



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 08:43 AM UTC

PDB ID : 2GPL / pdb_00002gpl
Title : TMC-95 based biphenyl-ether macrocycles: specific proteasome inhibitors
Authors : Groll, M.; Goetz, M.; Kaiser, M.; Weyher, E.; Moroder, M.
Deposited on : 2006-04-18
Resolution : 2.81 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

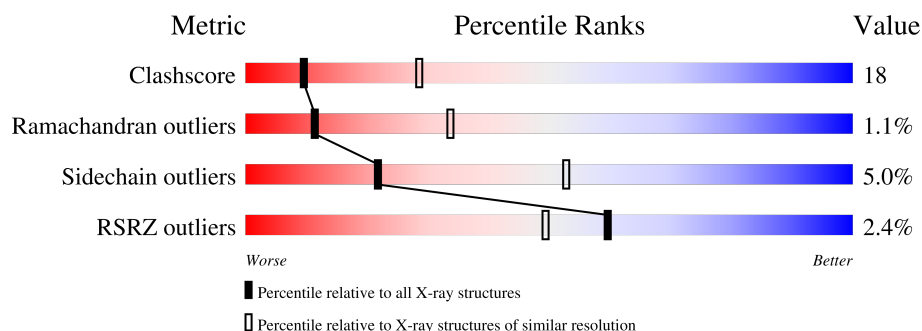
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.81 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))
Clashscore	190562	5010 (2.84-2.80)
Ramachandran outliers	187476	4916 (2.84-2.80)
Sidechain outliers	187428	4918 (2.84-2.80)
RSRZ outliers	180081	4594 (2.84-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	250	74% 23% •
1	O	250	72% 25% •
2	B	244	59% 35% 6%
2	P	244	58% 37% 5%
3	C	241	58% 37% 5%
3	Q	241	59% 36% 5%

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Mol	Chain	Length	Quality of chain
4	D	242	
4	R	242	
5	E	233	
5	S	233	
6	F	244	
6	T	244	
7	G	243	
7	U	243	
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 50714 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 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
			1644	1045	280	312	7			
11	Y	212	Total	C	N	O	S	0	0	0
			1644	1045	280	312	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			

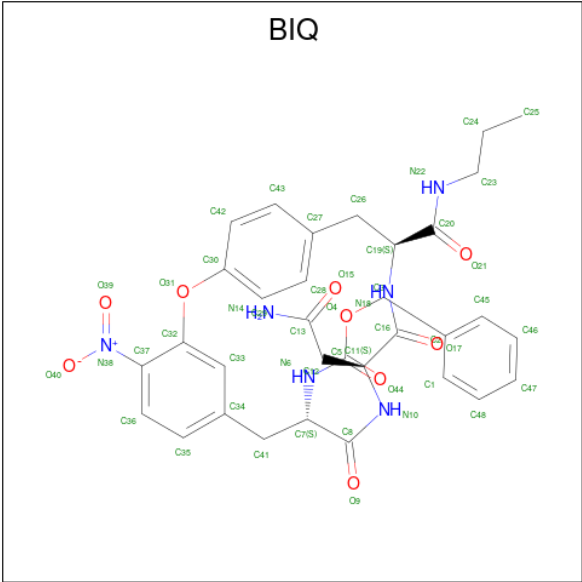
- Molecule 13 is a protein called Proteasome component PRE4.

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 [12-(2-AMINO-2-OXOETHYL)-4-NITRO-10,13-DIOXO-15-[(PROPYLAMINO)CARBONYL]-2-OXA-11,14-DIAZATRICYCLO[15.2.2.1 3,7]DOCOSA-1(19),3(22),4,6,17,20-HEXAEN-9-YL]CARBAMATE (CCD ID: BIQ) (formula: C₃₃H₃₆N₆O₉).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
15	H	1	Total	C	N	O	7	0
			48	33	6	9		
15	V	1	Total	C	N	O	6	0
			48	33	6	9		

- Molecule 16 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	A	43	Total	O	0	0
			43	43		
16	B	27	Total	O	0	0
			27	27		
16	C	32	Total	O	0	0
			32	32		
16	D	30	Total	O	0	0
			30	30		
16	E	14	Total	O	0	0
			14	14		
16	F	38	Total	O	0	0
			38	38		
16	G	51	Total	O	0	0
			51	51		
16	H	37	Total	O	0	0
			37	37		
16	I	48	Total	O	0	0
			48	48		
16	J	44	Total	O	0	0
			44	44		

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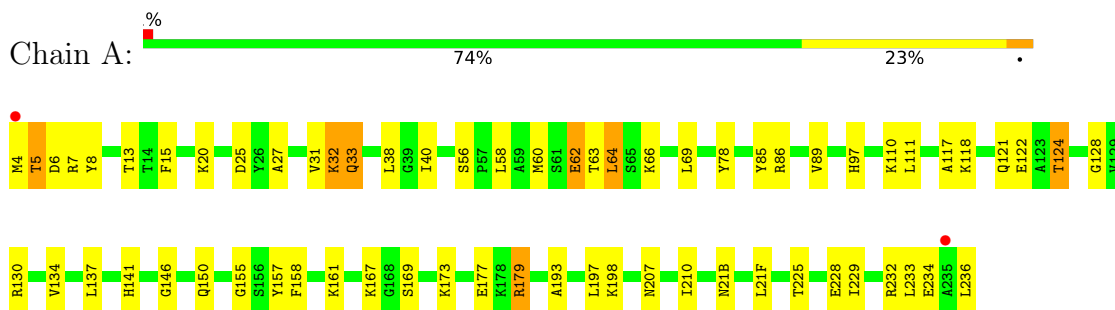
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	K	36	Total 36	O 36	0	0
16	L	49	Total 49	O 49	0	0
16	M	60	Total 60	O 60	0	0
16	N	48	Total 48	O 48	0	0
16	O	27	Total 27	O 27	0	0
16	P	24	Total 24	O 24	0	0
16	Q	22	Total 22	O 22	0	0
16	R	25	Total 25	O 25	0	0
16	S	16	Total 16	O 16	0	0
16	T	36	Total 36	O 36	0	0
16	U	47	Total 47	O 47	0	0
16	V	39	Total 39	O 39	0	0
16	W	44	Total 44	O 44	0	0
16	X	38	Total 38	O 38	0	0
16	Y	42	Total 42	O 42	0	0
16	Z	45	Total 45	O 45	0	0
16	1	59	Total 59	O 59	0	0
16	2	49	Total 49	O 49	0	0

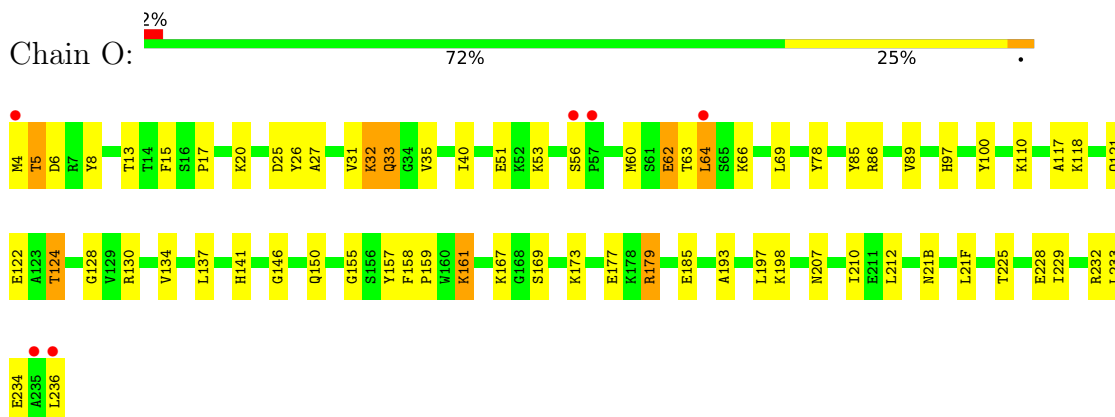
3 Residue-property plots [i](#)

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

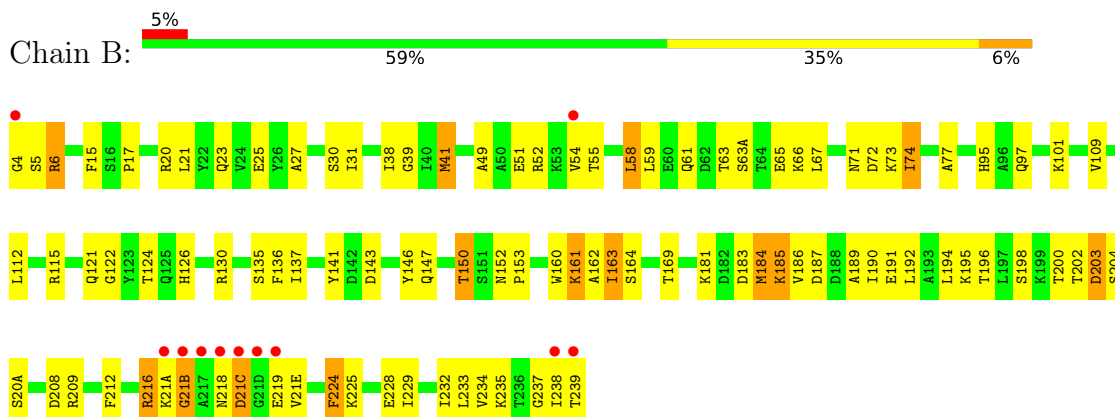
- Molecule 1: Proteasome component Y7



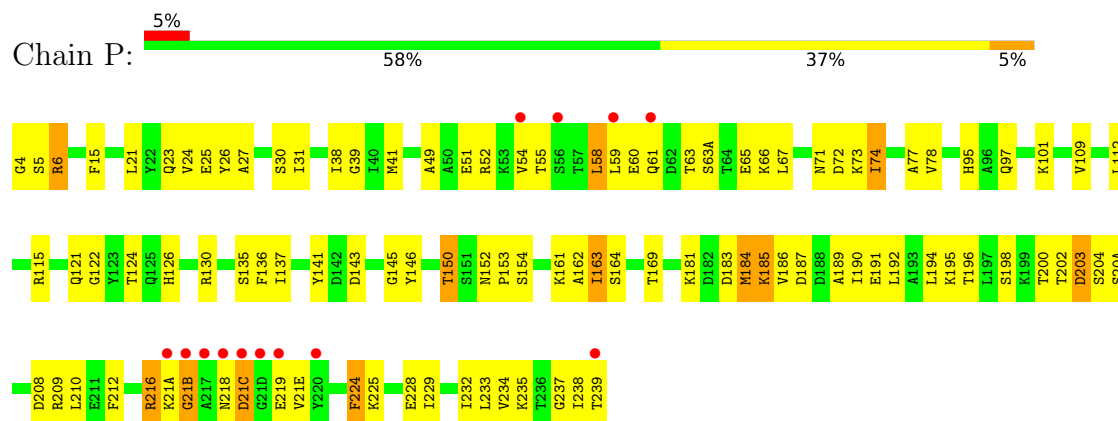
- Molecule 1: Proteasome component Y7



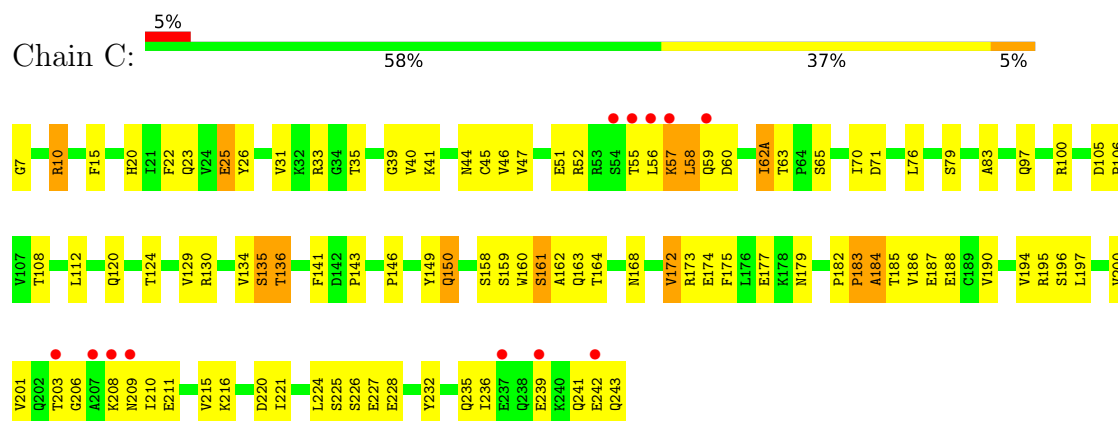
- Molecule 2: Proteasome component Y13



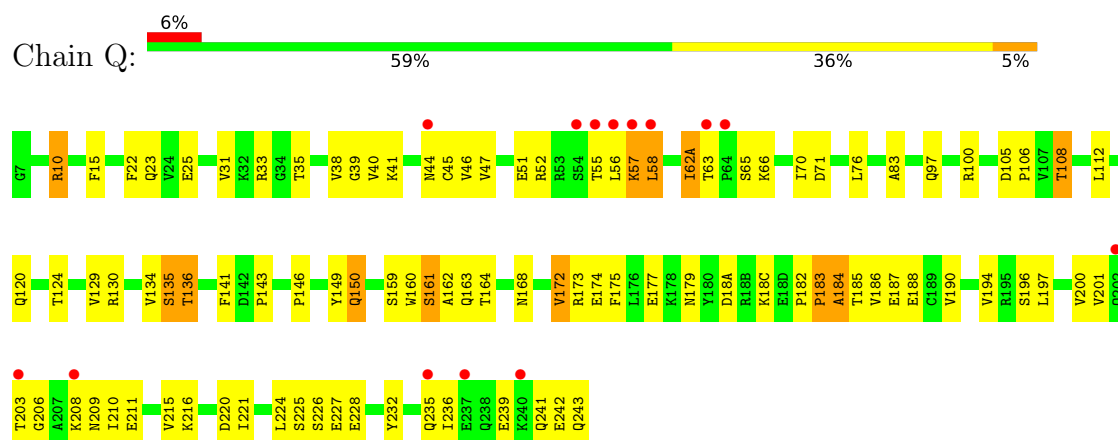
- Molecule 2: Proteasome component Y13



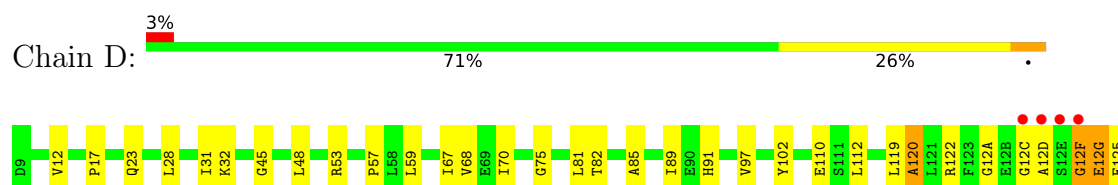
- Molecule 3: Proteasome component PRE6

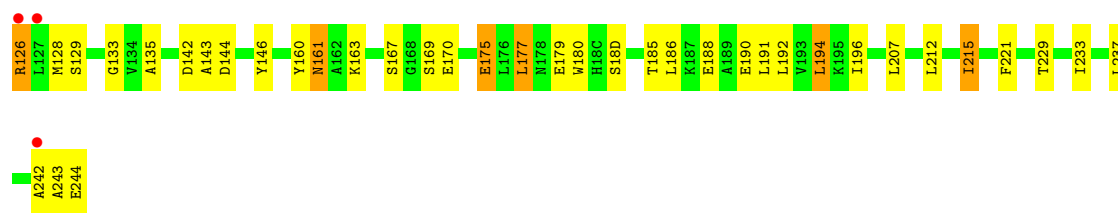


- Molecule 3: Proteasome component PRE6

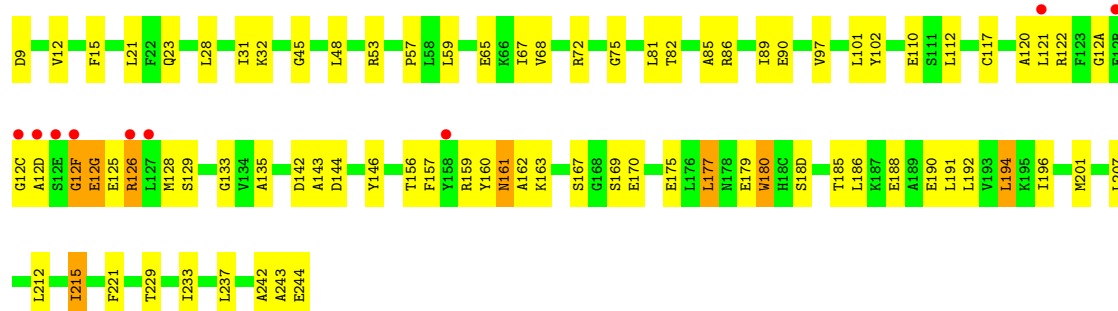


- Molecule 4: Proteasome component PUP2

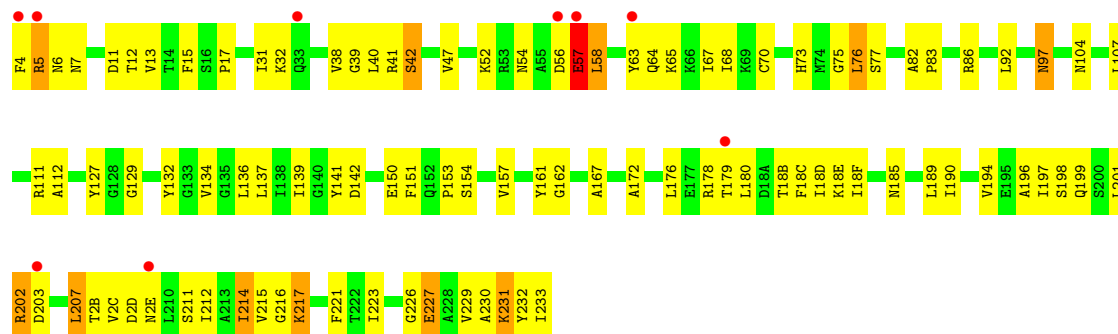




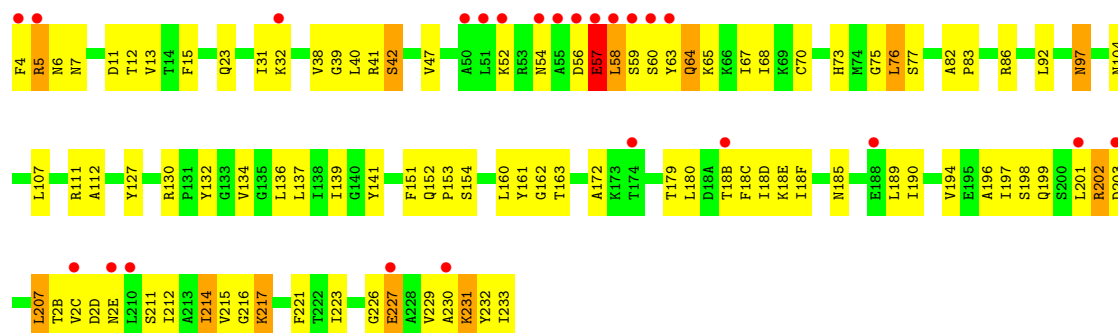
• Molecule 4: Proteasome component PUP2



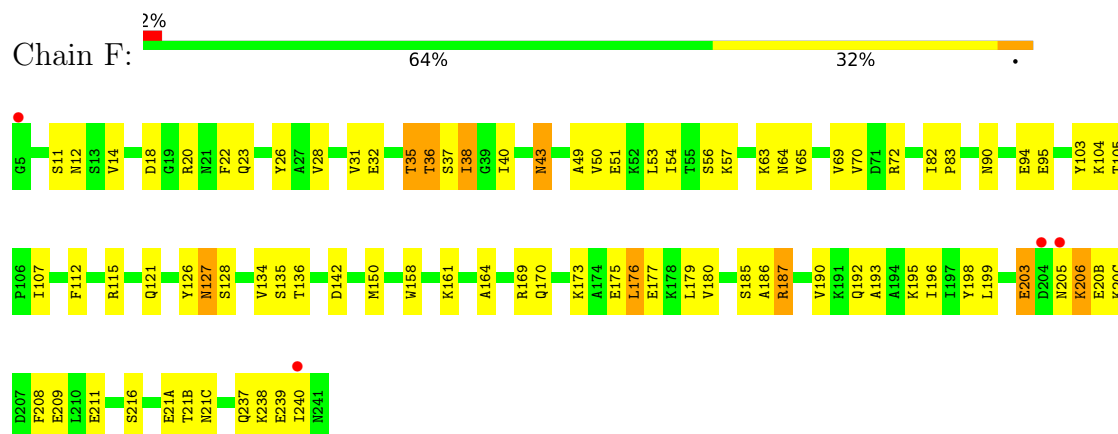
• Molecule 5: Proteasome component PRE5



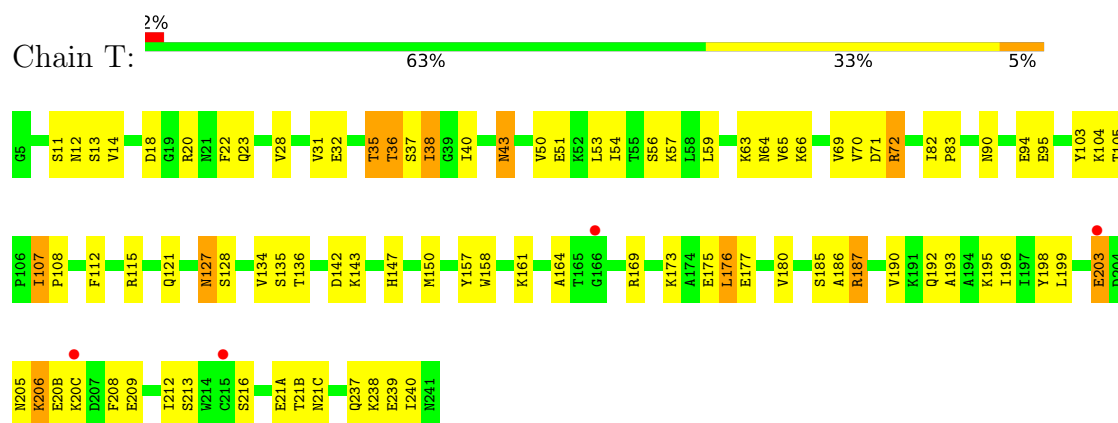
• Molecule 5: Proteasome component PRE5



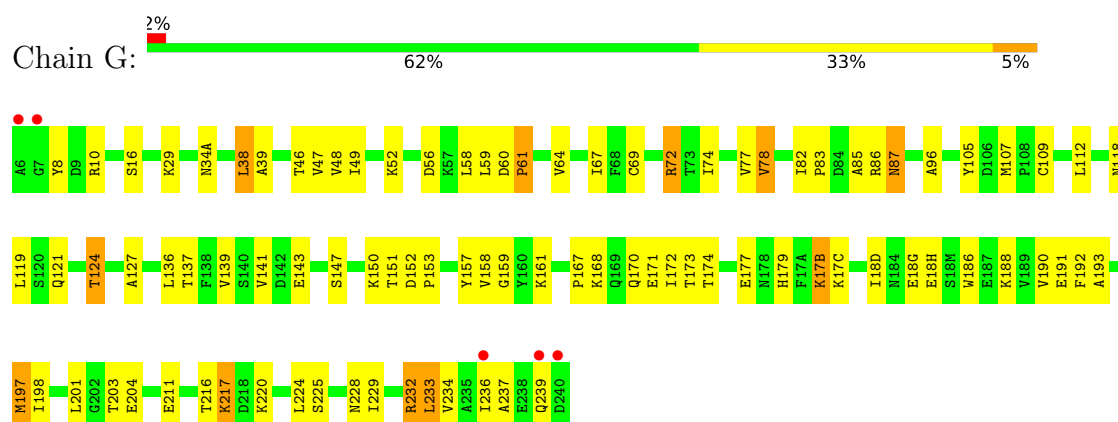
- Molecule 6: Proteasome component C1



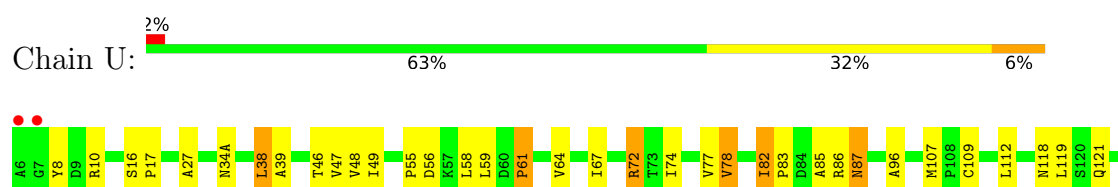
- Molecule 6: Proteasome component C1

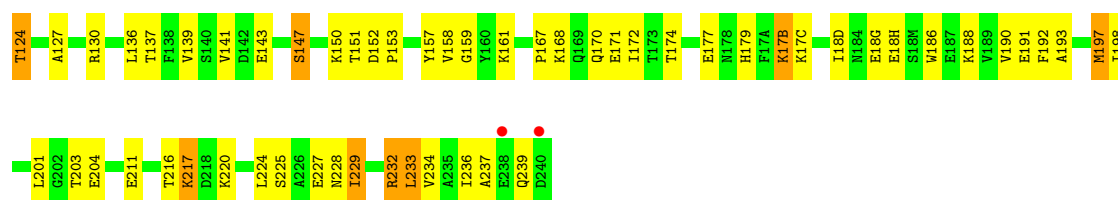


- Molecule 7: Proteasome component C7-alpha



- Molecule 7: Proteasome component C7-alpha





• Molecule 8: Proteasome component PUP1

Chain H: 69% 29%



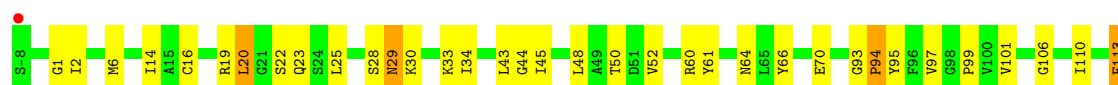
• Molecule 8: Proteasome component PUP1

Chain V: 71% 27%



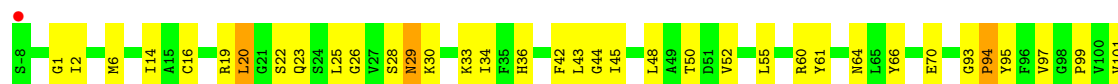
• Molecule 9: Proteasome component PUP3

Chain I: 69% 28%



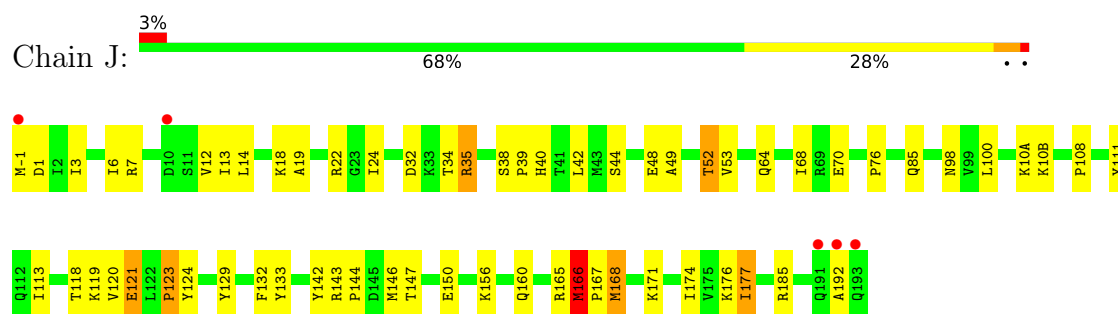
• Molecule 9: Proteasome component PUP3

Chain W: 66% 31%

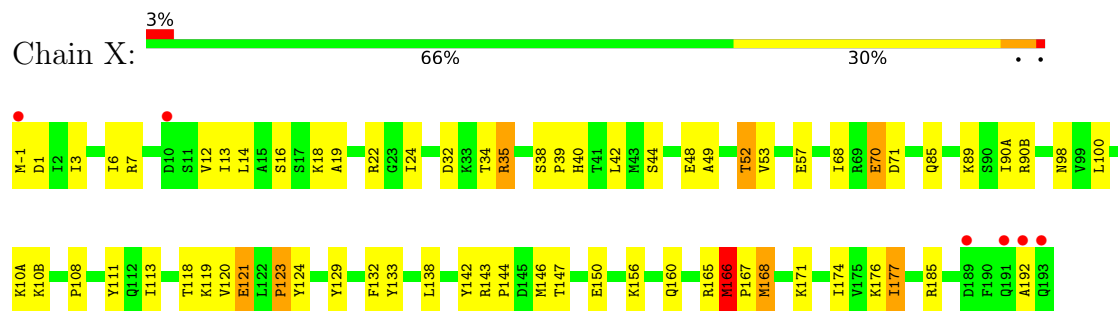


• Molecule 10: Proteasome component C11

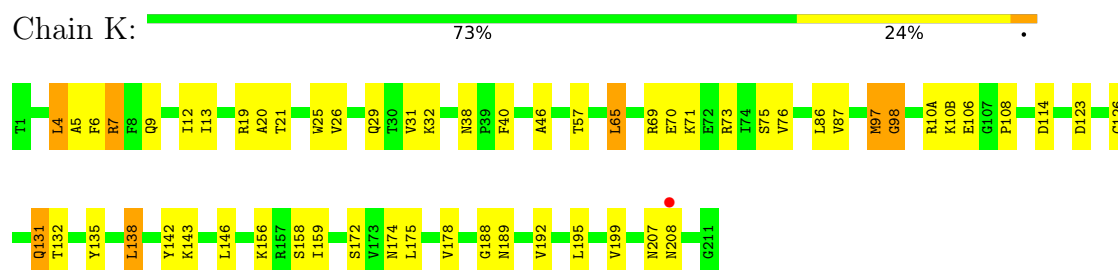




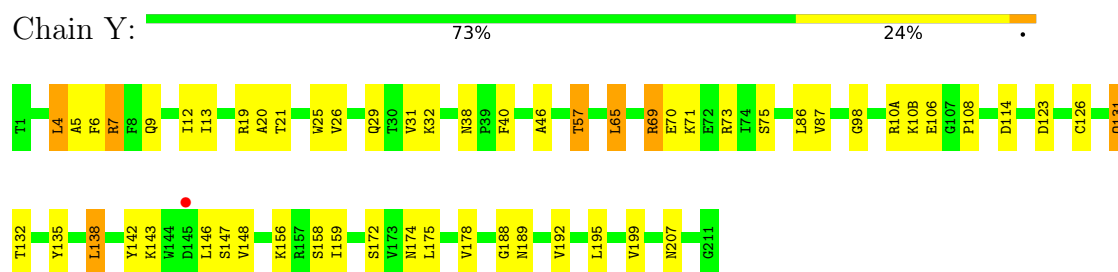
- Molecule 10: Proteasome component C11



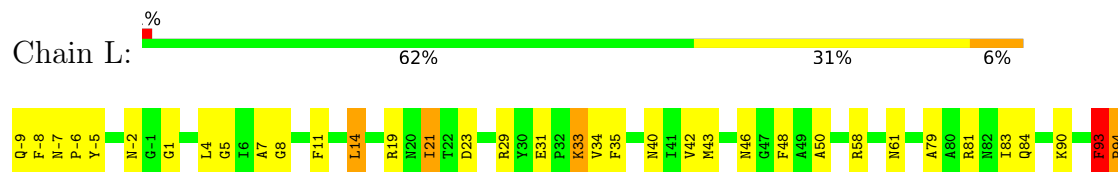
- Molecule 11: Proteasome component PRE2

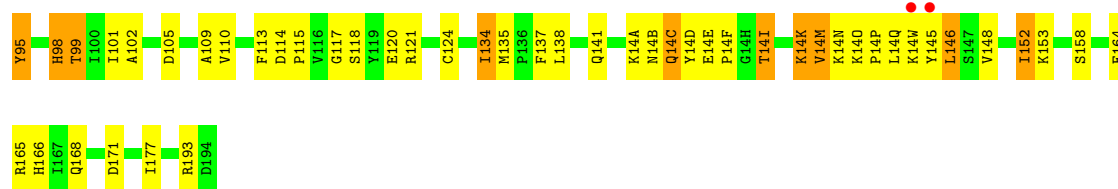


- Molecule 11: Proteasome component PRE2

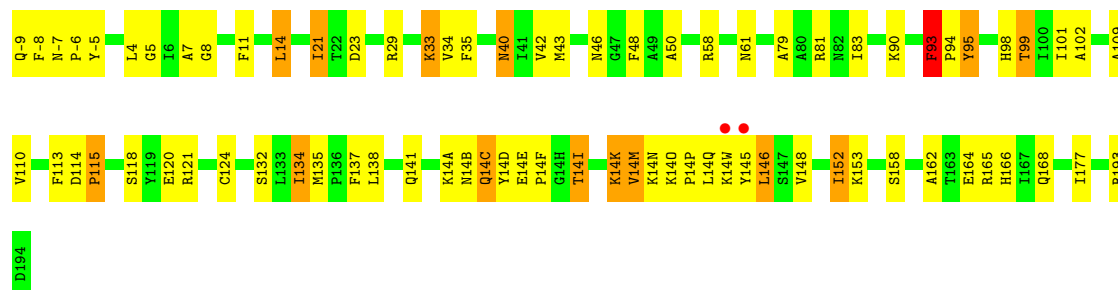


- Molecule 12: Proteasome component C5

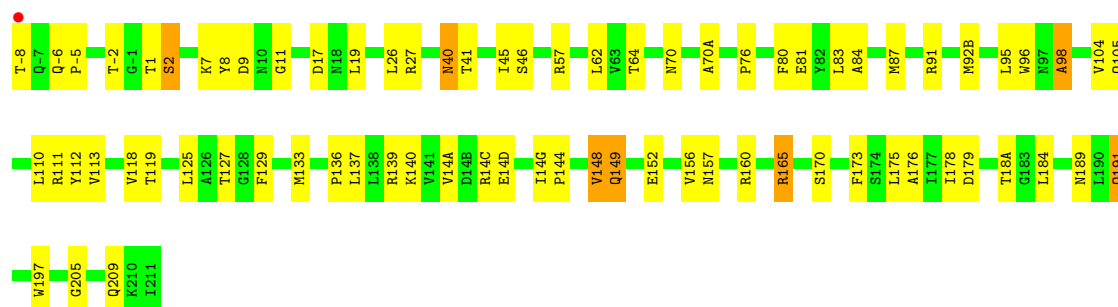




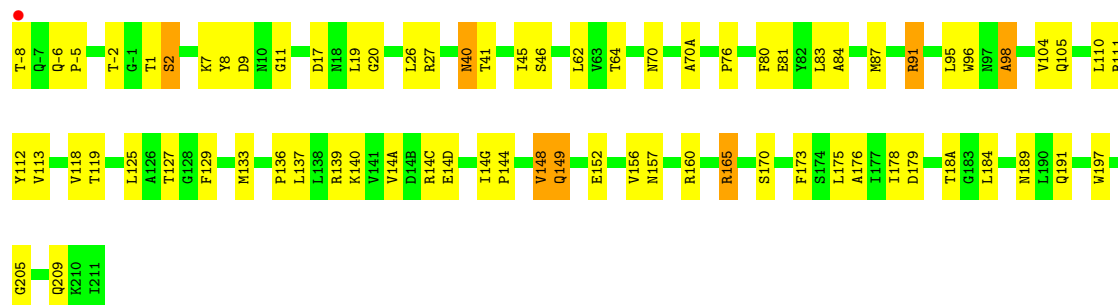
• Molecule 12: Proteasome component C5



• Molecule 13: Proteasome component PRE4

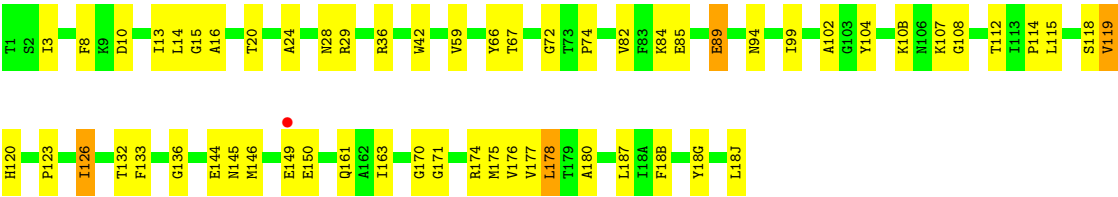


• Molecule 13: Proteasome component PRE4

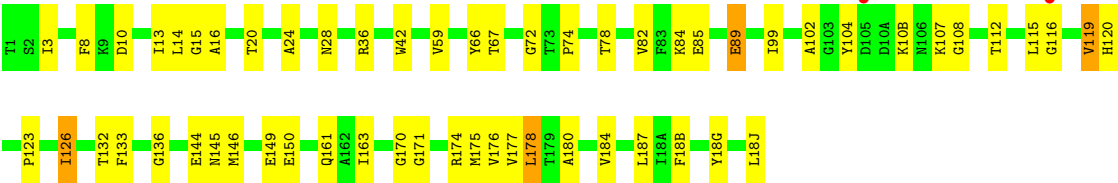


• Molecule 14: Proteasome component PRE3





• Molecule 14: Proteasome component PRE3



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	136.43Å 300.96Å 144.76Å 90.00° 113.17° 90.00°	Depositor
Resolution (Å)	15.00 – 2.81 15.00 – 2.81	Depositor EDS
% Data completeness (in resolution range)	97.8 (15.00-2.81) 97.2 (15.00-2.81)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.64 (at 2.83Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.217 , 0.241 0.227 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	52.7	Xtriage
Anisotropy	0.719	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 51.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.52$, $\langle L^2 \rangle = 0.35$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	50714	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.56% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

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	0.45	0/1952	0.94	5/2642 (0.2%)
1	O	0.43	0/1952	0.93	6/2642 (0.2%)
2	B	0.44	0/1935	0.94	5/2618 (0.2%)
2	P	0.44	0/1935	0.94	7/2618 (0.3%)
3	C	0.41	0/1920	0.92	6/2598 (0.2%)
3	Q	0.41	0/1920	0.91	7/2598 (0.3%)
4	D	0.41	0/1887	0.92	10/2541 (0.4%)
4	R	0.42	0/1887	0.92	10/2541 (0.4%)
5	E	0.39	0/1823	0.93	5/2463 (0.2%)
5	S	0.40	0/1823	0.93	5/2463 (0.2%)
6	F	0.42	0/1937	0.96	7/2614 (0.3%)
6	T	0.44	0/1937	0.97	8/2614 (0.3%)
7	G	0.46	0/1959	0.96	8/2652 (0.3%)
7	U	0.48	1/1959 (0.1%)	0.96	8/2652 (0.3%)
8	H	0.46	0/1716	0.96	7/2326 (0.3%)
8	V	0.45	0/1716	0.97	6/2326 (0.3%)
9	I	0.45	0/1611	0.99	8/2174 (0.4%)
9	W	0.46	0/1611	1.00	10/2174 (0.5%)
10	J	0.46	0/1613	0.96	4/2173 (0.2%)
10	X	0.47	0/1613	0.96	5/2173 (0.2%)
11	K	0.47	0/1681	0.92	5/2274 (0.2%)
11	Y	0.44	0/1681	0.92	3/2274 (0.1%)
12	L	0.43	0/1795	1.03	9/2420 (0.4%)
12	Z	0.43	0/1795	1.03	8/2420 (0.3%)
13	1	0.47	0/1855	0.96	9/2514 (0.4%)
13	M	0.45	0/1855	0.94	9/2514 (0.4%)
14	2	0.48	0/1541	0.93	2/2087 (0.1%)
14	N	0.48	0/1541	0.94	2/2087 (0.1%)
All	All	0.44	1/50450 (0.0%)	0.95	184/68192 (0.3%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	U	82	ILE	CA-CB	5.25	1.57	1.53

All (184) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	M	27	ARG	N-CA-C	10.10	121.98	110.97
13	1	27	ARG	N-CA-C	10.02	121.89	110.97
11	K	188	GLY	N-CA-C	9.41	124.88	112.65
11	Y	188	GLY	N-CA-C	9.39	124.86	112.65
6	F	107	ILE	N-CA-C	9.35	119.15	108.96
6	T	107	ILE	N-CA-C	9.31	119.11	108.96
2	B	238	ILE	N-CA-C	-8.90	103.73	113.43
2	P	238	ILE	N-CA-C	-8.84	103.79	113.43
5	E	42	SER	N-CA-C	-8.83	101.54	108.78
12	Z	93	PHE	CA-C-N	8.59	128.65	119.89
12	Z	93	PHE	C-N-CA	8.59	128.65	119.89
5	S	42	SER	N-CA-C	-8.41	101.88	108.78
1	A	161	LYS	N-CA-C	-8.22	102.12	112.90
4	R	161	ASN	N-CA-C	-8.16	102.21	112.90
1	O	161	LYS	N-CA-C	-8.15	102.22	112.90
12	L	93	PHE	CA-C-N	8.06	128.11	119.89
12	L	93	PHE	C-N-CA	8.06	128.11	119.89
13	1	95	LEU	N-CA-C	-7.58	96.21	108.41
3	Q	108	THR	N-CA-C	-7.58	100.76	110.53
13	M	95	LEU	N-CA-C	-7.57	96.22	108.41
10	J	123	PRO	N-CA-C	-7.52	103.72	113.57
2	B	161	LYS	N-CA-C	-7.45	104.32	113.41
12	L	95	TYR	N-CA-C	-7.43	97.16	108.67
4	D	161	ASN	N-CA-C	-7.41	103.20	112.90
10	X	123	PRO	N-CA-C	-7.30	104.01	113.57
6	T	38	ILE	N-CA-C	7.19	117.30	108.53
7	U	16	SER	N-CA-C	-7.02	101.21	110.40
7	G	16	SER	N-CA-C	-7.00	101.23	110.40
11	Y	57	THR	N-CA-C	-7.00	103.73	111.36
8	V	38	SER	N-CA-C	-6.99	100.11	108.14
2	B	109	VAL	N-CA-C	6.96	117.67	110.36
6	F	38	ILE	N-CA-C	6.93	116.98	108.53
12	Z	95	TYR	N-CA-C	-6.92	97.95	108.67
7	G	161	LYS	N-CA-C	-6.89	103.55	112.23
3	C	108	THR	N-CA-C	-6.78	101.40	110.55
14	N	99	ILE	N-CA-C	6.72	118.15	108.48
6	F	161	LYS	N-CA-C	-6.70	103.46	111.69
6	T	12	ASN	N-CA-C	6.68	119.12	111.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	Q	70	ILE	N-CA-C	-6.65	104.53	111.58
14	2	99	ILE	N-CA-C	6.64	118.04	108.48
6	F	12	ASN	N-CA-C	6.57	118.99	111.11
3	Q	161	SER	N-CA-C	-6.57	103.61	111.69
4	R	144	ASP	N-CA-C	6.50	118.44	111.36
3	C	70	ILE	N-CA-C	-6.49	104.70	111.58
6	T	161	LYS	N-CA-C	-6.49	103.70	111.69
2	P	109	VAL	N-CA-C	6.41	117.09	110.36
3	C	161	SER	N-CA-C	-6.39	103.83	111.69
8	H	37	ILE	N-CA-C	-6.39	106.31	111.81
13	M	98	ALA	N-CA-C	-6.39	97.87	108.34
9	W	95	TYR	N-CA-C	-6.33	98.95	109.46
7	U	161	LYS	N-CA-C	-6.29	104.30	112.23
9	I	95	TYR	N-CA-C	-6.28	99.03	109.46
9	W	60	ARG	N-CA-C	-6.28	104.36	111.14
4	D	144	ASP	N-CA-C	6.28	118.20	111.36
11	K	57	THR	N-CA-C	-6.24	104.56	111.36
4	D	169	SER	N-CA-C	6.23	118.15	111.36
13	1	98	ALA	N-CA-C	-6.19	98.19	108.34
4	R	179	GLU	N-CA-C	6.15	118.96	111.82
2	P	161	LYS	N-CA-C	-6.15	104.84	112.90
13	1	-2	THR	N-CA-C	6.14	119.55	109.85
4	R	169	SER	N-CA-C	6.11	118.02	111.36
4	D	129	SER	N-CA-C	6.09	118.71	111.71
9	I	60	ARG	N-CA-C	-6.08	104.74	111.36
8	V	37	ILE	N-CA-C	-6.06	106.60	111.81
13	1	9	ASP	N-CA-C	6.05	118.66	111.71
13	M	-2	THR	N-CA-C	6.04	119.39	109.85
13	M	165	ARG	N-CA-C	6.04	120.80	113.38
12	L	134	ILE	N-CA-C	5.99	116.63	110.82
4	D	179	GLU	N-CA-C	5.96	118.73	111.82
1	O	128	GLY	N-CA-C	5.96	123.10	114.10
7	U	220	LYS	N-CA-C	5.95	117.44	108.46
7	G	127	ALA	N-CA-C	5.94	118.54	111.71
13	M	45	ILE	N-CA-C	5.93	116.42	108.11
9	I	178	ILE	N-CA-C	5.91	116.45	108.17
9	W	142	TYR	N-CA-C	5.87	118.77	110.50
7	U	127	ALA	N-CA-C	5.85	118.44	111.71
13	M	9	ASP	N-CA-C	5.85	118.43	111.71
13	1	165	ARG	N-CA-C	5.81	120.53	113.38
9	I	142	TYR	N-CA-C	5.81	118.69	110.50
7	G	220	LYS	N-CA-C	5.81	117.23	108.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	128	GLY	N-CA-C	5.80	122.86	114.10
5	S	57	GLU	N-CA-C	-5.75	105.92	113.17
1	A	66	LYS	N-CA-C	-5.74	106.44	113.50
6	F	14	VAL	N-CA-C	5.74	116.46	108.89
4	R	143	ALA	N-CA-C	5.74	118.27	111.33
5	S	58	LEU	N-CA-C	-5.72	105.63	113.30
6	T	14	VAL	N-CA-C	5.72	116.45	108.89
8	V	23	GLY	N-CA-C	-5.70	100.72	112.34
2	B	203	ASP	N-CA-C	-5.69	106.00	113.17
1	O	137	LEU	N-CA-C	-5.68	99.15	108.41
4	D	143	ALA	N-CA-C	5.67	118.20	111.33
9	W	178	ILE	N-CA-C	5.64	116.01	108.11
2	P	203	ASP	N-CA-C	-5.63	106.08	113.17
12	Z	134	ILE	N-CA-C	5.63	116.28	110.82
13	1	45	ILE	N-CA-C	5.62	116.22	108.12
9	I	117	GLY	N-CA-C	5.61	122.22	114.92
6	T	22	PHE	N-CA-C	5.60	118.10	111.33
13	1	2	SER	N-CA-C	5.60	122.72	110.80
10	X	165	ARG	N-CA-C	5.59	120.17	113.23
5	E	57	GLU	N-CA-C	-5.58	106.14	113.17
12	L	146	LEU	N-CA-C	5.53	118.29	110.50
12	Z	35	PHE	N-CA-C	5.51	118.54	109.72
10	X	166	MET	CA-C-N	5.50	125.33	119.28
10	X	166	MET	C-N-CA	5.50	125.33	119.28
5	E	161	TYR	N-CA-C	-5.48	105.72	112.90
6	F	135	SER	N-CA-C	-5.47	99.98	108.90
12	Z	146	LEU	N-CA-C	5.46	118.20	110.50
2	P	78	VAL	N-CA-C	5.46	116.44	108.53
6	F	22	PHE	N-CA-C	5.44	117.92	111.33
7	U	27	ALA	N-CA-C	-5.43	105.44	111.36
9	W	117	GLY	N-CA-C	5.42	121.97	114.92
4	D	128	MET	N-CA-C	-5.40	99.29	110.80
3	C	62(A)	ILE	N-CA-C	5.40	116.06	110.82
1	A	78	TYR	N-CA-C	5.39	116.18	108.74
1	A	137	LEU	N-CA-C	-5.39	99.62	108.41
5	S	154	SER	N-CA-C	-5.39	105.96	112.54
8	V	44	ALA	CA-C-N	-5.38	118.47	122.18
8	V	44	ALA	C-N-CA	-5.38	118.47	122.18
10	J	165	ARG	N-CA-C	5.38	119.90	113.23
2	B	137	ILE	N-CA-C	-5.38	99.90	107.75
5	S	161	TYR	N-CA-C	-5.37	105.87	112.90
9	I	94	PRO	N-CA-C	5.34	119.61	111.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	166	MET	CA-C-N	5.33	125.15	119.28
10	J	166	MET	C-N-CA	5.33	125.15	119.28
6	T	135	SER	N-CA-C	-5.33	100.21	108.90
9	W	94	PRO	N-CA-C	5.33	119.59	111.34
4	R	180	TRP	N-CA-C	5.32	118.22	109.76
11	K	131	GLN	N-CA-C	5.32	117.50	111.02
12	Z	21	ILE	N-CA-C	5.31	116.55	108.80
4	D	70	ILE	N-CA-C	-5.31	106.51	111.45
8	H	172	ASN	N-CA-C	5.31	117.94	110.14
4	R	18(D)	SER	N-CA-C	5.29	119.22	112.34
3	Q	62(A)	ILE	N-CA-C	5.28	115.94	110.82
9	I	183	GLU	N-CA-C	5.27	116.99	109.14
10	X	89	LYS	N-CA-C	-5.26	105.46	111.14
4	R	128	MET	N-CA-C	-5.25	99.61	110.80
3	Q	22	PHE	N-CA-C	5.25	117.68	111.33
3	C	22	PHE	N-CA-C	5.24	117.67	111.33
4	D	18(D)	SER	N-CA-C	5.24	119.15	112.34
7	G	60	ASP	CA-C-N	5.23	126.38	119.84
7	G	60	ASP	C-N-CA	5.23	126.38	119.84
4	R	129	SER	N-CA-C	5.23	118.76	112.38
4	D	82	THR	N-CA-C	5.22	118.43	111.75
7	U	147	SER	N-CA-C	5.21	117.92	109.06
1	O	78	TYR	N-CA-C	5.20	115.92	108.74
8	V	99	LEU	N-CA-C	5.19	118.02	109.72
9	I	25	LEU	N-CA-C	5.18	117.21	109.59
1	O	66	LYS	N-CA-C	-5.18	107.13	113.50
9	W	183	GLU	N-CA-C	5.17	116.85	109.14
5	E	58	LEU	N-CA-C	-5.17	106.38	113.30
7	G	17(B)	LYS	N-CA-C	-5.17	105.77	111.71
11	K	97	MET	N-CA-C	5.15	116.90	108.55
13	M	2	SER	N-CA-C	5.15	121.76	110.80
11	Y	131	GLN	N-CA-C	5.15	117.30	111.02
9	W	25	LEU	N-CA-C	5.15	117.16	109.59
7	G	78	VAL	N-CA-C	5.13	115.86	108.48
12	L	35	PHE	N-CA-C	5.10	117.89	109.72
12	L	94	PRO	N-CA-C	5.10	119.22	111.11
13	M	189	ASN	N-CA-C	5.10	118.47	111.54
9	W	114	ASP	N-CA-C	-5.10	103.20	110.59
1	O	185	GLU	N-CA-C	-5.09	102.99	110.52
9	W	26	GLY	N-CA-C	-5.09	104.62	111.54
4	R	82	THR	N-CA-C	5.08	118.26	111.75
8	H	23	GLY	N-CA-C	-5.08	101.98	112.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	Q	136	THR	N-CA-C	5.07	117.38	109.52
3	C	136	THR	N-CA-C	5.06	117.36	109.52
5	E	154	SER	N-CA-C	-5.05	106.37	112.54
13	1	189	ASN	N-CA-C	5.05	118.41	111.54
11	K	98	GLY	N-CA-C	-5.05	101.20	113.18
14	N	123	PRO	N-CA-C	-5.05	106.83	113.65
3	Q	66	LYS	N-CA-C	5.04	117.67	111.82
8	H	44	ALA	CA-C-N	-5.04	118.70	122.18
8	H	44	ALA	C-N-CA	-5.04	118.70	122.18
12	L	23	ASP	CB-CA-C	-5.04	110.38	117.23
12	Z	23	ASP	CB-CA-C	-5.04	110.38	117.23
7	U	17(B)	LYS	N-CA-C	-5.03	105.80	111.28
2	P	137	ILE	N-CA-C	-5.02	100.42	107.75
7	U	78	VAL	N-CA-C	5.01	115.70	108.48
12	L	21	ILE	N-CA-C	5.01	116.11	108.80
14	2	123	PRO	N-CA-C	-5.01	106.57	113.53
2	P	210	LEU	N-CA-C	5.01	117.28	109.52
6	T	71	ASP	CB-CA-C	-5.00	110.83	116.63
8	H	193	THR	CA-C-N	5.00	125.93	120.83
8	H	193	THR	C-N-CA	5.00	125.93	120.83

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1915	0	1926	55	0
1	O	1915	0	1926	56	0
2	B	1905	0	1901	101	0
2	P	1905	0	1901	101	0
3	C	1891	0	1900	103	0
3	Q	1891	0	1900	96	0
4	D	1862	0	1836	57	0
4	R	1862	0	1836	74	0
5	E	1795	0	1797	97	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	S	1795	0	1797	108	0
6	F	1897	0	1886	76	0
6	T	1897	0	1886	78	0
7	G	1921	0	1910	86	0
7	U	1921	0	1910	88	0
8	H	1685	0	1688	56	0
8	V	1685	0	1688	50	0
9	I	1581	0	1574	55	0
9	W	1581	0	1574	61	0
10	J	1585	0	1590	73	0
10	X	1585	0	1590	79	0
11	K	1644	0	1595	46	0
11	Y	1644	0	1595	44	0
12	L	1757	0	1711	60	0
12	Z	1757	0	1711	60	0
13	1	1824	0	1832	59	0
13	M	1824	0	1832	60	0
14	2	1512	0	1481	46	0
14	N	1512	0	1481	48	0
15	H	48	0	35	4	0
15	V	48	0	35	5	0
16	1	59	0	0	2	0
16	2	49	0	0	2	0
16	A	43	0	0	1	0
16	B	27	0	0	2	0
16	C	32	0	0	4	0
16	D	30	0	0	2	0
16	E	14	0	0	2	0
16	F	38	0	0	2	0
16	G	51	0	0	3	0
16	H	37	0	0	2	0
16	I	48	0	0	0	0
16	J	44	0	0	2	0
16	K	36	0	0	1	0
16	L	49	0	0	5	0
16	M	60	0	0	4	0
16	N	48	0	0	2	0
16	O	27	0	0	2	0
16	P	24	0	0	0	0
16	Q	22	0	0	3	0
16	R	25	0	0	3	0
16	S	16	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	T	36	0	0	4	0
16	U	47	0	0	4	0
16	V	39	0	0	3	0
16	W	44	0	0	4	0
16	X	38	0	0	5	0
16	Y	42	0	0	2	0
16	Z	45	0	0	4	0
All	All	50714	0	49324	1758	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 18.

All (1758) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Y:10(B):LYS:H	11:Y:10(B):LYS:HD2	1.10	1.17
2:P:202:THR:HG22	2:P:204:SER:H	1.13	1.12
10:J:168:MET:HE3	10:X:168:MET:HE3	1.30	1.11
14:N:161:GLN:HE21	14:2:136:GLY:HA2	1.11	1.10
11:K:10(B):LYS:H	11:K:10(B):LYS:HD2	1.09	1.08
2:B:202:THR:HG22	2:B:204:SER:H	1.14	1.04
2:B:190:ILE:HG21	2:B:232:ILE:HD11	1.36	1.03
14:N:136:GLY:HA2	14:2:161:GLN:HE21	1.13	1.03
2:P:190:ILE:HG21	2:P:232:ILE:HD11	1.35	1.03
7:U:96:ALA:HA	7:U:107:MET:HE2	1.40	1.02
12:L:33:LYS:HD2	12:L:46:ASN:HD22	1.24	1.00
7:G:96:ALA:HA	7:G:107:MET:HE2	1.40	0.99
1:O:15:PHE:H	2:P:23:GLN:HE22	1.09	0.97
2:B:124:THR:HG22	3:C:130:ARG:HH21	1.28	0.97
12:Z:33:LYS:HD2	12:Z:46:ASN:HD22	1.26	0.96
3:Q:15:PHE:H	4:R:23:GLN:HE22	1.12	0.94
13:1:157:ASN:HD22	13:1:160:ARG:NH1	1.65	0.93
13:1:157:ASN:ND2	13:1:160:ARG:HH11	1.67	0.92
13:M:157:ASN:HD22	13:M:160:ARG:NH1	1.68	0.92
3:C:185:THR:HG22	3:C:187:GLU:H	1.33	0.92
3:Q:163:GLN:NE2	3:Q:164:THR:H	1.69	0.91
3:Q:185:THR:HG22	3:Q:187:GLU:H	1.31	0.91
3:C:163:GLN:NE2	3:C:164:THR:H	1.68	0.91
3:C:15:PHE:H	4:D:23:GLN:HE22	1.18	0.91
3:Q:185:THR:HB	3:Q:188:GLU:HG2	1.54	0.90
3:C:163:GLN:HE21	3:C:164:THR:N	1.68	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:157:ASN:ND2	13:M:160:ARG:HH11	1.70	0.90
3:Q:163:GLN:HE21	3:Q:164:THR:N	1.68	0.90
2:B:15:PHE:H	3:C:23:GLN:HE22	1.19	0.89
1:A:15:PHE:H	2:B:23:GLN:HE22	1.14	0.89
3:C:185:THR:HB	3:C:188:GLU:HG2	1.55	0.88
4:R:162:ALA:HB3	5:S:58:LEU:HD23	1.57	0.87
1:O:130:ARG:HH21	7:U:124:THR:CG2	1.87	0.87
2:P:163:ILE:HD13	2:P:164:SER:H	1.40	0.87
13:M:157:ASN:HD22	13:M:160:ARG:HH11	0.90	0.86
13:1:157:ASN:HD22	13:1:160:ARG:HH11	0.88	0.86
3:Q:163:GLN:HE21	3:Q:164:THR:H	0.86	0.85
5:S:15:PHE:H	6:T:23:GLN:HE22	1.23	0.85
14:N:161:GLN:NE2	14:2:136:GLY:HA2	1.91	0.85
2:B:163:ILE:HD13	2:B:164:SER:H	1.42	0.85
8:H:165:ASN:HD22	13:1:139:ARG:HH11	1.25	0.84
3:C:163:GLN:HE21	3:C:164:THR:H	0.86	0.84
1:O:86:ARG:HE	7:U:118:ASN:HD21	1.25	0.84
1:O:130:ARG:HH21	7:U:124:THR:HG22	1.43	0.82
5:E:207:LEU:HD23	5:E:207:LEU:H	1.44	0.82
1:O:124:THR:HG22	2:P:130:ARG:HH21	1.42	0.82
1:O:124:THR:CG2	2:P:130:ARG:HH21	1.93	0.82
13:M:139:ARG:HH11	8:V:165:ASN:HD22	1.26	0.82
5:S:207:LEU:HD23	5:S:207:LEU:H	1.42	0.82
5:E:15:PHE:H	6:F:23:GLN:HE22	1.28	0.81
2:P:124:THR:HG22	3:Q:130:ARG:HH21	1.44	0.81
3:Q:206:GLY:HA3	3:Q:209:ASN:HB2	1.62	0.81
1:O:60:MET:HE3	1:O:63:THR:HG21	1.61	0.81
14:N:136:GLY:HA2	14:2:161:GLN:NE2	1.93	0.80
2:P:61:GLN:OE1	2:P:208:ASP:HA	1.80	0.80
2:B:71:ASN:ND2	2:B:72:ASP:H	1.80	0.80
3:C:206:GLY:HA3	3:C:209:ASN:HB2	1.62	0.80
6:T:95:GLU:HG2	6:T:115:ARG:HB3	1.61	0.80
13:1:104:VAL:HG23	13:1:178:ILE:HG22	1.64	0.80
7:G:198:ILE:HG23	7:G:203:THR:O	1.81	0.80
3:Q:65:SER:HB2	16:Q:247:HOH:O	1.80	0.80
7:U:198:ILE:HG23	7:U:203:THR:O	1.81	0.80
2:P:71:ASN:ND2	2:P:72:ASP:H	1.79	0.80
1:A:60:MET:HE3	1:A:63:THR:HG21	1.65	0.79
2:B:124:THR:CG2	3:C:130:ARG:HH21	1.95	0.79
11:K:10(B):LYS:HD2	11:K:10(B):LYS:N	1.94	0.79
1:A:177:GLU:HG2	2:B:58:LEU:HD22	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:95:GLU:HG2	6:F:115:ARG:HB3	1.64	0.79
2:B:61:GLN:OE1	2:B:208:ASP:HA	1.81	0.78
5:E:198:SER:HA	5:E:201:LEU:HG	1.65	0.78
5:S:198:SER:HA	5:S:201:LEU:HG	1.65	0.78
13:M:104:VAL:HG23	13:M:178:ILE:HG22	1.66	0.78
1:A:124:THR:CG2	2:B:130:ARG:HH21	1.96	0.78
1:A:86:ARG:HE	7:G:118:ASN:HD21	1.32	0.78
3:Q:33:ARG:HB2	3:Q:33:ARG:NH1	2.00	0.77
12:L:135:MET:HE3	9:W:165:ARG:NH2	1.99	0.77
12:Z:114:ASP:HB2	12:Z:118:SER:HB3	1.64	0.77
1:A:130:ARG:HH21	7:G:124:THR:HG22	1.48	0.77
12:L:114:ASP:HB2	12:L:118:SER:HB3	1.65	0.77
12:Z:33:LYS:HD2	12:Z:46:ASN:ND2	2.00	0.77
1:A:20:LYS:HE3	1:A:25:ASP:OD1	1.85	0.77
1:A:130:ARG:HH21	7:G:124:THR:CG2	1.97	0.76
4:R:12(D):ALA:HB3	4:R:126:ARG:HD3	1.67	0.76
10:J:168:MET:HE3	10:X:168:MET:CE	2.14	0.76
11:K:10(B):LYS:H	11:K:10(B):LYS:CD	1.89	0.76
9:I:165:ARG:NH2	12:Z:135:MET:HE3	2.01	0.76
14:N:107:LYS:HG2	14:N:108:GLY:H	1.49	0.76
12:L:33:LYS:HD2	12:L:46:ASN:ND2	1.99	0.75
10:J:168:MET:CE	10:X:168:MET:HE3	2.12	0.75
2:P:65:GLU:HG3	2:P:66:LYS:HG3	1.68	0.75
4:R:121:LEU:HB2	16:R:853:HOH:O	1.85	0.75
3:C:33:ARG:NH1	3:C:33:ARG:HB2	2.00	0.75
7:U:217:LYS:HA	7:U:217:LYS:HE3	1.68	0.75
1:A:124:THR:HG22	2:B:130:ARG:HH21	1.53	0.74
2:B:65:GLU:HG3	2:B:66:LYS:HG3	1.70	0.74
14:2:107:LYS:HG2	14:2:108:GLY:H	1.51	0.74
2:B:202:THR:HG22	2:B:204:SER:N	1.98	0.74
1:A:177:GLU:HG2	2:B:58:LEU:CD2	2.17	0.74
3:C:33:ARG:HB2	3:C:33:ARG:HH11	1.53	0.74
9:W:192:ARG:HG3	16:W:200:HOH:O	1.87	0.73
12:L:166:HIS:HD2	12:L:168:GLN:H	1.36	0.73
3:Q:33:ARG:HB2	3:Q:33:ARG:HH11	1.52	0.73
3:Q:55:THR:HG22	3:Q:56:LEU:HD22	1.70	0.73
5:S:97:ASN:HD21	12:Z:61:ASN:HD21	1.34	0.73
5:S:207:LEU:HA	5:S:2(E):ASN:ND2	2.03	0.73
4:D:12(D):ALA:HB3	4:D:126:ARG:HD3	1.68	0.73
2:P:101:LYS:NZ	10:X:85:GLN:NE2	2.36	0.73
5:E:207:LEU:HA	5:E:2(E):ASN:ND2	2.03	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:202:THR:HG22	2:P:204:SER:N	1.97	0.73
4:D:177:LEU:HD13	5:E:58:LEU:HD11	1.71	0.72
4:R:156:THR:HG22	5:S:83:PRO:HD3	1.71	0.72
11:Y:10(B):LYS:HD2	11:Y:10(B):LYS:N	1.96	0.72
7:G:217:LYS:HA	7:G:217:LYS:HE3	1.70	0.72
1:O:20:LYS:HE3	1:O:25:ASP:OD1	1.89	0.72
8:V:52:THR:O	8:V:56:THR:HB	1.90	0.71
8:V:128:GLY:O	8:V:131:SER:HB2	1.89	0.71
12:L:-9:GLN:HE21	13:M:-8:THR:HG21	1.54	0.71
13:1:40:ASN:H	13:1:40:ASN:HD22	1.37	0.71
5:E:201:LEU:HD11	5:E:207:LEU:HD22	1.72	0.71
6:F:43:ASN:N	6:F:43:ASN:HD22	1.88	0.71
4:R:207:LEU:HD23	4:R:207:LEU:C	2.16	0.71
14:2:112:THR:HG22	14:2:120:HIS:HB2	1.72	0.71
3:C:55:THR:HG22	3:C:56:LEU:HD22	1.71	0.71
4:D:175:GLU:HG2	4:D:196:ILE:HD12	1.72	0.71
3:Q:185:THR:HG22	3:Q:187:GLU:N	2.05	0.70
3:Q:33:ARG:HH11	3:Q:33:ARG:CB	2.04	0.70
2:P:190:ILE:HG21	2:P:232:ILE:CD1	2.18	0.70
13:1:76:PRO:HD2	13:1:105:GLN:OE1	1.91	0.70
3:C:185:THR:HG22	3:C:187:GLU:N	2.06	0.70
12:Z:166:HIS:HD2	12:Z:168:GLN:H	1.38	0.70
14:N:112:THR:HG22	14:N:120:HIS:HB2	1.73	0.70
3:Q:163:GLN:HE22	3:Q:173:ARG:HE	1.40	0.70
12:Z:-9:GLN:HE21	13:1:-8:THR:HG21	1.56	0.70
5:E:18(D):ILE:HG23	5:E:18(E):LYS:HG3	1.73	0.70
8:H:52:THR:O	8:H:56:THR:HB	1.91	0.70
11:Y:10(B):LYS:H	11:Y:10(B):LYS:CD	1.90	0.70
3:C:33:ARG:HH11	3:C:33:ARG:CB	2.04	0.70
2:B:181:LYS:O	2:B:184:MET:HG3	1.92	0.70
10:J:-1:MET:HG2	10:J:1:ASP:H	1.57	0.70
6:T:43:ASN:HD22	6:T:43:ASN:N	1.88	0.70
4:R:175:GLU:HG2	4:R:196:ILE:HD12	1.73	0.69
5:S:75:GLY:HA3	5:S:221:PHE:CE2	2.26	0.69
5:S:201:LEU:HD11	5:S:207:LEU:HD22	1.72	0.69
2:B:190:ILE:HG21	2:B:232:ILE:CD1	2.19	0.69
11:K:142:TYR:O	11:K:143:LYS:HD2	1.92	0.69
5:S:18(D):ILE:HG23	5:S:18(E):LYS:HG3	1.73	0.69
8:H:128:GLY:O	8:H:131:SER:HB2	1.93	0.69
5:E:18(C):PHE:HA	5:E:18(F):ILE:HG13	1.75	0.69
12:L:134:ILE:HD12	12:L:158:SER:HB3	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Z:134:ILE:HD12	12:Z:158:SER:HB3	1.75	0.69
12:Z:4:LEU:HD11	12:Z:138:LEU:HD21	1.75	0.69
5:E:167:ALA:HB3	16:E:246:HOH:O	1.93	0.68
13:1:14(C):ARG:HH11	13:1:14(C):ARG:HG3	1.58	0.68
4:D:207:LEU:C	4:D:207:LEU:HD23	2.18	0.68
5:E:75:GLY:HA3	5:E:221:PHE:CE2	2.28	0.68
13:M:40:ASN:HD22	13:M:40:ASN:H	1.39	0.68
5:S:18(C):PHE:HA	5:S:18(F):ILE:HG13	1.75	0.68
14:2:10(B):LYS:O	14:2:10(B):LYS:HD3	1.93	0.68
3:C:41:LYS:HG2	3:C:161:SER:O	1.92	0.68
12:L:4:LEU:HD11	12:L:138:LEU:HD21	1.73	0.68
11:Y:143:LYS:HB2	11:Y:146:LEU:CD1	2.23	0.68
9:W:29:ASN:ND2	9:W:30:LYS:HG3	2.09	0.68
7:G:170:GLN:HE21	7:G:174:THR:HG23	1.59	0.68
9:I:29:ASN:ND2	9:I:30:LYS:HG3	2.08	0.68
5:S:207:LEU:H	5:S:207:LEU:CD2	2.06	0.68
2:B:51:GLU:OE2	2:B:202:THR:HG23	1.94	0.68
5:S:92:LEU:HD11	5:S:112:ALA:HB1	1.75	0.68
10:X:-1:MET:HG2	10:X:1:ASP:H	1.58	0.68
3:C:163:GLN:HE22	3:C:173:ARG:HE	1.41	0.67
5:S:207:LEU:HA	5:S:2(E):ASN:HD22	1.58	0.67
6:F:35:THR:HG21	6:F:51:GLU:O	1.94	0.67
7:U:59:LEU:O	7:U:61:PRO:HD3	1.94	0.67
5:E:92:LEU:HD11	5:E:112:ALA:HB1	1.75	0.67
7:G:86:ARG:HD2	16:G:256:HOH:O	1.95	0.67
14:2:10(B):LYS:HD3	14:2:10(B):LYS:C	2.19	0.67
7:G:18(G):GLU:HG2	7:G:188:LYS:CB	2.24	0.67
7:U:72:ARG:HB2	7:U:72:ARG:NH1	2.10	0.67
14:N:10(B):LYS:O	14:N:10(B):LYS:HD3	1.95	0.67
7:U:8:TYR:C	7:U:10:ARG:H	2.03	0.67
3:Q:41:LYS:HG2	3:Q:161:SER:O	1.95	0.67
11:Y:142:TYR:O	11:Y:143:LYS:HD2	1.94	0.67
13:M:14(C):ARG:HG3	13:M:14(C):ARG:HH11	1.60	0.67
4:R:161:ASN:N	5:S:58:LEU:O	2.26	0.67
5:S:207:LEU:HD23	5:S:207:LEU:N	2.10	0.67
3:Q:187:GLU:HG3	3:Q:232:TYR:OH	1.95	0.66
14:2:13:ILE:HG12	14:2:177:VAL:HG13	1.77	0.66
11:K:143:LYS:HB2	11:K:146:LEU:CD1	2.25	0.66
1:O:159:PRO:O	2:P:59:LEU:HD12	1.95	0.66
7:U:18(G):GLU:HG2	7:U:188:LYS:CB	2.25	0.66
7:G:59:LEU:O	7:G:61:PRO:HD3	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:181:LYS:O	2:P:184:MET:HG3	1.94	0.66
3:Q:52:ARG:HD2	3:Q:208:LYS:O	1.95	0.66
6:F:192:GLN:O	6:F:196:ILE:HG12	1.95	0.66
1:O:86:ARG:HH21	7:U:118:ASN:HD22	1.43	0.66
6:T:192:GLN:HE21	6:T:195:LYS:HE3	1.61	0.66
7:U:72:ARG:HB2	7:U:72:ARG:HH11	1.60	0.66
11:K:21:THR:HG22	11:K:26:VAL:HA	1.77	0.66
5:E:207:LEU:H	5:E:207:LEU:CD2	2.08	0.66
2:P:51:GLU:OE2	2:P:202:THR:HG23	1.96	0.66
9:W:45:ILE:HB	9:W:52:VAL:HG13	1.76	0.66
2:B:141:TYR:CD1	2:B:21(E):VAL:HG21	2.31	0.66
2:B:190:ILE:CG2	2:B:232:ILE:HD11	2.20	0.66
3:C:106:PRO:HG2	3:C:143:PRO:CG	2.26	0.66
13:M:149:GLN:NE2	13:M:149:GLN:H	1.92	0.66
2:P:190:ILE:CG2	2:P:232:ILE:HD11	2.19	0.66
7:U:151:THR:HG22	7:U:157:TYR:HB2	1.78	0.66
2:B:219:GLU:HG2	2:B:21(E):VAL:H	1.60	0.66
6:T:192:GLN:O	6:T:196:ILE:HG12	1.96	0.66
7:G:34(A):ASN:HD22	7:G:167:PRO:HG2	1.61	0.66
7:G:72:ARG:NH1	7:G:72:ARG:HB2	2.11	0.65
13:1:149:GLN:NE2	13:1:149:GLN:H	1.94	0.65
3:C:52:ARG:HD2	3:C:208:LYS:O	1.97	0.65
7:U:18(G):GLU:HG2	7:U:188:LYS:HB2	1.77	0.65
12:Z:29:ARG:NH1	12:Z:193:ARG:HB3	2.11	0.65
5:E:207:LEU:HD23	5:E:207:LEU:N	2.11	0.65
1:O:121:GLN:O	1:O:124:THR:HB	1.95	0.65
3:Q:241:GLN:C	3:Q:243:GLN:H	2.03	0.65
10:X:32:ASP:OD2	10:X:34:THR:HG22	1.96	0.65
2:B:219:GLU:HG2	2:B:21(E):VAL:N	2.12	0.65
5:E:97:ASN:HD21	12:L:61:ASN:HD21	1.43	0.65
12:L:14(C):GLN:HG2	8:V:210:THR:HG21	1.79	0.65
14:2:14:LEU:HD11	14:2:102:ALA:HB3	1.77	0.65
13:M:76:PRO:HD2	13:M:105:GLN:OE1	1.96	0.65
6:T:35:THR:HG21	6:T:51:GLU:O	1.95	0.65
3:C:241:GLN:C	3:C:243:GLN:H	2.03	0.65
4:D:207:LEU:CD2	4:D:233:ILE:HD12	2.27	0.65
5:E:226:GLY:O	5:E:229:VAL:HG22	1.97	0.65
3:Q:106:PRO:HG2	3:Q:143:PRO:CG	2.25	0.65
5:S:226:GLY:O	5:S:229:VAL:HG22	1.97	0.65
7:U:170:GLN:HE21	7:U:174:THR:HG23	1.60	0.65
8:V:38:SER:OG	8:V:41:ILE:HD13	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Y:21:THR:HG22	11:Y:26:VAL:HA	1.78	0.65
12:Z:14(I):THR:HG21	12:Z:14(M):VAL:HB	1.79	0.65
5:E:132:TYR:O	5:E:153:PRO:HB3	1.97	0.65
14:N:10(B):LYS:HD3	14:N:10(B):LYS:C	2.22	0.65
5:S:132:TYR:O	5:S:153:PRO:HB3	1.97	0.65
2:B:21:LEU:HD13	2:B:124:THR:HG23	1.78	0.65
5:E:207:LEU:HA	5:E:2(E):ASN:HD22	1.59	0.65
12:Z:114:ASP:HB3	12:Z:118:SER:H	1.62	0.65
7:G:8:TYR:C	7:G:10:ARG:H	2.03	0.65
8:H:34:LEU:HB2	16:H:1021:HOH:O	1.97	0.65
16:T:244:HOH:O	7:U:86:ARG:HD2	1.97	0.65
14:N:107:LYS:HG2	14:N:108:GLY:N	2.12	0.64
12:L:-7:ASN:HD22	12:L:-6:PRO:HD2	1.61	0.64
1:O:86:ARG:HE	7:U:118:ASN:ND2	1.94	0.64
5:E:15:PHE:HB2	6:F:23:GLN:HE22	1.61	0.64
10:X:113:ILE:HG12	10:X:119:LYS:HG3	1.80	0.64
12:Z:-7:ASN:HD22	12:Z:-6:PRO:HD2	1.61	0.64
2:B:121:GLN:O	2:B:124:THR:HB	1.98	0.64
13:M:14(D):GLU:O	13:M:14(G):ILE:HG12	1.98	0.64
8:H:45:GLY:O	15:H:1000:BIQ:H251	1.97	0.64
5:S:214:ILE:HG13	5:S:215:VAL:N	2.13	0.64
10:X:156:LYS:O	10:X:160:GLN:HG3	1.98	0.64
14:N:14:LEU:HD11	14:N:102:ALA:HB3	1.78	0.64
2:P:121:GLN:HG3	3:Q:83:ALA:HB1	1.79	0.64
2:P:126:HIS:HB3	3:Q:129:VAL:HG12	1.80	0.64
14:2:84:LYS:HG3	14:2:119:VAL:HG22	1.79	0.64
4:D:102:TYR:O	12:L:81:ARG:HG3	1.97	0.64
7:G:18(G):GLU:HG2	7:G:188:LYS:HB2	1.79	0.64
10:J:133:TYR:HD1	16:Y:236:HOH:O	1.81	0.64
2:P:101:LYS:HZ2	10:X:85:GLN:NE2	1.95	0.64
2:P:121:GLN:O	2:P:124:THR:HB	1.97	0.64
14:N:84:LYS:HG3	14:N:119:VAL:HG22	1.79	0.64
3:Q:235:GLN:O	3:Q:239:GLU:HG2	1.98	0.64
4:R:102:TYR:O	12:Z:81:ARG:HG3	1.98	0.64
1:A:86:ARG:HH21	7:G:118:ASN:HD22	1.45	0.64
2:P:219:GLU:HG2	2:P:21(E):VAL:H	1.62	0.64
2:B:71:ASN:HD22	2:B:72:ASP:H	1.47	0.63
3:C:71:ASP:HA	10:J:68:ILE:HD13	1.80	0.63
3:C:187:GLU:HG3	3:C:232:TYR:OH	1.98	0.63
7:G:72:ARG:HB2	7:G:72:ARG:HH11	1.63	0.63
13:M:110:LEU:HG	13:M:125:LEU:HD12	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:71:ASN:HD22	2:P:72:ASP:H	1.46	0.63
4:R:207:LEU:CD2	4:R:233:ILE:HD12	2.28	0.63
10:X:38:SER:HB2	10:X:39:PRO:HD2	1.80	0.63
13:1:84:ALA:HA	13:1:113:VAL:HG21	1.81	0.63
13:1:110:LEU:HG	13:1:125:LEU:HD12	1.79	0.63
12:L:14(I):THR:HG21	12:L:14(M):VAL:HB	1.80	0.63
2:P:141:TYR:CD1	2:P:21(E):VAL:HG21	2.33	0.63
2:P:219:GLU:HG2	2:P:21(E):VAL:N	2.13	0.63
13:1:19:LEU:HD21	13:1:26:LEU:HD22	1.79	0.63
8:H:80:LEU:HD12	8:H:113:ILE:HD11	1.80	0.63
9:I:137:MET:HE3	9:I:141:LEU:HD11	1.80	0.63
13:1:19:LEU:HB2	13:1:170:SER:HB2	1.80	0.63
9:I:45:ILE:HB	9:I:52:VAL:HG13	1.80	0.63
12:L:90:LYS:HD3	12:L:95:TYR:CE1	2.33	0.63
11:K:143:LYS:HB2	11:K:146:LEU:HD13	1.80	0.63
4:R:192:LEU:O	4:R:196:ILE:HG12	1.99	0.63
7:U:34(A):ASN:HD22	7:U:167:PRO:HG2	1.62	0.63
5:E:214:ILE:HG13	5:E:215:VAL:N	2.12	0.63
14:N:13:ILE:HG12	14:N:177:VAL:HG13	1.80	0.63
5:S:141:TYR:CE2	5:S:217:LYS:HA	2.34	0.63
6:F:187:ARG:HG3	6:F:187:ARG:HH11	1.64	0.63
10:J:156:LYS:O	10:J:160:GLN:HG3	1.99	0.63
4:R:12(G):GLU:HG2	4:R:125:GLU:H	1.63	0.63
14:2:107:LYS:HG2	14:2:108:GLY:N	2.13	0.63
10:X:44:SER:OG	10:X:100:LEU:HB2	1.99	0.62
1:A:121:GLN:O	1:A:124:THR:HB	2.00	0.62
8:H:38:SER:OG	8:H:41:ILE:HD13	1.99	0.62
10:J:32:ASP:OD2	10:J:34:THR:HG22	1.99	0.62
2:B:97:GLN:HE22	9:I:64:ASN:HD22	1.47	0.62
3:C:235:GLN:O	3:C:239:GLU:HG2	2.00	0.62
4:D:97:VAL:HG11	11:K:65:LEU:HD22	1.81	0.62
5:E:141:TYR:CE2	5:E:217:LYS:HA	2.33	0.62
11:K:126:CYS:HB2	11:K:135:TYR:CE1	2.34	0.62
12:L:14(C):GLN:HG2	8:V:210:THR:CG2	2.29	0.62
12:Z:14:LEU:HD13	12:Z:34:VAL:HG13	1.80	0.62
12:Z:90:LYS:HD3	12:Z:95:TYR:CE1	2.34	0.62
8:V:80:LEU:HD12	8:V:113:ILE:HD11	1.79	0.62
3:C:232:TYR:O	3:C:236:ILE:HG13	1.98	0.62
13:M:84:ALA:HA	13:M:113:VAL:HG21	1.80	0.62
4:D:12(G):GLU:HG2	4:D:125:GLU:H	1.63	0.62
5:S:201:LEU:O	5:S:202:ARG:HB2	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Y:143:LYS:HB2	11:Y:146:LEU:HD13	1.79	0.62
13:1:14(D):GLU:O	13:1:14(G):ILE:HG12	2.00	0.62
6:F:43:ASN:ND2	6:F:185:SER:HA	2.15	0.62
8:V:45:GLY:O	15:V:1001:BIQ:H251	2.00	0.62
2:P:15:PHE:H	3:Q:23:GLN:HE22	1.47	0.62
3:Q:173:ARG:O	3:Q:177:GLU:HG3	2.00	0.62
7:U:39:ALA:HB2	7:U:48:VAL:HG12	1.82	0.62
3:C:71:ASP:HA	10:J:68:ILE:CD1	2.29	0.62
10:J:-1:MET:HG2	10:J:1:ASP:N	2.14	0.62
1:O:225:THR:OG1	1:O:228:GLU:HG3	2.00	0.62
6:T:43:ASN:ND2	6:T:185:SER:HA	2.14	0.62
10:X:133:TYR:CE2	10:X:166:MET:HG3	2.35	0.62
13:M:57:ARG:NE	16:M:247:HOH:O	2.33	0.62
4:R:97:VAL:HG11	11:Y:65:LEU:HD22	1.81	0.62
7:U:121:GLN:O	7:U:124:THR:HB	2.00	0.62
15:V:1001:BIQ:HN6	9:W:114:ASP:HB2	1.64	0.61
6:F:192:GLN:HE21	6:F:195:LYS:HE3	1.64	0.61
13:M:19:LEU:HD21	13:M:26:LEU:HD22	1.82	0.61
2:P:21:LEU:HD13	2:P:124:THR:HG23	1.80	0.61
4:D:192:LEU:O	4:D:196:ILE:HG12	2.00	0.61
11:Y:7:ARG:HD2	11:Y:108:PRO:O	2.00	0.61
3:Q:232:TYR:O	3:Q:236:ILE:HG13	1.99	0.61
11:Y:126:CYS:HB2	11:Y:135:TYR:CE1	2.35	0.61
10:J:38:SER:HB2	10:J:39:PRO:HD2	1.83	0.61
2:P:163:ILE:HD13	2:P:164:SER:N	2.11	0.61
3:Q:177:GLU:OE2	4:R:57:PRO:HD2	2.01	0.61
9:W:137:MET:HE3	9:W:141:LEU:HD11	1.81	0.61
12:Z:93:PHE:N	12:Z:94:PRO:HD3	2.15	0.61
10:J:44:SER:OG	10:J:100:LEU:HB2	2.01	0.61
9:W:43:LEU:HD21	9:W:45:ILE:HD11	1.82	0.61
10:X:-1:MET:HG2	10:X:1:ASP:N	2.15	0.61
3:Q:52:ARG:HB2	3:Q:209:ASN:HA	1.82	0.61
3:C:226:SER:HB2	3:C:227:GLU:OE1	2.00	0.61
5:E:15:PHE:HB2	6:F:23:GLN:NE2	2.16	0.61
13:M:19:LEU:HB2	13:M:170:SER:HB2	1.81	0.61
14:N:36:ARG:HG3	14:N:42:TRP:CE2	2.36	0.61
2:P:185:LYS:HD3	2:P:186:VAL:N	2.16	0.60
7:G:151:THR:HG22	7:G:157:TYR:HB2	1.83	0.60
6:T:186:ALA:O	6:T:190:VAL:HG23	2.02	0.60
6:T:187:ARG:HH11	6:T:187:ARG:HG3	1.64	0.60
5:E:201:LEU:O	5:E:202:ARG:HB2	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:2(B):THR:H	5:E:2(E):ASN:HD22	1.49	0.60
9:W:6:MET:HB3	9:W:151:LEU:HD11	1.84	0.60
4:D:175:GLU:CG	4:D:196:ILE:HD12	2.31	0.60
12:L:29:ARG:NH1	12:L:193:ARG:HB3	2.16	0.60
2:B:41:MET:HE3	16:B:240:HOH:O	2.01	0.60
7:G:39:ALA:HB2	7:G:48:VAL:HG12	1.82	0.60
2:B:185:LYS:HD3	2:B:186:VAL:N	2.17	0.60
6:F:69:VAL:HG12	16:F:248:HOH:O	2.01	0.60
6:T:54:ILE:HG12	6:T:208:PHE:HA	1.84	0.60
6:T:147:HIS:HD2	16:T:242:HOH:O	1.84	0.60
1:A:225:THR:OG1	1:A:228:GLU:HG3	2.01	0.60
2:B:163:ILE:HD13	2:B:164:SER:N	2.13	0.60
3:C:40:VAL:HG12	3:C:162:ALA:HB1	1.83	0.60
10:J:113:ILE:HG12	10:J:119:LYS:HG3	1.84	0.60
12:L:14:LEU:HD13	12:L:34:VAL:HG13	1.81	0.60
3:Q:40:VAL:HG12	3:Q:162:ALA:HB1	1.81	0.60
7:U:87:ASN:C	7:U:87:ASN:HD22	2.09	0.60
14:2:36:ARG:HG3	14:2:42:TRP:CE2	2.36	0.60
1:A:173:LYS:O	1:A:177:GLU:HG3	2.03	0.59
4:D:45:GLY:HA2	4:D:146:TYR:CE1	2.37	0.59
1:O:110:LYS:HG2	16:O:245:HOH:O	2.01	0.59
4:R:45:GLY:HA2	4:R:146:TYR:CE1	2.37	0.59
8:V:196:VAL:HG23	16:V:1021:HOH:O	2.01	0.59
14:N:175:MET:HB2	14:N:187:LEU:HB2	1.83	0.59
4:R:177:LEU:HD22	5:S:58:LEU:HD13	1.83	0.59
8:H:165:ASN:ND2	13:1:139:ARG:HH11	1.99	0.59
3:Q:226:SER:HB2	3:Q:227:GLU:OE1	2.01	0.59
1:A:69:LEU:HD23	1:A:69:LEU:C	2.27	0.59
2:B:121:GLN:HG3	3:C:83:ALA:HB1	1.85	0.59
10:J:133:TYR:HE1	16:X:220:HOH:O	1.86	0.59
8:H:210:THR:HG21	12:Z:14(C):GLN:HG2	1.85	0.59
9:I:43:LEU:HD21	9:I:45:ILE:HD11	1.85	0.59
6:T:82:ILE:HB	6:T:83:PRO:HD3	1.83	0.59
7:U:96:ALA:CA	7:U:107:MET:HE2	2.26	0.59
2:B:152:ASN:HB2	2:B:153:PRO:HD2	1.82	0.59
6:F:82:ILE:HB	6:F:83:PRO:HD3	1.84	0.59
9:W:106:GLY:HA2	9:W:181:LYS:HD3	1.85	0.59
4:D:243:ALA:O	4:D:244:GLU:HB2	2.01	0.59
5:E:31:ILE:HD11	5:E:153:PRO:CD	2.33	0.59
6:F:186:ALA:O	6:F:190:VAL:HG23	2.03	0.59
1:O:179:ARG:NH1	1:O:179:ARG:HB3	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:V:18:THR:HB	8:V:30:ASN:HA	1.83	0.59
1:A:179:ARG:NH1	1:A:179:ARG:HB3	2.18	0.59
12:L:93:PHE:N	12:L:94:PRO:HD3	2.17	0.59
4:R:243:ALA:O	4:R:244:GLU:HB2	2.02	0.59
6:T:203:GLU:O	6:T:206:LYS:HD2	2.03	0.59
4:D:12(D):ALA:HA	5:E:129:GLY:HA2	1.84	0.59
4:D:207:LEU:HD21	4:D:233:ILE:HD12	1.84	0.59
13:M:139:ARG:HH11	8:V:165:ASN:ND2	1.97	0.59
5:S:2(B):THR:H	5:S:2(E):ASN:HD22	1.49	0.59
3:C:173:ARG:O	3:C:177:GLU:HG3	2.03	0.59
6:T:20(B):GLU:CD	6:T:20(C):LYS:HE3	2.28	0.59
7:U:197:MET:HA	7:U:197:MET:HE3	1.84	0.59
14:2:175:MET:HB2	14:2:187:LEU:HB2	1.85	0.59
6:F:173:LYS:O	6:F:177:GLU:HG3	2.02	0.58
15:H:1000:BIQ:HN6	9:I:114:ASP:HB2	1.68	0.58
3:Q:41:LYS:HD3	3:Q:161:SER:HA	1.85	0.58
4:R:207:LEU:HD21	4:R:233:ILE:HD12	1.84	0.58
7:G:38:LEU:C	7:G:38:LEU:HD12	2.28	0.58
6:T:43:ASN:N	6:T:43:ASN:ND2	2.52	0.58
3:C:177:GLU:OE2	4:D:57:PRO:HD2	2.03	0.58
9:I:6:MET:HB3	9:I:151:LEU:HD11	1.85	0.58
2:B:126:HIS:HB3	3:C:129:VAL:HG12	1.86	0.58
6:F:20(B):GLU:CD	6:F:20(C):LYS:HE3	2.29	0.58
5:S:201:LEU:HD11	5:S:207:LEU:CD2	2.34	0.58
1:A:97:HIS:HD2	8:H:61:SER:OG	1.87	0.58
3:C:52:ARG:HB2	3:C:209:ASN:HA	1.85	0.58
4:D:194:LEU:HD22	4:D:212:LEU:HD11	1.84	0.58
6:F:54:ILE:HG12	6:F:208:PHE:HA	1.85	0.58
4:R:85:ALA:O	4:R:89:ILE:HG12	2.03	0.58
1:O:33:GLN:HE21	1:O:33:GLN:HA	1.68	0.58
2:P:152:ASN:HB2	2:P:153:PRO:HD2	1.85	0.58
10:X:7:ARG:HG2	10:X:7:ARG:HH11	1.69	0.58
2:B:15:PHE:H	3:C:23:GLN:NE2	1.96	0.58
14:N:107:LYS:CG	14:N:108:GLY:H	2.17	0.58
6:F:72:ARG:HD2	13:M:64:THR:OG1	2.04	0.58
6:F:20(B):GLU:HG3	6:F:20(C):LYS:HG3	1.85	0.58
1:A:33:GLN:HA	1:A:33:GLN:HE21	1.69	0.57
3:C:160:TRP:CE2	4:D:59:LEU:HD23	2.38	0.57
9:I:106:GLY:HA2	9:I:181:LYS:HD3	1.86	0.57
4:R:175:GLU:CG	4:R:196:ILE:HD12	2.33	0.57
1:A:179:ARG:HB3	1:A:179:ARG:HH11	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:85:ALA:O	4:D:89:ILE:HG12	2.04	0.57
6:F:203:GLU:C	6:F:205:ASN:H	2.11	0.57
8:H:210:THR:CG2	12:Z:14(C):GLN:HG2	2.34	0.57
12:L:114:ASP:HB3	12:L:118:SER:H	1.69	0.57
1:O:69:LEU:C	1:O:69:LEU:HD23	2.29	0.57
1:O:179:ARG:HB3	1:O:179:ARG:HH11	1.69	0.57
3:C:7:GLY:N	16:C:268:HOH:O	2.37	0.57
7:G:197:MET:HA	7:G:197:MET:HE3	1.86	0.57
10:J:147:THR:OG1	10:J:150:GLU:HG3	2.04	0.57
3:C:41:LYS:HD3	3:C:161:SER:HA	1.85	0.57
5:S:47:VAL:HG22	5:S:214:ILE:HD12	1.86	0.57
6:T:95:GLU:CG	6:T:115:ARG:HB3	2.33	0.57
12:Z:43:MET:HB2	12:Z:101:ILE:HG22	1.85	0.57
8:H:72:ARG:HH11	8:H:72:ARG:HG3	1.69	0.57
2:P:101:LYS:HZ1	10:X:85:GLN:HE22	1.53	0.57
4:R:194:LEU:HD22	4:R:212:LEU:HD11	1.86	0.57
7:G:87:ASN:C	7:G:87:ASN:HD22	2.13	0.57
3:Q:182:PRO:O	3:Q:184:ALA:N	2.38	0.57
7:G:172:ILE:HD12	7:G:197:MET:CE	2.35	0.57
6:T:38:ILE:HG22	6:T:164:ALA:HB2	1.86	0.57
1:A:86:ARG:HE	7:G:118:ASN:ND2	2.03	0.57
7:G:96:ALA:CA	7:G:107:MET:HE2	2.27	0.57
9:I:29:ASN:H	9:I:29:ASN:HD22	1.52	0.57
3:Q:55:THR:C	3:Q:56:LEU:HD22	2.30	0.57
9:W:29:ASN:HD22	9:W:29:ASN:H	1.53	0.57
14:2:176:VAL:HG12	14:2:178:LEU:HD13	1.87	0.57
5:E:227:GLU:N	5:E:227:GLU:CD	2.63	0.57
12:L:148:VAL:O	12:L:152:ILE:HG13	2.05	0.57
5:E:47:VAL:HG22	5:E:214:ILE:HD12	1.87	0.56
10:J:133:TYR:CE2	10:J:166:MET:HG3	2.40	0.56
11:K:19:ARG:HH21	11:K:29:GLN:HE22	1.52	0.56
4:R:177:LEU:HA	5:S:58:LEU:HD11	1.86	0.56
5:S:31:ILE:HD11	5:S:153:PRO:CD	2.34	0.56
6:F:237:GLN:O	6:F:240:ILE:HG22	2.06	0.56
7:G:121:GLN:O	7:G:124:THR:HB	2.04	0.56
12:L:-7:ASN:HD22	12:L:-6:PRO:CD	2.17	0.56
2:P:225:LYS:HG3	2:P:228:GLU:OE1	2.04	0.56
7:U:67:ILE:HD12	7:U:211:GLU:HG2	1.86	0.56
2:B:218:ASN:O	2:B:21(C):ASP:HB2	2.06	0.56
3:C:106:PRO:HG2	3:C:143:PRO:HG3	1.87	0.56
3:C:182:PRO:O	3:C:184:ALA:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:127:ASN:HD22	6:F:127:ASN:C	2.12	0.56
6:F:203:GLU:O	6:F:206:LYS:HD2	2.05	0.56
8:H:18:THR:HB	8:H:30:ASN:HA	1.86	0.56
11:K:7:ARG:HD2	11:K:108:PRO:O	2.05	0.56
12:L:8:GLY:HA3	12:L:11:PHE:CE2	2.40	0.56
3:Q:160:TRP:CE2	4:R:59:LEU:HD23	2.40	0.56
5:S:227:GLU:CD	5:S:227:GLU:N	2.63	0.56
6:T:203:GLU:C	6:T:205:ASN:H	2.12	0.56
12:Z:-7:ASN:HD22	12:Z:-6:PRO:CD	2.18	0.56
2:P:6:ARG:HD2	4:R:9:ASP:N	2.20	0.56
6:T:237:GLN:O	6:T:240:ILE:HG22	2.05	0.56
3:C:55:THR:C	3:C:56:LEU:HD22	2.31	0.56
7:G:141:VAL:HG21	7:G:216:THR:HA	1.87	0.56
2:P:97:GLN:HE22	9:W:64:ASN:HD22	1.51	0.56
4:R:121:LEU:HD13	5:S:130:ARG:HH21	1.71	0.56
5:S:73:HIS:HE1	5:S:107:LEU:O	1.87	0.56
6:T:72:ARG:HD2	13:1:64:THR:OG1	2.04	0.56
6:T:20(B):GLU:HG3	6:T:20(C):LYS:HG3	1.87	0.56
7:U:83:PRO:HG2	16:U:262:HOH:O	2.06	0.56
11:Y:156:LYS:HB2	11:Y:175:LEU:HD11	1.87	0.56
2:B:225:LYS:HG3	2:B:228:GLU:OE1	2.06	0.56
14:N:176:VAL:HG12	14:N:178:LEU:HD13	1.86	0.56
2:P:101:LYS:HZ1	10:X:85:GLN:NE2	2.03	0.56
2:P:21(A):LYS:O	2:P:21(B):GLY:C	2.49	0.56
2:B:55:THR:HG22	2:B:59:LEU:HD23	1.88	0.56
7:G:192:PHE:C	7:G:192:PHE:CD1	2.83	0.56
9:W:29:ASN:ND2	9:W:29:ASN:H	2.04	0.56
11:Y:12:ILE:HB	11:Y:178:VAL:HB	1.88	0.56
11:Y:19:ARG:HH21	11:Y:29:GLN:HE22	1.52	0.56
12:L:43:MET:HB2	12:L:101:ILE:HG22	1.87	0.56
6:T:173:LYS:O	6:T:177:GLU:HG3	2.05	0.56
8:V:72:ARG:HH11	8:V:72:ARG:HG3	1.71	0.56
13:1:7:LYS:HG3	13:1:14(G):ILE:HD12	1.88	0.56
2:B:152:ASN:HB2	2:B:153:PRO:CD	2.36	0.56
9:I:43:LEU:CG	9:I:45:ILE:HD11	2.36	0.56
9:W:14:ILE:HG13	9:W:34:ILE:HD12	1.88	0.56
9:W:43:LEU:CG	9:W:45:ILE:HD11	2.36	0.56
12:Z:-7:ASN:ND2	12:Z:-5:TYR:H	2.03	0.56
11:K:156:LYS:HB2	11:K:175:LEU:HD11	1.88	0.56
2:P:124:THR:CG2	3:Q:130:ARG:HH21	2.16	0.56
4:D:112:LEU:C	4:D:112:LEU:HD13	2.31	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:95:GLU:CG	6:F:115:ARG:HB3	2.35	0.55
7:G:152:ASP:HB2	7:G:153:PRO:CD	2.36	0.55
9:I:28:SER:HB2	10:J:120:VAL:HG21	1.86	0.55
9:I:29:ASN:ND2	9:I:29:ASN:H	2.03	0.55
10:J:52:THR:CG2	10:J:53:VAL:N	2.69	0.55
14:N:126:ILE:HD13	14:N:126:ILE:H	1.72	0.55
16:D:268:HOH:O	5:E:86:ARG:HD3	2.07	0.55
5:E:73:HIS:HE1	5:E:107:LEU:O	1.89	0.55
2:P:97:GLN:NE2	9:W:64:ASN:HD22	2.04	0.55
8:V:53:GLU:O	8:V:56:THR:HG22	2.06	0.55
4:R:53:ARG:O	4:R:53:ARG:HG2	2.05	0.55
4:R:72:ARG:HG3	16:R:1302:HOH:O	2.05	0.55
6:T:37:SER:HB3	6:T:50:VAL:HG23	1.88	0.55
2:P:218:ASN:O	2:P:21(C):ASP:HB2	2.07	0.55
3:Q:106:PRO:HG2	3:Q:143:PRO:HG3	1.87	0.55
13:1:46:SER:OG	13:1:98:ALA:HB3	2.06	0.55
2:B:196:THR:O	2:B:200:THR:HG23	2.07	0.55
5:E:201:LEU:HD11	5:E:207:LEU:CD2	2.34	0.55
12:L:14(I):THR:O	12:L:14(K):LYS:HB2	2.07	0.55
7:U:141:VAL:HG21	7:U:216:THR:HA	1.88	0.55
8:V:34:LEU:HD22	8:V:174:ASP:HB3	1.88	0.55
2:P:235:LYS:C	2:P:237:GLY:H	2.14	0.55
7:U:38:LEU:C	7:U:38:LEU:HD12	2.31	0.55
13:1:113:VAL:HG23	13:1:119:THR:HG22	1.87	0.55
6:F:36:THR:HG22	6:F:51:GLU:OE2	2.07	0.55
13:M:7:LYS:HG3	13:M:14(G):ILE:HD12	1.89	0.55
2:P:71:ASN:ND2	2:P:72:ASP:N	2.52	0.55
4:R:160:TYR:CE2	5:S:59:SER:HB3	2.41	0.55
5:S:15:PHE:H	6:T:23:GLN:NE2	2.01	0.55
9:W:14:ILE:CG1	9:W:34:ILE:HD12	2.36	0.55
1:A:197:LEU:HD23	1:A:210:ILE:HD12	1.87	0.55
11:K:40:PHE:HB3	11:K:73:ARG:NH2	2.21	0.55
8:V:172:ASN:HD22	8:V:193:THR:HA	1.71	0.55
12:Z:79:ALA:O	12:Z:83:ILE:HG12	2.07	0.55
12:Z:14(I):THR:O	12:Z:14(K):LYS:HB2	2.07	0.55
14:2:107:LYS:CG	14:2:108:GLY:H	2.18	0.55
2:P:239:THR:HG22	2:P:239:THR:OXT	2.07	0.55
9:W:174:VAL:HG21	9:W:186:LYS:HE3	1.88	0.55
12:Z:5:GLY:O	12:Z:124:CYS:HA	2.07	0.55
2:B:124:THR:HG22	3:C:130:ARG:NH2	2.10	0.55
3:C:190:VAL:O	3:C:194:VAL:HG23	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:168:MET:HE1	10:X:167:PRO:HB2	1.88	0.55
6:T:216:SER:HB3	6:T:21(A):GLU:HB2	1.89	0.55
7:U:172:ILE:HD12	7:U:197:MET:CE	2.36	0.55
12:L:79:ALA:O	12:L:83:ILE:HG12	2.07	0.54
1:O:173:LYS:O	1:O:177:GLU:HG3	2.06	0.54
2:P:55:THR:HG22	2:P:59:LEU:HD23	1.88	0.54
4:R:12(D):ALA:HB3	4:R:126:ARG:CD	2.36	0.54
4:R:160:TYR:HA	5:S:59:SER:HA	1.88	0.54
5:S:68:ILE:HB	5:S:76:LEU:CD2	2.37	0.54
7:U:152:ASP:HB2	7:U:153:PRO:CD	2.37	0.54
9:W:43:LEU:CD2	9:W:45:ILE:HD11	2.36	0.54
7:G:225:SER:O	7:G:229:ILE:HG13	2.06	0.54
12:L:5:GLY:O	12:L:124:CYS:HA	2.07	0.54
13:M:113:VAL:HG23	13:M:119:THR:HG22	1.88	0.54
3:Q:168:ASN:HB2	3:Q:200:VAL:HG11	1.89	0.54
10:X:143:ARG:O	10:X:146:MET:HG3	2.07	0.54
12:Z:8:GLY:HA3	12:Z:11:PHE:CE2	2.41	0.54
2:B:97:GLN:NE2	9:I:64:ASN:HD22	2.06	0.54
3:C:206:GLY:CA	3:C:209:ASN:HB2	2.36	0.54
8:H:34:LEU:HD22	8:H:174:ASP:HB3	1.89	0.54
14:N:163:ILE:HG23	14:N:170:GLY:HA2	1.89	0.54
7:U:225:SER:O	7:U:229:ILE:HG13	2.08	0.54
10:X:52:THR:CG2	10:X:53:VAL:N	2.70	0.54
7:G:233:LEU:O	7:G:236:ILE:HG13	2.08	0.54
1:O:197:LEU:HD23	1:O:210:ILE:HD12	1.89	0.54
13:1:40:ASN:HD22	13:1:40:ASN:N	1.99	0.54
5:E:65:LYS:HG3	5:E:65:LYS:O	2.07	0.54
5:S:190:ILE:CG2	5:S:212:ILE:HD13	2.38	0.54
6:T:43:ASN:ND2	6:T:43:ASN:H	2.04	0.54
6:T:54:ILE:HD11	6:T:209:GLU:HB2	1.89	0.54
7:U:192:PHE:C	7:U:192:PHE:CD1	2.84	0.54
7:U:224:LEU:HB3	7:U:228:ASN:HB2	1.90	0.54
8:H:105:ASP:HB2	8:H:10(A):PRO:CD	2.38	0.54
13:M:40:ASN:HD22	13:M:40:ASN:N	1.99	0.54
2:P:71:ASN:HD22	2:P:72:ASP:N	2.06	0.54
5:S:68:ILE:HB	5:S:76:LEU:HD21	1.89	0.54
6:T:127:ASN:HD22	6:T:127:ASN:C	2.14	0.54
7:U:168:LYS:O	7:U:172:ILE:HG12	2.07	0.54
11:Y:7:ARG:HG2	11:Y:108:PRO:HB2	1.90	0.54
12:Z:40:ASN:ND2	16:Z:219:HOH:O	2.39	0.54
16:B:254:HOH:O	3:C:33:ARG:HD2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:216:LYS:HD2	3:C:220:ASP:OD1	2.08	0.54
4:D:53:ARG:O	4:D:53:ARG:HG2	2.08	0.54
6:F:38:ILE:HG22	6:F:164:ALA:HB2	1.89	0.54
10:J:7:ARG:HG2	10:J:7:ARG:HH11	1.73	0.54
11:K:195:LEU:O	11:K:199:VAL:HG23	2.07	0.54
3:Q:216:LYS:HD2	3:Q:220:ASP:OD1	2.07	0.54
4:R:186:LEU:O	4:R:190:GLU:HG3	2.08	0.54
2:B:235:LYS:C	2:B:237:GLY:H	2.15	0.54
11:K:207:ASN:HD21	10:X:144:PRO:CG	2.21	0.54
1:O:86:ARG:HH21	7:U:118:ASN:ND2	2.05	0.54
5:S:190:ILE:HG23	5:S:212:ILE:HD13	1.89	0.54
10:X:113:ILE:HA	10:X:118:THR:O	2.08	0.54
1:A:86:ARG:HH21	7:G:118:ASN:ND2	2.05	0.54
2:B:21:LEU:O	2:B:25:GLU:HG2	2.07	0.54
3:C:168:ASN:HB2	3:C:200:VAL:HG11	1.90	0.54
9:I:2:ILE:HG21	9:I:130:ALA:HB3	1.90	0.54
1:O:232:ARG:HH11	1:O:232:ARG:HG3	1.71	0.54
3:Q:172:VAL:HG23	3:Q:196:SER:HB2	1.88	0.54
9:I:14:ILE:CG1	9:I:34:ILE:HD12	2.38	0.54
10:J:18:LYS:HG2	10:J:174:ILE:HG13	1.90	0.54
7:U:233:LEU:O	7:U:236:ILE:HG13	2.08	0.54
12:Z:114:ASP:CB	12:Z:118:SER:HB3	2.37	0.54
3:C:227:GLU:H	3:C:227:GLU:CD	2.16	0.53
5:E:190:ILE:HG23	5:E:212:ILE:HD13	1.90	0.53
6:F:37:SER:HB3	6:F:50:VAL:HG23	1.89	0.53
6:F:54:ILE:HD11	6:F:209:GLU:HB2	1.91	0.53
7:G:224:LEU:HB3	7:G:228:ASN:HB2	1.90	0.53
8:H:105:ASP:HB2	8:H:10(A):PRO:HD2	1.90	0.53
9:I:43:LEU:HG	9:I:45:ILE:HD11	1.88	0.53
9:I:174:VAL:HG21	9:I:186:LYS:HE3	1.90	0.53
11:K:12:ILE:HB	11:K:178:VAL:HB	1.89	0.53
13:M:197:TRP:CH2	14:2:171:GLY:HA2	2.43	0.53
10:X:147:THR:OG1	10:X:150:GLU:HG3	2.08	0.53
1:A:232:ARG:HG3	1:A:232:ARG:HH11	1.73	0.53
2:B:71:ASN:ND2	2:B:72:ASP:N	2.53	0.53
4:D:12(F):GLY:HA3	16:E:243:HOH:O	2.08	0.53
5:E:68:ILE:HB	5:E:76:LEU:HD21	1.91	0.53
6:F:43:ASN:ND2	6:F:43:ASN:H	2.06	0.53
7:G:18(G):GLU:HG2	7:G:188:LYS:HB3	1.89	0.53
9:I:48:LEU:HG	9:I:50:THR:HG22	1.91	0.53
14:N:14:LEU:O	14:N:175:MET:HA	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:28:SER:HB2	10:X:120:VAL:HG21	1.90	0.53
2:B:21(A):LYS:O	2:B:21(B):GLY:C	2.50	0.53
4:D:75:GLY:HA3	4:D:221:PHE:CD2	2.43	0.53
5:E:185:ASN:C	5:E:185:ASN:HD22	2.16	0.53
4:D:186:LEU:O	4:D:190:GLU:HG3	2.09	0.53
7:U:136:LEU:O	7:U:150:LYS:HA	2.07	0.53
12:Z:148:VAL:O	12:Z:152:ILE:HG13	2.08	0.53
2:P:196:THR:O	2:P:200:THR:HG23	2.08	0.53
11:Y:195:LEU:O	11:Y:199:VAL:HG23	2.08	0.53
9:I:43:LEU:CD2	9:I:45:ILE:HD11	2.38	0.53
10:J:111:TYR:CE1	10:J:121:GLU:HG3	2.43	0.53
14:2:84:LYS:HG3	14:2:119:VAL:CG2	2.39	0.53
7:G:8:TYR:C	7:G:10:ARG:N	2.67	0.53
10:J:167:PRO:HB2	10:X:168:MET:HE1	1.89	0.53
14:N:146:MET:CE	14:N:150:GLU:HB3	2.38	0.53
10:X:24:ILE:HD13	11:Y:132:THR:HG21	1.90	0.53
14:2:14:LEU:O	14:2:175:MET:HA	2.08	0.53
14:2:146:MET:CE	14:2:150:GLU:HB3	2.38	0.53
7:G:236:ILE:HD12	7:G:237:ALA:N	2.24	0.53
5:S:65:LYS:HG3	5:S:65:LYS:O	2.08	0.53
7:U:236:ILE:HD12	7:U:237:ALA:N	2.24	0.53
9:W:43:LEU:HG	9:W:45:ILE:HD11	1.90	0.53
3:C:227:GLU:OE1	3:C:227:GLU:N	2.41	0.53
6:F:216:SER:HB3	6:F:21(A):GLU:HB2	1.89	0.53
12:L:99:THR:HG23	12:L:113:PHE:HB2	1.90	0.53
2:B:239:THR:HG22	2:B:239:THR:OXT	2.09	0.53
4:D:170:GLU:OE1	4:D:170:GLU:N	2.40	0.53
10:J:6:ILE:HD11	10:J:142:TYR:CD1	2.44	0.53
11:K:7:ARG:HG2	11:K:108:PRO:HB2	1.91	0.53
12:L:-7:ASN:ND2	12:L:-5:TYR:H	2.07	0.53
6:T:127:ASN:HD22	6:T:128:SER:N	2.07	0.53
13:1:184:LEU:C	13:1:184:LEU:HD23	2.34	0.53
6:F:127:ASN:HD22	6:F:128:SER:N	2.07	0.52
7:G:177:GLU:O	7:G:17(B):LYS:HG3	2.09	0.52
12:L:145:TYR:CD1	12:L:146:LEU:N	2.77	0.52
2:P:73:LYS:C	2:P:74:ILE:HD12	2.35	0.52
3:Q:190:VAL:O	3:Q:194:VAL:HG23	2.08	0.52
4:R:170:GLU:OE1	4:R:170:GLU:N	2.40	0.52
5:S:40:LEU:N	5:S:40:LEU:HD23	2.24	0.52
6:T:43:ASN:HD21	6:T:185:SER:HA	1.74	0.52
12:Z:83:ILE:HB	12:Z:113:PHE:CE2	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:194:VAL:O	5:E:197:ILE:HG22	2.10	0.52
7:G:158:VAL:HG22	7:G:159:GLY:N	2.24	0.52
8:H:179:GLU:OE2	8:H:182:LYS:HE2	2.10	0.52
2:P:101:LYS:NZ	10:X:85:GLN:HE22	2.06	0.52
8:V:172:ASN:ND2	8:V:193:THR:HA	2.25	0.52
16:V:1036:HOH:O	9:W:150:ASP:HA	2.09	0.52
10:X:6:ILE:HD11	10:X:142:TYR:CE1	2.44	0.52
14:2:126:ILE:H	14:2:126:ILE:HD13	1.73	0.52
2:B:121:GLN:CG	3:C:83:ALA:HB1	2.38	0.52
5:E:40:LEU:N	5:E:40:LEU:HD23	2.25	0.52
5:E:190:ILE:CG2	5:E:212:ILE:HD13	2.39	0.52
6:F:21(B):THR:O	6:F:21(C):ASN:HB2	2.09	0.52
8:H:33:LYS:HD3	15:H:1000:BIQ:H253	1.92	0.52
14:N:8:PHE:CE1	14:N:10:ASP:HB2	2.44	0.52
7:U:186:TRP:O	7:U:190:VAL:HG23	2.10	0.52
9:W:130:ALA:HB2	9:W:166:ASP:HB2	1.91	0.52
3:C:186:VAL:O	3:C:190:VAL:HG23	2.10	0.52
7:G:136:LEU:O	7:G:150:LYS:HA	2.08	0.52
7:G:168:LYS:O	7:G:172:ILE:HG12	2.10	0.52
2:P:152:ASN:HB2	2:P:153:PRO:CD	2.40	0.52
4:R:177:LEU:HD22	5:S:58:LEU:CD1	2.40	0.52
10:X:6:ILE:HD11	10:X:142:TYR:CD1	2.45	0.52
1:A:32:LYS:HE2	1:A:32:LYS:HA	1.91	0.52
5:E:15:PHE:H	6:F:23:GLN:NE2	2.02	0.52
9:I:44:GLY:O	9:I:45:ILE:HD13	2.09	0.52
4:R:75:GLY:HA3	4:R:221:PHE:CD2	2.45	0.52
4:R:215:ILE:HD13	4:R:215:ILE:C	2.34	0.52
12:Z:145:TYR:CD1	12:Z:146:LEU:N	2.77	0.52
2:B:6:ARG:HB2	5:E:127:TYR:OH	2.10	0.52
2:B:95:HIS:CD2	2:B:115:ARG:HG2	2.44	0.52
6:F:43:ASN:HD21	6:F:185:SER:HA	1.75	0.52
10:J:6:ILE:HD11	10:J:142:TYR:CE1	2.45	0.52
10:J:24:ILE:HD13	11:K:132:THR:HG21	1.92	0.52
14:N:66:TYR:CD2	14:N:74:PRO:HB3	2.45	0.52
4:R:229:THR:O	4:R:233:ILE:HG12	2.09	0.52
10:X:3:ILE:HG22	10:X:100:LEU:CD1	2.39	0.52
9:I:130:ALA:HB2	9:I:166:ASP:HB2	1.92	0.52
2:P:95:HIS:CD2	2:P:115:ARG:HG2	2.44	0.52
8:V:105:ASP:HB2	8:V:10(A):PRO:CD	2.39	0.52
10:X:111:TYR:CE1	10:X:121:GLU:HG3	2.45	0.52
9:I:1:GLY:HA3	9:I:33:LYS:HE2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:97:HIS:HD2	8:V:61:SER:OG	1.92	0.52
3:Q:163:GLN:HE22	3:Q:173:ARG:NE	2.08	0.52
2:B:141:TYR:CD1	2:B:141:TYR:C	2.88	0.52
12:L:83:ILE:HB	12:L:113:PHE:CE2	2.45	0.52
5:S:104:ASN:HB2	13:1:81:GLU:HG2	1.91	0.52
8:V:81:GLN:O	8:V:85:GLN:HG3	2.10	0.52
8:H:165:ASN:HD22	13:1:139:ARG:NH1	2.03	0.51
10:J:143:ARG:O	10:J:146:MET:HG3	2.10	0.51
13:M:46:SER:OG	13:M:98:ALA:HB3	2.09	0.51
6:T:38:ILE:HG22	6:T:164:ALA:CB	2.40	0.51
13:1:41:THR:OG1	13:1:76:PRO:HG3	2.10	0.51
14:2:59:VAL:HG22	14:2:82:VAL:HG12	1.91	0.51
7:G:67:ILE:HD12	7:G:211:GLU:HG2	1.91	0.51
13:M:184:LEU:HD23	13:M:184:LEU:C	2.36	0.51
3:Q:186:VAL:O	3:Q:190:VAL:HG23	2.10	0.51
5:S:75:GLY:HA3	5:S:221:PHE:CZ	2.45	0.51
5:S:185:ASN:C	5:S:185:ASN:HD22	2.18	0.51
6:T:53:LEU:HD11	6:T:205:ASN:OD1	2.10	0.51
7:U:8:TYR:C	7:U:10:ARG:N	2.67	0.51
7:U:87:ASN:C	7:U:87:ASN:ND2	2.67	0.51
14:2:8:PHE:CE1	14:2:10:ASP:HB2	2.45	0.51
7:G:69:CYS:HB3	16:G:276:HOH:O	2.11	0.51
2:P:121:GLN:CG	3:Q:83:ALA:HB1	2.40	0.51
7:U:227:GLU:HG2	16:U:282:HOH:O	2.11	0.51
9:W:2:ILE:HG21	9:W:130:ALA:HB3	1.92	0.51
2:B:71:ASN:HD22	2:B:72:ASP:N	2.07	0.51
4:D:229:THR:O	4:D:233:ILE:HG12	2.11	0.51
5:E:68:ILE:HB	5:E:76:LEU:CD2	2.39	0.51
5:E:107:LEU:HD11	5:E:111:ARG:HG2	1.92	0.51
10:J:113:ILE:HA	10:J:118:THR:O	2.11	0.51
9:W:1:GLY:HA3	9:W:33:LYS:HE2	1.92	0.51
9:W:48:LEU:HG	9:W:50:THR:HG22	1.92	0.51
14:2:163:ILE:HG23	14:2:170:GLY:HA2	1.91	0.51
3:C:172:VAL:HG23	3:C:196:SER:HB2	1.91	0.51
5:E:58:LEU:HD12	5:E:58:LEU:N	2.25	0.51
7:G:96:ALA:HA	7:G:107:MET:CE	2.27	0.51
11:K:10(A):ARG:HG2	11:K:10(A):ARG:HH11	1.75	0.51
2:P:224:PHE:HD2	2:P:224:PHE:N	2.08	0.51
3:Q:71:ASP:HA	10:X:68:ILE:HD13	1.92	0.51
6:T:21(B):THR:O	6:T:21(C):ASN:HB2	2.10	0.51
11:Y:40:PHE:HB3	11:Y:73:ARG:NH2	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4:MET:SD	1:A:5:THR:N	2.68	0.51
9:I:14:ILE:HG13	9:I:34:ILE:HD12	1.91	0.51
3:Q:227:GLU:H	3:Q:227:GLU:CD	2.18	0.51
4:R:90:GLU:OE2	11:Y:69:ARG:NH1	2.44	0.51
2:B:234:VAL:HA	2:B:239:THR:HA	1.93	0.51
4:D:12(D):ALA:HB3	4:D:126:ARG:CD	2.37	0.51
8:H:53:GLU:O	8:H:56:THR:HG22	2.11	0.51
13:M:-6:GLN:HG3	13:M:-6:GLN:O	2.10	0.51
1:O:33:GLN:HE21	1:O:33:GLN:CA	2.24	0.51
4:R:97:VAL:HG21	11:Y:65:LEU:HD13	1.93	0.51
12:Z:-7:ASN:HD22	12:Z:-7:ASN:C	2.18	0.51
13:1:-6:GLN:O	13:1:-6:GLN:HG3	2.11	0.51
3:C:79:SER:HA	16:C:260:HOH:O	2.09	0.51
3:C:175:PHE:O	3:C:179:ASN:HB2	2.10	0.51
7:G:186:TRP:O	7:G:190:VAL:HG23	2.11	0.51
14:N:84:LYS:HG3	14:N:119:VAL:CG2	2.40	0.51
5:S:194:VAL:O	5:S:197:ILE:HG22	2.10	0.51
7:U:158:VAL:HG22	7:U:159:GLY:N	2.26	0.51
1:A:197:LEU:CD2	1:A:210:ILE:HD12	2.41	0.51
2:B:224:PHE:N	2:B:224:PHE:HD2	2.09	0.51
6:F:127:ASN:C	6:F:127:ASN:ND2	2.68	0.51
10:X:13:ILE:HD12	10:X:177:ILE:HD13	1.93	0.51
2:B:224:PHE:N	2:B:224:PHE:CD2	2.79	0.51
7:G:77:VAL:HG12	7:G:137:THR:HB	1.93	0.51
8:V:33:LYS:HD3	15:V:1001:BIQ:H253	1.92	0.51
9:W:23:GLN:HB2	16:W:228:HOH:O	2.11	0.51
13:1:179:ASP:HB3	13:1:18(A):THR:OG1	2.11	0.51
2:B:27:ALA:O	2:B:31:ILE:HG12	2.12	0.50
13:M:139:ARG:NH1	8:V:165:ASN:HD22	2.02	0.50
1:O:32:LYS:HE2	1:O:32:LYS:HA	1.92	0.50
2:P:224:PHE:N	2:P:224:PHE:CD2	2.79	0.50
5:S:227:GLU:CD	5:S:227:GLU:H	2.18	0.50
7:U:18(G):GLU:HG2	7:U:188:LYS:HB3	1.93	0.50
2:P:6:ARG:HG2	3:Q:10:ARG:NH2	2.25	0.50
11:Y:10(A):ARG:HG2	11:Y:10(A):ARG:HH11	1.76	0.50
11:K:207:ASN:ND2	10:X:144:PRO:CG	2.74	0.50
14:N:175:MET:HE3	14:N:18(B):PHE:CE2	2.46	0.50
2:P:141:TYR:CD1	2:P:141:TYR:C	2.89	0.50
4:R:59:LEU:HD13	4:R:59:LEU:C	2.37	0.50
14:2:112:THR:CG2	14:2:120:HIS:HB2	2.42	0.50
7:G:77:VAL:CG1	7:G:137:THR:HB	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:31:GLU:HA	16:L:212:HOH:O	2.11	0.50
2:P:27:ALA:O	2:P:31:ILE:HG12	2.11	0.50
12:Z:7:ALA:HB2	12:Z:110:VAL:HG23	1.93	0.50
5:E:86:ARG:HH11	5:E:86:ARG:HG3	1.75	0.50
8:H:41:ILE:HG13	8:H:76:VAL:HG22	1.93	0.50
8:H:200:LYS:HE3	9:I:140:SER:O	2.12	0.50
8:V:20:SER:HB3	8:V:28:ASP:HB3	1.93	0.50
10:X:14:LEU:HD12	10:X:42:LEU:HD23	1.94	0.50
12:Z:99:THR:HG23	12:Z:113:PHE:HB2	1.92	0.50
8:H:20:SER:HB3	8:H:28:ASP:HB3	1.94	0.50
13:M:179:ASP:HB3	13:M:18(A):THR:OG1	2.11	0.50
1:A:85:TYR:O	1:A:89:VAL:HG23	2.11	0.50
5:E:75:GLY:HA3	5:E:221:PHE:CZ	2.47	0.50
8:H:172:ASN:HD22	8:H:193:THR:HA	1.76	0.50
1:O:62:GLU:C	1:O:64:LEU:H	2.19	0.50
6:T:69:VAL:HG12	16:T:264:HOH:O	2.12	0.50
7:U:177:GLU:O	7:U:17(B):LYS:HG3	2.12	0.50
8:V:34:LEU:HB2	16:V:1019:HOH:O	2.10	0.50
11:Y:4:LEU:C	11:Y:4:LEU:HD22	2.37	0.50
6:F:170:GLN:HB2	16:F:265:HOH:O	2.12	0.50
1:O:6:ASP:OD2	1:O:8:TYR:HB2	2.12	0.50
1:O:197:LEU:CD2	1:O:210:ILE:HD12	2.42	0.50
6:T:36:THR:HG22	6:T:51:GLU:OE2	2.11	0.50
11:K:32:LYS:N	11:K:32:LYS:HD2	2.27	0.50
14:2:66:TYR:CD2	14:2:74:PRO:HB3	2.47	0.50
2:B:185:LYS:HD2	2:B:187:ASP:H	1.77	0.49
4:D:59:LEU:HD13	4:D:59:LEU:C	2.36	0.49
6:F:38:ILE:HG22	6:F:164:ALA:CB	2.42	0.49
7:U:77:VAL:HG12	7:U:137:THR:HB	1.93	0.49
5:E:17:PRO:HA	6:F:26:TYR:CD2	2.47	0.49
7:G:49:ILE:HD13	7:G:193:ALA:HB1	1.92	0.49
12:Z:137:PHE:CE1	12:Z:141:GLN:HG3	2.47	0.49
13:1:152:GLU:O	13:1:156:VAL:HG23	2.11	0.49
7:G:72:ARG:HH11	7:G:72:ARG:CB	2.24	0.49
9:I:97:VAL:HG23	9:I:99:PRO:HD3	1.94	0.49
13:M:17:ASP:HA	13:M:173:PHE:CB	2.43	0.49
5:S:39:GLY:O	5:S:162:GLY:HA2	2.11	0.49
2:B:38:ILE:HD13	2:B:164:SER:HB3	1.94	0.49
10:J:6:ILE:CG2	10:J:13:ILE:HB	2.42	0.49
1:O:4:MET:SD	1:O:5:THR:N	2.70	0.49
3:Q:57:LYS:NZ	16:Q:250:HOH:O	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S:54:ASN:ND2	5:S:56:ASP:O	2.43	0.49
5:S:221:PHE:CE1	5:S:223:ILE:HD11	2.47	0.49
1:A:58:LEU:HD12	7:G:173:THR:HG23	1.95	0.49
4:D:17:PRO:HD2	16:D:271:HOH:O	2.11	0.49
2:P:4:GLY:HA3	5:S:127:TYR:CE1	2.47	0.49
3:Q:71:ASP:HA	10:X:68:ILE:CD1	2.43	0.49
4:R:112:LEU:HD13	4:R:112:LEU:C	2.37	0.49
10:X:16:SER:HB2	16:X:226:HOH:O	2.13	0.49
10:X:18:LYS:HG2	10:X:174:ILE:HG13	1.94	0.49
1:A:62:GLU:C	1:A:64:LEU:H	2.20	0.49
2:B:190:ILE:HG23	2:B:212:PHE:CE2	2.48	0.49
4:D:215:ILE:C	4:D:215:ILE:HD13	2.37	0.49
5:E:104:ASN:HB2	13:M:81:GLU:HG2	1.93	0.49
10:J:3:ILE:HG22	10:J:100:LEU:CD1	2.42	0.49
10:J:133:TYR:OH	10:X:24:ILE:HG12	2.12	0.49
4:R:68:VAL:HG21	4:R:89:ILE:HD12	1.94	0.49
7:U:203:THR:HG22	7:U:204:GLU:N	2.27	0.49
2:B:101:LYS:NZ	10:J:85:GLN:NE2	2.60	0.49
4:D:243:ALA:O	4:D:244:GLU:CB	2.60	0.49
5:E:227:GLU:CD	5:E:227:GLU:H	2.18	0.49
5:E:231:LYS:H	5:E:231:LYS:HD2	1.77	0.49
6:F:53:LEU:HD11	6:F:205:ASN:OD1	2.12	0.49
7:G:87:ASN:C	7:G:87:ASN:ND2	2.71	0.49
8:H:172:ASN:ND2	8:H:193:THR:HA	2.28	0.49
12:L:-7:ASN:HD22	12:L:-7:ASN:C	2.21	0.49
12:L:166:HIS:CD2	12:L:168:GLN:H	2.24	0.49
1:O:15:PHE:H	2:P:23:GLN:NE2	1.93	0.49
2:P:185:LYS:HD2	2:P:187:ASP:H	1.77	0.49
3:Q:241:GLN:C	3:Q:243:GLN:N	2.70	0.49
6:T:192:GLN:HE21	6:T:195:LYS:CE	2.23	0.49
4:D:97:VAL:HG21	11:K:65:LEU:HD13	1.95	0.49
11:K:4:LEU:CD1	11:K:159:ILE:HD11	2.42	0.49
13:M:41:THR:OG1	13:M:76:PRO:HG3	2.13	0.49
1:O:17:PRO:HA	2:P:26:TYR:CD1	2.48	0.49
2:P:51:GLU:OE2	2:P:209:ARG:NH2	2.46	0.49
2:P:122:GLY:C	2:P:124:THR:H	2.21	0.49
5:S:231:LYS:H	5:S:231:LYS:HD2	1.78	0.49
11:Y:32:LYS:N	11:Y:32:LYS:HD2	2.28	0.49
5:E:15:PHE:N	6:F:23:GLN:HE22	2.04	0.49
10:J:144:PRO:CG	11:Y:207:ASN:HD21	2.25	0.49
3:Q:201:VAL:HG11	3:Q:210:ILE:HG13	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:R:12(F):GLY:O	4:R:12(G):GLU:HB2	2.12	0.49
6:T:175:GLU:OE1	6:T:199:LEU:HD23	2.13	0.49
8:V:179:GLU:OE2	8:V:182:LYS:HE2	2.11	0.49
8:H:81:GLN:O	8:H:85:GLN:HG3	2.13	0.49
14:N:94:ASN:ND2	16:N:228:HOH:O	2.39	0.49
4:R:15:PHE:HB2	5:S:23:GLN:OE1	2.13	0.49
4:R:243:ALA:O	4:R:244:GLU:CB	2.61	0.49
6:T:127:ASN:C	6:T:127:ASN:ND2	2.70	0.49
8:V:105:ASP:HB2	8:V:10(A):PRO:HD2	1.93	0.49
10:X:6:ILE:CG2	10:X:13:ILE:HB	2.43	0.49
10:X:18:LYS:HD3	10:X:174:ILE:HG13	1.95	0.49
13:1:133:MET:C	13:1:136:PRO:HD2	2.38	0.49
12:L:7:ALA:HB2	12:L:110:VAL:HG23	1.95	0.48
12:L:137:PHE:CE1	12:L:141:GLN:HG3	2.47	0.48
2:P:194:LEU:O	2:P:198:SER:HB2	2.13	0.48
3:Q:175:PHE:O	3:Q:179:ASN:HB2	2.13	0.48
7:U:170:GLN:NE2	7:U:174:THR:HG23	2.28	0.48
11:Y:4:LEU:CD1	11:Y:159:ILE:HD11	2.43	0.48
3:C:201:VAL:HG11	3:C:210:ILE:HG13	1.95	0.48
11:K:131:GLN:HG3	11:K:132:THR:N	2.28	0.48
14:N:59:VAL:HG22	14:N:82:VAL:HG12	1.95	0.48
7:U:72:ARG:HH11	7:U:72:ARG:CB	2.24	0.48
9:W:33:LYS:O	9:W:44:GLY:HA2	2.14	0.48
11:Y:131:GLN:HG3	11:Y:132:THR:N	2.28	0.48
14:N:171:GLY:HA2	13:1:197:TRP:CH2	2.48	0.48
4:R:175:GLU:OE1	4:R:175:GLU:HA	2.13	0.48
5:S:58:LEU:N	5:S:58:LEU:HD12	2.28	0.48
7:U:49:ILE:HD13	7:U:193:ALA:HB1	1.94	0.48
7:U:77:VAL:CG1	7:U:137:THR:HB	2.42	0.48
3:C:241:GLN:C	3:C:243:GLN:N	2.70	0.48
4:D:68:VAL:HG21	4:D:89:ILE:HD12	1.95	0.48
6:F:199:LEU:HD12	6:F:240:ILE:HD13	1.95	0.48
2:P:27:ALA:O	2:P:30:SER:HB3	2.13	0.48
2:P:234:VAL:HA	2:P:239:THR:HA	1.94	0.48
2:B:186:VAL:O	2:B:190:ILE:HG13	2.14	0.48
5:E:38:VAL:HG12	5:E:39:GLY:N	2.29	0.48
1:O:62:GLU:CD	1:O:62:GLU:H	2.21	0.48
1:O:85:TYR:O	1:O:89:VAL:HG23	2.13	0.48
2:P:186:VAL:O	2:P:190:ILE:HG13	2.13	0.48
4:R:32:LYS:O	4:R:167:SER:HA	2.13	0.48
7:G:203:THR:HG22	7:G:204:GLU:N	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:98:HIS:HD2	16:L:200:HOH:O	1.95	0.48
5:S:107:LEU:HD11	5:S:111:ARG:HG2	1.94	0.48
6:T:158:TRP:CZ3	7:U:64:VAL:HA	2.49	0.48
7:U:18(H):GLU:CD	7:U:18(H):GLU:H	2.22	0.48
13:1:104:VAL:HG23	13:1:178:ILE:CG2	2.41	0.48
1:A:62:GLU:CD	1:A:62:GLU:H	2.21	0.48
3:Q:15:PHE:N	4:R:23:GLN:HE22	1.95	0.48
7:U:96:ALA:HA	7:U:107:MET:CE	2.28	0.48
14:2:175:MET:HE3	14:2:18(B):PHE:CE2	2.48	0.48
1:A:6:ASP:OD2	1:A:8:TYR:HB2	2.14	0.48
2:B:15:PHE:N	3:C:23:GLN:HE22	1.99	0.48
3:C:216:LYS:HB2	3:C:220:ASP:HB3	1.96	0.48
5:E:221:PHE:CE1	5:E:223:ILE:HD11	2.49	0.48
12:L:48:PHE:CZ	12:L:50:ALA:HB3	2.49	0.48
2:P:190:ILE:HG23	2:P:212:PHE:CE2	2.48	0.48
13:1:205:GLY:HA3	13:1:209:GLN:HB3	1.96	0.48
6:F:192:GLN:HE21	6:F:195:LYS:CE	2.26	0.48
14:N:112:THR:CG2	14:N:120:HIS:HB2	2.42	0.48
2:P:6:ARG:HD3	4:R:9:ASP:HB3	1.94	0.48
2:P:224:PHE:HD2	2:P:224:PHE:H	1.62	0.48
3:Q:40:VAL:HG12	3:Q:162:ALA:CB	2.43	0.48
4:R:160:TYR:CZ	4:R:163:LYS:HD3	2.49	0.48
5:S:86:ARG:HH11	5:S:86:ARG:HG3	1.78	0.48
11:K:4:LEU:HD22	11:K:4:LEU:C	2.39	0.48
12:L:153:LYS:HG2	8:V:201:GLN:HG3	1.95	0.48
3:Q:168:ASN:O	3:Q:172:VAL:HG12	2.14	0.48
3:Q:216:LYS:HB2	3:Q:220:ASP:HB3	1.96	0.48
6:T:56:SER:OG	6:T:57:LYS:N	2.45	0.48
2:B:51:GLU:OE2	2:B:209:ARG:NH2	2.47	0.47
3:C:15:PHE:N	4:D:23:GLN:HE22	2.00	0.47
6:F:238:LYS:HZ2	6:F:239:GLU:HG3	1.79	0.47
13:M:14(A):VAL:HG23	13:M:14(A):VAL:O	2.13	0.47
1:O:118:LYS:HE2	1:O:122:GLU:OE1	2.13	0.47
3:Q:97:GLN:NE2	3:Q:97:GLN:HA	2.29	0.47
5:S:15:PHE:N	6:T:23:GLN:HE22	2.02	0.47
9:W:97:VAL:HG23	9:W:99:PRO:HD3	1.96	0.47
10:X:32:ASP:CG	10:X:34:THR:HG22	2.39	0.47
2:B:191:GLU:O	2:B:195:LYS:HG2	2.14	0.47
4:D:122:ARG:HG2	4:D:122:ARG:HH11	1.79	0.47
5:E:82:ALA:HB3	5:E:83:PRO:HD3	1.96	0.47
6:F:36:THR:CG2	6:F:51:GLU:OE2	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:170:GLN:NE2	7:G:174:THR:HG23	2.28	0.47
11:K:86:LEU:HD13	11:K:86:LEU:C	2.38	0.47
3:Q:149:TYR:CE1	3:Q:159:SER:HB3	2.49	0.47
12:Z:99:THR:CG2	16:Z:200:HOH:O	2.62	0.47
2:B:4:GLY:HA3	5:E:127:TYR:CE1	2.48	0.47
5:E:142:ASP:HB2	16:M:258:HOH:O	2.13	0.47
7:G:158:VAL:HG22	7:G:159:GLY:H	1.79	0.47
13:M:133:MET:C	13:M:136:PRO:HD2	2.39	0.47
2:P:21:LEU:O	2:P:25:GLU:HG2	2.14	0.47
5:S:70:CYS:SG	5:S:92:LEU:HD23	2.54	0.47
8:V:41:ILE:HG13	8:V:76:VAL:HG22	1.96	0.47
4:D:12(F):GLY:O	4:D:12(G):GLU:HB2	2.14	0.47
6:F:56:SER:OG	6:F:57:LYS:N	2.46	0.47
8:H:173:VAL:HB	8:H:192:LEU:HB2	1.96	0.47
7:U:17:PRO:HD3	16:U:263:HOH:O	2.14	0.47
7:U:78:VAL:HG11	7:U:85:ALA:CB	2.44	0.47
7:U:158:VAL:HG22	7:U:159:GLY:H	1.79	0.47
3:C:225:SER:OG	3:C:228:GLU:HG3	2.14	0.47
5:E:194:VAL:HG13	5:E:207:LEU:CD1	2.44	0.47
13:M:175:LEU:HD23	13:M:175:LEU:C	2.39	0.47
14:N:20:THR:OG1	14:N:28:ASN:HB3	2.14	0.47
4:R:159:ARG:O	5:S:60:SER:N	2.47	0.47
13:1:157:ASN:HB3	16:1:249:HOH:O	2.14	0.47
3:C:163:GLN:HE22	3:C:173:ARG:NE	2.10	0.47
4:D:45:GLY:HA2	4:D:146:TYR:CD1	2.50	0.47
8:H:152:ILE:O	8:H:156:SER:HB2	2.15	0.47
9:I:33:LYS:O	9:I:44:GLY:HA2	2.15	0.47
12:L:21:ILE:HD11	12:L:168:GLN:NE2	2.29	0.47
13:M:152:GLU:O	13:M:156:VAL:HG23	2.14	0.47
3:Q:39:GLY:HA2	3:Q:47:VAL:O	2.14	0.47
3:Q:112:LEU:O	3:Q:112:LEU:HD13	2.14	0.47
4:R:65:GLU:HA	16:R:750:HOH:O	2.14	0.47
5:S:15:PHE:HB2	6:T:23:GLN:HE22	1.79	0.47
10:X:7:ARG:HG2	10:X:7:ARG:NH1	2.30	0.47
13:1:104:VAL:CG2	13:1:178:ILE:HG22	2.41	0.47
4:D:67:ILE:HG22	4:D:221:PHE:HZ	1.80	0.47
4:D:175:GLU:OE1	4:D:175:GLU:HA	2.14	0.47
8:H:156:SER:HB3	16:H:1030:HOH:O	2.14	0.47
9:I:113:PHE:CD2	9:I:113:PHE:N	2.82	0.47
10:J:18:LYS:CG	10:J:174:ILE:HG13	2.44	0.47
11:K:208:ASN:HB3	16:K:236:HOH:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:114:ASP:CB	12:L:118:SER:HB3	2.39	0.47
5:S:38:VAL:HG12	5:S:39:GLY:N	2.29	0.47
5:S:194:VAL:HG13	5:S:207:LEU:CD1	2.45	0.47
6:T:238:LYS:HZ2	6:T:239:GLU:HG3	1.80	0.47
7:U:151:THR:HG22	7:U:157:TYR:CB	2.42	0.47
12:Z:-7:ASN:ND2	12:Z:-7:ASN:C	2.70	0.47
14:2:20:THR:OG1	14:2:28:ASN:HB3	2.13	0.47
7:G:39:ALA:CB	7:G:48:VAL:HG12	2.43	0.47
11:K:70:GLU:O	11:K:71:LYS:C	2.57	0.47
1:O:207:ASN:HB2	16:O:261:HOH:O	2.15	0.47
3:Q:55:THR:O	3:Q:56:LEU:HD22	2.15	0.47
5:S:77:SER:OG	5:S:137:LEU:HB2	2.15	0.47
10:X:18:LYS:CG	10:X:174:ILE:HG13	2.45	0.47
6:F:198:TYR:HE2	6:F:237:GLN:HE21	1.63	0.47
9:I:137:MET:HE2	9:I:161:ASN:HB2	1.97	0.47
10:J:64:GLN:NE2	16:J:215:HOH:O	2.39	0.47
2:P:186:VAL:HG21	2:P:216:ARG:HD3	1.97	0.47
3:Q:227:GLU:OE1	3:Q:227:GLU:N	2.44	0.47
6:T:199:LEU:HD12	6:T:240:ILE:HD13	1.96	0.47
8:V:22:GLN:HE22	15:V:1001:BIQ:H32	1.80	0.47
13:1:175:LEU:HD23	13:1:176:ALA:N	2.30	0.47
1:A:118:LYS:HE2	1:A:122:GLU:OE1	2.15	0.47
10:J:6:ILE:HG22	10:J:13:ILE:HB	1.97	0.47
10:J:32:ASP:CG	10:J:34:THR:HG22	2.40	0.47
14:N:29:ARG:HG2	16:N:223:HOH:O	2.15	0.47
14:N:146:MET:HE3	14:N:150:GLU:HB3	1.97	0.47
9:W:113:PHE:HA	9:W:118:CYS:O	2.15	0.47
9:W:137:MET:HE2	9:W:161:ASN:HB2	1.96	0.47
3:C:55:THR:O	3:C:56:LEU:HD22	2.15	0.46
2:P:146:TYR:OH	2:P:21(A):LYS:HB2	2.14	0.46
11:Y:86:LEU:C	11:Y:86:LEU:HD13	2.40	0.46
12:Z:-6:PRO:O	13:1:91:ARG:NH1	2.41	0.46
14:2:146:MET:HE3	14:2:150:GLU:HB3	1.97	0.46
7:G:74:ILE:HD12	7:G:109:CYS:HA	1.97	0.46
10:J:14:LEU:HD12	10:J:42:LEU:HD23	1.96	0.46
10:J:24:ILE:HG12	10:X:133:TYR:OH	2.16	0.46
12:L:109:ALA:HB2	12:L:121:ARG:NH2	2.30	0.46
14:N:36:ARG:HG3	14:N:42:TRP:CZ2	2.51	0.46
2:P:191:GLU:O	2:P:195:LYS:HG2	2.16	0.46
3:Q:206:GLY:CA	3:Q:209:ASN:HB2	2.37	0.46
6:T:192:GLN:NE2	6:T:195:LYS:HE3	2.28	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1:113:VAL:HA	13:1:118:VAL:O	2.15	0.46
13:1:14(C):ARG:HH11	13:1:14(C):ARG:CG	2.28	0.46
14:2:36:ARG:HG3	14:2:42:TRP:CZ2	2.50	0.46
3:C:35:THR:HB	3:C:51:GLU:HG3	1.97	0.46
3:C:40:VAL:HG12	3:C:162:ALA:CB	2.43	0.46
5:E:2(C):VAL:HG13	5:E:2(D):ASP:N	2.30	0.46
6:F:175:GLU:OE1	6:F:199:LEU:HD23	2.16	0.46
7:G:151:THR:HG22	7:G:157:TYR:CB	2.44	0.46
5:S:82:ALA:HB3	5:S:83:PRO:HD3	1.97	0.46
5:S:2(C):VAL:HG13	5:S:2(D):ASP:N	2.30	0.46
6:T:192:GLN:NE2	6:T:195:LYS:CE	2.79	0.46
7:U:39:ALA:CB	7:U:48:VAL:HG12	2.44	0.46
9:W:159:LEU:CD2	9:W:173:ALA:HB1	2.46	0.46
10:X:44:SER:HG	10:X:100:LEU:HB2	1.80	0.46
16:X:220:HOH:O	11:Y:132:THR:HG22	2.16	0.46
12:Z:21:ILE:HD11	12:Z:168:GLN:NE2	2.31	0.46
3:C:39:GLY:HA2	3:C:47:VAL:O	2.15	0.46
4:D:32:LYS:O	4:D:167:SER:HA	2.15	0.46
6:F:195:LYS:O	6:F:199:LEU:HD13	2.16	0.46
8:H:175:VAL:HG12	8:H:176:CYS:N	2.31	0.46
9:I:29:ASN:HD22	9:I:29:ASN:N	2.11	0.46
10:J:18:LYS:HD3	10:J:174:ILE:HG13	1.98	0.46
5:S:194:VAL:HG13	5:S:207:LEU:HD11	1.98	0.46
7:U:236:ILE:HD12	7:U:236:ILE:C	2.41	0.46
1:A:4:MET:HG2	6:F:126:TYR:CE2	2.51	0.46
5:E:194:VAL:CG1	5:E:207:LEU:HD11	2.45	0.46
9:I:122:ALA:HB3	9:I:125:ILE:CD1	2.46	0.46
12:L:34:VAL:HB	16:L:232:HOH:O	2.15	0.46
2:P:235:LYS:N	2:P:235:LYS:HD3	2.31	0.46
3:Q:100:ARG:NH1	3:Q:106:PRO:HB3	2.30	0.46
6:T:36:THR:CG2	6:T:51:GLU:OE2	2.64	0.46
7:U:18(H):GLU:CD	7:U:18(H):GLU:N	2.74	0.46
12:Z:166:HIS:CD2	12:Z:168:GLN:H	2.27	0.46
14:2:3:ILE:HG22	14:2:16:ALA:CB	2.46	0.46
4:D:160:TYR:CZ	4:D:163:LYS:HD3	2.51	0.46
5:E:4:PHE:CG	5:E:5:ARG:N	2.83	0.46
5:E:70:CYS:SG	5:E:92:LEU:HD23	2.56	0.46
3:Q:197:LEU:O	3:Q:201:VAL:HG23	2.15	0.46
5:S:179:THR:HG22	5:S:179:THR:O	2.14	0.46
10:X:35:ARG:HD3	10:X:35:ARG:HA	1.72	0.46
13:1:17:ASP:HA	13:1:173:PHE:CB	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1:14(A):VAL:HG23	13:1:14(A):VAL:O	2.15	0.46
5:E:2(C):VAL:O	5:E:226:GLY:HA2	2.16	0.46
13:M:205:GLY:HA3	13:M:209:GLN:HB3	1.97	0.46
9:W:20:LEU:C	9:W:20:LEU:HD13	2.40	0.46
9:W:44:GLY:O	9:W:45:ILE:HD13	2.15	0.46
1:A:97:HIS:CD2	8:H:61:SER:OG	2.67	0.46
2:B:27:ALA:O	2:B:30:SER:HB3	2.15	0.46
2:B:186:VAL:HG21	2:B:216:ARG:HD3	1.98	0.46
5:E:39:GLY:O	5:E:162:GLY:HA2	2.16	0.46
5:E:57:GLU:C	5:E:58:LEU:HD12	2.41	0.46
8:H:113:ILE:HG12	8:H:119:THR:HG22	1.98	0.46
13:M:129:PHE:HE2	14:2:24:ALA:HB3	1.79	0.46
1:O:122:GLU:C	1:O:124:THR:H	2.23	0.46
2:P:181:LYS:HE2	2:P:183:ASP:OD1	2.15	0.46
5:S:136:LEU:HD12	5:S:151:PHE:CD2	2.51	0.46
8:V:173:VAL:HB	8:V:192:LEU:HB2	1.97	0.46
9:W:122:ALA:HB3	9:W:125:ILE:CD1	2.46	0.46
10:X:6:ILE:HG22	10:X:13:ILE:HB	1.97	0.46
13:1:175:LEU:HD23	13:1:175:LEU:C	2.41	0.46
8:H:29:LYS:HE2	12:Z:165:ARG:CZ	2.46	0.46
10:J:48:GLU:OE1	10:J:48:GLU:HA	2.16	0.46
13:M:104:VAL:CG2	13:M:178:ILE:HG22	2.43	0.46
3:Q:225:SER:OG	3:Q:228:GLU:HG3	2.15	0.46
5:S:194:VAL:CG1	5:S:207:LEU:HD11	2.46	0.46
9:W:101:VAL:O	9:W:110:ILE:HA	2.16	0.46
11:Y:46:ALA:HB3	11:Y:98:GLY:O	2.15	0.46
13:1:83:LEU:O	13:1:87:MET:HG2	2.15	0.46
1:A:207:ASN:HA	1:A:233:LEU:CD1	2.45	0.46
2:B:161:LYS:HG3	3:C:59:GLN:O	2.15	0.46
2:B:181:LYS:HE2	2:B:183:ASP:OD1	2.15	0.46
3:C:112:LEU:O	3:C:112:LEU:HD13	2.15	0.46
4:D:207:LEU:C	4:D:207:LEU:CD2	2.88	0.46
2:P:101:LYS:HZ2	10:X:85:GLN:HE21	1.63	0.46
3:Q:31:VAL:HG11	3:Q:135:SER:HB2	1.98	0.46
10:X:166:MET:CE	10:X:168:MET:HB2	2.46	0.46
11:Y:5:ALA:HA	11:Y:13:ILE:O	2.16	0.46
2:B:52:ARG:HH22	2:B:63(A):SER:HB3	1.80	0.45
5:E:214:ILE:HG13	5:E:215:VAL:H	1.79	0.45
6:F:28:VAL:O	6:F:32:GLU:HG3	2.17	0.45
13:M:165:ARG:NH2	8:V:135:MET:HE3	2.31	0.45
14:N:104:TYR:OH	14:N:180:ALA:HB2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:52:ARG:HH22	2:P:63(A):SER:HB3	1.81	0.45
5:S:4:PHE:O	5:S:5:ARG:C	2.59	0.45
5:S:15:PHE:HB2	6:T:23:GLN:NE2	2.31	0.45
6:T:31:VAL:HG22	6:T:134:VAL:HA	1.98	0.45
7:U:191:GLU:HG3	7:U:232:ARG:HG3	1.98	0.45
1:A:33:GLN:HE21	1:A:33:GLN:CA	2.26	0.45
5:E:54:ASN:ND2	5:E:56:ASP:O	2.42	0.45
6:F:31:VAL:HG22	6:F:134:VAL:HA	1.99	0.45
8:H:139:GLU:HA	8:H:139:GLU:OE2	2.16	0.45
14:N:85:GLU:O	14:N:89:GLU:HB2	2.15	0.45
14:N:89:GLU:OE1	14:N:89:GLU:HA	2.16	0.45
1:O:40:ILE:HD12	1:O:193:ALA:HB2	1.99	0.45
2:P:74:ILE:N	2:P:74:ILE:CD1	2.78	0.45
4:R:86:ARG:HD3	4:R:86:ARG:HA	1.69	0.45
4:R:122:ARG:HG2	4:R:122:ARG:HH11	1.81	0.45
6:T:40:ILE:HD12	6:T:193:ALA:HB2	1.99	0.45
12:Z:99:THR:HG22	16:Z:200:HOH:O	2.16	0.45
2:B:73:LYS:C	2:B:74:ILE:HD12	2.41	0.45
2:B:146:TYR:OH	2:B:21(A):LYS:HB2	2.17	0.45
3:C:158:SER:HB2	4:D:59:LEU:HD21	1.98	0.45
10:J:-1:MET:HE1	10:J:98:ASN:HD22	1.82	0.45
10:J:144:PRO:CG	11:Y:207:ASN:ND2	2.79	0.45
1:O:161:LYS:HD2	2:P:58:LEU:HA	1.98	0.45
3:Q:62(A):ILE:HG13	3:Q:63:THR:N	2.31	0.45
4:R:67:ILE:HG22	4:R:221:PHE:HZ	1.80	0.45
8:V:18:THR:HB	8:V:30:ASN:HD22	1.81	0.45
2:B:184:MET:HE1	2:B:189:ALA:HA	1.98	0.45
8:H:18:THR:HB	8:H:30:ASN:HD22	1.81	0.45
9:I:149:GLU:H	9:I:149:GLU:CD	2.24	0.45
10:J:168:MET:CE	10:X:168:MET:HG2	2.46	0.45
12:L:90:LYS:HD3	12:L:95:TYR:CZ	2.52	0.45
1:O:207:ASN:HA	1:O:233:LEU:CD1	2.46	0.45
3:Q:35:THR:HB	3:Q:51:GLU:HG3	1.98	0.45
4:R:21:LEU:HD21	5:S:130:ARG:HD2	1.99	0.45
5:S:214:ILE:HG13	5:S:215:VAL:H	1.80	0.45
9:W:29:ASN:HD22	9:W:29:ASN:C	2.24	0.45
10:X:90(B):ARG:NH1	16:X:204:HOH:O	2.41	0.45
14:2:89:GLU:OE1	14:2:89:GLU:HA	2.15	0.45
1:A:177:GLU:HG2	2:B:58:LEU:HD21	1.96	0.45
5:E:194:VAL:HG13	5:E:207:LEU:HD11	1.98	0.45
6:F:103:TYR:O	6:F:104:LYS:HB3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:8:PHE:HB3	8:H:151:ALA:HB2	1.99	0.45
10:J:166:MET:CE	10:J:168:MET:HB2	2.46	0.45
1:O:198:LYS:HE3	1:O:236:LEU:HD11	1.98	0.45
14:2:85:GLU:O	14:2:89:GLU:HB2	2.16	0.45
3:C:97:GLN:NE2	3:C:97:GLN:HA	2.32	0.45
9:I:159:LEU:CD2	9:I:173:ALA:HB1	2.47	0.45
10:J:44:SER:HG	10:J:100:LEU:HB2	1.82	0.45
12:L:-7:ASN:ND2	12:L:-7:ASN:C	2.73	0.45
3:Q:46:VAL:HG22	3:Q:146:PRO:HB2	1.99	0.45
5:S:134:VAL:O	5:S:153:PRO:HG3	2.16	0.45
5:S:230:ALA:C	5:S:232:TYR:H	2.25	0.45
6:T:70:VAL:HG11	6:T:112:PHE:CE1	2.51	0.45
6:T:103:TYR:O	6:T:104:LYS:HB3	2.17	0.45
8:V:139:GLU:HA	8:V:139:GLU:OE2	2.17	0.45
15:V:1001:BIQ:H122	9:W:114:ASP:OD1	2.17	0.45
14:2:3:ILE:HG22	14:2:16:ALA:HB2	1.97	0.45
14:2:15:GLY:HA2	14:2:174:ARG:O	2.17	0.45
5:E:136:LEU:HD12	5:E:151:PHE:CD2	2.52	0.45
5:E:179:THR:HG22	5:E:179:THR:O	2.17	0.45
3:Q:55:THR:O	3:Q:56:LEU:HD13	2.17	0.45
8:V:200:LYS:HE3	9:W:140:SER:O	2.17	0.45
10:X:143:ARG:HG2	10:X:143:ARG:HH11	1.82	0.45
1:A:169:SER:O	1:A:173:LYS:HG3	2.16	0.45
3:C:168:ASN:O	3:C:172:VAL:HG12	2.17	0.45
8:H:147:THR:HG23	8:H:150:GLU:OE1	2.17	0.45
8:H:201:GLN:HG3	12:Z:153:LYS:HG2	1.98	0.45
13:M:70:ASN:ND2	13:M:70(A):ALA:HA	2.32	0.45
2:P:235:LYS:C	2:P:237:GLY:N	2.75	0.45
1:A:198:LYS:HE3	1:A:236:LEU:HD11	1.98	0.45
2:B:224:PHE:HD2	2:B:224:PHE:H	1.62	0.45
7:G:52:LYS:HA	16:G:257:HOH:O	2.16	0.45
7:G:78:VAL:HG11	7:G:85:ALA:CB	2.47	0.45
7:G:18(H):GLU:CD	7:G:18(H):GLU:H	2.25	0.45
10:J:123:PRO:HB2	10:J:124:TYR:CD1	2.52	0.45
11:K:75:SER:HB2	11:K:106:GLU:OE2	2.17	0.45
4:R:45:GLY:HA2	4:R:146:TYR:CD1	2.51	0.45
5:S:4:PHE:CG	5:S:5:ARG:N	2.84	0.45
13:1:1:THR:OG1	13:1:2:SER:N	2.50	0.45
5:E:230:ALA:C	5:E:232:TYR:H	2.24	0.45
6:F:18:ASP:OD1	6:F:20:ARG:HD3	2.17	0.45
4:R:161:ASN:HB3	4:R:180:TRP:CE2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:T:136:THR:O	6:T:150:MET:HA	2.17	0.45
6:T:176:LEU:HB3	7:U:58:LEU:HD21	1.99	0.45
7:U:188:LYS:HD3	7:U:188:LYS:HA	1.82	0.45
11:Y:70:GLU:O	11:Y:71:LYS:C	2.59	0.45
11:Y:114:ASP:C	11:Y:114:ASP:OD1	2.60	0.45
12:Z:90:LYS:HD3	12:Z:95:TYR:CZ	2.52	0.45
2:B:20:ARG:HG2	2:B:20:ARG:HH11	1.83	0.44
2:B:122:GLY:C	2:B:124:THR:H	2.23	0.44
12:L:165:ARG:CZ	8:V:29:LYS:HE2	2.47	0.44
13:M:14(C):ARG:HH11	13:M:14(C):ARG:CG	2.29	0.44
1:O:26:TYR:CD1	7:U:17:PRO:HA	2.52	0.44
3:Q:105:ASP:OD2	3:Q:106:PRO:HD2	2.17	0.44
5:S:216:GLY:O	5:S:217:LYS:C	2.60	0.44
6:T:175:GLU:CB	6:T:196:ILE:HD12	2.47	0.44
2:B:49:ALA:HB2	2:B:212:PHE:CE1	2.51	0.44
3:C:76:LEU:HD23	3:C:76:LEU:C	2.42	0.44
9:I:101:VAL:O	9:I:110:ILE:HA	2.17	0.44
13:M:113:VAL:HA	13:M:118:VAL:O	2.16	0.44
13:M:14(G):ILE:N	13:M:144:PRO:HD2	2.33	0.44
14:N:18(G):TYR:HA	14:N:18(J):LEU:HG	1.99	0.44
1:O:159:PRO:HB2	2:P:60:GLU:HB3	1.99	0.44
5:S:18(F):ILE:O	5:S:18(F):ILE:HG22	2.17	0.44
10:X:10(B):LYS:HB2	10:X:10(B):LYS:NZ	2.32	0.44
11:Y:20:ALA:HB2	11:Y:31:VAL:HG21	1.99	0.44
14:2:104:TYR:OH	14:2:180:ALA:HB2	2.16	0.44
9:I:137:MET:HE3	9:I:141:LEU:CD1	2.48	0.44
10:J:168:MET:HE2	10:X:167:PRO:C	2.42	0.44
14:N:67:THR:HA	14:N:72:GLY:O	2.17	0.44
2:P:209:ARG:HH11	2:P:209:ARG:HG2	1.83	0.44
8:V:8:PHE:HB3	8:V:151:ALA:HB2	1.99	0.44
9:W:19:ARG:HB2	9:W:171:TRP:HB2	2.00	0.44
10:X:-1:MET:HE1	10:X:98:ASN:ND2	2.32	0.44
13:1:140:LYS:HG3	16:1:219:HOH:O	2.17	0.44
1:A:150:GLN:O	1:A:157:TYR:HA	2.17	0.44
2:B:41:MET:HE1	3:C:60:ASP:OD1	2.18	0.44
3:C:195:ARG:HD3	16:C:270:HOH:O	2.17	0.44
6:F:176:LEU:O	6:F:180:VAL:HG23	2.17	0.44
8:H:135:MET:HE3	13:1:165:ARG:NH2	2.33	0.44
9:I:20:LEU:HD13	9:I:20:LEU:C	2.43	0.44
10:J:10(B):LYS:NZ	10:J:10(B):LYS:HB2	2.32	0.44
10:J:167:PRO:O	10:X:168:MET:HE2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:168:MET:HE2	10:X:167:PRO:O	2.17	0.44
1:O:150:GLN:O	1:O:157:TYR:HA	2.17	0.44
4:R:142:ASP:OD2	4:R:142:ASP:C	2.60	0.44
12:Z:48:PHE:CZ	12:Z:50:ALA:HB3	2.53	0.44
13:1:8:TYR:CZ	13:1:148:VAL:HG13	2.52	0.44
1:A:40:ILE:HD12	1:A:193:ALA:HB2	1.99	0.44
6:F:40:ILE:HD12	6:F:193:ALA:HB2	2.00	0.44
1:O:232:ARG:HG3	1:O:232:ARG:NH1	2.33	0.44
4:R:160:TYR:CE2	4:R:163:LYS:HD3	2.53	0.44
6:T:18:ASP:OD1	6:T:20:ARG:HD3	2.16	0.44
7:U:49:ILE:HD12	7:U:49:ILE:N	2.33	0.44
9:W:61:TYR:CD1	9:W:61:TYR:C	2.95	0.44
5:E:18(C):PHE:CD1	5:E:18(C):PHE:C	2.96	0.44
5:E:221:PHE:HE1	5:E:223:ILE:HD11	1.83	0.44
12:L:84:GLN:HG3	12:L:117:GLY:O	2.18	0.44
2:P:38:ILE:HD13	2:P:164:SER:HB3	1.98	0.44
3:Q:45:CYS:HA	3:Q:141:PHE:HZ	1.82	0.44
4:R:81:LEU:HD12	4:R:133:GLY:HA3	2.00	0.44
5:S:41:ARG:NH1	5:S:42:SER:O	2.51	0.44
1:A:122:GLU:C	1:A:124:THR:H	2.25	0.44
1:A:141:HIS:HA	1:A:146:GLY:O	2.17	0.44
3:C:120:GLN:O	3:C:124:THR:HG23	2.18	0.44
4:D:142:ASP:C	4:D:142:ASP:OD2	2.61	0.44
5:E:97:ASN:HD22	5:E:97:ASN:HA	1.67	0.44
7:G:191:GLU:HG3	7:G:232:ARG:HG3	2.00	0.44
11:K:10(A):ARG:HG2	11:K:10(A):ARG:NH1	2.32	0.44
11:K:142:TYR:C	11:K:143:LYS:HD2	2.43	0.44
2:P:229:ILE:O	2:P:233:LEU:HB2	2.18	0.44
5:S:18(C):PHE:C	5:S:18(C):PHE:CD1	2.96	0.44
6:T:198:TYR:HE2	6:T:237:GLN:HE21	1.63	0.44
7:U:48:VAL:C	7:U:49:ILE:HD12	2.43	0.44
11:Y:172:SER:HA	11:Y:192:VAL:HG23	2.00	0.44
1:A:234:GLU:C	1:A:236:LEU:H	2.25	0.44
4:D:177:LEU:CD1	5:E:58:LEU:HD11	2.46	0.44
6:F:136:THR:O	6:F:150:MET:HA	2.18	0.44
6:F:203:GLU:OE1	6:F:203:GLU:HA	2.17	0.44
1:O:27:ALA:O	1:O:31:VAL:HG23	2.18	0.44
1:O:234:GLU:C	1:O:236:LEU:H	2.25	0.44
5:S:52:LYS:HD3	5:S:211:SER:HB2	2.00	0.44
6:T:63:LYS:O	6:T:65:VAL:HG23	2.18	0.44
6:T:176:LEU:O	6:T:180:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:179:HIS:ND1	7:U:179:HIS:C	2.76	0.44
8:V:152:ILE:O	8:V:156:SER:HB2	2.18	0.44
10:X:185:ARG:HG2	10:X:185:ARG:HH11	1.82	0.44
11:Y:4:LEU:C	11:Y:4:LEU:CD2	2.91	0.44
5:E:4:PHE:O	5:E:5:ARG:C	2.60	0.44
5:E:18(F):ILE:O	5:E:18(F):ILE:HG22	2.18	0.44
7:G:17(C):LYS:HB2	7:G:17(C):LYS:HE3	1.78	0.44
10:J:7:ARG:HG2	10:J:7:ARG:NH1	2.33	0.44
10:J:168:MET:HG2	10:X:168:MET:CE	2.47	0.44
11:K:174:ASN:HD21	11:K:189:ASN:HB2	1.83	0.44
12:L:42:VAL:HG23	12:L:102:ALA:HB3	2.00	0.44
12:L:109:ALA:HA	16:L:227:HOH:O	2.18	0.44
13:M:8:TYR:CZ	13:M:148:VAL:HG13	2.53	0.44
1:O:130:ARG:NH2	7:U:124:THR:HG22	2.22	0.44
2:P:136:PHE:O	2:P:150:THR:HA	2.18	0.44
7:U:78:VAL:HG11	7:U:85:ALA:HB2	2.00	0.44
7:U:204:GLU:HG3	16:U:283:HOH:O	2.18	0.44
8:V:84:LYS:HE2	8:V:119:THR:HG23	2.00	0.44
10:X:123:PRO:HB2	10:X:124:TYR:CD1	2.53	0.44
11:Y:6:PHE:HA	11:Y:123:ASP:O	2.17	0.44
11:Y:174:ASN:HD21	11:Y:189:ASN:HB2	1.83	0.44
1:A:117:ALA:HB1	1:A:155:GLY:O	2.18	0.43
4:D:170:GLU:H	4:D:170:GLU:CD	2.25	0.43
4:D:177:LEU:HD22	5:E:58:LEU:CD1	2.47	0.43
7:G:48:VAL:C	7:G:49:ILE:HD12	2.43	0.43
11:K:5:ALA:HA	11:K:13:ILE:O	2.18	0.43
1:O:141:HIS:HA	1:O:146:GLY:O	2.18	0.43
5:S:226:GLY:O	5:S:227:GLU:C	2.61	0.43
13:1:70:ASN:ND2	13:1:70(A):ALA:HA	2.32	0.43
2:B:161:LYS:HE3	3:C:59:GLN:O	2.18	0.43
2:B:209:ARG:HG2	2:B:209:ARG:HH11	1.81	0.43
2:B:235:LYS:C	2:B:237:GLY:N	2.76	0.43
3:C:45:CYS:HA	3:C:141:PHE:HZ	1.82	0.43
3:C:62(A):ILE:O	3:C:63:THR:C	2.60	0.43
5:E:134:VAL:O	5:E:153:PRO:HG3	2.18	0.43
6:F:63:LYS:O	6:F:65:VAL:HG23	2.18	0.43
7:G:49:ILE:HD12	7:G:49:ILE:N	2.33	0.43
8:H:72:ARG:HG3	8:H:72:ARG:NH1	2.32	0.43
8:H:128:GLY:O	8:H:131:SER:CB	2.65	0.43
10:J:34:THR:HG21	10:J:176:LYS:NZ	2.33	0.43
10:J:76:PRO:HD2	16:J:210:HOH:O	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:11:GLY:HA3	13:M:178:ILE:O	2.17	0.43
4:R:159:ARG:HB3	5:S:60:SER:HB3	1.99	0.43
5:S:57:GLU:C	5:S:58:LEU:HD12	2.42	0.43
6:T:203:GLU:HA	6:T:203:GLU:OE1	2.18	0.43
7:U:56:ASP:HB3	7:U:59:LEU:HG	2.00	0.43
9:W:149:GLU:CD	9:W:149:GLU:H	2.25	0.43
11:Y:10(A):ARG:HG2	11:Y:10(A):ARG:NH1	2.33	0.43
12:Z:42:VAL:HG23	12:Z:102:ALA:HB3	2.01	0.43
4:D:81:LEU:HD12	4:D:133:GLY:HA3	2.00	0.43
6:F:70:VAL:HG11	6:F:112:PHE:CE1	2.52	0.43
6:F:90:ASN:O	6:F:94:GLU:HG3	2.17	0.43
6:F:180:VAL:HG21	7:G:58:LEU:HD23	1.99	0.43
8:H:112:SER:OG	8:H:120:ASP:HB2	2.18	0.43
8:H:135:MET:HE3	13:1:165:ARG:CZ	2.48	0.43
2:P:66:LYS:O	2:P:77:ALA:HA	2.18	0.43
2:P:112:LEU:HD23	2:P:112:LEU:C	2.43	0.43
3:Q:57:LYS:HG2	3:Q:208:LYS:HZ3	1.83	0.43
9:W:113:PHE:CD2	9:W:113:PHE:N	2.85	0.43
10:X:-1:MET:HE1	10:X:98:ASN:HD22	1.83	0.43
13:1:14(G):ILE:N	13:1:144:PRO:HD2	2.32	0.43
14:2:18(G):TYR:HA	14:2:18(J):LEU:HG	2.00	0.43
3:C:62(A):ILE:HG13	3:C:63:THR:N	2.32	0.43
5:E:58:LEU:N	5:E:58:LEU:CD1	2.81	0.43
6:F:240:ILE:HD12	6:F:240:ILE:HA	1.91	0.43
7:G:56:ASP:HB3	7:G:59:LEU:HG	2.00	0.43
7:G:105:TYR:OH	8:H:66:HIS:HE1	2.02	0.43
7:G:18(H):GLU:CD	7:G:18(H):GLU:N	2.76	0.43
9:I:29:ASN:ND2	9:I:29:ASN:N	2.65	0.43
9:I:29:ASN:HD22	9:I:29:ASN:C	2.24	0.43
10:J:185:ARG:HG2	10:J:185:ARG:HH11	1.84	0.43
11:K:172:SER:HA	11:K:192:VAL:HG23	2.00	0.43
6:T:195:LYS:O	6:T:199:LEU:HD13	2.19	0.43
9:W:143:GLU:HG3	9:W:146:LEU:HD21	2.01	0.43
2:B:39:GLY:O	2:B:162:ALA:HA	2.18	0.43
5:E:77:SER:OG	5:E:137:LEU:HB2	2.18	0.43
6:F:176:LEU:HB3	7:G:58:LEU:HD21	2.00	0.43
9:I:124:PHE:O	9:I:125:ILE:HD12	2.19	0.43
2:P:49:ALA:HB2	2:P:212:PHE:CE1	2.54	0.43
2:P:141:TYR:CE2	2:P:145:GLY:HA2	2.54	0.43
5:S:2(C):VAL:O	5:S:226:GLY:HA2	2.18	0.43
7:U:171:GLU:OE1	7:U:171:GLU:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1:137:LEU:O	13:1:140:LYS:HB2	2.19	0.43
2:B:143:ASP:OD2	10:J:10(B):LYS:HE2	2.19	0.43
3:C:71:ASP:OD1	3:C:100:ARG:NH1	2.51	0.43
4:D:207:LEU:HD21	4:D:233:ILE:CD1	2.48	0.43
12:L:19:ARG:NE	12:L:171:ASP:OD2	2.44	0.43
5:S:160:LEU:HD22	6:T:59:LEU:HD12	2.01	0.43
7:U:143:GLU:HA	7:U:217:LYS:NZ	2.34	0.43
13:1:11:GLY:HA3	13:1:178:ILE:O	2.18	0.43
1:A:13:THR:O	2:B:130:ARG:HD3	2.19	0.43
2:B:74:ILE:N	2:B:74:ILE:CD1	2.81	0.43
3:C:206:GLY:C	3:C:209:ASN:H	2.27	0.43
5:E:41:ARG:NH1	5:E:42:SER:O	2.51	0.43
5:E:18(C):PHE:HA	5:E:18(F):ILE:CG1	2.47	0.43
5:E:216:GLY:O	5:E:217:LYS:C	2.61	0.43
6:F:175:GLU:CB	6:F:196:ILE:HD12	2.49	0.43
9:I:29:ASN:HD22	9:I:30:LYS:HG3	1.84	0.43
9:I:113:PHE:HA	9:I:118:CYS:O	2.18	0.43
10:J:19:ALA:HB2	10:J:171:LYS:HG2	1.99	0.43
10:J:167:PRO:C	10:X:168:MET:HE2	2.44	0.43
13:M:175:LEU:HD23	13:M:176:ALA:N	2.33	0.43
14:N:3:ILE:HG22	14:N:16:ALA:CB	2.48	0.43
14:N:126:ILE:HD13	14:N:126:ILE:N	2.34	0.43
14:N:133:PHE:HA	14:2:132:THR:O	2.19	0.43
6:T:66:LYS:NZ	16:T:272:HOH:O	2.50	0.43
7:U:139:VAL:HA	7:U:147:SER:O	2.19	0.43
8:V:3:ILE:HD11	8:V:127:LEU:HB2	2.01	0.43
10:X:40:HIS:CD2	10:X:10(A):LYS:HD3	2.54	0.43
10:X:166:MET:HA	10:X:167:PRO:HD3	1.81	0.43
12:Z:-7:ASN:HD22	12:Z:-6:PRO:N	2.17	0.43
12:Z:33:LYS:NZ	16:Z:214:HOH:O	2.42	0.43
3:C:31:VAL:HG11	3:C:135:SER:HB2	2.00	0.43
3:C:100:ARG:NH1	3:C:106:PRO:HB3	2.34	0.43
4:D:160:TYR:CE2	4:D:163:LYS:HD3	2.54	0.43
4:D:161:ASN:HB3	4:D:180:TRP:CE2	2.53	0.43
7:G:236:ILE:HD12	7:G:236:ILE:C	2.43	0.43
8:H:189:ARG:O	8:H:190:ASN:HB2	2.19	0.43
2:P:39:GLY:O	2:P:162:ALA:HA	2.19	0.43
5:S:4:PHE:O	5:S:6:ASN:N	2.52	0.43
7:U:46:THR:HG21	7:U:139:VAL:HB	2.00	0.43
7:U:172:ILE:HD11	7:U:201:LEU:HD21	2.01	0.43
8:V:84:LYS:HG3	8:V:85:GLN:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:V:113:ILE:HG12	8:V:119:THR:HG22	2.01	0.43
10:X:19:ALA:HB2	10:X:171:LYS:HG2	2.00	0.43
12:Z:109:ALA:HB2	12:Z:121:ARG:NH2	2.34	0.43
12:Z:113:PHE:N	12:Z:113:PHE:CD1	2.86	0.43
13:1:17:ASP:C	13:1:17:ASP:OD2	2.62	0.43
2:B:17:PRO:HA	3:C:26:TYR:CZ	2.53	0.43
5:E:185:ASN:C	5:E:185:ASN:ND2	2.77	0.43
5:E:2(B):THR:H	5:E:2(E):ASN:HB3	1.84	0.43
7:G:82:ILE:CG2	7:G:83:PRO:HD3	2.48	0.43
7:G:152:ASP:HB2	7:G:153:PRO:HD2	2.01	0.43
7:G:172:ILE:HD11	7:G:201:LEU:HD21	1.99	0.43
9:I:66:TYR:CZ	9:I:70:GLU:HG3	2.54	0.43
14:N:15:GLY:HA2	14:N:174:ARG:O	2.18	0.43
1:O:35:VAL:HG11	1:O:51:GLU:HB3	2.01	0.43
5:E:179:THR:O	5:E:18(B):THR:HB	2.19	0.43
12:L:-7:ASN:HD22	12:L:-6:PRO:N	2.17	0.43
12:L:113:PHE:N	12:L:113:PHE:CD1	2.86	0.43
12:L:177:ILE:HD12	12:L:177:ILE:N	2.34	0.43
13:M:165:ARG:CZ	8:V:135:MET:HE3	2.49	0.43
3:Q:62(A):ILE:O	3:Q:63:THR:C	2.60	0.43
3:Q:76:LEU:C	3:Q:76:LEU:HD23	2.44	0.43
3:Q:136:THR:O	3:Q:150:GLN:HA	2.19	0.43
4:R:207:LEU:HD21	4:R:233:ILE:CD1	2.49	0.43
5:S:97:ASN:ND2	12:Z:61:ASN:HD21	2.10	0.43
5:S:179:THR:O	5:S:18(B):THR:HB	2.18	0.43
6:T:142:ASP:OD2	6:T:142:ASP:C	2.62	0.43
7:U:152:ASP:HB2	7:U:153:PRO:HD2	2.00	0.43
7:U:18(D):ILE:HD12	7:U:18(D):ILE:N	2.34	0.43
8:V:147:THR:HG23	8:V:150:GLU:OE1	2.19	0.43
9:W:183:GLU:HA	16:W:229:HOH:O	2.19	0.43
10:X:12:VAL:CG2	10:X:108:PRO:HB2	2.49	0.43
10:X:124:TYR:CD2	10:X:138:LEU:HD13	2.54	0.43
11:Y:25:TRP:CH2	12:Z:132:SER:HA	2.54	0.43
2:B:20:ARG:HG2	2:B:20:ARG:NH1	2.34	0.42
2:B:71:ASN:HB3	2:B:74:ILE:H	1.84	0.42
2:B:235:LYS:N	2:B:235:LYS:HD3	2.33	0.42
5:E:11:ASP:OD1	5:E:13:VAL:HG12	2.20	0.42
15:H:1000:BIQ:H122	9:I:114:ASP:OD1	2.18	0.42
6:T:18:ASP:OD2	6:T:18:ASP:N	2.44	0.42
6:T:205:ASN:C	6:T:20(B):GLU:H	2.27	0.42
7:U:82:ILE:N	7:U:83:PRO:HD2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:V:175:VAL:HG12	8:V:176:CYS:N	2.33	0.42
10:X:52:THR:HG22	10:X:53:VAL:H	1.84	0.42
1:A:110:LYS:HG2	16:A:246:HOH:O	2.18	0.42
3:C:186:VAL:HG21	3:C:216:LYS:HE2	2.00	0.42
6:F:192:GLN:NE2	6:F:195:LYS:CE	2.82	0.42
7:G:143:GLU:HA	7:G:217:LYS:NZ	2.34	0.42
14:N:3:ILE:HG22	14:N:16:ALA:HB2	2.00	0.42
1:O:13:THR:O	2:P:130:ARG:HD3	2.19	0.42
2:P:202:THR:HG22	2:P:203:ASP:N	2.34	0.42
3:Q:55:THR:HG22	3:Q:56:LEU:CD2	2.44	0.42
14:2:116:GLY:HA3	16:2:190:HOH:O	2.18	0.42
1:A:232:ARG:HG3	1:A:232:ARG:NH1	2.34	0.42
2:B:63:THR:O	2:B:63:THR:HG22	2.19	0.42
2:B:194:LEU:O	2:B:198:SER:HB2	2.19	0.42
3:C:65:SER:HB2	16:C:252:HOH:O	2.19	0.42
7:G:179:HIS:ND1	7:G:179:HIS:C	2.77	0.42
10:J:12:VAL:CG2	10:J:108:PRO:HB2	2.50	0.42
1:O:169:SER:O	1:O:173:LYS:HG3	2.20	0.42
2:P:71:ASN:HB3	2:P:74:ILE:H	1.84	0.42
3:Q:134:VAL:HG12	3:Q:135:SER:N	2.33	0.42
5:S:160:LEU:CD2	6:T:59:LEU:HD12	2.49	0.42
6:T:240:ILE:HD12	6:T:240:ILE:HA	1.91	0.42
11:Y:38:ASN:C	11:Y:38:ASN:OD1	2.62	0.42
12:Z:134:ILE:HD11	12:Z:162:ALA:HB2	2.01	0.42
1:A:27:ALA:O	1:A:31:VAL:HG23	2.19	0.42
2:B:6:ARG:HG2	3:C:10:ARG:NH2	2.34	0.42
3:C:52:ARG:HH21	3:C:211:GLU:HB3	1.84	0.42
3:C:149:TYR:CE1	3:C:159:SER:HB3	2.54	0.42
3:C:197:LEU:O	3:C:201:VAL:HG23	2.19	0.42
5:E:2(C):VAL:CG1	5:E:2(D):ASP:N	2.83	0.42
6:F:142:ASP:C	6:F:142:ASP:OD2	2.63	0.42
8:H:3:ILE:HD11	8:H:127:LEU:HB2	2.01	0.42
8:H:50:ALA:CB	9:I:116:ILE:HG13	2.50	0.42
13:M:83:LEU:O	13:M:87:MET:HG2	2.20	0.42
13:M:191:GLN:HE21	13:M:191:GLN:HB3	1.57	0.42
2:P:184:MET:HE1	2:P:189:ALA:HA	2.00	0.42
3:Q:120:GLN:O	3:Q:124:THR:HG23	2.20	0.42
5:S:2(C):VAL:CG1	5:S:2(D):ASP:N	2.82	0.42
12:Z:-8:PHE:CB	13:1:-8:THR:HG23	2.49	0.42
2:B:229:ILE:O	2:B:233:LEU:HB2	2.19	0.42
4:D:185:THR:HG23	4:D:188:GLU:OE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:4:PHE:O	5:E:6:ASN:N	2.53	0.42
6:F:50:VAL:HG22	6:F:51:GLU:N	2.35	0.42
6:F:158:TRP:CZ3	7:G:64:VAL:HA	2.54	0.42
7:G:18(D):ILE:HD12	7:G:18(D):ILE:N	2.34	0.42
9:I:165:ARG:HH22	12:Z:135:MET:HE3	1.81	0.42
10:J:-1:MET:HE1	10:J:98:ASN:ND2	2.34	0.42
11:K:6:PHE:HA	11:K:123:ASP:O	2.19	0.42
11:K:38:ASN:C	11:K:38:ASN:OD1	2.61	0.42
1:O:236:LEU:C	1:O:236:LEU:HD13	2.44	0.42
2:P:63:THR:O	2:P:63:THR:HG22	2.18	0.42
3:Q:52:ARG:HH21	3:Q:211:GLU:HB3	1.84	0.42
3:Q:206:GLY:C	3:Q:209:ASN:H	2.28	0.42
4:R:170:GLU:H	4:R:170:GLU:CD	2.25	0.42
7:U:47:VAL:HG12	7:U:49:ILE:CD1	2.50	0.42
8:V:18:THR:CB	8:V:30:ASN:HD22	2.33	0.42
10:X:48:GLU:HA	10:X:48:GLU:OE1	2.19	0.42
12:Z:93:PHE:N	12:Z:94:PRO:CD	2.81	0.42
2:B:202:THR:HG22	2:B:203:ASP:N	2.34	0.42
3:C:57:LYS:HD2	3:C:58:LEU:N	2.35	0.42
3:C:105:ASP:OD2	3:C:106:PRO:HD2	2.20	0.42
3:C:134:VAL:HG12	3:C:135:SER:N	2.34	0.42
3:C:136:THR:O	3:C:150:GLN:HA	2.19	0.42
7:G:82:ILE:HG22	7:G:83:PRO:HD3	2.01	0.42
8:H:18:THR:CB	8:H:30:ASN:HD22	2.33	0.42
8:H:148:LYS:HE3	8:H:177:VAL:HG11	2.01	0.42
9:I:19:ARG:HB2	9:I:171:TRP:HB2	2.01	0.42
10:J:13:ILE:HD12	10:J:177:ILE:HD13	2.01	0.42
11:K:20:ALA:HB2	11:K:31:VAL:HG21	2.00	0.42
2:P:121:GLN:NE2	2:P:121:GLN:C	2.78	0.42
5:S:11:ASP:OD1	5:S:13:VAL:HG12	2.19	0.42
5:S:52:LYS:CB	5:S:63:TYR:HB3	2.50	0.42
6:T:28:VAL:O	6:T:32:GLU:HG3	2.19	0.42
9:W:29:ASN:HD22	9:W:29:ASN:N	2.12	0.42
10:X:129:TYR:O	10:X:132:PHE:HB2	2.20	0.42
6:F:192:GLN:NE2	6:F:195:LYS:HE3	2.31	0.42
7:G:78:VAL:HG11	7:G:85:ALA:HB2	2.02	0.42
10:J:40:HIS:CD2	10:J:10(A):LYS:HD3	2.54	0.42
11:K:40:PHE:CD1	11:K:73:ARG:CZ	3.02	0.42
4:R:160:TYR:HA	5:S:58:LEU:O	2.20	0.42
5:S:97:ASN:HD22	5:S:97:ASN:HA	1.66	0.42
6:T:157:TYR:CD1	6:T:157:TYR:C	2.97	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:66:TYR:CZ	9:W:70:GLU:HG3	2.54	0.42
14:2:67:THR:HA	14:2:72:GLY:O	2.19	0.42
5:E:226:GLY:O	5:E:227:GLU:C	2.61	0.42
8:H:197:ARG:HG3	12:Z:164:GLU:CD	2.45	0.42
9:I:14:ILE:HG12	9:I:34:ILE:HD12	2.01	0.42
12:L:164:GLU:CD	8:V:197:ARG:HG3	2.45	0.42
13:M:1:THR:OG1	13:M:2:SER:N	2.51	0.42
14:N:114:PRO:HD2	14:N:118:SER:O	2.20	0.42
5:S:52:LYS:O	5:S:63:TYR:HD2	2.03	0.42
6:T:20(B):GLU:HG3	6:T:20(C):LYS:N	2.34	0.42
6:T:212:ILE:HG22	6:T:213:SER:N	2.35	0.42
7:U:82:ILE:CG2	7:U:83:PRO:HD3	2.49	0.42
9:W:29:ASN:ND2	9:W:29:ASN:N	2.65	0.42
10:X:35:ARG:NH1	10:X:57:GLU:HG2	2.34	0.42
13:1:80:PHE:CE1	13:1:111:ARG:HD3	2.54	0.42
1:A:236:LEU:C	1:A:236:LEU:HD13	2.45	0.42
4:D:31:ILE:HD13	4:D:135:ALA:HB2	2.01	0.42
5:E:172:ALA:HB2	5:E:196:ALA:O	2.20	0.42
9:I:22:SER:O	9:I:23:GLN:HB2	2.19	0.42
10:J:143:ARG:HG2	10:J:143:ARG:HH11	1.85	0.42
13:M:-8:THR:N	13:M:92(B):MET:O	2.52	0.42
14:N:132:THR:O	14:2:133:PHE:HA	2.20	0.42
14:N:146:MET:HE2	14:N:150:GLU:HB3	2.01	0.42
6:T:90:ASN:O	6:T:94:GLU:HG3	2.20	0.42
7:U:74:ILE:HD12	7:U:109:CYS:HA	2.00	0.42
7:U:234:VAL:O	7:U:237:ALA:HB3	2.19	0.42
7:G:171:GLU:OE1	7:G:171:GLU:N	2.52	0.42
9:I:28:SER:CB	10:J:120:VAL:HG21	2.49	0.42
10:J:22:ARG:HD3	10:J:22:ARG:HA	1.95	0.42
10:J:35:ARG:HA	10:J:35:ARG:HD3	1.71	0.42
10:J:166:MET:HA	10:J:167:PRO:HD3	1.81	0.42
2:P:5:SER:O	2:P:6:ARG:C	2.62	0.42
2:P:24:VAL:HG11	2:P:154:SER:HB3	2.02	0.42
3:Q:186:VAL:HG21	3:Q:216:LYS:HE2	2.02	0.42
5:S:162:GLY:O	5:S:163:THR:HB	2.20	0.42
7:U:107:MET:HE3	7:U:112:LEU:HD13	2.02	0.42
14:2:126:ILE:HD13	14:2:126:ILE:N	2.34	0.42
14:2:184:VAL:HG21	16:2:194:HOH:O	2.20	0.42
2:B:160:TRP:CZ3	3:C:59:GLN:HG2	2.55	0.41
3:C:46:VAL:HG22	3:C:146:PRO:HB2	2.02	0.41
8:H:24:PRO:HG2	8:H:25:ILE:HD12	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:R:117:CYS:SG	4:R:157:PHE:HB3	2.60	0.41
9:W:137:MET:HE3	9:W:141:LEU:CD1	2.48	0.41
2:B:66:LYS:O	2:B:77:ALA:HA	2.20	0.41
3:C:55:THR:O	3:C:56:LEU:HD13	2.20	0.41
5:E:52:LYS:HD3	5:E:211:SER:HB2	2.02	0.41
7:G:107:MET:HE3	7:G:112:LEU:HD13	2.02	0.41
14:N:107:LYS:CG	14:N:108:GLY:N	2.79	0.41
1:O:117:ALA:HB1	1:O:155:GLY:O	2.20	0.41
5:S:221:PHE:HE1	5:S:223:ILE:HD11	1.82	0.41
6:T:107:ILE:HA	6:T:108:PRO:HD3	1.83	0.41
6:T:186:ALA:HB3	6:T:21(A):GLU:HG3	2.01	0.41
7:U:197:MET:HE2	7:U:201:LEU:HG	2.01	0.41
8:V:148:LYS:HE3	8:V:177:VAL:HG11	2.02	0.41
9:W:99:PRO:HB2	9:W:113:PHE:CD2	2.55	0.41
13:1:112:TYR:HE1	13:1:127:THR:HG22	1.85	0.41
2:B:136:PHE:O	2:B:150:THR:HA	2.19	0.41
6:F:186:ALA:HB3	6:F:21(A):GLU:HG3	2.02	0.41
7:G:47:VAL:HG12	7:G:49:ILE:CD1	2.51	0.41
11:K:97:MET:O	11:K:114:ASP:HA	2.20	0.41
13:M:1:THR:HG22	16:M:213:HOH:O	2.20	0.41
3:Q:57:LYS:HD2	3:Q:58:LEU:N	2.34	0.41
5:S:64:GLN:HA	16:S:242:HOH:O	2.19	0.41
5:S:172:ALA:HB2	5:S:196:ALA:O	2.20	0.41
9:W:16:CYS:SG	9:W:34:ILE:HG12	2.60	0.41
10:X:34:THR:HG21	10:X:176:LYS:NZ	2.35	0.41
10:X:90(A):ILE:HD13	10:X:90(A):ILE:HA	1.89	0.41
5:E:176:LEU:C	5:E:178:ARG:N	2.78	0.41
9:I:61:TYR:CD1	9:I:61:TYR:C	2.98	0.41
9:I:143:GLU:HG3	9:I:146:LEU:HD21	2.02	0.41
9:I:159:LEU:HD21	9:I:173:ALA:HB1	2.02	0.41
13:M:40:ASN:N	13:M:40:ASN:ND2	2.64	0.41
13:M:112:TYR:HE1	13:M:127:THR:HG22	1.84	0.41
2:P:233:LEU:HD12	2:P:233:LEU:HA	1.92	0.41
4:R:31:ILE:HD13	4:R:135:ALA:HB2	2.02	0.41
5:S:58:LEU:CD1	5:S:58:LEU:N	2.83	0.41
7:U:82:ILE:HG22	7:U:83:PRO:HD3	2.01	0.41
9:W:14:ILE:CG2	9:W:176:TYR:HB2	2.51	0.41
9:W:55:LEU:CD1	9:W:97:VAL:HG21	2.50	0.41
11:Y:75:SER:HB2	11:Y:106:GLU:OE2	2.20	0.41
1:A:4:MET:HG2	6:F:126:TYR:CZ	2.55	0.41
1:A:21(B):ASN:CB	1:A:21(F):LEU:HD12	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:112:LEU:HD23	2:B:112:LEU:C	2.45	0.41
3:C:182:PRO:O	3:C:183:PRO:C	2.62	0.41
4:D:12:VAL:CG2	4:D:12(A):GLY:HA2	2.50	0.41
7:G:188:LYS:HD3	7:G:191:GLU:OE2	2.20	0.41
11:K:46:ALA:HB3	11:K:98:GLY:O	2.20	0.41
13:M:57:ARG:CD	16:M:247:HOH:O	2.68	0.41
4:R:12:VAL:CG2	4:R:12(A):GLY:HA2	2.51	0.41
13:1:191:GLN:HE21	13:1:191:GLN:HB3	1.58	0.41
3:C:20:HIS:HB3	3:C:25:GLU:OE1	2.21	0.41
5:E:150:GLU:O	5:E:157:VAL:HA	2.21	0.41
6:F:49:ALA:HA	6:F:211:GLU:O	2.20	0.41
11:K:4:LEU:C	11:K:4:LEU:CD2	2.93	0.41
12:L:-8:PHE:CB	13:M:-8:THR:HG23	2.51	0.41
13:M:80:PHE:CE1	13:M:111:ARG:HD3	2.56	0.41
5:S:198:SER:HA	5:S:201:LEU:CG	2.43	0.41
9:W:36:HIS:HB3	9:W:42:PHE:CD2	2.55	0.41
11:Y:138:LEU:HD13	11:Y:158:SER:OG	2.21	0.41
13:1:-5:PRO:HD3	13:1:96:TRP:CE2	2.56	0.41
3:C:57:LYS:O	3:C:58:LEU:HB2	2.20	0.41
4:D:91:HIS:CG	4:D:119:LEU:HD11	2.56	0.41
9:I:16:CYS:SG	9:I:34:ILE:HG12	2.61	0.41
2:P:143:ASP:OD2	10:X:10(B):LYS:HE2	2.21	0.41
3:Q:33:ARG:NH1	3:Q:33:ARG:CB	2.71	0.41
5:S:52:LYS:HB3	5:S:63:TYR:O	2.21	0.41
5:S:67:ILE:HG21	5:S:223:ILE:HD12	2.01	0.41
6:T:50:VAL:HG22	6:T:51:GLU:N	2.35	0.41
10:X:166:MET:HE2	10:X:166:MET:HB3	2.01	0.41
12:Z:177:ILE:HD12	12:Z:177:ILE:N	2.35	0.41
3:C:241:GLN:O	3:C:243:GLN:N	2.50	0.41
6:F:205:ASN:C	6:F:20(B):GLU:H	2.29	0.41
7:G:82:ILE:N	7:G:83:PRO:HD2	2.35	0.41
7:G:139:VAL:HA	7:G:147:SER:O	2.20	0.41
8:H:53:GLU:O	8:H:57:GLN:HG3	2.21	0.41
12:L:-2:ASN:HA	12:L:21:ILE:O	2.20	0.41
1:O:212:LEU:HD23	1:O:212:LEU:C	2.45	0.41
3:Q:241:GLN:O	3:Q:243:GLN:N	2.50	0.41
4:R:201:MET:HE2	4:R:201:MET:HB3	1.96	0.41
5:S:185:ASN:C	5:S:185:ASN:ND2	2.78	0.41
6:T:13:SER:HB2	7:U:130:ARG:HD3	2.02	0.41
9:W:22:SER:O	9:W:23:GLN:HB2	2.21	0.41
1:A:7:ARG:NH1	5:E:127:TYR:HD2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:LEU:C	1:A:38:LEU:HD12	2.46	0.41
5:E:139:ILE:HD12	5:E:215:VAL:HG12	2.02	0.41
8:H:84:LYS:HG3	8:H:85:GLN:N	2.35	0.41
10:J:52:THR:HG22	10:J:53:VAL:H	1.86	0.41
12:L:8:GLY:HA3	12:L:11:PHE:CZ	2.56	0.41
13:M:-5:PRO:HD3	13:M:96:TRP:CE2	2.56	0.41
14:N:24:ALA:HB3	13:1:129:PHE:HE2	1.85	0.41
14:N:144:GLU:O	14:N:145:ASN:HB2	2.21	0.41
2:P:4:GLY:HA3	5:S:127:TYR:CZ	2.56	0.41
3:Q:38:VAL:HG22	3:Q:39:GLY:N	2.36	0.41
3:Q:44:ASN:O	3:Q:45:CYS:HB3	2.21	0.41
3:Q:18(A):ASP:OD2	3:Q:18(C):LYS:HG2	2.20	0.41
3:Q:182:PRO:O	3:Q:183:PRO:C	2.63	0.41
4:R:242:ALA:C	4:R:244:GLU:H	2.29	0.41
9:W:124:PHE:O	9:W:125:ILE:HD12	2.21	0.41
9:W:130:ALA:HB2	9:W:166:ASP:CB	2.51	0.41
10:X:7:ARG:HD3	16:X:195:HOH:O	2.21	0.41
3:C:44:ASN:O	3:C:45:CYS:HB3	2.20	0.41
3:C:224:LEU:HD12	3:C:224:LEU:N	2.36	0.41
5:E:52:LYS:CB	5:E:63:TYR:HB3	2.51	0.41
5:E:67:ILE:HG21	5:E:223:ILE:HD12	2.03	0.41
7:G:29:LYS:HD2	7:G:29:LYS:HA	1.75	0.41
11:K:12:ILE:HG13	11:K:108:PRO:HB3	2.03	0.41
13:M:14(G):ILE:HB	13:M:144:PRO:CD	2.51	0.41
3:Q:224:LEU:HD12	3:Q:224:LEU:N	2.36	0.41
8:V:18:THR:HG21	8:V:30:ASN:ND2	2.35	0.41
2:B:5:SER:O	2:B:6:ARG:C	2.63	0.40
2:B:101:LYS:HZ2	10:J:85:GLN:NE2	2.18	0.40
2:B:21(C):ASP:OD2	2:B:219:GLU:HB3	2.21	0.40
8:H:84:LYS:HE2	8:H:119:THR:HG23	2.02	0.40
9:I:93:GLY:N	9:I:94:PRO:CD	2.83	0.40
12:L:42:VAL:CG2	12:L:102:ALA:HB3	2.51	0.40
12:L:105:ASP:C	12:L:105:ASP:OD1	2.64	0.40
1:O:100:TYR:OH	9:W:70:GLU:OE2	2.34	0.40
2:P:21(C):ASP:OD2	2:P:219:GLU:HB3	2.21	0.40
3:Q:106:PRO:HG2	3:Q:143:PRO:HG2	1.99	0.40
4:R:101:LEU:CD1	11:Y:57:THR:HG22	2.51	0.40
4:R:207:LEU:C	4:R:207:LEU:CD2	2.87	0.40
5:S:2(B):THR:H	5:S:2(E):ASN:HB3	1.85	0.40
8:V:72:ARG:HG3	8:V:72:ARG:NH1	2.34	0.40
8:V:128:GLY:O	8:V:131:SER:CB	2.66	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:23:GLN:CB	16:W:228:HOH:O	2.67	0.40
10:X:22:ARG:HD3	10:X:22:ARG:HA	1.94	0.40
2:B:147:GLN:HG2	3:C:62(A):ILE:HG21	2.02	0.40
3:C:106:PRO:HG2	3:C:143:PRO:HG2	2.00	0.40
6:F:18:ASP:OD2	6:F:18:ASP:N	2.44	0.40
7:G:234:VAL:O	7:G:237:ALA:HB3	2.21	0.40
10:J:129:TYR:O	10:J:132:PHE:HB2	2.21	0.40
10:J:147:THR:HG23	10:J:150:GLU:OE2	2.21	0.40
13:M:17:ASP:OD2	13:M:17:ASP:C	2.65	0.40
3:Q:185:THR:HG22	3:Q:186:VAL:N	2.35	0.40
4:R:97:VAL:HG13	16:Y:226:HOH:O	2.21	0.40
4:R:185:THR:HG23	4:R:188:GLU:OE1	2.21	0.40
5:S:139:ILE:HD12	5:S:215:VAL:HG12	2.03	0.40
9:W:93:GLY:N	9:W:94:PRO:CD	2.84	0.40
12:Z:42:VAL:CG2	12:Z:102:ALA:HB3	2.51	0.40
12:Z:114:ASP:OD2	12:Z:115:PRO:HD2	2.21	0.40
14:2:144:GLU:O	14:2:145:ASN:HB2	2.21	0.40
1:A:111:LEU:HD23	1:A:111:LEU:HA	1.89	0.40
4:D:242:ALA:C	4:D:244:GLU:H	2.30	0.40
6:F:179:LEU:HD11	6:F:192:GLN:HG3	2.03	0.40
11:K:76:VAL:N	11:K:106:GLU:OE2	2.49	0.40
11:K:114:ASP:OD1	11:K:114:ASP:C	2.64	0.40
13:M:137:LEU:O	13:M:140:LYS:HB2	2.20	0.40
6:T:175:GLU:HB2	6:T:196:ILE:HD12	2.03	0.40
9:W:28:SER:CB	10:X:120:VAL:HG21	2.51	0.40
14:2:146:MET:HE2	14:2:150:GLU:HB3	2.02	0.40
4:D:119:LEU:O	4:D:120:ALA:C	2.64	0.40
5:E:17:PRO:HA	6:F:26:TYR:CE2	2.56	0.40
6:F:175:GLU:HB2	6:F:196:ILE:HD12	2.04	0.40
10:J:12:VAL:HG23	10:J:108:PRO:HB2	2.03	0.40
11:K:25:TRP:HH2	12:L:135:MET:HB2	1.86	0.40
11:K:138:LEU:HD13	11:K:158:SER:OG	2.22	0.40
1:O:21(B):ASN:CB	1:O:21(F):LEU:HD12	2.51	0.40
3:Q:15:PHE:H	4:R:23:GLN:NE2	1.95	0.40
3:Q:57:LYS:C	3:Q:57:LYS:CD	2.95	0.40
3:Q:108:THR:HG23	16:Q:255:HOH:O	2.21	0.40
5:S:7:ASN:HD22	5:S:7:ASN:HA	1.76	0.40
7:U:17(C):LYS:HE3	7:U:17(C):LYS:HB2	1.76	0.40
11:Y:147:SER:O	11:Y:148:VAL:C	2.64	0.40
13:1:19:LEU:HD12	13:1:20:GLY:H	1.87	0.40
3:C:134:VAL:CG1	3:C:135:SER:N	2.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:46:THR:HG21	7:G:139:VAL:HB	2.03	0.40
8:H:18:THR:HG21	8:H:30:ASN:ND2	2.37	0.40
8:H:41:ILE:HD12	8:H:41:ILE:N	2.37	0.40
9:I:99:PRO:HB2	9:I:113:PHE:CD2	2.57	0.40
12:L:1:GLY:N	16:L:220:HOH:O	2.55	0.40
3:Q:134:VAL:CG1	3:Q:135:SER:N	2.84	0.40
5:S:152:GLN:HA	5:S:153:PRO:HD3	1.96	0.40
8:V:189:ARG:O	8:V:190:ASN:HB2	2.21	0.40
9:W:55:LEU:HD23	9:W:55:LEU:HA	1.94	0.40
10:X:70:GLU:O	10:X:71:ASP:C	2.65	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	248/250 (99%)	232 (94%)	13 (5%)	3 (1%)	10	31
1	O	248/250 (99%)	231 (93%)	13 (5%)	4 (2%)	7	24
2	B	242/244 (99%)	224 (93%)	12 (5%)	6 (2%)	4	15
2	P	242/244 (99%)	222 (92%)	14 (6%)	6 (2%)	4	15
3	C	239/241 (99%)	216 (90%)	18 (8%)	5 (2%)	5	18
3	Q	239/241 (99%)	216 (90%)	18 (8%)	5 (2%)	5	18
4	D	240/242 (99%)	226 (94%)	10 (4%)	4 (2%)	7	23
4	R	240/242 (99%)	224 (93%)	12 (5%)	4 (2%)	7	23
5	E	231/233 (99%)	209 (90%)	15 (6%)	7 (3%)	3	11
5	S	231/233 (99%)	208 (90%)	16 (7%)	7 (3%)	3	11
6	F	242/244 (99%)	227 (94%)	13 (5%)	2 (1%)	16	41
6	T	242/244 (99%)	226 (93%)	13 (5%)	3 (1%)	10	31

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	G	241/243 (99%)	226 (94%)	13 (5%)	2 (1%)	16	41
7	U	241/243 (99%)	227 (94%)	11 (5%)	3 (1%)	10	31
8	H	220/222 (99%)	207 (94%)	12 (6%)	1 (0%)	24	53
8	V	220/222 (99%)	209 (95%)	10 (4%)	1 (0%)	24	53
9	I	202/204 (99%)	192 (95%)	10 (5%)	0	100	100
9	W	202/204 (99%)	192 (95%)	10 (5%)	0	100	100
10	J	196/198 (99%)	189 (96%)	5 (3%)	2 (1%)	12	36
10	X	196/198 (99%)	187 (95%)	7 (4%)	2 (1%)	12	36
11	K	210/212 (99%)	203 (97%)	7 (3%)	0	100	100
11	Y	210/212 (99%)	204 (97%)	6 (3%)	0	100	100
12	L	220/222 (99%)	210 (96%)	9 (4%)	1 (0%)	24	53
12	Z	220/222 (99%)	209 (95%)	10 (4%)	1 (0%)	24	53
13	1	231/233 (99%)	218 (94%)	13 (6%)	0	100	100
13	M	231/233 (99%)	217 (94%)	14 (6%)	0	100	100
14	2	194/196 (99%)	185 (95%)	9 (5%)	0	100	100
14	N	194/196 (99%)	185 (95%)	9 (5%)	0	100	100
All	All	6312/6368 (99%)	5921 (94%)	322 (5%)	69 (1%)	11	34

All (69) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	58	LEU
4	D	12(G)	GLU
5	E	5	ARG
5	E	202	ARG
3	Q	58	LEU
4	R	12(G)	GLU
5	S	5	ARG
5	S	202	ARG
1	A	5	THR
2	B	54	VAL
2	B	20(A)	SER
2	B	21(B)	GLY
2	B	21(C)	ASP
3	C	183	PRO
3	C	203	THR

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Mol	Chain	Res	Type
5	E	64	GLN
5	E	217	LYS
7	G	239	GLN
10	J	192	ALA
1	O	5	THR
2	P	54	VAL
2	P	20(A)	SER
2	P	21(B)	GLY
2	P	21(C)	ASP
3	Q	183	PRO
3	Q	203	THR
5	S	64	GLN
5	S	217	LYS
7	U	239	GLN
8	V	91	GLN
10	X	192	ALA
3	C	184	ALA
5	E	203	ASP
8	H	91	GLN
3	Q	184	ALA
5	S	203	ASP
6	T	206	LYS
1	A	56	SER
1	A	167	LYS
2	B	184	MET
4	D	12(C)	GLY
4	D	12(F)	GLY
5	E	180	LEU
5	E	231	LYS
6	F	64	ASN
6	F	206	LYS
10	J	49	ALA
1	O	56	SER
1	O	167	LYS
2	P	6	ARG
2	P	184	MET
4	R	12(C)	GLY
4	R	12(F)	GLY
5	S	180	LEU
5	S	231	LYS
6	T	64	ASN
3	C	242	GLU

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Mol	Chain	Res	Type
4	D	120	ALA
12	L	93	PHE
1	O	53	LYS
3	Q	242	GLU
4	R	120	ALA
6	T	143	LYS
10	X	49	ALA
12	Z	93	PHE
2	B	6	ARG
7	U	61	PRO
7	U	55	PRO
7	G	61	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	209/209 (100%)	200 (96%)	9 (4%)	26	58
1	O	209/209 (100%)	200 (96%)	9 (4%)	26	58
2	B	203/203 (100%)	191 (94%)	12 (6%)	18	46
2	P	203/203 (100%)	191 (94%)	12 (6%)	18	46
3	C	213/213 (100%)	204 (96%)	9 (4%)	26	59
3	Q	213/213 (100%)	204 (96%)	9 (4%)	26	59
4	D	198/198 (100%)	188 (95%)	10 (5%)	21	52
4	R	198/198 (100%)	189 (96%)	9 (4%)	24	57
5	E	192/192 (100%)	180 (94%)	12 (6%)	16	43
5	S	192/192 (100%)	181 (94%)	11 (6%)	18	47
6	F	201/201 (100%)	190 (94%)	11 (6%)	19	49
6	T	201/201 (100%)	189 (94%)	12 (6%)	17	45
7	G	207/207 (100%)	198 (96%)	9 (4%)	26	58
7	U	207/207 (100%)	197 (95%)	10 (5%)	23	54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	H	181/181 (100%)	174 (96%)	7 (4%)	28	62
8	V	181/181 (100%)	174 (96%)	7 (4%)	28	62
9	I	172/172 (100%)	166 (96%)	6 (4%)	32	65
9	W	172/172 (100%)	166 (96%)	6 (4%)	32	65
10	J	175/175 (100%)	168 (96%)	7 (4%)	28	61
10	X	175/175 (100%)	168 (96%)	7 (4%)	28	61
11	K	169/169 (100%)	162 (96%)	7 (4%)	27	60
11	Y	169/169 (100%)	162 (96%)	7 (4%)	27	60
12	L	185/185 (100%)	162 (88%)	23 (12%)	4	15
12	Z	185/185 (100%)	162 (88%)	23 (12%)	4	15
13	1	199/199 (100%)	194 (98%)	5 (2%)	42	74
13	M	199/199 (100%)	193 (97%)	6 (3%)	36	69
14	2	162/162 (100%)	155 (96%)	7 (4%)	26	58
14	N	162/162 (100%)	156 (96%)	6 (4%)	30	63
All	All	5332/5332 (100%)	5064 (95%)	268 (5%)	22	53

All (268) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	32	LYS
1	A	33	GLN
1	A	62	GLU
1	A	64	LEU
1	A	124	THR
1	A	134	VAL
1	A	158	PHE
1	A	179	ARG
1	A	229	ILE
2	B	41	MET
2	B	58	LEU
2	B	67	LEU
2	B	74	ILE
2	B	135	SER
2	B	150	THR
2	B	163	ILE
2	B	169	THR
2	B	185	LYS

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Mol	Chain	Res	Type
2	B	192	LEU
2	B	216	ARG
2	B	224	PHE
3	C	10	ARG
3	C	25	GLU
3	C	57	LYS
3	C	135	SER
3	C	150	GLN
3	C	172	VAL
3	C	174	GLU
3	C	215	VAL
3	C	221	ILE
4	D	28	LEU
4	D	48	LEU
4	D	110	GLU
4	D	126	ARG
4	D	175	GLU
4	D	177	LEU
4	D	191	LEU
4	D	194	LEU
4	D	215	ILE
4	D	237	LEU
5	E	7	ASN
5	E	12	THR
5	E	32	LYS
5	E	57	GLU
5	E	76	LEU
5	E	97	ASN
5	E	189	LEU
5	E	199	GLN
5	E	207	LEU
5	E	214	ILE
5	E	227	GLU
5	E	233	ILE
6	F	11	SER
6	F	35	THR
6	F	36	THR
6	F	43	ASN
6	F	105	THR
6	F	121	GLN
6	F	127	ASN
6	F	169	ARG

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Mol	Chain	Res	Type
6	F	176	LEU
6	F	187	ARG
6	F	203	GLU
7	G	38	LEU
7	G	72	ARG
7	G	87	ASN
7	G	119	LEU
7	G	124	THR
7	G	197	MET
7	G	217	LYS
7	G	232	ARG
7	G	233	LEU
8	H	34	LEU
8	H	43	CYS
8	H	56	THR
8	H	68	LEU
8	H	121	VAL
8	H	144	GLN
8	H	197	ARG
9	I	20	LEU
9	I	29	ASN
9	I	113	PHE
9	I	116	ILE
9	I	125	ILE
9	I	160	LEU
10	J	35	ARG
10	J	52	THR
10	J	70	GLU
10	J	121	GLU
10	J	166	MET
10	J	168	MET
10	J	177	ILE
11	K	4	LEU
11	K	7	ARG
11	K	9	GLN
11	K	65	LEU
11	K	69	ARG
11	K	87	VAL
11	K	138	LEU
12	L	14	LEU
12	L	33	LYS
12	L	40	ASN

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Mol	Chain	Res	Type
12	L	58	ARG
12	L	98	HIS
12	L	99	THR
12	L	115	PRO
12	L	120	GLU
12	L	14(A)	LYS
12	L	14(B)	ASN
12	L	14(C)	GLN
12	L	14(D)	TYR
12	L	14(E)	GLU
12	L	14(F)	PRO
12	L	14(I)	THR
12	L	14(K)	LYS
12	L	14(M)	VAL
12	L	14(N)	LYS
12	L	14(O)	LYS
12	L	14(P)	PRO
12	L	14(Q)	LEU
12	L	14(W)	LYS
12	L	152	ILE
13	M	40	ASN
13	M	62	LEU
13	M	91	ARG
13	M	148	VAL
13	M	149	GLN
13	M	191	GLN
14	N	89	GLU
14	N	115	LEU
14	N	119	VAL
14	N	126	ILE
14	N	149	GLU
14	N	178	LEU
1	O	32	LYS
1	O	33	GLN
1	O	62	GLU
1	O	64	LEU
1	O	124	THR
1	O	134	VAL
1	O	158	PHE
1	O	179	ARG
1	O	229	ILE
2	P	41	MET

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Mol	Chain	Res	Type
2	P	58	LEU
2	P	67	LEU
2	P	74	ILE
2	P	135	SER
2	P	150	THR
2	P	163	ILE
2	P	169	THR
2	P	185	LYS
2	P	192	LEU
2	P	216	ARG
2	P	224	PHE
3	Q	10	ARG
3	Q	25	GLU
3	Q	57	LYS
3	Q	135	SER
3	Q	150	GLN
3	Q	172	VAL
3	Q	174	GLU
3	Q	215	VAL
3	Q	221	ILE
4	R	28	LEU
4	R	48	LEU
4	R	110	GLU
4	R	126	ARG
4	R	177	LEU
4	R	191	LEU
4	R	194	LEU
4	R	215	ILE
4	R	237	LEU
5	S	12	THR
5	S	32	LYS
5	S	57	GLU
5	S	76	LEU
5	S	97	ASN
5	S	189	LEU
5	S	199	GLN
5	S	207	LEU
5	S	214	ILE
5	S	227	GLU
5	S	233	ILE
6	T	11	SER
6	T	35	THR

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Mol	Chain	Res	Type
6	T	36	THR
6	T	43	ASN
6	T	72	ARG
6	T	105	THR
6	T	121	GLN
6	T	127	ASN
6	T	169	ARG
6	T	176	LEU
6	T	187	ARG
6	T	203	GLU
7	U	38	LEU
7	U	72	ARG
7	U	87	ASN
7	U	119	LEU
7	U	124	THR
7	U	197	MET
7	U	217	LYS
7	U	229	ILE
7	U	232	ARG
7	U	233	LEU
8	V	34	LEU
8	V	43	CYS
8	V	56	THR
8	V	68	LEU
8	V	121	VAL
8	V	144	GLN
8	V	197	ARG
9	W	20	LEU
9	W	29	ASN
9	W	113	PHE
9	W	116	ILE
9	W	125	ILE
9	W	160	LEU
10	X	35	ARG
10	X	52	THR
10	X	70	GLU
10	X	121	GLU
10	X	166	MET
10	X	168	MET
10	X	177	ILE
11	Y	4	LEU
11	Y	7	ARG

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Mol	Chain	Res	Type
11	Y	9	GLN
11	Y	65	LEU
11	Y	69	ARG
11	Y	87	VAL
11	Y	138	LEU
12	Z	14	LEU
12	Z	33	LYS
12	Z	40	ASN
12	Z	58	ARG
12	Z	98	HIS
12	Z	99	THR
12	Z	115	PRO
12	Z	120	GLU
12	Z	14(A)	LYS
12	Z	14(B)	ASN
12	Z	14(C)	GLN
12	Z	14(D)	TYR
12	Z	14(E)	GLU
12	Z	14(F)	PRO
12	Z	14(I)	THR
12	Z	14(K)	LYS
12	Z	14(M)	VAL
12	Z	14(N)	LYS
12	Z	14(O)	LYS
12	Z	14(P)	PRO
12	Z	14(Q)	LEU
12	Z	14(W)	LYS
12	Z	152	ILE
13	1	40	ASN
13	1	62	LEU
13	1	91	ARG
13	1	148	VAL
13	1	149	GLN
14	2	78	THR
14	2	89	GLU
14	2	115	LEU
14	2	119	VAL
14	2	126	ILE
14	2	149	GLU
14	2	178	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (227) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	33	GLN
1	A	97	HIS
1	A	150	GLN
2	B	23	GLN
2	B	33	HIS
2	B	71	ASN
2	B	95	HIS
2	B	97	GLN
2	B	121	GLN
2	B	125	GLN
2	B	156	ASN
2	B	173	GLN
2	B	177	GLN
2	B	218	ASN
3	C	23	GLN
3	C	59	GLN
3	C	82	ASN
3	C	97	GLN
3	C	121	GLN
3	C	125	GLN
3	C	163	GLN
3	C	209	ASN
3	C	238	GLN
3	C	243	GLN
4	D	23	GLN
4	D	108	ASN
4	D	161	ASN
4	D	226	ASN
5	E	7	ASN
5	E	33	GLN
5	E	73	HIS
5	E	104	ASN
5	E	121	GLN
5	E	123	ASN
5	E	125	GLN
5	E	156	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

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Mol	Chain	Res	Type
6	F	192	GLN
6	F	237	GLN
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	109	HIS
8	H	144	GLN
8	H	165	ASN
8	H	172	ASN
8	H	190	ASN
9	I	29	ASN
9	I	56	ASN
9	I	81	GLN
9	I	161	ASN
9	I	193	GLN
10	J	9	GLN
10	J	36	GLN
10	J	54	GLN
10	J	62	ASN
10	J	64	GLN
10	J	85	GLN
10	J	112	GLN
10	J	140	HIS
10	J	141	HIS
10	J	160	GLN
10	J	186	GLN
10	J	193	GLN
11	K	9	GLN
11	K	85	ASN
11	K	131	GLN
11	K	174	ASN
11	K	207	ASN
11	K	208	ASN

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Mol	Chain	Res	Type
12	L	-9	GLN
12	L	-7	ASN
12	L	27	ASN
12	L	40	ASN
12	L	46	ASN
12	L	61	ASN
12	L	70(A)	ASN
12	L	82	ASN
12	L	98	HIS
12	L	123	GLN
12	L	140	ASN
12	L	141	GLN
12	L	143	ASN
12	L	14(B)	ASN
12	L	1(I)	ASN
12	L	166	HIS
12	L	168	GLN
13	M	-7	GLN
13	M	10	ASN
13	M	40	ASN
13	M	89	GLN
13	M	93	ASN
13	M	149	GLN
13	M	157	ASN
13	M	172	ASN
13	M	191	GLN
14	N	69	GLN
14	N	141	ASN
14	N	157	HIS
14	N	161	GLN
1	O	33	GLN
1	O	97	HIS
1	O	150	GLN
2	P	23	GLN
2	P	33	HIS
2	P	71	ASN
2	P	95	HIS
2	P	97	GLN
2	P	121	GLN
2	P	125	GLN
2	P	173	GLN
2	P	177	GLN

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Mol	Chain	Res	Type
2	P	218	ASN
3	Q	23	GLN
3	Q	59	GLN
3	Q	82	ASN
3	Q	97	GLN
3	Q	121	GLN
3	Q	125	GLN
3	Q	163	GLN
3	Q	209	ASN
3	Q	238	GLN
3	Q	243	GLN
4	R	23	GLN
4	R	99	HIS
4	R	108	ASN
4	R	147	GLN
4	R	161	ASN
4	R	226	ASN
5	S	7	ASN
5	S	33	GLN
5	S	64	GLN
5	S	73	HIS
5	S	104	ASN
5	S	121	GLN
5	S	125	GLN
5	S	156	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	144	ASN
6	T	147	HIS
6	T	192	GLN
6	T	237	GLN
7	U	11	HIS
7	U	34(A)	ASN
7	U	87	ASN
7	U	118	ASN
7	U	121	GLN
7	U	125	GLN

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Mol	Chain	Res	Type
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	144	GLN
8	V	165	ASN
8	V	172	ASN
8	V	190	ASN
9	W	29	ASN
9	W	56	ASN
9	W	64	ASN
9	W	81	GLN
9	W	157	GLN
10	X	9	GLN
10	X	36	GLN
10	X	54	GLN
10	X	62	ASN
10	X	64	GLN
10	X	85	GLN
10	X	112	GLN
10	X	140	HIS
10	X	141	HIS
10	X	160	GLN
10	X	186	GLN
10	X	193	GLN
11	Y	9	GLN
11	Y	62	GLN
11	Y	85	ASN
11	Y	174	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	123	GLN
12	Z	143	ASN

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Mol	Chain	Res	Type
12	Z	1(I)	ASN
12	Z	168	GLN
13	1	-7	GLN
13	1	10	ASN
13	1	40	ASN
13	1	54	HIS
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	141	ASN
14	2	157	HIS
14	2	161	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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	BIQ	V	1001	-	51,51,51	1.84	15 (29%)	66,69,69	2.14	14 (21%)
15	BIQ	H	1000	-	51,51,51	1.81	16 (31%)	66,69,69	2.12	14 (21%)

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	BIQ	V	1001	-	-	11/51/53/53	0/3/4/4
15	BIQ	H	1000	-	-	12/51/53/53	0/3/4/4

All (31) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	V	1001	BIQ	C37-N38	-3.72	1.38	1.45
15	V	1001	BIQ	C37-C32	3.58	1.47	1.40
15	H	1000	BIQ	C42-C30	3.53	1.45	1.38
15	V	1001	BIQ	C42-C30	3.51	1.45	1.38
15	H	1000	BIQ	C37-N38	-3.42	1.39	1.45
15	H	1000	BIQ	O31-C32	3.34	1.46	1.39
15	V	1001	BIQ	C5-N6	3.33	1.43	1.34
15	V	1001	BIQ	O31-C32	3.26	1.46	1.39
15	H	1000	BIQ	C37-C32	3.25	1.46	1.40
15	H	1000	BIQ	C5-N6	3.03	1.42	1.34
15	V	1001	BIQ	C43-C42	2.95	1.43	1.38
15	H	1000	BIQ	C43-C42	2.79	1.43	1.38
15	V	1001	BIQ	C36-C37	2.67	1.44	1.39
15	H	1000	BIQ	C46-C45	2.59	1.43	1.38
15	H	1000	BIQ	O4-C5	2.49	1.40	1.35
15	H	1000	BIQ	C7-N6	2.47	1.51	1.45
15	V	1001	BIQ	O4-C5	2.45	1.40	1.35
15	H	1000	BIQ	C45-C2	2.35	1.43	1.38
15	V	1001	BIQ	C33-C32	2.32	1.42	1.38
15	V	1001	BIQ	C1-C2	2.29	1.43	1.38
15	V	1001	BIQ	C28-C27	2.25	1.43	1.38
15	V	1001	BIQ	C36-C35	2.23	1.42	1.38
15	V	1001	BIQ	C7-N6	2.17	1.50	1.45
15	H	1000	BIQ	C29-C28	2.13	1.42	1.38
15	V	1001	BIQ	C47-C46	2.08	1.42	1.38
15	H	1000	BIQ	C33-C32	2.06	1.42	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	V	1001	BIQ	O31-C30	2.06	1.44	1.39
15	H	1000	BIQ	O31-C30	2.06	1.44	1.39
15	H	1000	BIQ	C8-N10	2.06	1.38	1.34
15	H	1000	BIQ	C36-C37	2.03	1.42	1.39
15	H	1000	BIQ	O39-N38	2.01	1.26	1.22

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	H	1000	BIQ	C12-C11-N10	9.77	129.28	110.64
15	V	1001	BIQ	C12-C11-N10	9.60	128.96	110.64
15	V	1001	BIQ	C7-C8-N10	5.27	127.88	116.63
15	H	1000	BIQ	C7-C8-N10	4.90	127.07	116.63
15	H	1000	BIQ	C41-C7-N6	-4.88	100.72	110.83
15	H	1000	BIQ	C11-N10-C8	4.86	132.09	121.65
15	V	1001	BIQ	C11-N10-C8	4.82	132.00	121.65
15	V	1001	BIQ	O9-C8-N10	-4.23	115.38	122.96
15	V	1001	BIQ	C41-C7-N6	-4.12	102.29	110.83
15	H	1000	BIQ	O9-C8-N10	-4.08	115.66	122.96
15	V	1001	BIQ	C26-C19-N18	3.54	118.16	110.83
15	H	1000	BIQ	C26-C19-N18	3.36	117.79	110.83
15	V	1001	BIQ	C34-C41-C7	3.19	121.84	113.36
15	H	1000	BIQ	C34-C41-C7	3.18	121.82	113.36
15	H	1000	BIQ	C23-N22-C20	3.15	128.20	122.55
15	H	1000	BIQ	C41-C7-C8	3.11	118.27	110.30
15	V	1001	BIQ	C41-C7-C8	3.11	118.25	110.30
15	V	1001	BIQ	O31-C32-C37	2.95	122.70	117.52
15	V	1001	BIQ	C32-O31-C30	-2.89	110.96	117.95
15	H	1000	BIQ	O31-C32-C37	2.77	122.38	117.52
15	V	1001	BIQ	C23-N22-C20	2.76	127.51	122.55
15	H	1000	BIQ	C32-O31-C30	-2.58	111.70	117.95
15	V	1001	BIQ	O4-C3-C2	2.50	115.48	109.40
15	H	1000	BIQ	C24-C23-N22	-2.41	104.22	112.23
15	V	1001	BIQ	C36-C37-N38	2.40	119.04	116.47
15	H	1000	BIQ	C11-C12-C13	2.25	116.73	112.21
15	V	1001	BIQ	C24-C23-N22	-2.24	104.76	112.23
15	H	1000	BIQ	C20-C19-N18	-2.20	105.17	111.11

There are no chirality outliers.

All (23) torsion outliers are listed below:

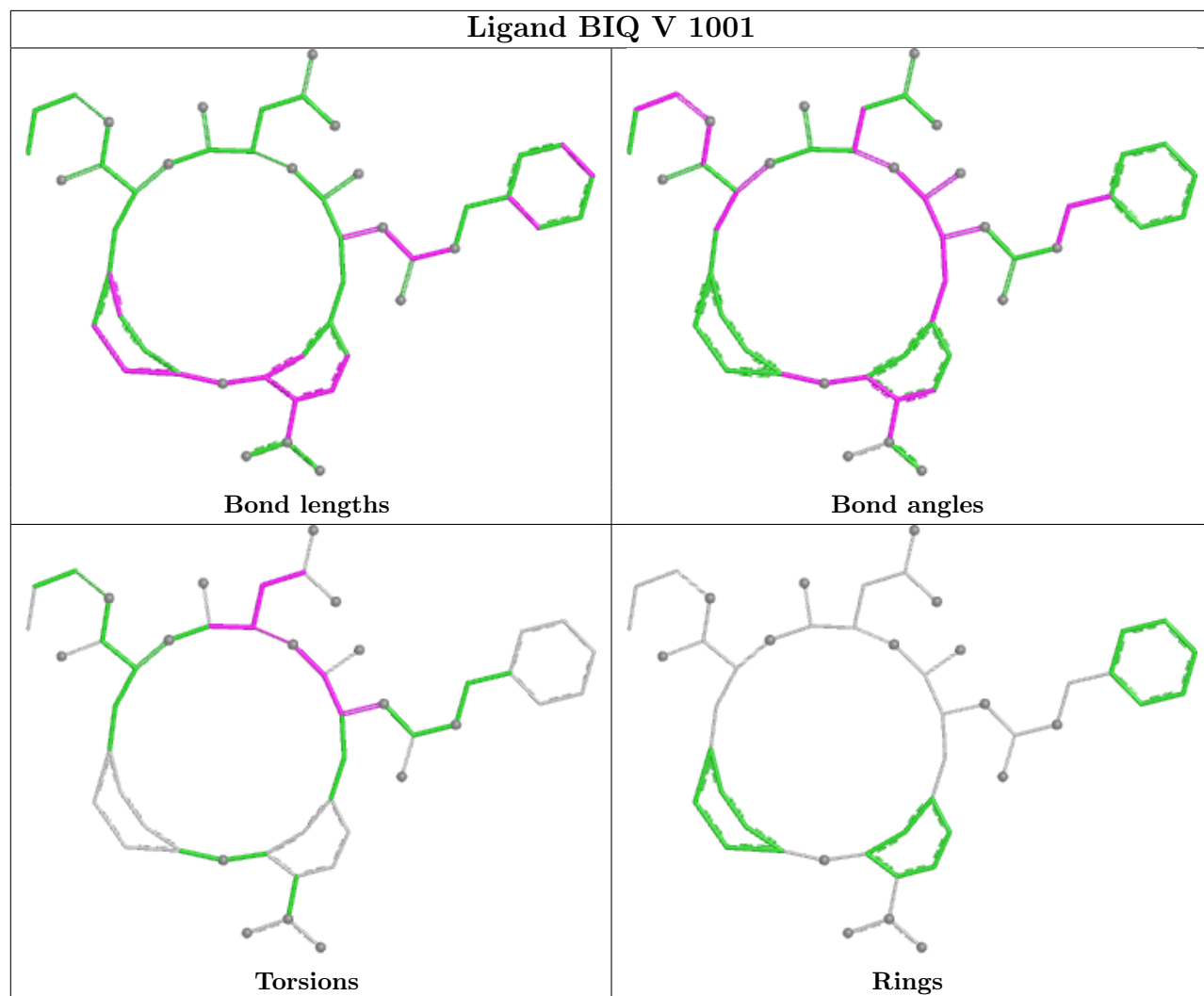
Mol	Chain	Res	Type	Atoms
15	V	1001	BIQ	C16-C11-C12-C13
15	H	1000	BIQ	O9-C8-N10-C11
15	V	1001	BIQ	O9-C8-N10-C11
15	V	1001	BIQ	C7-C8-N10-C11
15	H	1000	BIQ	C7-C8-N10-C11
15	V	1001	BIQ	C11-C12-C13-N14
15	H	1000	BIQ	C16-C11-C12-C13
15	H	1000	BIQ	C11-C12-C13-N14
15	H	1000	BIQ	C11-C12-C13-O15
15	V	1001	BIQ	C11-C12-C13-O15
15	V	1001	BIQ	C12-C11-N10-C8
15	V	1001	BIQ	C41-C7-N6-C5
15	H	1000	BIQ	N10-C11-C16-N18
15	V	1001	BIQ	N10-C11-C16-N18
15	H	1000	BIQ	C12-C11-N10-C8
15	H	1000	BIQ	C41-C7-N6-C5
15	V	1001	BIQ	N6-C7-C8-O9
15	H	1000	BIQ	N6-C7-C8-N10
15	V	1001	BIQ	N6-C7-C8-N10
15	V	1001	BIQ	N10-C11-C16-O17
15	H	1000	BIQ	N10-C11-C16-O17
15	H	1000	BIQ	N6-C7-C8-O9
15	H	1000	BIQ	C35-C34-C41-C7

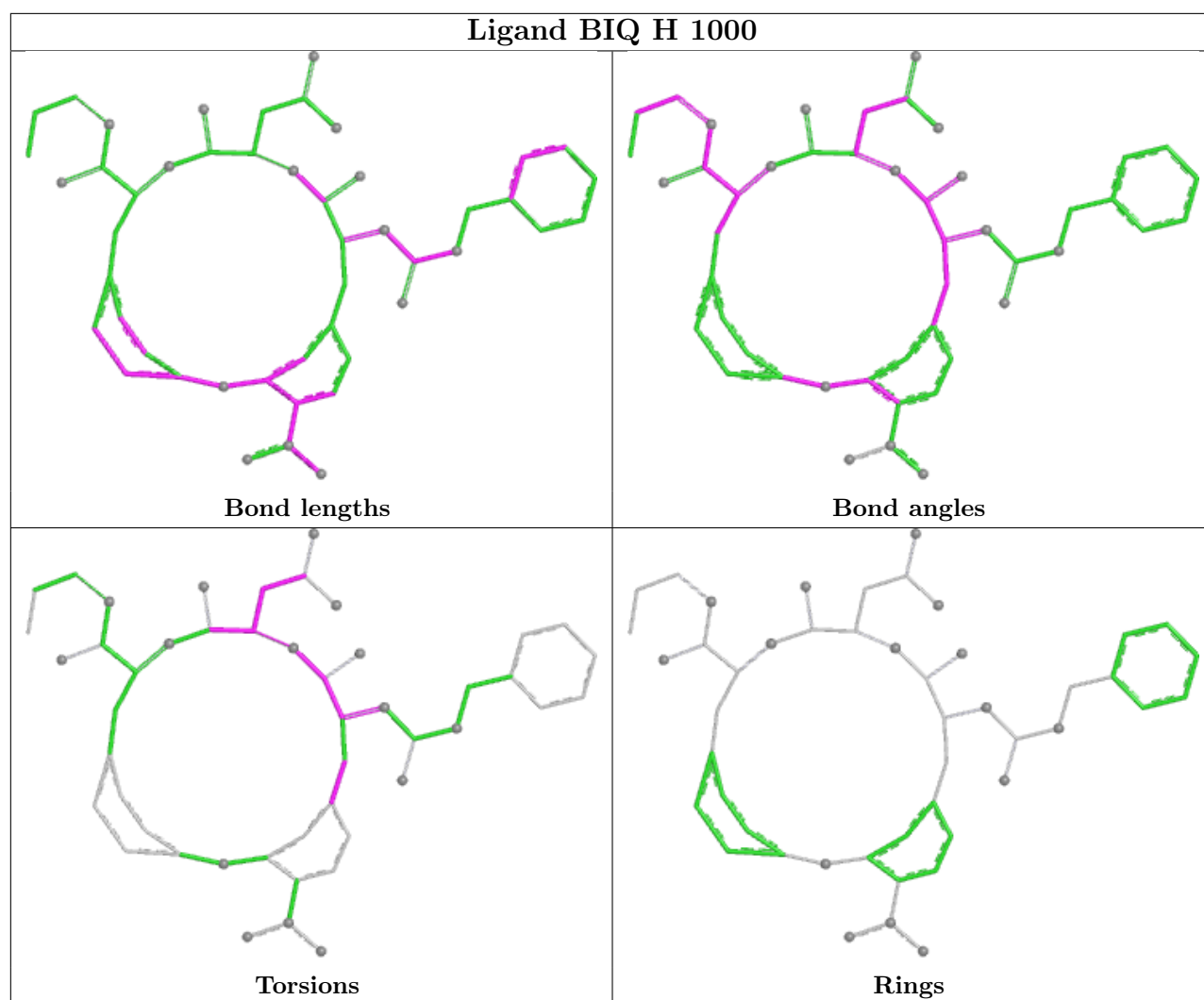
There are no ring outliers.

2 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
15	V	1001	BIQ	5	0
15	H	1000	BIQ	4	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	250/250 (100%)	-0.27	2 (0%) 82 75	33, 45, 76, 103	0
1	O	250/250 (100%)	-0.14	6 (2%) 59 49	33, 52, 81, 106	0
2	B	244/244 (100%)	0.04	11 (4%) 38 30	31, 52, 87, 116	0
2	P	244/244 (100%)	0.15	13 (5%) 32 24	35, 55, 91, 118	0
3	C	241/241 (100%)	0.10	12 (4%) 34 26	33, 57, 109, 123	0
3	Q	241/241 (100%)	0.30	14 (5%) 29 21	37, 60, 110, 122	0
4	D	242/242 (100%)	0.09	7 (2%) 53 43	35, 56, 89, 121	0
4	R	242/242 (100%)	0.24	9 (3%) 45 36	36, 60, 91, 121	0
5	E	233/233 (100%)	0.16	9 (3%) 43 34	39, 59, 85, 110	0
5	S	233/233 (100%)	0.56	24 (10%) 12 9	38, 63, 89, 108	0
6	F	244/244 (100%)	-0.03	4 (1%) 70 61	34, 54, 88, 105	0
6	T	244/244 (100%)	0.18	4 (1%) 70 61	34, 55, 90, 107	0
7	G	243/243 (100%)	-0.23	5 (2%) 63 54	29, 47, 75, 114	0
7	U	243/243 (100%)	-0.15	4 (1%) 70 61	30, 49, 74, 114	0
8	H	222/222 (100%)	-0.39	1 (0%) 87 82	26, 43, 61, 92	0
8	V	222/222 (100%)	-0.37	2 (0%) 81 74	30, 44, 63, 96	0
9	I	204/204 (100%)	-0.45	1 (0%) 87 82	28, 44, 61, 80	0
9	W	204/204 (100%)	-0.48	1 (0%) 87 82	31, 45, 64, 79	0
10	J	198/198 (100%)	-0.30	5 (2%) 58 48	29, 45, 62, 120	0
10	X	198/198 (100%)	-0.28	6 (3%) 52 42	33, 48, 63, 122	0
11	K	212/212 (100%)	-0.28	1 (0%) 87 82	27, 47, 63, 74	0
11	Y	212/212 (100%)	-0.32	1 (0%) 87 82	29, 48, 67, 74	0
12	L	222/222 (100%)	-0.34	2 (0%) 81 74	27, 45, 69, 88	0
12	Z	222/222 (100%)	-0.31	2 (0%) 81 74	30, 45, 69, 88	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å ²)	Q<0.9
13	1	233/233 (100%)	-0.44	1 (0%)	88 84	28, 43, 57, 64	0
13	M	233/233 (100%)	-0.43	1 (0%)	88 84	29, 45, 60, 67	0
14	2	196/196 (100%)	-0.37	2 (1%)	79 72	24, 43, 66, 78	0
14	N	196/196 (100%)	-0.42	1 (0%)	87 82	28, 42, 66, 76	0
All	All	6368/6368 (100%)	-0.14	151 (2%)	59 49	24, 49, 83, 123	0

All (151) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	Q	56	LEU	9.0
4	D	12(D)	ALA	8.7
4	R	12(D)	ALA	8.7
4	D	12(E)	SER	6.4
7	U	240	ASP	6.2
3	Q	58	LEU	5.8
2	B	217	ALA	5.6
4	D	12(C)	GLY	5.5
2	B	21(B)	GLY	5.3
10	X	193	GLN	5.2
3	C	55	THR	5.2
4	R	12(C)	GLY	5.1
2	B	239	THR	4.8
3	C	54	SER	4.8
5	S	58	LEU	4.6
5	S	55	ALA	4.6
3	Q	55	THR	4.6
3	C	56	LEU	4.6
7	G	6	ALA	4.5
5	S	2(E)	ASN	4.5
4	D	126	ARG	4.5
2	P	217	ALA	4.4
10	J	193	GLN	4.4
2	P	21(B)	GLY	4.2
3	C	59	GLN	4.1
5	S	60	SER	4.0
5	S	56	ASP	3.9
3	C	242	GLU	3.9
5	S	54	ASN	3.9
5	E	4	PHE	3.8
10	J	192	ALA	3.8
4	R	12(E)	SER	3.7

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Mol	Chain	Res	Type	RSRZ
5	S	4	PHE	3.7
2	B	54	VAL	3.7
10	X	-1	MET	3.7
4	D	12(F)	GLY	3.7
5	S	59	SER	3.7
5	S	63	TYR	3.7
4	R	126	ARG	3.6
4	R	127	LEU	3.5
13	1	-8	THR	3.5
7	U	6	ALA	3.5
3	Q	57	LYS	3.5
3	Q	54	SER	3.4
9	I	-8	SER	3.4
2	P	239	THR	3.4
5	S	51	LEU	3.3
4	R	158	TYR	3.2
2	P	21(D)	GLY	3.2
3	C	207	ALA	3.0
2	B	21(D)	GLY	3.0
3	C	203	THR	3.0
3	Q	63	THR	3.0
10	J	-1	MET	3.0
6	F	5	GLY	3.0
12	L	145	TYR	3.0
13	M	-8	THR	3.0
4	R	12(F)	GLY	3.0
3	Q	64	PRO	2.9
3	C	208	LYS	2.9
2	P	219	GLU	2.9
5	S	203	ASP	2.9
5	E	56	ASP	2.9
5	S	32	LYS	2.9
4	D	242	ALA	2.9
6	T	215	CYS	2.9
5	S	52	LYS	2.8
10	X	192	ALA	2.8
2	B	21(C)	ASP	2.8
2	B	238	ILE	2.8
6	F	204	ASP	2.8
11	Y	145	ASP	2.8
5	E	203	ASP	2.8
4	D	127	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
2	P	218	ASN	2.8
1	O	235	ALA	2.7
5	S	50	ALA	2.7
7	G	240	ASP	2.7
10	X	10	ASP	2.7
10	J	191	GLN	2.7
7	U	7	GLY	2.6
2	P	54	VAL	2.6
12	L	14(W)	LYS	2.6
5	S	2(C)	VAL	2.6
6	F	240	ILE	2.6
5	S	201	LEU	2.5
14	N	149	GLU	2.5
1	A	4	MET	2.5
3	Q	203	THR	2.5
10	X	189	ASP	2.5
2	P	56	SER	2.5
4	R	121	LEU	2.5
14	2	116	GLY	2.5
2	P	220	TYR	2.5
3	C	237	GLU	2.5
2	B	218	ASN	2.5
3	C	239	GLU	2.4
2	P	61	GLN	2.4
2	P	21(A)	LYS	2.4
1	O	56	SER	2.4
4	R	12(B)	GLU	2.4
8	V	120	ASP	2.4
9	W	-8	SER	2.4
1	O	57	PRO	2.4
2	B	21(A)	LYS	2.4
5	S	5	ARG	2.4
10	J	10	ASP	2.4
2	P	21(C)	ASP	2.3
5	E	57	GLU	2.3
5	S	57	GLU	2.3
1	O	64	LEU	2.3
2	B	219	GLU	2.3
2	P	59	LEU	2.3
7	G	239	GLN	2.3
5	E	5	ARG	2.3
3	Q	237	GLU	2.2

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Mol	Chain	Res	Type	RSRZ
8	H	120	ASP	2.2
5	S	174	THR	2.2
1	O	4	MET	2.2
5	S	210	LEU	2.2
14	2	105	ASP	2.2
5	S	18(B)	THR	2.2
7	G	7	GLY	2.2
12	Z	145	TYR	2.2
3	C	57	LYS	2.2
1	O	236	LEU	2.2
1	A	235	ALA	2.2
7	U	238	GLU	2.2
8	V	221	ILE	2.2
5	E	179	THR	2.2
11	K	208	ASN	2.1
6	T	166	GLY	2.1
5	E	63	TYR	2.1
5	S	188	GLU	2.1
6	T	203	GLU	2.1
3	Q	44	ASN	2.1
3	Q	208	LYS	2.1
3	Q	240	LYS	2.1
5	S	230	ALA	2.1
5	S	227	GLU	2.1
12	Z	14(W)	LYS	2.1
7	G	236	ILE	2.1
3	Q	235	GLN	2.0
10	X	191	GLN	2.0
2	B	4	GLY	2.0
6	T	20(C)	LYS	2.0
3	Q	202	GLN	2.0
5	E	33	GLN	2.0
3	C	209	ASN	2.0
5	E	2(E)	ASN	2.0
6	F	205	ASN	2.0

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

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

6.3 Carbohydrates [i](#)

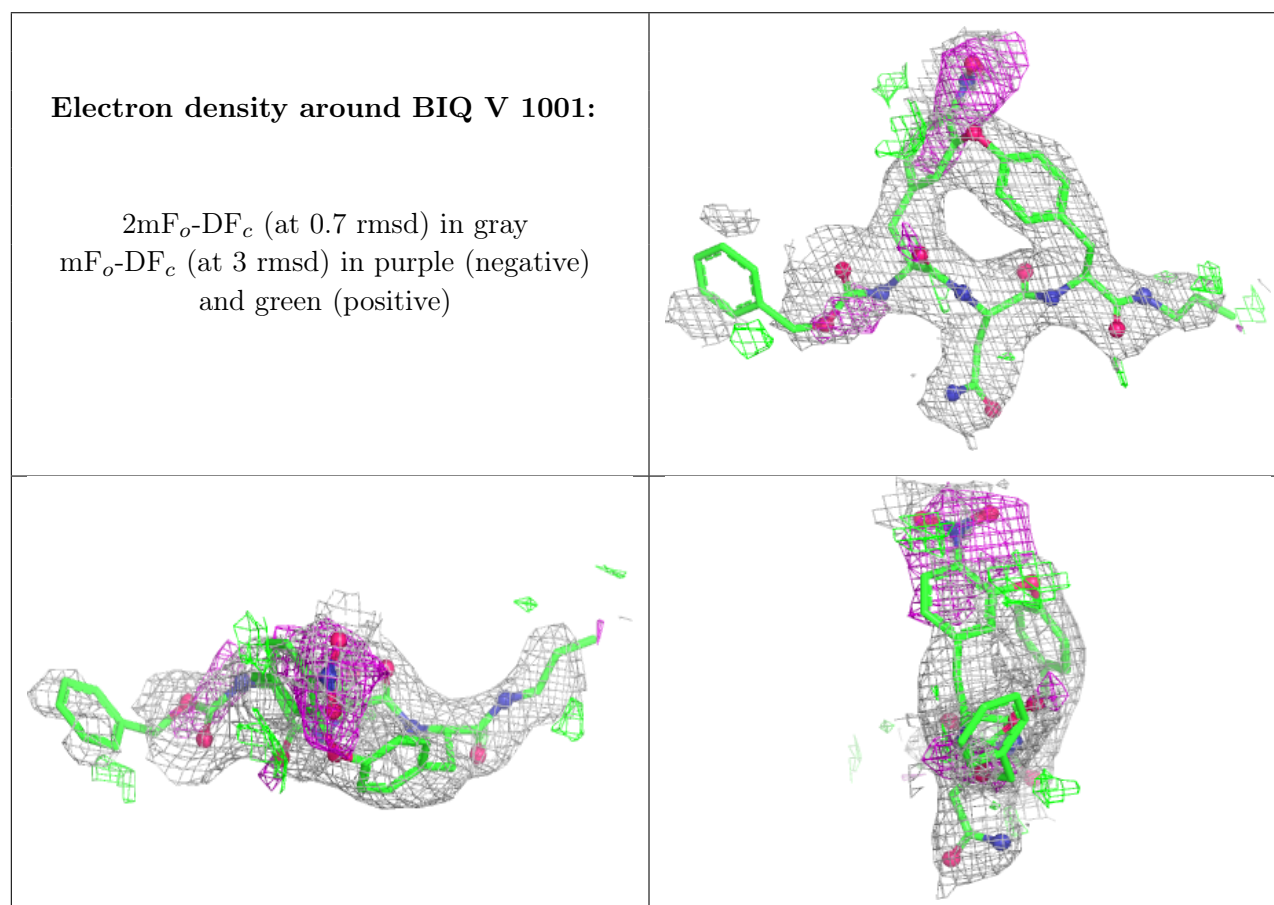
There are no oligosaccharides in this entry.

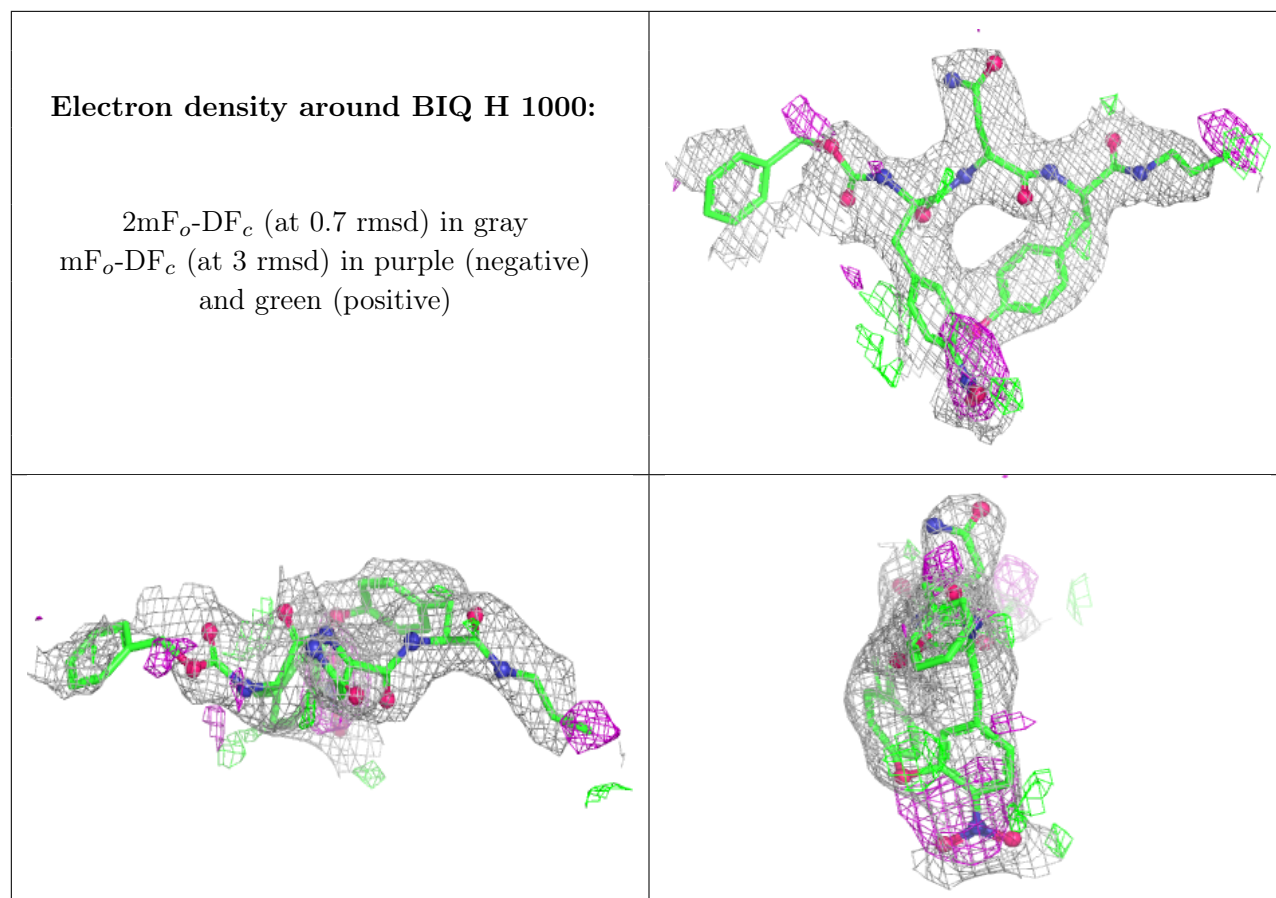
6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
15	BIQ	V	1001	48/48	0.81	0.16	36,57,68,71	6
15	BIQ	H	1000	48/48	0.82	0.15	28,54,64,67	7

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.





6.5 Other polymers ⓘ

There are no such residues in this entry.