3	3:C:129:VAL:HG12	1.77	0.65
14:N:18(G):TYR:HA	14:N:18(J):LEU:HG	1.78	0.65
3:Q:85:SER:O	3:Q:89:ILE:HG13	1.97	0.65
5:E:2(B):THR:H	5:E:2(E):ASN:HD22	1.43	0.65
5:S:2(B):THR:H	5:S:2(E):ASN:HD22	1.44	0.65
5:E:18(D):ILE:O	5:E:18(D):ILE:HG12	1.96	0.65
5:S:207:LEU:HA	5:S:2(E):ASN:ND2	2.11	0.65
14:N:10(B):LYS:HD3	14:N:10(B):LYS:C	2.16	0.65
2:B:121:GLN:O	2:B:124:THR:HB	1.97	0.65
4:D:12(F):GLY:O	4:D:12(G):GLU:HB2	1.96	0.65
5:S:82:ALA:HB3	5:S:83:PRO:HD3	1.78	0.65
2:B:15:PHE:H	3:C:23:GLN:NE2	1.83	0.65
12:Z:114:ASP:HB2	12:Z:118:SER:HB3	1.79	0.65
3:Q:106:PRO:HG2	3:Q:143:PRO:CG	2.27	0.65
6:T:186:ALA:O	6:T:190:VAL:HG23	1.96	0.65
6:T:37:SER:HB3	6:T:50:VAL:HG23	1.76	0.65
14:2:18(G):TYR:HA	14:2:18(J):LEU:HG	1.79	0.65
13:1:14(C):ARG:HG3	13:1:14(C):ARG:HH11	1.61	0.65
3:C:172:VAL:HG23	3:C:196:SER:HB2	1.78	0.65
6:T:176:LEU:HD22	6:T:196:ILE:HD13	1.77	0.65
11:Y:10(B):LYS:CD	11:Y:10(B):LYS:H	1.91	0.64
13:M:40:ASN:HD22	13:M:40:ASN:N	1.94	0.64
8:V:3:ILE:HG22	8:V:16:ALA:CB	2.27	0.64
12:L:-7:ASN:HD22	12:L:-6:PRO:HD2	1.61	0.64
6:F:186:ALA:O	6:F:190:VAL:HG23	1.97	0.64
6:T:43:ASN:HD22	6:T:43:ASN:N	1.95	0.64
4:D:102:TYR:O	12:L:81:ARG:HG3	1.97	0.64
2:B:6:ARG:HB2	5:E:127:TYR:OH	1.98	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:T:38:ILE:HG22	6:T:164:ALA:CB	2.27	0.64
2:P:163:ILE:HG12	2:P:164:SER:H	1.60	0.64
11:K:174:ASN:HD21	11:K:189:ASN:HB2	1.63	0.64
9:W:6:MET:HE1	9:W:155:ILE:HA	1.79	0.64
13:1:157:ASN:HD22	13:1:160:ARG:NH1	1.96	0.64
5:E:227:GLU:CD	5:E:227:GLU:N	2.49	0.64
3:Q:172:VAL:HG23	3:Q:196:SER:HB2	1.79	0.64
14:2:14:LEU:O	14:2:175:MET:HA	1.97	0.64
6:F:210:LEU:HD12	6:F:211:GLU:H	1.63	0.64
5:S:86:ARG:HH11	5:S:86:ARG:HG3	1.61	0.64
6:F:43:ASN:N	6:F:43:ASN:HD22	1.96	0.64
7:U:18(G):GLU:HG2	7:U:188:LYS:HB3	1.79	0.64
2:B:163:ILE:HG12	2:B:164:SER:N	2.13	0.64
3:C:160:TRP:CE2	4:D:59:LEU:HD23	2.33	0.64
2:P:202:THR:HG22	2:P:203:ASP:N	2.12	0.64
9:I:29:ASN:ND2	9:I:30:LYS:HG3	2.13	0.64
2:B:202:THR:HG22	2:B:203:ASP:N	2.14	0.63
13:1:8:TYR:CE2	13:1:148:VAL:HG22	2.33	0.63
2:B:71:ASN:ND2	2:B:72:ASP:N	2.45	0.63
8:V:148:LYS:O	8:V:152:ILE:HG12	1.97	0.63
7:U:168:LYS:HD2	7:U:201:LEU:HD22	1.81	0.63
7:G:87:ASN:C	7:G:87:ASN:HD22	2.01	0.63
9:W:27:VAL:HG13	16:X:215:HOH:O	1.98	0.63
6:F:176:LEU:HD22	6:F:196:ILE:HD13	1.78	0.63
12:L:114:ASP:HB2	12:L:118:SER:HB3	1.80	0.63
5:S:77:SER:OG	5:S:137:LEU:HB2	1.98	0.63
10:J:24:ILE:HG22	15:K:2000:ESY:O41	1.99	0.63
2:P:163:ILE:HG12	2:P:164:SER:N	2.14	0.63
11:K:195:LEU:O	11:K:199:VAL:HG23	1.98	0.63
9:I:6:MET:HE1	9:I:155:ILE:HA	1.81	0.63
1:A:173:LYS:O	1:A:177:GLU:HG3	1.99	0.63
5:S:141:TYR:CE2	5:S:217:LYS:HA	2.33	0.63
14:N:126:ILE:HD13	14:N:126:ILE:H	1.64	0.63
5:E:207:LEU:HA	5:E:2(E):ASN:ND2	2.12	0.63
14:N:163:ILE:HG23	14:N:170:GLY:HA2	1.79	0.63
3:C:106:PRO:HG2	3:C:143:PRO:CG	2.27	0.63
3:C:232:TYR:O	3:C:236:ILE:HG13	1.99	0.63
6:F:43:ASN:ND2	6:F:43:ASN:H	1.97	0.62
6:F:109:ILE:HD12	6:F:109:ILE:N	2.13	0.62
2:P:219:GLU:HG2	2:P:21(E):VAL:H	1.64	0.62
6:T:136:THR:O	6:T:150:MET:HA	1.99	0.62
1:O:173:LYS:O	1:O:177:GLU:HG3	1.99	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:T:109:ILE:HD12	6:T:109:ILE:N	2.14	0.62
1:A:130:ARG:HH21	7:G:124:THR:CG2	2.11	0.62
14:2:112:THR:CG2	14:2:120:HIS:HB2	2.28	0.62
5:E:141:TYR:CE2	5:E:217:LYS:HA	2.34	0.62
14:2:126:ILE:H	14:2:126:ILE:HD13	1.64	0.62
14:2:163:ILE:HG23	14:2:170:GLY:HA2	1.79	0.62
14:N:14:LEU:O	14:N:175:MET:HA	1.98	0.62
3:Q:241:GLN:C	3:Q:243:GLN:H	2.03	0.62
5:S:97:ASN:HD21	12:Z:61:ASN:HD21	1.47	0.62
3:Q:185:THR:CB	3:Q:188:GLU:HG2	2.24	0.62
4:D:185:THR:OG1	4:D:188:GLU:HG3	1.99	0.62
6:F:20(B):GLU:HG3	6:F:20(C):LYS:HG3	1.79	0.62
8:H:148:LYS:O	8:H:152:ILE:HG12	2.00	0.62
12:Z:14:LEU:HD13	12:Z:34:VAL:HG13	1.82	0.62
11:K:126:CYS:HB2	11:K:135:TYR:CE1	2.34	0.62
2:P:121:GLN:O	2:P:124:THR:HB	1.98	0.62
7:U:158:VAL:HG22	7:U:159:GLY:N	2.14	0.62
9:W:156:SER:O	9:W:160:LEU:HB2	2.00	0.62
9:W:29:ASN:N	9:W:29:ASN:HD22	1.97	0.62
10:X:52:THR:HG23	10:X:53:VAL:H	1.64	0.62
3:Q:41:LYS:HD3	3:Q:161:SER:HA	1.82	0.62
2:B:219:GLU:HG2	2:B:21(E):VAL:H	1.64	0.62
6:F:38:ILE:HG22	6:F:164:ALA:CB	2.30	0.62
9:I:113:PHE:CD2	9:I:113:PHE:N	2.68	0.62
6:T:43:ASN:ND2	6:T:43:ASN:H	1.96	0.61
3:C:206:GLY:HA3	3:C:209:ASN:HB2	1.82	0.61
3:Q:216:LYS:HB2	3:Q:220:ASP:HB3	1.82	0.61
8:H:144:GLN:O	8:H:145:ASP:HB2	2.00	0.61
12:Z:109:ALA:HB2	12:Z:121:ARG:NH2	2.16	0.61
2:P:71:ASN:ND2	2:P:72:ASP:N	2.47	0.61
13:M:157:ASN:HD22	13:M:160:ARG:NH1	1.97	0.61
13:1:113:VAL:HG23	13:1:119:THR:HG22	1.83	0.61
10:X:48:GLU:HB2	10:X:96:GLN:HB2	1.81	0.61
14:N:112:THR:CG2	14:N:120:HIS:HB2	2.30	0.61
3:C:85:SER:O	3:C:89:ILE:HG13	2.00	0.61
2:P:101:LYS:NZ	10:X:85:GLN:NE2	2.49	0.61
3:C:241:GLN:C	3:C:243:GLN:H	2.04	0.61
5:S:15:PHE:HB2	6:T:23:GLN:HE22	1.65	0.61
4:R:185:THR:OG1	4:R:188:GLU:HG3	2.00	0.61
8:H:196:VAL:HG23	16:H:239:HOH:O	2.01	0.61
3:C:41:LYS:HD3	3:C:161:SER:HA	1.82	0.61
10:J:48:GLU:HB2	10:J:96:GLN:HB2	1.81	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:194:VAL:HA	5:E:197:ILE:HG22	1.83	0.61
13:M:14(G):ILE:N	13:M:144:PRO:HD2	2.16	0.61
3:Q:206:GLY:HA3	3:Q:209:ASN:HB2	1.83	0.61
5:S:73:HIS:HE1	5:S:107:LEU:O	1.83	0.61
13:M:148:VAL:HG23	16:M:236:HOH:O	2.01	0.60
7:G:158:VAL:HG22	7:G:159:GLY:N	2.16	0.60
10:J:147:THR:HG23	10:J:150:GLU:OE2	2.01	0.60
2:B:124:THR:HG22	3:C:130:ARG:NH2	2.13	0.60
3:Q:160:TRP:CE2	4:R:59:LEU:HD23	2.36	0.60
3:Q:55:THR:O	3:Q:56:LEU:HD13	2.01	0.60
8:H:3:ILE:HG22	8:H:16:ALA:HB2	1.83	0.60
9:I:6:MET:HE3	9:I:155:ILE:HG13	1.81	0.60
11:Y:86:LEU:O	11:Y:89:GLN:HB2	2.01	0.60
3:C:216:LYS:HB2	3:C:220:ASP:HB3	1.82	0.60
9:W:113:PHE:CD2	9:W:113:PHE:N	2.69	0.60
7:G:168:LYS:HD2	7:G:201:LEU:HD22	1.83	0.60
13:1:41:THR:OG1	13:1:76:PRO:HG3	2.02	0.60
8:V:35:HIS:HB3	8:V:56:THR:HG21	1.84	0.60
12:L:14:LEU:HD13	12:L:34:VAL:HG13	1.81	0.60
1:A:15:PHE:H	2:B:23:GLN:HE22	1.48	0.60
12:L:109:ALA:HB2	12:L:121:ARG:NH2	2.16	0.60
5:S:92:LEU:HD11	5:S:112:ALA:HB1	1.83	0.60
10:X:147:THR:HG23	10:X:150:GLU:OE2	2.00	0.60
1:O:26:TYR:CD1	7:U:17:PRO:HA	2.36	0.60
13:1:37:VAL:HG11	13:1:79:ILE:CD1	2.31	0.60
13:1:14(G):ILE:N	13:1:144:PRO:HD2	2.15	0.60
6:T:20(B):GLU:HG3	6:T:20(C):LYS:HG3	1.84	0.60
1:O:27:ALA:O	1:O:31:VAL:HG23	2.01	0.60
16:O:241:HOH:O	2:P:81:LEU:HD12	2.02	0.59
10:X:24:ILE:HG22	15:Y:2000:ESY:O41	2.02	0.59
12:Z:-7:ASN:HD22	12:Z:-6:PRO:CD	2.14	0.59
3:C:46:VAL:O	3:C:215:VAL:HG12	2.02	0.59
10:X:44:SER:OG	10:X:100:LEU:HB2	2.01	0.59
1:A:27:ALA:O	1:A:31:VAL:HG23	2.02	0.59
10:X:140:HIS:HD2	10:X:141:HIS:CE1	2.20	0.59
6:T:187:ARG:HG3	6:T:187:ARG:HH11	1.67	0.59
5:E:77:SER:OG	5:E:137:LEU:HB2	2.01	0.59
10:X:52:THR:CG2	10:X:53:VAL:H	2.15	0.59
6:T:126:TYR:HE1	7:U:129:MET:SD	2.25	0.59
8:V:144:GLN:O	8:V:145:ASP:HB2	2.02	0.59
6:T:54:ILE:HG13	6:T:208:PHE:HA	1.84	0.59
10:J:18:LYS:HG2	10:J:174:ILE:HG13	1.84	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:168:MET:HG2	10:X:168:MET:CE	2.31	0.59
6:T:172:ALA:O	6:T:176:LEU:HD23	2.03	0.59
12:L:-7:ASN:HD22	12:L:-6:PRO:CD	2.15	0.59
12:Z:93:PHE:N	12:Z:94:PRO:HD3	2.17	0.59
4:R:162:ALA:HB3	5:S:58:LEU:HD23	1.84	0.59
11:K:10(A):ARG:HG2	11:K:10(A):ARG:HH11	1.67	0.59
1:A:51:GLU:OE1	1:A:202:VAL:HG22	2.02	0.59
3:Q:106:PRO:HG2	3:Q:143:PRO:HG2	1.85	0.59
8:V:80:LEU:HD12	8:V:113:ILE:HD11	1.83	0.59
6:F:54:ILE:HG13	6:F:208:PHE:HA	1.85	0.59
6:T:121:GLN:HE21	6:T:121:GLN:C	2.05	0.59
9:I:156:SER:O	9:I:160:LEU:HB2	2.02	0.59
4:R:196:ILE:H	4:R:196:ILE:HD12	1.67	0.59
5:S:207:LEU:HA	5:S:2(E):ASN:HD22	1.68	0.59
10:X:52:THR:CG2	10:X:53:VAL:N	2.66	0.59
11:Y:10(A):ARG:HH11	11:Y:10(A):ARG:HG2	1.66	0.59
5:E:18(C):PHE:HA	5:E:18(F):ILE:CG1	2.33	0.58
2:P:239:THR:HG22	2:P:239:THR:OXT	2.02	0.58
13:M:14(C):ARG:HH11	13:M:14(C):ARG:HG3	1.68	0.58
13:M:17:ASP:HA	13:M:173:PHE:CB	2.33	0.58
11:Y:12:ILE:HB	11:Y:178:VAL:HB	1.85	0.58
2:B:97:GLN:NE2	16:B:246:HOH:O	2.35	0.58
7:G:170:GLN:HE21	7:G:174:THR:HG23	1.68	0.58
8:H:173:VAL:HB	8:H:192:LEU:HB2	1.86	0.58
1:O:86:ARG:HH21	7:U:118:ASN:ND2	1.99	0.58
3:C:106:PRO:HG2	3:C:143:PRO:HG2	1.85	0.58
5:S:70:CYS:SG	5:S:92:LEU:HD23	2.43	0.58
11:K:12:ILE:HB	11:K:178:VAL:HB	1.84	0.58
3:Q:46:VAL:O	3:Q:215:VAL:HG12	2.03	0.58
11:Y:195:LEU:O	11:Y:199:VAL:HG23	2.03	0.58
5:S:201:LEU:O	5:S:202:ARG:HB2	2.04	0.58
14:N:146:MET:HE3	14:N:150:GLU:HB3	1.84	0.58
1:O:86:ARG:HE	7:U:118:ASN:ND2	2.00	0.58
12:Z:-7:ASN:ND2	12:Z:-5:TYR:H	2.00	0.58
14:2:3:ILE:HG22	14:2:16:ALA:CB	2.33	0.58
3:Q:232:TYR:O	3:Q:236:ILE:HG13	2.03	0.58
2:B:71:ASN:HD22	2:B:72:ASP:H	1.47	0.58
10:J:52:THR:HG23	10:J:53:VAL:H	1.68	0.58
12:L:14(I):THR:O	12:L:1(I):ASN:HB3	2.04	0.58
5:E:73:HIS:HE1	5:E:107:LEU:O	1.85	0.58
14:N:171:GLY:HA2	13:1:197:TRP:CH2	2.39	0.58
8:V:173:VAL:HB	8:V:192:LEU:HB2	1.85	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:185:THR:HG22	3:C:187:GLU:N	2.15	0.58
5:S:194:VAL:HA	5:S:197:ILE:HG22	1.85	0.58
1:O:51:GLU:OE1	1:O:202:VAL:HG22	2.02	0.58
13:1:19:LEU:HB2	13:1:170:SER:HB2	1.86	0.58
13:M:197:TRP:CH2	14:2:171:GLY:HA2	2.39	0.58
14:N:55:ILE:HD11	14:N:95:LEU:HD13	1.85	0.58
7:U:217:LYS:HE3	7:U:217:LYS:HA	1.86	0.58
3:C:163:GLN:HE21	3:C:164:THR:H	0.78	0.58
13:1:40:ASN:HD22	13:1:40:ASN:N	1.94	0.58
4:R:40:ILE:HG13	4:R:193:VAL:CG2	2.34	0.58
3:Q:55:THR:HG22	3:Q:56:LEU:HD22	1.85	0.58
12:Z:99:THR:CG2	16:Z:202:HOH:O	2.52	0.58
12:Z:14(I):THR:O	12:Z:14(K):LYS:HB2	2.04	0.58
6:F:187:ARG:HG3	6:F:187:ARG:HH11	1.69	0.58
3:Q:185:THR:HG22	3:Q:187:GLU:N	2.13	0.57
9:I:29:ASN:HD22	9:I:29:ASN:N	1.98	0.57
16:K:2016:HOH:O	10:X:136:SER:HA	2.04	0.57
5:S:18(C):PHE:HA	5:S:18(F):ILE:CG1	2.33	0.57
3:Q:52:ARG:HD2	3:Q:208:LYS:O	2.04	0.57
8:H:3:ILE:HG22	8:H:16:ALA:CB	2.34	0.57
4:D:24:VAL:O	4:D:27:SER:HB3	2.03	0.57
6:F:136:THR:O	6:F:150:MET:HA	2.04	0.57
2:P:121:GLN:HG3	3:Q:83:ALA:HB1	1.85	0.57
10:X:18:LYS:HG2	10:X:174:ILE:HG13	1.86	0.57
12:L:33:LYS:HD2	12:L:46:ASN:HD22	1.69	0.57
9:W:178:ILE:HG13	9:W:184:VAL:HG22	1.86	0.57
3:Q:190:VAL:HG13	3:Q:212:ILE:HG21	1.85	0.57
12:L:93:PHE:N	12:L:94:PRO:HD3	2.18	0.57
5:E:207:LEU:HA	5:E:2(E):ASN:HD22	1.70	0.57
10:J:52:THR:CG2	10:J:53:VAL:N	2.67	0.57
12:Z:14(I):THR:O	12:Z:1(I):ASN:HB3	2.03	0.57
8:V:105:ASP:HB2	8:V:10(A):PRO:CD	2.35	0.57
14:2:21:THR:HG22	14:2:26:ILE:HA	1.85	0.57
9:W:29:ASN:ND2	9:W:30:LYS:HG3	2.19	0.57
3:C:17:PRO:HA	4:D:26:TYR:CD1	2.39	0.57
5:E:95:GLN:HG3	5:E:115:LEU:HD13	1.86	0.57
7:G:217:LYS:HA	7:G:217:LYS:HE3	1.87	0.57
15:K:2000:ESY:H1	9:W:24:SER:OG	2.05	0.57
9:W:6:MET:HE3	9:W:155:ILE:HG13	1.86	0.57
4:R:81:LEU:HB3	16:R:599:HOH:O	2.04	0.57
14:N:3:ILE:HG22	14:N:16:ALA:CB	2.35	0.57
4:D:40:ILE:HG13	4:D:193:VAL:CG2	2.34	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:92:LEU:HD11	5:E:112:ALA:HB1	1.87	0.57
7:U:39:ALA:HB2	7:U:48:VAL:HG12	1.86	0.57
8:H:35:HIS:HB3	8:H:56:THR:HG21	1.86	0.57
5:S:210:LEU:HD21	5:S:212:ILE:HD11	1.87	0.57
14:N:175:MET:HB2	14:N:187:LEU:HB2	1.86	0.57
7:G:190:VAL:O	7:G:194:ILE:HG13	2.05	0.57
7:G:77:VAL:CG1	7:G:137:THR:HB	2.35	0.57
3:C:55:THR:HG22	3:C:56:LEU:HD22	1.87	0.57
3:C:190:VAL:HG13	3:C:212:ILE:HG21	1.86	0.57
8:H:80:LEU:HD12	8:H:113:ILE:HD11	1.86	0.57
2:B:20:ARG:HE	3:C:33:ARG:HH21	1.52	0.57
10:J:-1:MET:HG2	10:J:1:ASP:N	2.19	0.57
3:Q:100:ARG:NH1	3:Q:106:PRO:HB3	2.20	0.57
13:1:35:ILE:HD12	13:1:56:GLU:HG3	1.87	0.57
5:S:207:LEU:N	5:S:207:LEU:HD23	2.20	0.56
5:E:15:PHE:HB2	6:F:23:GLN:NE2	2.20	0.56
10:J:52:THR:CG2	10:J:53:VAL:H	2.18	0.56
12:L:14(I):THR:O	12:L:14(K):LYS:HB2	2.04	0.56
1:O:212:LEU:HD22	1:O:224:LEU:HD12	1.87	0.56
4:R:24:VAL:O	4:R:27:SER:HB3	2.05	0.56
5:S:185:ASN:HD21	5:S:187:ASP:HB2	1.70	0.56
12:L:98:HIS:HB2	16:L:200:HOH:O	2.05	0.56
10:J:168:MET:CE	10:X:168:MET:HG2	2.35	0.56
13:1:11:GLY:HA3	13:1:178:ILE:O	2.05	0.56
6:T:121:GLN:NE2	6:T:121:GLN:C	2.59	0.56
4:R:81:LEU:HD12	4:R:133:GLY:HA3	1.86	0.56
3:C:55:THR:O	3:C:56:LEU:HD13	2.05	0.56
7:U:31:THR:HG21	7:U:135:ILE:HG13	1.87	0.56
7:U:170:GLN:HE21	7:U:174:THR:HG23	1.70	0.56
3:C:185:THR:CB	3:C:188:GLU:HG2	2.24	0.56
11:Y:131:GLN:HG3	11:Y:132:THR:H	1.69	0.56
10:X:-1:MET:HG2	10:X:1:ASP:N	2.19	0.56
5:S:18(C):PHE:C	5:S:18(E):LYS:H	2.08	0.56
8:H:105:ASP:HB2	8:H:10(A):PRO:CD	2.35	0.56
11:Y:126:CYS:HB2	11:Y:135:TYR:CE1	2.40	0.56
1:A:212:LEU:HD22	1:A:224:LEU:HD12	1.86	0.56
14:2:146:MET:HE3	14:2:150:GLU:HB3	1.87	0.56
13:M:113:VAL:HG23	13:M:119:THR:HG22	1.87	0.56
13:M:-6:GLN:O	13:M:-6:GLN:HG3	2.05	0.56
13:1:84:ALA:HA	13:1:113:VAL:HG21	1.87	0.56
3:C:46:VAL:HB	3:C:215:VAL:CG1	2.35	0.56
12:Z:99:THR:HG22	16:Z:202:HOH:O	2.04	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:196:ILE:H	4:D:196:ILE:HD12	1.70	0.56
11:K:86:LEU:O	11:K:89:GLN:HB2	2.04	0.56
13:M:84:ALA:HA	13:M:113:VAL:HG21	1.87	0.56
7:G:72:ARG:NH2	14:N:39:ASP:OD2	2.38	0.56
3:C:159:SER:O	4:D:59:LEU:HD22	2.06	0.56
3:C:52:ARG:HD2	3:C:208:LYS:O	2.06	0.56
8:H:105:ASP:HB2	8:H:10(A):PRO:HD2	1.88	0.56
10:J:140:HIS:HD2	10:J:141:HIS:CE1	2.23	0.56
4:D:172:ALA:HB1	4:D:196:ILE:HG21	1.88	0.56
6:T:127:ASN:HD22	6:T:128:SER:N	2.03	0.56
11:K:156:LYS:HB2	11:K:175:LEU:HD11	1.88	0.56
9:I:178:ILE:HG13	9:I:184:VAL:HG22	1.87	0.56
10:J:111:TYR:CE1	10:J:121:GLU:HG3	2.40	0.56
3:Q:168:ASN:HB2	3:Q:200:VAL:HG11	1.88	0.56
2:B:161:LYS:HG3	3:C:59:GLN:O	2.06	0.56
10:X:111:TYR:CE1	10:X:121:GLU:HG3	2.41	0.56
9:I:2:ILE:HG21	9:I:130:ALA:HB3	1.88	0.56
6:T:95:GLU:HG3	6:T:115:ARG:HH11	1.71	0.56
6:F:127:ASN:HD22	6:F:128:SER:N	2.03	0.56
7:U:192:PHE:C	7:U:192:PHE:CD1	2.78	0.56
1:A:86:ARG:HH21	7:G:118:ASN:ND2	2.03	0.56
11:Y:7:ARG:HD2	11:Y:108:PRO:O	2.04	0.56
13:M:11:GLY:HA3	13:M:178:ILE:O	2.06	0.56
7:U:152:ASP:HB2	7:U:153:PRO:CD	2.36	0.56
2:P:185:LYS:HD3	2:P:186:VAL:N	2.20	0.56
3:C:163:GLN:HE22	3:C:173:ARG:HE	1.54	0.56
12:L:129:ALA:HB1	12:L:166:HIS:CE1	2.41	0.56
12:L:14(C):GLN:HG2	8:V:210:THR:CG2	2.36	0.56
2:B:239:THR:OXT	2:B:239:THR:HG22	2.06	0.56
10:X:43:MET:HG3	10:X:101:ILE:HG13	1.88	0.56
11:Y:4:LEU:HD11	11:Y:159:ILE:HG12	1.88	0.56
5:E:231:LYS:HD2	5:E:231:LYS:H	1.71	0.56
6:T:43:ASN:HD22	6:T:43:ASN:H	1.53	0.55
5:S:97:ASN:HD21	12:Z:61:ASN:ND2	2.04	0.55
2:B:152:ASN:HB2	2:B:153:PRO:HD2	1.86	0.55
8:V:179:GLU:OE2	8:V:182:LYS:HE2	2.06	0.55
7:G:172:ILE:HD11	7:G:201:LEU:HD21	1.87	0.55
10:J:43:MET:HG3	10:J:101:ILE:HG13	1.89	0.55
13:M:19:LEU:HB2	13:M:170:SER:HB2	1.87	0.55
7:G:35:ILE:HG23	7:G:51:GLN:HB2	1.88	0.55
14:N:186:ARG:HD3	16:N:218:HOH:O	2.06	0.55
6:F:121:GLN:HE21	6:F:121:GLN:C	2.10	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:139:ARG:HH11	8:V:165:ASN:ND2	2.03	0.55
7:G:72:ARG:HB2	7:G:72:ARG:HH11	1.71	0.55
7:G:39:ALA:HB2	7:G:48:VAL:HG12	1.88	0.55
14:N:36:ARG:HG3	14:N:42:TRP:CE2	2.41	0.55
7:U:35:ILE:HG23	7:U:51:GLN:HB2	1.87	0.55
5:E:207:LEU:HD23	5:E:207:LEU:N	2.22	0.55
12:Z:129:ALA:HB1	12:Z:166:HIS:CE1	2.41	0.55
5:E:210:LEU:HD21	5:E:212:ILE:HD11	1.89	0.55
14:2:44:CYS:HB2	14:2:100:ILE:HB	1.87	0.55
7:G:31:THR:HG21	7:G:135:ILE:HG13	1.88	0.55
5:E:97:ASN:HD21	12:L:61:ASN:HD21	1.52	0.55
5:E:201:LEU:O	5:E:202:ARG:HB2	2.06	0.55
5:S:201:LEU:HD11	5:S:207:LEU:HD22	1.88	0.55
14:2:175:MET:HB2	14:2:187:LEU:HB2	1.88	0.55
7:U:172:ILE:HD11	7:U:201:LEU:HD21	1.89	0.55
13:1:113:VAL:HA	13:1:118:VAL:O	2.06	0.55
7:G:152:ASP:HB2	7:G:153:PRO:CD	2.37	0.55
13:1:17:ASP:HA	13:1:173:PHE:CB	2.37	0.55
11:K:7:ARG:HD2	11:K:108:PRO:O	2.07	0.55
11:Y:174:ASN:ND2	11:Y:189:ASN:HB2	2.21	0.55
9:W:122:ALA:HB3	9:W:125:ILE:CD1	2.36	0.55
1:O:69:LEU:HD23	1:O:69:LEU:C	2.27	0.55
3:Q:17:PRO:HA	4:R:26:TYR:CD1	2.41	0.55
10:X:10(B):LYS:NZ	10:X:10(B):LYS:HB2	2.22	0.55
1:A:179:ARG:NH1	1:A:179:ARG:HB3	2.22	0.55
13:M:41:THR:OG1	13:M:76:PRO:HG3	2.07	0.55
12:L:-7:ASN:ND2	12:L:-5:TYR:H	2.04	0.55
11:Y:143:LYS:HB2	11:Y:146:LEU:HD12	1.89	0.55
14:2:55:ILE:HD11	14:2:95:LEU:HD13	1.88	0.55
5:S:17:PRO:HA	6:T:26:TYR:CD2	2.41	0.55
12:Z:33:LYS:HD2	12:Z:46:ASN:HD22	1.72	0.55
5:S:95:GLN:HG3	5:S:115:LEU:HD13	1.88	0.55
3:Q:173:ARG:O	3:Q:177:GLU:HG3	2.07	0.55
9:I:137:MET:CE	9:I:141:LEU:HD11	2.37	0.55
9:W:45:ILE:HB	9:W:52:VAL:HG13	1.89	0.55
3:C:227:GLU:OE1	3:C:227:GLU:N	2.39	0.55
2:B:185:LYS:HD3	2:B:186:VAL:N	2.22	0.55
7:U:9:ASP:OD2	7:U:16:SER:HA	2.06	0.55
12:Z:-6:PRO:O	13:1:91:ARG:NH1	2.38	0.55
6:T:147:HIS:HD2	16:T:242:HOH:O	1.89	0.55
3:Q:46:VAL:HB	3:Q:215:VAL:CG1	2.37	0.55
8:V:105:ASP:HB2	8:V:10(A):PRO:HD2	1.88	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:113:VAL:HA	13:M:118:VAL:O	2.07	0.55
6:T:172:ALA:C	6:T:176:LEU:HD23	2.28	0.54
11:Y:10(A):ARG:HG2	11:Y:10(A):ARG:NH1	2.23	0.54
7:U:77:VAL:CG1	7:U:137:THR:HB	2.37	0.54
6:F:21(B):THR:O	6:F:21(C):ASN:HB2	2.07	0.54
8:H:179:GLU:OE2	8:H:182:LYS:HE2	2.07	0.54
7:G:9:ASP:OD2	7:G:16:SER:HA	2.07	0.54
8:H:139:GLU:OE2	8:H:139:GLU:HA	2.07	0.54
7:G:192:PHE:CD1	7:G:192:PHE:C	2.79	0.54
2:P:202:THR:HG22	2:P:203:ASP:H	1.72	0.54
3:C:15:PHE:N	4:D:23:GLN:HE22	2.02	0.54
5:S:212:ILE:HD12	5:S:229:VAL:CG1	2.37	0.54
6:F:63:LYS:O	6:F:65:VAL:N	2.40	0.54
10:J:13:ILE:HD13	10:J:177:ILE:HD13	1.89	0.54
2:B:224:PHE:N	2:B:224:PHE:CD2	2.75	0.54
2:B:224:PHE:HD2	2:B:224:PHE:N	2.05	0.54
14:2:36:ARG:HG3	14:2:42:TRP:CE2	2.42	0.54
3:Q:226:SER:HB2	3:Q:227:GLU:OE1	2.07	0.54
11:K:4:LEU:HD11	11:K:159:ILE:HG12	1.88	0.54
9:I:81:GLN:HG2	16:I:214:HOH:O	2.08	0.54
2:B:71:ASN:HD22	2:B:72:ASP:N	2.03	0.54
14:2:143:ARG:O	14:2:146:MET:HG3	2.07	0.54
7:U:34:THR:HB	7:U:35:ILE:HG13	1.88	0.54
6:T:63:LYS:O	6:T:65:VAL:N	2.40	0.54
3:C:168:ASN:HB2	3:C:200:VAL:HG11	1.89	0.54
11:Y:156:LYS:HB2	11:Y:175:LEU:HD11	1.89	0.54
4:R:45:GLY:HA2	4:R:146:TYR:CE1	2.43	0.54
11:K:138:LEU:HD13	11:K:158:SER:OG	2.07	0.54
11:Y:46:ALA:HB3	11:Y:98:GLY:O	2.08	0.54
9:I:124:PHE:O	9:I:125:ILE:HD12	2.07	0.54
9:W:97:VAL:HG23	9:W:99:PRO:HD3	1.88	0.54
6:F:126:TYR:HE1	7:G:129:MET:SD	2.31	0.54
13:M:35:ILE:HD12	13:M:56:GLU:HG3	1.89	0.54
2:P:110:GLU:O	2:P:110:GLU:HG2	2.08	0.54
2:P:121:GLN:NE2	16:P:249:HOH:O	2.39	0.54
12:Z:-5:TYR:CE2	12:Z:96:TYR:HB2	2.43	0.54
5:E:226:GLY:O	5:E:229:VAL:HG22	2.07	0.54
1:O:49:ALA:HB2	1:O:212:LEU:HG	1.89	0.54
1:A:49:ALA:HB2	1:A:212:LEU:HG	1.90	0.54
6:T:69:VAL:HG12	16:1:249:HOH:O	2.07	0.54
8:V:139:GLU:OE2	8:V:139:GLU:HA	2.08	0.54
2:P:228:GLU:O	2:P:232:ILE:HG22	2.07	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:111:LEU:O	1:A:114:SER:HB3	2.07	0.54
2:P:71:ASN:HD22	2:P:72:ASP:N	2.05	0.54
5:E:201:LEU:HD11	5:E:207:LEU:HD22	1.89	0.54
13:1:19:LEU:HD21	13:1:26:LEU:HD22	1.90	0.54
5:E:70:CYS:SG	5:E:92:LEU:HD23	2.48	0.54
3:Q:76:LEU:HD12	3:Q:138:ILE:HG12	1.90	0.54
2:P:224:PHE:N	2:P:224:PHE:CD2	2.76	0.54
2:B:202:THR:HG22	2:B:203:ASP:H	1.73	0.54
11:K:174:ASN:ND2	11:K:189:ASN:HB2	2.22	0.54
9:I:122:ALA:HB3	9:I:125:ILE:CD1	2.37	0.54
9:I:97:VAL:HG23	9:I:99:PRO:HD3	1.89	0.54
14:N:3:ILE:HD12	14:N:44:CYS:HB3	1.90	0.54
2:B:99:TYR:CG	2:B:107:ILE:HG12	2.43	0.54
7:G:34(A):ASN:HD22	7:G:167:PRO:HG2	1.73	0.54
1:O:179:ARG:NH1	1:O:179:ARG:HB3	2.23	0.54
2:P:101:LYS:HZ2	10:X:85:GLN:NE2	2.05	0.54
3:Q:186:VAL:O	3:Q:190:VAL:HG23	2.08	0.54
3:C:226:SER:HB2	3:C:227:GLU:OE1	2.08	0.54
11:Y:138:LEU:HD13	11:Y:158:SER:OG	2.08	0.54
9:W:130:ALA:HB2	9:W:166:ASP:HB2	1.89	0.54
7:U:107:MET:HE1	7:U:112:LEU:HD13	1.89	0.53
3:Q:15:PHE:N	4:R:23:GLN:HE22	2.03	0.53
2:P:229:ILE:O	2:P:233:LEU:HB2	2.08	0.53
10:X:13:ILE:HD13	10:X:177:ILE:HD13	1.90	0.53
5:E:18(C):PHE:C	5:E:18(E):LYS:H	2.11	0.53
6:T:109:ILE:HG21	6:T:147:HIS:HB2	1.90	0.53
12:Z:8:GLY:HA3	12:Z:11:PHE:CE2	2.43	0.53
3:Q:163:GLN:HE22	3:Q:173:ARG:HE	1.56	0.53
7:U:82:ILE:N	7:U:83:PRO:HD2	2.24	0.53
2:P:87:ILE:O	2:P:91:THR:HG23	2.08	0.53
4:D:81:LEU:HD12	4:D:133:GLY:HA3	1.90	0.53
1:A:69:LEU:HD23	1:A:69:LEU:C	2.28	0.53
13:1:-6:GLN:O	13:1:-6:GLN:HG3	2.08	0.53
6:F:95:GLU:HG3	6:F:115:ARG:HH11	1.73	0.53
5:E:212:ILE:HD12	5:E:229:VAL:CG1	2.38	0.53
4:R:172:ALA:HB1	4:R:196:ILE:HG21	1.91	0.53
12:L:90:LYS:HD3	12:L:95:TYR:CZ	2.44	0.53
7:G:224:LEU:HB3	7:G:228:ASN:HB2	1.90	0.53
2:B:229:ILE:O	2:B:233:LEU:HB2	2.08	0.53
1:O:232:ARG:HG3	1:O:232:ARG:HH11	1.72	0.53
4:R:53:ARG:HG2	4:R:53:ARG:O	2.09	0.53
4:R:207:LEU:C	4:R:207:LEU:HD23	2.29	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:10(B):LYS:HB2	10:J:10(B):LYS:NZ	2.23	0.53
5:S:226:GLY:O	5:S:229:VAL:HG22	2.09	0.53
12:L:33:LYS:HD2	12:L:46:ASN:ND2	2.23	0.53
14:N:44:CYS:HB2	14:N:100:ILE:HB	1.91	0.53
2:B:152:ASN:HB2	2:B:153:PRO:CD	2.38	0.53
9:I:7:THR:HG23	9:I:110:ILE:HD13	1.90	0.53
7:U:131:PRO:HB3	16:U:256:HOH:O	2.08	0.53
14:N:21:THR:HG22	14:N:26:ILE:HA	1.90	0.53
4:R:85:ALA:O	4:R:89:ILE:HG12	2.08	0.53
4:D:170:GLU:N	4:D:170:GLU:OE1	2.41	0.53
9:W:18:LEU:HD12	9:W:172:GLY:HA3	1.90	0.53
2:B:121:GLN:HG3	3:C:83:ALA:HB1	1.90	0.53
11:K:131:GLN:HG3	11:K:132:THR:H	1.71	0.53
9:W:124:PHE:O	9:W:125:ILE:HD12	2.09	0.53
2:P:224:PHE:N	2:P:224:PHE:HD2	2.06	0.53
10:J:44:SER:OG	10:J:100:LEU:HB2	2.09	0.53
8:V:1:THR:HG23	8:V:33:LYS:HD3	1.90	0.53
4:D:112:LEU:C	4:D:112:LEU:HD13	2.29	0.53
1:A:4:MET:SD	1:A:5:THR:N	2.72	0.53
9:I:99:PRO:HB2	9:I:113:PHE:CD2	2.44	0.53
6:F:121:GLN:NE2	6:F:121:GLN:C	2.62	0.53
12:L:8:GLY:HA3	12:L:11:PHE:CE2	2.43	0.53
4:R:120:ALA:CB	4:R:155:GLY:HA2	2.38	0.53
11:K:146:LEU:HD23	11:K:151:ALA:HA	1.91	0.53
2:P:141:TYR:CD1	2:P:21(E):VAL:HG21	2.44	0.53
4:D:170:GLU:CD	4:D:170:GLU:H	2.13	0.53
13:M:147:THR:OG1	13:M:150:VAL:HG23	2.09	0.53
11:Y:172:SER:HA	11:Y:192:VAL:HG23	1.91	0.53
9:I:130:ALA:HB2	9:I:166:ASP:HB2	1.92	0.53
9:I:48:LEU:HG	9:I:50:THR:HG22	1.91	0.53
2:P:99:TYR:CG	2:P:107:ILE:HG12	2.43	0.53
5:E:198:SER:HA	5:E:201:LEU:CG	2.39	0.52
5:S:207:LEU:N	5:S:207:LEU:CD2	2.72	0.52
13:M:37:VAL:HG11	13:M:79:ILE:CD1	2.37	0.52
11:K:126:CYS:HB2	11:K:135:TYR:CZ	2.44	0.52
2:P:198:SER:HA	2:P:205:LEU:HD22	1.91	0.52
1:O:62:GLU:C	1:O:64:LEU:H	2.13	0.52
4:D:179:GLU:HB3	4:D:192:LEU:HD21	1.91	0.52
7:U:224:LEU:HB3	7:U:228:ASN:HB2	1.91	0.52
4:R:154:SER:OG	4:R:156:THR:HG23	2.09	0.52
14:N:143:ARG:O	14:N:146:MET:HG3	2.08	0.52
2:B:228:GLU:O	2:B:232:ILE:HG22	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:24:PRO:HG2	8:H:25:ILE:HD12	1.90	0.52
13:1:5:SER:HB3	13:1:14:ILE:HG13	1.92	0.52
9:I:28:SER:HB2	10:J:120:VAL:HG21	1.92	0.52
1:O:122:GLU:C	1:O:124:THR:H	2.13	0.52
10:J:48:GLU:CB	10:J:96:GLN:HB2	2.39	0.52
16:T:244:HOH:O	7:U:86:ARG:HD2	2.09	0.52
4:D:85:ALA:O	4:D:89:ILE:HG12	2.09	0.52
9:I:24:SER:OG	15:Y:2000:ESY:H1	2.09	0.52
6:F:172:ALA:O	6:F:176:LEU:HD23	2.09	0.52
7:U:190:VAL:O	7:U:194:ILE:HG13	2.10	0.52
10:J:20:VAL:HG11	11:K:120:LEU:HD11	1.91	0.52
7:U:34(A):ASN:HD22	7:U:167:PRO:HG2	1.74	0.52
4:R:170:GLU:OE1	4:R:170:GLU:N	2.42	0.52
7:U:136:LEU:O	7:U:150:LYS:HA	2.08	0.52
9:W:45:ILE:HG22	9:W:52:VAL:HG22	1.91	0.52
5:E:185:ASN:HD21	5:E:187:ASP:HB2	1.74	0.52
12:L:40:ASN:HD21	12:L:183:GLY:HA2	1.74	0.52
6:T:21(B):THR:O	6:T:21(C):ASN:HB2	2.08	0.52
3:Q:134:VAL:HG12	3:Q:135:SER:N	2.25	0.52
2:B:63:THR:HG22	2:B:63:THR:O	2.09	0.52
13:1:113:VAL:HG23	13:1:119:THR:CG2	2.39	0.52
7:G:136:LEU:O	7:G:150:LYS:HA	2.09	0.52
9:W:2:ILE:HG21	9:W:130:ALA:HB3	1.92	0.52
1:A:85:TYR:O	1:A:89:VAL:HG23	2.08	0.52
6:T:158:TRP:CZ3	7:U:64:VAL:HA	2.45	0.52
13:1:146:THR:HA	16:1:231:HOH:O	2.09	0.52
2:P:152:ASN:HB2	2:P:153:PRO:HD2	1.90	0.52
8:H:210:THR:CG2	12:Z:14(C):GLN:HG2	2.39	0.52
5:S:231:LYS:HD2	5:S:231:LYS:H	1.74	0.52
2:B:107:ILE:CD1	2:B:111:ILE:HB	2.40	0.52
1:O:159:PRO:O	2:P:59:LEU:HD12	2.10	0.52
15:K:2000:ESY:H43	10:X:132:PHE:CE1	2.45	0.52
6:F:109:ILE:HG21	6:F:147:HIS:HB2	1.92	0.52
10:X:48:GLU:CB	10:X:96:GLN:HB2	2.39	0.52
10:X:22:ARG:HG3	10:X:27:LEU:HD12	1.92	0.52
14:2:85:GLU:O	14:2:89:GLU:HB2	2.10	0.52
13:1:104:VAL:HG23	13:1:178:ILE:HG22	1.92	0.52
6:F:109:ILE:H	6:F:109:ILE:HD12	1.75	0.52
12:L:1:GLY:N	16:L:214:HOH:O	2.43	0.52
11:K:143:LYS:HB2	11:K:146:LEU:HD12	1.92	0.52
11:K:99:THR:HG22	11:K:113:VAL:O	2.10	0.52
6:F:70:VAL:HG11	6:F:112:PHE:CE1	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:P:71:ASN:HD22	2:P:72:ASP:H	1.51	0.52
4:R:156:THR:HG22	5:S:83:PRO:HD3	1.92	0.52
14:2:84:LYS:HD3	14:2:85:GLU:N	2.25	0.52
4:D:45:GLY:HA2	4:D:146:TYR:CE1	2.45	0.52
9:W:48:LEU:HG	9:W:50:THR:HG22	1.92	0.52
3:C:134:VAL:HG12	3:C:135:SER:N	2.24	0.52
5:S:172:ALA:HB2	5:S:196:ALA:O	2.09	0.52
8:V:162:GLY:O	8:V:166:ASP:HB3	2.09	0.52
10:J:185:ARG:HH11	10:J:185:ARG:HG2	1.74	0.52
3:C:173:ARG:O	3:C:177:GLU:HG3	2.10	0.51
12:Z:166:HIS:CD2	12:Z:168:GLN:H	2.23	0.51
14:2:10(B):LYS:HD3	14:2:10(B):LYS:O	2.10	0.51
2:B:141:TYR:CD1	2:B:21(E):VAL:HG21	2.45	0.51
14:2:3:ILE:HG22	14:2:16:ALA:HB2	1.92	0.51
3:Q:190:VAL:O	3:Q:194:VAL:HG23	2.10	0.51
3:Q:227:GLU:N	3:Q:227:GLU:OE1	2.41	0.51
7:U:186:TRP:O	7:U:190:VAL:HG23	2.10	0.51
8:H:44:ALA:HB3	8:H:100:ILE:HB	1.92	0.51
6:T:70:VAL:HG11	6:T:112:PHE:CE1	2.45	0.51
12:Z:90:LYS:HD3	12:Z:95:TYR:CZ	2.45	0.51
3:C:194:VAL:HG22	3:C:212:ILE:HD11	1.92	0.51
12:L:14(C):GLN:HG2	8:V:210:THR:HG21	1.92	0.51
1:O:214:ILE:C	1:O:214:ILE:CD1	2.78	0.51
4:D:207:LEU:HD23	4:D:207:LEU:C	2.31	0.51
5:E:86:ARG:NH1	5:E:86:ARG:HG3	2.25	0.51
4:R:179:GLU:HB3	4:R:192:LEU:HD21	1.92	0.51
2:B:97:GLN:HE22	9:I:64:ASN:HD22	1.59	0.51
7:U:72:ARG:HB2	7:U:72:ARG:HH11	1.75	0.51
13:M:5:SER:HB3	13:M:14:ILE:HG13	1.92	0.51
1:O:32:LYS:HE2	1:O:32:LYS:HA	1.92	0.51
5:E:207:LEU:N	5:E:207:LEU:CD2	2.73	0.51
6:T:169:ARG:HG3	6:T:173:LYS:HE3	1.91	0.51
7:G:82:ILE:N	7:G:83:PRO:HD2	2.25	0.51
2:B:20:ARG:NE	3:C:33:ARG:NH2	2.56	0.51
5:S:2(C):VAL:CG1	5:S:2(D):ASP:H	2.22	0.51
5:S:18(C):PHE:HA	5:S:18(F):ILE:HG12	1.92	0.51
14:2:3:ILE:HD12	14:2:44:CYS:HB3	1.92	0.51
13:M:164:TYR:HE2	16:M:254:HOH:O	1.94	0.51
11:Y:146:LEU:HD23	11:Y:151:ALA:HA	1.90	0.51
13:1:147:THR:OG1	13:1:150:VAL:HG23	2.10	0.51
5:E:36:VAL:HG22	5:E:37:THR:N	2.26	0.51
1:O:20(A):THR:C	1:O:210:ILE:HD13	2.31	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:V:24:PRO:HG2	8:V:25:ILE:HD12	1.92	0.51
2:B:235:LYS:HD3	2:B:235:LYS:N	2.26	0.51
1:A:177:GLU:HG2	2:B:58:LEU:HD22	1.91	0.51
12:L:42:VAL:HG23	12:L:102:ALA:HB3	1.92	0.51
1:A:214:ILE:C	1:A:214:ILE:CD1	2.79	0.51
7:U:87:ASN:ND2	7:U:87:ASN:C	2.64	0.51
6:F:172:ALA:C	6:F:176:LEU:HD23	2.31	0.51
9:W:28:SER:HB2	10:X:120:VAL:HG21	1.93	0.51
11:K:172:SER:HA	11:K:192:VAL:HG23	1.92	0.51
13:M:129:PHE:HE2	14:2:24:ALA:HB3	1.75	0.51
3:C:76:LEU:HD12	3:C:138:ILE:HG12	1.93	0.51
11:K:77:ALA:HA	11:K:111:TYR:CE2	2.45	0.51
7:U:8:TYR:C	7:U:10:ARG:H	2.13	0.51
8:H:1:THR:HG23	8:H:33:LYS:HD3	1.91	0.51
2:P:63:THR:HG22	2:P:63:THR:O	2.11	0.51
8:H:165:ASN:ND2	13:1:139:ARG:HH11	2.07	0.51
12:L:-6:PRO:O	13:M:91:ARG:NH1	2.39	0.51
7:G:34:THR:HB	7:G:35:ILE:HG13	1.92	0.51
1:O:93:ARG:HD3	8:V:68:LEU:HD23	1.92	0.51
12:L:48:PHE:CZ	12:L:50:ALA:HB3	2.46	0.51
1:A:8:TYR:HD2	7:G:128:TYR:HB3	1.76	0.51
5:S:207:LEU:H	5:S:207:LEU:CD2	2.23	0.51
3:C:100:ARG:NH1	3:C:106:PRO:HB3	2.24	0.51
6:T:203:GLU:C	6:T:205:ASN:H	2.13	0.51
14:N:41:ILE:CD1	14:N:76:THR:HA	2.41	0.51
11:Y:77:ALA:HA	11:Y:111:TYR:CE2	2.46	0.51
6:T:210:LEU:HD12	6:T:211:GLU:N	2.24	0.51
11:K:10(A):ARG:NH1	11:K:10(A):ARG:HG2	2.24	0.51
1:A:93:ARG:HD3	8:H:68:LEU:HD23	1.93	0.51
14:N:24:ALA:HB3	13:1:129:PHE:HE2	1.75	0.51
12:Z:-9:GLN:HE21	13:1:-8:THR:HG21	1.77	0.51
5:E:74:MET:HE2	5:E:109:VAL:HG22	1.93	0.51
14:2:66:TYR:CD2	14:2:74:PRO:HB3	2.46	0.51
2:P:160:TRP:CD2	2:P:163:ILE:HD12	2.46	0.50
7:U:55:PRO:HG2	7:U:56:ASP:H	1.76	0.50
7:G:186:TRP:O	7:G:190:VAL:HG23	2.10	0.50
2:B:149:TYR:OH	3:C:62(A):ILE:HB	2.12	0.50
12:L:145:TYR:CD1	12:L:146:LEU:N	2.78	0.50
10:X:20:VAL:HG11	11:Y:120:LEU:HD11	1.92	0.50
1:A:232:ARG:HG3	1:A:232:ARG:HH11	1.75	0.50
14:2:14:LEU:HD11	14:2:102:ALA:HB3	1.92	0.50
7:U:172:ILE:HD12	7:U:197:MET:CE	2.42	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:Q:52:ARG:HH21	3:Q:211:GLU:HB3	1.75	0.50
3:C:186:VAL:O	3:C:190:VAL:HG23	2.11	0.50
7:G:48:VAL:HG23	7:G:48:VAL:O	2.11	0.50
2:P:107:ILE:CD1	2:P:111:ILE:HB	2.41	0.50
9:W:7:THR:HG23	9:W:110:ILE:HD13	1.93	0.50
1:A:20(A):THR:C	1:A:210:ILE:HD13	2.31	0.50
2:B:27:ALA:O	2:B:31:ILE:HG12	2.11	0.50
7:G:8:TYR:C	7:G:10:ARG:H	2.13	0.50
4:D:175:GLU:HG2	4:D:196:ILE:HG13	1.94	0.50
1:O:214:ILE:C	1:O:214:ILE:HD13	2.31	0.50
1:A:198:LYS:HE3	1:A:236:LEU:HD11	1.93	0.50
2:P:146:TYR:OH	2:P:21(A):LYS:HB2	2.11	0.50
4:R:72:ARG:HG3	16:R:1302:HOH:O	2.11	0.50
2:P:235:LYS:N	2:P:235:LYS:HD3	2.25	0.50
14:N:10(B):LYS:HD3	14:N:10(B):LYS:O	2.10	0.50
6:T:127:ASN:HD22	6:T:127:ASN:C	2.14	0.50
8:H:221:ILE:HD11	9:I:184:VAL:HG21	1.93	0.50
2:P:152:ASN:HB2	2:P:153:PRO:CD	2.42	0.50
12:Z:145:TYR:CD1	12:Z:146:LEU:N	2.79	0.50
13:1:133:MET:O	13:1:136:PRO:HD2	2.10	0.50
4:R:79:SER:O	4:R:134:VAL:HG23	2.11	0.50
10:J:132:PHE:CE1	15:Y:2000:ESY:H43	2.47	0.50
3:C:52:ARG:HH21	3:C:211:GLU:HB3	1.76	0.50
9:W:99:PRO:HB2	9:W:113:PHE:CD2	2.47	0.50
4:R:162:ALA:HB3	5:S:58:LEU:CD2	2.41	0.50
6:F:169:ARG:HG3	6:F:173:LYS:HE3	1.93	0.50
12:Z:42:VAL:HG23	12:Z:102:ALA:HB3	1.94	0.50
5:S:104:ASN:HB2	13:1:81:GLU:HG2	1.92	0.50
11:K:46:ALA:HB3	11:K:98:GLY:O	2.10	0.50
10:J:7:ARG:HG2	10:J:7:ARG:HH11	1.77	0.50
12:Z:6:ILE:HG12	12:Z:124:CYS:HB2	1.94	0.50
5:E:172:ALA:HB2	5:E:196:ALA:O	2.11	0.50
6:F:203:GLU:C	6:F:205:ASN:H	2.13	0.50
2:B:198:SER:HA	2:B:205:LEU:HD22	1.92	0.50
4:D:53:ARG:HG2	4:D:53:ARG:O	2.11	0.50
5:S:198:SER:HA	5:S:201:LEU:CG	2.39	0.50
6:F:203:GLU:HA	6:F:203:GLU:OE1	2.11	0.50
8:H:4:VAL:HG22	8:H:159:ILE:HD11	1.92	0.50
4:D:120:ALA:CB	4:D:155:GLY:HA2	2.41	0.50
1:A:32:LYS:HE2	1:A:32:LYS:HA	1.94	0.50
5:E:2(C):VAL:CG1	5:E:2(D):ASP:H	2.21	0.50
1:A:86:ARG:HE	7:G:118:ASN:ND2	2.06	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:W:137:MET:CE	9:W:141:LEU:HD11	2.40	0.50
7:G:55:PRO:HG2	7:G:56:ASP:H	1.76	0.50
13:M:104:VAL:HG23	13:M:178:ILE:HG22	1.93	0.50
12:Z:114:ASP:CB	12:Z:118:SER:H	2.24	0.50
5:E:226:GLY:O	5:E:228:ALA:N	2.45	0.50
6:F:210:LEU:HD21	6:F:212:ILE:HD11	1.94	0.50
7:G:172:ILE:HD12	7:G:197:MET:HE3	1.94	0.50
4:R:161:ASN:N	5:S:58:LEU:O	2.45	0.50
6:F:127:ASN:HD22	6:F:127:ASN:C	2.13	0.50
4:R:170:GLU:CD	4:R:170:GLU:H	2.15	0.50
8:H:15:ALA:HB2	8:H:175:VAL:HG22	1.93	0.50
3:Q:235:GLN:O	3:Q:239:GLU:HG2	2.11	0.50
5:S:86:ARG:NH1	5:S:86:ARG:HG3	2.27	0.50
4:R:160:TYR:HA	5:S:59:SER:HA	1.94	0.50
11:Y:166:ASP:O	16:Y:2010:HOH:O	2.20	0.50
8:V:112:SER:HB3	8:V:125:LEU:HD13	1.93	0.50
1:A:62:GLU:C	1:A:64:LEU:H	2.14	0.50
16:B:257:HOH:O	3:C:33:ARG:HD2	2.10	0.49
5:E:207:LEU:H	5:E:207:LEU:CD2	2.24	0.49
6:F:49:ALA:HA	6:F:211:GLU:O	2.12	0.49
7:G:172:ILE:HD12	7:G:197:MET:CE	2.41	0.49
5:E:97:ASN:HD21	12:L:61:ASN:ND2	2.09	0.49
8:H:210:THR:HG21	12:Z:14(C):GLN:HG2	1.93	0.49
8:V:78:SER:O	8:V:82:MET:HG3	2.12	0.49
10:X:123:PRO:HB2	10:X:124:TYR:CD1	2.47	0.49
10:X:7:ARG:HG2	10:X:7:ARG:HH11	1.77	0.49
5:S:52:LYS:HB2	5:S:63:TYR:HB3	1.93	0.49
5:S:15:PHE:H	6:T:23:GLN:HE22	1.60	0.49
7:G:72:ARG:NH1	7:G:72:ARG:HB2	2.26	0.49
6:T:203:GLU:OE1	6:T:203:GLU:HA	2.12	0.49
14:2:15:GLY:HA2	14:2:174:ARG:O	2.13	0.49
1:O:94:LYS:O	1:O:98:THR:HG23	2.12	0.49
6:T:184:LEU:HD11	6:T:188:GLU:HB3	1.94	0.49
2:P:120:LYS:HZ1	2:P:136:PHE:HD1	1.61	0.49
1:O:198:LYS:HE3	1:O:236:LEU:HD11	1.94	0.49
5:S:179:THR:O	5:S:179:THR:HG22	2.13	0.49
10:J:35:ARG:O	10:J:42:LEU:HD12	2.12	0.49
2:P:227:GLN:OE1	2:P:230:LYS:HD3	2.12	0.49
2:B:146:TYR:OH	2:B:21(A):LYS:HB2	2.13	0.49
10:X:185:ARG:HH11	10:X:185:ARG:HG2	1.77	0.49
10:X:77:GLN:C	10:X:77:GLN:NE2	2.66	0.49
4:D:12(D):ALA:HB3	4:D:126:ARG:CD	2.42	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:19:LEU:HD21	13:M:26:LEU:HD22	1.94	0.49
3:C:226:SER:O	3:C:230:ASN:HB2	2.13	0.49
14:N:84:LYS:HD3	14:N:85:GLU:N	2.27	0.49
1:O:111:LEU:O	1:O:114:SER:HB3	2.12	0.49
8:H:147:THR:HG23	8:H:150:GLU:OE1	2.12	0.49
14:N:6:VAL:O	14:N:12:VAL:HG23	2.13	0.49
5:E:40:LEU:HD23	5:E:40:LEU:N	2.27	0.49
3:C:216:LYS:HD2	3:C:220:ASP:OD1	2.13	0.49
2:B:148:LEU:N	16:B:240:HOH:O	2.43	0.49
11:Y:22:ALA:HB3	11:Y:25:TRP:HD1	1.78	0.49
6:F:184:LEU:HD11	6:F:188:GLU:HB3	1.94	0.49
2:P:6:ARG:HD2	4:R:9:ASP:HB3	1.95	0.49
1:O:17:PRO:HA	2:P:26:TYR:CD1	2.48	0.49
6:F:176:LEU:O	6:F:180:VAL:HG23	2.13	0.49
13:M:-7:GLN:NE2	16:M:230:HOH:O	2.38	0.49
10:X:184:ILE:HD12	10:X:184:ILE:N	2.28	0.49
8:H:22:GLN:HG3	8:H:27:ALA:HB2	1.95	0.49
10:J:184:ILE:N	10:J:184:ILE:HD12	2.28	0.49
1:O:161:LYS:HD3	1:O:180:TRP:CH2	2.48	0.49
6:T:210:LEU:HD21	6:T:212:ILE:HD11	1.94	0.49
5:E:58:LEU:HD12	5:E:58:LEU:N	2.28	0.49
7:U:168:LYS:O	7:U:172:ILE:HG12	2.13	0.49
6:F:180:VAL:HG21	7:G:58:LEU:HD23	1.95	0.49
3:Q:237:GLU:O	3:Q:241:GLN:HG3	2.12	0.49
14:N:13:ILE:HD12	14:N:151:THR:CG2	2.42	0.49
9:I:126:VAL:HG11	9:I:134:LEU:HB3	1.95	0.49
3:C:97:GLN:HG3	10:J:65:LEU:HB2	1.94	0.49
12:L:6:ILE:HG12	12:L:124:CYS:HB2	1.95	0.49
5:E:18(C):PHE:HA	5:E:18(F):ILE:HG12	1.94	0.49
4:R:160:TYR:HA	5:S:58:LEU:O	2.12	0.49
14:N:3:ILE:HG22	14:N:16:ALA:HB2	1.94	0.49
5:S:136:LEU:HD12	5:S:151:PHE:CD2	2.48	0.49
13:1:205:GLY:HA3	13:1:209:GLN:HB3	1.93	0.49
13:1:187:LYS:HB3	13:1:190:LEU:HD11	1.95	0.49
4:D:122:ARG:HG2	4:D:122:ARG:HH11	1.78	0.49
5:E:52:LYS:HB2	5:E:63:TYR:HB3	1.94	0.49
9:I:29:ASN:ND2	9:I:29:ASN:N	2.56	0.49
10:J:147:THR:OG1	10:J:150:GLU:HG3	2.12	0.49
3:Q:194:VAL:HG22	3:Q:212:ILE:HD11	1.94	0.49
7:U:48:VAL:O	7:U:48:VAL:HG23	2.12	0.49
11:Y:126:CYS:HB2	11:Y:135:TYR:CZ	2.48	0.49
12:Z:33:LYS:HD2	12:Z:46:ASN:ND2	2.26	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:94:LYS:O	1:A:98:THR:HG23	2.13	0.49
8:V:4:VAL:HG22	8:V:159:ILE:HD11	1.95	0.49
1:O:85:TYR:O	1:O:89:VAL:HG23	2.13	0.49
5:S:36:VAL:HG22	5:S:37:THR:N	2.27	0.49
13:M:184:LEU:C	13:M:184:LEU:HD23	2.33	0.49
4:R:90:GLU:OE2	11:Y:69:ARG:NH1	2.43	0.49
5:E:2(C):VAL:CG1	5:E:2(D):ASP:N	2.76	0.48
12:L:166:HIS:CD2	12:L:168:GLN:H	2.23	0.48
12:Z:-5:TYR:CD2	12:Z:96:TYR:HB2	2.48	0.48
12:L:-5:TYR:CE2	12:L:96:TYR:HB2	2.48	0.48
6:F:43:ASN:ND2	6:F:185:SER:HA	2.28	0.48
6:F:109:ILE:CD1	6:F:109:ILE:H	2.25	0.48
13:M:113:VAL:HG23	13:M:119:THR:CG2	2.43	0.48
4:D:39:GLY:HA2	4:D:47:VAL:O	2.13	0.48
4:D:154:SER:OG	4:D:156:THR:HG23	2.12	0.48
5:E:214:ILE:HG12	5:E:215:VAL:N	2.28	0.48
5:S:214:ILE:HG12	5:S:215:VAL:N	2.27	0.48
12:Z:-7:ASN:HD22	12:Z:-6:PRO:N	2.10	0.48
3:C:237:GLU:O	3:C:241:GLN:HG3	2.13	0.48
9:W:174:VAL:HG21	9:W:186:LYS:HE3	1.95	0.48
13:M:187:LYS:HB3	13:M:190:LEU:HD11	1.95	0.48
12:L:-2:ASN:HA	12:L:21:ILE:O	2.12	0.48
13:M:149:GLN:NE2	13:M:149:GLN:H	2.11	0.48
5:S:40:LEU:N	5:S:40:LEU:HD23	2.27	0.48
5:S:226:GLY:O	5:S:228:ALA:N	2.45	0.48
12:L:42:VAL:CG2	12:L:102:ALA:HB3	2.44	0.48
3:C:65:SER:HB2	16:C:252:HOH:O	2.13	0.48
9:W:126:VAL:HG11	9:W:134:LEU:HB3	1.95	0.48
2:P:27:ALA:O	2:P:31:ILE:HG12	2.13	0.48
2:B:110:GLU:HG2	2:B:110:GLU:O	2.11	0.48
5:E:75:GLY:HA3	5:E:221:PHE:CZ	2.48	0.48
9:W:100:VAL:HG13	9:W:125:ILE:HG21	1.96	0.48
9:I:18:LEU:HD12	9:I:172:GLY:HA3	1.94	0.48
5:E:162:GLY:O	5:E:163:THR:HB	2.12	0.48
4:R:159:ARG:O	5:S:60:SER:N	2.45	0.48
13:M:40:ASN:ND2	13:M:40:ASN:N	2.61	0.48
3:C:158:SER:HB2	4:D:59:LEU:HD21	1.95	0.48
14:N:85:GLU:O	14:N:89:GLU:HB2	2.13	0.48
13:1:184:LEU:C	13:1:184:LEU:HD23	2.33	0.48
14:N:66:TYR:CD2	14:N:74:PRO:HB3	2.48	0.48
10:J:123:PRO:HB2	10:J:124:TYR:CD1	2.48	0.48
11:Y:99:THR:HG22	11:Y:113:VAL:O	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:T:35:THR:CG2	6:T:36:THR:N	2.76	0.48
4:R:12(D):ALA:HB3	4:R:126:ARG:CD	2.41	0.48
3:Q:226:SER:O	3:Q:230:ASN:HB2	2.13	0.48
5:E:104:ASN:HB2	13:M:81:GLU:HG2	1.94	0.48
14:2:13:ILE:HD12	14:2:151:THR:CG2	2.43	0.48
3:Q:159:SER:O	4:R:59:LEU:HD22	2.14	0.48
9:I:137:MET:HE1	9:I:161:ASN:HB2	1.95	0.48
7:G:238:GLU:O	7:G:239:GLN:HB2	2.13	0.48
2:B:227:GLN:OE1	2:B:230:LYS:HD3	2.14	0.48
14:2:41:ILE:CD1	14:2:76:THR:HA	2.44	0.48
6:T:109:ILE:H	6:T:109:ILE:HD12	1.77	0.48
6:T:109:ILE:CD1	6:T:109:ILE:N	2.77	0.48
11:Y:2:THR:HG22	11:Y:159:ILE:HD13	1.95	0.48
4:D:233:ILE:O	4:D:237:LEU:HB3	2.13	0.48
6:T:49:ALA:HA	6:T:211:GLU:O	2.14	0.48
7:U:158:VAL:CG2	7:U:159:GLY:N	2.77	0.48
8:V:221:ILE:HD11	9:W:184:VAL:HG21	1.96	0.48
12:Z:40:ASN:HD21	12:Z:183:GLY:HA2	1.78	0.48
10:J:77:GLN:NE2	10:J:77:GLN:C	2.66	0.48
3:C:190:VAL:O	3:C:194:VAL:HG23	2.13	0.48
2:P:150:THR:O	2:P:157:TYR:HA	2.13	0.48
8:V:44:ALA:HB3	8:V:100:ILE:HB	1.96	0.48
5:S:162:GLY:O	5:S:163:THR:HB	2.14	0.48
14:N:116:GLY:HA3	16:N:193:HOH:O	2.14	0.48
9:I:174:VAL:HG21	9:I:186:LYS:HE3	1.96	0.48
5:S:28:LEU:O	5:S:31:ILE:HB	2.14	0.47
10:X:25:SER:HB2	11:Y:131:GLN:NE2	2.29	0.47
12:Z:-7:ASN:HD22	12:Z:-7:ASN:C	2.17	0.47
10:X:35:ARG:O	10:X:42:LEU:HD12	2.13	0.47
9:I:45:ILE:HB	9:I:52:VAL:HG13	1.96	0.47
5:E:131:PRO:HA	16:E:236:HOH:O	2.14	0.47
13:M:205:GLY:HA3	13:M:209:GLN:HB3	1.95	0.47
5:E:180:LEU:O	5:E:18(B):THR:N	2.47	0.47
2:P:121:GLN:CG	3:Q:83:ALA:HB1	2.45	0.47
2:B:160:TRP:CD2	2:B:163:ILE:HD12	2.48	0.47
5:S:75:GLY:HA3	5:S:221:PHE:CZ	2.48	0.47
9:W:29:ASN:ND2	9:W:29:ASN:N	2.55	0.47
5:E:199:GLN:CA	5:E:199:GLN:HE21	2.26	0.47
5:S:18(C):PHE:C	5:S:18(E):LYS:N	2.67	0.47
6:T:176:LEU:O	6:T:180:VAL:HG23	2.13	0.47
7:G:87:ASN:ND2	7:G:87:ASN:C	2.66	0.47
12:L:-9:GLN:HE21	13:M:-8:THR:HG21	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:34:LEU:HB2	16:H:240:HOH:O	2.13	0.47
11:K:97:MET:O	11:K:114:ASP:HA	2.14	0.47
1:A:122:GLU:C	1:A:124:THR:H	2.16	0.47
5:E:28:LEU:O	5:E:31:ILE:HB	2.15	0.47
7:U:172:ILE:HD12	7:U:197:MET:HE3	1.96	0.47
6:F:109:ILE:CD1	6:F:109:ILE:N	2.77	0.47
7:G:28:PHE:CZ	7:G:152:ASP:HB2	2.49	0.47
11:Y:143:LYS:H	11:Y:146:LEU:HD13	1.80	0.47
12:L:140:ASN:O	12:L:144:PHE:HA	2.14	0.47
5:E:227:GLU:CD	5:E:227:GLU:H	2.17	0.47
7:U:28:PHE:CZ	7:U:152:ASP:HB2	2.49	0.47
5:E:4:PHE:O	5:E:6:ASN:N	2.47	0.47
3:C:235:GLN:O	3:C:239:GLU:HG2	2.14	0.47
4:D:90:GLU:OE2	11:K:69:ARG:NH1	2.47	0.47
2:B:121:GLN:CG	3:C:83:ALA:HB1	2.44	0.47
6:T:109:ILE:CD1	6:T:109:ILE:H	2.27	0.47
14:N:19:ARG:HG3	14:N:26:ILE:HG23	1.96	0.47
1:O:17:PRO:HG3	2:P:26:TYR:CZ	2.49	0.47
14:2:59:VAL:HG22	14:2:82:VAL:HG12	1.96	0.47
1:A:110:LYS:HG2	16:A:246:HOH:O	2.13	0.47
13:1:149:GLN:H	13:1:149:GLN:NE2	2.13	0.47
7:G:151:THR:HG22	7:G:157:TYR:CB	2.43	0.47
12:L:-7:ASN:HD22	12:L:-6:PRO:N	2.13	0.47
6:T:38:ILE:HG22	6:T:164:ALA:HB2	1.95	0.47
6:F:210:LEU:HD12	6:F:211:GLU:N	2.27	0.47
6:F:127:ASN:ND2	6:F:127:ASN:C	2.67	0.47
10:J:185:ARG:HG2	10:J:185:ARG:NH1	2.30	0.47
5:E:4:PHE:CG	5:E:5:ARG:N	2.83	0.47
11:K:3:THR:HG22	11:K:16:VAL:HG12	1.96	0.47
11:Y:3:THR:HG22	11:Y:16:VAL:HG12	1.96	0.47
12:Z:173:LEU:HB2	12:Z:191:LEU:HD11	1.96	0.47
6:F:45:GLY:HA3	6:F:215:CYS:O	2.15	0.47
8:H:112:SER:HB3	8:H:125:LEU:HD13	1.97	0.47
4:R:46:VAL:HG11	4:R:139:ALA:HB1	1.96	0.47
8:V:22:GLN:HG3	8:V:27:ALA:HB2	1.96	0.47
13:1:40:ASN:ND2	13:1:40:ASN:N	2.62	0.47
9:I:123:ASP:HB2	9:I:124:PHE:CD2	2.49	0.47
10:X:147:THR:OG1	10:X:150:GLU:HG3	2.15	0.47
13:M:165:ARG:NH1	8:V:139:GLU:OE1	2.45	0.47
11:K:22:ALA:HB3	11:K:25:TRP:HD1	1.78	0.47
2:B:87:ILE:O	2:B:91:THR:HG23	2.14	0.47
6:F:216:SER:HB3	6:F:21(A):GLU:HB2	1.96	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:150:THR:O	2:B:157:TYR:HA	2.15	0.47
4:R:39:GLY:HA2	4:R:47:VAL:O	2.15	0.47
11:K:74:ILE:HD12	11:K:79:ALA:HB2	1.97	0.47
12:Z:2:THR:HG21	12:Z:130:ALA:HB3	1.97	0.47
13:M:133:MET:O	13:M:136:PRO:HD2	2.13	0.47
9:I:6:MET:HG2	9:I:124:PHE:HB3	1.97	0.47
6:F:54:ILE:HG13	6:F:208:PHE:CA	2.45	0.47
2:P:185:LYS:HD3	2:P:186:VAL:H	1.80	0.47
12:L:148:VAL:O	12:L:152:ILE:HG13	2.15	0.47
6:T:216:SER:HB3	6:T:21(A):GLU:HB2	1.96	0.47
5:S:2(C):VAL:CG1	5:S:2(D):ASP:N	2.77	0.47
6:F:121:GLN:HE21	6:F:122:ALA:N	2.13	0.47
2:B:108:PRO:HD2	2:B:111:ILE:HD12	1.97	0.47
7:U:238:GLU:O	7:U:239:GLN:HB2	2.15	0.47
11:Y:6:PHE:HA	11:Y:123:ASP:O	2.15	0.47
5:E:179:THR:HG22	5:E:179:THR:O	2.14	0.47
5:S:78:LEU:HD12	5:S:78:LEU:C	2.35	0.47
7:G:135:ILE:CG2	7:G:150:LYS:HD2	2.45	0.47
12:L:173:LEU:HB2	12:L:191:LEU:HD11	1.96	0.47
5:S:24:VAL:O	5:S:27:ALA:HB3	2.15	0.47
8:H:162:GLY:O	8:H:166:ASP:HB3	2.14	0.47
6:F:238:LYS:HZ2	6:F:239:GLU:HG3	1.80	0.47
3:C:18(B):ARG:O	3:C:182:PRO:HD3	2.15	0.47
6:F:35:THR:CG2	6:F:36:THR:N	2.78	0.46
10:J:25:SER:OG	11:K:131:GLN:NE2	2.48	0.46
5:S:199:GLN:HE21	5:S:199:GLN:CA	2.27	0.46
5:E:18(C):PHE:C	5:E:18(E):LYS:N	2.69	0.46
3:Q:100:ARG:HH11	3:Q:106:PRO:HB3	1.79	0.46
12:Z:42:VAL:CG2	12:Z:102:ALA:HB3	2.45	0.46
14:2:6:VAL:O	14:2:12:VAL:HG23	2.15	0.46
12:Z:-2:ASN:HA	12:Z:21:ILE:O	2.15	0.46
6:T:81:LEU:HD12	6:T:133:GLY:HA3	1.96	0.46
9:I:90:ARG:NE	16:I:235:HOH:O	2.48	0.46
13:M:3:VAL:O	13:M:126:ALA:HA	2.15	0.46
12:L:100:ILE:HD11	12:L:125:ARG:HG3	1.96	0.46
10:X:90(B):ARG:NH1	16:X:205:HOH:O	2.48	0.46
7:G:38:LEU:C	7:G:38:LEU:HD12	2.36	0.46
9:W:6:MET:HG2	9:W:124:PHE:HB3	1.98	0.46
6:F:192:GLN:O	6:F:196:ILE:HG13	2.15	0.46
12:L:1:GLY:CA	16:L:214:HOH:O	2.64	0.46
10:X:124:TYR:CD2	10:X:138:LEU:HD13	2.51	0.46
10:J:40:HIS:CD2	10:J:10(A):LYS:HD3	2.51	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:1:125:LEU:HA	16:1:217:HOH:O	2.15	0.46
10:X:113:ILE:HG12	10:X:119:LYS:HG3	1.97	0.46
5:S:4:PHE:CG	5:S:5:ARG:N	2.83	0.46
1:O:4:MET:SD	1:O:5:THR:N	2.73	0.46
5:E:78:LEU:HD12	5:E:78:LEU:C	2.36	0.46
3:Q:224:LEU:N	3:Q:224:LEU:HD12	2.31	0.46
13:M:7:LYS:HG3	13:M:14(G):ILE:HD13	1.98	0.46
5:S:97:ASN:ND2	12:Z:61:ASN:HD21	2.12	0.46
6:T:127:ASN:C	6:T:127:ASN:ND2	2.68	0.46
3:Q:227:GLU:HA	3:Q:230:ASN:HB2	1.97	0.46
12:Z:-8:PHE:CB	13:1:-8:THR:HG23	2.45	0.46
6:F:238:LYS:NZ	6:F:239:GLU:HG3	2.30	0.46
10:J:22:ARG:HG3	10:J:27:LEU:HD12	1.96	0.46
10:J:66:TYR:CE2	10:J:74:LEU:HG	2.51	0.46
8:V:81:GLN:O	8:V:85:GLN:HG3	2.15	0.46
4:D:46:VAL:HG11	4:D:139:ALA:HB1	1.97	0.46
7:G:203:THR:HG22	7:G:204:GLU:N	2.30	0.46
5:E:24:VAL:O	5:E:27:ALA:HB3	2.15	0.46
14:N:15:GLY:HA2	14:N:174:ARG:O	2.15	0.46
1:A:161:LYS:HD3	1:A:180:TRP:CH2	2.49	0.46
12:Z:103:GLY:HA2	12:Z:178:VAL:HG11	1.97	0.46
3:C:224:LEU:HD12	3:C:224:LEU:N	2.30	0.46
5:E:130:ARG:HG3	5:E:130:ARG:HH11	1.80	0.46
5:S:216:GLY:O	5:S:217:LYS:C	2.53	0.46
3:C:52:ARG:HB2	3:C:209:ASN:HA	1.97	0.46
2:P:101:LYS:HZ2	10:X:85:GLN:HE21	1.63	0.46
4:R:175:GLU:HG2	4:R:196:ILE:HG13	1.96	0.46
4:R:196:ILE:N	4:R:196:ILE:HD12	2.29	0.46
3:Q:46:VAL:HG11	3:Q:139:ALA:HB1	1.97	0.46
5:E:70:CYS:HA	5:E:93:ARG:HG2	1.98	0.46
13:1:190:LEU:HD12	13:1:190:LEU:N	2.30	0.46
5:S:148:LEU:CD2	5:S:162:GLY:HA2	2.45	0.46
11:Y:37:ILE:HG23	11:Y:60:GLY:HA2	1.98	0.46
5:S:134:VAL:O	5:S:153:PRO:HG3	2.15	0.46
12:Z:114:ASP:HB2	12:Z:118:SER:H	1.79	0.46
6:T:43:ASN:ND2	6:T:185:SER:HA	2.31	0.46
12:L:114:ASP:CB	12:L:118:SER:H	2.28	0.46
3:Q:216:LYS:HD2	3:Q:220:ASP:OD1	2.15	0.46
3:Q:52:ARG:HB2	3:Q:209:ASN:HA	1.96	0.46
13:1:3:VAL:O	13:1:126:ALA:HA	2.16	0.46
5:E:150:GLU:O	5:E:157:VAL:HA	2.16	0.46
12:Z:113:PHE:N	12:Z:113:PHE:CD1	2.84	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:R:215:ILE:HD13	4:R:215:ILE:C	2.35	0.46
5:S:15:PHE:HB2	6:T:23:GLN:NE2	2.30	0.46
3:C:46:VAL:HG11	3:C:139:ALA:HB1	1.98	0.46
10:X:178:VAL:HG22	10:X:184:ILE:HG13	1.98	0.46
5:S:4:PHE:O	5:S:6:ASN:N	2.48	0.46
4:R:15:PHE:HB2	5:S:23:GLN:OE1	2.15	0.46
1:A:141:HIS:HA	1:A:146:GLY:O	2.15	0.46
3:Q:62(A):ILE:HG13	3:Q:63:THR:N	2.30	0.46
4:D:79:SER:O	4:D:134:VAL:HG23	2.16	0.46
12:Z:48:PHE:CZ	12:Z:50:ALA:HB3	2.50	0.46
1:O:7:ARG:HH11	5:S:127:TYR:HD2	1.64	0.46
1:O:8:TYR:HD2	7:U:128:TYR:HB3	1.81	0.46
3:Q:15:PHE:H	4:R:23:GLN:NE2	2.06	0.46
3:C:15:PHE:H	4:D:23:GLN:NE2	2.05	0.46
7:U:203:THR:HG22	7:U:204:GLU:N	2.31	0.46
12:Z:114:ASP:HB2	12:Z:118:SER:N	2.31	0.46
1:A:179:ARG:HH11	1:A:179:ARG:HB3	1.81	0.46
10:J:124:TYR:CD2	10:J:138:LEU:HD13	2.51	0.46
6:T:45:GLY:HA3	6:T:215:CYS:O	2.15	0.46
3:Q:39:GLY:HA2	3:Q:47:VAL:O	2.16	0.46
8:H:81:GLN:O	8:H:85:GLN:HG3	2.15	0.46
4:D:76:CYS:HB2	4:D:137:LEU:O	2.16	0.46
13:M:61:ASP:O	13:M:65:GLU:HB2	2.16	0.46
4:R:112:LEU:C	4:R:112:LEU:HD13	2.37	0.46
12:Z:43:MET:CB	12:Z:101:ILE:HG22	2.43	0.46
6:T:54:ILE:HG13	6:T:208:PHE:CA	2.45	0.46
6:T:121:GLN:HE21	6:T:122:ALA:N	2.13	0.46
9:W:130:ALA:HB2	9:W:166:ASP:CB	2.46	0.46
7:U:72:ARG:HB2	7:U:72:ARG:NH1	2.31	0.46
5:E:148:LEU:CD2	5:E:162:GLY:HA2	2.46	0.46
10:X:113:ILE:HA	10:X:118:THR:O	2.16	0.46
1:A:149:TYR:CE1	1:A:159:PRO:HB3	2.50	0.46
7:U:227:GLU:HG2	16:U:277:HOH:O	2.16	0.46
3:C:136:THR:O	3:C:150:GLN:HA	2.16	0.46
4:R:122:ARG:HG2	4:R:122:ARG:HH11	1.81	0.46
7:G:74:ILE:HD13	16:G:247:HOH:O	2.16	0.46
7:U:74:ILE:HG21	7:U:112:LEU:HD23	1.98	0.46
5:E:52:LYS:HD3	5:E:211:SER:HB2	1.98	0.46
10:J:142:TYR:O	10:J:143:ARG:HD3	2.15	0.46
5:E:18(C):PHE:CD1	5:E:18(C):PHE:C	2.89	0.46
9:W:123:ASP:HB2	9:W:124:PHE:CD2	2.51	0.46
14:N:14:LEU:N	14:N:14:LEU:HD12	2.31	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:38:VAL:HG23	5:E:197:ILE:HD12	1.97	0.46
2:B:238:ILE:O	2:B:239:THR:O	2.34	0.46
4:R:233:ILE:O	4:R:237:LEU:HB3	2.15	0.46
9:W:5:ALA:HB2	9:W:14:ILE:CD1	2.46	0.46
5:S:41:ARG:NH1	5:S:42:SER:O	2.49	0.46
5:E:17:PRO:HA	6:F:26:TYR:CE2	2.50	0.45
5:S:18(C):PHE:CD1	5:S:18(C):PHE:C	2.90	0.45
12:L:-7:ASN:C	12:L:-7:ASN:HD22	2.19	0.45
12:L:11:PHE:CE1	12:L:148:VAL:HA	2.52	0.45
13:1:-5:PRO:HD3	13:1:96:TRP:CE2	2.51	0.45
5:S:58:LEU:N	5:S:58:LEU:HD12	2.31	0.45
3:C:227:GLU:HA	3:C:230:ASN:HB2	1.96	0.45
4:R:90:GLU:OE1	11:Y:69:ARG:HD2	2.16	0.45
3:Q:18(B):ARG:O	3:Q:182:PRO:HD3	2.16	0.45
13:M:-4:ILE:HG22	13:M:-3:VAL:N	2.31	0.45
9:W:36:HIS:HB3	9:W:42:PHE:CD2	2.51	0.45
3:Q:70:ILE:HG21	3:Q:112:LEU:HD21	1.97	0.45
4:D:243:ALA:O	4:D:244:GLU:CB	2.64	0.45
5:S:130:ARG:HH11	5:S:130:ARG:HG3	1.80	0.45
7:U:18(D):ILE:N	7:U:18(D):ILE:HD12	2.32	0.45
11:Y:97:MET:O	11:Y:114:ASP:HA	2.17	0.45
3:C:195:ARG:HG3	3:C:236:ILE:HD13	1.98	0.45
6:F:35:THR:HG23	6:F:51:GLU:HB3	1.98	0.45
4:R:160:TYR:CE2	4:R:163:LYS:HD3	2.51	0.45
7:G:186:TRP:CZ3	7:G:224:LEU:HD21	2.52	0.45
8:H:207:PRO:O	8:H:210:THR:OG1	2.30	0.45
10:X:185:ARG:NH1	10:X:185:ARG:HG2	2.32	0.45
9:W:14:ILE:HG13	9:W:34:ILE:HD12	1.97	0.45
14:2:104:TYR:OH	14:2:180:ALA:HB2	2.16	0.45
1:O:12:LEU:HD12	1:O:129:VAL:N	2.32	0.45
7:G:18(D):ILE:HD12	7:G:18(D):ILE:N	2.31	0.45
6:T:107:ILE:O	6:T:107:ILE:HG23	2.16	0.45
14:N:14:LEU:HD11	14:N:102:ALA:HB3	1.97	0.45
6:F:63:LYS:O	6:F:65:VAL:HG23	2.16	0.45
5:S:180:LEU:O	5:S:18(B):THR:N	2.48	0.45
10:X:40:HIS:CD2	10:X:10(A):LYS:HD3	2.52	0.45
1:O:221:PHE:C	1:O:221:PHE:CD2	2.90	0.45
12:L:113:PHE:CD1	12:L:113:PHE:N	2.83	0.45
6:T:35:THR:HG23	6:T:51:GLU:HB3	1.98	0.45
1:A:7:ARG:NH1	5:E:127:TYR:HD2	2.15	0.45
9:W:14:ILE:CG1	9:W:34:ILE:HD12	2.46	0.45
7:U:218:ASP:O	7:U:220:LYS:HB2	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:176:VAL:HG12	14:N:178:LEU:HD13	1.98	0.45
10:X:66:TYR:CE2	10:X:74:LEU:HG	2.52	0.45
6:T:192:GLN:NE2	6:T:195:LYS:HE2	2.31	0.45
5:E:216:GLY:O	5:E:217:LYS:C	2.55	0.45
10:X:18:LYS:HD3	10:X:174:ILE:HG13	1.99	0.45
11:K:37:ILE:HG23	11:K:60:GLY:HA2	1.97	0.45
5:S:45:HIS:HB2	5:S:189:LEU:HD12	1.99	0.45
6:F:103:TYR:O	6:F:104:LYS:HB3	2.17	0.45
4:D:160:TYR:CE2	4:D:163:LYS:HD3	2.52	0.45
3:C:161:SER:HB3	3:C:180:TYR:CE1	2.51	0.45
2:B:218:ASN:O	2:B:21(C):ASP:HB2	2.16	0.45
3:Q:121:GLN:C	3:Q:121:GLN:NE2	2.70	0.45
8:V:147:THR:HG23	8:V:150:GLU:OE1	2.17	0.45
5:S:74:MET:HE2	5:S:109:VAL:HG22	1.99	0.45
6:T:191:LYS:HA	6:T:232:ALA:HB1	1.98	0.45
14:N:8:PHE:CE1	14:N:10:ASP:HB2	2.52	0.45
6:F:81:LEU:HD12	6:F:133:GLY:HA3	1.98	0.45
14:2:176:VAL:HG12	14:2:178:LEU:HD13	1.99	0.45
5:S:227:GLU:CD	5:S:227:GLU:H	2.17	0.45
5:S:226:GLY:HA3	5:S:227:GLU:OE2	2.17	0.45
6:T:192:GLN:O	6:T:196:ILE:HG13	2.17	0.45
5:S:70:CYS:HA	5:S:93:ARG:HG2	1.98	0.45
2:P:108:PRO:HD2	2:P:111:ILE:HD12	1.99	0.45
12:Z:134:ILE:HG22	12:Z:138:LEU:HD22	1.99	0.45
7:U:78:VAL:HG11	7:U:85:ALA:CB	2.47	0.45
7:G:177:GLU:O	7:G:17(B):LYS:HG3	2.16	0.45
4:D:121:LEU:HD23	4:D:123:PHE:HE1	1.82	0.45
11:K:6:PHE:HA	11:K:123:ASP:O	2.17	0.45
6:F:107:ILE:HA	6:F:108:PRO:HD3	1.84	0.45
4:R:243:ALA:O	4:R:244:GLU:CB	2.64	0.45
2:B:209:ARG:HH11	2:B:209:ARG:HG2	1.82	0.45
10:X:142:TYR:O	10:X:143:ARG:HD3	2.17	0.45
12:Z:11:PHE:CE1	12:Z:148:VAL:HA	2.52	0.45
1:O:62:GLU:CD	1:O:62:GLU:H	2.19	0.45
13:1:150:VAL:HG21	16:1:231:HOH:O	2.17	0.45
13:M:184:LEU:HD23	13:M:185:THR:N	2.31	0.45
8:V:67:SER:HB2	8:V:74:PRO:HG3	1.99	0.45
4:R:17:PRO:HG3	5:S:26:TYR:CE2	2.52	0.45
5:E:67:ILE:HG21	5:E:213:ALA:HB2	1.98	0.45
12:L:-5:TYR:CD2	12:L:96:TYR:HB2	2.52	0.45
13:1:148:VAL:HG23	16:1:224:HOH:O	2.17	0.45
7:G:158:VAL:CG2	7:G:159:GLY:N	2.79	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:R:172:ALA:HB2	4:R:200:VAL:HG11	2.00	0.45
5:S:38:VAL:HG23	5:S:197:ILE:HD12	1.99	0.45
4:D:196:ILE:N	4:D:196:ILE:HD12	2.32	0.45
1:A:214:ILE:C	1:A:214:ILE:HD13	2.38	0.45
10:J:189:ASP:HA	10:J:191:GLN:OE1	2.17	0.45
14:2:83:PHE:HB3	14:2:113:ILE:HD13	1.99	0.45
5:S:67:ILE:HG21	5:S:213:ALA:HB2	1.98	0.45
3:Q:136:THR:O	3:Q:150:GLN:HA	2.16	0.45
5:E:136:LEU:HD12	5:E:151:PHE:CD2	2.51	0.45
2:P:122:GLY:C	2:P:124:THR:H	2.20	0.44
2:P:207:TYR:CG	2:P:208:ASP:N	2.85	0.44
6:F:38:ILE:HG22	6:F:164:ALA:HB2	1.99	0.44
12:L:109:ALA:HA	16:L:220:HOH:O	2.17	0.44
11:K:86:LEU:HD13	11:K:86:LEU:C	2.38	0.44
10:J:10(B):LYS:HB2	10:J:10(B):LYS:HZ2	1.81	0.44
7:U:72:ARG:NH2	14:2:39:ASP:OD2	2.50	0.44
13:M:190:LEU:HD12	13:M:190:LEU:N	2.32	0.44
12:Z:137:PHE:CE1	12:Z:141:GLN:HG3	2.52	0.44
8:V:59:ILE:HD12	16:V:247:HOH:O	2.17	0.44
4:R:121:LEU:HD23	4:R:123:PHE:HE1	1.81	0.44
8:V:15:ALA:HB2	8:V:175:VAL:HG22	1.98	0.44
2:B:207:TYR:CG	2:B:208:ASP:N	2.85	0.44
13:1:7:LYS:HG3	13:1:14(G):ILE:HD13	1.99	0.44
5:E:226:GLY:HA3	5:E:227:GLU:OE2	2.17	0.44
6:T:109:ILE:HD13	6:T:142:ASP:HB3	2.00	0.44
2:P:198:SER:CA	2:P:205:LEU:HD22	2.47	0.44
14:2:84:LYS:HD2	16:2:220:HOH:O	2.17	0.44
1:A:62:GLU:H	1:A:62:GLU:CD	2.20	0.44
1:A:142:ASP:OD1	1:A:145:ASN:HB2	2.18	0.44
2:B:88:LEU:HB3	2:B:116:LEU:HD21	1.98	0.44
7:U:18(G):GLU:CG	7:U:188:LYS:HB2	2.42	0.44
4:D:174:ALA:O	4:D:177:LEU:HB2	2.17	0.44
12:L:114:ASP:HB2	12:L:118:SER:N	2.33	0.44
10:X:140:HIS:CD2	10:X:141:HIS:CE1	3.04	0.44
4:D:172:ALA:O	4:D:175:GLU:HB3	2.18	0.44
9:I:36:HIS:HB3	9:I:42:PHE:CD2	2.52	0.44
9:I:5:ALA:HB2	9:I:14:ILE:CD1	2.48	0.44
9:I:14:ILE:HG13	9:I:34:ILE:HD12	2.00	0.44
7:G:107:MET:CE	7:G:112:LEU:HD13	2.48	0.44
3:Q:149:TYR:CE1	3:Q:159:SER:HB3	2.53	0.44
13:M:91:ARG:HG3	13:M:92:SER:N	2.32	0.44
5:S:97:ASN:HA	5:S:97:ASN:HD22	1.66	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:Y:86:LEU:C	11:Y:86:LEU:HD13	2.37	0.44
3:Q:38:VAL:HG22	3:Q:39:GLY:N	2.32	0.44
6:F:13:SER:HB2	7:G:130:ARG:HB3	2.00	0.44
12:Z:140:ASN:O	12:Z:144:PHE:HA	2.17	0.44
6:T:238:LYS:HZ2	6:T:239:GLU:HG3	1.81	0.44
8:V:200:LYS:HE3	9:W:140:SER:O	2.17	0.44
1:O:150:GLN:O	1:O:157:TYR:HA	2.17	0.44
11:Y:87:VAL:HG11	11:Y:115:SER:HA	1.99	0.44
10:X:25:SER:OG	11:Y:131:GLN:NE2	2.51	0.44
14:N:163:ILE:CG2	14:N:170:GLY:HA2	2.47	0.44
11:Y:143:LYS:HB2	11:Y:146:LEU:CD1	2.46	0.44
11:K:143:LYS:H	11:K:146:LEU:HD13	1.83	0.44
7:U:186:TRP:CZ3	7:U:224:LEU:HD21	2.53	0.44
14:2:13:ILE:HD12	14:2:151:THR:HG22	1.99	0.44
6:T:238:LYS:NZ	6:T:239:GLU:HG3	2.32	0.44
13:M:-5:PRO:HD3	13:M:96:TRP:CE2	2.52	0.44
2:B:213:ALA:HA	2:B:222:LYS:O	2.18	0.44
7:U:79:ASN:HA	16:U:250:HOH:O	2.17	0.44
9:I:-2:ASN:HB3	9:I:20:LEU:HD22	1.99	0.44
5:E:41:ARG:NH1	5:E:42:SER:O	2.50	0.44
6:F:61:PRO:O	6:F:62:GLN:HB2	2.17	0.44
7:U:177:GLU:O	7:U:17(B):LYS:HG3	2.17	0.44
8:H:72:ARG:HH11	8:H:72:ARG:HG3	1.82	0.44
12:Z:129:ALA:HB1	12:Z:166:HIS:NE2	2.33	0.44
1:O:22:GLY:O	1:O:25:ASP:HB2	2.17	0.44
1:O:15:PHE:HB2	2:P:23:GLN:NE2	2.33	0.44
6:F:192:GLN:NE2	6:F:195:LYS:HE2	2.33	0.44
3:Q:241:GLN:C	3:Q:243:GLN:N	2.70	0.44
2:B:185:LYS:HD3	2:B:186:VAL:H	1.82	0.44
1:A:69:LEU:HD23	1:A:70:LEU:N	2.32	0.44
3:C:62(A):ILE:HG13	3:C:63:THR:N	2.32	0.44
2:P:136:PHE:O	2:P:150:THR:HA	2.18	0.44
14:N:13:ILE:HD12	14:N:151:THR:HG22	1.98	0.44
10:J:178:VAL:HG22	10:J:184:ILE:HG13	1.99	0.44
4:D:160:TYR:HB3	4:D:162:ALA:O	2.17	0.44
12:Z:134:ILE:O	12:Z:137:PHE:HB3	2.17	0.44
8:V:59:ILE:CD1	16:V:247:HOH:O	2.64	0.44
14:N:83:PHE:HB3	14:N:113:ILE:HD13	1.98	0.44
2:P:202:THR:CG2	2:P:203:ASP:N	2.80	0.44
7:G:65:SER:HA	7:G:211:GLU:OE2	2.18	0.44
13:1:91:ARG:HG3	13:1:92:SER:N	2.32	0.44
7:G:168:LYS:O	7:G:172:ILE:HG12	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:O:6:ASP:OD2	1:O:8:TYR:HB2	2.17	0.44
9:W:5:ALA:HA	9:W:13:ALA:O	2.18	0.44
11:K:40:PHE:CD1	11:K:73:ARG:NH1	2.86	0.44
1:O:141:HIS:HA	1:O:146:GLY:O	2.18	0.44
12:Z:170:GLY:O	12:Z:171:ASP:HB2	2.18	0.44
6:T:24:VAL:O	6:T:27:ALA:HB3	2.17	0.44
8:H:200:LYS:HE3	9:I:140:SER:O	2.18	0.44
5:E:143:LYS:HD3	13:M:71(B):GLU:O	2.18	0.44
3:C:39:GLY:HA2	3:C:47:VAL:O	2.18	0.44
5:S:123:ASN:N	5:S:123:ASN:HD22	2.16	0.44
3:C:163:GLN:HG3	3:C:164:THR:N	2.33	0.44
7:G:18(D):ILE:CD1	7:G:18(D):ILE:N	2.81	0.44
14:N:144:GLU:O	14:N:145:ASN:HB2	2.18	0.44
10:J:98:ASN:HB3	10:J:127:HIS:CD2	2.53	0.44
3:C:26:TYR:N	3:C:26:TYR:CD1	2.86	0.44
6:T:103:TYR:O	6:T:104:LYS:HB3	2.16	0.44
4:R:86:ARG:HD3	4:R:86:ARG:HA	1.85	0.44
7:U:151:THR:HG22	7:U:157:TYR:CB	2.47	0.44
9:I:6:MET:CE	9:I:155:ILE:HA	2.47	0.44
11:Y:89:GLN:HG3	16:Y:2014:HOH:O	2.18	0.44
12:Z:90:LYS:HE3	12:Z:93:PHE:O	2.18	0.44
1:O:179:ARG:HH11	1:O:179:ARG:HB3	1.82	0.44
14:N:12:VAL:HG22	14:N:13:ILE:N	2.33	0.44
8:V:159:ILE:HD13	8:V:159:ILE:N	2.33	0.44
11:Y:16:VAL:HG21	11:Y:34:VAL:HG23	2.00	0.44
1:A:225:THR:O	1:A:229:ILE:HG12	2.18	0.44
3:C:70:ILE:HG21	3:C:112:LEU:HD21	1.99	0.44
10:X:189:ASP:HA	10:X:191:GLN:OE1	2.18	0.44
11:K:1:THR:O	11:K:128:GLY:HA3	2.18	0.44
14:2:144:GLU:O	14:2:145:ASN:HB2	2.18	0.44
4:D:86:ARG:HD3	4:D:86:ARG:HA	1.86	0.44
7:U:107:MET:CE	7:U:112:LEU:HD13	2.48	0.43
7:U:96:ALA:HA	7:U:107:MET:CE	2.34	0.43
2:B:21:LEU:HD13	2:B:124:THR:HG23	2.00	0.43
9:I:33:LYS:O	9:I:44:GLY:HA2	2.18	0.43
6:F:43:ASN:HD21	6:F:185:SER:HA	1.82	0.43
7:G:228:ASN:HD22	7:G:228:ASN:N	2.16	0.43
8:H:113:ILE:HG12	8:H:119:THR:HG22	1.99	0.43
10:J:140:HIS:CD2	10:J:141:HIS:CE1	3.05	0.43
11:K:143:LYS:HB2	11:K:146:LEU:CD1	2.48	0.43
2:B:198:SER:CA	2:B:205:LEU:HD22	2.48	0.43
11:Y:44:THR:O	11:Y:99:THR:OG1	2.35	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:103:GLY:HA2	12:L:178:VAL:HG11	2.00	0.43
12:L:129:ALA:HB1	12:L:166:HIS:NE2	2.32	0.43
6:T:179:LEU:CD1	6:T:196:ILE:HD11	2.48	0.43
6:T:38:ILE:HG22	6:T:164:ALA:HB1	2.00	0.43
4:R:174:ALA:O	4:R:177:LEU:HB2	2.18	0.43
8:V:113:ILE:HG12	8:V:119:THR:HG22	1.99	0.43
1:A:225:THR:OG1	1:A:228:GLU:HG3	2.18	0.43
13:1:45:ILE:HG21	13:1:52:MET:HG3	1.99	0.43
9:I:66:TYR:CE1	9:I:70:GLU:HG3	2.53	0.43
9:W:66:TYR:CE1	9:W:70:GLU:HG3	2.53	0.43
10:J:25:SER:HB2	11:K:131:GLN:NE2	2.29	0.43
6:F:43:ASN:HD22	6:F:43:ASN:H	1.54	0.43
7:G:110:ASP:HB3	7:G:149:TYR:CE2	2.53	0.43
13:M:115:LEU:HD23	13:M:115:LEU:N	2.33	0.43
11:K:47:GLY:CA	15:K:2000:ESY:H31	2.48	0.43
14:2:14:LEU:N	14:2:14:LEU:HD12	2.33	0.43
5:E:38:VAL:HG12	5:E:39:GLY:N	2.34	0.43
12:Z:14(I):THR:HG21	12:Z:14(M):VAL:HB	2.01	0.43
6:T:63:LYS:O	6:T:65:VAL:HG23	2.18	0.43
12:L:5:GLY:O	12:L:124:CYS:HA	2.18	0.43
1:O:225:THR:OG1	1:O:228:GLU:HG3	2.18	0.43
11:Y:38:ASN:HB2	11:Y:39:PRO:CD	2.48	0.43
3:C:156:ILE:HG23	16:C:264:HOH:O	2.18	0.43
2:P:218:ASN:O	2:P:21(C):ASP:HB2	2.17	0.43
1:A:221:PHE:CD2	1:A:221:PHE:C	2.91	0.43
4:D:215:ILE:HD13	4:D:215:ILE:C	2.39	0.43
3:Q:187:GLU:HG3	3:Q:232:TYR:OH	2.17	0.43
5:E:48:LEU:HD23	5:E:48:LEU:HA	1.87	0.43
10:J:18:LYS:HD3	10:J:174:ILE:CG1	2.49	0.43
7:U:39:ALA:CB	7:U:48:VAL:HG12	2.47	0.43
4:D:117:CYS:HB3	4:D:155:GLY:O	2.18	0.43
3:C:150:GLN:HG2	3:C:151:THR:N	2.33	0.43
10:J:113:ILE:HA	10:J:118:THR:O	2.19	0.43
1:O:142:ASP:OD1	1:O:145:ASN:HB2	2.18	0.43
8:V:18:THR:HB	8:V:30:ASN:HD22	1.84	0.43
11:Y:74:ILE:HD11	11:Y:78:ALA:HB3	2.00	0.43
7:G:74:ILE:HD11	7:G:107:MET:O	2.19	0.43
14:2:161:GLN:NE2	14:2:165:TRP:HE1	2.16	0.43
5:S:31:ILE:HD11	5:S:153:PRO:CD	2.49	0.43
5:S:155:GLY:O	6:T:83:PRO:HG3	2.19	0.43
10:J:25:SER:CB	11:K:131:GLN:NE2	2.82	0.43
5:S:111:ARG:HA	5:S:114:HIS:HD2	1.84	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:R:161:ASN:HB3	4:R:180:TRP:CE2	2.53	0.43
4:R:172:ALA:O	4:R:175:GLU:HB3	2.19	0.43
3:Q:112:LEU:HD13	3:Q:112:LEU:O	2.18	0.43
14:2:1:THR:HA	14:2:33:LYS:NZ	2.33	0.43
1:A:12:LEU:HD12	1:A:129:VAL:N	2.33	0.43
12:L:137:PHE:CE1	12:L:141:GLN:HG3	2.54	0.43
11:K:207:ASN:ND2	10:X:144:PRO:CG	2.81	0.43
2:P:21:LEU:HD13	2:P:124:THR:HG23	2.00	0.43
5:E:15:PHE:H	6:F:23:GLN:HE22	1.66	0.43
10:X:143:ARG:HG2	10:X:143:ARG:HH11	1.84	0.43
5:S:76:LEU:HA	5:S:137:LEU:O	2.19	0.43
3:C:40:VAL:HG12	3:C:162:ALA:CB	2.43	0.43
3:Q:40:VAL:HG12	3:Q:162:ALA:CB	2.45	0.43
11:Y:47:GLY:CA	15:Y:2000:ESY:H31	2.48	0.43
14:N:146:MET:CE	14:N:150:GLU:HB3	2.47	0.43
5:S:185:ASN:C	5:S:185:ASN:HD22	2.22	0.43
7:G:82:ILE:HG22	7:G:83:PRO:HD3	2.01	0.43
14:2:13:ILE:HG12	14:2:177:VAL:HG13	1.99	0.43
2:B:136:PHE:O	2:B:150:THR:HA	2.19	0.43
1:O:142:ASP:HB2	16:O:254:HOH:O	2.17	0.43
1:A:46:VAL:HG11	1:A:139:ALA:HB1	1.99	0.43
13:M:110:LEU:HG	13:M:125:LEU:HD12	2.01	0.43
2:P:213:ALA:HA	2:P:222:LYS:O	2.18	0.43
2:B:20(A):SER:HB2	2:B:20(B):ALA:H	1.68	0.43
9:W:143:GLU:HG3	9:W:146:LEU:HD21	1.99	0.43
14:N:1:THR:HA	14:N:33:LYS:NZ	2.34	0.43
7:U:29:LYS:HD2	7:U:29:LYS:HA	1.75	0.43
3:Q:195:ARG:HG3	3:Q:236:ILE:CD1	2.48	0.43
6:T:192:GLN:NE2	6:T:195:LYS:CE	2.82	0.43
12:L:114:ASP:HB2	12:L:118:SER:H	1.82	0.43
4:R:45:GLY:HA2	4:R:146:TYR:CD1	2.54	0.43
10:X:6:ILE:CG2	10:X:13:ILE:HB	2.49	0.43
2:P:107:ILE:HG21	2:P:112:LEU:HD12	2.00	0.43
11:Y:113:VAL:HA	11:Y:118:THR:O	2.18	0.43
3:Q:150:GLN:HG2	3:Q:151:THR:N	2.33	0.43
13:1:61:ASP:O	13:1:65:GLU:HB2	2.18	0.43
1:O:46:VAL:HG11	1:O:139:ALA:HB1	2.00	0.43
7:U:139:VAL:HA	7:U:147:SER:O	2.19	0.43
9:I:93:GLY:N	9:I:94:PRO:CD	2.82	0.43
14:N:105:ASP:HB3	14:N:106:ASN:HB2	2.01	0.43
3:Q:26:TYR:N	3:Q:26:TYR:CD1	2.86	0.43
7:U:171:GLU:N	7:U:171:GLU:OE1	2.50	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:S:52:LYS:HD3	5:S:211:SER:HB2	2.01	0.43
10:J:18:LYS:CG	10:J:174:ILE:HG13	2.49	0.43
4:D:172:ALA:HB2	4:D:200:VAL:HG11	2.00	0.43
9:I:130:ALA:HB2	9:I:166:ASP:CB	2.49	0.43
7:U:25:GLU:O	7:U:28:PHE:HB2	2.19	0.43
11:Y:2:THR:OG1	11:Y:130:GLY:HA3	2.19	0.43
11:K:2:THR:OG1	11:K:130:GLY:HA3	2.18	0.43
3:C:38:VAL:HG22	3:C:39:GLY:N	2.34	0.43
1:A:92:SER:OG	1:A:116:VAL:HG22	2.19	0.43
11:K:196:PHE:HB3	16:K:2005:HOH:O	2.18	0.43
5:E:45:HIS:HB2	5:E:189:LEU:HD12	2.00	0.43
10:X:4:LEU:HB2	10:X:15:ALA:HB3	2.01	0.43
4:D:161:ASN:HB3	4:D:180:TRP:CE2	2.54	0.43
12:Z:100:ILE:HD11	12:Z:125:ARG:HG3	2.01	0.43
9:I:104:ILE:HG21	9:I:181:LYS:HG2	1.99	0.43
14:N:59:VAL:HG22	14:N:82:VAL:HG12	2.00	0.43
11:Y:1:THR:O	11:Y:128:GLY:HA3	2.19	0.43
3:C:57:LYS:HE3	3:C:57:LYS:O	2.19	0.43
10:X:129:TYR:O	10:X:132:PHE:HB2	2.19	0.43
3:Q:57:LYS:O	3:Q:57:LYS:HE3	2.18	0.43
4:R:177:LEU:HD22	5:S:58:LEU:CD1	2.49	0.43
4:D:179:GLU:HG3	4:D:192:LEU:HD11	2.01	0.43
2:B:120:LYS:HZ1	2:B:136:PHE:HD1	1.66	0.43
11:Y:114:ASP:C	11:Y:114:ASP:OD1	2.57	0.43
9:I:5:ALA:HA	9:I:13:ALA:O	2.18	0.43
13:1:1:THR:OG1	13:1:2:SER:N	2.52	0.43
14:2:52:THR:HG22	14:2:97:ALA:HB1	2.00	0.43
14:2:77:GLU:HB2	16:2:197:HOH:O	2.18	0.43
6:F:191:LYS:HA	6:F:232:ALA:HB1	2.00	0.43
13:1:4:ILE:CD1	13:1:159:MET:SD	3.07	0.43
10:X:98:ASN:HB3	10:X:127:HIS:CD2	2.54	0.43
14:N:52:THR:HG22	14:N:97:ALA:HB1	2.00	0.43
3:C:195:ARG:HG3	3:C:236:ILE:CD1	2.49	0.42
3:Q:169:SER:HA	3:Q:172:VAL:CG1	2.49	0.42
3:Q:161:SER:HB3	3:Q:180:TYR:CE1	2.54	0.42
5:E:17:PRO:HG3	6:F:26:TYR:CE2	2.53	0.42
3:Q:57:LYS:CG	3:Q:208:LYS:HZ1	2.31	0.42
14:2:19:ARG:HG3	14:2:26:ILE:HG23	2.01	0.42
1:O:214:ILE:HD12	1:O:222:ARG:O	2.19	0.42
13:1:190:LEU:CD1	13:1:190:LEU:N	2.82	0.42
10:J:113:ILE:HG12	10:J:119:LYS:HG3	2.01	0.42
2:B:73:LYS:O	2:B:140:GLY:HA2	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:W:-2:ASN:HB3	9:W:20:LEU:HD22	2.00	0.42
13:M:1:THR:HG22	16:M:212:HOH:O	2.19	0.42
3:Q:97:GLN:HG3	10:X:65:LEU:HB2	2.01	0.42
3:Q:125:GLN:HB2	4:R:130:ARG:HG2	2.00	0.42
7:G:74:ILE:HG21	7:G:112:LEU:HD23	2.00	0.42
13:1:37:VAL:CG1	13:1:79:ILE:CD1	2.97	0.42
5:E:134:VAL:O	5:E:153:PRO:HG3	2.19	0.42
4:R:160:TYR:HB3	4:R:162:ALA:O	2.19	0.42
2:P:5:SER:O	2:P:7:ARG:N	2.52	0.42
8:H:1:THR:HA	8:H:33:LYS:NZ	2.34	0.42
4:D:123:PHE:CZ	4:D:131:PRO:HG3	2.53	0.42
7:G:18(B):ASP:O	7:G:18(C):HIS:HB3	2.19	0.42
8:H:18:THR:HB	8:H:30:ASN:HD22	1.84	0.42
10:J:175:VAL:HG12	10:J:176:LYS:N	2.34	0.42
11:K:45:MET:HG2	11:K:52:CYS:HB2	2.01	0.42
5:S:18(D):ILE:HG23	5:S:18(E):LYS:HG3	2.02	0.42
6:F:179:LEU:CD1	6:F:196:ILE:HD11	2.49	0.42
5:E:111:ARG:O	5:E:115:LEU:HG	2.20	0.42
7:G:39:ALA:CB	7:G:48:VAL:HG12	2.49	0.42
14:2:89:GLU:OE1	14:2:89:GLU:HA	2.18	0.42
13:1:184:LEU:HD23	13:1:185:THR:N	2.34	0.42
3:C:18(D):GLU:N	3:C:182:PRO:HD3	2.34	0.42
10:X:16:SER:HB2	16:X:226:HOH:O	2.19	0.42
1:O:60:MET:HE3	1:O:63:THR:HG21	2.01	0.42
7:G:233:LEU:O	7:G:236:ILE:HG13	2.19	0.42
7:U:233:LEU:O	7:U:236:ILE:HG13	2.19	0.42
7:G:105:TYR:OH	8:H:66:HIS:HE1	2.02	0.42
2:P:209:ARG:HH11	2:P:209:ARG:HG2	1.83	0.42
7:U:74:ILE:HD11	7:U:107:MET:O	2.20	0.42
7:U:65:SER:HA	7:U:211:GLU:OE2	2.19	0.42
6:T:43:ASN:HD21	6:T:185:SER:HA	1.84	0.42
5:S:38:VAL:HG12	5:S:39:GLY:N	2.34	0.42
7:G:77:VAL:HG12	7:G:137:THR:HB	2.01	0.42
14:2:146:MET:CE	14:2:150:GLU:HB3	2.48	0.42
10:J:6:ILE:CG2	10:J:13:ILE:HB	2.50	0.42
6:T:70:VAL:HB	6:T:74:ILE:HB	2.01	0.42
1:O:47:VAL:HG23	1:O:214:ILE:HG22	2.00	0.42
9:I:45:ILE:HG22	9:I:52:VAL:HG22	2.01	0.42
3:Q:18(D):GLU:N	3:Q:182:PRO:HD3	2.34	0.42
12:L:13:VAL:HG12	12:L:177:ILE:HG12	2.02	0.42
11:K:38:ASN:HB2	11:K:39:PRO:CD	2.49	0.42
9:W:104:ILE:HG21	9:W:181:LYS:HG2	2.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:54:ASN:ND2	5:E:56:ASP:O	2.45	0.42
3:Q:197:LEU:O	3:Q:201:VAL:HG23	2.19	0.42
3:Q:163:GLN:HG3	3:Q:164:THR:N	2.33	0.42
10:X:52:THR:HG23	10:X:53:VAL:HG23	2.01	0.42
11:Y:7:ARG:CG	11:Y:108:PRO:HB2	2.48	0.42
12:Z:87:LEU:HD23	12:Z:95:TYR:HD1	1.85	0.42
12:L:14(I):THR:O	12:L:1(I):ASN:CB	2.68	0.42
11:Y:155:GLY:O	11:Y:156:LYS:C	2.58	0.42
10:J:7:ARG:NH1	10:J:7:ARG:HG2	2.35	0.42
12:Z:83:ILE:HB	12:Z:113:PHE:CE2	2.54	0.42
5:S:154:SER:OG	5:S:156:ASN:ND2	2.49	0.42
9:W:168:LEU:HD22	16:W:206:HOH:O	2.19	0.42
1:A:150:GLN:O	1:A:157:TYR:HA	2.19	0.42
6:F:137:ILE:HA	6:F:149:TYR:O	2.20	0.42
5:E:90:ASN:O	5:E:94:GLN:HG3	2.20	0.42
8:V:172:ASN:ND2	8:V:193:THR:HA	2.34	0.42
3:C:121:GLN:C	3:C:121:GLN:NE2	2.73	0.42
4:D:177:LEU:CD1	5:E:58:LEU:HD11	2.47	0.42
3:C:100:ARG:HH11	3:C:106:PRO:HB3	1.84	0.42
5:E:97:ASN:HD22	5:E:97:ASN:HA	1.67	0.42
11:K:2:THR:HG22	11:K:159:ILE:HD13	2.01	0.42
11:K:25:TRP:HH2	12:L:135:MET:HB2	1.83	0.42
7:U:110:ASP:HB3	7:U:149:TYR:CE2	2.54	0.42
2:B:215:ILE:HG13	2:B:221:GLN:HG2	2.02	0.42
9:W:3:VAL:HG22	9:W:16:CYS:HB3	2.00	0.42
2:P:66:LYS:O	2:P:77:ALA:HA	2.20	0.42
6:F:109:ILE:HD13	6:F:142:ASP:HB3	2.01	0.42
1:A:214:ILE:HD12	1:A:222:ARG:O	2.20	0.42
3:C:224:LEU:N	3:C:224:LEU:CD1	2.83	0.42
5:S:44:THR:C	5:S:45:HIS:ND1	2.72	0.42
9:I:14:ILE:CG1	9:I:34:ILE:HD12	2.50	0.42
9:W:66:TYR:CZ	9:W:74:ILE:HD12	2.55	0.42
5:E:44:THR:C	5:E:45:HIS:ND1	2.72	0.42
4:R:32:LYS:O	4:R:167:SER:HA	2.19	0.42
5:S:150:GLU:O	5:S:157:VAL:HA	2.19	0.42
3:Q:195:ARG:HG3	3:Q:236:ILE:HD13	2.02	0.42
5:E:57:GLU:C	5:E:58:LEU:HD12	2.41	0.42
6:T:192:GLN:HE21	6:T:195:LYS:CE	2.31	0.42
11:K:155:GLY:O	11:K:156:LYS:C	2.58	0.42
10:X:121:GLU:O	10:X:122:LEU:HD23	2.20	0.42
4:D:170:GLU:CD	4:D:170:GLU:N	2.73	0.42
14:N:41:ILE:HD13	14:N:76:THR:HA	2.01	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:1:-4:ILE:HG22	13:1:-3:VAL:N	2.34	0.42
6:F:198:TYR:HE2	6:F:237:GLN:NE2	2.17	0.42
11:K:64:ARG:NH2	11:K:68:LEU:HD21	2.35	0.42
11:Y:76:VAL:HG22	11:Y:103:GLY:HA3	2.00	0.42
1:O:21(P):LYS:N	16:O:248:HOH:O	2.38	0.42
7:U:38:LEU:C	7:U:38:LEU:HD12	2.40	0.42
11:Y:45:MET:HG2	11:Y:52:CYS:HB2	2.02	0.42
5:E:76:LEU:HA	5:E:137:LEU:O	2.19	0.42
5:S:201:LEU:O	5:S:202:ARG:CB	2.67	0.42
5:S:212:ILE:HD12	5:S:229:VAL:HG11	2.01	0.42
5:S:18(C):PHE:CD1	5:S:18(D):ILE:N	2.88	0.42
3:C:241:GLN:C	3:C:243:GLN:N	2.71	0.42
2:B:97:GLN:NE2	9:I:64:ASN:HD22	2.18	0.42
12:L:90:LYS:HE3	12:L:93:PHE:O	2.19	0.42
5:S:185:ASN:OD1	5:S:188:GLU:HG2	2.20	0.42
1:O:69:LEU:HD23	1:O:70:LEU:N	2.35	0.42
2:P:229:ILE:HA	2:P:232:ILE:HG22	2.02	0.42
11:Y:172:SER:CA	11:Y:192:VAL:HG23	2.50	0.42
8:V:25:ILE:HD12	8:V:25:ILE:N	2.35	0.42
8:H:159:ILE:N	8:H:159:ILE:HD13	2.33	0.42
13:M:124:THR:O	13:M:125:LEU:HD23	2.20	0.42
5:S:167:ALA:O	5:S:168:ARG:HB2	2.19	0.42
14:2:121:LYS:O	14:2:122:LEU:HD23	2.20	0.42
2:P:73:LYS:O	2:P:140:GLY:HA2	2.20	0.42
9:W:61:TYR:C	9:W:61:TYR:CD1	2.93	0.42
7:G:107:MET:HE1	7:G:112:LEU:HD13	2.02	0.42
3:Q:158:SER:HB2	4:R:59:LEU:HD21	2.02	0.42
10:X:25:SER:CB	11:Y:131:GLN:NE2	2.83	0.42
9:W:33:LYS:O	9:W:44:GLY:HA2	2.20	0.42
5:E:18(C):PHE:CD1	5:E:18(D):ILE:N	2.88	0.42
6:F:179:LEU:HD11	6:F:196:ILE:HD11	2.02	0.42
2:P:4:GLY:HA3	5:S:127:TYR:CE1	2.55	0.42
3:Q:150:GLN:HE21	3:Q:150:GLN:HB3	1.61	0.42
2:B:17:PRO:HA	3:C:26:TYR:CE2	2.55	0.42
9:W:22:SER:O	9:W:23:GLN:HB2	2.20	0.42
2:P:194:LEU:HD21	2:P:212:PHE:CE1	2.55	0.42
10:X:31:ASP:HB3	10:X:33:LYS:NZ	2.35	0.42
8:V:103:GLY:HA2	8:V:178:MET:SD	2.60	0.42
3:C:169:SER:HA	3:C:172:VAL:CG1	2.50	0.41
5:E:214:ILE:O	5:E:221:PHE:HA	2.20	0.41
9:W:137:MET:HE1	9:W:161:ASN:HB2	2.02	0.41
10:J:129:TYR:O	10:J:132:PHE:HB2	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:T:192:GLN:HE21	6:T:195:LYS:HE3	1.85	0.41
14:2:126:ILE:N	14:2:126:ILE:HD13	2.33	0.41
10:X:18:LYS:HD3	10:X:174:ILE:CG1	2.50	0.41
1:A:6:ASP:OD2	1:A:8:TYR:HB2	2.20	0.41
11:K:74:ILE:HD13	11:K:75:SER:O	2.20	0.41
11:Y:74:ILE:HD12	11:Y:79:ALA:HB2	2.01	0.41
3:Q:125:GLN:HG3	3:Q:125:GLN:O	2.20	0.41
9:I:58:MET:O	9:I:61:TYR:HB3	2.20	0.41
6:T:137:ILE:HA	6:T:149:TYR:O	2.20	0.41
14:N:130:GLY:HA2	14:N:166:ASP:HB2	2.02	0.41
2:P:88:LEU:HB3	2:P:116:LEU:HD21	2.01	0.41
2:P:89:ILE:O	2:P:92:ALA:HB3	2.19	0.41
14:2:130:GLY:HA2	14:2:166:ASP:HB2	2.01	0.41
4:R:75:GLY:HA3	4:R:221:PHE:CD2	2.54	0.41
5:E:125:GLN:HB3	16:E:248:HOH:O	2.19	0.41
12:Z:70(A):ASN:O	12:Z:72:LYS:N	2.53	0.41
7:G:184:ASN:HD22	7:G:184:ASN:HA	1.69	0.41
11:K:131:GLN:CG	11:K:132:THR:N	2.81	0.41
5:E:199:GLN:HA	5:E:199:GLN:NE2	2.36	0.41
5:E:167:ALA:O	5:E:168:ARG:HB2	2.20	0.41
5:E:212:ILE:HD12	5:E:229:VAL:HG11	2.02	0.41
12:L:14(I):THR:HG21	12:L:14(M):VAL:HB	2.02	0.41
7:U:135:ILE:CG2	7:U:150:LYS:HD2	2.49	0.41
7:G:25:GLU:O	7:G:28:PHE:HB2	2.21	0.41
4:R:120:ALA:HB3	4:R:155:GLY:HA2	2.03	0.41
5:E:185:ASN:C	5:E:185:ASN:HD22	2.23	0.41
13:M:133:MET:C	13:M:136:PRO:HD2	2.40	0.41
7:U:18(D):ILE:N	7:U:18(D):ILE:CD1	2.83	0.41
6:F:107:ILE:O	6:F:107:ILE:HG23	2.20	0.41
4:R:243:ALA:O	4:R:244:GLU:HG2	2.19	0.41
4:R:17:PRO:HA	5:S:26:TYR:CD2	2.55	0.41
5:S:230:ALA:C	5:S:232:TYR:H	2.24	0.41
10:X:166:MET:HA	10:X:167:PRO:HD3	1.77	0.41
14:2:8:PHE:CE1	14:2:10:ASP:HB2	2.55	0.41
14:2:65:LEU:HG	14:2:69:GLN:HE21	1.86	0.41
11:K:109:THR:HA	16:K:2004:HOH:O	2.19	0.41
3:C:175:PHE:O	3:C:179:ASN:HB2	2.21	0.41
10:J:31:ASP:HB3	10:J:33:LYS:NZ	2.35	0.41
6:T:130:ARG:HG2	6:T:130:ARG:HH11	1.85	0.41
10:J:93:ARG:HG2	10:J:93:ARG:HH11	1.85	0.41
12:Z:-7:ASN:ND2	12:Z:-7:ASN:C	2.74	0.41
1:A:62:GLU:O	1:A:64:LEU:N	2.53	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:13:ILE:HG12	14:N:177:VAL:HG13	2.02	0.41
8:V:18:THR:HB	8:V:30:ASN:HA	2.01	0.41
8:H:18:THR:HB	8:H:30:ASN:HA	2.01	0.41
6:T:198:TYR:HE2	6:T:237:GLN:HE21	1.68	0.41
6:F:24:VAL:O	6:F:27:ALA:HB3	2.20	0.41
14:2:105:ASP:HB3	14:2:106:ASN:HB2	2.03	0.41
7:G:218:ASP:O	7:G:220:LYS:HB2	2.19	0.41
11:K:87:VAL:HG11	11:K:115:SER:HA	2.02	0.41
10:J:144:PRO:CG	11:Y:207:ASN:ND2	2.84	0.41
5:S:54:ASN:ND2	5:S:56:ASP:O	2.46	0.41
9:W:93:GLY:N	9:W:94:PRO:CD	2.82	0.41
4:D:32:LYS:O	4:D:167:SER:HA	2.20	0.41
5:E:123:ASN:HD22	5:E:123:ASN:N	2.18	0.41
6:T:61:PRO:O	6:T:62:GLN:HB2	2.20	0.41
6:F:192:GLN:HE21	6:F:195:LYS:CE	2.34	0.41
13:1:19:LEU:HB3	16:1:212:HOH:O	2.20	0.41
13:M:164:TYR:O	14:2:26:ILE:HD12	2.20	0.41
4:R:117:CYS:HB3	4:R:155:GLY:O	2.20	0.41
5:E:185:ASN:OD1	5:E:188:GLU:HG2	2.19	0.41
1:A:39:GLY:HA2	1:A:47:VAL:O	2.21	0.41
9:W:101:VAL:O	9:W:110:ILE:HA	2.21	0.41
5:S:189:LEU:HD23	5:S:189:LEU:HA	1.91	0.41
4:R:123:PHE:CZ	4:R:131:PRO:HG3	2.56	0.41
7:G:78:VAL:HG11	7:G:85:ALA:CB	2.50	0.41
2:P:126:HIS:CB	3:Q:129:VAL:HG12	2.48	0.41
10:J:18:LYS:HD3	10:J:174:ILE:HG13	2.02	0.41
7:U:82:ILE:HG22	7:U:83:PRO:HD3	2.02	0.41
2:B:229:ILE:HA	2:B:232:ILE:HG22	2.02	0.41
3:Q:121:GLN:NE2	3:Q:122:ARG:N	2.69	0.41
12:L:134:ILE:HG22	12:L:138:LEU:HD22	2.02	0.41
4:D:75:GLY:HA3	4:D:221:PHE:CD2	2.54	0.41
1:O:23:GLN:OE1	7:U:15:PHE:HB2	2.21	0.41
4:R:52:LYS:HE3	4:R:211:GLN:HB2	2.03	0.41
9:I:22:SER:O	9:I:23:GLN:HB2	2.20	0.41
2:P:11:ARG:O	2:P:14:ILE:HD13	2.21	0.41
8:H:103:GLY:HA2	8:H:178:MET:SD	2.60	0.41
3:C:87:ILE:N	3:C:87:ILE:HD13	2.35	0.41
5:E:31:ILE:HD11	5:E:153:PRO:CD	2.50	0.41
1:O:15:PHE:HD2	2:P:23:GLN:NE2	2.19	0.41
4:R:12(G):GLU:HG2	4:R:125:GLU:H	1.85	0.41
2:B:4:GLY:HA3	5:E:127:TYR:CE1	2.56	0.41
6:F:192:GLN:NE2	6:F:195:LYS:CE	2.84	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:T:109:ILE:N	6:T:110:PRO:CD	2.84	0.41
1:O:26:TYR:O	1:O:29:THR:HB	2.21	0.41
1:O:29:THR:O	1:O:33:GLN:HG2	2.21	0.41
12:Z:99:THR:HG23	16:Z:202:HOH:O	2.19	0.41
11:K:172:SER:CA	11:K:192:VAL:HG23	2.50	0.41
10:X:7:ARG:NH1	10:X:7:ARG:HG2	2.36	0.41
3:Q:224:LEU:N	3:Q:224:LEU:CD1	2.83	0.41
1:O:225:THR:O	1:O:229:ILE:HG12	2.19	0.41
4:R:197:LEU:O	4:R:201:MET:HG3	2.19	0.41
5:E:230:ALA:C	5:E:232:TYR:H	2.23	0.41
3:C:187:GLU:HG3	3:C:232:TYR:OH	2.20	0.41
12:L:148:VAL:HG13	12:L:149:GLU:N	2.36	0.41
8:H:25:ILE:N	8:H:25:ILE:HD12	2.35	0.41
1:A:47:VAL:HG23	1:A:214:ILE:HG22	2.03	0.41
13:1:133:MET:C	13:1:136:PRO:HD2	2.40	0.41
14:2:12:VAL:HG22	14:2:13:ILE:N	2.36	0.41
4:R:119:LEU:O	4:R:122:ARG:HB2	2.21	0.41
11:K:37:ILE:HD12	11:K:37:ILE:H	1.86	0.41
11:Y:74:ILE:HD13	11:Y:75:SER:O	2.21	0.41
6:T:12:ASN:O	6:T:14:VAL:N	2.54	0.41
13:1:46:SER:OG	13:1:98:ALA:HB3	2.21	0.41
3:C:152:GLU:HB2	3:C:153:PRO:HD2	2.03	0.41
7:G:29:LYS:HD2	7:G:29:LYS:HA	1.78	0.41
10:J:25:SER:CB	11:K:131:GLN:HE22	2.29	0.41
1:A:22:GLY:O	1:A:25:ASP:HB2	2.21	0.41
4:D:12(G):GLU:HG2	4:D:125:GLU:H	1.85	0.41
7:U:158:VAL:HG22	7:U:159:GLY:H	1.85	0.41
10:X:18:LYS:CG	10:X:174:ILE:HG13	2.50	0.41
2:P:186:VAL:O	2:P:190:ILE:HG13	2.21	0.41
7:U:77:VAL:HG12	7:U:137:THR:HB	2.02	0.41
1:O:232:ARG:HG3	1:O:232:ARG:NH1	2.34	0.41
1:O:62:GLU:O	1:O:64:LEU:N	2.52	0.41
13:1:205:GLY:HA3	16:1:234:HOH:O	2.20	0.41
4:D:243:ALA:O	4:D:244:GLU:HG2	2.21	0.41
5:S:67:ILE:HG22	5:S:223:ILE:HD11	2.03	0.41
9:I:5:ALA:HB2	9:I:14:ILE:HD13	2.03	0.41
6:T:198:TYR:HE2	6:T:237:GLN:NE2	2.19	0.41
8:H:132:LEU:HB2	16:H:233:HOH:O	2.20	0.41
6:T:13:SER:HB2	7:U:130:ARG:HB3	2.03	0.41
2:P:215:ILE:HG13	2:P:221:GLN:HG2	2.01	0.41
2:B:32:SER:O	2:B:167:ALA:HA	2.21	0.41
10:X:179:ASP:O	10:X:181:ASP:N	2.54	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:105:THR:OG1	11:K:106:GLU:HG3	2.21	0.41
12:L:2:THR:HG21	12:L:130:ALA:HB3	2.02	0.41
5:S:214:ILE:O	5:S:221:PHE:HA	2.20	0.41
3:Q:106:PRO:HG2	3:Q:143:PRO:HG3	2.01	0.41
6:T:179:LEU:HD11	6:T:196:ILE:HD11	2.01	0.41
4:R:192:LEU:O	4:R:196:ILE:CD1	2.69	0.41
5:E:97:ASN:ND2	12:L:61:ASN:HD21	2.17	0.41
2:B:186:VAL:O	2:B:190:ILE:HG13	2.20	0.41
3:Q:225:SER:O	3:Q:226:SER:C	2.60	0.41
2:P:233:LEU:HD12	2:P:233:LEU:HA	1.94	0.41
12:Z:148:VAL:O	12:Z:152:ILE:HG13	2.20	0.41
7:U:194:ILE:HG23	7:U:210:LEU:HD11	2.01	0.41
1:O:149:TYR:CE1	1:O:159:PRO:HB3	2.56	0.41
1:A:210:ILE:N	1:A:210:ILE:HD13	2.36	0.41
4:R:76:CYS:HB2	4:R:137:LEU:O	2.21	0.41
5:E:198:SER:HA	5:E:201:LEU:CD1	2.50	0.40
12:Z:93:PHE:N	12:Z:94:PRO:CD	2.83	0.40
10:J:6:ILE:HG23	10:J:13:ILE:HG13	2.02	0.40
12:Z:5:GLY:O	12:Z:124:CYS:HA	2.20	0.40
4:D:119:LEU:O	4:D:122:ARG:HB2	2.20	0.40
11:K:74:ILE:HD11	11:K:78:ALA:HB3	2.03	0.40
13:1:186:PHE:HE1	13:1:188:LYS:HG3	1.86	0.40
1:A:26:TYR:O	1:A:29:THR:HB	2.21	0.40
9:I:143:GLU:HG3	9:I:146:LEU:HD21	2.03	0.40
4:R:65:GLU:HA	16:R:750:HOH:O	2.21	0.40
8:H:50:ALA:HB2	9:I:118:CYS:HB2	2.03	0.40
4:D:191:LEU:HD12	4:D:191:LEU:HA	1.96	0.40
11:Y:32:LYS:N	11:Y:32:LYS:HD2	2.36	0.40
6:F:192:GLN:HE21	6:F:195:LYS:HE3	1.87	0.40
2:P:101:LYS:HZ1	10:X:85:GLN:NE2	2.17	0.40
5:E:111:ARG:HA	5:E:114:HIS:HD2	1.86	0.40
3:Q:134:VAL:CG1	3:Q:135:SER:N	2.85	0.40
4:D:45:GLY:HA2	4:D:146:TYR:CD1	2.56	0.40
14:N:6:VAL:HG23	14:N:155:ILE:HD11	2.03	0.40
8:V:147:THR:OG1	8:V:150:GLU:HG3	2.21	0.40
1:O:57:PRO:HG2	7:U:177:GLU:HG2	2.01	0.40
12:L:134:ILE:O	12:L:137:PHE:HB3	2.20	0.40
1:A:134:VAL:O	1:A:153:PRO:HG3	2.21	0.40
4:D:197:LEU:O	4:D:201:MET:HG3	2.21	0.40
13:M:9:ASP:OD1	13:M:10:ASN:N	2.54	0.40
7:G:26:TYR:CD1	7:G:26:TYR:N	2.88	0.40
10:J:155:LEU:HD23	10:J:155:LEU:HA	1.93	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:U:56:ASP:HB3	7:U:59:LEU:HG	2.03	0.40
12:L:140:ASN:ND2	9:W:161:ASN:HD21	2.19	0.40
7:G:56:ASP:HB3	7:G:59:LEU:HG	2.04	0.40
7:U:17:PRO:HD3	16:U:259:HOH:O	2.22	0.40
6:T:187:ARG:NH1	6:T:187:ARG:HG3	2.35	0.40
2:P:238:ILE:O	2:P:239:THR:O	2.38	0.40
12:L:87:LEU:HD23	12:L:95:TYR:HD1	1.87	0.40
6:F:70:VAL:HB	6:F:74:ILE:HB	2.03	0.40
2:P:7:ARG:HG2	7:U:8:TYR:CZ	2.56	0.40
3:C:62(A):ILE:O	3:C:63:THR:C	2.60	0.40
2:B:21(A):LYS:O	2:B:21(B):GLY:C	2.59	0.40
9:I:66:TYR:CZ	9:I:74:ILE:HD12	2.56	0.40
14:N:1:THR:HG23	14:N:33:LYS:HD3	2.03	0.40
13:M:1:THR:OG1	13:M:2:SER:N	2.53	0.40
3:Q:175:PHE:O	3:Q:179:ASN:HB2	2.21	0.40
7:G:140:SER:HA	7:G:215:ALA:HB1	2.03	0.40
13:1:9:ASP:OD1	13:1:10:ASN:N	2.54	0.40
2:B:39:GLY:O	2:B:162:ALA:HA	2.22	0.40
12:Z:79:ALA:O	12:Z:82:ASN:HB3	2.22	0.40
7:U:100:ARG:HG3	7:U:100:ARG:HH11	1.85	0.40
5:E:18(D):ILE:HG23	5:E:18(E):LYS:HG3	2.04	0.40
5:S:216:GLY:O	5:S:219:THR:N	2.52	0.40
12:L:1:GLY:HA3	12:L:33:LYS:NZ	2.36	0.40
2:B:107:ILE:HG21	2:B:112:LEU:HD12	2.02	0.40
4:D:243:ALA:O	4:D:244:GLU:HB2	2.22	0.40
6:T:159:GLY:HA3	7:U:63:THR:HG21	2.03	0.40
5:S:143:LYS:HD3	13:1:71(B):GLU:O	2.21	0.40
1:O:134:VAL:O	1:O:153:PRO:HG3	2.21	0.40
13:M:186:PHE:HE1	13:M:188:LYS:HG3	1.87	0.40
13:M:51:ASP:O	13:M:54:HIS:HB3	2.22	0.40
14:N:161:GLN:NE2	14:N:165:TRP:HE1	2.20	0.40
5:S:198:SER:HA	5:S:201:LEU:CD1	2.51	0.40
1:A:5:THR:O	1:A:7:ARG:HG2	2.22	0.40
6:F:109:ILE:N	6:F:110:PRO:CD	2.85	0.40
3:C:89:ILE:HG22	3:C:93:ARG:HD2	2.03	0.40
2:P:238:ILE:O	2:P:238:ILE:HG22	2.21	0.40
11:Y:124:ILE:CG2	11:Y:138:LEU:HD23	2.51	0.40
13:1:110:LEU:HG	13:1:125:LEU:HD12	2.03	0.40
14:N:121:LYS:O	14:N:122:LEU:HD23	2.21	0.40
13:1:18:ASN:HA	13:1:31:VAL:O	2.22	0.40
10:J:11:SER:HB3	10:J:179:ASP:HB3	2.03	0.40
7:G:100:ARG:HG3	7:G:100:ARG:HH11	1.86	0.40



There are no symmetry-related clashes.

## 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	248/250 (99%)	228 (92%)	16 (6%)	4 (2%)	14	56
1	O	248/250 (99%)	229 (92%)	15 (6%)	4 (2%)	14	56
2	B	242/244 (99%)	218 (90%)	15 (6%)	9 (4%)	5	28
2	P	242/244 (99%)	216 (89%)	17 (7%)	9 (4%)	5	28
3	C	239/241 (99%)	219 (92%)	15 (6%)	5 (2%)	11	47
3	Q	239/241 (99%)	219 (92%)	15 (6%)	5 (2%)	11	47
4	D	240/242 (99%)	225 (94%)	10 (4%)	5 (2%)	11	47
4	R	240/242 (99%)	224 (93%)	11 (5%)	5 (2%)	11	47
5	E	231/233 (99%)	202 (87%)	20 (9%)	9 (4%)	5	26
5	S	231/233 (99%)	201 (87%)	21 (9%)	9 (4%)	5	26
6	F	242/244 (99%)	220 (91%)	18 (7%)	4 (2%)	14	54
6	T	242/244 (99%)	217 (90%)	21 (9%)	4 (2%)	14	54
7	G	241/243 (99%)	224 (93%)	15 (6%)	2 (1%)	27	76
7	U	241/243 (99%)	224 (93%)	15 (6%)	2 (1%)	27	76
8	H	220/222 (99%)	206 (94%)	12 (6%)	2 (1%)	25	73
8	V	220/222 (99%)	204 (93%)	14 (6%)	2 (1%)	25	73
9	I	202/204 (99%)	196 (97%)	5 (2%)	1 (0%)	38	84
9	W	202/204 (99%)	195 (96%)	6 (3%)	1 (0%)	38	84
10	J	196/198 (99%)	180 (92%)	12 (6%)	4 (2%)	11	48
10	X	196/198 (99%)	178 (91%)	14 (7%)	4 (2%)	11	48
11	K	210/212 (99%)	199 (95%)	11 (5%)	0	100	100
11	Y	210/212 (99%)	200 (95%)	10 (5%)	0	100	100
12	L	220/222 (99%)	206 (94%)	13 (6%)	1 (0%)	38	84
12	Z	220/222 (99%)	206 (94%)	13 (6%)	1 (0%)	38	84

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	1	231/233 (99%)	211 (91%)	20 (9%)	0	100	100
13	M	231/233 (99%)	211 (91%)	20 (9%)	0	100	100
14	2	194/196 (99%)	186 (96%)	7 (4%)	1 (0%)	38	84
14	N	194/196 (99%)	186 (96%)	7 (4%)	1 (0%)	38	84
All	All	6312/6368 (99%)	5830 (92%)	388 (6%)	94 (2%)	15	58

All (94) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	167	LYS
2	B	20(A)	SER
3	C	58	LEU
4	D	12(G)	GLU
5	E	5	ARG
5	E	202	ARG
5	E	217	LYS
6	F	13	SER
6	F	64	ASN
7	G	239	GLN
12	L	71	ASP
1	O	167	LYS
2	P	20(A)	SER
3	Q	58	LEU
4	R	12(G)	GLU
5	S	5	ARG
5	S	202	ARG
5	S	217	LYS
6	T	13	SER
6	T	64	ASN
7	U	239	GLN
1	A	5	THR
1	A	63	THR
2	B	54	VAL
2	B	21(B)	GLY
2	B	21(C)	ASP
3	C	183	PRO
3	C	203	THR
4	D	120	ALA
4	D	18(D)	SER
5	E	64	GLN
5	E	18(A)	ASP

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Mol	Chain	Res	Type
5	E	227	GLU
7	G	55	PRO
8	H	91	GLN
1	O	5	THR
1	O	63	THR
2	P	54	VAL
2	P	21(B)	GLY
2	P	21(C)	ASP
3	Q	183	PRO
3	Q	203	THR
4	R	120	ALA
4	R	18(D)	SER
5	S	64	GLN
5	S	180	LEU
5	S	18(A)	ASP
5	S	227	GLU
7	U	55	PRO
8	V	91	GLN
12	Z	71	ASP
4	D	128	MET
5	E	180	LEU
5	E	203	ASP
10	J	8	VAL
2	P	6	ARG
4	R	128	MET
5	S	203	ASP
10	X	8	VAL
10	X	180	LYS
2	B	183	ASP
3	C	202	GLN
5	E	231	LYS
6	F	12	ASN
9	I	93	GLY
10	J	180	LYS
14	N	18(E)	ASP
2	P	183	ASP
2	P	217	ALA
3	Q	202	GLN
5	S	231	LYS
6	T	12	ASN
6	T	206	LYS
14	2	18(E)	ASP

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Mol	Chain	Res	Type
2	B	6	ARG
2	B	208	ASP
2	B	217	ALA
3	C	242	GLU
6	F	206	LYS
8	H	145	ASP
10	J	192	ALA
2	P	22	TYR
2	P	208	ASP
3	Q	242	GLU
8	V	145	ASP
9	W	93	GLY
10	X	192	ALA
1	A	204	GLY
2	B	22	TYR
10	J	49	ALA
1	O	204	GLY
10	X	49	ALA
4	R	12(F)	GLY
4	D	12(F)	GLY

### 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	209/209 (100%)	200 (96%)	9 (4%)	40	82
1	O	209/209 (100%)	200 (96%)	9 (4%)	40	82
2	B	203/203 (100%)	186 (92%)	17 (8%)	16	51
2	P	203/203 (100%)	185 (91%)	18 (9%)	14	48
3	C	213/213 (100%)	201 (94%)	12 (6%)	30	72
3	Q	213/213 (100%)	201 (94%)	12 (6%)	30	72
4	D	198/198 (100%)	188 (95%)	10 (5%)	33	76
4	R	198/198 (100%)	188 (95%)	10 (5%)	33	76
5	E	192/192 (100%)	171 (89%)	21 (11%)	9	35
5	S	192/192 (100%)	170 (88%)	22 (12%)	8	32

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	F	201/201 (100%)	186 (92%)	15 (8%)	19	57
6	T	201/201 (100%)	186 (92%)	15 (8%)	19	57
7	G	207/207 (100%)	195 (94%)	12 (6%)	28	71
7	U	207/207 (100%)	195 (94%)	12 (6%)	28	71
8	H	181/181 (100%)	168 (93%)	13 (7%)	21	59
8	V	181/181 (100%)	170 (94%)	11 (6%)	26	68
9	I	172/172 (100%)	165 (96%)	7 (4%)	41	83
9	W	172/172 (100%)	166 (96%)	6 (4%)	48	87
10	J	175/175 (100%)	167 (95%)	8 (5%)	37	80
10	X	175/175 (100%)	167 (95%)	8 (5%)	37	80
11	K	169/169 (100%)	160 (95%)	9 (5%)	32	74
11	Y	169/169 (100%)	160 (95%)	9 (5%)	32	74
12	L	185/185 (100%)	172 (93%)	13 (7%)	21	62
12	Z	185/185 (100%)	172 (93%)	13 (7%)	21	62
13	1	199/199 (100%)	189 (95%)	10 (5%)	34	77
13	M	199/199 (100%)	189 (95%)	10 (5%)	34	77
14	2	162/162 (100%)	155 (96%)	7 (4%)	40	82
14	N	162/162 (100%)	154 (95%)	8 (5%)	35	78
All	All	5332/5332 (100%)	5006 (94%)	326 (6%)	26	68

All (326) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	ILE
1	A	32	LYS
1	A	33	GLN
1	A	124	THR
1	A	158	PHE
1	A	179	ARG
1	A	192	ILE
1	A	210	ILE
1	A	214	ILE
2	B	10	SER
2	B	14	ILE
2	B	38	ILE
2	B	67	LEU

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Mol	Chain	Res	Type
2	B	71	ASN
2	B	107	ILE
2	B	116	LEU
2	B	121	GLN
2	B	135	SER
2	B	150	THR
2	B	156	ASN
2	B	185	LYS
2	B	187	ASP
2	B	192	LEU
2	B	206	THR
2	B	212	PHE
2	B	218	ASN
3	C	10	ARG
3	C	14	ILE
3	C	33	ARG
3	C	57	LYS
3	C	66	LYS
3	C	87	ILE
3	C	121	GLN
3	C	135	SER
3	C	150	GLN
3	C	156	ILE
3	C	174	GLU
3	C	208	LYS
4	D	28	LEU
4	D	40	ILE
4	D	48	LEU
4	D	76	CYS
4	D	110	GLU
4	D	126	ARG
4	D	156	THR
4	D	170	GLU
4	D	191	LEU
4	D	215	ILE
5	E	12	THR
5	E	13	VAL
5	E	28	LEU
5	E	32	LYS
5	E	57	GLU
5	E	59	SER
5	E	76	LEU

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Mol	Chain	Res	Type
5	E	97	ASN
5	E	104	ASN
5	E	121	GLN
5	E	178	ARG
5	E	18(D)	ILE
5	E	18(F)	ILE
5	E	185	ASN
5	E	197	ILE
5	E	199	GLN
5	E	207	LEU
5	E	2(B)	THR
5	E	227	GLU
5	E	231	LYS
5	E	233	ILE
6	F	36	THR
6	F	38	ILE
6	F	43	ASN
6	F	74	ILE
6	F	98	SER
6	F	105	THR
6	F	121	GLN
6	F	127	ASN
6	F	169	ARG
6	F	18(E)	GLU
6	F	187	ARG
6	F	203	GLU
6	F	204	ASP
6	F	205	ASN
6	F	214	TRP
7	G	72	ARG
7	G	87	ASN
7	G	119	LEU
7	G	121	GLN
7	G	157	TYR
7	G	169	GLN
7	G	184	ASN
7	G	192	PHE
7	G	197	MET
7	G	232	ARG
7	G	233	LEU
7	G	236	ILE
8	H	30	ASN

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Mol	Chain	Res	Type
8	H	31	CYS
8	H	34	LEU
8	H	38	SER
8	H	43	CYS
8	H	56	THR
8	H	121	VAL
8	H	144	GLN
8	H	159	ILE
8	H	163	ILE
8	H	197	ARG
8	H	221	ILE
8	H	223	ASP
9	I	-8	SER
9	I	29	ASN
9	I	113	PHE
9	I	123	ASP
9	I	155	ILE
9	I	160	LEU
9	I	181	LYS
10	J	6	ILE
10	J	13	ILE
10	J	68	ILE
10	J	70	GLU
10	J	77	GLN
10	J	90(A)	ILE
10	J	155	LEU
10	J	177	ILE
11	K	4	LEU
11	K	9	GLN
11	K	74	ILE
11	K	104	TYR
11	K	10(B)	LYS
11	K	138	LEU
11	K	146	LEU
11	K	185	ILE
11	K	189	ASN
12	L	-9	GLN
12	L	-7	ASN
12	L	14	LEU
12	L	40	ASN
12	L	58	ARG
12	L	70(A)	ASN

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Mol	Chain	Res	Type
12	L	82	ASN
12	L	98	HIS
12	L	99	THR
12	L	120	GLU
12	L	138	LEU
12	L	145	TYR
12	L	146	LEU
13	M	4	ILE
13	M	40	ASN
13	M	62	LEU
13	M	91	ARG
13	M	14(A)	VAL
13	M	14(C)	ARG
13	M	14(D)	GLU
13	M	14(G)	ILE
13	M	172	ASN
13	M	204	LYS
14	N	41	ILE
14	N	55	ILE
14	N	70	TYR
14	N	84	LYS
14	N	89	GLU
14	N	10(B)	LYS
14	N	119	VAL
14	N	126	ILE
1	O	24	ILE
1	O	32	LYS
1	O	33	GLN
1	O	124	THR
1	O	158	PHE
1	O	179	ARG
1	O	192	ILE
1	O	210	ILE
1	O	214	ILE
2	P	10	SER
2	P	14	ILE
2	P	38	ILE
2	P	58	LEU
2	P	67	LEU
2	P	71	ASN
2	P	107	ILE
2	P	116	LEU

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Mol	Chain	Res	Type
2	P	121	GLN
2	P	135	SER
2	P	150	THR
2	P	156	ASN
2	P	185	LYS
2	P	187	ASP
2	P	192	LEU
2	P	206	THR
2	P	212	PHE
2	P	218	ASN
3	Q	10	ARG
3	Q	33	ARG
3	Q	57	LYS
3	Q	66	LYS
3	Q	87	ILE
3	Q	121	GLN
3	Q	135	SER
3	Q	150	GLN
3	Q	156	ILE
3	Q	174	GLU
3	Q	208	LYS
3	Q	236	ILE
4	R	28	LEU
4	R	40	ILE
4	R	48	LEU
4	R	76	CYS
4	R	110	GLU
4	R	126	ARG
4	R	156	THR
4	R	170	GLU
4	R	191	LEU
4	R	215	ILE
5	S	12	THR
5	S	13	VAL
5	S	16	SER
5	S	28	LEU
5	S	32	LYS
5	S	57	GLU
5	S	59	SER
5	S	76	LEU
5	S	97	ASN
5	S	104	ASN

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Mol	Chain	Res	Type
5	S	121	GLN
5	S	178	ARG
5	S	18(D)	ILE
5	S	18(F)	ILE
5	S	185	ASN
5	S	197	ILE
5	S	199	GLN
5	S	207	LEU
5	S	2(B)	THR
5	S	227	GLU
5	S	231	LYS
5	S	233	ILE
6	T	36	THR
6	T	38	ILE
6	T	43	ASN
6	T	74	ILE
6	T	98	SER
6	T	105	THR
6	T	121	GLN
6	T	127	ASN
6	T	169	ARG
6	T	18(E)	GLU
6	T	187	ARG
6	T	203	GLU
6	T	204	ASP
6	T	205	ASN
6	T	214	TRP
7	U	72	ARG
7	U	87	ASN
7	U	119	LEU
7	U	121	GLN
7	U	157	TYR
7	U	169	GLN
7	U	184	ASN
7	U	192	PHE
7	U	197	MET
7	U	232	ARG
7	U	233	LEU
7	U	236	ILE
8	V	30	ASN
8	V	34	LEU
8	V	38	SER

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Mol	Chain	Res	Type
8	V	56	THR
8	V	121	VAL
8	V	144	GLN
8	V	159	ILE
8	V	163	ILE
8	V	197	ARG
8	V	221	ILE
8	V	223	ASP
9	W	-8	SER
9	W	29	ASN
9	W	113	PHE
9	W	155	ILE
9	W	160	LEU
9	W	181	LYS
10	X	6	ILE
10	X	13	ILE
10	X	68	ILE
10	X	70	GLU
10	X	77	GLN
10	X	90(A)	ILE
10	X	155	LEU
10	X	177	ILE
11	Y	4	LEU
11	Y	8	PHE
11	Y	9	GLN
11	Y	74	ILE
11	Y	104	TYR
11	Y	10(B)	LYS
11	Y	138	LEU
11	Y	146	LEU
11	Y	185	ILE
12	Z	-9	GLN
12	Z	-7	ASN
12	Z	14	LEU
12	Z	40	ASN
12	Z	58	ARG
12	Z	70(A)	ASN
12	Z	82	ASN
12	Z	98	HIS
12	Z	99	THR
12	Z	120	GLU
12	Z	138	LEU

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Mol	Chain	Res	Type
12	Z	145	TYR
12	Z	146	LEU
13	1	4	ILE
13	1	40	ASN
13	1	62	LEU
13	1	91	ARG
13	1	14(A)	VAL
13	1	14(C)	ARG
13	1	14(D)	GLU
13	1	14(G)	ILE
13	1	172	ASN
13	1	204	LYS
14	2	41	ILE
14	2	55	ILE
14	2	70	TYR
14	2	84	LYS
14	2	89	GLU
14	2	10(B)	LYS
14	2	126	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (198) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	97	HIS
2	B	23	GLN
2	B	71	ASN
2	B	97	GLN
2	B	121	GLN
2	B	125	GLN
2	B	156	ASN
2	B	177	GLN
2	B	218	ASN
3	C	23	GLN
3	C	82	ASN
3	C	97	GLN
3	C	121	GLN
3	C	125	GLN
3	C	150	GLN
3	C	163	GLN
3	C	209	ASN
3	C	243	GLN
4	D	23	GLN

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Mol	Chain	Res	Type
4	D	108	ASN
4	D	114	GLN
4	D	147	GLN
4	D	199	GLN
4	D	211	GLN
4	D	218	GLN
4	D	226	ASN
5	E	33	GLN
5	E	73	HIS
5	E	104	ASN
5	E	114	HIS
5	E	121	GLN
5	E	123	ASN
5	E	125	GLN
5	E	156	ASN
5	E	185	ASN
5	E	199	GLN
5	E	2(E)	ASN
6	F	23	GLN
6	F	43	ASN
6	F	90	ASN
6	F	121	GLN
6	F	127	ASN
6	F	192	GLN
6	F	205	ASN
6	F	221	HIS
7	G	34(A)	ASN
7	G	87	ASN
7	G	118	ASN
7	G	121	GLN
7	G	125	GLN
7	G	169	GLN
7	G	170	GLN
7	G	178	ASN
7	G	184	ASN
7	G	228	ASN
8	H	30	ASN
8	H	66	HIS
8	H	85	GLN
8	H	144	GLN
8	H	165	ASN
8	H	172	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
8	H	190	ASN
9	I	29	ASN
9	I	161	ASN
10	J	54	GLN
10	J	77	GLN
10	J	85	GLN
10	J	112	GLN
10	J	140	HIS
10	J	186	GLN
11	K	9	GLN
11	K	85	ASN
11	K	131	GLN
11	K	174	ASN
11	K	207	ASN
12	L	-9	GLN
12	L	-7	ASN
12	L	40	ASN
12	L	46	ASN
12	L	61	ASN
12	L	70(A)	ASN
12	L	82	ASN
12	L	85	HIS
12	L	123	GLN
12	L	1(I)	ASN
12	L	166	HIS
13	M	10	ASN
13	M	40	ASN
13	M	89	GLN
13	M	149	GLN
13	M	157	ASN
13	M	172	ASN
13	M	191	GLN
14	N	28	ASN
14	N	69	GLN
14	N	145	ASN
14	N	157	HIS
14	N	161	GLN
1	O	97	HIS
2	P	23	GLN
2	P	71	ASN
2	P	97	GLN
2	P	121	GLN

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Mol	Chain	Res	Type
2	P	125	GLN
2	P	156	ASN
2	P	177	GLN
2	P	218	ASN
3	Q	23	GLN
3	Q	82	ASN
3	Q	97	GLN
3	Q	121	GLN
3	Q	125	GLN
3	Q	150	GLN
3	Q	163	GLN
3	Q	209	ASN
3	Q	243	GLN
4	R	23	GLN
4	R	108	ASN
4	R	114	GLN
4	R	199	GLN
4	R	211	GLN
4	R	218	GLN
4	R	226	ASN
5	S	64	GLN
5	S	73	HIS
5	S	104	ASN
5	S	114	HIS
5	S	121	GLN
5	S	123	ASN
5	S	125	GLN
5	S	156	ASN
5	S	185	ASN
5	S	199	GLN
5	S	2(E)	ASN
6	T	23	GLN
6	T	43	ASN
6	T	90	ASN
6	T	121	GLN
6	T	127	ASN
6	T	147	HIS
6	T	192	GLN
6	T	205	ASN
6	T	221	HIS
7	U	34(A)	ASN
7	U	87	ASN

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Mol	Chain	Res	Type
7	U	118	ASN
7	U	121	GLN
7	U	125	GLN
7	U	169	GLN
7	U	170	GLN
7	U	178	ASN
7	U	184	ASN
7	U	228	ASN
8	V	30	ASN
8	V	66	HIS
8	V	86	HIS
8	V	144	GLN
8	V	165	ASN
8	V	172	ASN
8	V	190	ASN
9	W	29	ASN
9	W	64	ASN
9	W	161	ASN
10	X	54	GLN
10	X	77	GLN
10	X	85	GLN
10	X	112	GLN
10	X	140	HIS
10	X	186	GLN
11	Y	9	GLN
11	Y	85	ASN
11	Y	131	GLN
11	Y	174	ASN
11	Y	189	ASN
11	Y	207	ASN
12	Z	-9	GLN
12	Z	-7	ASN
12	Z	40	ASN
12	Z	46	ASN
12	Z	61	ASN
12	Z	70(A)	ASN
12	Z	82	ASN
12	Z	85	HIS
12	Z	123	GLN
12	Z	1(I)	ASN
12	Z	166	HIS
13	1	10	ASN

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Mol	Chain	Res	Type
13	1	40	ASN
13	1	89	GLN
13	1	93	ASN
13	1	149	GLN
13	1	157	ASN
13	1	172	ASN
13	1	191	GLN
14	2	69	GLN
14	2	145	ASN
14	2	157	HIS
14	2	161	GLN

### 5.3.3 RNA ⓘ

There are no RNA chains 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 carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

2 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. 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  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
15	ESY	K	2000	11	44,44,44	2.10	14 (31%)	56,56,56	2.31	11 (19%)
15	ESY	Y	2000	11	44,44,44	2.08	11 (25%)	56,56,56	2.22	14 (25%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
15	ESY	K	2000	11	-	0/50/50/50	0/2/2/2
15	ESY	Y	2000	11	-	0/50/50/50	0/2/2/2

All (25) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	K	2000	ESY	C10-N11	6.28	1.48	1.34
15	Y	2000	ESY	C10-N11	5.93	1.48	1.34
15	Y	2000	ESY	C20-C19	5.62	1.59	1.54
15	K	2000	ESY	C12-N11	4.50	1.55	1.45
15	K	2000	ESY	C20-C19	4.42	1.58	1.54
15	Y	2000	ESY	C12-N11	4.29	1.55	1.45
15	Y	2000	ESY	O6-C5	3.30	1.53	1.45
15	Y	2000	ESY	C40-C9	3.09	1.61	1.52
15	K	2000	ESY	C20-C21	3.08	1.55	1.49
15	Y	2000	ESY	C20-C21	2.74	1.54	1.49
15	K	2000	ESY	O6-C5	2.73	1.51	1.45
15	K	2000	ESY	C43-C1	2.71	1.45	1.37
15	K	2000	ESY	C2-C3	2.60	1.45	1.39
15	K	2000	ESY	C13-C12	2.47	1.59	1.53
15	Y	2000	ESY	C18-N17	2.34	1.38	1.33
15	Y	2000	ESY	C43-C42	2.34	1.44	1.39
15	Y	2000	ESY	C43-C1	2.30	1.44	1.37
15	K	2000	ESY	C18-N17	2.28	1.38	1.33
15	K	2000	ESY	C40-C9	2.23	1.58	1.52
15	Y	2000	ESY	C13-C12	2.20	1.58	1.53
15	K	2000	ESY	C20-C23	2.16	1.57	1.55
15	Y	2000	ESY	C20-C23	2.08	1.57	1.55
15	K	2000	ESY	C3-C4	2.05	1.43	1.38
15	K	2000	ESY	C43-C42	2.04	1.43	1.39
15	K	2000	ESY	C7-N8	2.03	1.40	1.34

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	K	2000	ESY	C9-N8-C7	9.88	139.92	120.69
15	K	2000	ESY	C10-C9-N8	-9.22	89.70	111.76
15	Y	2000	ESY	C9-N8-C7	9.11	138.43	120.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	Y	2000	ESY	C10-C9-N8	-8.43	91.59	111.76
15	K	2000	ESY	C5-O6-C7	-4.15	105.41	115.98
15	Y	2000	ESY	C5-O6-C7	-3.86	106.14	115.98
15	K	2000	ESY	C20-C19-C18	-3.33	105.38	109.96
15	Y	2000	ESY	O30-C31-C32	-3.29	101.09	109.38
15	Y	2000	ESY	C20-C19-C18	-3.28	105.45	109.96
15	Y	2000	ESY	C23-C20-C21	-3.11	106.55	111.83
15	K	2000	ESY	C23-C20-C21	-3.08	106.61	111.83
15	Y	2000	ESY	C24-C23-C20	-2.89	106.67	111.69
15	K	2000	ESY	O30-C31-C32	-2.84	102.24	109.38
15	Y	2000	ESY	C40-C9-N8	2.80	115.68	110.31
15	K	2000	ESY	C31-O30-C29	2.72	121.65	116.37
15	K	2000	ESY	C24-C23-C20	-2.69	107.00	111.69
15	Y	2000	ESY	C19-C20-C21	-2.56	108.23	111.08
15	K	2000	ESY	C19-C20-C21	-2.23	108.60	111.08
15	K	2000	ESY	O6-C7-N8	2.21	115.88	110.57
15	Y	2000	ESY	O6-C7-N8	2.17	115.78	110.57
15	Y	2000	ESY	C31-O30-C29	2.15	120.54	116.37
15	Y	2000	ESY	O6-C7-O41	-2.13	119.52	124.19
15	Y	2000	ESY	O6-C5-C4	2.09	114.64	109.38
15	K	2000	ESY	C23-C20-C19	2.03	116.82	112.66
15	Y	2000	ESY	C23-C20-C19	2.02	116.80	112.66

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	250/250 (100%)	-0.39	0 100 100	23, 42, 71, 96	0
1	O	250/250 (100%)	-0.37	0 100 100	29, 49, 76, 97	0
2	B	244/244 (100%)	-0.34	2 (0%) 83 26	29, 48, 84, 112	0
2	P	244/244 (100%)	-0.28	1 (0%) 90 41	28, 50, 85, 115	0
3	C	241/241 (100%)	-0.27	2 (0%) 83 26	31, 51, 104, 118	0
3	Q	241/241 (100%)	-0.20	1 (0%) 90 41	37, 56, 105, 118	0
4	D	242/242 (100%)	-0.28	6 (2%) 54 11	29, 54, 86, 116	0
4	R	242/242 (100%)	-0.26	6 (2%) 54 11	34, 54, 88, 118	0
5	E	233/233 (100%)	-0.32	0 100 100	37, 56, 82, 105	0
5	S	233/233 (100%)	-0.24	0 100 100	37, 58, 85, 103	0
6	F	244/244 (100%)	-0.38	0 100 100	30, 49, 84, 101	0
6	T	244/244 (100%)	-0.32	0 100 100	26, 50, 85, 102	0
7	G	243/243 (100%)	-0.42	0 100 100	26, 43, 68, 103	0
7	U	243/243 (100%)	-0.38	2 (0%) 83 26	30, 44, 69, 103	0
8	H	222/222 (100%)	-0.47	0 100 100	27, 40, 62, 89	0
8	V	222/222 (100%)	-0.45	1 (0%) 88 36	29, 42, 61, 89	0
9	I	204/204 (100%)	-0.55	0 100 100	26, 40, 57, 73	0
9	W	204/204 (100%)	-0.50	0 100 100	27, 40, 59, 74	0
10	J	198/198 (100%)	-0.42	2 (1%) 79 22	25, 41, 60, 114	0
10	X	198/198 (100%)	-0.43	2 (1%) 79 22	27, 43, 62, 116	0
11	K	212/212 (100%)	-0.47	0 100 100	23, 41, 55, 69	0
11	Y	212/212 (100%)	-0.48	0 100 100	27, 43, 58, 68	0
12	L	222/222 (100%)	-0.47	0 100 100	21, 42, 64, 79	0
12	Z	222/222 (100%)	-0.47	0 100 100	28, 42, 65, 82	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å <sup>2</sup> )	Q<0.9
13	1	233/233 (100%)	-0.46	0	100	100	22, 41, 58, 66	0
13	M	233/233 (100%)	-0.44	0	100	100	26, 43, 59, 65	0
14	2	196/196 (100%)	-0.47	0	100	100	23, 39, 61, 74	0
14	N	196/196 (100%)	-0.49	0	100	100	26, 38, 59, 72	0
All	All	6368/6368 (100%)	-0.39	25 (0%)	90	41	21, 45, 79, 118	0

All (25) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	D	12(D)	ALA	4.9
4	R	12(F)	GLY	4.0
7	U	240	ASP	3.5
4	R	12(D)	ALA	3.3
3	C	56	LEU	3.2
4	R	12(E)	SER	3.1
3	C	55	THR	3.0
10	X	193	GLN	2.9
4	D	12(F)	GLY	2.8
10	J	193	GLN	2.8
8	V	223	ASP	2.7
10	X	192	ALA	2.7
4	D	12(G)	GLU	2.7
4	D	12(C)	GLY	2.5
2	P	217	ALA	2.5
2	B	218	ASN	2.5
7	U	6	ALA	2.4
4	R	126	ARG	2.4
2	B	217	ALA	2.3
4	D	12(E)	SER	2.3
10	J	192	ALA	2.2
4	D	126	ARG	2.1
4	R	12(G)	GLU	2.1
3	Q	242	GLU	2.1
4	R	12(C)	GLY	2.1

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

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

### 6.3 Carbohydrates

There are no carbohydrates in this entry.

### 6.4 Ligands

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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> 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	RSR	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
15	ESY	Y	2000	43/43	0.25	-	20,36,45,46	0
15	ESY	K	2000	43/43	0.26	-	20,36,45,46	0

### 6.5 Other polymers

There are no such residues in this entry.