



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 06:11 AM UTC

PDB ID : 1BGY / pdb_00001bgry
Title : CYTOCHROME BC1 COMPLEX FROM BOVINE
Authors : Iwata, S.; Lee, J.W.; Okada, K.; Lee, J.K.; Iwata, M.; Ramaswamy, S.; Jap, B.K.
Deposited on : 1998-06-02
Resolution : 3.00 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)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

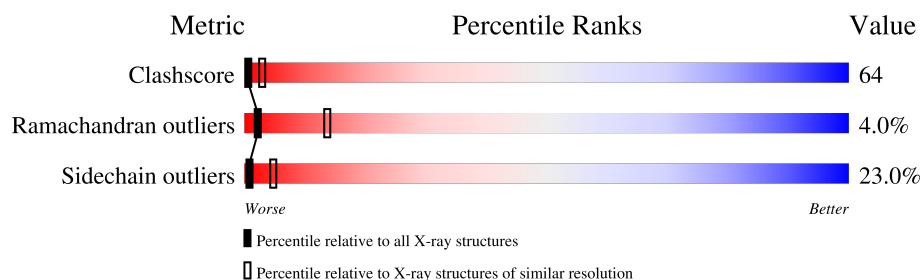
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	190562	2977 (3.00-3.00)
Ramachandran outliers	187476	2877 (3.00-3.00)
Sidechain outliers	187428	2880 (3.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments 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 $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	446	17% 50% 27% 5%
1	M	446	18% 53% 26% .
2	B	439	20% 51% 21% . 5%
2	N	439	22% 51% 21% . 5%
3	C	379	15% 51% 28% 6%
3	O	379	18% 53% 26% .
4	D	241	22% 51% 21% 6%
4	P	241	21% 54% 23% .

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Mol	Chain	Length	Quality of chain
5	E	196	
5	Q	196	
6	F	110	
6	R	110	
7	G	81	
7	S	81	
8	H	78	
8	T	78	
9	I	78	
9	U	78	
10	J	62	
10	V	62	
11	K	56	
11	W	56	

2 Entry composition

There are 14 unique types of molecules in this entry. The entry contains 31486 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 CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	446	Total	C	N	O	S	0	0	0
			3458	2161	609	668	20			
1	M	446	Total	C	N	O	S	0	0	0
			3458	2161	609	668	20			

- Molecule 2 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	419	Total	C	N	O	S	0	0	0
			3141	1972	556	606	7			
2	N	419	Total	C	N	O	S	0	0	0
			3141	1972	556	606	7			

- Molecule 3 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	379	Total	C	N	O	S	0	0	0
			3011	2018	472	502	19			
3	O	379	Total	C	N	O	S	0	0	0
			3011	2018	472	502	19			

- Molecule 4 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	241	Total	C	N	O	S	0	0	0
			1919	1225	330	349	15			
4	P	241	Total	C	N	O	S	0	0	0
			1919	1225	330	349	15			

- Molecule 5 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	75	Total	C	N	O	S	0	0	0
			566	352	94	118	2			
5	Q	196	Total	C	N	O	S	0	0	0
			1518	956	263	291	8			

- Molecule 6 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	106	Total	C	N	O	S	0	0	0
			916	579	166	169	2			
6	R	106	Total	C	N	O	S	0	0	0
			916	579	166	169	2			

- Molecule 7 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	81	Total	C	N	O	S	0	0	0
			682	441	128	112	1			
7	S	81	Total	C	N	O	S	0	0	0
			682	441	128	112	1			

- Molecule 8 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	64	Total	C	N	O	S	0	0	0
			524	316	96	107	5			
8	T	64	Total	C	N	O	S	0	0	0
			524	316	96	107	5			

- Molecule 9 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	33	Total	C	N	O	S	0	0	0
			248	152	51	44	1			
9	U	33	Total	C	N	O	S	0	0	0
			248	152	51	44	1			

- Molecule 10 is a protein called CYTOCHROME BC1 COMPLEX.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
10	J	62	Total	C	N	O	0	0	0
			512	335	89	88			

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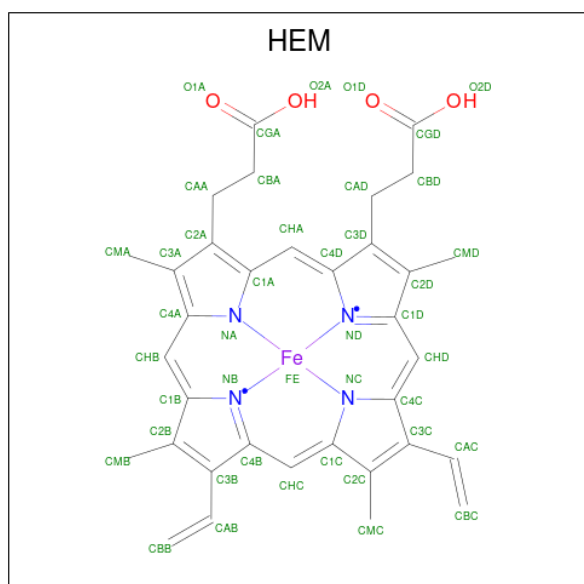
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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
10	V	62	Total	C	N	O	0	0	0
			512	335	89	88			

- Molecule 11 is a protein called CYTOCHROME BC1 COMPLEX.

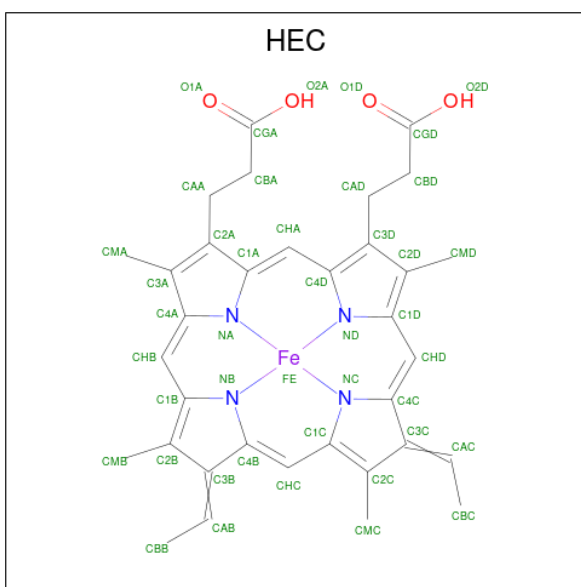
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
11	K	22	Total	C	N	O	0	0	0
			159	103	29	27			
11	W	22	Total	C	N	O	0	0	0
			159	103	29	27			

- Molecule 12 is PROTOPORPHYRIN IX CONTAINING FE (CCD ID: HEM) (formula: $C_{34}H_{32}FeN_4O_4$).



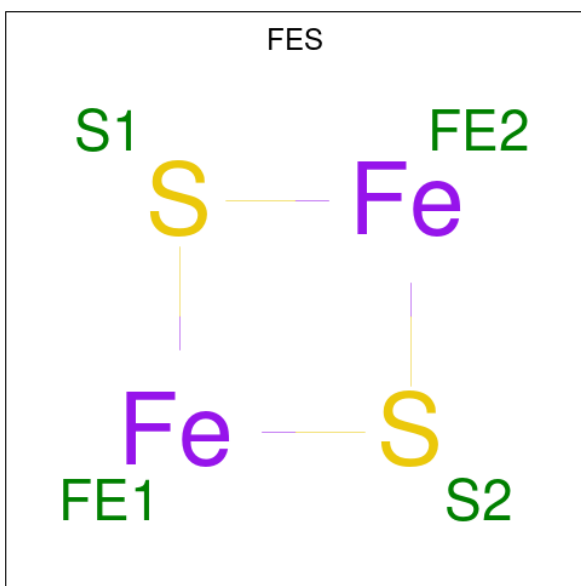
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
12	C	1	Total	C	Fe	N	O	
			43	34	1	4	4	0
12	C	1	Total	C	Fe	N	O	
			43	34	1	4	4	0
12	O	1	Total	C	Fe	N	O	
			43	34	1	4	4	0
12	O	1	Total	C	Fe	N	O	
			43	34	1	4	4	0

- Molecule 13 is HEME C (CCD ID: HEC) (formula: $C_{34}H_{34}FeN_4O_4$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
13	D	1	Total	C	Fe	N	O	0	0
			43	34	1	4	4		
13	P	1	Total	C	Fe	N	O	0	0
			43	34	1	4	4		

- Molecule 14 is FE2/S2 (INORGANIC) CLUSTER (CCD ID: FES) (formula: Fe_2S_2).



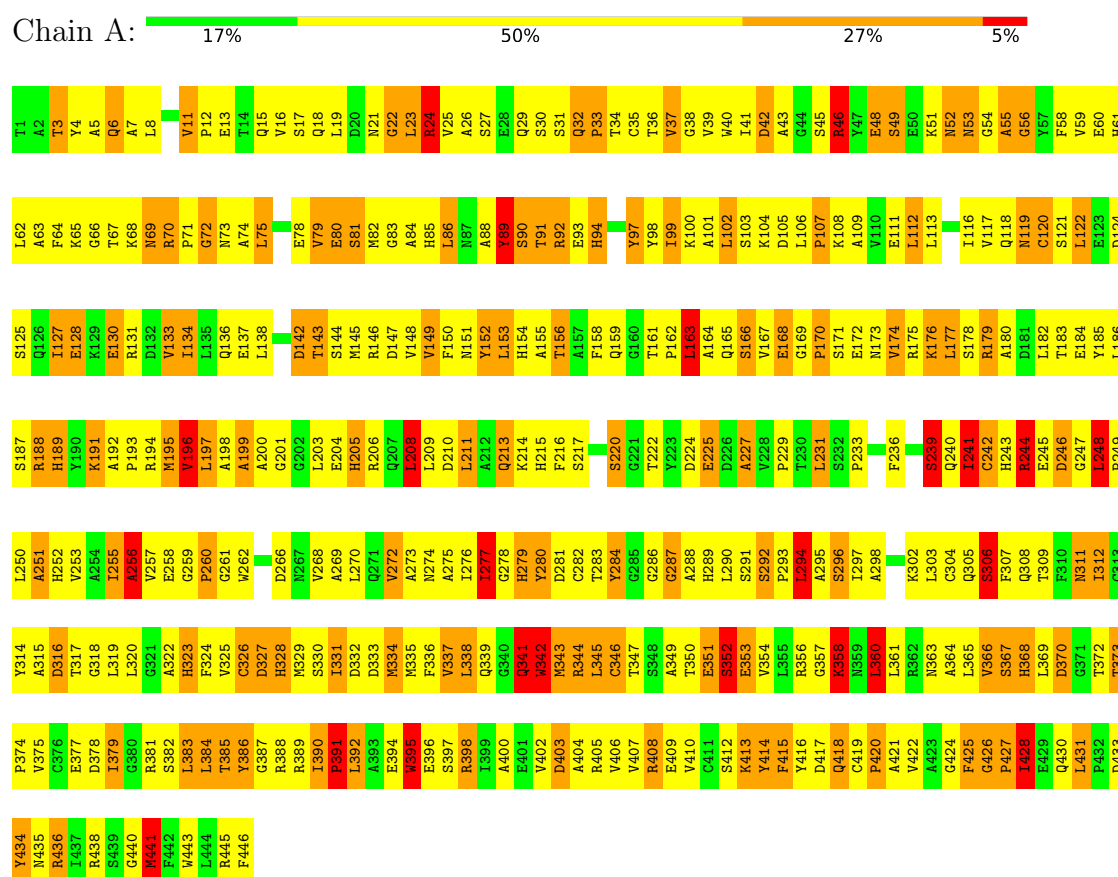
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
14	Q	1	Total	Fe	S	0	0
			4	2	2		

3 Residue-property plots

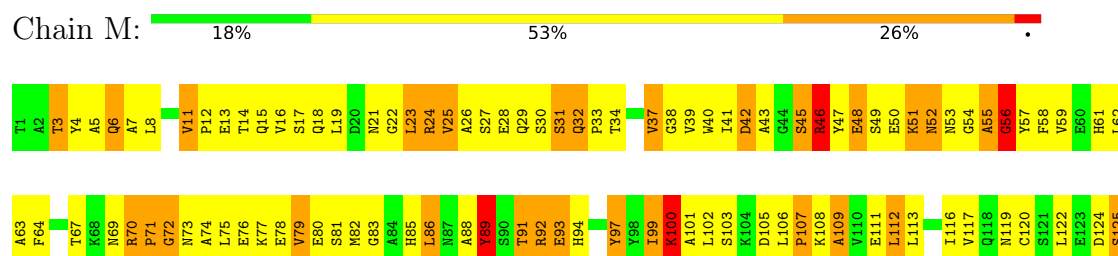
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded 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. 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.

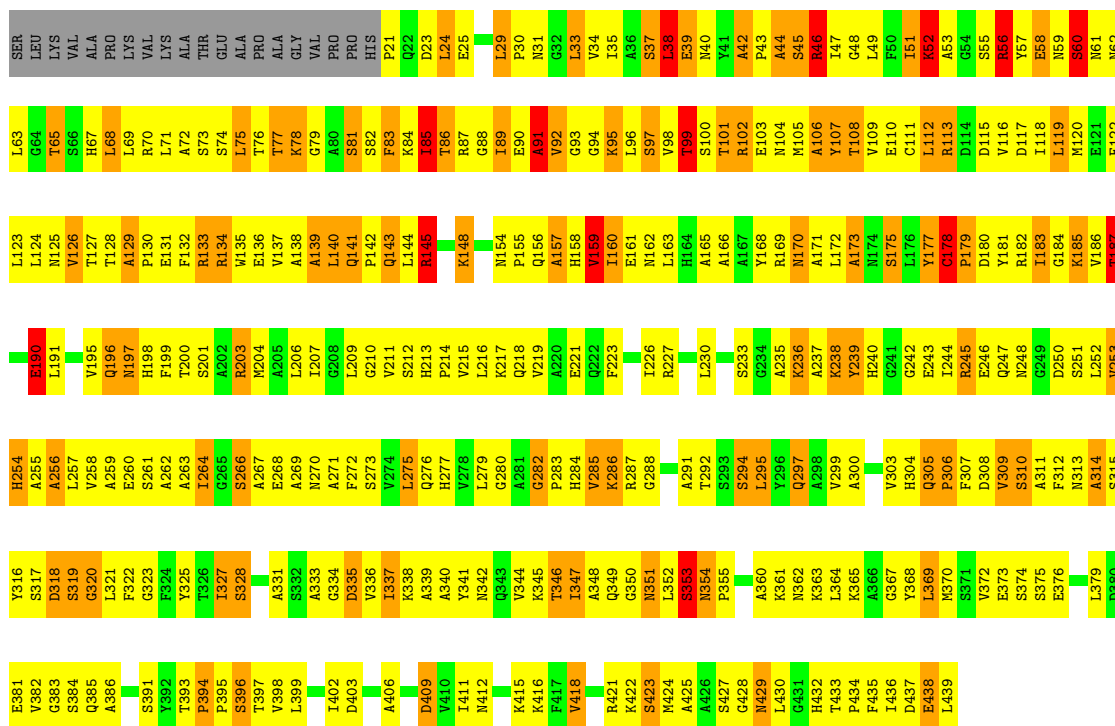
Note EDS was not executed.

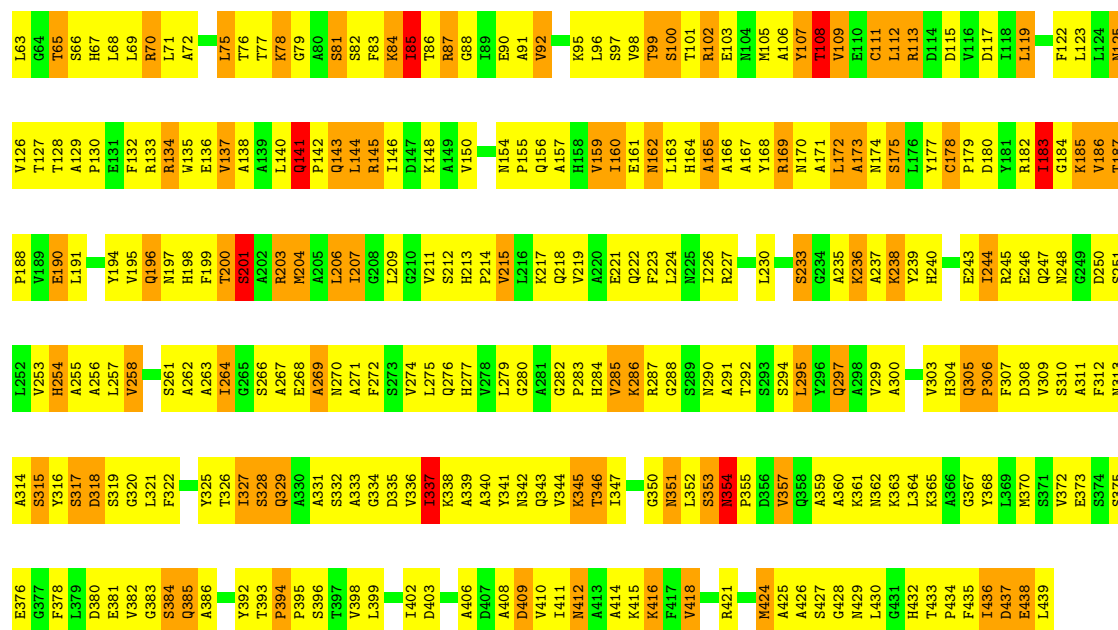
• Molecule 1: CYTOCHROME BC1 COMPLEX



• Molecule 1: CYTOCHROME BC1 COMPLEX

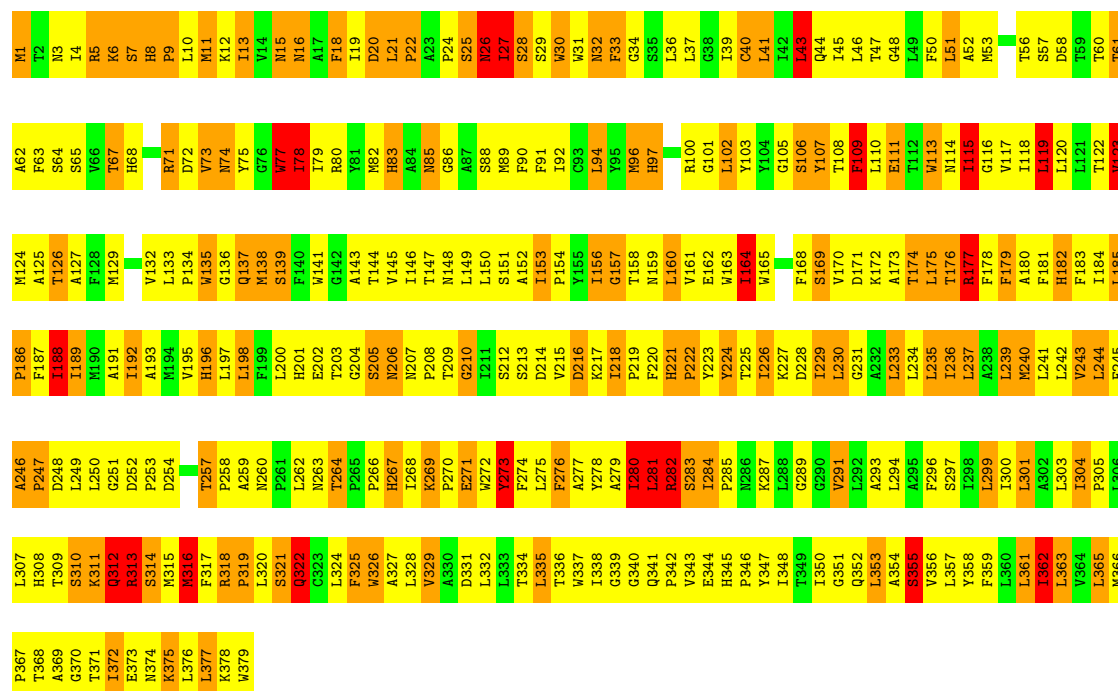






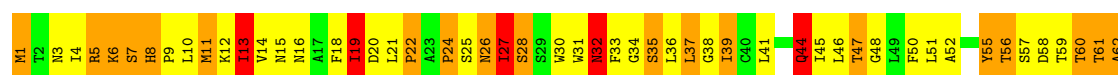
• Molecule 3: CYTOCHROME BC1 COMPLEX

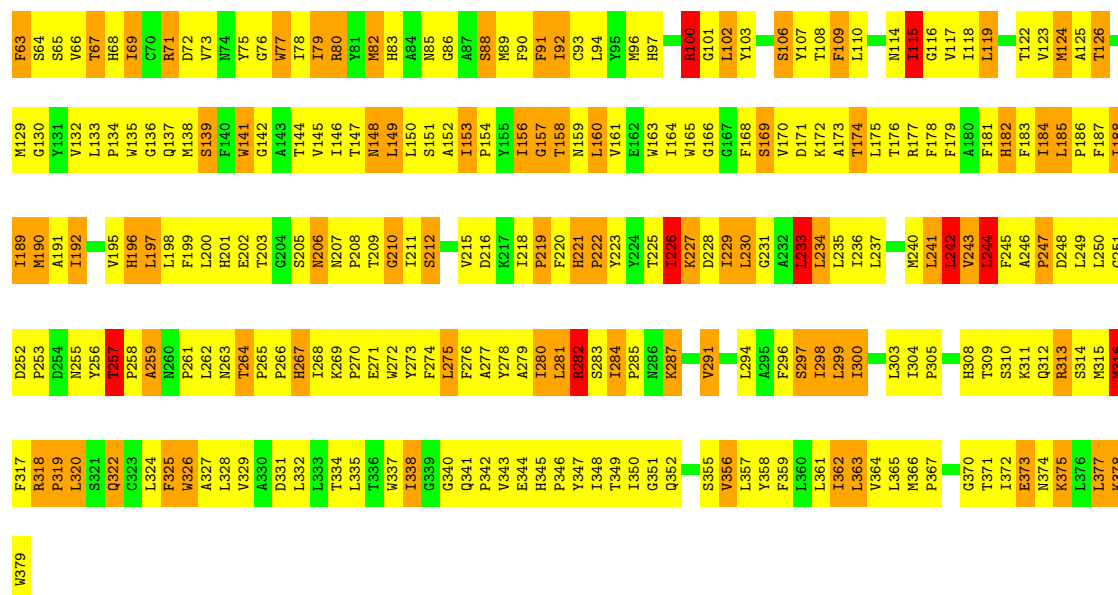
Chain C: 15% 51% 28% 6%



• Molecule 3: CYTOCHROME BC1 COMPLEX

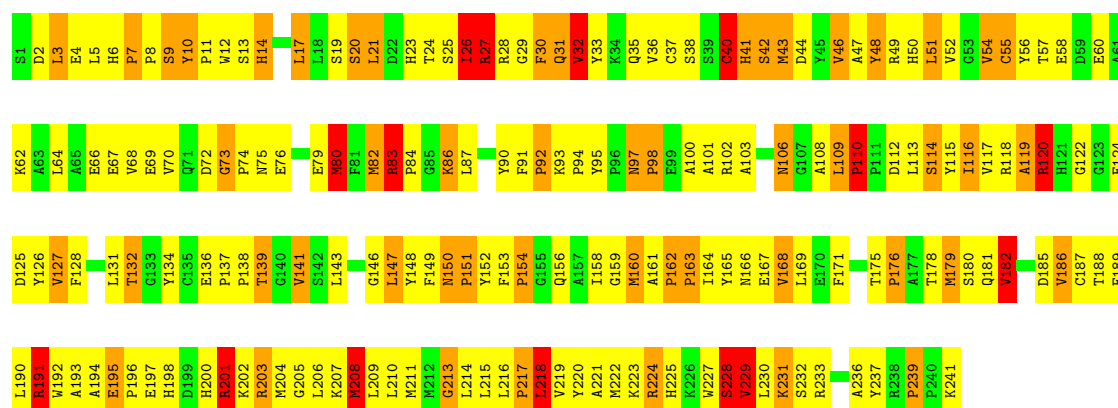
Chain O: 18% 53% 26% 3%





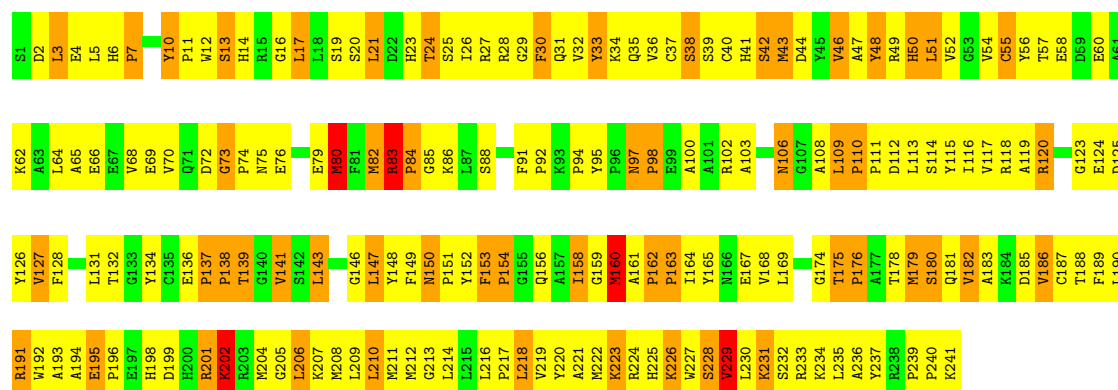
• Molecule 4: CYTOCHROME BC1 COMPLEX

Chain D: 22% 51% 21% 6%

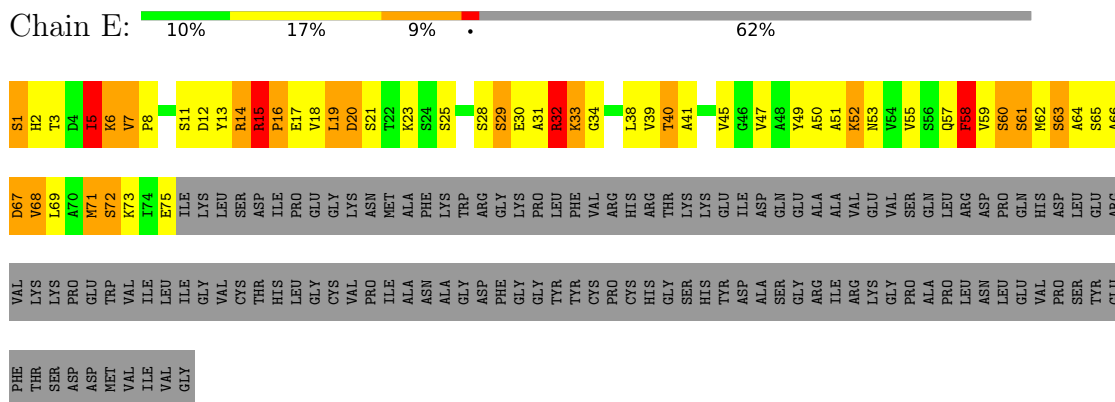


• Molecule 4: CYTOCHROME BC1 COMPLEX

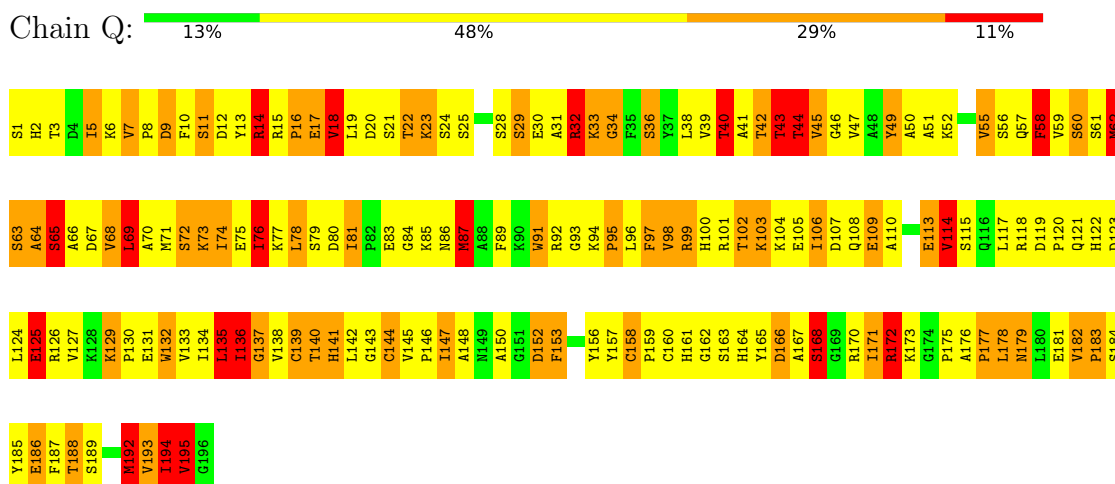
Chain P: 21% 54% 23% .



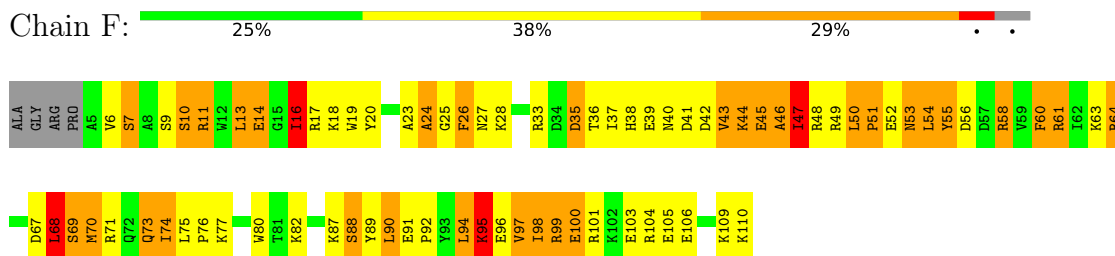
- Molecule 5: CYTOCHROME BC1 COMPLEX



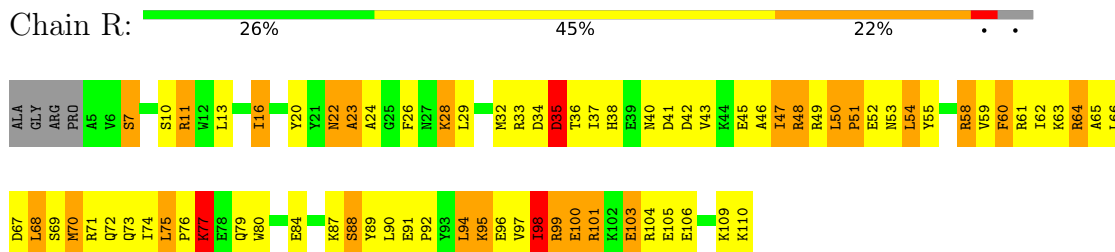
- Molecule 5: CYTOCHROME BC1 COMPLEX



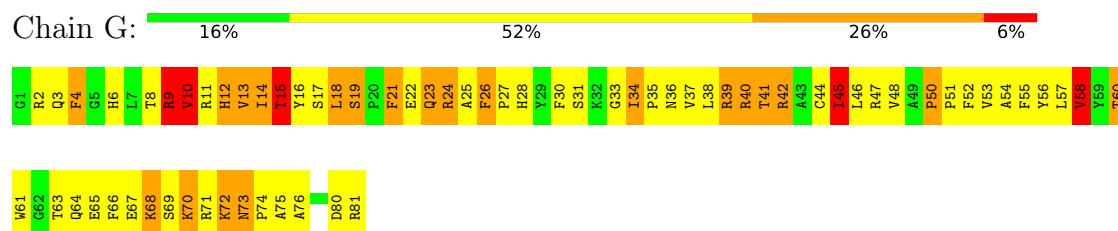
- Molecule 6: CYTOCHROME BC1 COMPLEX



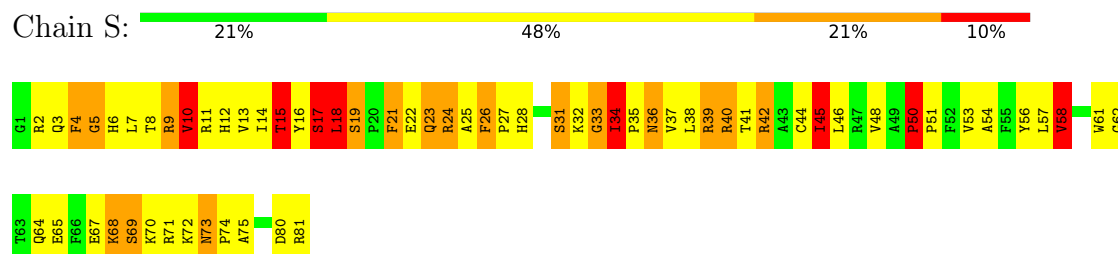
- Molecule 6: CYTOCHROME BC1 COMPLEX



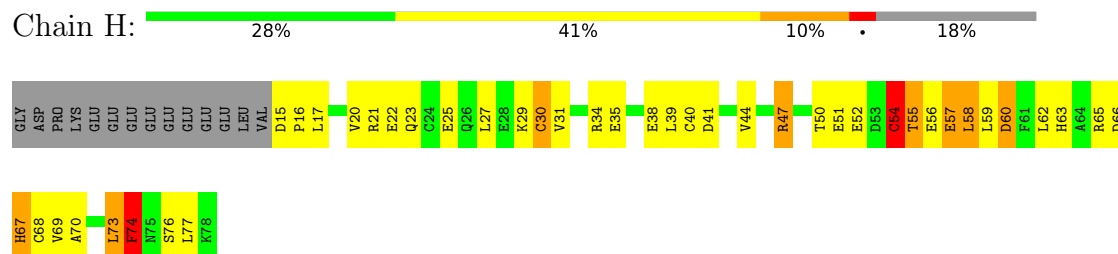
• Molecule 7: CYTOCHROME BC1 COMPLEX



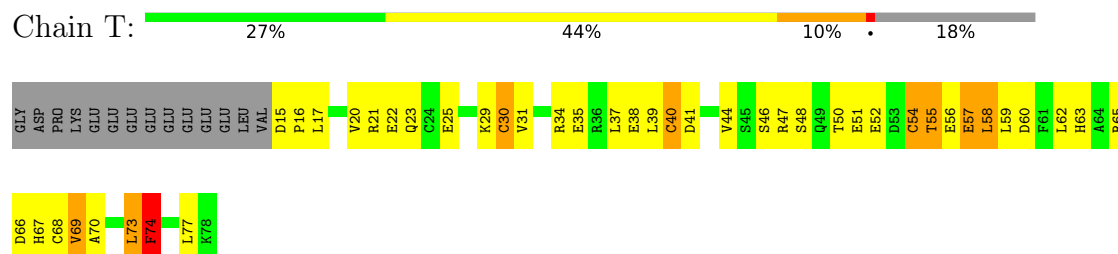
• Molecule 7: CYTOCHROME BC1 COMPLEX



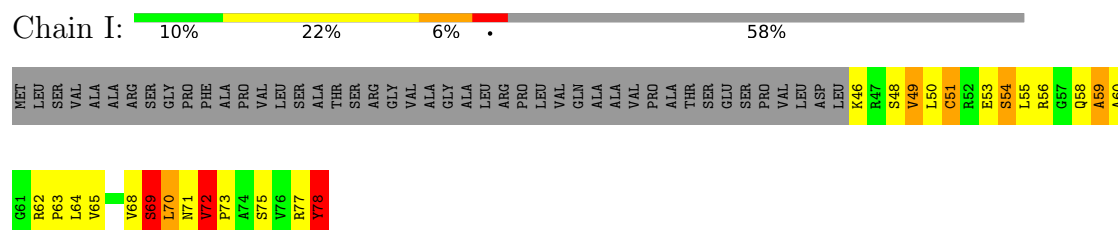
• Molecule 8: CYTOCHROME BC1 COMPLEX



• Molecule 8: CYTOCHROME BC1 COMPLEX

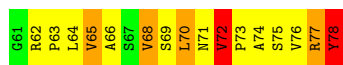
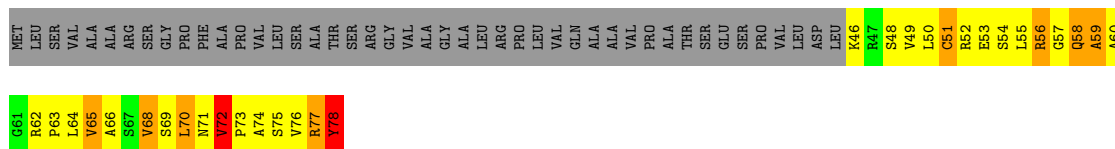


• Molecule 9: CYTOCHROME BC1 COMPLEX



• Molecule 9: CYTOCHROME BC1 COMPLEX

Chain U:  26% 10% 58%



• Molecule 10: CYTOCHROME BC1 COMPLEX

Chain J:  18% 60% 18% 5%



• Molecule 10: CYTOCHROME BC1 COMPLEX

Chain V:  15% 63% 21% .



• Molecule 11: CYTOCHROME BC1 COMPLEX

Chain K:  16% 18% 5% 61%



• Molecule 11: CYTOCHROME BC1 COMPLEX

Chain W:  11% 18% 9% . 61%



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 65	Depositor
Cell constants a, b, c, α , β , γ	130.11Å 130.11Å 720.94Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	20.00 – 3.00	Depositor
% Data completeness (in resolution range)	74.0 (20.00-3.00)	Depositor
R_{merge}	0.92	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	REFMAC	Depositor
R, R_{free}	0.320 , 0.360	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	31486	wwPDB-VP
Average B, all atoms (Å ²)	30.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: HEC, FES, HEM

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	0.77	3/3531 (0.1%)	2.02	137/4792 (2.9%)
1	M	0.82	4/3531 (0.1%)	2.03	114/4792 (2.4%)
2	B	0.66	2/3198 (0.1%)	1.89	85/4336 (2.0%)
2	N	0.65	0/3198	1.81	71/4336 (1.6%)
3	C	0.92	2/3108 (0.1%)	2.20	135/4252 (3.2%)
3	O	0.93	6/3108 (0.2%)	2.07	109/4252 (2.6%)
4	D	0.68	0/1978	1.88	57/2684 (2.1%)
4	P	0.70	2/1978 (0.1%)	1.83	50/2684 (1.9%)
5	E	0.76	0/574	2.02	17/775 (2.2%)
5	Q	0.80	1/1551 (0.1%)	2.16	61/2097 (2.9%)
6	F	0.74	1/935 (0.1%)	1.84	22/1253 (1.8%)
6	R	0.74	0/935	1.94	23/1253 (1.8%)
7	G	0.73	0/704	1.89	25/951 (2.6%)
7	S	0.74	0/704	1.77	23/951 (2.4%)
8	H	0.57	0/529	1.61	10/708 (1.4%)
8	T	0.50	0/529	1.51	4/708 (0.6%)
9	I	0.61	0/250	1.88	5/335 (1.5%)
9	U	0.63	0/250	1.85	7/335 (2.1%)
10	J	0.61	0/525	1.61	8/707 (1.1%)
10	V	0.63	0/525	1.71	7/707 (1.0%)
11	K	0.54	0/163	1.34	0/225
11	W	0.59	0/163	1.52	1/225 (0.4%)
All	All	0.76	21/31967 (0.1%)	1.95	971/43358 (2.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	13

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Mol	Chain	#Chirality outliers	#Planarity outliers
1	M	0	3
2	B	0	9
2	N	0	5
3	C	0	14
3	O	0	6
4	D	0	5
4	P	0	4
5	E	0	1
5	Q	0	9
6	F	0	2
7	G	0	2
7	S	0	3
8	T	0	1
9	I	0	1
9	U	0	1
10	J	0	1
11	W	0	1
All	All	0	81

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	M	253	VAL	C-O	11.10	1.36	1.24
3	O	37	LEU	C-N	-8.13	1.24	1.33
3	O	221	HIS	CD2-NE2	-7.11	1.30	1.37
4	P	202	LYS	C-O	6.46	1.31	1.24
3	O	19	ILE	CA-C	-6.38	1.44	1.52
3	O	44	GLN	C-N	-6.33	1.26	1.33
1	M	169	GLY	N-CA	-6.17	1.36	1.44
1	A	153	LEU	N-CA	-6.15	1.39	1.46
3	O	185	LEU	CA-CB	-6.09	1.45	1.53
3	O	328	LEU	C-N	5.90	1.41	1.33
1	M	340	GLY	C-O	-5.83	1.16	1.23
2	B	148	LYS	C-N	-5.79	1.26	1.33
3	C	97	HIS	C-O	-5.57	1.17	1.24
5	Q	55	VAL	C-O	-5.54	1.17	1.24
1	A	373	THR	C-O	5.53	1.29	1.24
3	C	126	THR	N-CA	-5.49	1.39	1.46
6	F	68	LEU	C-O	-5.45	1.17	1.24
4	P	228	SER	C-N	-5.26	1.27	1.33
1	M	333	ASP	C-O	-5.26	1.18	1.24
1	A	104	LYS	CD-CE	5.08	1.67	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	173	ALA	CA-CB	-5.07	1.44	1.53

All (971) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	M	253	VAL	O-C-N	-23.35	98.90	123.18
1	M	253	VAL	CA-C-O	16.99	137.43	120.27
3	C	196	HIS	CA-CB-CG	16.17	129.97	113.80
3	O	196	HIS	CA-CB-CG	15.62	129.42	113.80
3	O	44	GLN	CA-C-N	15.26	139.78	120.70
3	O	44	GLN	C-N-CA	15.26	139.78	120.70
1	M	168	GLU	CA-C-N	14.25	144.24	121.87
1	M	168	GLU	C-N-CA	14.25	144.24	121.87
3	C	204	GLY	CA-C-N	14.21	142.06	121.02
3	C	204	GLY	C-N-CA	14.21	142.06	121.02
1	M	435	ASN	OD1-CG-ND2	13.89	136.50	122.60
1	A	168	GLU	CA-C-O	13.47	135.32	120.10
6	R	65	ALA	CA-C-O	12.86	134.15	120.90
1	A	419	CYS	CA-CB-SG	12.53	143.21	114.40
6	R	77	LYS	CG-CD-CE	11.36	137.42	111.30
1	A	251	ALA	CA-C-O	11.31	132.58	120.36
4	P	235	LEU	CA-C-O	11.28	133.85	121.11
1	M	307	PHE	CA-C-O	11.25	135.40	120.21
3	C	267	HIS	CA-CB-CG	-11.05	102.75	113.80
2	B	178	CYS	O-C-N	10.83	131.78	121.27
2	B	177	TYR	O-C-N	10.59	135.79	123.29
8	T	74	PHE	CA-CB-CG	-10.38	103.42	113.80
2	B	70	ARG	NE-CZ-NH2	10.26	128.43	119.20
3	O	267	HIS	CA-CB-CG	-10.25	103.55	113.80
3	O	47	THR	O-C-N	-10.24	111.52	122.07
1	M	437	ILE	N-CA-C	-10.22	100.75	111.58
1	M	334	MET	O-C-N	-10.19	110.54	122.15
1	A	294	LEU	CA-C-N	10.13	134.67	120.29
1	A	294	LEU	C-N-CA	10.13	134.67	120.29
5	E	58	PHE	CA-CB-CG	10.09	123.89	113.80
7	G	13	VAL	CA-C-O	9.95	130.84	120.39
3	C	196	HIS	CA-C-O	-9.94	110.56	121.00
8	H	74	PHE	CA-CB-CG	-9.93	103.88	113.80
9	I	75	SER	N-CA-C	9.90	121.00	107.73
4	P	228	SER	CA-C-N	9.87	133.33	120.60
4	P	228	SER	C-N-CA	9.87	133.33	120.60
3	O	19	ILE	O-C-N	-9.57	110.60	122.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	245	ARG	NE-CZ-NH2	9.54	127.79	119.20
3	C	185	LEU	O-C-N	-9.53	112.86	120.38
1	M	46	ARG	NE-CZ-NH2	-9.52	110.63	119.20
4	D	14	HIS	CA-CB-CG	9.51	123.31	113.80
10	V	26	VAL	CA-CB-CG1	9.45	126.47	110.40
10	V	39	ALA	O-C-N	9.43	132.11	122.12
1	A	373	THR	CA-C-O	9.20	127.09	118.44
2	N	56	ARG	CD-NE-CZ	9.20	137.28	124.40
3	C	41	LEU	N-CA-CB	9.18	123.75	110.16
1	M	259	GLY	CA-C-N	9.17	129.73	119.92
1	M	259	GLY	C-N-CA	9.17	129.73	119.92
9	U	75	SER	N-CA-C	9.04	119.85	107.73
5	Q	7	VAL	CA-C-N	9.04	129.11	119.89
5	Q	7	VAL	C-N-CA	9.04	129.11	119.89
3	C	115	ILE	CA-C-N	-9.04	109.78	119.99
3	C	115	ILE	C-N-CA	-9.04	109.78	119.99
2	B	178	CYS	CA-C-O	-9.02	111.28	120.02
2	B	42	ALA	CA-C-N	9.00	128.64	119.82
2	B	42	ALA	C-N-CA	9.00	128.64	119.82
2	B	254	HIS	CA-CB-CG	8.97	122.77	113.80
3	O	47	THR	CA-C-O	8.97	130.23	120.82
3	O	221	HIS	N-CA-CB	8.90	118.85	110.39
5	Q	166	ASP	CA-CB-CG	8.89	121.49	112.60
4	D	195	GLU	CA-C-N	8.83	129.71	119.47
4	D	195	GLU	C-N-CA	8.83	129.71	119.47
3	C	206	ASN	OD1-CG-ND2	8.79	131.39	122.60
4	D	206	LEU	CB-CA-C	-8.73	96.34	110.84
10	V	14	PHE	CA-CB-CG	8.70	122.50	113.80
1	A	256	ALA	N-CA-C	8.68	123.22	109.50
3	C	196	HIS	O-C-N	8.66	131.03	122.03
1	A	341	GLN	O-C-N	8.64	131.42	122.09
1	M	320	LEU	CA-C-O	8.63	130.02	120.70
3	C	43	LEU	O-C-N	-8.61	112.79	122.09
5	Q	47	VAL	CA-C-O	8.60	129.99	121.05
5	Q	192	MET	CA-C-O	8.56	129.32	120.24
3	C	175	LEU	N-CA-CB	8.54	123.45	110.30
2	B	92	VAL	O-C-N	-8.45	114.47	122.16
1	A	434	TYR	CA-C-O	-8.44	111.52	120.63
2	B	85	ILE	CB-CA-C	-8.43	101.10	111.88
5	Q	183	PRO	CA-C-O	-8.42	110.19	122.31
6	F	60	PHE	CA-CB-CG	-8.41	105.39	113.80
3	C	182	HIS	CA-CB-CG	8.40	122.20	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	292	SER	CA-C-O	8.40	125.53	119.32
3	C	246	ALA	N-CA-CB	-8.36	101.26	110.71
7	G	13	VAL	O-C-N	-8.26	114.33	123.26
3	O	242	LEU	CB-CA-C	-8.24	98.18	110.95
2	B	369	LEU	CA-C-O	8.23	129.18	120.70
6	F	43	VAL	CA-C-O	8.21	131.05	120.78
3	O	182	HIS	CA-CB-CG	8.21	122.01	113.80
3	O	322	GLN	OE1-CD-NE2	8.20	130.80	122.60
5	Q	58	PHE	CA-CB-CG	8.17	121.97	113.80
6	F	64	ARG	CD-NE-CZ	-8.16	112.98	124.40
2	B	148	LYS	CA-C-N	8.15	131.03	120.44
2	B	148	LYS	C-N-CA	8.15	131.03	120.44
1	M	419	CYS	CA-C-N	8.13	128.18	119.89
1	M	419	CYS	C-N-CA	8.13	128.18	119.89
6	R	63	LYS	CB-CA-C	8.11	123.62	110.88
3	C	216	ASP	CA-CB-CG	8.11	120.71	112.60
5	E	60	SER	N-CA-C	-8.11	103.39	113.28
6	F	27	ASN	CA-C-O	8.03	129.49	120.90
3	C	43	LEU	CA-C-O	8.02	128.96	120.70
2	N	141	GLN	OE1-CD-NE2	-8.01	114.59	122.60
1	A	294	LEU	O-C-N	-8.00	113.64	122.12
4	P	202	LYS	CA-C-O	-8.00	112.42	120.82
5	Q	55	VAL	CA-CB-CG1	7.99	123.98	110.40
1	M	323	HIS	CA-CB-CG	7.99	121.79	113.80
1	A	341	GLN	CA-C-O	-7.97	112.49	120.70
3	C	13	ILE	CB-CA-C	-7.97	101.38	112.14
2	N	162	ASN	CA-CB-CG	-7.95	104.65	112.60
1	A	431	LEU	CA-C-N	7.94	129.76	119.84
1	A	431	LEU	C-N-CA	7.94	129.76	119.84
2	B	320	GLY	O-C-N	-7.87	117.89	123.95
1	A	168	GLU	O-C-N	-7.86	113.02	122.22
3	O	257	THR	N-CA-CB	7.86	121.49	110.01
5	Q	183	PRO	O-C-N	7.84	132.12	122.71
4	D	97	ASN	CA-C-N	7.84	129.64	119.84
4	D	97	ASN	C-N-CA	7.84	129.64	119.84
4	P	7	PRO	N-CA-C	7.84	120.27	110.70
3	C	30	TRP	CA-C-O	7.82	129.08	120.63
5	Q	135	LEU	O-C-N	-7.82	113.62	123.24
4	D	120	ARG	NE-CZ-NH2	-7.81	112.17	119.20
5	Q	7	VAL	O-C-N	7.81	130.01	121.10
2	N	412	ASN	OD1-CG-ND2	7.79	130.39	122.60
1	M	325	VAL	O-C-N	-7.78	114.40	123.03

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	33	PHE	CG-CD2-CE2	7.75	133.87	120.70
3	C	321	SER	CA-C-N	7.73	131.42	120.28
3	C	321	SER	C-N-CA	7.73	131.42	120.28
1	A	438	ARG	NE-CZ-NH2	7.72	126.14	119.20
3	C	303	LEU	N-CA-CB	7.71	121.58	110.16
3	C	195	VAL	CA-C-O	-7.69	112.95	120.95
7	S	15	THR	CA-CB-CG2	-7.68	97.45	110.50
3	O	82	MET	CA-C-O	7.67	128.54	120.42
3	C	185	LEU	CA-C-O	7.66	126.36	119.08
1	A	242	CYS	CA-C-O	7.66	128.78	120.43
1	M	420	PRO	N-CA-CB	7.66	109.75	103.32
5	Q	168	SER	N-CA-C	-7.65	103.94	113.28
2	N	145	ARG	O-C-N	7.64	129.94	122.07
2	B	179	PRO	N-CA-CB	7.63	110.44	103.34
1	M	392	LEU	N-CA-C	7.63	120.26	111.11
3	C	123	VAL	CA-C-O	7.61	129.23	120.03
5	Q	56	SER	CA-C-O	7.60	128.80	120.82
3	O	149	LEU	CA-C-O	7.60	128.93	119.05
10	V	39	ALA	CA-C-O	-7.57	112.53	120.55
3	C	85	ASN	CA-CB-CG	-7.55	105.05	112.60
1	A	441	MET	CA-CB-CG	-7.55	99.00	114.10
2	B	56	ARG	CD-NE-CZ	7.53	134.95	124.40
3	O	242	LEU	N-CA-CB	7.52	120.88	109.98
3	C	273	TYR	CA-C-N	-7.51	110.32	122.26
3	C	273	TYR	C-N-CA	-7.51	110.32	122.26
1	A	323	HIS	CA-CB-CG	7.51	121.31	113.80
1	A	244	ARG	NE-CZ-NH2	7.48	125.93	119.20
3	O	71	ARG	NE-CZ-NH1	-7.48	114.02	121.50
3	C	303	LEU	N-CA-C	7.47	119.50	111.36
1	M	434	TYR	O-C-N	-7.47	114.32	122.09
7	G	26	PHE	CA-C-N	7.47	129.17	119.84
7	G	26	PHE	C-N-CA	7.47	129.17	119.84
6	R	65	ALA	O-C-N	-7.45	113.99	122.03
3	C	106	SER	CA-C-O	7.43	128.56	119.79
5	Q	179	ASN	CA-CB-CG	7.39	119.99	112.60
3	C	205	SER	O-C-N	-7.39	113.18	123.01
4	D	201	ARG	NE-CZ-NH1	-7.38	114.12	121.50
4	D	160	MET	N-CA-C	7.38	120.44	108.41
7	G	13	VAL	CA-C-N	-7.37	110.77	122.64
7	G	13	VAL	C-N-CA	-7.37	110.77	122.64
1	M	275	ALA	N-CA-C	-7.37	103.19	111.07
4	P	235	LEU	O-C-N	-7.37	113.61	123.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	O	80	ARG	CD-NE-CZ	-7.36	114.09	124.40
1	M	442	PHE	CA-CB-CG	7.35	121.15	113.80
3	C	313	ARG	NE-CZ-NH2	7.35	125.81	119.20
3	C	221	HIS	CA-CB-CG	-7.34	106.45	113.80
1	A	364	ALA	O-C-N	7.33	129.88	122.12
3	O	222	PRO	CA-C-N	7.33	131.88	120.89
3	O	222	PRO	C-N-CA	7.33	131.88	120.89
3	C	195	VAL	O-C-N	7.31	128.96	121.87
1	A	435	ASN	CA-C-O	7.30	128.37	119.97
2	B	92	VAL	CA-C-O	7.29	127.00	119.35
3	C	30	TRP	O-C-N	-7.27	114.41	122.12
1	M	256	ALA	CB-CA-C	-7.25	93.47	109.56
2	N	188	PRO	O-C-N	-7.25	112.86	122.64
3	O	88	SER	N-CA-C	-7.24	103.32	111.07
6	F	73	GLN	CB-CA-C	7.24	122.40	109.38
1	M	424	GLY	CA-C-O	-7.23	113.60	121.48
1	A	281	ASP	CA-C-N	7.22	130.28	120.38
1	A	281	ASP	C-N-CA	7.22	130.28	120.38
3	C	113	TRP	O-C-N	-7.22	114.58	122.09
5	Q	72	SER	CA-C-O	-7.22	113.25	121.19
5	Q	5	ILE	CB-CA-C	-7.22	101.09	111.34
1	A	419	CYS	N-CA-CB	7.21	119.68	110.23
2	N	385	GLN	CA-C-O	7.21	128.06	120.42
4	D	215	LEU	CA-C-O	7.20	128.49	119.78
1	M	417	ASP	CA-C-N	-7.16	109.71	122.74
1	M	417	ASP	C-N-CA	-7.16	109.71	122.74
4	P	199	ASP	CA-C-O	-7.15	113.31	120.82
3	C	106	SER	N-CA-C	-7.14	103.23	112.23
3	O	256	TYR	N-CA-C	-7.14	104.50	112.57
3	O	37	LEU	CA-C-N	7.13	127.85	120.00
3	O	37	LEU	C-N-CA	7.13	127.85	120.00
5	Q	193	VAL	CG1-CB-CG2	7.13	126.49	110.80
3	C	264	THR	CB-CA-C	-7.13	100.38	109.65
1	A	242	CYS	O-C-N	-7.12	115.23	123.27
1	A	343	MET	CA-CB-CG	-7.12	99.87	114.10
5	E	14	ARG	CA-C-N	-7.11	113.72	123.96
5	E	14	ARG	C-N-CA	-7.11	113.72	123.96
1	M	138	LEU	CA-C-O	-7.11	112.70	121.02
4	D	175	THR	CA-C-O	7.10	125.76	119.59
1	M	443	TRP	N-CA-C	7.08	121.71	107.41
7	S	21	PHE	CA-CB-CG	-7.08	106.72	113.80
6	R	60	PHE	CA-CB-CG	-7.08	106.72	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	O	244	LEU	O-C-N	7.06	131.56	122.10
2	N	291	ALA	N-CA-C	-7.05	104.81	113.41
3	O	231	GLY	CA-C-O	7.05	128.06	120.30
3	C	40	CYS	N-CA-C	-7.05	103.35	112.23
3	O	196	HIS	CE1-NE2-CD2	-7.04	101.96	109.00
2	B	108	THR	N-CA-C	7.02	119.89	110.35
5	Q	182	VAL	CA-C-O	-7.01	116.11	120.88
5	Q	135	LEU	CA-C-N	7.00	133.60	122.33
5	Q	135	LEU	C-N-CA	7.00	133.60	122.33
6	R	50	LEU	CA-C-N	7.00	128.58	119.84
6	R	50	LEU	C-N-CA	7.00	128.58	119.84
1	M	414	TYR	N-CA-C	6.98	121.02	112.23
6	F	61	ARG	NE-CZ-NH2	6.94	125.45	119.20
3	O	230	LEU	CA-C-N	6.94	129.03	120.22
3	O	230	LEU	C-N-CA	6.94	129.03	120.22
6	F	45	GLU	CA-C-N	-6.93	111.50	120.65
6	F	45	GLU	C-N-CA	-6.93	111.50	120.65
3	C	201	HIS	CA-CB-CG	-6.93	106.87	113.80
2	B	97	SER	N-CA-C	6.93	120.96	109.46
1	A	283	THR	N-CA-C	6.92	121.32	113.02
7	G	12	HIS	CA-C-N	-6.91	114.09	123.14
7	G	12	HIS	C-N-CA	-6.91	114.09	123.14
3	O	284	ILE	CA-C-O	6.90	123.68	119.19
4	P	83	ARG	CA-C-N	6.90	126.93	119.89
4	P	83	ARG	C-N-CA	6.90	126.93	119.89
2	N	187	THR	N-CA-C	6.90	118.76	110.07
5	Q	25	SER	CA-C-O	6.90	127.01	119.15
1	A	415	PHE	O-C-N	-6.88	111.82	122.13
2	B	70	ARG	NE-CZ-NH1	-6.87	114.63	121.50
2	N	186	VAL	N-CA-CB	6.87	119.32	111.90
5	E	61	SER	CA-CB-OG	-6.84	97.41	111.10
4	P	218	LEU	N-CA-CB	6.84	119.89	109.91
2	B	346	THR	CA-CB-OG1	6.84	119.86	109.60
5	Q	14	ARG	NE-CZ-NH1	-6.83	114.67	121.50
5	Q	87	MET	CA-C-O	6.82	127.76	120.46
4	P	97	ASN	CA-C-N	6.81	128.35	119.84
4	P	97	ASN	C-N-CA	6.81	128.35	119.84
2	B	173	ALA	CA-C-O	6.79	128.02	119.12
3	O	241	LEU	O-C-N	6.79	129.89	122.15
3	C	135	TRP	CA-C-O	-6.78	113.72	121.65
1	M	320	LEU	O-C-N	-6.78	114.42	123.23
2	N	258	VAL	N-CA-C	6.77	117.28	108.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	Q	34	GLY	N-CA-C	-6.76	104.31	112.49
3	O	298	ILE	N-CA-C	6.75	116.88	110.53
1	A	338	LEU	CA-C-O	6.75	128.08	121.00
1	M	334	MET	N-CA-CB	-6.75	100.18	110.16
10	J	14	PHE	CA-CB-CG	6.74	120.54	113.80
1	A	436	ARG	O-C-N	6.73	129.36	122.09
3	O	13	ILE	CB-CA-C	-6.72	103.22	112.02
2	N	141	GLN	CA-C-N	6.71	128.23	119.84
2	N	141	GLN	C-N-CA	6.71	128.23	119.84
5	Q	194	ILE	N-CA-CB	-6.71	103.44	111.90
2	B	102	ARG	NE-CZ-NH2	6.71	125.24	119.20
1	A	259	GLY	CA-C-N	6.71	128.22	119.84
1	A	259	GLY	C-N-CA	6.71	128.22	119.84
3	O	328	LEU	CA-C-N	-6.70	112.12	120.56
3	O	328	LEU	C-N-CA	-6.70	112.12	120.56
5	Q	192	MET	N-CA-C	6.69	119.31	108.34
3	C	218	ILE	O-C-N	6.68	128.72	121.10
3	C	109	PHE	CA-CB-CG	6.67	120.47	113.80
4	D	7	PRO	N-CA-C	6.65	118.81	110.70
3	C	143	ALA	N-CA-C	-6.65	104.11	111.36
2	B	143	GLN	OE1-CD-NE2	-6.64	115.95	122.60
6	R	35	ASP	CA-C-O	6.64	127.55	119.31
1	M	334	MET	CA-C-O	6.63	127.45	120.42
4	D	32	VAL	N-CA-CB	6.63	117.87	110.51
3	O	222	PRO	CB-CA-C	6.62	122.49	111.56
2	B	177	TYR	CA-C-O	-6.62	113.17	120.38
1	M	268	VAL	N-CA-C	-6.61	106.35	112.96
1	A	169	GLY	CA-C-N	6.60	128.09	119.84
1	A	169	GLY	C-N-CA	6.60	128.09	119.84
3	C	186	PRO	O-C-N	-6.60	114.65	122.24
2	N	173	ALA	CA-C-O	6.60	127.56	119.11
6	R	79	GLN	N-CA-C	6.60	120.33	112.93
9	I	68	VAL	CB-CA-C	-6.59	101.68	110.98
3	O	299	LEU	CA-C-O	6.59	127.47	119.49
5	Q	129	LYS	CA-C-N	6.59	128.08	119.84
5	Q	129	LYS	C-N-CA	6.59	128.08	119.84
5	E	14	ARG	CD-NE-CZ	-6.59	115.18	124.40
3	O	19	ILE	CA-C-N	6.57	134.28	122.06
3	O	19	ILE	C-N-CA	6.57	134.28	122.06
1	A	436	ARG	N-CA-CB	6.57	119.59	110.07
2	N	62	ASN	CA-CB-CG	6.56	119.16	112.60
4	D	92	PRO	N-CA-CB	6.56	107.63	103.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	331	ILE	N-CA-C	6.55	117.24	110.36
8	H	67	HIS	CA-CB-CG	6.54	120.34	113.80
3	C	246	ALA	O-C-N	6.53	125.96	121.19
1	M	307	PHE	O-C-N	-6.53	115.41	123.44
3	O	93	CYS	N-CA-CB	6.53	119.83	110.16
3	O	244	LEU	CA-C-O	-6.53	111.87	119.64
5	Q	24	SER	N-CA-C	6.51	119.67	110.23
1	A	199	ALA	CA-C-N	-6.50	112.39	122.59
1	A	199	ALA	C-N-CA	-6.50	112.39	122.59
5	Q	70	ALA	CA-C-O	6.50	127.31	120.42
3	C	322	GLN	OE1-CD-NE2	6.50	129.10	122.60
4	D	83	ARG	CA-C-N	6.50	126.52	119.89
4	D	83	ARG	C-N-CA	6.50	126.52	119.89
3	C	312	GLN	O-C-N	-6.49	114.71	122.63
1	A	189	HIS	CA-CB-CG	6.49	120.29	113.80
4	D	229	VAL	CB-CA-C	-6.49	103.66	111.97
2	B	75	LEU	CA-C-O	-6.49	114.48	121.94
2	B	187	THR	CA-C-N	6.49	127.95	119.84
2	B	187	THR	C-N-CA	6.49	127.95	119.84
3	C	230	LEU	CA-C-N	6.47	127.31	119.99
3	C	230	LEU	C-N-CA	6.47	127.31	119.99
7	S	26	PHE	CA-C-N	6.47	127.93	119.84
7	S	26	PHE	C-N-CA	6.47	127.93	119.84
3	C	293	ALA	CA-C-N	-6.47	111.11	120.29
3	C	293	ALA	C-N-CA	-6.47	111.11	120.29
2	B	29	LEU	CA-C-N	6.46	126.22	119.05
2	B	29	LEU	C-N-CA	6.46	126.22	119.05
2	B	91	ALA	CA-C-N	6.45	132.30	122.69
2	B	91	ALA	C-N-CA	6.45	132.30	122.69
3	C	224	TYR	N-CA-C	6.44	120.40	112.54
5	E	6	LYS	O-C-N	-6.44	115.42	123.27
6	R	36	THR	CA-CB-CG2	6.44	121.44	110.50
1	A	280	TYR	O-C-N	-6.43	116.06	123.33
3	O	80	ARG	NE-CZ-NH1	-6.43	115.07	121.50
1	M	100	LYS	CA-C-O	-6.43	113.42	120.43
1	A	438	ARG	NE-CZ-NH1	-6.43	115.07	121.50
1	M	174	VAL	CA-CB-CG1	6.42	121.31	110.40
1	A	435	ASN	OD1-CG-ND2	6.42	129.02	122.60
1	A	420	PRO	N-CA-CB	6.41	109.42	103.39
5	E	5	ILE	CB-CA-C	-6.40	102.44	111.21
7	G	4	PHE	CA-CB-CG	-6.40	107.40	113.80
2	N	178	CYS	CA-C-N	6.40	126.16	119.76

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	N	178	CYS	C-N-CA	6.40	126.16	119.76
3	C	109	PHE	O-C-N	-6.40	114.08	122.59
5	Q	29	SER	N-CA-C	6.39	120.79	113.19
3	C	107	TYR	CA-C-N	-6.37	111.65	120.38
3	C	107	TYR	C-N-CA	-6.37	111.65	120.38
2	N	204	MET	N-CA-C	6.37	120.43	110.17
1	A	147	ASP	CA-C-O	6.37	127.31	120.24
6	F	14	GLU	CA-C-N	6.36	126.99	120.00
6	F	14	GLU	C-N-CA	6.36	126.99	120.00
1	A	11	VAL	CA-C-N	6.35	127.78	119.84
1	A	11	VAL	C-N-CA	6.35	127.78	119.84
1	M	239	SER	CA-C-O	-6.35	114.22	121.58
3	O	256	TYR	O-C-N	6.34	130.38	122.19
1	M	150	PHE	CA-CB-CG	6.34	120.14	113.80
1	A	436	ARG	CA-C-O	-6.34	114.17	120.70
2	B	73	SER	CA-C-O	-6.33	111.46	120.51
1	A	24	ARG	NE-CZ-NH1	-6.32	115.18	121.50
2	B	145	ARG	CA-C-O	-6.32	114.14	120.90
1	A	251	ALA	CA-C-N	-6.31	114.37	122.77
1	A	251	ALA	C-N-CA	-6.31	114.37	122.77
6	R	24	ALA	CA-C-O	6.31	129.54	120.51
1	A	434	TYR	O-C-N	6.29	128.79	122.12
3	C	301	LEU	N-CA-C	6.29	118.66	111.11
1	A	32	GLN	CA-C-N	6.29	127.70	119.84
1	A	32	GLN	C-N-CA	6.29	127.70	119.84
4	D	168	VAL	CB-CA-C	-6.29	103.81	112.24
2	B	89	ILE	CA-CB-CG2	6.29	121.19	110.50
2	B	291	ALA	N-CA-C	-6.28	105.75	113.41
1	A	150	PHE	CA-CB-CG	6.27	120.07	113.80
2	N	254	HIS	CA-C-O	-6.27	113.93	120.70
3	O	325	PHE	O-C-N	6.27	128.55	122.03
3	C	78	ILE	CA-C-N	-6.25	111.55	120.42
3	C	78	ILE	C-N-CA	-6.25	111.55	120.42
7	G	14	ILE	CA-C-N	6.25	131.99	122.93
7	G	14	ILE	C-N-CA	6.25	131.99	122.93
1	M	319	LEU	N-CA-CB	-6.25	100.75	110.55
2	N	167	ALA	CA-C-O	6.24	127.15	119.97
1	M	342	TRP	CA-C-N	6.24	128.96	120.54
1	M	342	TRP	C-N-CA	6.24	128.96	120.54
1	A	69	ASN	O-C-N	-6.23	115.55	122.03
5	Q	123	ASP	CA-CB-CG	-6.23	106.37	112.60
1	A	196	VAL	CA-C-O	-6.22	113.91	120.76

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	P	110	PRO	CA-C-N	6.21	126.15	119.76
4	P	110	PRO	C-N-CA	6.21	126.15	119.76
3	C	231	GLY	CA-C-O	6.20	127.44	121.05
5	Q	14	ARG	CD-NE-CZ	-6.20	115.72	124.40
1	M	416	TYR	N-CA-C	6.20	118.27	108.67
7	S	34	ILE	CA-C-N	6.19	125.68	119.24
7	S	34	ILE	C-N-CA	6.19	125.68	119.24
1	A	343	MET	CA-C-N	-6.19	111.90	120.38
1	A	343	MET	C-N-CA	-6.19	111.90	120.38
5	Q	153	PHE	CA-CB-CG	6.18	119.98	113.80
7	S	58	VAL	N-CA-CB	6.18	117.37	110.51
1	M	277	ILE	CA-C-O	-6.18	114.84	121.27
1	A	392	LEU	N-CA-CB	6.17	119.14	109.94
1	M	161	THR	CA-C-N	6.17	126.63	119.47
1	M	161	THR	C-N-CA	6.17	126.63	119.47
7	G	21	PHE	CA-CB-CG	-6.17	107.63	113.80
5	E	29	SER	N-CA-C	6.16	120.26	112.87
10	J	8	ARG	CA-C-N	6.16	128.85	120.54
10	J	8	ARG	C-N-CA	6.16	128.85	120.54
5	Q	66	ALA	CA-C-O	6.15	127.18	119.12
1	A	440	GLY	CA-C-N	-6.14	111.99	122.56
1	A	440	GLY	C-N-CA	-6.14	111.99	122.56
6	R	98	ILE	CA-C-O	6.14	127.66	121.27
2	N	66	SER	N-CA-CB	6.14	118.92	110.01
4	P	160	MET	N-CA-C	6.14	118.76	108.02
2	B	306	PRO	N-CA-CB	6.13	108.21	103.30
3	O	233	LEU	O-C-N	6.13	128.47	122.09
1	M	142	ASP	N-CA-C	-6.12	105.78	113.18
3	C	180	ALA	N-CA-CB	6.12	119.18	110.13
1	A	408	ARG	NH1-CZ-NH2	6.11	127.25	119.30
2	B	46	ARG	N-CA-C	6.11	118.37	107.80
1	A	153	LEU	N-CA-CB	6.10	119.09	109.82
2	N	412	ASN	CB-CG-ND2	-6.10	107.26	116.40
1	M	292	SER	CA-C-N	6.09	127.46	119.84
1	M	292	SER	C-N-CA	6.09	127.46	119.84
3	O	221	HIS	CB-CA-C	-6.08	104.03	113.57
3	O	196	HIS	ND1-CE1-NE2	6.07	114.47	108.40
7	S	10	VAL	CA-C-O	-6.07	114.14	120.27
1	A	338	LEU	O-C-N	-6.06	115.73	122.03
1	A	418	GLN	CA-C-N	-6.05	113.19	121.61
1	A	418	GLN	C-N-CA	-6.05	113.19	121.61
3	C	13	ILE	CA-CB-CG1	6.05	120.69	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	N	87	ARG	O-C-N	6.05	129.30	122.22
3	C	280	ILE	N-CA-CB	6.05	118.03	110.47
6	R	58	ARG	NE-CZ-NH2	6.05	124.64	119.20
1	A	277	ILE	CB-CA-C	-6.04	103.99	112.14
2	B	187	THR	CA-C-O	-6.03	115.18	120.60
3	C	186	PRO	CA-C-O	6.03	130.02	119.84
5	E	32	ARG	NE-CZ-NH1	-6.02	115.48	121.50
1	M	205	HIS	CA-CB-CG	-6.02	107.78	113.80
2	B	102	ARG	NE-CZ-NH1	-6.00	115.50	121.50
2	B	409	ASP	CA-C-N	6.00	128.63	120.77
2	B	409	ASP	C-N-CA	6.00	128.63	120.77
2	N	85	ILE	O-C-N	6.00	130.07	122.57
3	O	320	LEU	CA-C-N	-6.00	111.19	120.31
3	O	320	LEU	C-N-CA	-6.00	111.19	120.31
1	M	416	TYR	CA-C-O	-5.99	113.83	120.60
7	S	50	PRO	N-CA-C	5.99	118.00	110.70
3	C	19	ILE	CA-C-O	-5.98	113.84	120.96
4	D	86	LYS	N-CA-C	5.98	118.49	110.35
1	A	220	SER	CA-C-N	5.98	126.96	120.44
1	A	220	SER	C-N-CA	5.98	126.96	120.44
3	C	179	PHE	CA-CB-CG	5.98	119.78	113.80
1	M	274	ASN	OD1-CG-ND2	5.98	128.58	122.60
2	N	306	PRO	N-CA-CB	5.98	108.08	103.30
2	N	143	GLN	OE1-CD-NE2	-5.97	116.63	122.60
3	C	257	THR	CA-C-O	5.97	123.74	119.32
1	A	440	GLY	N-CA-C	-5.97	107.50	115.32
7	S	4	PHE	CA-CB-CG	-5.97	107.83	113.80
1	M	54	GLY	O-C-N	5.96	127.64	121.97
1	A	166	SER	CA-C-O	5.96	127.84	121.16
8	H	55	THR	CA-C-O	5.96	127.08	120.82
1	M	438	ARG	CA-CB-CG	-5.96	102.18	114.10
4	D	110	PRO	CA-C-N	5.96	125.89	119.76
4	D	110	PRO	C-N-CA	5.96	125.89	119.76
1	M	342	TRP	CH2-CZ2-CE2	5.96	125.24	117.50
3	C	143	ALA	CA-C-O	5.95	126.73	120.42
1	M	46	ARG	NH1-CZ-NH2	5.95	127.03	119.30
1	A	284	TYR	O-C-N	-5.95	115.61	122.93
1	A	292	SER	O-C-N	-5.95	115.88	121.35
1	A	425	PHE	N-CA-CB	5.94	121.07	110.79
2	B	145	ARG	O-C-N	5.94	128.27	122.09
10	J	22	LEU	N-CA-C	-5.94	104.72	111.07
3	O	102	LEU	O-C-N	5.93	130.65	122.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	P	138	PRO	N-CD-CG	-5.93	94.30	103.20
3	C	127	ALA	CA-C-O	5.93	126.79	119.97
5	Q	80	ASP	CA-CB-CG	-5.92	106.68	112.60
1	A	248	LEU	CA-C-N	5.92	125.79	119.28
1	A	248	LEU	C-N-CA	5.92	125.79	119.28
3	C	22	PRO	CB-CA-C	-5.92	101.80	111.56
2	N	75	LEU	N-CA-CB	5.92	118.90	110.44
2	N	167	ALA	O-C-N	-5.92	114.99	122.27
5	Q	132	TRP	N-CA-C	5.91	119.46	109.76
3	O	210	GLY	N-CA-C	-5.91	107.23	114.92
3	C	282	ARG	CD-NE-CZ	-5.91	116.13	124.40
1	M	89	TYR	CA-CB-CG	5.90	124.53	113.90
3	O	126	THR	O-C-N	5.90	128.15	122.07
4	D	92	PRO	CB-CA-C	5.90	116.77	111.40
2	N	285	VAL	N-CA-C	5.89	116.77	108.17
3	C	91	PHE	CB-CG-CD2	-5.89	110.69	120.70
3	C	160	LEU	N-CA-C	5.89	118.46	111.33
3	C	71	ARG	NE-CZ-NH1	-5.89	115.61	121.50
5	Q	99	ARG	NE-CZ-NH2	5.88	124.49	119.20
7	S	15	THR	CB-CA-C	-5.88	98.95	109.71
3	O	206	ASN	O-C-N	-5.87	115.75	122.68
3	C	176	THR	CA-CB-OG1	-5.87	100.80	109.60
1	M	364	ALA	CA-C-O	5.85	126.75	120.55
3	C	320	LEU	CA-C-N	-5.85	111.41	120.31
3	C	320	LEU	C-N-CA	-5.85	111.41	120.31
4	P	229	VAL	N-CA-CB	5.85	117.01	110.51
2	N	157	ALA	N-CA-C	5.85	117.33	111.07
1	A	281	ASP	CA-CB-CG	5.84	118.44	112.60
5	E	15	ARG	O-C-N	5.84	126.28	121.32
3	C	177	ARG	CB-CA-C	-5.84	101.97	110.96
2	N	42	ALA	CA-C-N	5.84	127.14	119.84
2	N	42	ALA	C-N-CA	5.84	127.14	119.84
2	B	94	GLY	CA-C-O	-5.83	114.28	122.51
2	B	245	ARG	NE-CZ-NH1	-5.83	115.67	121.50
2	N	47	ILE	CB-CG1-CD1	5.83	126.03	113.80
3	O	227	LYS	O-C-N	5.82	128.07	122.07
2	N	157	ALA	N-CA-CB	5.82	118.45	110.01
3	C	205	SER	CA-C-O	5.82	127.39	120.70
4	D	151	PRO	N-CA-CB	5.82	108.88	103.41
4	D	182	VAL	N-CA-CB	5.81	119.29	110.58
1	A	352	SER	CA-CB-OG	5.80	122.71	111.10
3	C	282	ARG	NE-CZ-NH1	-5.80	115.70	121.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	O	280	ILE	CB-CG1-CD1	5.80	125.99	113.80
2	N	167	ALA	CA-C-N	-5.79	112.39	122.64
2	N	167	ALA	C-N-CA	-5.79	112.39	122.64
1	M	220	SER	CA-C-N	5.79	126.75	120.44
1	M	220	SER	C-N-CA	5.79	126.75	120.44
1	A	311	ASN	OD1-CG-ND2	5.79	128.39	122.60
2	B	138	ALA	CA-C-O	-5.79	114.29	120.42
5	Q	18	VAL	CB-CA-C	-5.79	101.80	111.29
3	O	50	PHE	CA-CB-CG	-5.78	108.02	113.80
2	N	85	ILE	CA-C-O	-5.77	113.56	120.78
3	C	75	TYR	N-CA-C	-5.77	106.19	113.23
1	M	339	GLN	O-C-N	5.77	130.26	122.59
3	C	189	ILE	CB-CA-C	-5.76	104.49	112.04
1	A	241	ILE	CA-CB-CG1	-5.76	100.61	110.40
6	R	28	LYS	CA-C-O	5.76	126.59	119.97
6	F	24	ALA	CA-C-O	5.75	127.00	120.80
4	D	201	ARG	CA-CB-CG	5.74	125.59	114.10
7	G	58	VAL	N-CA-CB	5.74	117.65	110.47
3	C	153	ILE	CA-C-N	5.74	127.02	119.84
3	C	153	ILE	C-N-CA	5.74	127.02	119.84
3	O	201	HIS	CA-C-O	5.74	126.01	119.18
5	Q	32	ARG	CB-CA-C	5.74	120.44	110.68
2	B	310	SER	N-CA-C	5.74	118.82	109.06
3	O	22	PRO	N-CA-CB	5.73	108.27	103.17
2	B	157	ALA	N-CA-C	5.72	117.19	111.07
3	O	185	LEU	CA-C-O	-5.72	113.30	118.79
3	O	38	GLY	O-C-N	-5.72	116.64	122.19
6	R	22	ASN	N-CA-C	-5.72	106.14	113.23
1	A	418	GLN	OE1-CD-NE2	5.71	128.31	122.60
4	P	195	GLU	CA-C-N	5.71	125.56	119.28
4	P	195	GLU	C-N-CA	5.71	125.56	119.28
1	M	436	ARG	CA-C-N	-5.71	112.08	121.34
1	M	436	ARG	C-N-CA	-5.71	112.08	121.34
4	D	9	SER	N-CA-C	-5.71	101.05	109.62
4	P	50	HIS	N-CA-C	-5.71	106.15	113.23
3	O	256	TYR	CA-C-O	-5.71	112.78	120.15
1	A	434	TYR	CB-CG-CD1	5.71	129.36	120.80
2	B	139	ALA	CA-C-O	5.71	126.81	120.82
5	Q	184	SER	CA-C-O	-5.71	114.55	121.05
1	M	292	SER	CA-C-O	5.70	124.15	119.36
1	A	23	LEU	CA-C-N	-5.70	114.86	122.72
1	A	23	LEU	C-N-CA	-5.70	114.86	122.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	368	HIS	CA-CB-CG	-5.70	108.10	113.80
3	O	46	LEU	N-CA-C	-5.70	104.98	111.14
1	A	392	LEU	N-CA-C	5.70	117.95	111.11
1	M	93	GLU	CA-CB-CG	-5.70	102.70	114.10
1	M	138	LEU	O-C-N	5.70	129.09	122.20
1	M	56	GLY	O-C-N	-5.69	115.30	122.70
2	N	108	THR	N-CA-C	5.69	118.08	110.35
3	C	97	HIS	CB-CG-ND1	5.68	131.23	122.70
3	C	15	ASN	OD1-CG-ND2	5.68	128.28	122.60
3	O	63	PHE	O-C-N	5.68	129.07	122.20
3	C	96	MET	N-CA-C	-5.67	105.18	111.36
1	A	193	PRO	N-CA-CB	5.67	108.84	102.60
3	C	77	TRP	CD2-CE3-CZ3	-5.67	111.23	118.60
9	U	51	CYS	CA-C-N	5.67	128.45	120.28
9	U	51	CYS	C-N-CA	5.67	128.45	120.28
2	N	187	THR	CA-C-N	5.67	126.92	119.84
2	N	187	THR	C-N-CA	5.67	126.92	119.84
1	A	11	VAL	N-CA-C	5.66	114.29	109.02
4	P	30	PHE	CA-CB-CG	-5.66	108.14	113.80
2	N	254	HIS	CA-CB-CG	5.66	119.46	113.80
1	M	47	TYR	N-CA-C	-5.66	106.54	113.50
4	D	203	ARG	CA-C-O	5.66	127.29	121.07
2	B	65	THR	OG1-CB-CG2	5.66	120.61	109.30
1	A	279	HIS	O-C-N	-5.65	117.15	123.48
6	F	43	VAL	O-C-N	-5.65	115.50	122.57
2	B	102	ARG	CD-NE-CZ	-5.65	116.49	124.40
6	R	23	ALA	N-CA-C	-5.65	104.81	110.97
1	M	32	GLN	CA-C-N	5.65	126.90	119.84
1	M	32	GLN	C-N-CA	5.65	126.90	119.84
3	O	100	ARG	N-CA-C	-5.65	105.12	112.23
3	O	264	THR	CB-CA-C	-5.65	102.31	109.65
2	B	61	ASN	OD1-CG-ND2	-5.64	116.95	122.60
3	C	16	ASN	OD1-CG-ND2	-5.64	116.96	122.60
3	O	257	THR	CB-CA-C	-5.64	103.42	109.85
4	P	38	SER	CA-C-N	5.64	128.40	120.28
4	P	38	SER	C-N-CA	5.64	128.40	120.28
4	P	109	LEU	CA-C-N	5.64	126.19	120.38
4	P	109	LEU	C-N-CA	5.64	126.19	120.38
3	C	191	ALA	N-CA-C	-5.64	105.04	111.07
3	C	22	PRO	N-CA-CB	5.63	109.16	103.25
5	Q	76	ILE	CA-C-O	-5.63	115.39	121.19
1	M	428	ILE	O-C-N	-5.63	116.31	122.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	242	CYS	N-CA-C	5.62	118.41	109.24
2	N	165	ALA	CA-C-O	5.62	126.28	119.31
2	N	45	SER	O-C-N	-5.61	116.62	123.19
2	N	201	SER	N-CA-C	5.61	117.09	110.97
3	O	45	ILE	CB-CA-C	-5.61	104.80	111.81
1	M	376	CYS	CA-CB-SG	-5.61	101.51	114.40
1	A	205	HIS	CA-CB-CG	-5.60	108.20	113.80
1	A	414	TYR	N-CA-C	5.60	120.24	112.90
9	U	56	ARG	CA-C-N	5.60	128.67	121.27
9	U	56	ARG	C-N-CA	5.60	128.67	121.27
8	H	63	HIS	CA-CB-CG	-5.59	108.21	113.80
3	O	56	THR	O-C-N	-5.59	116.36	123.24
1	M	154	HIS	CA-CB-CG	5.59	119.39	113.80
3	C	111	GLU	CA-C-O	-5.58	114.93	120.90
3	O	196	HIS	N-CA-C	-5.58	105.10	111.07
4	D	31	GLN	CA-C-O	-5.58	114.93	120.90
3	C	143	ALA	CA-C-N	-5.57	113.20	120.44
3	C	143	ALA	C-N-CA	-5.57	113.20	120.44
8	H	54	CYS	CA-C-N	5.57	127.68	120.44
8	H	54	CYS	C-N-CA	5.57	127.68	120.44
3	O	199	PHE	CB-CG-CD2	5.57	130.16	120.70
1	M	300	THR	CA-CB-OG1	5.56	117.94	109.60
2	B	197	ASN	N-CA-C	5.56	117.42	111.36
3	C	21	LEU	N-CA-C	5.56	116.70	109.64
3	O	35	SER	CA-C-N	5.56	127.99	120.38
3	O	35	SER	C-N-CA	5.56	127.99	120.38
4	P	16	GLY	N-CA-C	5.56	120.15	112.37
2	B	403	ASP	CA-CB-CG	-5.56	107.04	112.60
3	C	269	LYS	CA-C-N	5.56	125.86	119.92
3	C	269	LYS	C-N-CA	5.56	125.86	119.92
1	A	22	GLY	N-CA-C	-5.55	107.12	114.95
5	Q	47	VAL	N-CA-C	5.55	116.95	110.62
3	O	126	THR	CA-C-O	-5.55	114.99	120.82
5	Q	91	TRP	CB-CG-CD2	5.55	134.57	126.80
6	R	99	ARG	CA-C-N	-5.55	112.84	120.28
6	R	99	ARG	C-N-CA	-5.55	112.84	120.28
3	C	120	LEU	CA-C-O	5.55	126.84	120.90
1	M	189	HIS	CA-CB-CG	5.55	119.35	113.80
4	D	206	LEU	N-CA-CB	5.55	119.15	109.72
1	M	415	PHE	CA-CB-CG	5.54	119.34	113.80
1	M	217	SER	N-CA-CB	-5.53	102.52	110.87
3	C	123	VAL	CA-C-N	-5.53	111.28	120.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	123	VAL	C-N-CA	-5.53	111.28	120.68
3	C	164	ILE	CA-C-O	-5.53	115.52	121.27
3	C	182	HIS	N-CA-C	-5.53	105.25	111.28
1	A	360	LEU	N-CA-C	-5.53	105.33	111.36
1	A	69	ASN	CA-C-O	5.53	126.80	121.00
7	S	19	SER	CA-C-N	5.53	124.99	119.24
7	S	19	SER	C-N-CA	5.53	124.99	119.24
3	O	282	ARG	CD-NE-CZ	-5.53	116.67	124.40
7	S	12	HIS	CA-CB-CG	-5.53	108.28	113.80
4	D	114	SER	CA-CB-OG	5.52	122.15	111.10
3	O	185	LEU	O-C-N	5.52	124.74	120.38
5	Q	29	SER	CA-C-N	5.52	127.68	120.28
5	Q	29	SER	C-N-CA	5.52	127.68	120.28
8	T	63	HIS	CA-CB-CG	-5.52	108.28	113.80
1	M	341	GLN	CA-C-O	-5.51	114.57	120.42
3	C	205	SER	N-CA-C	5.51	118.17	109.96
5	Q	40	THR	CA-CB-CG2	5.51	119.86	110.50
1	A	395	TRP	CD2-CE2-CZ2	5.51	127.91	122.40
2	B	190	GLU	CA-C-O	-5.50	115.01	120.90
2	B	320	GLY	CA-C-O	5.50	126.48	121.47
7	G	15	THR	N-CA-C	5.50	118.45	109.59
2	B	85	ILE	N-CA-C	5.50	116.13	110.36
10	V	8	ARG	CA-C-N	5.50	127.96	120.54
10	V	8	ARG	C-N-CA	5.50	127.96	120.54
3	C	26	ASN	O-C-N	-5.49	116.53	123.12
3	C	18	PHE	CA-C-N	5.49	128.58	120.74
3	C	18	PHE	C-N-CA	5.49	128.58	120.74
1	M	252	HIS	CA-CB-CG	-5.49	108.31	113.80
4	D	40	CYS	CB-CA-C	5.48	116.23	109.16
1	A	46	ARG	NE-CZ-NH2	-5.48	114.27	119.20
5	Q	69	LEU	CA-C-N	5.48	128.06	120.29
5	Q	69	LEU	C-N-CA	5.48	128.06	120.29
4	D	213	GLY	CA-C-O	5.47	125.91	119.45
4	D	182	VAL	CA-CB-CG1	5.47	119.70	110.40
1	A	149	VAL	N-CA-CB	5.47	116.95	110.55
1	A	208	LEU	N-CA-C	-5.47	105.01	110.97
2	B	46	ARG	CB-CA-C	-5.47	102.64	110.62
5	E	49	TYR	N-CA-C	-5.46	104.36	111.02
6	R	98	ILE	O-C-N	-5.46	116.48	121.94
4	D	208	MET	CA-CB-CG	5.46	125.02	114.10
2	N	329	GLN	CB-CA-C	5.46	119.90	110.45
9	U	58	GLN	N-CA-C	5.46	118.38	109.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	188	ILE	N-CA-CB	5.46	117.56	110.57
6	R	32	MET	N-CA-CB	-5.46	102.06	111.55
6	R	16	ILE	N-CA-C	-5.45	105.53	110.82
3	O	261	PRO	N-CA-CB	5.45	108.97	103.25
1	M	375	VAL	O-C-N	5.45	127.23	121.89
5	E	71	MET	CA-C-O	-5.44	114.66	120.42
2	B	44	ALA	N-CA-C	5.43	117.38	108.52
1	M	421	ALA	CB-CA-C	5.43	119.64	110.79
5	Q	10	PHE	CA-CB-CG	-5.43	108.37	113.80
6	F	97	VAL	N-CA-CB	-5.43	102.28	111.23
7	G	10	VAL	CA-C-O	5.43	125.62	120.25
3	C	195	VAL	CA-C-N	5.42	127.81	120.65
3	C	195	VAL	C-N-CA	5.42	127.81	120.65
3	O	32	ASN	CA-CB-CG	-5.42	107.18	112.60
4	D	191	ARG	CA-C-O	-5.42	114.67	121.02
3	C	19	ILE	N-CA-C	5.42	116.08	110.82
4	D	109	LEU	CA-C-N	5.42	125.96	120.38
4	D	109	LEU	C-N-CA	5.42	125.96	120.38
6	F	76	PRO	N-CA-CB	5.42	108.06	103.35
7	S	12	HIS	CA-C-N	-5.42	115.90	123.10
7	S	12	HIS	C-N-CA	-5.42	115.90	123.10
2	B	309	VAL	N-CA-C	5.41	114.99	108.06
3	O	234	LEU	N-CA-C	-5.41	105.46	111.36
1	A	395	TRP	NE1-CE2-CZ2	-5.41	121.98	130.10
7	G	18	LEU	O-C-N	-5.41	115.53	122.94
3	O	201	HIS	CA-CB-CG	-5.41	108.39	113.80
3	C	74	ASN	N-CA-C	5.40	116.93	109.15
1	A	443	TRP	N-CA-C	5.40	119.16	107.49
1	M	435	ASN	CB-CG-OD1	-5.40	110.00	120.80
4	P	48	TYR	CA-C-N	5.39	130.12	122.24
4	P	48	TYR	C-N-CA	5.39	130.12	122.24
6	R	36	THR	CA-C-O	5.39	126.18	119.12
9	I	51	CYS	N-CA-C	5.39	118.40	109.94
1	A	94	HIS	CB-CA-C	-5.38	104.05	110.94
3	C	239	LEU	CD1-CG-CD2	-5.38	98.96	110.80
6	F	90	LEU	O-C-N	5.38	129.54	122.33
1	M	390	ILE	N-CA-CB	5.38	118.74	111.21
1	A	142	ASP	CA-C-O	5.37	125.99	119.49
4	D	32	VAL	CB-CA-C	-5.37	105.00	111.88
2	N	92	VAL	N-CA-CB	-5.37	105.33	112.26
1	M	419	CYS	CA-CB-SG	5.37	126.75	114.40
1	A	343	MET	O-C-N	-5.37	115.45	122.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	373	THR	O-C-N	-5.37	115.52	120.51
1	A	428	ILE	CA-CB-CG1	5.37	119.52	110.40
5	E	75	GLU	CA-C-O	-5.37	111.68	120.80
7	G	19	SER	CA-C-N	5.36	125.43	119.32
7	G	19	SER	C-N-CA	5.36	125.43	119.32
10	V	19	THR	CA-CB-OG1	-5.36	101.56	109.60
1	A	170	PRO	N-CA-CB	5.36	108.88	103.25
4	P	84	PRO	N-CA-CB	5.36	107.82	103.32
4	D	191	ARG	CA-C-N	5.36	127.72	120.38
4	D	191	ARG	C-N-CA	5.36	127.72	120.38
1	M	415	PHE	CA-C-O	5.35	126.26	119.78
2	B	107	TYR	CA-C-N	5.35	128.83	120.75
2	B	107	TYR	C-N-CA	5.35	128.83	120.75
1	M	315	ALA	CA-C-O	5.35	126.44	120.82
1	A	161	THR	CA-C-N	5.35	125.16	119.28
1	A	161	THR	C-N-CA	5.35	125.16	119.28
2	B	89	ILE	O-C-N	-5.34	116.69	121.87
1	A	436	ARG	CD-NE-CZ	-5.34	116.92	124.40
7	G	50	PRO	N-CA-CB	5.34	108.26	103.08
3	C	15	ASN	CA-CB-CG	-5.33	107.27	112.60
10	J	55	ILE	N-CA-C	5.33	118.93	112.80
3	O	259	ALA	CA-C-O	-5.33	114.68	120.81
5	Q	172	ARG	CA-C-N	5.33	129.81	121.76
5	Q	172	ARG	C-N-CA	5.33	129.81	121.76
3	O	141	TRP	CA-C-N	5.33	125.85	119.94
3	O	141	TRP	C-N-CA	5.33	125.85	119.94
2	N	394	PRO	CA-C-N	5.32	126.49	119.84
2	N	394	PRO	C-N-CA	5.32	126.49	119.84
9	U	78	TYR	CA-CB-CG	5.32	123.48	113.90
2	B	60	SER	CA-CB-OG	-5.32	100.46	111.10
1	A	153	LEU	O-C-N	5.32	127.77	122.08
3	O	106	SER	CA-C-O	5.31	125.91	119.38
3	C	210	GLY	CA-C-N	5.31	132.03	122.43
3	C	210	GLY	C-N-CA	5.31	132.03	122.43
1	M	260	PRO	N-CA-CB	5.31	108.38	103.39
3	C	175	LEU	CA-C-O	5.30	126.05	119.79
5	Q	65	SER	O-C-N	-5.30	116.60	122.86
2	B	133	ARG	NE-CZ-NH1	5.30	126.80	121.50
1	M	25	VAL	CA-C-N	-5.30	114.27	122.59
1	M	25	VAL	C-N-CA	-5.30	114.27	122.59
3	O	115	ILE	CA-CB-CG1	5.30	119.41	110.40
3	O	45	ILE	O-C-N	5.30	127.40	121.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	M	145	MET	CA-C-N	-5.30	113.12	120.38
1	M	145	MET	C-N-CA	-5.30	113.12	120.38
3	C	260	ASN	CA-CB-CG	5.30	117.90	112.60
4	P	209	LEU	O-C-N	-5.30	115.76	122.17
1	M	392	LEU	N-CA-CB	5.29	117.83	109.94
2	N	70	ARG	NE-CZ-NH2	-5.29	114.44	119.20
3	O	199	PHE	CD1-CG-CD2	-5.29	110.66	118.60
3	C	126	THR	N-CA-CB	5.29	118.40	109.78
4	D	201	ARG	CD-NE-CZ	-5.29	117.00	124.40
1	A	358	LYS	CA-C-N	5.28	127.61	120.38
1	A	358	LYS	C-N-CA	5.28	127.61	120.38
3	C	356	VAL	O-C-N	-5.28	116.75	121.87
3	C	361	LEU	CA-C-O	-5.28	114.93	120.63
1	A	342	TRP	CD2-CE2-CZ2	5.28	127.68	122.40
2	B	33	LEU	O-C-N	5.28	129.28	123.16
2	N	162	ASN	CB-CA-C	5.28	119.50	110.74
5	Q	91	TRP	CB-CG-CD1	-5.28	118.99	126.90
5	Q	136	ILE	N-CA-CB	-5.27	106.20	111.90
4	D	239	PRO	CA-C-N	5.27	126.43	119.84
4	D	239	PRO	C-N-CA	5.27	126.43	119.84
1	A	247	GLY	O-C-N	-5.27	117.08	122.19
2	B	94	GLY	CA-C-N	5.27	131.44	122.37
2	B	94	GLY	C-N-CA	5.27	131.44	122.37
8	H	55	THR	CA-CB-OG1	5.27	117.50	109.60
1	M	440	GLY	N-CA-C	-5.27	107.79	114.16
5	Q	39	VAL	N-CA-C	-5.27	105.58	110.53
2	N	274	VAL	O-C-N	5.26	127.25	121.83
3	O	226	ILE	CA-C-O	5.26	126.43	120.85
6	F	55	TYR	CA-C-O	-5.26	114.97	120.55
1	M	162	PRO	CB-CA-C	-5.26	103.48	112.26
2	B	75	LEU	O-C-N	5.26	129.11	122.65
7	S	17	SER	CA-C-O	-5.25	115.29	121.44
2	B	353	SER	CA-C-N	5.25	129.87	121.62
2	B	353	SER	C-N-CA	5.25	129.87	121.62
2	N	107	TYR	CA-C-N	5.25	128.67	120.75
2	N	107	TYR	C-N-CA	5.25	128.67	120.75
4	D	46	VAL	CA-C-O	5.24	126.78	120.65
3	C	135	TRP	O-C-N	5.24	128.87	122.58
2	N	416	LYS	N-CA-C	5.24	117.74	111.71
3	O	160	LEU	N-CA-C	5.24	117.40	111.11
1	A	167	VAL	N-CA-C	-5.24	105.28	110.62
1	A	357	GLY	N-CA-C	-5.23	106.07	112.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	391	PRO	CA-C-N	5.23	127.61	120.54
1	A	391	PRO	C-N-CA	5.23	127.61	120.54
4	D	46	VAL	N-CA-CB	5.23	116.97	111.00
6	F	99	ARG	O-C-N	-5.23	116.09	122.11
3	O	219	PRO	CA-C-O	5.23	126.83	121.23
4	P	195	GLU	O-C-N	-5.23	116.56	121.32
5	Q	182	VAL	O-C-N	5.23	125.98	120.96
1	M	428	ILE	CA-C-O	5.22	125.36	120.14
9	I	69	SER	CA-C-O	-5.22	114.69	120.33
3	C	355	SER	O-C-N	-5.22	116.59	122.12
1	A	425	PHE	CA-C-N	5.21	130.06	121.87
1	A	425	PHE	C-N-CA	5.21	130.06	121.87
1	M	277	ILE	CB-CA-C	-5.21	105.20	111.88
4	P	175	THR	CA-C-O	5.21	124.13	119.59
1	A	311	ASN	CA-C-N	-5.21	115.85	122.37
1	A	311	ASN	C-N-CA	-5.21	115.85	122.37
4	P	191	ARG	CD-NE-CZ	-5.21	117.10	124.40
2	N	138	ALA	N-CA-C	5.21	117.36	111.11
6	F	61	ARG	NE-CZ-NH1	-5.21	116.29	121.50
2	N	430	LEU	N-CA-C	5.21	119.31	111.81
3	C	233	LEU	CA-C-O	-5.20	115.33	120.90
1	M	416	TYR	N-CA-CB	5.20	118.27	109.94
4	P	85	GLY	CA-C-N	5.20	128.60	120.75
4	P	85	GLY	C-N-CA	5.20	128.60	120.75
4	P	137	PRO	CA-C-N	5.20	126.01	120.13
4	P	137	PRO	C-N-CA	5.20	126.01	120.13
6	F	19	TRP	CA-C-N	5.20	127.56	120.54
6	F	19	TRP	C-N-CA	5.20	127.56	120.54
6	F	26	PHE	CA-CB-CG	5.20	119.00	113.80
3	O	39	ILE	CB-CG1-CD1	5.20	124.71	113.80
4	P	195	GLU	CA-C-O	5.20	127.29	120.74
1	M	350	THR	CA-C-O	-5.19	115.24	121.11
3	C	196	HIS	N-CA-CB	5.19	117.49	109.91
4	D	41	HIS	CA-CB-CG	5.18	118.98	113.80
8	H	60	ASP	N-CA-C	-5.18	106.64	113.12
3	C	289	GLY	CA-C-O	-5.18	114.81	120.40
10	J	54	HIS	CA-C-N	5.18	128.97	121.52
10	J	54	HIS	C-N-CA	5.18	128.97	121.52
1	M	329	MET	CA-C-N	-5.18	114.40	122.37
1	M	329	MET	C-N-CA	-5.18	114.40	122.37
2	N	57	TYR	CA-C-N	-5.18	114.11	122.81
2	N	57	TYR	C-N-CA	-5.18	114.11	122.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	N	169	ARG	N-CA-C	-5.17	106.10	112.72
3	O	91	PHE	CA-CB-CG	-5.17	108.62	113.80
3	O	124	MET	N-CA-C	5.17	116.92	111.28
1	A	403	ASP	CA-C-N	-5.17	112.45	120.31
1	A	403	ASP	C-N-CA	-5.17	112.45	120.31
4	D	132	THR	CA-CB-OG1	-5.17	101.84	109.60
1	A	390	ILE	N-CA-CB	5.17	118.44	111.21
2	B	173	ALA	O-C-N	-5.17	114.75	122.39
3	C	276	PHE	N-CA-CB	5.17	119.22	110.49
8	T	55	THR	CA-CB-OG1	5.16	117.35	109.60
7	S	33	GLY	O-C-N	5.16	127.13	122.18
2	B	282	GLY	CA-C-N	5.16	126.29	119.84
2	B	282	GLY	C-N-CA	5.16	126.29	119.84
5	E	39	VAL	CB-CA-C	-5.16	105.28	111.88
2	N	246	GLU	N-CA-C	5.16	117.78	107.62
2	B	256	ALA	CA-C-O	-5.16	115.28	121.11
5	Q	40	THR	O-C-N	-5.16	116.73	122.09
3	C	230	LEU	CA-C-O	-5.15	115.41	120.82
1	M	319	LEU	CA-C-O	5.15	125.99	120.32
3	O	60	THR	CB-CA-C	-5.15	102.57	110.81
1	A	363	ASN	OD1-CG-ND2	5.15	127.75	122.60
1	M	169	GLY	CA-C-N	5.15	125.15	119.90
1	M	169	GLY	C-N-CA	5.15	125.15	119.90
2	N	337	ILE	CA-C-O	-5.15	115.71	121.17
4	D	228	SER	CA-C-O	5.15	126.19	120.63
3	O	35	SER	O-C-N	-5.14	115.75	122.59
3	O	79	ILE	N-CA-CB	5.14	116.22	110.51
3	C	9	PRO	N-CA-CB	5.14	107.78	103.25
4	D	38	SER	CA-C-N	5.14	127.68	120.28
4	D	38	SER	C-N-CA	5.14	127.68	120.28
3	C	281	LEU	O-C-N	-5.14	116.69	122.03
7	G	12	HIS	N-CA-C	5.14	118.48	111.39
4	P	33	TYR	CA-C-O	-5.14	115.42	121.07
2	N	66	SER	N-CA-C	-5.14	105.57	111.07
2	B	429	ASN	CA-CB-CG	-5.13	107.47	112.60
4	P	143	LEU	N-CA-C	5.13	116.54	107.61
1	A	188	ARG	CA-C-N	-5.13	113.69	122.11
1	A	188	ARG	C-N-CA	-5.13	113.69	122.11
2	B	394	PRO	N-CA-CB	5.13	108.06	103.08
3	C	119	LEU	CA-C-O	5.13	126.72	121.07
4	P	195	GLU	CB-CG-CD	5.13	121.32	112.60
2	B	83	PHE	CA-CB-CG	-5.13	108.67	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	M	138	LEU	CA-C-N	5.13	127.40	120.38
1	M	138	LEU	C-N-CA	5.13	127.40	120.38
3	O	275	LEU	CA-C-O	-5.12	115.02	121.02
8	T	55	THR	CA-C-O	5.12	125.98	120.70
1	M	11	VAL	CA-C-O	5.12	124.47	119.71
1	M	361	LEU	O-C-N	5.12	127.41	122.09
2	B	314	ALA	CA-C-O	-5.12	115.18	120.70
1	M	157	ALA	CA-C-O	5.12	125.27	119.18
7	G	19	SER	CA-C-O	-5.11	116.00	120.60
2	N	165	ALA	O-C-N	-5.11	115.41	122.46
7	G	9	ARG	NE-CZ-NH1	-5.11	116.39	121.50
1	A	306	SER	O-C-N	-5.10	115.81	122.59
7	S	36	ASN	OD1-CG-ND2	-5.10	117.50	122.60
11	W	36	THR	CA-C-O	5.10	129.47	120.80
1	M	100	LYS	N-CA-C	-5.10	100.93	109.24
3	O	26	ASN	CA-C-O	-5.10	115.54	121.15
4	P	206	LEU	CA-C-N	-5.09	113.18	120.82
4	P	206	LEU	C-N-CA	-5.09	113.18	120.82
5	Q	44	THR	OG1-CB-CG2	5.09	119.49	109.30
4	D	122	GLY	O-C-N	5.09	128.29	122.33
2	N	59	ASN	OD1-CG-ND2	-5.09	117.51	122.60
3	O	197	LEU	N-CA-CB	5.09	117.60	110.12
4	P	153	PHE	CA-C-N	5.09	126.21	119.84
4	P	153	PHE	C-N-CA	5.09	126.21	119.84
6	R	34	ASP	CA-CB-CG	-5.09	107.51	112.60
1	A	326	CYS	N-CA-C	5.08	117.73	109.24
9	I	78	TYR	CA-CB-CG	5.08	123.05	113.90
2	B	170	ASN	N-CA-C	5.08	119.09	112.13
8	H	47	ARG	CA-CB-CG	5.08	124.27	114.10
1	M	295	ALA	CA-C-O	5.08	125.93	120.70
2	B	21	PRO	N-CA-CB	5.08	108.59	103.00
2	N	125	ASN	OD1-CG-ND2	5.08	127.68	122.60
2	B	275	LEU	CB-CA-C	-5.08	102.88	110.90
7	S	5	GLY	CA-C-N	5.08	130.19	122.37
7	S	5	GLY	C-N-CA	5.08	130.19	122.37
2	N	354	ASN	CA-C-N	5.07	125.10	119.32
2	N	354	ASN	C-N-CA	5.07	125.10	119.32
2	B	266	SER	CA-C-O	-5.07	115.53	121.46
1	M	414	TYR	CA-C-O	-5.07	113.81	119.79
2	N	172	LEU	N-CA-CB	5.07	119.26	110.39
3	O	221	HIS	CA-C-O	5.07	123.79	119.13
3	O	358	TYR	N-CA-C	5.07	117.19	111.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	Q	62	MET	CA-C-N	5.07	131.22	121.54
5	Q	62	MET	C-N-CA	5.07	131.22	121.54
1	A	436	ARG	NE-CZ-NH1	-5.06	116.44	121.50
4	P	143	LEU	CB-CA-C	-5.06	103.76	110.79
4	P	150	ASN	CA-C-N	5.06	124.72	119.56
4	P	150	ASN	C-N-CA	5.06	124.72	119.56
3	C	325	PHE	CB-CA-C	-5.06	102.91	110.90
3	O	373	GLU	CA-C-O	5.06	126.09	120.63
4	P	111	PRO	N-CA-CB	5.05	107.81	103.31
4	D	30	PHE	CA-CB-CG	-5.05	108.75	113.80
7	G	34	ILE	CA-C-N	5.05	124.65	119.05
7	G	34	ILE	C-N-CA	5.05	124.65	119.05
1	M	23	LEU	CA-C-N	-5.05	115.76	122.72
1	M	23	LEU	C-N-CA	-5.05	115.76	122.72
4	P	44	ASP	N-CA-C	5.04	116.86	111.36
1	A	328	HIS	CA-C-O	5.04	125.58	119.38
3	C	361	LEU	O-C-N	5.04	127.46	122.12
1	M	420	PRO	N-CA-C	5.04	119.12	111.11
3	O	227	LYS	CA-C-O	-5.04	115.53	120.82
3	O	325	PHE	CG-CD2-CE2	5.04	129.27	120.70
7	G	15	THR	CA-C-O	-5.04	115.37	120.71
8	H	55	THR	CB-CA-C	-5.04	102.97	110.88
6	F	47	ILE	CB-CG1-CD1	5.04	124.38	113.80
3	C	329	VAL	CA-C-O	-5.03	114.49	120.78
3	O	197	LEU	N-CA-C	-5.03	105.79	111.28
4	D	110	PRO	N-CA-CB	5.03	107.96	103.08
10	J	51	LEU	N-CA-C	5.03	118.01	109.76
1	A	119	ASN	CA-CB-CG	-5.03	107.57	112.60
1	A	163	LEU	CA-C-O	5.03	125.56	119.38
2	B	38	LEU	CB-CA-C	-5.03	104.89	111.82
3	O	326	TRP	CA-C-O	-5.03	115.20	120.63
1	M	101	ALA	N-CA-C	5.02	116.16	108.52
2	N	21	PRO	N-CA-CB	5.02	108.53	103.00
3	O	185	LEU	CA-CB-CG	5.02	133.88	116.30
3	O	82	MET	N-CA-C	-5.02	105.89	111.36
3	O	216	ASP	CA-C-N	-5.02	115.41	122.94
3	O	216	ASP	C-N-CA	-5.02	115.41	122.94
1	A	89	TYR	CA-CB-CG	5.01	122.92	113.90
2	B	126	VAL	CB-CA-C	-5.01	104.39	112.16
3	C	102	LEU	N-CA-C	5.01	117.64	111.82
7	S	73	ASN	CA-C-N	5.01	126.01	120.45
7	S	73	ASN	C-N-CA	5.01	126.01	120.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	N	29	LEU	CA-C-N	5.00	125.03	119.32
2	N	29	LEU	C-N-CA	5.00	125.03	119.32
1	M	342	TRP	CD2-CE2-CZ2	-5.00	117.40	122.40
3	O	190	MET	N-CA-CB	5.00	117.48	110.12
4	D	48	TYR	CA-C-N	5.00	129.54	122.24
4	D	48	TYR	C-N-CA	5.00	129.54	122.24
4	D	150	ASN	CA-C-N	5.00	125.07	119.87
4	D	150	ASN	C-N-CA	5.00	125.07	119.87
5	E	7	VAL	CA-C-N	5.00	125.27	119.92
5	E	7	VAL	C-N-CA	5.00	125.27	119.92

There are no chirality outliers.

All (81) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	118	GLN	Mainchain
1	A	122	LEU	Mainchain
1	A	196	VAL	Mainchain
1	A	210	ASP	Mainchain
1	A	239	SER	Mainchain
1	A	242	CYS	Mainchain
1	A	244	ARG	Mainchain
1	A	256	ALA	Mainchain
1	A	294	LEU	Mainchain
1	A	306	SER	Mainchain
1	A	345	LEU	Mainchain
1	A	383	LEU	Mainchain
1	A	53	ASN	Mainchain
2	B	106	ALA	Mainchain
2	B	159	VAL	Mainchain
2	B	178	CYS	Mainchain
2	B	239	TYR	Mainchain
2	B	285	VAL	Mainchain
2	B	335	ASP	Mainchain
2	B	353	SER	Mainchain
2	B	68	LEU	Mainchain
2	B	99	THR	Mainchain
3	C	134	PRO	Mainchain
3	C	164	ILE	Mainchain
3	C	20	ASP	Mainchain
3	C	21	LEU	Mainchain
3	C	222	PRO	Mainchain

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Mol	Chain	Res	Type	Group
3	C	235	LEU	Mainchain
3	C	281	LEU	Mainchain
3	C	322	GLN	Mainchain
3	C	326	TRP	Mainchain
3	C	335	LEU	Mainchain
3	C	355	SER	Mainchain
3	C	362	ILE	Mainchain
3	C	77	TRP	Mainchain
3	C	83	HIS	Mainchain
4	D	191	ARG	Mainchain
4	D	217	PRO	Mainchain
4	D	224	ARG	Mainchain
4	D	229	VAL	Mainchain
4	D	54	VAL	Mainchain
5	E	20	ASP	Mainchain
6	F	16	ILE	Mainchain
6	F	46	ALA	Mainchain
7	G	15	THR	Mainchain
7	G	73	ASN	Mainchain
9	I	69	SER	Mainchain
10	J	43	TYR	Mainchain
1	M	100	LYS	Mainchain
1	M	141	ASN	Mainchain
1	M	290	LEU	Mainchain
2	N	137	VAL	Mainchain
2	N	144	LEU	Mainchain
2	N	200	THR	Mainchain
2	N	290	ASN	Mainchain
2	N	353	SER	Mainchain
3	O	148	ASN	Mainchain
3	O	159	ASN	Mainchain
3	O	19	ILE	Mainchain
3	O	355	SER	Mainchain
3	O	55	TYR	Mainchain
3	O	77	TRP	Mainchain
4	P	202	LYS	Mainchain
4	P	229	VAL	Mainchain
4	P	24	THR	Mainchain
4	P	46	VAL	Mainchain
5	Q	125	GLU	Mainchain
5	Q	135	LEU	Mainchain
5	Q	186	GLU	Mainchain

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Mol	Chain	Res	Type	Group
5	Q	195	VAL	Mainchain
5	Q	32	ARG	Mainchain
5	Q	36	SER	Mainchain
5	Q	49	TYR	Mainchain
5	Q	9	ASP	Mainchain
5	Q	97	PHE	Mainchain
7	S	17	SER	Mainchain
7	S	18	LEU	Mainchain
7	S	34	ILE	Mainchain
8	T	40	CYS	Mainchain
9	U	72	VAL	Mainchain
11	W	24	TRP	Mainchain

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	3458	0	3356	487	0
1	M	3458	0	3356	476	0
2	B	3141	0	3123	417	0
2	N	3141	0	3123	428	1
3	C	3011	0	3077	467	0
3	O	3011	0	3077	431	0
4	D	1919	0	1868	307	0
4	P	1919	0	1868	298	0
5	E	566	0	564	67	0
5	Q	1518	0	1499	269	1
6	F	916	0	909	97	0
6	R	916	0	909	96	1
7	G	682	0	679	107	0
7	S	682	0	679	99	0
8	H	524	0	504	70	1
8	T	524	0	504	76	0
9	I	248	0	265	52	0
9	U	248	0	265	66	0
10	J	512	0	518	70	0
10	V	512	0	518	79	0
11	K	159	0	159	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	W	159	0	159	27	0
12	C	86	0	60	20	0
12	O	86	0	60	25	0
13	D	43	0	30	5	0
13	P	43	0	30	3	0
14	Q	4	0	0	0	0
All	All	31486	0	31159	3993	2

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 64.

All (3993) 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)
7:S:50:PRO:HB2	7:S:51:PRO:HD3	1.25	1.17
4:D:224:ARG:HB2	7:G:25:ALA:HB1	1.27	1.17
2:B:77:THR:HG22	2:B:130:PRO:HA	1.25	1.14
1:M:67:THR:HG23	1:M:70:ARG:H	1.13	1.14
1:M:426:GLY:CA	1:M:428:ILE:HG13	1.78	1.13
5:Q:15:ARG:HB2	5:Q:16:PRO:HD2	1.19	1.13
4:P:83:ARG:HB3	4:P:84:PRO:HD2	1.14	1.12
4:P:181:GLN:HG2	8:T:77:LEU:HD22	1.29	1.12
5:Q:114:VAL:HA	5:Q:117:LEU:HD12	1.24	1.11
1:A:428:ILE:HG22	1:A:431:LEU:HB2	1.29	1.11
7:G:72:LYS:HB3	7:G:75:ALA:HB2	1.20	1.11
3:C:129:MET:HG2	3:C:178:PHE:HD2	1.03	1.10
1:M:403:ASP:HB3	1:M:406:VAL:HG23	1.34	1.09
1:A:67:THR:HG23	1:A:70:ARG:H	0.94	1.09
9:I:72:VAL:HB	9:I:73:PRO:HD3	1.20	1.09
4:P:83:ARG:HB3	4:P:84:PRO:CD	1.81	1.09
3:O:206:ASN:HB2	3:O:313:ARG:NH2	1.68	1.08
1:M:428:ILE:HG21	1:M:431:LEU:HD22	1.35	1.07
5:Q:76:ILE:CG2	5:Q:194:ILE:HG12	1.84	1.07
2:B:429:ASN:HD21	2:N:60:SER:HB3	1.15	1.07
3:C:206:ASN:HB2	3:C:313:ARG:NH2	1.70	1.07
3:C:310:SER:HA	3:C:374:ASN:HD21	1.12	1.07
3:C:77:TRP:CZ3	3:C:78:ILE:HG23	1.88	1.07
2:B:60:SER:HB3	2:N:429:ASN:HD21	0.96	1.07
1:M:428:ILE:HG22	1:M:431:LEU:HB2	1.19	1.07
1:A:64:PHE:CE1	1:A:86:LEU:HG	1.90	1.06
1:A:41:ILE:HG13	1:A:195:MET:HE3	1.36	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:305:GLN:HB2	2:N:306:PRO:HD3	1.34	1.06
9:I:72:VAL:HB	9:I:73:PRO:CD	1.86	1.05
3:O:310:SER:HA	3:O:374:ASN:HD21	1.21	1.05
5:Q:96:LEU:HD21	5:Q:195:VAL:HG21	1.38	1.05
2:B:283:PRO:HG3	9:I:55:LEU:HD22	1.39	1.04
3:O:26:ASN:HD21	3:O:207:ASN:HB2	1.15	1.04
4:D:83:ARG:HB3	4:D:84:PRO:CD	1.86	1.04
1:A:426:GLY:CA	1:A:428:ILE:HG13	1.87	1.04
4:D:181:GLN:HG2	8:H:77:LEU:HD22	1.39	1.04
1:M:18:GLN:HE21	1:M:22:GLY:HA2	1.22	1.04
2:B:165:ALA:HA	2:B:173:ALA:HB1	1.39	1.04
3:C:170:VAL:HG13	3:C:174:THR:HG21	1.34	1.04
9:U:70:LEU:HD21	9:U:73:PRO:HD2	1.40	1.04
2:B:52:LYS:HB2	2:B:203:ARG:HB3	1.39	1.03
2:N:200:THR:HG22	2:N:203:ARG:HD2	1.36	1.03
5:Q:75:GLU:O	5:Q:194:ILE:HA	1.57	1.03
2:B:60:SER:CB	2:N:429:ASN:HD21	1.72	1.03
3:C:10:LEU:HB2	3:O:202:GLU:OE2	1.59	1.03
1:M:24:ARG:HB2	1:M:196:VAL:HG22	1.37	1.02
5:Q:134:ILE:HD11	5:Q:185:TYR:CD2	1.94	1.02
3:C:129:MET:HG2	3:C:178:PHE:CD2	1.93	1.02
5:Q:109:GLU:HG2	5:Q:167:ALA:HB3	1.36	1.02
7:S:72:LYS:HB3	7:S:75:ALA:HB2	1.39	1.02
9:U:72:VAL:HB	9:U:73:PRO:HD3	1.36	1.02
2:B:95:LYS:HE3	9:I:70:LEU:HD22	1.41	1.02
3:C:206:ASN:HB2	3:C:313:ARG:HH21	1.24	1.02
3:C:221:HIS:HB3	3:C:222:PRO:HD3	1.42	1.02
3:C:202:GLU:OE2	3:O:10:LEU:HB2	1.59	1.02
10:J:18:SER:HB3	11:K:23:LEU:HD12	1.42	1.02
3:O:100:ARG:HH21	12:O:381:HEM:HBD1	1.23	1.02
1:M:143:THR:HG21	9:U:48:SER:H	1.24	1.01
3:C:16:ASN:ND2	3:C:20:ASP:OD2	1.94	1.01
1:A:18:GLN:HE21	1:A:22:GLY:HA2	1.19	1.01
1:M:428:ILE:HG22	1:M:431:LEU:CB	1.90	1.01
4:D:83:ARG:CB	4:D:84:PRO:HD2	1.90	1.00
7:G:34:ILE:HB	7:G:35:PRO:HD3	1.39	1.00
3:C:100:ARG:HH21	12:C:381:HEM:HBD1	1.26	1.00
2:N:24:LEU:HG	2:N:38:LEU:HD11	1.43	1.00
8:T:21:ARG:HB3	8:T:65:ARG:HH21	1.26	1.00
3:C:26:ASN:HB2	6:F:69:SER:OG	1.62	1.00
2:N:166:ALA:HB2	2:N:244:ILE:HG13	1.39	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:345:HIS:HB3	3:O:346:PRO:HD3	1.42	1.00
4:D:83:ARG:HB3	4:D:84:PRO:HD2	1.00	1.00
4:D:118:ARG:HG3	4:D:194:ALA:HB1	1.44	0.99
4:D:74:PRO:HB2	4:D:79:GLU:HB2	1.43	0.99
4:P:224:ARG:HB2	7:S:25:ALA:HB1	1.40	0.99
1:A:24:ARG:HB2	1:A:196:VAL:HG22	1.43	0.99
1:M:64:PHE:CE1	1:M:86:LEU:HG	1.98	0.99
3:O:16:ASN:ND2	3:O:20:ASP:OD2	1.96	0.99
1:A:408:ARG:HH22	11:K:15:ARG:NE	1.61	0.99
3:C:26:ASN:HD21	3:C:207:ASN:HB2	1.28	0.99
3:C:174:THR:HG23	3:C:178:PHE:CE1	1.98	0.99
2:B:24:LEU:HG	2:B:38:LEU:HD11	1.42	0.99
6:R:28:LYS:HD2	6:R:74:ILE:HD11	1.42	0.99
1:A:343:MET:HE1	1:A:416:TYR:CD2	1.98	0.98
2:B:24:LEU:H	2:B:24:LEU:HD12	1.23	0.98
2:B:67:HIS:HD2	2:B:144:LEU:HD22	1.27	0.98
2:B:429:ASN:HD21	2:N:60:SER:CB	1.74	0.98
1:M:408:ARG:HH22	11:W:15:ARG:NE	1.61	0.98
1:M:42:ASP:HB3	1:M:384:LEU:HD22	1.45	0.98
1:A:383:LEU:HD22	1:A:388:ARG:HA	1.45	0.98
6:F:50:LEU:HB2	6:F:55:TYR:HB2	1.45	0.98
3:O:77:TRP:CZ3	3:O:78:ILE:HG23	1.98	0.98
3:O:106:SER:HB3	12:O:381:HEM:HBD2	1.46	0.98
3:O:174:THR:HG23	3:O:178:PHE:HE2	1.25	0.98
4:P:158:ILE:CD1	4:P:160:MET:HB2	1.94	0.98
1:M:21:ASN:HB3	1:M:217:SER:HB3	1.46	0.97
1:A:67:THR:HG23	1:A:70:ARG:N	1.79	0.97
3:O:210:GLY:HA3	3:O:314:SER:HB2	1.46	0.97
5:Q:86:ASN:HB2	5:Q:99:ARG:HD2	1.45	0.97
1:A:304:CYS:HB3	1:A:334:MET:SD	2.04	0.97
2:B:200:THR:HG22	2:B:203:ARG:HD2	1.44	0.97
2:B:305:GLN:HB2	2:B:306:PRO:HD3	1.46	0.97
1:M:392:LEU:HA	1:M:395:TRP:CD1	2.00	0.97
3:C:264:THR:HG21	5:Q:144:CYS:HB3	1.44	0.96
6:F:51:PRO:HG2	6:F:54:LEU:HD23	1.44	0.96
13:P:242:HEC:HBC2	13:P:242:HEC:HH2	1.45	0.96
4:P:74:PRO:HB2	4:P:79:GLU:HB2	1.46	0.96
2:B:60:SER:HB3	2:N:429:ASN:ND2	1.81	0.96
9:I:70:LEU:HD21	9:I:73:PRO:HD2	1.48	0.96
8:H:50:THR:HG22	8:H:52:GLU:H	1.28	0.96
4:P:178:THR:HB	4:P:181:GLN:HG3	1.46	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:77:THR:HG22	2:N:130:PRO:HA	1.46	0.95
3:O:174:THR:HG23	3:O:178:PHE:CE2	2.00	0.95
7:S:31:SER:O	7:S:35:PRO:HD2	1.65	0.95
1:M:417:ASP:OD2	10:V:10:TYR:OH	1.82	0.95
1:A:133:VAL:HG12	1:A:134:ILE:HD13	1.48	0.95
2:B:304:HIS:CD2	2:B:306:PRO:HD2	2.01	0.95
2:N:29:LEU:HB3	2:N:30:PRO:HD2	1.48	0.95
2:N:283:PRO:HG3	9:U:55:LEU:HD22	1.47	0.95
7:G:36:ASN:HA	7:G:39:ARG:HD3	1.46	0.95
2:B:111:CYS:HB3	2:B:119:LEU:HD22	1.49	0.94
4:D:165:TYR:O	4:D:168:VAL:HG23	1.67	0.94
2:N:111:CYS:HB3	2:N:119:LEU:HD22	1.46	0.94
3:O:135:TRP:HH2	3:O:170:VAL:HG12	1.32	0.94
4:P:23:HIS:HA	4:P:26:ILE:HD12	1.49	0.94
1:A:67:THR:CG2	1:A:70:ARG:H	1.81	0.94
1:A:143:THR:HG21	9:I:48:SER:H	1.33	0.94
2:N:248:ASN:HB2	2:N:428:GLY:HA2	1.47	0.94
3:O:206:ASN:HB2	3:O:313:ARG:HH21	1.28	0.94
3:O:252:ASP:HB3	3:O:253:PRO:HD3	1.50	0.94
1:A:403:ASP:HB3	1:A:406:VAL:HG23	1.47	0.94
3:C:174:THR:HG23	3:C:178:PHE:HE1	1.31	0.93
4:P:158:ILE:HD13	4:P:160:MET:HB2	1.49	0.93
3:C:115:ILE:HG21	3:C:196:HIS:HB2	1.48	0.93
2:N:67:HIS:HD2	2:N:144:LEU:HD22	1.30	0.93
2:N:316:TYR:OH	9:U:64:LEU:HD23	1.67	0.93
1:A:61:HIS:CD2	1:A:134:ILE:HD11	2.03	0.93
1:M:61:HIS:NE2	1:M:134:ILE:HD11	1.82	0.93
2:N:132:PHE:CD2	2:N:191:LEU:HD13	2.04	0.93
3:O:108:THR:HB	3:O:313:ARG:HH11	1.31	0.93
2:B:159:VAL:HG12	2:B:160:ILE:HD13	1.48	0.93
3:C:310:SER:HB3	3:C:318:ARG:NH1	1.82	0.93
1:A:346:CYS:HB3	1:A:412:SER:OG	1.68	0.93
2:N:51:ILE:HG21	2:N:199:PHE:HA	1.48	0.93
2:N:207:ILE:HD11	2:N:383:GLY:HA2	1.49	0.93
2:B:77:THR:HG22	2:B:130:PRO:CA	1.99	0.92
3:C:179:PHE:HE2	3:O:179:PHE:HE2	1.05	0.92
7:G:9:ARG:NH2	7:G:11:ARG:HD2	1.83	0.92
1:M:61:HIS:CE1	1:M:134:ILE:HD11	2.04	0.92
1:A:69:ASN:O	1:A:71:PRO:HD3	1.70	0.92
1:M:91:THR:HG22	1:M:93:GLU:H	1.32	0.92
2:B:51:ILE:HG21	2:B:199:PHE:HA	1.49	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:85:LYS:HG2	5:Q:86:ASN:H	1.33	0.92
9:U:72:VAL:HB	9:U:73:PRO:CD	1.98	0.92
1:A:91:THR:HG22	1:A:93:GLU:H	1.35	0.91
5:Q:15:ARG:HH21	5:Q:32:ARG:HG3	1.35	0.91
1:A:144:SER:O	1:A:148:VAL:HG23	1.69	0.91
3:C:240:MET:HA	3:C:243:VAL:HG12	1.49	0.91
3:O:26:ASN:ND2	3:O:207:ASN:HB2	1.85	0.91
1:A:392:LEU:HA	1:A:395:TRP:CD1	2.05	0.91
2:B:162:ASN:HD22	2:B:244:ILE:CG2	1.83	0.91
2:B:258:VAL:HG11	2:B:321:LEU:HB3	1.53	0.91
1:A:224:ASP:OD1	1:A:227:ALA:HB3	1.72	0.90
3:O:122:THR:HG22	3:O:189:ILE:HD11	1.51	0.90
5:Q:15:ARG:NH2	5:Q:32:ARG:HG3	1.87	0.90
4:D:74:PRO:HG2	4:D:82:MET:SD	2.10	0.90
1:M:408:ARG:HH12	11:W:15:ARG:HE	1.20	0.90
3:C:252:ASP:HB3	3:C:253:PRO:HD3	1.52	0.90
3:C:266:PRO:HB3	5:Q:160:CYS:HA	1.54	0.90
1:M:236:PHE:CE2	1:M:258:GLU:HB3	2.07	0.90
1:A:236:PHE:CE2	1:A:258:GLU:HB3	2.07	0.90
3:C:34:GLY:O	3:C:37:LEU:HB2	1.72	0.90
4:D:231:LYS:HD2	6:F:71:ARG:HG2	1.52	0.89
4:P:165:TYR:O	4:P:168:VAL:HG23	1.73	0.89
3:O:221:HIS:HB3	3:O:222:PRO:HD3	1.52	0.89
5:Q:109:GLU:CG	5:Q:167:ALA:HB3	2.01	0.89
2:B:342:ASN:O	2:B:345:LYS:HB2	1.72	0.89
2:B:385:GLN:HG2	9:I:62:ARG:HH12	1.35	0.89
3:C:103:TYR:HA	3:C:315:MET:HE3	1.52	0.89
5:Q:15:ARG:HB2	5:Q:16:PRO:CD	2.02	0.89
1:A:40:TRP:CZ2	1:A:377:GLU:HA	2.08	0.89
6:F:47:ILE:O	6:F:50:LEU:HG	1.72	0.89
1:A:417:ASP:OD2	10:J:10:TYR:OH	1.88	0.89
2:B:406:ALA:HB3	2:B:409:ASP:HB2	1.53	0.89
2:B:29:LEU:HB3	2:B:30:PRO:HD2	1.54	0.89
2:N:52:LYS:HB2	2:N:203:ARG:HB3	1.54	0.89
1:A:426:GLY:H	1:A:428:ILE:CG1	1.85	0.88
3:O:361:LEU:HD23	3:O:365:LEU:HD12	1.54	0.88
1:A:156:THR:HG23	1:A:239:SER:OG	1.73	0.88
1:A:408:ARG:HH12	11:K:15:ARG:HE	1.22	0.88
4:D:178:THR:OG1	4:D:181:GLN:NE2	2.05	0.88
1:A:343:MET:HE1	1:A:416:TYR:HD2	1.33	0.88
1:A:408:ARG:NH1	11:K:15:ARG:HE	1.71	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:6:LYS:HE2	3:C:16:ASN:HD21	1.38	0.88
2:N:209:LEU:HD22	2:N:375:SER:HB2	1.56	0.88
3:C:170:VAL:HG13	3:C:174:THR:CG2	2.04	0.88
2:N:304:HIS:CD2	2:N:306:PRO:HD2	2.08	0.88
3:C:179:PHE:CE2	3:O:179:PHE:HE2	1.92	0.88
1:M:45:SER:HB3	1:M:92:ARG:HA	1.53	0.88
7:S:9:ARG:NH2	7:S:11:ARG:HD2	1.87	0.87
1:M:158:PHE:CE1	1:M:317:THR:HG21	2.08	0.87
8:H:73:LEU:HD23	8:H:74:PHE:N	1.89	0.87
7:S:50:PRO:HB2	7:S:51:PRO:CD	2.03	0.87
1:M:343:MET:HE1	1:M:416:TYR:CD2	2.10	0.87
7:S:36:ASN:HA	7:S:39:ARG:HD3	1.57	0.87
5:E:15:ARG:HB2	5:E:16:PRO:HD2	1.57	0.86
3:O:108:THR:HB	3:O:313:ARG:NH1	1.89	0.86
1:A:64:PHE:HE1	1:A:86:LEU:HG	1.36	0.86
9:I:72:VAL:CB	9:I:73:PRO:HD3	2.05	0.86
1:M:383:LEU:HD22	1:M:388:ARG:HA	1.54	0.86
2:N:347:ILE:O	2:N:411:ILE:HG23	1.75	0.86
4:P:118:ARG:HG3	4:P:194:ALA:HB1	1.55	0.86
5:Q:118:ARG:HH11	5:Q:171:ILE:CG1	1.88	0.86
1:M:52:ASN:HB2	1:M:55:ALA:HB2	1.58	0.86
1:M:426:GLY:HA3	1:M:428:ILE:HG13	1.55	0.86
3:C:10:LEU:HD12	3:C:13:ILE:HD11	1.55	0.86
2:B:263:ALA:O	2:B:269:ALA:HB2	1.76	0.86
3:O:245:PHE:CD1	4:P:17:LEU:HD13	2.11	0.86
3:O:334:THR:O	3:O:338:ILE:HD13	1.75	0.86
2:N:305:GLN:HB2	2:N:306:PRO:CD	2.05	0.86
5:Q:114:VAL:HA	5:Q:117:LEU:CD1	2.06	0.86
1:A:46:ARG:HH22	1:A:316:ASP:CG	1.83	0.86
1:A:260:PRO:HD3	1:A:414:TYR:CE1	2.10	0.85
3:C:179:PHE:HE2	3:O:179:PHE:CE2	1.92	0.85
3:C:185:LEU:HB3	3:C:186:PRO:HD3	1.55	0.85
10:J:58:LYS:HG2	10:J:59:TYR:H	1.41	0.85
2:N:123:LEU:O	2:N:127:THR:HG22	1.74	0.85
4:D:176:PRO:HB2	4:D:181:GLN:HE22	1.37	0.85
1:M:408:ARG:NH1	11:W:15:ARG:HE	1.73	0.85
2:N:385:GLN:HG2	9:U:62:ARG:HH12	1.38	0.85
5:Q:187:PHE:CD2	5:Q:193:VAL:HB	2.11	0.85
4:D:70:VAL:HG23	4:D:84:PRO:HD3	1.59	0.85
2:N:341:TYR:HE2	2:N:345:LYS:HE3	1.41	0.85
1:A:213:GLN:HB3	1:A:215:HIS:NE2	1.91	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:30:TRP:O	3:O:33:PHE:HD2	1.59	0.85
1:A:39:VAL:HG12	1:A:41:ILE:HD11	1.59	0.85
5:Q:134:ILE:HD11	5:Q:185:TYR:CG	2.12	0.85
7:S:34:ILE:HB	7:S:35:PRO:HD3	1.58	0.85
1:M:213:GLN:HB3	1:M:215:HIS:NE2	1.91	0.85
2:N:263:ALA:O	2:N:269:ALA:HB2	1.77	0.85
1:A:61:HIS:NE2	1:A:134:ILE:HD11	1.91	0.85
2:N:58:GLU:OE1	2:N:63:LEU:HA	1.77	0.85
5:Q:60:SER:HA	5:Q:63:SER:OG	1.75	0.85
2:B:57:TYR:O	2:B:233:SER:HB2	1.77	0.84
10:J:21:ALA:O	10:J:25:VAL:HG23	1.77	0.84
1:M:428:ILE:CG2	1:M:431:LEU:HD22	2.07	0.84
1:A:426:GLY:HA3	1:A:428:ILE:HG13	1.59	0.84
3:C:213:SER:O	3:C:216:ASP:N	2.10	0.84
1:M:67:THR:HG23	1:M:70:ARG:N	1.92	0.84
1:M:378:ASP:O	1:M:382:SER:HB2	1.77	0.84
7:G:73:ASN:N	7:G:74:PRO:HD2	1.91	0.84
6:R:37:ILE:HG12	6:R:43:VAL:HG21	1.59	0.84
1:M:106:LEU:HD22	1:M:203:LEU:HD22	1.58	0.84
1:A:106:LEU:HD22	1:A:203:LEU:HD22	1.60	0.84
2:B:286:LYS:HD3	2:B:287:ARG:NH1	1.92	0.84
5:E:15:ARG:CB	5:E:16:PRO:HD2	2.08	0.84
6:R:75:LEU:HD12	6:R:76:PRO:HD2	1.57	0.84
1:A:21:ASN:HB3	1:A:217:SER:CB	2.07	0.84
1:A:408:ARG:HH22	11:K:15:ARG:CZ	1.90	0.84
3:C:163:TRP:CZ2	5:Q:62:MET:HE2	2.13	0.84
1:M:32:GLN:CG	1:M:33:PRO:HD2	2.08	0.83
1:M:40:TRP:CZ2	1:M:377:GLU:HA	2.13	0.83
2:B:213:HIS:N	2:B:214:PRO:HD2	1.91	0.83
2:B:198:HIS:HE1	2:B:233:SER:HB3	1.42	0.83
3:C:119:LEU:HG	12:C:381:HEM:CBB	2.09	0.83
9:I:70:LEU:CD2	9:I:73:PRO:HD2	2.07	0.83
1:A:84:ALA:HB2	1:A:101:ALA:HB2	1.59	0.83
2:B:198:HIS:CE1	2:B:233:SER:HB3	2.14	0.83
6:F:51:PRO:HD3	2:N:134:ARG:NH1	1.93	0.83
1:A:308:GLN:HG3	1:A:308:GLN:O	1.77	0.83
3:O:26:ASN:HD21	3:O:207:ASN:CB	1.90	0.83
3:O:234:LEU:HD23	4:P:216:LEU:HD21	1.59	0.83
5:Q:76:ILE:HG23	5:Q:194:ILE:HG12	1.60	0.83
10:J:18:SER:OG	11:K:23:LEU:HB2	1.77	0.83
1:M:67:THR:HG22	1:M:70:ARG:HB2	1.61	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:445:ARG:O	1:M:446:PHE:HB2	1.79	0.83
3:C:47:THR:HG21	3:C:83:HIS:HB2	1.61	0.82
3:O:234:LEU:CD2	4:P:216:LEU:HD21	2.08	0.82
1:A:145:MET:SD	1:A:248:LEU:HD12	2.18	0.82
1:A:241:ILE:HG13	7:G:16:TYR:CE1	2.15	0.82
4:D:178:THR:HB	4:D:181:GLN:HG3	1.60	0.82
1:M:383:LEU:HA	1:M:387:GLY:O	1.79	0.82
2:N:126:VAL:O	2:N:130:PRO:HG3	1.78	0.82
2:N:279:LEU:HB3	2:N:295:LEU:HD22	1.60	0.82
3:C:115:ILE:CG2	3:C:196:HIS:HB2	2.08	0.82
1:M:408:ARG:HH22	11:W:15:ARG:CZ	1.91	0.82
4:D:17:LEU:O	4:D:202:LYS:HD3	1.78	0.82
7:G:30:PHE:O	7:G:34:ILE:HG13	1.78	0.82
2:B:185:LYS:HG3	2:B:185:LYS:O	1.79	0.82
5:Q:91:TRP:HB3	5:Q:96:LEU:HB2	1.62	0.82
7:S:50:PRO:CB	7:S:51:PRO:HD3	2.09	0.82
7:S:72:LYS:CB	7:S:75:ALA:HB2	2.09	0.82
2:B:42:ALA:HB1	2:B:43:PRO:HD2	1.62	0.82
4:D:220:TYR:CE2	7:G:26:PHE:HE1	1.97	0.82
3:O:297:SER:O	3:O:300:ILE:HG22	1.79	0.82
4:P:41:HIS:CD2	4:P:113:LEU:HD11	2.15	0.82
6:F:6:VAL:HB	6:F:10:SER:HB2	1.60	0.82
2:B:207:ILE:HD11	2:B:383:GLY:HA2	1.62	0.82
1:A:53:ASN:OD1	1:A:165:GLN:HB2	1.80	0.81
3:C:27:ILE:O	3:C:27:ILE:HG22	1.79	0.81
3:C:341:GLN:HB3	3:C:347:TYR:CD2	2.15	0.81
4:P:176:PRO:HB2	4:P:181:GLN:HE22	1.44	0.81
5:Q:118:ARG:NH1	5:Q:171:ILE:HG13	1.95	0.81
2:B:394:PRO:O	2:B:398:VAL:HG23	1.80	0.81
4:P:10:TYR:HE1	8:T:73:LEU:HD21	1.46	0.81
1:A:426:GLY:CA	1:A:428:ILE:CG1	2.59	0.81
1:M:224:ASP:OD1	1:M:227:ALA:HB3	1.80	0.81
2:N:331:ALA:HA	2:N:432:HIS:ND1	1.96	0.81
3:O:106:SER:O	3:O:109:PHE:HD2	1.63	0.81
3:O:218:ILE:CG2	3:O:223:TYR:CD2	2.63	0.81
1:A:102:LEU:HB2	1:A:105:ASP:OD2	1.81	0.81
2:N:56:ARG:NH2	2:N:318:ASP:OD1	2.12	0.81
2:N:200:THR:CG2	2:N:203:ARG:HD2	2.10	0.81
5:Q:99:ARG:HD3	5:Q:156:TYR:OH	1.80	0.81
6:R:33:ARG:NH2	6:R:91:GLU:OE2	2.14	0.81
8:T:21:ARG:HB3	8:T:65:ARG:NH2	1.95	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:51:LEU:HD21	3:C:79:ILE:HG22	1.63	0.81
7:S:9:ARG:HH21	7:S:11:ARG:HD2	1.44	0.81
2:B:168:TYR:HB2	2:B:173:ALA:HB2	1.63	0.81
7:G:50:PRO:HB2	7:G:51:PRO:HD3	1.61	0.81
2:N:217:LYS:HZ2	2:N:221:GLU:CD	1.89	0.81
12:O:380:HEM:HBC2	12:O:380:HEM:HMC1	1.61	0.81
3:O:185:LEU:HB3	3:O:186:PRO:HD3	1.61	0.81
1:A:155:ALA:HA	1:A:164:ALA:HB1	1.63	0.81
9:I:78:TYR:OXT	9:I:78:TYR:HD1	1.63	0.81
3:C:33:PHE:CE1	3:C:96:MET:HG3	2.16	0.80
3:C:111:GLU:O	3:C:115:ILE:HD13	1.82	0.80
4:P:220:TYR:CE2	7:S:26:PHE:HE1	1.98	0.80
1:A:379:ILE:HD12	1:A:390:ILE:HD12	1.62	0.80
3:C:169:SER:HB2	5:Q:93:GLY:HA3	1.64	0.80
1:A:426:GLY:N	1:A:428:ILE:CG1	2.45	0.80
2:B:305:GLN:HB2	2:B:306:PRO:CD	2.11	0.80
10:V:3:PRO:HG2	10:V:8:ARG:HG2	1.63	0.80
5:E:41:ALA:O	5:E:45:VAL:HG23	1.81	0.80
1:M:297:ILE:HG22	1:M:303:LEU:HD12	1.64	0.80
4:P:10:TYR:HE1	8:T:73:LEU:CD2	1.94	0.80
1:A:18:GLN:NE2	1:A:22:GLY:HA2	1.94	0.80
3:C:51:LEU:HD11	3:C:80:ARG:HA	1.62	0.80
4:D:50:HIS:HB3	4:D:54:VAL:HB	1.62	0.80
1:M:182:LEU:O	1:M:186:LEU:HD12	1.82	0.80
3:O:126:THR:OG1	3:O:185:LEU:HD23	1.82	0.80
4:P:220:TYR:HE2	7:S:26:PHE:HE1	1.29	0.80
3:C:218:ILE:CG2	3:C:223:TYR:CD2	2.65	0.80
10:V:58:LYS:HG2	10:V:59:TYR:N	1.97	0.80
4:D:3:LEU:HD11	7:G:71:ARG:HB2	1.64	0.80
3:O:102:LEU:HD21	3:O:304:ILE:CD1	2.12	0.80
8:T:50:THR:HG22	8:T:52:GLU:H	1.47	0.80
3:C:266:PRO:HA	5:Q:160:CYS:SG	2.21	0.80
3:O:135:TRP:CH2	3:O:170:VAL:HG12	2.17	0.80
4:P:50:HIS:HB3	4:P:54:VAL:HB	1.64	0.80
7:G:44:CYS:SG	7:G:48:VAL:HG21	2.22	0.79
1:A:42:ASP:HB3	1:A:384:LEU:HD22	1.62	0.79
2:B:169:ARG:NH2	2:N:438:GLU:OE2	2.14	0.79
2:N:24:LEU:H	2:N:24:LEU:HD12	1.47	0.79
3:C:310:SER:HB3	3:C:318:ARG:HH11	1.47	0.79
2:N:159:VAL:HG12	2:N:160:ILE:HD13	1.65	0.79
3:O:316:MET:HE2	3:O:317:PHE:CE1	2.17	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:408:ARG:NH2	11:K:15:ARG:NE	2.28	0.79
2:B:209:LEU:HD22	2:B:375:SER:HB2	1.64	0.79
4:D:10:TYR:CZ	4:D:128:PHE:HE2	2.01	0.79
5:E:31:ALA:HB2	10:J:7:ALA:HB2	1.63	0.79
2:N:68:LEU:HD23	2:N:186:VAL:CG1	2.12	0.79
2:B:101:THR:HG23	2:B:104:ASN:H	1.48	0.79
3:C:3:ASN:N	3:C:8:HIS:NE2	2.30	0.79
3:C:106:SER:O	3:C:109:PHE:HD1	1.66	0.79
2:N:261:SER:OG	2:N:320:GLY:HA3	1.83	0.79
2:B:438:GLU:OE2	2:N:169:ARG:NH2	2.16	0.79
3:C:5:ARG:O	3:C:9:PRO:HD2	1.82	0.79
1:M:75:LEU:O	1:M:79:VAL:HG23	1.82	0.79
2:N:309:VAL:HG22	2:N:326:THR:HA	1.63	0.79
8:T:73:LEU:HD23	8:T:74:PHE:N	1.98	0.79
1:A:39:VAL:HG12	1:A:41:ILE:CD1	2.13	0.79
4:D:74:PRO:CB	4:D:79:GLU:HB2	2.13	0.79
1:A:86:LEU:HD13	1:A:99:ILE:HG12	1.64	0.79
3:C:264:THR:HG21	5:Q:144:CYS:CB	2.13	0.79
4:D:220:TYR:HE2	7:G:26:PHE:HE1	1.31	0.79
2:B:362:ASN:HA	2:B:365:LYS:HD3	1.65	0.79
3:C:275:LEU:O	3:C:276:PHE:C	2.23	0.79
7:G:31:SER:O	7:G:35:PRO:HD2	1.83	0.78
6:R:51:PRO:HG2	6:R:54:LEU:CD2	2.12	0.78
1:M:39:VAL:HG12	1:M:41:ILE:HD11	1.65	0.78
4:P:178:THR:OG1	4:P:181:GLN:NE2	2.14	0.78
8:H:21:ARG:HB3	8:H:65:ARG:HH21	1.45	0.78
1:M:260:PRO:HD3	1:M:414:TYR:CE1	2.17	0.78
1:M:408:ARG:NH2	11:W:15:ARG:NE	2.30	0.78
3:O:1:MET:SD	3:O:7:SER:HB2	2.23	0.78
3:O:246:ALA:HB1	3:O:249:LEU:HB2	1.65	0.78
2:N:286:LYS:HD3	2:N:287:ARG:NH1	1.98	0.78
1:A:21:ASN:HB3	1:A:217:SER:OG	1.84	0.78
2:B:347:ILE:O	2:B:411:ILE:HG23	1.83	0.78
4:P:115:TYR:HD1	4:P:119:ALA:HB2	1.47	0.78
4:P:198:HIS:NE2	4:P:202:LYS:NZ	2.31	0.78
1:M:262:TRP:CD2	1:M:385:THR:HG23	2.18	0.78
4:P:10:TYR:CZ	4:P:128:PHE:HE2	2.01	0.78
1:M:21:ASN:HB3	1:M:217:SER:CB	2.13	0.78
10:V:58:LYS:HG2	10:V:59:TYR:H	1.48	0.78
1:A:146:ARG:NH2	1:A:308:GLN:HE22	1.82	0.78
1:A:428:ILE:HG22	1:A:431:LEU:CB	2.12	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:29:LEU:HB3	2:N:30:PRO:CD	2.14	0.78
4:P:27:ARG:HH12	10:V:58:LYS:HG3	1.46	0.78
2:B:248:ASN:HB2	2:B:428:GLY:HA2	1.63	0.77
4:P:138:PRO:HG2	8:T:55:THR:OG1	1.82	0.77
4:D:228:SER:HB2	7:G:23:GLN:NE2	1.97	0.77
7:G:9:ARG:HH21	7:G:11:ARG:HD2	1.49	0.77
9:U:64:LEU:HG	9:U:65:VAL:HG23	1.65	0.77
6:F:28:LYS:CD	6:F:74:ILE:HD11	2.14	0.77
2:N:308:ASP:OD1	2:N:309:VAL:N	2.17	0.77
1:A:46:ARG:NH2	1:A:316:ASP:OD2	2.17	0.77
2:N:297:GLN:OE1	2:N:297:GLN:HA	1.83	0.77
1:M:92:ARG:HD2	1:M:163:LEU:HD12	1.65	0.77
1:A:386:TYR:HD1	1:A:386:TYR:H	1.32	0.77
10:J:58:LYS:HG2	10:J:59:TYR:N	1.96	0.77
4:P:181:GLN:HA	8:T:77:LEU:HD13	1.67	0.77
5:Q:65:SER:OG	5:Q:67:ASP:HB3	1.85	0.77
2:B:59:ASN:O	2:B:63:LEU:HG	1.84	0.77
3:O:129:MET:HG2	3:O:178:PHE:HD1	1.49	0.77
3:O:341:GLN:HB3	3:O:347:TYR:CD2	2.19	0.77
5:Q:114:VAL:CA	5:Q:117:LEU:HD12	2.12	0.77
1:A:45:SER:HB3	1:A:92:ARG:HA	1.66	0.77
2:B:297:GLN:OE1	2:B:297:GLN:HA	1.82	0.77
3:C:280:ILE:HD11	3:C:335:LEU:HD13	1.64	0.77
3:O:309:THR:CG2	3:O:370:GLY:HA3	2.14	0.77
1:A:249:PRO:O	1:A:250:LEU:HD23	1.85	0.77
4:D:14:HIS:HA	4:D:19:SER:HB3	1.66	0.77
2:N:341:TYR:CE2	2:N:345:LYS:HE3	2.19	0.77
2:B:331:ALA:HA	2:B:432:HIS:ND1	2.00	0.76
2:B:385:GLN:CG	9:I:62:ARG:HH12	1.96	0.76
4:D:182:VAL:O	4:D:186:VAL:HG23	1.84	0.76
1:M:331:ILE:HD11	1:M:427:PRO:O	1.85	0.76
3:O:3:ASN:N	3:O:8:HIS:NE2	2.32	0.76
6:R:28:LYS:CD	6:R:74:ILE:HD11	2.15	0.76
6:R:50:LEU:HB2	6:R:55:TYR:HB2	1.67	0.76
10:J:51:LEU:HD22	10:J:52:TRP:HZ3	1.50	0.76
1:M:102:LEU:HB2	1:M:105:ASP:OD2	1.85	0.76
2:N:200:THR:HG22	2:N:203:ARG:CD	2.15	0.76
3:O:170:VAL:HG13	3:O:174:THR:HG21	1.66	0.76
3:O:310:SER:OG	3:O:318:ARG:NH1	2.18	0.76
4:P:55:CYS:SG	10:V:52:TRP:HB2	2.25	0.76
6:R:73:GLN:NE2	7:S:32:LYS:NZ	2.33	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:49:LEU:HD11	2:N:204:MET:SD	2.26	0.76
3:C:26:ASN:ND2	3:C:207:ASN:HB2	1.99	0.76
3:C:187:PHE:CZ	3:O:184:ILE:HG13	2.20	0.76
3:C:310:SER:CB	3:C:318:ARG:HH11	1.99	0.76
1:M:386:TYR:HD1	1:M:386:TYR:H	1.33	0.76
3:O:177:ARG:O	3:O:181:PHE:HD2	1.69	0.76
4:D:229:VAL:HG12	4:D:233:ARG:HE	1.49	0.76
3:C:9:PRO:HG2	3:C:12:LYS:HB2	1.68	0.76
2:N:213:HIS:N	2:N:214:PRO:HD2	2.01	0.76
2:N:304:HIS:HD2	2:N:306:PRO:HD2	1.51	0.76
5:Q:153:PHE:HE1	5:Q:173:LYS:HG3	1.50	0.76
5:Q:157:TYR:HE2	5:Q:159:PRO:HA	1.51	0.76
3:C:47:THR:CG2	3:C:83:HIS:HB2	2.16	0.76
3:C:338:ILE:HD12	3:C:338:ILE:N	1.99	0.76
5:E:55:VAL:O	5:E:59:VAL:HG23	1.85	0.76
1:M:41:ILE:H	1:M:41:ILE:HD12	1.50	0.76
3:C:108:THR:HB	3:C:313:ARG:NH1	2.00	0.76
1:A:92:ARG:HD2	1:A:163:LEU:HD12	1.67	0.75
2:B:129:ALA:N	2:B:130:PRO:HD2	2.01	0.75
2:N:257:LEU:HD13	2:N:424:MET:HB2	1.68	0.75
2:N:314:ALA:CB	9:U:64:LEU:HD22	2.16	0.75
3:O:47:THR:CG2	3:O:83:HIS:HB2	2.16	0.75
4:P:143:LEU:HD22	4:P:147:LEU:O	1.86	0.75
5:Q:171:ILE:CD1	5:Q:176:ALA:HB3	2.16	0.75
7:S:15:THR:HG22	7:S:16:TYR:N	1.97	0.75
1:A:27:SER:HA	1:A:199:ALA:O	1.86	0.75
2:B:429:ASN:ND2	2:N:60:SER:HB3	1.98	0.75
5:Q:157:TYR:OH	5:Q:162:GLY:HA2	1.84	0.75
2:N:68:LEU:HD23	2:N:186:VAL:HG12	1.69	0.75
3:C:345:HIS:HB3	3:C:346:PRO:CD	2.17	0.75
9:U:72:VAL:CB	9:U:73:PRO:HD3	2.15	0.75
2:B:337:ILE:HG21	2:B:434:PRO:HG2	1.68	0.75
4:D:5:LEU:HB3	4:D:152:TYR:CD1	2.22	0.75
4:D:127:VAL:HG12	4:D:187:CYS:SG	2.26	0.75
5:Q:118:ARG:HH11	5:Q:171:ILE:HG13	1.50	0.75
2:B:67:HIS:CD2	2:B:144:LEU:HD22	2.18	0.75
2:B:140:LEU:O	2:B:141:GLN:C	2.30	0.75
2:B:77:THR:CG2	2:B:130:PRO:HA	2.13	0.75
2:B:141:GLN:HB2	2:B:142:PRO:HD3	1.69	0.75
3:C:7:SER:HA	3:C:13:ILE:HG12	1.69	0.75
3:C:361:LEU:HD23	3:C:365:LEU:HD12	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:PHE:HD2	1:A:258:GLU:HG2	1.52	0.74
2:B:207:ILE:HD12	2:B:382:VAL:HG12	1.69	0.74
5:Q:134:ILE:HD11	5:Q:185:TYR:CE2	2.21	0.74
2:B:148:LYS:HE2	2:B:180:ASP:OD1	1.85	0.74
3:C:210:GLY:HA3	3:C:314:SER:HB2	1.68	0.74
6:F:94:LEU:O	6:F:98:ILE:HG13	1.86	0.74
5:Q:77:LYS:HG3	5:Q:89:PHE:CE2	2.22	0.74
2:B:304:HIS:HD2	2:B:306:PRO:HD2	1.47	0.74
1:M:363:ASN:OD1	2:N:112:LEU:HD23	1.88	0.74
1:M:408:ARG:HH12	11:W:15:ARG:NE	1.85	0.74
2:N:237:ALA:HB2	2:N:318:ASP:OD2	1.87	0.74
1:A:145:MET:HE3	1:A:252:HIS:CE1	2.21	0.74
2:B:328:SER:HB3	2:B:336:VAL:HG21	1.69	0.74
2:B:352:LEU:HB3	2:B:411:ILE:HD11	1.70	0.74
3:O:22:PRO:HG2	7:S:3:GLN:HB3	1.69	0.74
3:C:126:THR:OG1	3:C:185:LEU:HD23	1.87	0.74
4:D:11:PRO:O	8:H:74:PHE:CE2	2.41	0.74
6:F:28:LYS:HB3	6:F:74:ILE:HD11	1.69	0.74
8:H:15:ASP:N	8:H:16:PRO:HD2	2.03	0.74
1:M:18:GLN:NE2	1:M:22:GLY:HA2	2.01	0.74
1:M:32:GLN:HG3	1:M:33:PRO:HD2	1.67	0.74
1:M:53:ASN:OD1	1:M:165:GLN:HB2	1.87	0.74
1:A:75:LEU:O	1:A:79:VAL:HG23	1.88	0.74
1:A:236:PHE:CD2	1:A:258:GLU:HG2	2.22	0.74
5:Q:98:VAL:HA	5:Q:134:ILE:HG22	1.70	0.74
1:A:163:LEU:HD12	1:A:163:LEU:O	1.88	0.74
1:A:334:MET:HA	1:A:334:MET:HE3	1.70	0.74
1:A:72:GLY:O	1:A:73:ASN:OD1	2.04	0.74
1:A:292:SER:O	1:A:295:ALA:HB3	1.88	0.74
3:O:206:ASN:CB	3:O:313:ARG:HH21	1.99	0.74
1:A:316:ASP:OD1	1:A:316:ASP:N	2.21	0.74
2:B:182:ARG:NH1	2:B:185:LYS:HG2	2.03	0.74
3:C:30:TRP:O	3:C:33:PHE:HD2	1.71	0.74
1:M:39:VAL:HG23	1:M:113:LEU:HD23	1.68	0.74
1:M:236:PHE:HE2	1:M:258:GLU:HB3	1.51	0.74
2:N:34:VAL:HG11	2:N:386:ALA:HB1	1.70	0.74
5:Q:55:VAL:O	5:Q:59:VAL:HG23	1.88	0.74
1:A:236:PHE:HE2	1:A:258:GLU:HB3	1.50	0.73
2:B:395:PRO:O	2:B:398:VAL:HB	1.88	0.73
1:M:24:ARG:CB	1:M:196:VAL:HG22	2.14	0.73
2:N:59:ASN:O	2:N:63:LEU:HG	1.87	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:122:THR:CG2	3:O:189:ILE:HD11	2.17	0.73
3:O:309:THR:HG21	3:O:370:GLY:HA3	1.70	0.73
3:C:26:ASN:HD21	3:C:207:ASN:CB	2.01	0.73
3:O:90:PHE:CE1	3:O:123:VAL:HG21	2.23	0.73
3:O:310:SER:CB	3:O:318:ARG:HH11	2.00	0.73
7:G:72:LYS:CB	7:G:75:ALA:HB2	2.09	0.73
2:N:385:GLN:CG	9:U:62:ARG:HH12	2.00	0.73
3:O:51:LEU:HD11	3:O:80:ARG:HA	1.69	0.73
1:A:274:ASN:HB3	1:A:309:THR:OG1	1.89	0.73
2:B:279:LEU:CD2	2:B:295:LEU:HD13	2.19	0.73
2:B:347:ILE:H	2:B:347:ILE:HD12	1.54	0.73
3:C:206:ASN:ND2	3:C:207:ASN:H	1.85	0.73
1:A:84:ALA:CB	1:A:101:ALA:HB2	2.18	0.73
1:A:100:LYS:NZ	1:A:373:THR:OG1	2.18	0.73
3:O:147:THR:HG21	3:O:165:TRP:NE1	2.03	0.73
3:O:184:ILE:O	3:O:188:ILE:HD12	1.88	0.73
2:N:95:LYS:HE3	9:U:70:LEU:HD22	1.70	0.73
5:Q:118:ARG:HD2	5:Q:171:ILE:HG12	1.70	0.73
1:M:426:GLY:N	1:M:428:ILE:HG13	2.03	0.73
4:P:10:TYR:CE1	8:T:73:LEU:HD21	2.23	0.73
5:Q:134:ILE:O	5:Q:135:LEU:HD23	1.89	0.73
2:B:56:ARG:NH2	2:B:318:ASP:OD1	2.22	0.72
2:B:251:SER:OG	2:B:252:LEU:N	2.22	0.72
2:B:283:PRO:HG3	9:I:55:LEU:CD2	2.18	0.72
3:C:169:SER:OG	3:C:170:VAL:N	2.18	0.72
3:C:252:ASP:HB3	3:C:253:PRO:CD	2.18	0.72
6:F:33:ARG:NH2	6:F:91:GLU:OE2	2.22	0.72
3:O:361:LEU:CD2	3:O:365:LEU:HD12	2.18	0.72
1:A:408:ARG:HH12	11:K:15:ARG:CG	2.02	0.72
4:D:27:ARG:HH12	10:J:58:LYS:HG3	1.55	0.72
3:O:61:THR:O	3:O:62:ALA:C	2.29	0.72
5:Q:121:GLN:HB2	5:Q:170:ARG:HD3	1.71	0.72
1:A:408:ARG:HH12	11:K:15:ARG:NE	1.85	0.72
3:C:184:ILE:HG13	3:O:187:PHE:CZ	2.23	0.72
4:D:41:HIS:CD2	4:D:113:LEU:HD11	2.24	0.72
9:U:70:LEU:CD2	9:U:73:PRO:HD2	2.17	0.72
1:A:286:GLY:O	1:A:287:GLY:C	2.33	0.72
4:D:224:ARG:CB	7:G:25:ALA:HB1	2.14	0.72
3:O:280:ILE:HD13	3:O:335:LEU:HD22	1.72	0.72
1:A:273:ALA:HA	1:A:276:ILE:HD12	1.71	0.72
4:D:7:PRO:HG3	4:D:126:TYR:HA	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:78:TYR:OXT	9:I:78:TYR:CD1	2.43	0.72
2:N:305:GLN:CB	2:N:306:PRO:HD3	2.15	0.72
4:P:164:ILE:HD13	4:P:182:VAL:HG12	1.70	0.72
5:Q:15:ARG:CB	5:Q:16:PRO:HD2	2.06	0.72
1:A:41:ILE:HD12	1:A:41:ILE:H	1.54	0.72
1:M:8:LEU:O	1:M:11:VAL:HG23	1.90	0.72
1:M:262:TRP:CG	1:M:385:THR:HG23	2.24	0.72
1:A:383:LEU:HA	1:A:387:GLY:O	1.88	0.72
2:B:29:LEU:HB3	2:B:30:PRO:CD	2.20	0.72
3:C:110:LEU:HG	3:C:114:ASN:HD21	1.55	0.72
3:C:280:ILE:CD1	3:C:335:LEU:HD13	2.19	0.72
4:D:150:ASN:OD1	4:D:151:PRO:HD2	1.90	0.72
1:M:256:ALA:HA	1:M:320:LEU:O	1.89	0.72
5:E:19:LEU:HD12	5:E:19:LEU:O	1.90	0.72
9:I:70:LEU:HD12	9:I:71:ASN:N	2.04	0.72
1:A:408:ARG:CZ	11:K:15:ARG:HE	2.01	0.72
2:B:162:ASN:HD22	2:B:244:ILE:HG21	1.51	0.72
1:M:67:THR:CG2	1:M:70:ARG:HB2	2.20	0.72
5:Q:188:THR:N	5:Q:192:MET:O	2.21	0.72
2:B:162:ASN:O	2:B:244:ILE:HD12	1.89	0.71
1:M:329:MET:SD	7:S:5:GLY:HA3	2.31	0.71
2:N:314:ALA:HB2	9:U:64:LEU:HD22	1.70	0.71
7:S:15:THR:CG2	7:S:16:TYR:N	2.51	0.71
1:A:39:VAL:HG11	1:A:117:VAL:HG21	1.73	0.71
1:M:99:ILE:HG13	1:M:113:LEU:HD13	1.69	0.71
1:M:426:GLY:CA	1:M:428:ILE:CG1	2.64	0.71
3:C:122:THR:HG22	3:C:189:ILE:HD11	1.72	0.71
3:C:297:SER:O	3:C:300:ILE:HG22	1.90	0.71
12:C:380:HEM:HMC1	12:C:380:HEM:HBC2	1.73	0.71
10:J:49:GLY:HA2	10:J:54:HIS:CB	2.20	0.71
1:A:262:TRP:CD2	1:A:385:THR:HG23	2.24	0.71
2:N:24:LEU:CG	2:N:38:LEU:HD11	2.19	0.71
2:N:46:ARG:HH12	2:N:376:GLU:HG3	1.55	0.71
2:N:67:HIS:CD2	2:N:144:LEU:HD22	2.21	0.71
3:C:177:ARG:NH2	5:Q:62:MET:O	2.23	0.71
4:D:10:TYR:HE1	8:H:73:LEU:CD2	2.03	0.71
1:M:274:ASN:HB3	1:M:309:THR:OG1	1.91	0.71
2:N:277:HIS:NE2	2:N:364:LEU:HD13	2.05	0.71
5:Q:139:CYS:HB2	5:Q:165:TYR:HE2	1.54	0.71
11:W:18:VAL:HB	11:W:19:PRO:HD3	1.71	0.71
2:N:182:ARG:NH1	2:N:185:LYS:HG2	2.05	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:78:LYS:HB3	2:B:129:ALA:HB1	1.70	0.71
3:O:47:THR:HG21	3:O:83:HIS:HB2	1.73	0.71
4:P:74:PRO:CB	4:P:79:GLU:HB2	2.20	0.71
4:P:83:ARG:CB	4:P:84:PRO:CD	2.63	0.71
1:A:21:ASN:HB3	1:A:217:SER:HB3	1.73	0.71
2:B:384:SER:HB2	9:I:62:ARG:HG2	1.71	0.71
5:Q:109:GLU:CD	5:Q:167:ALA:HB3	2.15	0.71
5:Q:121:GLN:O	5:Q:170:ARG:NH1	2.18	0.71
4:D:43:MET:HG2	4:D:46:VAL:HG23	1.70	0.71
5:E:15:ARG:HB2	5:E:16:PRO:CD	2.21	0.71
2:N:78:LYS:HB3	2:N:129:ALA:HB1	1.73	0.71
3:O:5:ARG:O	3:O:9:PRO:HD2	1.90	0.71
4:P:7:PRO:HG3	4:P:126:TYR:HA	1.73	0.71
4:P:74:PRO:HG2	4:P:82:MET:SD	2.30	0.71
1:A:233:PRO:HG2	5:E:23:LYS:CD	2.20	0.70
3:C:156:ILE:HG12	3:C:157:GLY:H	1.56	0.70
2:N:338:LYS:HG2	2:N:439:LEU:HD21	1.73	0.70
6:R:73:GLN:HE21	7:S:32:LYS:NZ	1.89	0.70
2:B:300:ALA:HA	2:B:307:PHE:CZ	2.26	0.70
4:D:102:ARG:HA	4:D:108:ALA:O	1.91	0.70
1:M:45:SER:OG	1:M:92:ARG:HG3	1.91	0.70
1:M:403:ASP:CB	1:M:406:VAL:HG23	2.19	0.70
4:D:94:PRO:HB2	4:D:95:TYR:CD1	2.27	0.70
5:E:13:TYR:O	7:G:23:GLN:HB3	1.91	0.70
1:M:335:MET:HE2	1:M:339:GLN:HG3	1.72	0.70
3:O:27:ILE:HG22	3:O:27:ILE:O	1.92	0.70
5:Q:118:ARG:HH11	5:Q:171:ILE:HG12	1.55	0.70
1:A:60:GLU:OE2	1:A:88:ALA:O	2.09	0.70
1:M:255:ILE:HG13	1:M:422:VAL:HG22	1.71	0.70
2:N:100:SER:HB3	2:N:105:MET:HG3	1.74	0.70
3:C:18:PHE:O	3:C:220:PHE:CD2	2.44	0.70
1:M:365:LEU:HD21	1:M:395:TRP:CD1	2.27	0.70
2:N:68:LEU:HD11	2:N:140:LEU:HD23	1.71	0.70
2:N:165:ALA:HA	2:N:173:ALA:HB1	1.73	0.70
2:B:237:ALA:HB2	2:B:318:ASP:OD2	1.92	0.70
2:N:51:ILE:HD13	2:N:199:PHE:CG	2.26	0.70
4:P:11:PRO:O	8:T:74:PHE:CE2	2.45	0.70
2:B:166:ALA:HB2	2:B:244:ILE:HG13	1.74	0.70
3:C:147:THR:HG21	3:C:165:TRP:NE1	2.06	0.70
4:D:82:MET:SD	4:D:86:LYS:HD2	2.32	0.70
2:B:162:ASN:ND2	2:B:244:ILE:HG21	2.06	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:277:HIS:NE2	2:B:364:LEU:HD13	2.07	0.70
4:D:51:LEU:HA	4:D:56:TYR:O	1.91	0.70
3:O:237:LEU:HD13	4:P:212:MET:HG2	1.73	0.70
1:A:171:SER:OG	1:A:172:GLU:N	2.19	0.70
4:D:54:VAL:O	4:D:54:VAL:HG12	1.89	0.70
1:M:351:GLU:OE2	1:M:403:ASP:OD1	2.10	0.70
3:O:218:ILE:HD13	4:P:230:LEU:CD1	2.22	0.70
5:Q:185:TYR:HB3	5:Q:195:VAL:HG13	1.74	0.70
6:R:59:VAL:HG11	7:S:10:VAL:HG22	1.73	0.70
1:A:32:GLN:CG	1:A:33:PRO:HD2	2.22	0.70
3:O:100:ARG:NH2	12:O:381:HEM:HBD1	2.04	0.70
3:C:174:THR:CG2	3:C:178:PHE:HE1	2.03	0.69
1:M:21:ASN:CB	1:M:217:SER:HB3	2.22	0.69
3:O:129:MET:HG2	3:O:178:PHE:CD1	2.27	0.69
3:O:225:THR:O	3:O:229:ILE:HD12	1.92	0.69
5:Q:158:CYS:SG	5:Q:158:CYS:O	2.50	0.69
6:R:96:GLU:O	6:R:97:VAL:C	2.32	0.69
3:C:100:ARG:NH2	12:C:381:HEM:HBD1	2.05	0.69
7:G:34:ILE:CB	7:G:35:PRO:HD3	2.18	0.69
1:M:278:GLY:O	1:M:309:THR:HG23	1.93	0.69
4:P:158:ILE:HD11	4:P:160:MET:HB2	1.73	0.69
1:M:236:PHE:CD2	1:M:258:GLU:HG2	2.28	0.69
4:P:97:ASN:OD1	4:P:98:PRO:HD2	1.93	0.69
3:C:135:TRP:HH2	3:C:170:VAL:HG12	1.57	0.69
3:C:234:LEU:HD23	4:D:216:LEU:HD21	1.74	0.69
4:D:165:TYR:CZ	4:D:168:VAL:HG22	2.27	0.69
6:F:51:PRO:HD3	2:N:134:ARG:HH12	1.57	0.69
1:M:5:ALA:O	1:M:8:LEU:HB2	1.93	0.69
2:N:352:LEU:HB3	2:N:411:ILE:HD11	1.73	0.69
1:A:379:ILE:HD12	1:A:390:ILE:CD1	2.22	0.69
2:B:247:GLN:HE22	2:B:429:ASN:ND2	1.91	0.69
3:C:79:ILE:HG12	5:E:58:PHE:HE1	1.57	0.69
4:D:50:HIS:HB3	4:D:54:VAL:CB	2.22	0.69
4:D:176:PRO:HB2	4:D:181:GLN:NE2	2.06	0.69
1:M:426:GLY:HA2	1:M:428:ILE:HG13	1.72	0.69
2:N:212:SER:OG	2:N:215:VAL:HB	1.92	0.69
3:O:15:ASN:ND2	3:O:18:PHE:CE2	2.60	0.69
1:M:145:MET:SD	1:M:248:LEU:HD12	2.32	0.69
6:R:73:GLN:NE2	7:S:32:LYS:HZ1	1.89	0.69
1:A:298:ALA:HA	1:A:303:LEU:HB2	1.73	0.69
1:A:351:GLU:OE2	1:A:403:ASP:OD1	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:103:TYR:O	3:O:315:MET:HB2	1.93	0.69
5:Q:68:VAL:HG12	5:Q:69:LEU:N	2.08	0.69
1:A:341:GLN:OE1	1:A:344:ARG:NH1	2.25	0.69
1:A:426:GLY:HA2	1:A:428:ILE:N	2.08	0.69
2:B:129:ALA:N	2:B:130:PRO:CD	2.55	0.69
1:M:304:CYS:HB3	1:M:334:MET:SD	2.33	0.69
1:M:316:ASP:N	1:M:316:ASP:OD1	2.24	0.69
2:N:258:VAL:HG11	2:N:321:LEU:HB3	1.74	0.69
3:O:252:ASP:HB3	3:O:253:PRO:CD	2.23	0.69
4:P:5:LEU:HB3	4:P:152:TYR:CD1	2.28	0.69
4:P:102:ARG:HA	4:P:108:ALA:O	1.92	0.69
4:P:220:TYR:CE2	7:S:26:PHE:CE1	2.81	0.69
2:B:83:PHE:CE2	2:B:87:ARG:HG3	2.27	0.69
1:A:67:THR:HG22	1:A:70:ARG:HB2	1.75	0.69
2:B:34:VAL:HG11	2:B:386:ALA:HB1	1.74	0.69
3:C:132:VAL:HA	3:C:139:SER:HB3	1.74	0.69
7:G:73:ASN:N	7:G:74:PRO:CD	2.55	0.69
2:B:46:ARG:HH12	2:B:376:GLU:HG3	1.57	0.68
4:P:27:ARG:NH1	10:V:58:LYS:NZ	2.41	0.68
2:B:62:ASN:ND2	2:B:65:THR:OG1	2.26	0.68
3:C:244:LEU:HD23	4:D:205:GLY:HA2	1.76	0.68
3:C:310:SER:HA	3:C:374:ASN:ND2	1.97	0.68
4:D:97:ASN:OD1	4:D:98:PRO:HD2	1.92	0.68
2:N:47:ILE:HG22	2:N:48:GLY:N	2.08	0.68
2:N:140:LEU:O	2:N:141:GLN:C	2.35	0.68
3:O:244:LEU:HD11	4:P:204:MET:HE2	1.75	0.68
4:P:10:TYR:CE1	8:T:73:LEU:CD2	2.75	0.68
9:I:53:GLU:O	9:I:55:LEU:HG	1.94	0.68
2:N:319:SER:OG	2:N:320:GLY:N	2.26	0.68
1:A:162:PRO:O	1:A:165:GLN:HG2	1.93	0.68
2:N:264:ILE:CG2	2:N:317:SER:HA	2.23	0.68
3:O:119:LEU:HD23	12:O:381:HEM:C4B	2.28	0.68
5:Q:114:VAL:HG12	5:Q:115:SER:N	2.08	0.68
1:A:244:ARG:HG2	7:G:10:VAL:HG12	1.74	0.68
1:A:408:ARG:NH1	11:K:15:ARG:CG	2.57	0.68
2:N:395:PRO:O	2:N:398:VAL:HB	1.94	0.68
5:Q:76:ILE:HG22	5:Q:193:VAL:C	2.19	0.68
5:Q:171:ILE:HG22	5:Q:179:ASN:OD1	1.92	0.68
7:S:2:ARG:HB2	7:S:6:HIS:HD2	1.58	0.68
2:B:24:LEU:HD12	2:B:24:LEU:N	2.04	0.68
3:C:245:PHE:CD1	4:D:17:LEU:HD13	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:86:LEU:HD13	1:M:99:ILE:HG12	1.75	0.68
2:N:300:ALA:HA	2:N:307:PHE:CZ	2.28	0.68
5:Q:121:GLN:HB2	5:Q:170:ARG:CD	2.24	0.68
1:A:158:PHE:CE1	1:A:317:THR:HG21	2.28	0.68
1:M:245:GLU:OE1	1:M:248:LEU:HD23	1.92	0.68
1:M:389:ARG:O	1:M:390:ILE:HD13	1.94	0.68
3:O:79:ILE:HG12	5:Q:58:PHE:HE1	1.58	0.68
5:Q:34:GLY:HA2	10:V:10:TYR:HD1	1.57	0.68
5:Q:83:GLU:HG3	5:Q:100:HIS:NE2	2.08	0.68
1:M:39:VAL:HG12	1:M:41:ILE:CD1	2.23	0.68
2:N:148:LYS:HG3	2:N:177:TYR:HB3	1.76	0.68
3:O:156:ILE:HG13	3:O:157:GLY:H	1.58	0.68
10:V:35:PHE:O	10:V:36:ASP:C	2.37	0.68
1:A:350:THR:HB	1:A:353:GLU:CG	2.24	0.68
2:B:135:TRP:CD2	6:R:49:ARG:HD3	2.29	0.68
8:H:22:GLU:O	8:H:25:GLU:HG2	1.94	0.68
3:O:72:ASP:OD1	4:P:49:ARG:NH1	2.25	0.68
2:B:308:ASP:OD1	2:B:309:VAL:N	2.26	0.68
4:D:134:TYR:HE2	4:D:163:PRO:HG2	1.58	0.68
5:E:53:ASN:N	5:E:53:ASN:OD1	2.27	0.68
10:J:36:ASP:O	10:J:37:GLN:C	2.35	0.68
5:Q:95:PRO:HG2	5:Q:145:VAL:HG22	1.74	0.68
6:R:51:PRO:HG2	6:R:54:LEU:HD22	1.74	0.68
3:C:174:THR:O	3:C:178:PHE:HD1	1.77	0.67
4:D:208:MET:HE2	4:D:208:MET:O	1.95	0.67
5:E:18:VAL:HG11	5:E:32:ARG:NH1	2.09	0.67
2:N:156:GLN:HE22	9:U:56:ARG:HD3	1.58	0.67
5:Q:171:ILE:HG23	5:Q:171:ILE:O	1.94	0.67
7:S:71:ARG:HH21	8:T:60:ASP:CG	2.02	0.67
1:A:365:LEU:HD21	1:A:395:TRP:CD1	2.29	0.67
3:C:169:SER:CB	5:Q:93:GLY:HA3	2.24	0.67
6:F:106:GLU:HA	6:F:109:LYS:HZ3	1.59	0.67
8:H:73:LEU:HD21	8:H:74:PHE:HD1	1.58	0.67
1:M:4:TYR:CZ	1:M:8:LEU:HD11	2.28	0.67
2:N:191:LEU:O	2:N:195:VAL:HG23	1.94	0.67
10:V:22:LEU:O	10:V:26:VAL:HG23	1.93	0.67
2:B:257:LEU:HD13	2:B:424:MET:HB2	1.77	0.67
6:F:42:ASP:OD2	6:F:101:ARG:NH1	2.28	0.67
7:G:34:ILE:HB	7:G:35:PRO:CD	2.21	0.67
2:N:180:ASP:O	2:N:183:ILE:HD12	1.95	0.67
4:P:27:ARG:NH1	10:V:58:LYS:HZ2	1.92	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:233:ARG:HG3	7:S:17:SER:HB2	1.77	0.67
6:R:75:LEU:HD12	6:R:76:PRO:CD	2.23	0.67
1:A:80:GLU:O	1:A:83:GLY:N	2.26	0.67
2:B:348:ALA:HB1	2:B:415:LYS:HA	1.76	0.67
1:M:163:LEU:HD12	1:M:163:LEU:O	1.95	0.67
3:O:177:ARG:O	3:O:181:PHE:CD2	2.47	0.67
1:A:445:ARG:O	1:A:446:PHE:HB2	1.93	0.67
2:B:319:SER:OG	2:B:320:GLY:N	2.27	0.67
5:E:68:VAL:HG12	5:E:69:LEU:N	2.10	0.67
3:O:359:PHE:O	3:O:363:LEU:HB2	1.95	0.67
8:T:65:ARG:HG3	8:T:66:ASP:N	2.09	0.67
1:A:426:GLY:HA2	1:A:427:PRO:C	2.19	0.67
3:C:56:THR:HG21	3:O:58:ASP:OD2	1.94	0.67
3:C:311:LYS:HD2	3:C:379:TRP:HB3	1.76	0.67
4:D:237:TYR:CE2	4:D:239:PRO:HG3	2.29	0.67
1:M:46:ARG:HH22	1:M:316:ASP:CG	2.02	0.67
2:N:132:PHE:HB3	2:N:137:VAL:HG21	1.76	0.67
8:T:22:GLU:O	8:T:25:GLU:HG2	1.95	0.67
1:A:151:ASN:ND2	5:E:2:HIS:NE2	2.42	0.67
1:A:408:ARG:NH1	11:K:15:ARG:HG2	2.08	0.67
2:N:394:PRO:O	2:N:398:VAL:HG23	1.94	0.67
3:O:267:HIS:NE2	3:O:269:LYS:HD3	2.10	0.67
3:C:22:PRO:HG2	7:G:3:GLN:HB3	1.76	0.67
4:D:75:ASN:ND2	4:D:80:MET:O	2.28	0.67
5:E:60:SER:HA	5:E:63:SER:OG	1.94	0.67
7:G:50:PRO:CB	7:G:51:PRO:HD3	2.24	0.67
1:M:236:PHE:CD2	1:M:258:GLU:HB3	2.30	0.67
7:S:51:PRO:O	7:S:54:ALA:HB3	1.94	0.67
1:A:426:GLY:N	1:A:428:ILE:HG13	2.06	0.67
2:N:248:ASN:HB2	2:N:428:GLY:CA	2.22	0.67
3:O:315:MET:HE2	3:O:318:ARG:HH21	1.60	0.67
1:M:27:SER:HA	1:M:199:ALA:O	1.94	0.67
2:N:159:VAL:HG23	2:N:427:SER:OG	1.95	0.67
4:P:138:PRO:HB3	8:T:55:THR:N	2.10	0.67
4:P:211:MET:HE1	10:V:31:PHE:CZ	2.28	0.67
4:P:236:ALA:HB3	7:S:14:ILE:HB	1.75	0.67
3:C:234:LEU:CD2	4:D:216:LEU:HD21	2.24	0.66
3:C:244:LEU:O	4:D:201:ARG:HD3	1.95	0.66
1:M:408:ARG:HH12	11:W:15:ARG:CG	2.07	0.66
3:O:296:PHE:HD1	3:O:359:PHE:HE1	1.43	0.66
4:P:32:VAL:HG11	4:P:186:VAL:HG22	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:324:PHE:CD1	1:A:334:MET:HG2	2.30	0.66
1:A:426:GLY:N	1:A:428:ILE:HG12	2.10	0.66
5:E:15:ARG:HH21	5:E:32:ARG:HB2	1.60	0.66
5:Q:15:ARG:HH21	5:Q:32:ARG:CG	2.08	0.66
1:M:405:ARG:O	1:M:409:GLU:HG3	1.95	0.66
2:N:209:LEU:CD2	2:N:375:SER:HB2	2.25	0.66
3:O:244:LEU:O	4:P:201:ARG:HD3	1.95	0.66
4:P:82:MET:SD	4:P:86:LYS:HD2	2.35	0.66
1:A:351:GLU:HA	1:A:404:ALA:HB2	1.77	0.66
2:B:109:VAL:HG22	2:B:119:LEU:HD23	1.77	0.66
4:D:241:LYS:HG2	4:D:241:LYS:OXT	1.95	0.66
6:F:28:LYS:CB	6:F:74:ILE:HD11	2.26	0.66
1:M:351:GLU:OE2	1:M:404:ALA:HB3	1.96	0.66
2:N:327:ILE:O	2:N:327:ILE:HG22	1.95	0.66
3:C:206:ASN:CB	3:C:313:ARG:HH21	2.05	0.66
3:C:332:LEU:HD21	3:C:358:TYR:HE1	1.60	0.66
7:G:2:ARG:HB2	7:G:6:HIS:HD2	1.59	0.66
2:N:71:LEU:HD13	2:N:143:GLN:HG3	1.78	0.66
3:O:22:PRO:CG	7:S:3:GLN:HB3	2.25	0.66
3:O:26:ASN:ND2	3:O:208:PRO:HD2	2.11	0.66
3:O:124:MET:HE1	3:O:298:ILE:HG21	1.77	0.66
9:U:70:LEU:CD1	9:U:72:VAL:H	2.08	0.66
7:S:73:ASN:N	7:S:74:PRO:CD	2.58	0.66
1:A:241:ILE:HG13	7:G:16:TYR:CD1	2.30	0.66
1:A:251:ALA:O	1:A:325:VAL:HA	1.95	0.66
2:B:253:VAL:HG23	2:B:427:SER:O	1.96	0.66
2:B:279:LEU:HD22	2:B:295:LEU:HD13	1.76	0.66
3:C:156:ILE:O	3:C:157:GLY:C	2.39	0.66
4:D:11:PRO:O	8:H:74:PHE:CZ	2.49	0.66
4:D:178:THR:HG23	8:H:15:ASP:N	2.11	0.66
5:Q:136:ILE:O	5:Q:136:ILE:HG22	1.93	0.66
1:A:106:LEU:N	1:A:107:PRO:HD2	2.11	0.66
1:A:236:PHE:CD2	1:A:258:GLU:HB3	2.31	0.66
3:C:32:ASN:HD21	3:C:228:ASP:HA	1.61	0.66
1:M:161:THR:HB	1:M:162:PRO:HD2	1.77	0.66
2:N:303:VAL:HG12	2:N:304:HIS:N	2.11	0.66
3:O:90:PHE:HE1	3:O:123:VAL:HG21	1.60	0.66
3:C:109:PHE:O	3:C:110:LEU:C	2.36	0.66
2:N:129:ALA:N	2:N:130:PRO:CD	2.58	0.66
3:O:8:HIS:HB3	3:O:9:PRO:HD3	1.76	0.66
4:P:158:ILE:HD13	4:P:160:MET:CB	2.22	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:354:ASN:N	2:B:355:PRO:HD2	2.11	0.66
3:C:108:THR:HB	3:C:313:ARG:HH11	1.59	0.66
2:N:98:VAL:HG22	2:N:107:TYR:CD2	2.31	0.66
2:N:436:ILE:HD12	2:N:437:ASP:OD1	1.96	0.66
5:Q:188:THR:OG1	5:Q:192:MET:HB2	1.96	0.66
10:V:9:LEU:HD12	10:V:13:LEU:HD12	1.77	0.66
1:A:53:ASN:OD1	1:A:170:PRO:HD3	1.95	0.65
3:C:183:PHE:CE1	3:O:183:PHE:CD1	2.84	0.65
10:J:34:ALA:O	10:J:35:PHE:C	2.38	0.65
3:O:32:ASN:O	3:O:36:LEU:HG	1.95	0.65
3:O:122:THR:CG2	3:O:189:ILE:CD1	2.74	0.65
5:Q:101:ARG:HD3	5:Q:133:VAL:HG11	1.76	0.65
5:Q:117:LEU:O	5:Q:118:ARG:C	2.39	0.65
1:A:198:ALA:O	1:A:199:ALA:HB2	1.95	0.65
1:A:342:TRP:O	1:A:343:MET:C	2.38	0.65
4:D:236:ALA:HB3	7:G:14:ILE:HB	1.78	0.65
1:M:298:ALA:HA	1:M:303:LEU:HB2	1.77	0.65
2:N:247:GLN:HE22	2:N:429:ASN:ND2	1.95	0.65
3:O:156:ILE:O	3:O:157:GLY:C	2.39	0.65
4:P:54:VAL:O	4:P:54:VAL:HG12	1.96	0.65
3:O:200:LEU:HG	3:O:200:LEU:O	1.95	0.65
1:A:262:TRP:CG	1:A:385:THR:HG23	2.31	0.65
1:A:331:ILE:HD11	1:A:427:PRO:O	1.96	0.65
3:C:174:THR:O	3:C:178:PHE:CD1	2.50	0.65
3:C:270:PRO:HB2	3:C:274:PHE:HB2	1.78	0.65
1:M:158:PHE:CZ	1:M:317:THR:HG21	2.31	0.65
2:N:134:ARG:HG2	2:N:135:TRP:N	2.11	0.65
4:P:50:HIS:HB3	4:P:54:VAL:CB	2.26	0.65
6:R:73:GLN:HA	7:S:39:ARG:HH21	1.62	0.65
1:M:45:SER:OG	1:M:92:ARG:CG	2.44	0.65
3:O:102:LEU:HD21	3:O:304:ILE:HD13	1.77	0.65
5:Q:1:SER:OG	5:Q:1:SER:CA	2.44	0.65
6:R:73:GLN:HE21	7:S:32:LYS:HZ1	1.44	0.65
2:B:56:ARG:NH2	2:B:172:LEU:HD21	2.12	0.65
3:C:47:THR:HG21	3:C:83:HIS:CB	2.27	0.65
5:Q:89:PHE:HB2	5:Q:96:LEU:HB3	1.76	0.65
1:A:106:LEU:CD2	1:A:203:LEU:HD13	2.26	0.65
2:B:341:TYR:HE2	2:B:345:LYS:HE3	1.61	0.65
3:C:240:MET:O	3:C:244:LEU:HB2	1.96	0.65
4:D:229:VAL:HG22	7:G:18:LEU:O	1.97	0.65
6:F:75:LEU:O	6:F:80:TRP:NE1	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:236:PHE:HD2	1:M:258:GLU:HG2	1.60	0.65
1:M:279:HIS:HA	1:M:307:PHE:O	1.97	0.65
1:M:408:ARG:CZ	11:W:15:ARG:HE	2.08	0.65
5:Q:102:THR:O	5:Q:106:ILE:HG13	1.96	0.65
2:B:134:ARG:NH1	6:R:51:PRO:HD3	2.11	0.65
3:C:296:PHE:HD1	3:C:359:PHE:HE1	1.45	0.65
4:D:138:PRO:HB3	8:H:55:THR:N	2.12	0.65
2:N:56:ARG:NE	2:N:103:GLU:OE1	2.19	0.65
3:O:310:SER:CB	3:O:318:ARG:NH1	2.59	0.65
4:P:27:ARG:NH1	10:V:58:LYS:HG3	2.11	0.65
7:S:50:PRO:CB	7:S:51:PRO:CD	2.70	0.65
1:A:75:LEU:HD21	1:A:116:ILE:HG12	1.78	0.65
1:A:143:THR:HG23	1:A:143:THR:O	1.94	0.65
2:B:31:ASN:HB3	2:B:201:SER:HB3	1.78	0.65
3:O:44:GLN:OE1	3:O:83:HIS:ND1	2.30	0.65
3:O:102:LEU:HD21	3:O:304:ILE:HD12	1.78	0.65
6:R:75:LEU:O	6:R:80:TRP:NE1	2.27	0.65
3:C:78:ILE:HD11	5:E:57:GLN:NE2	2.12	0.65
4:D:10:TYR:HE1	8:H:73:LEU:HD21	1.60	0.65
4:D:55:CYS:SG	10:J:55:ILE:HG22	2.37	0.65
4:D:178:THR:HG21	8:H:16:PRO:HG2	1.79	0.65
6:F:96:GLU:OE1	6:F:99:ARG:HD2	1.98	0.65
9:I:70:LEU:CD1	9:I:72:VAL:H	2.09	0.65
10:J:12:LEU:HD23	10:J:13:LEU:HD21	1.79	0.65
1:M:6:GLN:O	1:M:7:ALA:C	2.39	0.65
1:M:335:MET:HE1	1:M:338:LEU:HD23	1.79	0.65
4:P:51:LEU:HA	4:P:56:TYR:O	1.97	0.65
4:P:164:ILE:HD11	4:P:186:VAL:HG21	1.79	0.65
6:R:42:ASP:OD2	6:R:101:ARG:NH1	2.30	0.65
3:C:44:GLN:OE1	3:C:83:HIS:ND1	2.30	0.64
3:C:346:PRO:HG2	7:G:66:PHE:HD1	1.62	0.64
1:M:91:THR:CG2	1:M:92:ARG:N	2.60	0.64
2:N:156:GLN:NE2	9:U:56:ARG:HD3	2.12	0.64
3:O:122:THR:HG21	3:O:189:ILE:HG12	1.78	0.64
3:O:153:ILE:HG23	3:O:154:PRO:HD2	1.79	0.64
3:O:311:LYS:HD2	3:O:379:TRP:HB3	1.79	0.64
2:B:109:VAL:HG22	2:B:119:LEU:CD2	2.28	0.64
2:B:155:PRO:HB2	2:B:254:HIS:CE1	2.32	0.64
10:J:55:ILE:HG23	10:J:58:LYS:HE2	1.78	0.64
2:N:133:ARG:HD3	2:N:135:TRP:CZ2	2.32	0.64
2:N:352:LEU:HG	2:N:352:LEU:O	1.96	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:V:51:LEU:HB3	10:V:52:TRP:CZ3	2.32	0.64
1:A:297:ILE:HG22	1:A:303:LEU:HD12	1.80	0.64
3:C:243:VAL:HG13	3:C:244:LEU:HD13	1.77	0.64
4:D:32:VAL:HG21	4:D:186:VAL:HG22	1.79	0.64
3:O:345:HIS:HB3	3:O:346:PRO:CD	2.21	0.64
1:A:269:ALA:HB3	1:A:410:VAL:HG11	1.80	0.64
2:B:333:ALA:O	2:B:337:ILE:HD12	1.97	0.64
4:D:220:TYR:CE2	7:G:26:PHE:CE1	2.83	0.64
1:M:15:GLN:O	1:M:26:ALA:HA	1.98	0.64
1:A:346:CYS:CB	1:A:412:SER:OG	2.44	0.64
2:B:318:ASP:OD1	2:B:318:ASP:N	2.28	0.64
2:B:434:PRO:HB3	2:B:438:GLU:HB3	1.80	0.64
3:C:338:ILE:N	3:C:338:ILE:CD1	2.61	0.64
1:M:350:THR:HB	1:M:353:GLU:CG	2.28	0.64
2:N:384:SER:HB2	9:U:62:ARG:HG2	1.79	0.64
3:O:102:LEU:HB3	3:O:325:PHE:HE1	1.62	0.64
3:O:218:ILE:HD13	4:P:230:LEU:HD11	1.78	0.64
4:P:26:ILE:HG22	4:P:54:VAL:HG13	1.78	0.64
1:A:78:GLU:HG2	1:A:112:LEU:HD21	1.78	0.64
2:B:128:THR:HG23	2:B:226:ILE:HD11	1.80	0.64
1:A:358:LYS:HD2	1:A:402:VAL:CG1	2.28	0.64
1:M:91:THR:HG23	1:M:92:ARG:H	1.60	0.64
1:M:408:ARG:NH1	11:W:15:ARG:CG	2.61	0.64
2:N:207:ILE:CD1	2:N:383:GLY:HA2	2.25	0.64
4:P:50:HIS:O	4:P:51:LEU:C	2.40	0.64
4:P:70:VAL:HG23	4:P:84:PRO:HD3	1.79	0.64
5:Q:63:SER:O	5:Q:64:ALA:HB2	1.98	0.64
4:D:94:PRO:HB2	4:D:95:TYR:CE1	2.33	0.64
1:M:199:ALA:HB3	1:M:208:LEU:HD21	1.79	0.64
6:R:96:GLU:OE1	6:R:99:ARG:HD2	1.98	0.64
3:C:221:HIS:CB	3:C:222:PRO:HD3	2.22	0.64
5:E:62:MET:O	3:O:177:ARG:NH2	2.30	0.64
1:M:38:GLY:HA3	1:M:40:TRP:HZ3	1.62	0.64
1:M:391:PRO:HB2	1:M:395:TRP:CZ2	2.32	0.64
1:M:436:ARG:HE	3:O:222:PRO:HD3	1.62	0.64
6:R:43:VAL:HG22	6:R:94:LEU:HD21	1.80	0.64
3:C:78:ILE:O	3:C:82:MET:HB2	1.98	0.64
3:C:309:THR:HG23	3:C:370:GLY:HA3	1.80	0.64
1:M:404:ALA:O	1:M:408:ARG:HG3	1.98	0.64
2:N:257:LEU:HD13	2:N:424:MET:HE2	1.80	0.64
5:Q:118:ARG:HB3	5:Q:171:ILE:HG23	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:S:25:ALA:C	7:S:27:PRO:HD3	2.23	0.64
1:A:32:GLN:HG3	1:A:33:PRO:HD2	1.80	0.63
1:A:224:ASP:O	1:A:227:ALA:N	2.31	0.63
3:C:119:LEU:HD13	3:C:192:ILE:HG22	1.80	0.63
3:C:329:VAL:HA	3:C:332:LEU:HD12	1.81	0.63
3:O:141:TRP:O	3:O:145:VAL:HG23	1.98	0.63
1:A:240:GLN:HG3	1:A:422:VAL:O	1.98	0.63
3:C:183:PHE:CD1	3:O:183:PHE:CE1	2.86	0.63
1:M:426:GLY:CA	1:M:428:ILE:N	2.61	0.63
3:O:79:ILE:HG12	5:Q:58:PHE:CE1	2.33	0.63
1:A:158:PHE:CB	1:A:164:ALA:HB2	2.29	0.63
1:A:333:ASP:O	1:A:337:VAL:HG23	1.98	0.63
3:C:240:MET:HA	3:C:243:VAL:CG1	2.24	0.63
1:M:352:SER:OG	1:M:353:GLU:N	2.31	0.63
4:P:127:VAL:HG12	4:P:187:CYS:SG	2.39	0.63
5:Q:126:ARG:NH2	5:Q:168:SER:O	2.23	0.63
1:A:158:PHE:HB2	1:A:164:ALA:HB2	1.79	0.63
3:O:207:ASN:HB2	3:O:208:PRO:HD2	1.80	0.63
4:P:50:HIS:HB3	4:P:54:VAL:CG2	2.28	0.63
4:P:120:ARG:HG2	4:P:120:ARG:HH11	1.62	0.63
1:A:38:GLY:HA3	1:A:40:TRP:HZ3	1.62	0.63
2:B:338:LYS:HD3	2:B:439:LEU:HD23	1.81	0.63
3:C:78:ILE:HG21	4:D:204:MET:HE1	1.81	0.63
3:O:33:PHE:CE1	3:O:96:MET:HG3	2.34	0.63
3:O:115:ILE:CG2	3:O:196:HIS:HB2	2.27	0.63
5:Q:193:VAL:HG13	5:Q:193:VAL:O	1.97	0.63
6:R:28:LYS:HD2	6:R:74:ILE:CD1	2.24	0.63
1:A:24:ARG:CB	1:A:196:VAL:HG22	2.25	0.63
2:B:384:SER:CB	9:I:62:ARG:HG2	2.29	0.63
4:D:27:ARG:O	4:D:28:ARG:C	2.41	0.63
5:E:29:SER:HA	5:E:32:ARG:HD3	1.81	0.63
8:H:25:GLU:HA	8:H:30:CYS:SG	2.39	0.63
1:M:39:VAL:HG11	1:M:117:VAL:HG21	1.81	0.63
1:M:162:PRO:O	1:M:165:GLN:HG2	1.99	0.63
2:N:56:ARG:NH2	2:N:172:LEU:HD21	2.14	0.63
4:P:62:LYS:O	4:P:66:GLU:HG3	1.99	0.63
6:R:73:GLN:HE21	7:S:32:LYS:CE	2.12	0.63
1:A:308:GLN:O	1:A:308:GLN:CG	2.46	0.63
1:A:385:THR:HG22	1:A:386:TYR:N	2.12	0.63
1:A:436:ARG:HE	3:C:222:PRO:CG	2.12	0.63
3:O:137:GLN:OE1	3:O:259:ALA:HA	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:207:ASN:OD1	3:O:210:GLY:N	2.26	0.63
5:Q:78:LEU:HD23	5:Q:79:SER:H	1.64	0.63
5:Q:91:TRP:O	5:Q:92:ARG:HB2	1.97	0.63
7:S:34:ILE:HB	7:S:35:PRO:CD	2.27	0.63
10:V:51:LEU:HD22	10:V:52:TRP:HZ3	1.64	0.63
2:B:347:ILE:HD12	2:B:347:ILE:N	2.13	0.63
3:C:106:SER:HB3	12:C:381:HEM:HBD2	1.81	0.63
1:M:80:GLU:O	1:M:83:GLY:N	2.28	0.63
1:M:408:ARG:NH1	11:W:15:ARG:HG2	2.13	0.63
1:M:426:GLY:N	1:M:428:ILE:CG1	2.60	0.63
3:O:8:HIS:CB	3:O:9:PRO:HD3	2.29	0.63
3:O:304:ILE:N	3:O:305:PRO:HD2	2.14	0.63
5:Q:76:ILE:HD12	5:Q:192:MET:CE	2.28	0.63
2:B:200:THR:CG2	2:B:203:ARG:HD2	2.23	0.63
2:B:341:TYR:CE2	2:B:345:LYS:HE3	2.34	0.63
3:C:116:GLY:HA3	12:C:381:HEM:C3C	2.34	0.63
3:C:183:PHE:CD1	3:C:183:PHE:O	2.52	0.63
3:C:311:LYS:O	6:F:38:HIS:HB2	1.98	0.63
4:D:10:TYR:O	4:D:12:TRP:CD1	2.51	0.63
1:M:144:SER:O	1:M:148:VAL:HG23	1.99	0.63
1:M:373:THR:HB	1:M:374:PRO:HD3	1.81	0.63
2:N:83:PHE:CE2	2:N:87:ARG:HG3	2.34	0.63
4:P:229:VAL:HG12	4:P:233:ARG:HE	1.63	0.63
2:B:156:GLN:NE2	9:I:56:ARG:HD3	2.14	0.62
3:C:15:ASN:ND2	3:C:18:PHE:CE1	2.67	0.62
3:C:25:SER:HA	3:C:218:ILE:CD1	2.29	0.62
3:C:170:VAL:HG12	3:C:170:VAL:O	1.97	0.62
3:C:372:ILE:O	3:C:375:LYS:N	2.32	0.62
1:M:72:GLY:O	1:M:73:ASN:OD1	2.17	0.62
2:N:129:ALA:N	2:N:130:PRO:HD3	2.14	0.62
2:N:195:VAL:HG13	2:N:199:PHE:CD2	2.34	0.62
3:O:30:TRP:O	3:O:33:PHE:CD2	2.47	0.62
4:P:231:LYS:HD2	6:R:71:ARG:HG2	1.81	0.62
1:A:64:PHE:CE2	1:A:88:ALA:HB2	2.33	0.62
2:B:303:VAL:HG12	2:B:304:HIS:N	2.14	0.62
3:C:230:LEU:HD12	4:D:219:VAL:HG12	1.80	0.62
3:C:296:PHE:CD1	3:C:359:PHE:HE1	2.17	0.62
1:M:155:ALA:HA	1:M:164:ALA:HB1	1.80	0.62
4:P:75:ASN:ND2	4:P:80:MET:O	2.32	0.62
1:A:91:THR:CG2	1:A:92:ARG:N	2.62	0.62
2:B:47:ILE:HD12	2:B:120:MET:SD	2.40	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:200:THR:HG22	2:B:203:ARG:CD	2.25	0.62
3:C:72:ASP:OD1	4:D:49:ARG:NH1	2.28	0.62
4:D:50:HIS:HB3	4:D:54:VAL:CG2	2.29	0.62
4:D:138:PRO:O	4:D:139:THR:C	2.40	0.62
1:M:403:ASP:OD1	1:M:404:ALA:N	2.32	0.62
3:O:160:LEU:HD11	3:O:164:ILE:HD11	1.80	0.62
5:Q:76:ILE:HG23	5:Q:194:ILE:CG1	2.29	0.62
1:A:403:ASP:OD1	1:A:404:ALA:N	2.33	0.62
1:A:417:ASP:OD1	1:A:417:ASP:O	2.17	0.62
2:B:58:GLU:HB2	2:B:63:LEU:HD23	1.82	0.62
2:B:187:THR:O	2:B:190:GLU:HB2	1.99	0.62
3:C:163:TRP:O	3:C:177:ARG:NH1	2.32	0.62
4:D:165:TYR:CE1	4:D:168:VAL:HG22	2.34	0.62
2:B:59:ASN:OD1	2:B:60:SER:N	2.32	0.62
2:B:247:GLN:NE2	2:B:429:ASN:HA	2.14	0.62
2:B:385:GLN:HG2	9:I:62:ARG:NH1	2.10	0.62
4:D:233:ARG:HG3	7:G:17:SER:HB2	1.79	0.62
1:M:151:ASN:ND2	5:Q:2:HIS:NE2	2.46	0.62
1:M:343:MET:HE1	1:M:416:TYR:HD2	1.57	0.62
1:M:385:THR:HG22	1:M:386:TYR:N	2.14	0.62
2:N:255:ALA:HB2	2:N:426:ALA:HB2	1.81	0.62
2:N:279:LEU:HD22	2:N:344:VAL:HG22	1.79	0.62
3:O:28:SER:HB3	3:O:30:TRP:HD1	1.63	0.62
3:O:119:LEU:HD13	3:O:192:ILE:HG22	1.80	0.62
4:P:3:LEU:HD11	7:S:71:ARG:HB2	1.81	0.62
4:P:13:SER:O	4:P:19:SER:HB3	1.99	0.62
5:Q:85:LYS:HG2	5:Q:86:ASN:N	2.11	0.62
1:A:43:ALA:CB	1:A:189:HIS:HB3	2.30	0.62
1:M:45:SER:CB	1:M:167:VAL:HG22	2.29	0.62
1:M:309:THR:HA	1:M:322:ALA:HA	1.81	0.62
1:M:358:LYS:HE3	1:M:402:VAL:HB	1.82	0.62
3:O:52:ALA:HB2	12:O:380:HEM:HMD1	1.81	0.62
2:B:169:ARG:CZ	2:N:438:GLU:OE2	2.47	0.62
3:C:207:ASN:ND2	3:C:209:THR:OG1	2.32	0.62
3:C:345:HIS:HB3	3:C:346:PRO:HD3	1.79	0.62
10:J:3:PRO:HG2	10:J:8:ARG:HG2	1.81	0.62
1:M:55:ALA:O	1:M:56:GLY:C	2.43	0.62
2:N:37:SER:OG	2:N:213:HIS:HB2	2.00	0.62
2:N:385:GLN:HG2	9:U:62:ARG:NH1	2.13	0.62
4:P:27:ARG:HH11	10:V:58:LYS:NZ	1.98	0.62
5:Q:76:ILE:HG22	5:Q:194:ILE:HG12	1.79	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:T:34:ARG:O	8:T:38:GLU:HG2	1.99	0.62
10:V:51:LEU:HB3	10:V:52:TRP:CE3	2.35	0.62
1:A:280:TYR:O	1:A:306:SER:HA	2.00	0.62
2:B:123:LEU:O	2:B:127:THR:HG22	2.00	0.62
2:B:352:LEU:HB3	2:B:411:ILE:CD1	2.29	0.62
4:D:27:ARG:NH2	4:D:60:GLU:OE2	2.33	0.62
1:M:53:ASN:OD1	1:M:170:PRO:HD3	1.99	0.62
1:M:134:ILE:HG21	1:M:174:VAL:HG21	1.81	0.62
4:P:79:GLU:OE1	4:P:82:MET:HG3	1.98	0.62
9:U:78:TYR:HD1	9:U:78:TYR:OXT	1.83	0.62
1:A:151:ASN:O	1:A:152:TYR:C	2.43	0.62
2:B:155:PRO:O	2:B:156:GLN:C	2.43	0.62
4:D:236:ALA:O	7:G:14:ILE:N	2.28	0.62
2:N:352:LEU:HD21	2:N:357:VAL:HG23	1.82	0.62
3:O:331:ASP:O	3:O:334:THR:HB	2.00	0.62
5:Q:157:TYR:CE2	5:Q:159:PRO:HA	2.33	0.62
2:B:59:ASN:CG	2:B:60:SER:H	2.07	0.62
1:M:91:THR:CG2	1:M:93:GLU:H	2.10	0.62
3:O:115:ILE:HG21	3:O:196:HIS:HB2	1.81	0.62
6:R:73:GLN:HG2	7:S:36:ASN:HD21	1.65	0.62
1:A:327:ASP:OD1	1:A:328:HIS:N	2.32	0.61
2:B:95:LYS:HE3	9:I:70:LEU:CD2	2.24	0.61
2:B:434:PRO:HB2	2:B:439:LEU:HD11	1.81	0.61
1:M:37:VAL:HG13	1:M:199:ALA:HB2	1.82	0.61
1:M:143:THR:HG23	1:M:143:THR:O	1.98	0.61
5:Q:141:HIS:NE2	5:Q:175:PRO:HB2	2.15	0.61
11:W:26:ALA:O	11:W:30:VAL:HG23	2.00	0.61
1:A:204:GLU:HG2	1:A:206:ARG:HB3	1.80	0.61
2:B:58:GLU:OE1	2:B:63:LEU:HA	2.00	0.61
2:B:337:ILE:CG2	2:B:434:PRO:HG2	2.30	0.61
3:C:119:LEU:HD13	3:C:192:ILE:CG2	2.29	0.61
3:C:153:ILE:HG23	3:C:154:PRO:HD2	1.82	0.61
1:M:365:LEU:HG	1:M:365:LEU:O	1.99	0.61
2:N:352:LEU:HB3	2:N:411:ILE:CD1	2.29	0.61
9:U:62:ARG:N	9:U:63:PRO:HD2	2.15	0.61
1:A:61:HIS:NE2	1:A:134:ILE:CD1	2.62	0.61
1:A:236:PHE:HD2	1:A:258:GLU:CG	2.12	0.61
1:A:370:ASP:OD1	2:B:375:SER:HB3	1.99	0.61
2:B:163:LEU:HD22	2:B:256:ALA:CB	2.29	0.61
4:D:72:ASP:O	4:D:73:GLY:O	2.18	0.61
3:O:8:HIS:CB	3:O:9:PRO:CD	2.78	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:68:VAL:HG12	4:P:92:PRO:HG2	1.82	0.61
5:Q:13:TYR:O	7:S:23:GLN:HB3	2.01	0.61
2:B:101:THR:OG1	2:B:102:ARG:N	2.32	0.61
2:B:435:PHE:HB2	2:B:438:GLU:OE1	2.00	0.61
4:D:10:TYR:CE1	8:H:73:LEU:CD2	2.84	0.61
3:O:7:SER:HA	3:O:13:ILE:HG12	1.81	0.61
5:Q:187:PHE:CE2	5:Q:193:VAL:HB	2.34	0.61
1:A:5:ALA:O	1:A:8:LEU:HB2	2.00	0.61
1:A:92:ARG:HD2	1:A:163:LEU:CD1	2.29	0.61
2:B:156:GLN:HE22	9:I:56:ARG:HD3	1.65	0.61
2:B:209:LEU:CD2	2:B:375:SER:HB2	2.30	0.61
3:C:313:ARG:HB3	6:F:38:HIS:CD2	2.35	0.61
3:C:315:MET:HA	3:C:318:ARG:HG3	1.82	0.61
4:D:28:ARG:HD2	4:D:185:ASP:OD2	2.01	0.61
4:D:204:MET:O	4:D:205:GLY:C	2.42	0.61
7:G:71:ARG:HH21	8:H:60:ASP:CG	2.07	0.61
2:N:283:PRO:HG3	9:U:55:LEU:CD2	2.24	0.61
3:O:172:LYS:O	3:O:173:ALA:C	2.41	0.61
1:A:338:LEU:O	1:A:339:GLN:C	2.41	0.61
1:A:433:ASP:HB2	3:C:219:PRO:HG2	1.82	0.61
2:B:299:VAL:O	2:B:303:VAL:HG23	2.01	0.61
6:F:42:ASP:O	6:F:43:VAL:C	2.43	0.61
4:P:27:ARG:NH2	4:P:60:GLU:OE2	2.34	0.61
5:Q:45:VAL:HG23	10:V:24:ILE:HA	1.83	0.61
1:A:145:MET:SD	1:A:248:LEU:CD1	2.86	0.61
3:C:122:THR:HG23	3:C:185:LEU:HD11	1.83	0.61
3:C:146:ILE:O	3:C:149:LEU:HB3	2.00	0.61
4:D:168:VAL:O	4:D:169:LEU:HD23	2.01	0.61
2:N:95:LYS:CE	9:U:70:LEU:HD22	2.29	0.61
3:O:242:LEU:HD21	3:O:250:LEU:HD22	1.83	0.61
4:P:138:PRO:HG2	8:T:55:THR:CB	2.30	0.61
1:A:336:PHE:HE2	1:A:446:PHE:HD2	1.47	0.61
2:B:47:ILE:HG22	2:B:48:GLY:N	2.15	0.61
7:G:25:ALA:C	7:G:27:PRO:HD3	2.26	0.61
10:J:51:LEU:HB3	10:J:52:TRP:CZ3	2.36	0.61
1:M:86:LEU:HB3	2:N:285:VAL:HG22	1.81	0.61
1:M:91:THR:HG23	1:M:92:ARG:N	2.16	0.61
2:N:154:ASN:O	2:N:155:PRO:C	2.43	0.61
2:N:203:ARG:NE	2:N:230:LEU:HD23	2.15	0.61
3:O:4:ILE:O	3:O:4:ILE:HG22	2.00	0.61
3:O:126:THR:HG21	12:O:380:HEM:C3B	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:57:THR:HG22	4:D:58:GLU:H	1.65	0.61
2:N:412:ASN:O	2:N:415:LYS:HB2	2.00	0.61
5:Q:118:ARG:HH22	5:Q:173:LYS:HA	1.66	0.61
10:V:55:ILE:HG23	10:V:58:LYS:HE2	1.82	0.61
1:A:395:TRP:O	1:A:396:GLU:C	2.43	0.61
3:C:18:PHE:O	3:C:220:PHE:HD2	1.84	0.61
3:C:267:HIS:NE2	3:C:269:LYS:HD3	2.15	0.61
6:F:106:GLU:HA	6:F:109:LYS:NZ	2.16	0.61
1:M:64:PHE:CE1	1:M:86:LEU:CG	2.81	0.61
8:T:37:LEU:HD21	8:T:58:LEU:HA	1.83	0.61
1:A:244:ARG:CZ	7:G:10:VAL:HB	2.31	0.60
4:P:32:VAL:HG11	4:P:186:VAL:CG2	2.31	0.60
4:P:134:TYR:HE2	4:P:163:PRO:HG2	1.66	0.60
5:Q:104:LYS:HG2	5:Q:104:LYS:O	2.01	0.60
1:A:6:GLN:O	1:A:7:ALA:C	2.41	0.60
1:A:413:LYS:HB2	1:A:414:TYR:CD2	2.36	0.60
8:H:40:CYS:HB2	8:H:57:GLU:HG2	1.83	0.60
4:P:11:PRO:O	8:T:74:PHE:CZ	2.54	0.60
4:P:214:LEU:O	4:P:218:LEU:HG	2.01	0.60
5:Q:29:SER:HA	5:Q:32:ARG:HD3	1.83	0.60
1:A:182:LEU:O	1:A:186:LEU:HD12	2.01	0.60
1:A:233:PRO:HG2	5:E:23:LYS:HD2	1.84	0.60
1:A:394:GLU:O	1:A:395:TRP:C	2.44	0.60
2:B:140:LEU:HD12	2:B:143:GLN:HB3	1.83	0.60
3:C:26:ASN:O	3:C:27:ILE:HG13	2.01	0.60
3:C:207:ASN:OD1	3:C:210:GLY:N	2.32	0.60
6:F:28:LYS:HD3	6:F:74:ILE:HD11	1.84	0.60
7:G:71:ARG:O	8:H:56:GLU:OE2	2.20	0.60
2:N:354:ASN:N	2:N:355:PRO:HD2	2.16	0.60
4:P:176:PRO:HB2	4:P:181:GLN:NE2	2.14	0.60
5:Q:85:LYS:CG	5:Q:86:ASN:H	2.12	0.60
9:U:53:GLU:O	9:U:55:LEU:HG	2.00	0.60
1:A:5:ALA:O	1:A:6:GLN:C	2.43	0.60
1:A:80:GLU:O	1:A:82:MET:N	2.34	0.60
1:A:86:LEU:HD13	1:A:99:ILE:CG1	2.31	0.60
3:C:218:ILE:HG22	3:C:223:TYR:CD2	2.35	0.60
1:M:64:PHE:CE2	1:M:88:ALA:HB2	2.36	0.60
1:M:354:VAL:CG1	1:M:407:VAL:HG21	2.31	0.60
1:M:366:VAL:HG12	1:M:367:SER:N	2.16	0.60
3:O:132:VAL:HA	3:O:139:SER:HB3	1.81	0.60
3:O:196:HIS:HE1	12:O:381:HEM:C1D	2.19	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:118:ARG:NH1	5:Q:171:ILE:CG1	2.57	0.60
7:S:73:ASN:HD22	8:T:56:GLU:CD	2.08	0.60
1:A:154:HIS:O	1:A:158:PHE:HB2	2.00	0.60
3:C:327:ALA:O	3:C:331:ASP:N	2.32	0.60
8:H:73:LEU:HD21	8:H:74:PHE:CD1	2.35	0.60
1:M:4:TYR:CE2	1:M:396:GLU:HG3	2.36	0.60
2:N:362:ASN:HA	2:N:365:LYS:HD3	1.82	0.60
2:N:384:SER:CB	9:U:62:ARG:HG2	2.32	0.60
7:S:71:ARG:O	8:T:56:GLU:OE2	2.19	0.60
8:T:15:ASP:HB2	8:T:16:PRO:HD3	1.83	0.60
1:A:408:ARG:CZ	11:K:15:ARG:NE	2.63	0.60
2:B:90:GLU:O	2:B:91:ALA:C	2.44	0.60
2:B:258:VAL:CG1	2:B:321:LEU:HB3	2.29	0.60
3:C:25:SER:O	3:C:26:ASN:C	2.45	0.60
9:I:62:ARG:HB3	9:I:63:PRO:HD3	1.83	0.60
1:M:146:ARG:NH2	1:M:308:GLN:HE22	2.00	0.60
2:N:34:VAL:HG11	2:N:386:ALA:CB	2.32	0.60
2:N:206:LEU:HD13	2:N:224:LEU:HD11	1.84	0.60
3:O:171:ASP:O	3:O:172:LYS:C	2.44	0.60
1:A:343:MET:O	1:A:344:ARG:C	2.41	0.60
1:A:351:GLU:OE2	1:A:404:ALA:HB3	2.00	0.60
4:D:30:PHE:HD1	4:D:189:PHE:CE1	2.19	0.60
4:D:164:ILE:HD11	13:D:242:HEC:HBB2	1.83	0.60
2:N:183:ILE:HG22	2:N:184:GLY:N	2.16	0.60
5:Q:101:ARG:HD3	5:Q:133:VAL:CG1	2.31	0.60
5:Q:153:PHE:CE1	5:Q:173:LYS:HG3	2.34	0.60
7:S:54:ALA:O	7:S:58:VAL:HG23	2.01	0.60
2:B:86:THR:HG23	9:I:71:ASN:HD21	1.66	0.60
4:D:57:THR:HG22	4:D:58:GLU:N	2.17	0.60
4:D:165:TYR:CE2	4:D:168:VAL:HG22	2.37	0.60
1:M:184:GLU:O	1:M:188:ARG:HG3	2.02	0.60
1:M:233:PRO:HG2	5:Q:23:LYS:CD	2.32	0.60
7:S:2:ARG:HB2	7:S:6:HIS:CD2	2.37	0.60
3:C:28:SER:HB3	3:C:30:TRP:HD1	1.67	0.60
3:C:239:LEU:HD12	3:C:239:LEU:O	2.02	0.60
9:I:62:ARG:N	9:I:63:PRO:HD2	2.16	0.60
2:N:261:SER:HG	2:N:320:GLY:HA3	1.64	0.60
3:O:244:LEU:HD23	4:P:205:GLY:HA2	1.83	0.60
4:P:72:ASP:O	4:P:73:GLY:O	2.20	0.60
5:Q:12:ASP:O	7:S:24:ARG:NH2	2.32	0.60
1:A:41:ILE:CG1	1:A:195:MET:HE3	2.22	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:46:ARG:NH2	1:M:316:ASP:OD2	2.34	0.60
3:O:348:ILE:O	3:O:352:GLN:HG3	2.02	0.60
4:P:42:SER:O	4:P:112:ASP:OD1	2.20	0.60
5:Q:103:LYS:HA	5:Q:106:ILE:HD12	1.82	0.60
5:Q:121:GLN:HB3	5:Q:126:ARG:HD3	1.83	0.60
5:Q:164:HIS:H	5:Q:173:LYS:HB2	1.67	0.60
8:T:73:LEU:O	8:T:73:LEU:HG	2.02	0.60
10:V:20:PHE:O	10:V:23:THR:HB	2.02	0.60
2:B:196:GLN:HG2	2:B:197:ASN:OD1	2.02	0.59
3:C:52:ALA:HB2	12:C:380:HEM:HMD2	1.83	0.59
3:C:264:THR:CG2	5:Q:144:CYS:HB3	2.25	0.59
3:C:301:LEU:O	3:C:304:ILE:HD12	2.02	0.59
7:G:73:ASN:HD22	8:H:56:GLU:CD	2.10	0.59
1:M:236:PHE:HD2	1:M:258:GLU:CG	2.15	0.59
1:M:426:GLY:HA2	1:M:428:ILE:N	2.17	0.59
10:V:51:LEU:H	10:V:54:HIS:HD2	1.49	0.59
1:A:64:PHE:HE1	1:A:86:LEU:CG	2.12	0.59
1:A:145:MET:HE3	1:A:252:HIS:HE1	1.67	0.59
1:A:351:GLU:O	1:A:352:SER:C	2.42	0.59
3:C:10:LEU:HD12	3:C:13:ILE:CD1	2.28	0.59
3:C:27:ILE:O	3:C:27:ILE:CG2	2.46	0.59
6:F:96:GLU:OE2	6:F:99:ARG:NH1	2.34	0.59
9:I:58:GLN:HA	9:I:78:TYR:CD2	2.37	0.59
1:M:312:ILE:HB	1:M:319:LEU:HB2	1.83	0.59
1:M:363:ASN:CG	2:N:112:LEU:HD23	2.27	0.59
2:N:100:SER:HB3	2:N:105:MET:CG	2.32	0.59
2:N:269:ALA:O	2:N:272:PHE:N	2.35	0.59
3:O:110:LEU:HG	3:O:114:ASN:HD21	1.67	0.59
3:O:296:PHE:CD1	3:O:359:PHE:HE1	2.19	0.59
4:P:36:VAL:HG23	4:P:169:LEU:HD11	1.84	0.59
4:P:237:TYR:CD2	4:P:239:PRO:HD3	2.36	0.59
9:U:58:GLN:HA	9:U:78:TYR:CD2	2.37	0.59
10:V:9:LEU:HD12	10:V:13:LEU:CD1	2.32	0.59
10:V:18:SER:HB3	11:W:23:LEU:HD12	1.84	0.59
5:E:33:LYS:HB3	7:G:21:PHE:CE2	2.38	0.59
5:Q:121:GLN:HG3	5:Q:179:ASN:HD22	1.67	0.59
10:V:45:HIS:O	10:V:48:GLU:HG2	2.02	0.59
1:A:106:LEU:HD22	1:A:203:LEU:CD2	2.31	0.59
2:B:248:ASN:HB2	2:B:428:GLY:CA	2.33	0.59
3:C:22:PRO:CG	7:G:3:GLN:HB3	2.31	0.59
4:D:40:CYS:HB3	4:D:95:TYR:OH	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:223:LYS:HZ2	4:D:227:TRP:CD1	2.20	0.59
9:I:58:GLN:O	9:I:59:ALA:HB2	2.01	0.59
3:O:163:TRP:O	3:O:177:ARG:NH1	2.34	0.59
5:Q:78:LEU:HD23	5:Q:79:SER:N	2.17	0.59
9:U:70:LEU:HD12	9:U:71:ASN:N	2.16	0.59
2:B:256:ALA:O	2:B:424:MET:HG3	2.01	0.59
3:C:137:GLN:OE1	3:C:259:ALA:HA	2.02	0.59
3:C:296:PHE:O	3:C:300:ILE:HB	2.02	0.59
6:F:96:GLU:O	6:F:97:VAL:C	2.45	0.59
2:N:255:ALA:HA	2:N:425:ALA:O	2.01	0.59
3:O:275:LEU:O	3:O:276:PHE:C	2.45	0.59
7:S:25:ALA:O	7:S:27:PRO:HD3	2.02	0.59
1:A:36:THR:OG1	1:A:372:THR:HG22	2.03	0.59
2:B:203:ARG:CZ	2:B:230:LEU:HD23	2.32	0.59
2:B:438:GLU:OE2	2:N:169:ARG:CZ	2.51	0.59
3:C:221:HIS:HB3	3:C:222:PRO:CD	2.27	0.59
3:C:312:GLN:HE22	3:C:317:PHE:HB2	1.67	0.59
1:M:106:LEU:N	1:M:107:PRO:HD2	2.17	0.59
3:O:221:HIS:HB3	3:O:222:PRO:CD	2.29	0.59
5:Q:97:PHE:CE1	5:Q:137:GLY:HA3	2.37	0.59
1:A:32:GLN:HG2	1:A:33:PRO:CD	2.33	0.59
4:D:26:ILE:HG22	4:D:54:VAL:HG13	1.84	0.59
7:G:2:ARG:HB2	7:G:6:HIS:CD2	2.38	0.59
1:M:408:ARG:NH2	11:W:15:ARG:CZ	2.65	0.59
2:N:69:LEU:HD21	2:N:199:PHE:CZ	2.37	0.59
3:O:32:ASN:HD21	3:O:228:ASP:HA	1.67	0.59
1:A:4:TYR:CE2	1:A:396:GLU:HG3	2.38	0.59
1:A:373:THR:HB	1:A:374:PRO:HD3	1.84	0.59
3:C:160:LEU:HD12	3:C:160:LEU:O	2.03	0.59
3:C:377:LEU:HB3	6:F:33:ARG:HD2	1.85	0.59
2:N:264:ILE:HG21	2:N:317:SER:HA	1.85	0.59
3:O:270:PRO:HB2	3:O:274:PHE:HB2	1.85	0.59
8:T:58:LEU:HD11	8:T:62:LEU:CD1	2.32	0.59
1:A:48:GLU:OE1	1:A:53:ASN:O	2.20	0.59
1:A:62:LEU:O	1:A:63:ALA:C	2.46	0.59
1:A:428:ILE:HG21	1:A:431:LEU:HD22	1.83	0.59
2:B:132:PHE:HB3	2:B:137:VAL:HG21	1.85	0.59
2:B:217:LYS:O	2:B:218:GLN:C	2.45	0.59
3:C:359:PHE:O	3:C:363:LEU:HB2	2.03	0.59
3:O:153:ILE:HD12	3:O:153:ILE:N	2.18	0.59
3:O:377:LEU:O	3:O:378:LYS:HB3	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:69:LEU:HG	5:Q:69:LEU:O	2.02	0.59
1:A:11:VAL:HG13	1:A:12:PRO:HD2	1.84	0.59
1:A:268:VAL:O	1:A:272:VAL:HG23	2.03	0.59
1:A:350:THR:HB	1:A:353:GLU:HG3	1.84	0.59
1:A:426:GLY:HA2	1:A:428:ILE:HG13	1.84	0.59
2:B:98:VAL:HG22	2:B:107:TYR:CD2	2.37	0.59
3:C:213:SER:O	3:C:215:VAL:N	2.36	0.59
4:D:23:HIS:CD2	10:J:51:LEU:HA	2.37	0.59
2:N:203:ARG:CZ	2:N:230:LEU:HD23	2.33	0.59
2:N:264:ILE:HD12	2:N:315:SER:O	2.03	0.59
3:O:1:MET:SD	3:O:4:ILE:HB	2.43	0.59
3:O:92:ILE:O	3:O:96:MET:HG2	2.02	0.59
1:A:15:GLN:O	1:A:26:ALA:HA	2.03	0.58
1:A:426:GLY:HA2	1:A:428:ILE:CG1	2.32	0.58
4:D:178:THR:CB	4:D:181:GLN:HG3	2.32	0.58
1:M:91:THR:HG22	1:M:94:HIS:H	1.67	0.58
1:M:239:SER:HB2	7:S:18:LEU:HD23	1.84	0.58
1:M:272:VAL:HG21	1:M:402:VAL:HG21	1.85	0.58
1:M:341:GLN:OE1	1:M:344:ARG:HD3	2.03	0.58
5:Q:147:ILE:N	5:Q:157:TYR:O	2.36	0.58
3:C:115:ILE:N	3:C:115:ILE:CD1	2.66	0.58
9:I:58:GLN:HG2	9:I:78:TYR:CD2	2.38	0.58
1:M:397:SER:O	1:M:400:ALA:HB3	2.03	0.58
3:O:68:HIS:NE2	5:Q:67:ASP:HB2	2.18	0.58
3:O:310:SER:HB3	3:O:318:ARG:NH1	2.18	0.58
5:Q:101:ARG:HA	5:Q:105:GLU:OE1	2.02	0.58
1:A:338:LEU:O	1:A:341:GLN:N	2.35	0.58
2:B:42:ALA:CB	2:B:43:PRO:HD2	2.28	0.58
3:C:8:HIS:CB	3:C:9:PRO:CD	2.81	0.58
1:M:18:GLN:HG2	1:M:19:LEU:O	2.04	0.58
1:M:43:ALA:CB	1:M:189:HIS:HB3	2.32	0.58
3:O:78:ILE:O	3:O:82:MET:HB2	2.02	0.58
4:P:139:THR:HB	8:T:44:VAL:HB	1.83	0.58
4:P:161:ALA:HB1	4:P:162:PRO:HD2	1.86	0.58
5:Q:40:THR:HG22	10:V:20:PHE:HZ	1.67	0.58
5:Q:76:ILE:HA	5:Q:193:VAL:O	2.03	0.58
2:B:162:ASN:HB3	2:B:244:ILE:HG21	1.84	0.58
4:D:138:PRO:HG2	8:H:55:THR:OG1	2.04	0.58
8:H:65:ARG:CG	8:H:66:ASP:N	2.66	0.58
3:O:240:MET:HA	3:O:243:VAL:HG12	1.86	0.58
4:P:46:VAL:HG12	4:P:47:ALA:O	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:120:ARG:HH11	4:P:120:ARG:CG	2.16	0.58
1:A:106:LEU:HB3	1:A:107:PRO:HD3	1.85	0.58
1:A:317:THR:HG22	1:A:318:GLY:H	1.67	0.58
2:B:134:ARG:HH12	6:R:51:PRO:HD3	1.69	0.58
3:O:240:MET:O	3:O:244:LEU:HB2	2.04	0.58
4:P:23:HIS:CD2	10:V:51:LEU:HA	2.38	0.58
8:T:73:LEU:HD21	8:T:74:PHE:HD1	1.68	0.58
10:V:34:ALA:O	10:V:35:PHE:C	2.45	0.58
1:A:120:CYS:O	1:A:122:LEU:HG	2.04	0.58
1:A:436:ARG:HE	3:C:222:PRO:HD3	1.68	0.58
3:C:4:ILE:O	3:C:4:ILE:HG22	2.02	0.58
3:C:79:ILE:HG12	5:E:58:PHE:CE1	2.35	0.58
1:M:428:ILE:HG22	1:M:431:LEU:CG	2.32	0.58
2:N:109:VAL:HG13	2:N:109:VAL:O	2.04	0.58
2:N:328:SER:HB3	2:N:336:VAL:HG21	1.86	0.58
5:Q:188:THR:CG2	5:Q:194:ILE:HG13	2.34	0.58
9:U:62:ARG:HB3	9:U:63:PRO:HD3	1.84	0.58
1:A:426:GLY:CA	1:A:428:ILE:N	2.66	0.58
4:D:32:VAL:HG11	4:D:182:VAL:HG13	1.84	0.58
4:D:43:MET:HG2	4:D:46:VAL:CG2	2.33	0.58
4:D:138:PRO:CB	8:H:55:THR:N	2.66	0.58
1:M:233:PRO:HG2	5:Q:23:LYS:NZ	2.19	0.58
2:N:275:LEU:HD22	2:N:414:ALA:HB2	1.85	0.58
3:O:129:MET:CG	3:O:178:PHE:HD1	2.14	0.58
2:B:169:ARG:HG2	2:N:435:PHE:CE1	2.39	0.58
5:E:34:GLY:HA2	10:J:10:TYR:HD2	1.67	0.58
2:N:299:VAL:HG13	2:N:303:VAL:HG21	1.86	0.58
2:N:304:HIS:CG	2:N:305:GLN:H	2.22	0.58
6:R:28:LYS:CB	6:R:74:ILE:HD11	2.34	0.58
6:R:58:ARG:HG2	6:R:58:ARG:HH11	1.68	0.58
8:T:25:GLU:HA	8:T:30:CYS:SG	2.44	0.58
2:B:72:ALA:O	2:B:75:LEU:HG	2.04	0.58
2:B:238:LYS:HE3	2:B:239:TYR:O	2.04	0.58
10:J:57:HIS:O	10:J:58:LYS:C	2.46	0.58
1:M:350:THR:HB	1:M:353:GLU:HG3	1.85	0.58
1:M:354:VAL:HG13	1:M:407:VAL:HG21	1.86	0.58
1:A:156:THR:OG1	1:A:241:ILE:HB	2.03	0.58
1:A:417:ASP:OD1	5:E:33:LYS:HD2	2.04	0.58
2:B:111:CYS:HB3	2:B:119:LEU:CD2	2.29	0.58
2:B:239:TYR:OH	2:B:421:ARG:O	2.19	0.58
3:C:51:LEU:HD21	3:C:79:ILE:CG2	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:10:TYR:CE1	8:H:73:LEU:HD21	2.37	0.58
4:D:21:LEU:HD11	4:D:192:TRP:HB2	1.84	0.58
7:G:44:CYS:SG	7:G:48:VAL:CG2	2.91	0.58
10:J:38:GLY:O	10:J:42:ILE:HG13	2.04	0.58
3:O:218:ILE:HG23	3:O:219:PRO:HD2	1.86	0.58
4:P:158:ILE:HG12	4:P:159:GLY:N	2.19	0.58
4:P:240:PRO:CD	4:P:241:LYS:H	2.16	0.58
6:R:28:LYS:HB3	6:R:74:ILE:HD11	1.86	0.58
10:V:29:LEU:HD13	11:W:34:SER:HB2	1.84	0.58
3:C:309:THR:HG21	3:C:367:PRO:O	2.03	0.57
8:H:35:GLU:O	8:H:39:LEU:HG	2.04	0.57
2:N:76:THR:HG21	2:N:133:ARG:NH2	2.18	0.57
2:N:79:GLY:HA3	2:N:125:ASN:HD21	1.69	0.57
2:N:148:LYS:HD2	2:N:178:CYS:O	2.04	0.57
3:O:211:ILE:HG21	6:R:62:ILE:HD13	1.86	0.57
7:S:68:LYS:O	7:S:72:LYS:N	2.31	0.57
2:B:99:THR:O	2:B:106:ALA:N	2.37	0.57
5:E:33:LYS:HA	7:G:21:PHE:CE2	2.38	0.57
1:M:317:THR:HG22	1:M:318:GLY:N	2.19	0.57
2:N:262:ALA:HB2	2:N:272:PHE:HE2	1.69	0.57
3:O:206:ASN:CB	3:O:313:ARG:NH2	2.55	0.57
2:B:49:LEU:HD21	2:B:204:MET:SD	2.44	0.57
3:C:67:THR:O	3:C:71:ARG:HG3	2.04	0.57
3:C:240:MET:CA	3:C:243:VAL:HG12	2.28	0.57
1:M:240:GLN:HG3	1:M:422:VAL:O	2.05	0.57
1:M:268:VAL:O	1:M:272:VAL:HG23	2.04	0.57
1:M:308:GLN:HG3	1:M:308:GLN:O	2.02	0.57
1:M:408:ARG:NH1	11:W:15:ARG:NE	2.47	0.57
2:N:59:ASN:CG	2:N:60:SER:H	2.11	0.57
3:O:165:TRP:HA	3:O:174:THR:OG1	2.04	0.57
4:P:138:PRO:CB	8:T:55:THR:N	2.67	0.57
5:Q:87:MET:HG2	5:Q:89:PHE:CE1	2.40	0.57
1:A:311:ASN:OD1	1:A:320:LEU:CD2	2.52	0.57
8:H:34:ARG:O	8:H:38:GLU:HG2	2.05	0.57
1:M:45:SER:HB3	1:M:167:VAL:HG22	1.86	0.57
1:M:342:TRP:O	1:M:345:LEU:HB2	2.04	0.57
1:M:351:GLU:HA	1:M:404:ALA:HB2	1.85	0.57
1:M:434:TYR:HA	1:M:437:ILE:HD12	1.87	0.57
2:N:97:SER:OG	9:U:70:LEU:HB2	2.04	0.57
2:N:146:ILE:O	2:N:150:VAL:HG13	2.03	0.57
3:O:67:THR:O	3:O:71:ARG:HG3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272:VAL:HG21	1:A:402:VAL:HG21	1.87	0.57
3:C:332:LEU:HD21	3:C:358:TYR:CE1	2.38	0.57
4:D:3:LEU:HD22	7:G:70:LYS:NZ	2.19	0.57
5:E:29:SER:CB	5:E:32:ARG:HD3	2.35	0.57
1:M:270:LEU:O	1:M:273:ALA:HB3	2.04	0.57
2:N:206:LEU:HD13	2:N:224:LEU:CD1	2.34	0.57
4:P:178:THR:CB	4:P:181:GLN:HG3	2.28	0.57
5:Q:153:PHE:CE1	5:Q:172:ARG:HB2	2.39	0.57
10:V:57:HIS:O	10:V:58:LYS:C	2.46	0.57
3:O:15:ASN:O	3:O:18:PHE:HD2	1.87	0.57
3:O:28:SER:HB3	3:O:30:TRP:CD1	2.39	0.57
5:Q:114:VAL:O	5:Q:117:LEU:HB2	2.04	0.57
1:A:136:GLN:HE21	9:I:50:LEU:HB3	1.70	0.57
1:A:394:GLU:O	1:A:397:SER:N	2.38	0.57
1:A:408:ARG:NH1	11:K:15:ARG:NE	2.45	0.57
2:B:68:LEU:HD11	2:B:140:LEU:HD23	1.86	0.57
2:B:111:CYS:CB	2:B:119:LEU:HD22	2.28	0.57
4:D:79:GLU:OE1	4:D:82:MET:HG3	2.03	0.57
10:J:32:GLU:CG	10:J:33:ARG:N	2.67	0.57
3:O:169:SER:OG	3:O:170:VAL:N	2.37	0.57
3:O:320:LEU:HB2	3:O:373:GLU:OE2	2.04	0.57
4:P:117:VAL:HG11	4:P:191:ARG:HH11	1.70	0.57
10:V:13:LEU:O	10:V:19:THR:OG1	2.17	0.57
1:A:25:VAL:HG21	1:A:209:LEU:HD12	1.87	0.57
1:A:354:VAL:HG21	1:A:404:ALA:HA	1.86	0.57
3:C:28:SER:HB3	3:C:30:TRP:CD1	2.40	0.57
4:D:115:TYR:HD2	4:D:119:ALA:HB2	1.69	0.57
1:M:51:LYS:O	1:M:53:ASN:N	2.38	0.57
1:M:134:ILE:HA	1:M:137:GLU:HG3	1.87	0.57
1:M:152:TYR:O	1:M:153:LEU:C	2.47	0.57
1:M:338:LEU:O	1:M:341:GLN:N	2.38	0.57
1:M:417:ASP:OD1	5:Q:33:LYS:HD2	2.05	0.57
2:N:79:GLY:CA	2:N:125:ASN:HD21	2.17	0.57
6:R:51:PRO:HG2	6:R:54:LEU:HD23	1.84	0.57
2:B:247:GLN:HG3	2:B:248:ASN:N	2.18	0.57
3:C:218:ILE:HG22	3:C:219:PRO:N	2.20	0.57
3:C:372:ILE:O	3:C:373:GLU:C	2.46	0.57
1:M:334:MET:HE3	1:M:334:MET:HA	1.86	0.57
4:P:10:TYR:O	4:P:12:TRP:CD1	2.58	0.57
5:Q:121:GLN:HG3	5:Q:179:ASN:ND2	2.20	0.57
5:Q:185:TYR:HA	5:Q:194:ILE:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:436:ARG:HE	3:C:222:PRO:CD	2.18	0.57
3:C:26:ASN:ND2	3:C:26:ASN:C	2.63	0.57
3:C:71:ARG:NH2	4:D:193:ALA:O	2.38	0.57
4:D:27:ARG:NH1	10:J:58:LYS:HG3	2.18	0.57
4:D:35:GLN:HB2	4:D:169:LEU:CD1	2.35	0.57
4:D:113:LEU:O	4:D:114:SER:C	2.48	0.57
6:F:39:GLU:HB3	6:F:44:LYS:HE2	1.87	0.57
6:F:75:LEU:C	6:F:80:TRP:HE1	2.12	0.57
8:H:58:LEU:HD11	8:H:62:LEU:CD1	2.34	0.57
9:I:53:GLU:O	9:I:54:SER:C	2.47	0.57
1:M:64:PHE:HE1	1:M:86:LEU:HG	1.61	0.57
1:M:408:ARG:CZ	11:W:15:ARG:NE	2.67	0.57
2:N:304:HIS:CG	2:N:305:GLN:N	2.72	0.57
2:N:352:LEU:HD12	2:N:353:SER:N	2.20	0.57
3:O:313:ARG:HB3	6:R:38:HIS:CD2	2.40	0.57
5:Q:20:ASP:O	5:Q:21:SER:C	2.46	0.57
8:T:21:ARG:CB	8:T:65:ARG:HH21	2.09	0.57
1:A:86:LEU:HD13	1:A:99:ILE:CD1	2.35	0.56
2:B:47:ILE:CD1	2:B:120:MET:SD	2.93	0.56
2:B:52:LYS:HB2	2:B:203:ARG:CB	2.25	0.56
3:C:88:SER:O	3:C:89:MET:C	2.47	0.56
3:C:316:MET:HE2	3:C:317:PHE:CE1	2.40	0.56
4:D:50:HIS:HE1	4:D:91:PHE:HZ	1.53	0.56
4:D:100:ALA:O	4:D:103:ALA:N	2.37	0.56
1:M:394:GLU:O	1:M:395:TRP:C	2.47	0.56
2:N:155:PRO:HB2	2:N:254:HIS:CE1	2.40	0.56
2:N:217:LYS:O	2:N:221:GLU:HG3	2.05	0.56
3:O:26:ASN:HD22	3:O:208:PRO:HD2	1.70	0.56
3:O:88:SER:HA	3:O:272:TRP:HZ2	1.70	0.56
6:R:47:ILE:O	6:R:50:LEU:HG	2.04	0.56
1:A:408:ARG:NH2	11:K:15:ARG:CZ	2.64	0.56
3:C:225:THR:O	3:C:229:ILE:HD12	2.05	0.56
4:D:50:HIS:O	4:D:51:LEU:C	2.48	0.56
5:E:31:ALA:HB1	10:J:6:THR:OG1	2.05	0.56
8:H:21:ARG:HB3	8:H:65:ARG:NH2	2.17	0.56
1:M:32:GLN:HG2	1:M:33:PRO:HD2	1.85	0.56
1:M:270:LEU:O	1:M:271:GLN:C	2.47	0.56
2:N:141:GLN:HE22	2:N:186:VAL:HB	1.70	0.56
2:N:280:GLY:HA2	2:N:311:ALA:HB3	1.85	0.56
2:N:303:VAL:CG1	2:N:304:HIS:N	2.67	0.56
3:O:18:PHE:O	3:O:220:PHE:CD2	2.58	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:203:ARG:NE	2:B:230:LEU:HD23	2.20	0.56
2:B:277:HIS:CD2	2:B:364:LEU:HD13	2.40	0.56
3:C:135:TRP:HH2	3:C:170:VAL:O	1.89	0.56
4:D:139:THR:HB	8:H:44:VAL:HB	1.87	0.56
5:E:72:SER:O	5:E:73:LYS:HG2	2.05	0.56
1:M:33:PRO:O	1:M:103:SER:N	2.34	0.56
1:M:64:PHE:HA	1:M:75:LEU:CD2	2.35	0.56
1:M:245:GLU:O	1:M:247:GLY:N	2.39	0.56
1:M:349:ALA:HB3	1:M:408:ARG:CG	2.35	0.56
1:M:438:ARG:HH11	1:M:438:ARG:HG3	1.70	0.56
2:N:141:GLN:HB2	2:N:142:PRO:HD3	1.86	0.56
2:N:294:SER:HB3	2:N:343:GLN:HE21	1.70	0.56
12:O:380:HEM:HBC2	12:O:380:HEM:CMC	2.35	0.56
2:B:89:ILE:O	2:B:90:GLU:C	2.47	0.56
1:M:270:LEU:O	1:M:273:ALA:N	2.38	0.56
1:M:335:MET:CE	1:M:339:GLN:HG3	2.35	0.56
4:P:182:VAL:O	4:P:186:VAL:HG23	2.06	0.56
1:A:335:MET:HE2	1:A:339:GLN:HG3	1.88	0.56
2:B:237:ALA:HB2	2:B:318:ASP:CG	2.31	0.56
4:D:150:ASN:OD1	4:D:151:PRO:CD	2.53	0.56
2:N:68:LEU:HD23	2:N:186:VAL:HG11	1.87	0.56
2:N:435:PHE:HB2	2:N:438:GLU:OE1	2.05	0.56
3:O:309:THR:HG23	3:O:370:GLY:HA3	1.86	0.56
4:P:21:LEU:HD11	4:P:192:TRP:HB2	1.88	0.56
4:P:113:LEU:O	4:P:114:SER:C	2.46	0.56
5:Q:118:ARG:HB3	5:Q:171:ILE:CG2	2.36	0.56
1:A:30:SER:N	1:A:201:GLY:O	2.38	0.56
1:A:248:LEU:N	1:A:248:LEU:HD23	2.19	0.56
3:C:171:ASP:O	3:C:172:LYS:C	2.47	0.56
3:C:300:ILE:CD1	3:C:362:ILE:HG21	2.36	0.56
2:N:198:HIS:HE1	2:N:233:SER:OG	1.89	0.56
2:N:342:ASN:O	2:N:345:LYS:HB2	2.06	0.56
3:O:170:VAL:HG13	3:O:174:THR:CG2	2.34	0.56
1:A:143:THR:HG21	9:I:48:SER:N	2.14	0.56
1:A:309:THR:HA	1:A:322:ALA:HA	1.86	0.56
1:A:425:PHE:O	1:A:426:GLY:O	2.23	0.56
3:C:51:LEU:CD2	3:C:79:ILE:HG22	2.34	0.56
3:C:192:ILE:HD13	3:C:192:ILE:N	2.21	0.56
1:M:32:GLN:HG2	1:M:33:PRO:CD	2.35	0.56
1:M:426:GLY:HA3	1:M:428:ILE:H	1.71	0.56
3:O:108:THR:CB	3:O:313:ARG:HH11	2.12	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:180:SER:HB3	8:T:17:LEU:HB2	1.88	0.56
10:V:47:ASN:HB3	10:V:50:LYS:HD2	1.88	0.56
1:A:55:ALA:O	1:A:56:GLY:C	2.48	0.56
3:C:218:ILE:HG21	3:C:223:TYR:CD2	2.38	0.56
4:D:69:GLU:O	4:D:73:GLY:HA3	2.05	0.56
11:K:32:LEU:O	11:K:33:VAL:C	2.46	0.56
2:N:168:TYR:HB2	2:N:173:ALA:HB2	1.88	0.56
3:O:24:PRO:HG2	3:O:205:SER:O	2.06	0.56
3:O:149:LEU:HD21	3:O:281:LEU:HD22	1.86	0.56
3:O:218:ILE:CG2	3:O:223:TYR:HD2	2.19	0.56
4:P:43:MET:HE3	4:P:91:PHE:CD2	2.41	0.56
7:S:31:SER:O	7:S:35:PRO:CD	2.47	0.56
1:A:278:GLY:O	1:A:309:THR:HG23	2.05	0.56
2:B:264:ILE:CG2	2:B:317:SER:HA	2.36	0.56
3:C:264:THR:O	3:C:266:PRO:HD3	2.06	0.56
6:F:74:ILE:HD13	6:F:80:TRP:CZ2	2.40	0.56
1:M:233:PRO:HG2	5:Q:23:LYS:CE	2.36	0.56
3:O:310:SER:HB3	3:O:318:ARG:HH11	1.69	0.56
3:O:315:MET:HA	3:O:318:ARG:HG3	1.87	0.56
4:P:83:ARG:CB	4:P:84:PRO:HD2	2.09	0.56
3:C:115:ILE:N	3:C:115:ILE:HD12	2.21	0.56
3:C:338:ILE:CD1	3:C:338:ILE:H	2.19	0.56
3:C:353:LEU:HD23	3:C:353:LEU:N	2.21	0.56
4:D:69:GLU:HA	4:D:73:GLY:HA2	1.88	0.56
4:D:181:GLN:HA	8:H:77:LEU:HD13	1.87	0.56
6:F:50:LEU:CB	6:F:55:TYR:HB2	2.29	0.56
6:F:91:GLU:HB2	6:F:92:PRO:HD3	1.86	0.56
1:M:266:ASP:O	1:M:270:LEU:HG	2.06	0.56
4:P:128:PHE:HB2	4:P:187:CYS:SG	2.46	0.56
4:P:138:PRO:O	4:P:141:VAL:HB	2.06	0.56
9:U:58:GLN:HG2	9:U:78:TYR:CD2	2.40	0.56
2:B:160:ILE:HD11	2:B:325:TYR:CE2	2.40	0.55
2:B:185:LYS:O	2:B:185:LYS:CG	2.54	0.55
3:C:102:LEU:HB3	3:C:325:PHE:HE1	1.71	0.55
4:D:229:VAL:O	4:D:233:ARG:HG3	2.05	0.55
5:E:45:VAL:HG13	10:J:28:ALA:N	2.21	0.55
1:M:249:PRO:O	1:M:250:LEU:HD23	2.07	0.55
5:Q:142:LEU:HD12	5:Q:161:HIS:HE1	1.71	0.55
8:T:15:ASP:HB2	8:T:16:PRO:CD	2.37	0.55
1:A:162:PRO:O	1:A:165:GLN:NE2	2.38	0.55
1:A:426:GLY:H	1:A:428:ILE:HG13	1.63	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:310:SER:HB3	3:C:318:ARG:HH12	1.71	0.55
6:F:49:ARG:HD3	2:N:135:TRP:CD2	2.41	0.55
6:F:101:ARG:HG2	6:F:105:GLU:OE2	2.06	0.55
1:M:111:GLU:HG2	1:M:213:GLN:HE22	1.71	0.55
1:M:134:ILE:CG2	1:M:174:VAL:HG21	2.35	0.55
1:M:136:GLN:HE21	9:U:50:LEU:HB3	1.70	0.55
1:M:331:ILE:CD1	1:M:427:PRO:O	2.55	0.55
2:N:159:VAL:HG12	2:N:160:ILE:N	2.21	0.55
2:N:187:THR:O	2:N:190:GLU:HB2	2.05	0.55
2:N:308:ASP:OD2	9:U:55:LEU:HA	2.06	0.55
1:A:39:VAL:CG1	1:A:41:ILE:HD11	2.36	0.55
2:B:100:SER:HB3	2:B:105:MET:HG3	1.89	0.55
3:C:251:GLY:O	3:C:252:ASP:C	2.50	0.55
5:E:20:ASP:O	5:E:21:SER:C	2.49	0.55
1:M:413:LYS:HB2	1:M:414:TYR:CD2	2.42	0.55
3:O:34:GLY:O	3:O:37:LEU:HB2	2.05	0.55
3:O:148:ASN:O	3:O:151:SER:OG	2.24	0.55
5:Q:140:THR:HG21	5:Q:178:LEU:HB2	1.88	0.55
7:S:33:GLY:O	7:S:37:VAL:N	2.35	0.55
1:A:346:CYS:HB3	1:A:412:SER:HG	1.71	0.55
1:A:385:THR:CG2	1:A:386:TYR:CD1	2.89	0.55
3:C:124:MET:HG2	3:C:274:PHE:HE1	1.71	0.55
4:D:229:VAL:CG1	4:D:233:ARG:HE	2.18	0.55
1:M:112:LEU:O	1:M:116:ILE:HG13	2.07	0.55
1:M:161:THR:CB	1:M:162:PRO:HD2	2.34	0.55
2:N:92:VAL:O	2:N:92:VAL:HG12	2.06	0.55
3:O:234:LEU:HD21	4:P:216:LEU:HD21	1.85	0.55
3:O:296:PHE:O	3:O:300:ILE:HB	2.05	0.55
3:O:371:THR:O	3:O:372:ILE:C	2.49	0.55
4:P:139:THR:HG21	8:T:41:ASP:O	2.06	0.55
5:Q:187:PHE:HA	5:Q:193:VAL:HA	1.88	0.55
8:T:40:CYS:HB2	8:T:57:GLU:HG2	1.89	0.55
1:A:146:ARG:CZ	1:A:308:GLN:HE22	2.19	0.55
1:A:386:TYR:N	1:A:386:TYR:CD1	2.72	0.55
1:A:433:ASP:CG	3:C:223:TYR:HH	2.11	0.55
2:B:273:SER:O	2:B:276:GLN:HB3	2.06	0.55
3:C:378:LYS:HD3	6:F:33:ARG:HH12	1.72	0.55
6:F:73:GLN:HA	7:G:39:ARG:HH21	1.71	0.55
1:M:46:ARG:NH1	1:M:316:ASP:OD1	2.40	0.55
5:Q:102:THR:OG1	5:Q:105:GLU:HB2	2.06	0.55
1:A:39:VAL:CG2	1:A:197:LEU:HD22	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:261:SER:OG	2:B:262:ALA:N	2.39	0.55
2:B:276:GLN:O	2:B:280:GLY:N	2.40	0.55
3:C:71:ARG:HE	4:D:196:PRO:HG3	1.72	0.55
4:D:79:GLU:O	4:D:80:MET:C	2.49	0.55
1:M:224:ASP:O	1:M:227:ALA:N	2.39	0.55
3:O:122:THR:HG22	3:O:189:ILE:CD1	2.27	0.55
4:P:26:ILE:O	4:P:27:ARG:C	2.47	0.55
4:P:69:GLU:HG3	4:P:84:PRO:HA	1.89	0.55
5:Q:76:ILE:O	5:Q:77:LYS:HG2	2.06	0.55
5:Q:150:ALA:HB3	5:Q:157:TYR:CB	2.36	0.55
7:S:34:ILE:CB	7:S:35:PRO:HD3	2.33	0.55
1:A:33:PRO:O	1:A:103:SER:N	2.36	0.55
1:A:142:ASP:OD1	5:E:2:HIS:ND1	2.36	0.55
1:A:255:ILE:HG13	1:A:422:VAL:CG2	2.37	0.55
1:A:342:TRP:O	1:A:345:LEU:N	2.40	0.55
2:B:280:GLY:HA2	2:B:311:ALA:HB3	1.88	0.55
6:F:10:SER:OG	6:F:13:LEU:HD11	2.07	0.55
7:G:68:LYS:O	7:G:72:LYS:N	2.34	0.55
10:J:12:LEU:HD23	10:J:13:LEU:CD2	2.36	0.55
2:N:264:ILE:HB	2:N:316:TYR:O	2.06	0.55
3:O:132:VAL:HA	3:O:139:SER:CB	2.36	0.55
3:O:300:ILE:O	3:O:300:ILE:HG12	2.05	0.55
5:Q:32:ARG:HH12	7:S:22:GLU:CD	2.15	0.55
1:A:173:ASN:O	1:A:177:LEU:HB2	2.07	0.55
1:A:256:ALA:HA	1:A:320:LEU:O	2.06	0.55
1:A:397:SER:O	1:A:400:ALA:HB3	2.07	0.55
2:B:55:SER:OG	2:B:102:ARG:HG2	2.06	0.55
3:C:41:LEU:O	3:C:45:ILE:HG13	2.06	0.55
3:C:312:GLN:O	3:C:314:SER:N	2.40	0.55
4:D:50:HIS:O	4:D:54:VAL:N	2.28	0.55
4:D:219:VAL:HA	4:D:222:MET:HG3	1.88	0.55
2:N:88:GLY:O	2:N:91:ALA:HB3	2.07	0.55
2:N:133:ARG:O	2:N:134:ARG:C	2.49	0.55
3:O:147:THR:O	3:O:150:LEU:HB2	2.07	0.55
4:P:149:PHE:HZ	8:T:55:THR:HG23	1.72	0.55
4:P:219:VAL:HA	4:P:222:MET:HG3	1.89	0.55
5:Q:188:THR:HG21	5:Q:194:ILE:HD11	1.87	0.55
7:S:27:PRO:O	7:S:28:HIS:C	2.48	0.55
1:A:317:THR:HG22	1:A:318:GLY:N	2.21	0.55
3:C:25:SER:HA	3:C:218:ILE:HD12	1.89	0.55
3:C:72:ASP:HB3	5:E:67:ASP:H	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:137:GLN:HB2	3:C:257:THR:OG1	2.07	0.55
4:D:11:PRO:HB2	8:H:74:PHE:CG	2.41	0.55
10:J:51:LEU:HB3	10:J:52:TRP:CE3	2.42	0.55
3:O:44:GLN:HE22	3:O:86:GLY:HA3	1.70	0.55
3:O:265:PRO:O	3:O:268:ILE:HG13	2.07	0.55
3:O:345:HIS:CB	3:O:346:PRO:HD3	2.26	0.55
6:R:98:ILE:O	6:R:99:ARG:C	2.48	0.55
1:A:241:ILE:HG23	1:A:241:ILE:O	2.07	0.55
2:B:33:LEU:HB2	2:B:204:MET:O	2.07	0.55
2:B:102:ARG:HH12	2:B:175:SER:HA	1.71	0.55
2:B:203:ARG:NH2	2:B:230:LEU:HD23	2.22	0.55
2:B:262:ALA:HB2	2:B:272:PHE:HE2	1.72	0.55
3:C:182:HIS:O	3:C:186:PRO:HD2	2.06	0.55
3:C:244:LEU:HD11	4:D:204:MET:CE	2.37	0.55
4:D:21:LEU:CD1	4:D:192:TRP:HB2	2.36	0.55
4:D:164:ILE:HD11	13:D:242:HEC:CBB	2.37	0.55
4:D:211:MET:HA	4:D:211:MET:HE3	1.89	0.55
4:D:213:GLY:O	4:D:217:PRO:HG3	2.07	0.55
4:D:224:ARG:O	4:D:225:HIS:C	2.47	0.55
5:E:29:SER:CA	5:E:32:ARG:HD3	2.37	0.55
8:H:73:LEU:HD23	8:H:73:LEU:C	2.31	0.55
1:M:240:GLN:HA	1:M:422:VAL:O	2.06	0.55
2:N:62:ASN:O	2:N:62:ASN:ND2	2.40	0.55
2:N:359:ALA:O	2:N:360:ALA:C	2.50	0.55
4:P:216:LEU:N	4:P:217:PRO:HD2	2.22	0.55
5:Q:118:ARG:HH22	5:Q:173:LYS:CA	2.20	0.55
8:T:70:ALA:HA	8:T:73:LEU:HD22	1.89	0.55
9:U:58:GLN:HG2	9:U:78:TYR:HD2	1.72	0.55
2:N:213:HIS:N	2:N:214:PRO:CD	2.69	0.54
2:B:161:GLU:OE1	2:B:175:SER:HB2	2.07	0.54
3:C:61:THR:O	3:C:64:SER:N	2.41	0.54
5:E:15:ARG:NH2	5:E:32:ARG:HG3	2.22	0.54
6:F:35:ASP:OD2	6:F:61:ARG:HD2	2.07	0.54
8:H:21:ARG:CB	8:H:65:ARG:HH21	2.17	0.54
1:M:334:MET:O	1:M:335:MET:C	2.48	0.54
2:N:33:LEU:HD23	2:N:33:LEU:O	2.07	0.54
2:N:258:VAL:HG12	2:N:321:LEU:HD22	1.89	0.54
3:O:185:LEU:HB3	3:O:186:PRO:CD	2.35	0.54
3:O:219:PRO:HB2	3:O:222:PRO:HD2	1.89	0.54
4:P:138:PRO:O	4:P:139:THR:C	2.50	0.54
2:B:86:THR:CG2	9:I:71:ASN:HD21	2.19	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:303:VAL:CG1	2:B:304:HIS:N	2.70	0.54
3:C:85:ASN:O	3:C:86:GLY:C	2.50	0.54
1:M:241:ILE:HG13	7:S:16:TYR:CE2	2.43	0.54
3:O:244:LEU:HD11	4:P:204:MET:CE	2.37	0.54
3:O:274:PHE:O	3:O:275:LEU:C	2.47	0.54
6:R:51:PRO:HG2	6:R:54:LEU:HB2	1.89	0.54
9:U:62:ARG:H	9:U:63:PRO:HD2	1.71	0.54
1:A:272:VAL:HG13	1:A:358:LYS:HA	1.88	0.54
3:C:215:VAL:O	6:F:63:LYS:NZ	2.37	0.54
6:F:51:PRO:CD	2:N:134:ARG:NH1	2.68	0.54
7:G:73:ASN:H	7:G:74:PRO:HD2	1.67	0.54
8:H:66:ASP:O	8:H:67:HIS:C	2.50	0.54
1:M:279:HIS:ND1	1:M:284:TYR:OH	2.39	0.54
3:O:133:LEU:HB2	3:O:134:PRO:HD3	1.90	0.54
3:O:206:ASN:ND2	3:O:207:ASN:H	2.04	0.54
4:P:4:GLU:HG3	4:P:6:HIS:CE1	2.42	0.54
4:P:7:PRO:CB	4:P:125:ASP:HB3	2.37	0.54
4:P:94:PRO:HB2	4:P:95:TYR:CE1	2.42	0.54
9:U:53:GLU:O	9:U:54:SER:C	2.51	0.54
1:A:61:HIS:CB	1:A:130:GLU:HG3	2.37	0.54
2:B:132:PHE:CD2	2:B:191:LEU:HD13	2.43	0.54
2:N:95:LYS:HE3	2:N:97:SER:OG	2.08	0.54
2:N:318:ASP:OD1	2:N:318:ASP:N	2.39	0.54
2:N:408:ALA:O	2:N:411:ILE:N	2.40	0.54
3:O:119:LEU:HD13	3:O:192:ILE:CG2	2.37	0.54
3:O:234:LEU:HD21	4:P:216:LEU:CD2	2.37	0.54
1:A:109:ALA:O	1:A:112:LEU:N	2.40	0.54
3:C:1:MET:SD	3:C:4:ILE:HB	2.48	0.54
3:C:15:ASN:O	3:C:18:PHE:HD1	1.90	0.54
3:C:30:TRP:HA	3:C:33:PHE:HE2	1.73	0.54
3:C:106:SER:O	3:C:109:PHE:CD1	2.54	0.54
3:C:218:ILE:HG22	3:C:223:TYR:HD2	1.72	0.54
4:D:82:MET:HE2	4:D:86:LYS:NZ	2.23	0.54
6:F:55:TYR:C	6:F:55:TYR:CD1	2.86	0.54
10:J:32:GLU:HG2	10:J:33:ARG:N	2.22	0.54
10:J:60:GLU:HG3	10:J:60:GLU:O	2.06	0.54
3:O:37:LEU:HD11	3:O:97:HIS:CG	2.43	0.54
3:O:207:ASN:ND2	3:O:209:THR:OG1	2.41	0.54
6:R:7:SER:HA	6:R:11:ARG:HE	1.73	0.54
8:T:35:GLU:O	8:T:39:LEU:HG	2.07	0.54
3:C:309:THR:CG2	3:C:370:GLY:HA3	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:4:GLU:HG3	4:D:6:HIS:CE1	2.43	0.54
4:D:33:TYR:HA	4:D:37:CYS:HB2	1.89	0.54
4:D:74:PRO:O	4:D:79:GLU:N	2.36	0.54
7:G:64:GLN:O	7:G:65:GLU:C	2.50	0.54
1:M:61:HIS:CB	1:M:130:GLU:HG3	2.38	0.54
1:M:143:THR:HG21	9:U:48:SER:N	2.08	0.54
1:M:256:ALA:HB3	1:M:421:ALA:HB3	1.89	0.54
3:O:109:PHE:O	3:O:110:LEU:C	2.49	0.54
1:A:18:GLN:HG2	1:A:19:LEU:O	2.07	0.54
1:A:112:LEU:O	1:A:116:ILE:HD12	2.07	0.54
1:A:436:ARG:HE	3:C:222:PRO:HG3	1.73	0.54
2:B:62:ASN:ND2	2:B:62:ASN:O	2.41	0.54
2:B:90:GLU:O	2:B:92:VAL:N	2.41	0.54
3:C:68:HIS:NE2	5:E:67:ASP:HB2	2.22	0.54
3:C:115:ILE:O	3:C:116:GLY:C	2.46	0.54
3:C:337:TRP:O	3:C:338:ILE:C	2.48	0.54
3:C:348:ILE:O	3:C:352:GLN:HG3	2.08	0.54
4:D:74:PRO:HG2	4:D:82:MET:HB3	1.89	0.54
7:G:33:GLY:O	7:G:37:VAL:N	2.36	0.54
1:M:191:LYS:NZ	1:M:220:SER:OG	2.41	0.54
2:N:155:PRO:O	2:N:156:GLN:C	2.49	0.54
4:P:168:VAL:O	4:P:169:LEU:HD23	2.08	0.54
6:R:91:GLU:N	6:R:92:PRO:HD2	2.22	0.54
6:R:106:GLU:OE1	6:R:109:LYS:HE2	2.06	0.54
1:A:61:HIS:CD2	2:B:287:ARG:HD3	2.43	0.54
1:A:93:GLU:O	1:A:94:HIS:ND1	2.40	0.54
1:A:236:PHE:CD2	1:A:258:GLU:CB	2.91	0.54
3:C:88:SER:HA	3:C:272:TRP:HZ2	1.73	0.54
3:C:135:TRP:CH2	3:C:170:VAL:HG12	2.41	0.54
5:E:63:SER:O	5:E:64:ALA:HB2	2.08	0.54
10:J:45:HIS:O	10:J:48:GLU:HG2	2.08	0.54
1:M:317:THR:HG22	1:M:318:GLY:H	1.73	0.54
2:N:280:GLY:HA2	2:N:311:ALA:CB	2.38	0.54
3:O:245:PHE:CG	4:P:17:LEU:HD13	2.43	0.54
4:P:50:HIS:O	4:P:54:VAL:N	2.32	0.54
5:Q:77:LYS:HG3	5:Q:89:PHE:HE2	1.68	0.54
5:Q:136:ILE:O	5:Q:136:ILE:CG2	2.55	0.54
1:A:334:MET:HA	1:A:334:MET:CE	2.37	0.54
2:B:100:SER:CB	2:B:105:MET:HG3	2.37	0.54
2:B:160:ILE:CD1	2:B:325:TYR:HE2	2.21	0.54
3:C:88:SER:HB3	3:C:250:LEU:CD2	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:310:SER:CB	3:C:318:ARG:NH1	2.58	0.54
4:D:51:LEU:HD22	4:D:58:GLU:HA	1.89	0.54
4:D:131:LEU:CD2	4:D:163:PRO:HB3	2.38	0.54
7:G:15:THR:O	7:G:15:THR:HG22	2.07	0.54
1:M:53:ASN:HB3	1:M:170:PRO:HD2	1.89	0.54
1:M:106:LEU:O	1:M:107:PRO:C	2.51	0.54
1:M:324:PHE:CD1	1:M:334:MET:HG2	2.42	0.54
3:O:76:GLY:HA2	3:O:79:ILE:HD12	1.90	0.54
3:O:377:LEU:HB3	6:R:33:ARG:HD2	1.88	0.54
4:P:3:LEU:HD21	7:S:71:ARG:HA	1.90	0.54
4:P:7:PRO:HG3	4:P:126:TYR:CA	2.36	0.54
4:P:50:HIS:HE1	4:P:91:PHE:HZ	1.54	0.54
1:A:32:GLN:CG	1:A:33:PRO:CD	2.86	0.53
1:A:252:HIS:CD2	1:A:325:VAL:CG2	2.92	0.53
3:C:133:LEU:HD21	3:C:179:PHE:HA	1.88	0.53
1:M:22:GLY:O	1:M:24:ARG:HG2	2.08	0.53
1:M:236:PHE:CD2	1:M:258:GLU:CB	2.91	0.53
3:O:174:THR:O	3:O:178:PHE:CD2	2.62	0.53
4:P:237:TYR:HD1	7:S:13:VAL:HG22	1.73	0.53
5:Q:150:ALA:HB3	5:Q:157:TYR:HB3	1.91	0.53
1:A:11:VAL:CG1	1:A:12:PRO:HD2	2.39	0.53
2:B:140:LEU:HD12	2:B:143:GLN:CB	2.38	0.53
2:B:266:SER:O	2:B:269:ALA:HB3	2.07	0.53
2:B:305:GLN:CB	2:B:306:PRO:HD3	2.31	0.53
8:H:73:LEU:HG	8:H:73:LEU:O	2.08	0.53
9:I:58:GLN:HG2	9:I:78:TYR:HD2	1.72	0.53
2:N:217:LYS:O	2:N:218:GLN:C	2.51	0.53
2:N:255:ALA:HB2	2:N:426:ALA:CB	2.37	0.53
2:N:262:ALA:HB2	2:N:268:GLU:HB3	1.90	0.53
4:P:138:PRO:HB3	8:T:55:THR:HA	1.90	0.53
5:Q:78:LEU:HD21	5:Q:132:TRP:CZ2	2.43	0.53
5:Q:89:PHE:O	5:Q:96:LEU:N	2.23	0.53
5:Q:171:ILE:HD12	5:Q:176:ALA:HB3	1.90	0.53
1:A:89:TYR:CD1	1:A:89:TYR:C	2.85	0.53
1:A:418:GLN:O	1:A:420:PRO:HD3	2.08	0.53
2:B:79:GLY:H	2:B:125:ASN:ND2	2.07	0.53
3:C:58:ASP:OD2	3:O:56:THR:HG21	2.08	0.53
4:D:178:THR:O	4:D:179:MET:C	2.50	0.53
6:F:7:SER:HA	6:F:11:ARG:HE	1.73	0.53
6:F:45:GLU:O	6:F:49:ARG:HG3	2.08	0.53
10:J:52:TRP:CE3	10:J:52:TRP:N	2.76	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:168:TYR:HD2	2:N:238:LYS:O	1.92	0.53
4:P:42:SER:HB3	4:P:94:PRO:HD2	1.89	0.53
10:V:49:GLY:HA2	10:V:54:HIS:CB	2.39	0.53
1:A:239:SER:OG	1:A:240:GLN:N	2.40	0.53
2:B:163:LEU:HD22	2:B:256:ALA:HB1	1.90	0.53
2:B:191:LEU:O	2:B:195:VAL:HG23	2.09	0.53
2:B:396:SER:O	2:B:399:LEU:HB2	2.08	0.53
3:C:219:PRO:CB	3:C:222:PRO:HD2	2.39	0.53
3:C:341:GLN:O	3:C:342:PRO:C	2.52	0.53
4:D:149:PHE:HZ	8:H:55:THR:HG23	1.74	0.53
6:F:40:ASN:CG	6:F:41:ASP:H	2.16	0.53
8:H:65:ARG:HG3	8:H:66:ASP:N	2.23	0.53
1:M:106:LEU:HD22	1:M:203:LEU:CD2	2.35	0.53
2:N:264:ILE:HG22	2:N:317:SER:HA	1.88	0.53
2:N:294:SER:O	2:N:295:LEU:C	2.51	0.53
3:O:170:VAL:HG12	3:O:170:VAL:O	2.08	0.53
4:P:79:GLU:O	4:P:80:MET:C	2.52	0.53
8:T:66:ASP:O	8:T:67:HIS:C	2.49	0.53
8:T:73:LEU:HD21	8:T:74:PHE:CD1	2.43	0.53
3:C:141:TRP:HB3	3:C:268:ILE:HD13	1.90	0.53
1:M:88:ALA:O	2:N:286:LYS:HE2	2.08	0.53
2:N:372:VAL:O	2:N:372:VAL:HG12	2.08	0.53
3:O:251:GLY:O	3:O:252:ASP:C	2.51	0.53
5:Q:34:GLY:CA	10:V:10:TYR:HD1	2.22	0.53
5:Q:139:CYS:HB2	5:Q:165:TYR:CE2	2.39	0.53
1:A:55:ALA:O	1:A:58:PHE:N	2.35	0.53
1:A:134:ILE:HA	1:A:137:GLU:HG3	1.91	0.53
3:C:88:SER:CB	3:C:250:LEU:HD23	2.37	0.53
3:C:377:LEU:O	3:C:378:LYS:HB3	2.09	0.53
4:D:138:PRO:HG2	8:H:55:THR:CB	2.38	0.53
3:O:6:LYS:HE2	3:O:16:ASN:HD21	1.74	0.53
4:P:160:MET:HE3	4:P:163:PRO:HG3	1.90	0.53
5:Q:139:CYS:O	5:Q:143:GLY:HA2	2.08	0.53
1:A:111:GLU:HG2	1:A:213:GLN:HE22	1.73	0.53
2:B:286:LYS:O	2:B:287:ARG:HB2	2.09	0.53
2:B:435:PHE:CE1	2:N:169:ARG:HG2	2.44	0.53
3:C:103:TYR:HA	3:C:315:MET:CE	2.32	0.53
3:C:103:TYR:O	3:C:315:MET:CB	2.57	0.53
5:E:31:ALA:O	5:E:34:GLY:N	2.42	0.53
6:F:96:GLU:OE1	6:F:96:GLU:HA	2.09	0.53
1:M:277:ILE:CG2	1:M:294:LEU:HD12	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:25:GLU:O	2:N:213:HIS:CE1	2.62	0.53
2:N:164:HIS:O	2:N:173:ALA:HA	2.09	0.53
2:N:285:VAL:HG12	2:N:288:GLY:HA3	1.91	0.53
3:O:7:SER:O	3:O:8:HIS:O	2.26	0.53
3:O:218:ILE:HG21	3:O:223:TYR:CD2	2.43	0.53
2:B:69:LEU:HD21	2:B:199:PHE:CZ	2.44	0.53
2:B:92:VAL:O	2:B:92:VAL:HG12	2.08	0.53
2:B:160:ILE:HD11	2:B:325:TYR:HE2	1.74	0.53
3:C:16:ASN:HD22	3:C:20:ASP:CG	2.08	0.53
5:E:52:LYS:NZ	10:J:32:GLU:OE1	2.40	0.53
1:M:411:CYS:O	1:M:415:PHE:HD1	1.92	0.53
3:O:174:THR:O	3:O:178:PHE:HD2	1.90	0.53
4:P:48:TYR:OH	4:P:68:VAL:HG11	2.08	0.53
8:T:62:LEU:O	8:T:65:ARG:HG2	2.09	0.53
10:V:18:SER:HB3	11:W:23:LEU:HB2	1.90	0.53
1:A:53:ASN:HB3	1:A:170:PRO:HD2	1.91	0.53
1:A:260:PRO:HD3	1:A:414:TYR:CD1	2.44	0.53
2:B:279:LEU:HD22	2:B:344:VAL:HG22	1.91	0.53
3:C:183:PHE:CE1	3:C:187:PHE:CE2	2.96	0.53
4:D:48:TYR:OH	4:D:68:VAL:HG11	2.09	0.53
7:G:25:ALA:O	7:G:27:PRO:HD3	2.09	0.53
1:M:428:ILE:CG2	1:M:431:LEU:CD2	2.85	0.53
2:N:262:ALA:HB3	2:N:269:ALA:N	2.24	0.53
3:O:200:LEU:HD13	12:O:381:HEM:HAD2	1.90	0.53
3:O:275:LEU:O	3:O:278:TYR:N	2.42	0.53
4:P:237:TYR:CE2	4:P:239:PRO:HG3	2.44	0.53
5:Q:45:VAL:CG2	10:V:24:ILE:HA	2.39	0.53
5:Q:95:PRO:HG2	5:Q:145:VAL:CG2	2.38	0.53
6:R:49:ARG:NH2	6:R:100:GLU:OE2	2.37	0.53
10:V:4:THR:HG22	10:V:6:THR:OG1	2.09	0.53
1:A:106:LEU:HD21	1:A:203:LEU:HD13	1.89	0.53
1:A:143:THR:O	1:A:143:THR:CG2	2.56	0.53
3:C:24:PRO:O	3:C:224:TYR:OH	2.20	0.53
3:C:43:LEU:O	3:C:44:GLN:C	2.51	0.53
3:C:119:LEU:HD23	12:C:381:HEM:C4B	2.44	0.53
4:D:10:TYR:CZ	4:D:128:PHE:CE2	2.92	0.53
5:E:2:HIS:O	5:E:5:ILE:HG12	2.09	0.53
3:O:218:ILE:HG23	3:O:223:TYR:CD2	2.43	0.53
4:P:27:ARG:O	4:P:28:ARG:C	2.52	0.53
6:R:73:GLN:HE21	7:S:32:LYS:HE3	1.74	0.53
1:A:67:THR:OG1	1:A:119:ASN:HB2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:166:SER:CB	5:E:3:THR:HG22	2.39	0.52
2:B:141:GLN:OE1	2:B:183:ILE:O	2.27	0.52
3:C:236:ILE:O	3:C:237:LEU:C	2.48	0.52
3:C:277:ALA:O	3:C:278:TYR:C	2.52	0.52
6:F:28:LYS:HD2	6:F:74:ILE:HD11	1.88	0.52
1:M:244:ARG:CZ	7:S:10:VAL:HB	2.38	0.52
2:N:277:HIS:CD2	2:N:364:LEU:HD13	2.43	0.52
4:P:51:LEU:HD22	4:P:58:GLU:HA	1.90	0.52
4:P:106:ASN:C	4:P:106:ASN:HD22	2.17	0.52
2:B:304:HIS:CG	2:B:305:GLN:N	2.76	0.52
3:C:135:TRP:CH2	3:C:170:VAL:O	2.62	0.52
9:I:58:GLN:HB3	9:I:78:TYR:HB2	1.91	0.52
2:N:47:ILE:CG2	2:N:48:GLY:N	2.72	0.52
4:P:27:ARG:NH1	10:V:58:LYS:CE	2.72	0.52
4:P:120:ARG:HG2	4:P:120:ARG:NH1	2.24	0.52
8:T:68:CYS:O	8:T:69:VAL:C	2.51	0.52
1:A:40:TRP:CZ2	1:A:377:GLU:CA	2.89	0.52
1:A:91:THR:HG23	1:A:92:ARG:H	1.74	0.52
4:D:68:VAL:HG12	4:D:92:PRO:HG2	1.91	0.52
4:D:79:GLU:HB3	4:D:82:MET:HB2	1.91	0.52
8:H:73:LEU:CD2	8:H:74:PHE:HD1	2.21	0.52
1:M:53:ASN:HB3	1:M:170:PRO:CD	2.39	0.52
1:M:336:PHE:HE2	1:M:446:PHE:HD2	1.55	0.52
1:M:426:GLY:HA3	1:M:428:ILE:N	2.24	0.52
3:O:327:ALA:O	3:O:331:ASP:N	2.35	0.52
4:P:55:CYS:SG	10:V:52:TRP:CB	2.97	0.52
1:A:397:SER:OG	1:A:398:ARG:N	2.41	0.52
2:B:77:THR:HG22	2:B:130:PRO:N	2.24	0.52
3:C:103:TYR:O	3:C:315:MET:HB2	2.10	0.52
3:O:52:ALA:HB2	12:O:380:HEM:CMD	2.40	0.52
3:O:71:ARG:NH2	4:P:193:ALA:O	2.42	0.52
4:P:69:GLU:O	4:P:73:GLY:HA3	2.09	0.52
4:P:138:PRO:HB3	8:T:55:THR:CA	2.40	0.52
5:Q:135:LEU:HD22	5:Q:182:VAL:HG22	1.92	0.52
5:Q:188:THR:OG1	5:Q:189:SER:N	2.33	0.52
2:B:97:SER:OG	9:I:70:LEU:HB2	2.10	0.52
3:C:368:THR:O	3:C:371:THR:HB	2.10	0.52
10:J:35:PHE:O	10:J:36:ASP:C	2.50	0.52
1:M:241:ILE:CD1	7:S:16:TYR:CE2	2.92	0.52
2:N:24:LEU:HD12	2:N:24:LEU:N	2.21	0.52
4:P:11:PRO:HB2	8:T:74:PHE:CG	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:237:TYR:CE2	4:P:239:PRO:HD3	2.44	0.52
1:A:134:ILE:HD13	1:A:134:ILE:N	2.23	0.52
1:A:381:ARG:HA	1:A:384:LEU:HD12	1.91	0.52
2:B:25:GLU:O	2:B:213:HIS:CE1	2.63	0.52
2:B:60:SER:CB	2:N:429:ASN:ND2	2.53	0.52
2:B:135:TRP:CD1	2:B:136:GLU:HG3	2.45	0.52
2:B:340:ALA:O	2:B:344:VAL:HG23	2.08	0.52
2:B:347:ILE:H	2:B:347:ILE:CD1	2.21	0.52
2:B:383:GLY:O	2:B:386:ALA:HB3	2.10	0.52
3:C:26:ASN:HB2	6:F:69:SER:HG	1.69	0.52
3:C:80:ARG:O	3:C:80:ARG:HD3	2.09	0.52
3:C:92:ILE:O	3:C:96:MET:HG2	2.10	0.52
3:C:184:ILE:O	3:C:188:ILE:HD12	2.10	0.52
4:D:164:ILE:HG21	4:D:182:VAL:HG12	1.92	0.52
4:D:228:SER:HB2	7:G:23:GLN:HE21	1.74	0.52
6:F:25:GLY:O	6:F:28:LYS:HG3	2.09	0.52
10:J:49:GLY:HA2	10:J:54:HIS:HB3	1.92	0.52
1:M:25:VAL:HG21	1:M:209:LEU:CD1	2.39	0.52
1:M:29:GLN:HG3	1:M:203:LEU:O	2.09	0.52
1:M:67:THR:CG2	1:M:70:ARG:H	2.03	0.52
1:M:386:TYR:N	1:M:386:TYR:CD1	2.75	0.52
2:N:67:HIS:CE1	2:N:177:TYR:HD1	2.28	0.52
2:N:258:VAL:CG1	2:N:321:LEU:HD22	2.40	0.52
1:A:34:THR:HB	2:B:373:GLU:OE1	2.09	0.52
1:A:53:ASN:HD22	1:A:53:ASN:C	2.16	0.52
1:A:85:HIS:HA	2:B:284:HIS:O	2.09	0.52
1:A:426:GLY:H	1:A:428:ILE:CD1	2.22	0.52
2:B:85:ILE:O	2:B:89:ILE:HG13	2.10	0.52
2:B:257:LEU:HD13	2:B:424:MET:HE2	1.91	0.52
2:B:308:ASP:OD2	9:I:55:LEU:HA	2.09	0.52
3:C:183:PHE:CD1	3:O:183:PHE:CD1	2.97	0.52
4:D:64:LEU:O	4:D:68:VAL:HG23	2.09	0.52
5:E:18:VAL:HG11	5:E:32:ARG:HH11	1.73	0.52
1:M:5:ALA:O	1:M:6:GLN:C	2.53	0.52
2:N:279:LEU:CD2	2:N:344:VAL:HG22	2.40	0.52
3:O:91:PHE:O	3:O:92:ILE:C	2.52	0.52
8:T:65:ARG:CG	8:T:66:ASP:N	2.72	0.52
1:A:53:ASN:CG	1:A:165:GLN:HB2	2.34	0.52
1:A:85:HIS:CD2	2:B:370:MET:HE1	2.45	0.52
2:B:352:LEU:HD23	2:B:411:ILE:HD11	1.92	0.52
3:C:312:GLN:NE2	3:C:317:PHE:HB2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:350:ILE:O	3:C:351:GLY:C	2.53	0.52
1:M:106:LEU:HB3	1:M:107:PRO:HD3	1.90	0.52
1:M:392:LEU:HA	1:M:395:TRP:NE1	2.25	0.52
2:N:304:HIS:CD2	2:N:305:GLN:N	2.78	0.52
2:N:435:PHE:H	2:N:438:GLU:HB2	1.74	0.52
3:O:117:VAL:N	12:O:381:HEM:HBC2	2.25	0.52
3:O:153:ILE:HD12	3:O:153:ILE:H	1.74	0.52
5:Q:81:ILE:H	5:Q:81:ILE:HD12	1.75	0.52
8:T:58:LEU:HD12	8:T:58:LEU:O	2.10	0.52
1:A:329:MET:HA	1:A:430:GLN:OE1	2.10	0.52
2:B:68:LEU:C	2:B:68:LEU:HD12	2.34	0.52
2:B:375:SER:OG	2:B:376:GLU:N	2.42	0.52
3:C:282:ARG:O	3:C:284:ILE:N	2.43	0.52
6:F:23:ALA:O	6:F:24:ALA:C	2.52	0.52
7:G:80:ASP:O	7:G:81:ARG:HB2	2.10	0.52
1:M:204:GLU:HG2	1:M:206:ARG:HB3	1.90	0.52
3:O:107:TYR:OH	3:O:308:HIS:ND1	2.09	0.52
1:A:279:HIS:CE1	1:A:284:TYR:OH	2.63	0.52
1:A:326:CYS:SG	1:A:331:ILE:HA	2.50	0.52
2:B:316:TYR:OH	9:I:64:LEU:HD23	2.09	0.52
3:C:90:PHE:CE1	3:C:123:VAL:HG21	2.44	0.52
3:C:153:ILE:N	3:C:153:ILE:HD12	2.25	0.52
5:E:38:LEU:HD13	10:J:9:LEU:HD23	1.92	0.52
1:M:292:SER:O	1:M:295:ALA:HB3	2.09	0.52
2:N:393:THR:HG22	2:N:394:PRO:O	2.10	0.52
3:O:246:ALA:N	3:O:247:PRO:CD	2.73	0.52
7:S:67:GLU:O	7:S:71:ARG:HB3	2.10	0.52
2:B:34:VAL:HG11	2:B:386:ALA:CB	2.40	0.51
2:B:148:LYS:HD2	2:B:178:CYS:O	2.10	0.51
2:B:162:ASN:HB3	2:B:244:ILE:CG2	2.40	0.51
2:B:268:GLU:O	2:B:271:ALA:HB3	2.10	0.51
2:B:381:GLU:O	2:B:384:SER:OG	2.24	0.51
4:D:46:VAL:HG12	4:D:47:ALA:O	2.10	0.51
6:F:16:ILE:O	6:F:17:ARG:C	2.50	0.51
10:J:56:LYS:HE2	10:J:60:GLU:OE1	2.09	0.51
1:M:25:VAL:HG21	1:M:209:LEU:HD13	1.91	0.51
1:M:111:GLU:HG2	1:M:213:GLN:NE2	2.25	0.51
1:M:262:TRP:CE3	1:M:385:THR:CG2	2.93	0.51
3:O:30:TRP:HA	3:O:33:PHE:HE2	1.75	0.51
3:O:106:SER:O	3:O:109:PHE:CD2	2.54	0.51
3:O:196:HIS:CE1	12:O:381:HEM:C1D	2.97	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:7:PRO:HB2	4:P:125:ASP:HB3	1.93	0.51
4:P:11:PRO:HG2	8:T:74:PHE:HB2	1.92	0.51
4:P:43:MET:HA	4:P:112:ASP:OD1	2.10	0.51
4:P:195:GLU:HG3	4:P:198:HIS:HB2	1.92	0.51
5:Q:86:ASN:HD21	5:Q:97:PHE:HD2	1.54	0.51
5:Q:114:VAL:CG1	5:Q:115:SER:N	2.73	0.51
5:Q:119:ASP:OD1	5:Q:120:PRO:HD2	2.09	0.51
6:R:35:ASP:OD1	6:R:89:TYR:OH	2.22	0.51
1:A:37:VAL:HG13	1:A:199:ALA:CB	2.40	0.51
3:C:301:LEU:HA	3:C:304:ILE:HD12	1.91	0.51
4:D:26:ILE:HG21	4:D:54:VAL:HG22	1.92	0.51
4:D:62:LYS:O	4:D:66:GLU:HG3	2.10	0.51
4:D:82:MET:CE	4:D:86:LYS:HZ2	2.22	0.51
4:D:139:THR:HG21	8:H:41:ASP:O	2.09	0.51
6:F:7:SER:O	6:F:11:ARG:HD2	2.10	0.51
10:J:51:LEU:H	10:J:54:HIS:HD2	1.57	0.51
2:N:102:ARG:HH12	2:N:175:SER:HA	1.75	0.51
3:O:200:LEU:HD13	12:O:381:HEM:CAD	2.40	0.51
4:P:69:GLU:HA	4:P:73:GLY:HA2	1.93	0.51
5:Q:102:THR:H	5:Q:105:GLU:HB2	1.74	0.51
5:Q:119:ASP:HB3	5:Q:179:ASN:ND2	2.26	0.51
6:R:96:GLU:OE2	6:R:99:ARG:NH1	2.43	0.51
1:A:19:LEU:HB2	1:A:23:LEU:HB3	1.92	0.51
1:A:417:ASP:CG	10:J:10:TYR:HH	2.06	0.51
2:B:166:ALA:HB2	2:B:244:ILE:CD1	2.40	0.51
3:C:177:ARG:O	3:C:181:PHE:HD2	1.93	0.51
3:C:221:HIS:HA	3:C:225:THR:HG23	1.92	0.51
4:D:30:PHE:O	4:D:31:GLN:C	2.53	0.51
1:M:134:ILE:HD13	1:M:137:GLU:HG3	1.91	0.51
1:M:151:ASN:O	1:M:152:TYR:C	2.53	0.51
3:O:19:ILE:HG23	3:O:221:HIS:HB2	1.92	0.51
3:O:47:THR:HG22	3:O:83:HIS:HB2	1.91	0.51
1:A:200:ALA:HB2	1:A:375:VAL:HG12	1.92	0.51
2:B:115:ASP:HA	2:B:118:ILE:HD12	1.92	0.51
3:C:183:PHE:CD1	3:C:183:PHE:C	2.88	0.51
4:D:10:TYR:HD1	8:H:74:PHE:CE1	2.28	0.51
4:D:233:ARG:HG3	7:G:17:SER:CB	2.40	0.51
6:F:104:ARG:O	6:F:105:GLU:C	2.53	0.51
1:M:19:LEU:HD13	1:M:214:LYS:HG2	1.92	0.51
1:M:51:LYS:C	1:M:53:ASN:H	2.19	0.51
1:M:106:LEU:HB3	1:M:107:PRO:CD	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:262:ALA:HB3	2:N:269:ALA:HA	1.91	0.51
2:N:275:LEU:HB2	2:N:410:VAL:HG13	1.92	0.51
3:O:276:PHE:O	3:O:277:ALA:C	2.52	0.51
3:O:304:ILE:N	3:O:305:PRO:CD	2.73	0.51
4:P:181:GLN:HG2	8:T:77:LEU:CD2	2.21	0.51
5:Q:51:ALA:O	5:Q:55:VAL:HG23	2.11	0.51
1:A:111:GLU:HG2	1:A:213:GLN:NE2	2.25	0.51
1:A:113:LEU:HA	1:A:116:ILE:HD12	1.92	0.51
1:A:236:PHE:HB2	5:E:25:SER:HB2	1.93	0.51
1:A:331:ILE:CD1	1:A:427:PRO:O	2.58	0.51
2:B:213:HIS:N	2:B:214:PRO:CD	2.66	0.51
2:B:304:HIS:CG	2:B:305:GLN:H	2.29	0.51
2:B:350:GLY:HA2	2:B:411:ILE:HG21	1.92	0.51
1:M:277:ILE:HB	1:M:309:THR:HG21	1.91	0.51
2:N:141:GLN:OE1	2:N:183:ILE:O	2.28	0.51
2:N:247:GLN:NE2	2:N:429:ASN:HA	2.25	0.51
3:O:10:LEU:HD12	3:O:13:ILE:HD11	1.92	0.51
1:A:426:GLY:H	1:A:428:ILE:HG12	1.66	0.51
2:B:88:GLY:O	2:B:91:ALA:HB3	2.11	0.51
2:B:261:SER:HB3	2:B:321:LEU:N	2.25	0.51
2:B:275:LEU:HD11	2:B:279:LEU:CD1	2.41	0.51
2:B:280:GLY:HA2	2:B:311:ALA:CB	2.40	0.51
3:C:125:ALA:O	3:C:126:THR:C	2.53	0.51
3:C:300:ILE:HD13	3:C:362:ILE:HG21	1.92	0.51
4:D:143:LEU:HD22	4:D:147:LEU:O	2.09	0.51
4:D:228:SER:HB2	7:G:23:GLN:HE22	1.71	0.51
5:E:15:ARG:HH21	5:E:32:ARG:HG3	1.74	0.51
10:J:49:GLY:HA2	10:J:54:HIS:HB2	1.91	0.51
1:M:162:PRO:O	1:M:165:GLN:NE2	2.42	0.51
2:N:185:LYS:HG3	2:N:185:LYS:O	2.11	0.51
2:N:198:HIS:CE1	2:N:233:SER:HB3	2.45	0.51
2:N:406:ALA:HB3	2:N:409:ASP:HB2	1.92	0.51
3:O:210:GLY:CA	3:O:314:SER:HB2	2.31	0.51
4:P:48:TYR:CD2	4:P:65:ALA:HB2	2.46	0.51
5:Q:152:ASP:N	5:Q:164:HIS:ND1	2.59	0.51
2:B:166:ALA:HB2	2:B:244:ILE:CG1	2.39	0.51
3:C:147:THR:O	3:C:150:LEU:HB2	2.11	0.51
4:D:120:ARG:CG	4:D:120:ARG:HH11	2.24	0.51
5:E:47:VAL:O	5:E:50:ALA:HB3	2.10	0.51
8:H:70:ALA:HA	8:H:73:LEU:HD22	1.92	0.51
1:M:40:TRP:HZ2	1:M:377:GLU:HB2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:247:GLN:HG3	2:N:248:ASN:N	2.24	0.51
2:N:257:LEU:CD1	2:N:424:MET:HB2	2.40	0.51
4:P:30:PHE:HD1	4:P:189:PHE:CE1	2.29	0.51
4:P:82:MET:HE2	4:P:86:LYS:NZ	2.25	0.51
6:R:37:ILE:HG23	6:R:37:ILE:O	2.11	0.51
6:R:58:ARG:HG2	6:R:58:ARG:NH1	2.25	0.51
7:S:80:ASP:O	7:S:81:ARG:HB2	2.11	0.51
10:V:36:ASP:O	10:V:37:GLN:C	2.52	0.51
1:M:53:ASN:CG	1:M:165:GLN:HB2	2.35	0.51
1:M:389:ARG:C	1:M:391:PRO:HD3	2.36	0.51
1:M:408:ARG:O	1:M:412:SER:OG	2.28	0.51
2:N:198:HIS:HE1	2:N:233:SER:CB	2.23	0.51
2:N:206:LEU:CD1	2:N:224:LEU:HD11	2.41	0.51
3:O:357:LEU:O	3:O:361:LEU:HG	2.11	0.51
3:O:361:LEU:HD23	3:O:365:LEU:CD1	2.36	0.51
4:P:165:TYR:H	4:P:168:VAL:CG2	2.24	0.51
5:Q:45:VAL:HG22	10:V:28:ALA:N	2.26	0.51
1:A:211:LEU:HD12	1:A:211:LEU:O	2.11	0.51
2:B:429:ASN:ND2	2:N:60:SER:CB	2.59	0.51
3:C:105:GLY:HA2	3:C:107:TYR:CD1	2.46	0.51
4:D:229:VAL:HG12	4:D:233:ARG:NE	2.22	0.51
7:G:33:GLY:O	7:G:37:VAL:HB	2.11	0.51
1:M:161:THR:HB	1:M:162:PRO:CD	2.41	0.51
2:N:262:ALA:CB	2:N:268:GLU:HB3	2.41	0.51
2:N:303:VAL:CG1	2:N:304:HIS:H	2.24	0.51
3:O:344:GLU:O	3:O:348:ILE:HG13	2.11	0.51
9:U:78:TYR:OXT	9:U:78:TYR:CD1	2.64	0.51
1:A:63:ALA:HB2	1:A:97:TYR:HE2	1.76	0.51
2:B:79:GLY:HA3	2:B:125:ASN:HD21	1.75	0.51
3:C:240:MET:SD	3:C:243:VAL:HG11	2.51	0.51
3:O:196:HIS:CE1	12:O:381:HEM:ND	2.78	0.51
3:O:218:ILE:HD13	4:P:230:LEU:HD13	1.91	0.51
4:P:168:VAL:HG12	4:P:169:LEU:HD23	1.93	0.51
1:A:34:THR:CB	2:B:373:GLU:OE1	2.59	0.50
1:A:124:ASP:O	1:A:128:GLU:HG2	2.11	0.50
2:B:38:LEU:O	2:B:40:ASN:N	2.45	0.50
2:B:112:LEU:O	2:B:113:ARG:C	2.54	0.50
3:C:106:SER:CB	12:C:381:HEM:HBD2	2.41	0.50
3:C:163:TRP:CE2	5:Q:62:MET:HE2	2.46	0.50
4:D:2:ASP:HB3	4:D:156:GLN:NE2	2.26	0.50
4:D:82:MET:HE2	4:D:86:LYS:HZ2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:13:LEU:O	6:F:16:ILE:N	2.42	0.50
6:F:96:GLU:O	6:F:99:ARG:N	2.44	0.50
1:M:329:MET:HA	1:M:430:GLN:OE1	2.11	0.50
2:N:170:ASN:CG	2:N:171:ALA:N	2.69	0.50
3:O:166:GLY:HA3	3:O:177:ARG:NH2	2.26	0.50
3:O:174:THR:CG2	3:O:178:PHE:HE2	2.12	0.50
3:O:200:LEU:CD1	12:O:381:HEM:HAD2	2.40	0.50
4:P:14:HIS:HA	4:P:19:SER:HB3	1.93	0.50
4:P:224:ARG:NH2	7:S:27:PRO:HD2	2.26	0.50
9:U:58:GLN:O	9:U:59:ALA:HB2	2.11	0.50
1:A:49:SER:N	1:A:52:ASN:OD1	2.35	0.50
1:A:106:LEU:HB3	1:A:107:PRO:CD	2.41	0.50
1:A:433:ASP:CB	3:C:219:PRO:HG2	2.40	0.50
2:B:197:ASN:HB2	2:B:198:HIS:CD2	2.46	0.50
3:C:37:LEU:HD21	3:C:94:LEU:HD13	1.93	0.50
3:C:164:ILE:O	3:C:177:ARG:NH1	2.42	0.50
3:C:331:ASP:OD1	3:C:354:ALA:HB1	2.11	0.50
2:N:209:LEU:HG	2:N:209:LEU:O	2.09	0.50
2:N:350:GLY:HA2	2:N:411:ILE:HG21	1.93	0.50
3:O:147:THR:HG21	3:O:165:TRP:CD1	2.46	0.50
4:P:10:TYR:HD1	8:T:74:PHE:CE1	2.29	0.50
5:Q:119:ASP:HB3	5:Q:179:ASN:HD21	1.76	0.50
6:R:95:LYS:O	6:R:96:GLU:C	2.53	0.50
1:A:26:ALA:O	1:A:27:SER:HB3	2.11	0.50
1:A:41:ILE:HD12	1:A:41:ILE:N	2.24	0.50
1:A:291:SER:HB3	2:B:87:ARG:HD3	1.93	0.50
1:A:347:THR:O	11:K:16:ASN:ND2	2.43	0.50
1:A:378:ASP:O	1:A:382:SER:HB2	2.11	0.50
3:C:344:GLU:O	3:C:348:ILE:HG13	2.11	0.50
4:D:30:PHE:CE1	4:D:50:HIS:CE1	2.99	0.50
4:D:134:TYR:HE2	4:D:163:PRO:CG	2.24	0.50
4:D:190:LEU:O	4:D:191:ARG:C	2.52	0.50
8:H:27:LEU:O	8:H:30:CYS:N	2.38	0.50
3:O:142:GLY:O	3:O:146:ILE:HG12	2.12	0.50
3:O:160:LEU:O	3:O:164:ILE:HD12	2.11	0.50
3:O:164:ILE:O	3:O:177:ARG:NH1	2.44	0.50
3:O:191:ALA:O	3:O:195:VAL:HG23	2.12	0.50
3:O:378:LYS:O	3:O:378:LYS:HD3	2.11	0.50
1:A:37:VAL:HG13	1:A:199:ALA:HB2	1.93	0.50
1:A:106:LEU:HD22	1:A:203:LEU:HD13	1.93	0.50
2:B:178:CYS:SG	2:B:179:PRO:HD2	2.51	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:122:THR:HG21	3:C:189:ILE:CG1	2.42	0.50
4:D:138:PRO:CB	8:H:55:THR:CA	2.90	0.50
4:D:153:PHE:O	4:D:154:PRO:C	2.54	0.50
1:M:3:THR:O	1:M:4:TYR:C	2.54	0.50
1:M:30:SER:N	1:M:201:GLY:O	2.44	0.50
1:M:82:MET:SD	1:M:105:ASP:HB3	2.51	0.50
3:O:4:ILE:O	3:O:5:ARG:C	2.55	0.50
3:O:152:ALA:N	3:O:287:LYS:NZ	2.59	0.50
3:O:242:LEU:HD21	3:O:250:LEU:CD2	2.41	0.50
5:Q:51:ALA:O	5:Q:52:LYS:C	2.54	0.50
1:A:48:GLU:HB3	1:A:52:ASN:O	2.10	0.50
1:A:279:HIS:ND1	1:A:284:TYR:OH	2.42	0.50
3:C:183:PHE:O	3:C:183:PHE:HD1	1.94	0.50
3:C:200:LEU:HD13	12:C:381:HEM:HAD2	1.93	0.50
3:C:373:GLU:HB3	6:F:20:TYR:OH	2.12	0.50
4:D:24:THR:O	4:D:25:SER:C	2.53	0.50
4:D:32:VAL:HG11	4:D:186:VAL:CG2	2.41	0.50
1:M:327:ASP:OD1	1:M:328:HIS:N	2.44	0.50
2:N:109:VAL:HG22	2:N:119:LEU:CD2	2.41	0.50
3:O:317:PHE:CD1	6:R:26:PHE:HB3	2.47	0.50
4:P:23:HIS:CD2	10:V:50:LYS:O	2.65	0.50
4:P:24:THR:O	4:P:25:SER:C	2.54	0.50
4:P:82:MET:HE2	4:P:86:LYS:HZ2	1.76	0.50
4:P:134:TYR:HE2	4:P:163:PRO:CG	2.25	0.50
4:P:232:SER:CB	7:S:23:GLN:OE1	2.59	0.50
6:R:75:LEU:C	6:R:80:TRP:HE1	2.17	0.50
10:V:32:GLU:CG	10:V:33:ARG:N	2.74	0.50
1:A:289:HIS:O	1:A:290:LEU:C	2.55	0.50
2:B:122:PHE:O	2:B:123:LEU:C	2.53	0.50
2:B:429:ASN:ND2	2:N:60:SER:OG	2.45	0.50
2:B:429:ASN:C	2:B:429:ASN:HD22	2.19	0.50
3:C:4:ILE:O	3:C:5:ARG:C	2.53	0.50
3:C:107:TYR:OH	3:C:308:HIS:ND1	2.09	0.50
3:C:246:ALA:HB1	3:C:249:LEU:HB2	1.94	0.50
4:D:102:ARG:HG2	4:D:109:LEU:HB2	1.93	0.50
1:M:370:ASP:OD1	2:N:375:SER:HB3	2.12	0.50
1:M:426:GLY:HA2	1:M:427:PRO:C	2.36	0.50
3:O:152:ALA:HB2	3:O:287:LYS:NZ	2.26	0.50
4:P:72:ASP:OD1	4:P:76:GLU:OE1	2.29	0.50
4:P:146:GLY:O	4:P:148:TYR:CD1	2.65	0.50
5:Q:18:VAL:HG11	5:Q:32:ARG:NH1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:R:10:SER:HA	6:R:13:LEU:CD1	2.42	0.50
8:T:73:LEU:HD23	8:T:73:LEU:C	2.37	0.50
10:V:52:TRP:O	10:V:53:LYS:C	2.53	0.50
2:B:275:LEU:HD12	2:B:275:LEU:O	2.12	0.50
2:B:412:ASN:O	2:B:415:LYS:HB2	2.11	0.50
3:C:100:ARG:NH2	12:C:381:HEM:O2A	2.44	0.50
3:C:278:TYR:O	3:C:279:ALA:C	2.55	0.50
4:D:7:PRO:HB2	4:D:125:ASP:HB3	1.92	0.50
4:D:42:SER:O	4:D:112:ASP:OD1	2.29	0.50
4:D:72:ASP:OD1	4:D:76:GLU:OE1	2.30	0.50
10:J:52:TRP:HE3	10:J:52:TRP:H	1.57	0.50
5:Q:42:THR:O	5:Q:43:THR:C	2.53	0.50
6:R:46:ALA:O	6:R:47:ILE:C	2.53	0.50
9:U:70:LEU:HD21	9:U:73:PRO:CD	2.26	0.50
2:B:200:THR:OG1	2:B:201:SER:N	2.44	0.50
2:B:372:VAL:O	2:B:372:VAL:HG12	2.11	0.50
3:C:26:ASN:ND2	3:C:208:PRO:HD2	2.27	0.50
4:D:230:LEU:O	4:D:233:ARG:HB2	2.12	0.50
10:J:4:THR:HG22	10:J:6:THR:H	1.77	0.50
2:N:47:ILE:HG22	2:N:48:GLY:H	1.76	0.50
2:N:261:SER:HB3	2:N:321:LEU:N	2.26	0.50
2:N:304:HIS:CD2	2:N:305:GLN:H	2.30	0.50
5:Q:109:GLU:HG2	5:Q:167:ALA:CB	2.25	0.50
7:S:64:GLN:O	7:S:65:GLU:C	2.55	0.50
1:A:22:GLY:O	1:A:24:ARG:HG2	2.12	0.50
1:A:64:PHE:HE2	1:A:88:ALA:HB2	1.75	0.50
1:A:142:ASP:OD2	5:E:1:SER:HB3	2.11	0.50
1:A:252:HIS:CD2	1:A:325:VAL:HG22	2.47	0.50
1:A:272:VAL:O	1:A:275:ALA:HB3	2.12	0.50
2:B:132:PHE:HB3	2:B:137:VAL:CG2	2.42	0.50
3:C:74:ASN:O	5:E:61:SER:HA	2.12	0.50
4:D:13:SER:O	4:D:19:SER:HB3	2.11	0.50
4:D:138:PRO:O	4:D:141:VAL:HB	2.12	0.50
4:D:161:ALA:O	4:D:163:PRO:N	2.45	0.50
5:E:71:MET:O	5:E:72:SER:C	2.54	0.50
9:I:62:ARG:N	9:I:63:PRO:CD	2.75	0.50
9:I:62:ARG:H	9:I:63:PRO:HD2	1.76	0.50
1:M:92:ARG:HD2	1:M:163:LEU:CD1	2.37	0.50
1:M:291:SER:HB3	2:N:87:ARG:HD3	1.94	0.50
2:N:97:SER:HA	9:U:70:LEU:HB2	1.94	0.50
2:N:130:PRO:HB2	2:N:132:PHE:CE1	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:159:VAL:CG1	2:N:160:ILE:HD13	2.40	0.50
3:O:21:LEU:HD12	3:O:22:PRO:HD2	1.94	0.50
4:P:213:GLY:O	4:P:217:PRO:HG3	2.11	0.50
5:Q:107:ASP:O	5:Q:108:GLN:C	2.55	0.50
5:Q:142:LEU:HD12	5:Q:161:HIS:CE1	2.46	0.50
9:U:58:GLN:HB3	9:U:78:TYR:HB2	1.92	0.50
1:A:395:TRP:O	1:A:398:ARG:N	2.45	0.49
2:B:45:SER:HB2	2:B:210:GLY:HA3	1.93	0.49
2:B:255:ALA:HA	2:B:425:ALA:O	2.12	0.49
3:C:77:TRP:CE3	3:C:78:ILE:HG23	2.44	0.49
3:C:280:ILE:HD13	3:C:280:ILE:N	2.27	0.49
4:D:33:TYR:O	4:D:37:CYS:HB2	2.12	0.49
7:G:54:ALA:O	7:G:58:VAL:HG23	2.12	0.49
1:M:294:LEU:CD2	1:M:337:VAL:HG12	2.41	0.49
1:M:343:MET:HE1	1:M:416:TYR:CE2	2.47	0.49
2:N:76:THR:HG21	2:N:133:ARG:CZ	2.42	0.49
3:O:130:GLY:O	12:O:380:HEM:HAA1	2.11	0.49
3:O:341:GLN:O	3:O:342:PRO:C	2.55	0.49
4:P:100:ALA:O	4:P:103:ALA:N	2.45	0.49
8:T:50:THR:HG22	8:T:51:GLU:N	2.25	0.49
10:V:21:ALA:O	10:V:22:LEU:C	2.53	0.49
11:W:18:VAL:CB	11:W:19:PRO:HD3	2.41	0.49
1:A:43:ALA:HB2	1:A:189:HIS:HB3	1.94	0.49
1:A:64:PHE:HA	1:A:75:LEU:CD2	2.42	0.49
1:A:236:PHE:CD2	1:A:258:GLU:CG	2.92	0.49
1:A:335:MET:CE	1:A:339:GLN:HG3	2.42	0.49
2:B:170:ASN:CG	2:B:171:ALA:N	2.70	0.49
2:B:247:GLN:NE2	2:B:429:ASN:ND2	2.59	0.49
2:B:279:LEU:HD23	2:B:295:LEU:HD13	1.94	0.49
2:B:322:PHE:CD1	2:B:322:PHE:C	2.90	0.49
4:D:27:ARG:NH1	10:J:58:LYS:HE3	2.26	0.49
1:M:55:ALA:O	1:M:58:PHE:N	2.39	0.49
1:M:124:ASP:O	1:M:128:GLU:HG2	2.11	0.49
2:N:196:GLN:HG2	2:N:197:ASN:OD1	2.12	0.49
4:P:79:GLU:HB3	4:P:82:MET:HB2	1.93	0.49
4:P:138:PRO:HB3	8:T:54:CYS:C	2.37	0.49
4:P:138:PRO:CB	8:T:55:THR:CA	2.90	0.49
4:P:146:GLY:O	4:P:148:TYR:N	2.42	0.49
7:S:48:VAL:O	7:S:51:PRO:HD2	2.12	0.49
1:A:53:ASN:C	1:A:53:ASN:ND2	2.69	0.49
2:B:258:VAL:CG1	2:B:321:LEU:HD22	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:312:GLN:O	3:C:313:ARG:C	2.53	0.49
4:D:26:ILE:HG22	4:D:27:ARG:N	2.27	0.49
4:D:138:PRO:HB3	8:H:54:CYS:C	2.37	0.49
1:M:64:PHE:HE1	1:M:86:LEU:CG	2.22	0.49
2:N:227:ARG:HD2	2:N:227:ARG:N	2.27	0.49
3:O:85:ASN:O	3:O:86:GLY:C	2.53	0.49
6:R:40:ASN:CG	6:R:41:ASP:H	2.20	0.49
7:S:71:ARG:O	7:S:73:ASN:N	2.46	0.49
1:A:286:GLY:O	1:A:287:GLY:O	2.30	0.49
1:A:343:MET:CE	1:A:416:TYR:HD2	2.17	0.49
1:A:408:ARG:HH12	11:K:15:ARG:CD	2.25	0.49
2:B:299:VAL:HG13	2:B:303:VAL:HG21	1.94	0.49
1:M:120:CYS:O	1:M:122:LEU:HG	2.12	0.49
1:M:349:ALA:O	1:M:408:ARG:NH2	2.45	0.49
2:N:56:ARG:HH22	2:N:318:ASP:CG	2.18	0.49
2:N:68:LEU:CD1	2:N:140:LEU:HD23	2.39	0.49
2:N:276:GLN:O	2:N:280:GLY:N	2.40	0.49
4:P:190:LEU:O	4:P:191:ARG:C	2.55	0.49
4:P:220:TYR:O	4:P:221:ALA:C	2.53	0.49
5:Q:118:ARG:HH12	5:Q:173:LYS:N	2.11	0.49
1:A:15:GLN:O	1:A:205:HIS:CE1	2.66	0.49
1:A:403:ASP:CB	1:A:406:VAL:HG23	2.33	0.49
3:C:46:LEU:O	3:C:50:PHE:HD1	1.94	0.49
3:C:175:LEU:O	3:C:175:LEU:HG	2.11	0.49
4:D:116:ILE:HD11	4:D:120:ARG:HH11	1.78	0.49
4:D:224:ARG:NH2	7:G:27:PRO:HD2	2.28	0.49
6:F:51:PRO:CD	2:N:134:ARG:HH12	2.24	0.49
7:G:50:PRO:HB2	7:G:51:PRO:CD	2.38	0.49
1:M:307:PHE:HA	1:M:323:HIS:O	2.12	0.49
2:N:255:ALA:CB	2:N:426:ALA:HB2	2.42	0.49
2:N:283:PRO:HG3	9:U:55:LEU:HB3	1.95	0.49
2:N:340:ALA:O	2:N:344:VAL:HG23	2.12	0.49
3:O:51:LEU:HD21	3:O:79:ILE:HG22	1.95	0.49
4:P:2:ASP:HB3	4:P:156:GLN:NE2	2.27	0.49
4:P:35:GLN:HB2	4:P:169:LEU:CD1	2.42	0.49
5:Q:76:ILE:HG22	5:Q:193:VAL:O	2.12	0.49
10:V:60:GLU:O	10:V:60:GLU:HG3	2.11	0.49
4:D:26:ILE:O	4:D:27:ARG:C	2.56	0.49
4:D:161:ALA:HB1	4:D:162:PRO:HD2	1.93	0.49
4:D:237:TYR:HB2	6:F:60:PHE:CE1	2.47	0.49
8:H:68:CYS:O	8:H:69:VAL:C	2.55	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:131:ARG:O	1:M:132:ASP:C	2.53	0.49
1:M:349:ALA:HB3	1:M:408:ARG:HE	1.78	0.49
2:N:308:ASP:OD2	9:U:54:SER:O	2.29	0.49
2:N:395:PRO:O	2:N:396:SER:C	2.52	0.49
3:O:278:TYR:O	3:O:279:ALA:C	2.55	0.49
3:O:296:PHE:O	3:O:297:SER:C	2.52	0.49
6:R:75:LEU:CD1	6:R:76:PRO:HD2	2.36	0.49
9:U:62:ARG:N	9:U:63:PRO:CD	2.75	0.49
1:A:37:VAL:CG1	1:A:199:ALA:HB2	2.43	0.49
1:A:385:THR:HB	1:A:386:TYR:CD1	2.48	0.49
2:B:79:GLY:CA	2:B:125:ASN:HD21	2.25	0.49
2:B:207:ILE:CD1	2:B:383:GLY:HA2	2.37	0.49
2:B:352:LEU:HD23	2:B:411:ILE:CD1	2.43	0.49
3:C:103:TYR:OH	3:C:322:GLN:HG3	2.12	0.49
3:C:269:LYS:CD	3:C:340:GLY:HA2	2.43	0.49
3:C:276:PHE:HE2	3:C:297:SER:OG	1.95	0.49
4:D:217:PRO:HG2	4:D:218:LEU:H	1.78	0.49
8:H:40:CYS:O	8:H:44:VAL:HG23	2.12	0.49
2:N:267:ALA:O	2:N:268:GLU:C	2.56	0.49
4:P:10:TYR:CE1	8:T:73:LEU:HD22	2.47	0.49
5:Q:38:LEU:O	5:Q:42:THR:OG1	2.30	0.49
5:Q:75:GLU:O	5:Q:194:ILE:CA	2.47	0.49
1:A:171:SER:O	1:A:174:VAL:HB	2.13	0.49
2:B:348:ALA:HB3	2:B:418:VAL:HG21	1.94	0.49
4:D:139:THR:CG2	8:H:44:VAL:HB	2.43	0.49
4:D:158:ILE:HG13	13:D:242:HEC:HBD2	1.95	0.49
1:M:286:GLY:O	1:M:287:GLY:C	2.56	0.49
2:N:111:CYS:CB	2:N:119:LEU:HD22	2.31	0.49
3:O:372:ILE:O	3:O:375:LYS:N	2.45	0.49
5:Q:50:ALA:O	5:Q:51:ALA:C	2.49	0.49
4:D:138:PRO:HB3	8:H:55:THR:HA	1.94	0.49
3:O:284:ILE:CG2	3:O:285:PRO:HD2	2.43	0.49
3:O:329:VAL:HA	3:O:332:LEU:HD12	1.94	0.49
4:P:233:ARG:HG3	7:S:17:SER:CB	2.42	0.49
5:Q:193:VAL:O	5:Q:193:VAL:CG1	2.61	0.49
1:A:349:ALA:HB3	1:A:408:ARG:HG2	1.95	0.49
2:B:141:GLN:OE1	2:B:141:GLN:HA	2.13	0.49
2:B:141:GLN:CB	2:B:142:PRO:HD3	2.41	0.49
3:C:185:LEU:HB3	3:C:186:PRO:CD	2.36	0.49
6:F:45:GLU:O	6:F:46:ALA:O	2.31	0.49
1:M:39:VAL:CG1	1:M:41:ILE:HD11	2.40	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:62:LEU:HB3	1:M:122:LEU:HD22	1.94	0.49
1:M:256:ALA:CA	1:M:320:LEU:O	2.59	0.49
1:M:436:ARG:HE	3:O:222:PRO:CD	2.26	0.49
2:N:112:LEU:O	2:N:113:ARG:C	2.54	0.49
2:N:129:ALA:H	2:N:130:PRO:HD3	1.76	0.49
5:Q:188:THR:HG21	5:Q:194:ILE:CD1	2.43	0.49
7:S:56:TYR:HD1	7:S:57:LEU:HD23	1.78	0.49
1:A:89:TYR:C	1:A:89:TYR:HD1	2.21	0.48
1:A:158:PHE:O	1:A:164:ALA:HB2	2.12	0.48
1:A:261:GLY:HA2	1:A:314:TYR:O	2.13	0.48
2:B:187:THR:HG23	2:B:190:GLU:OE1	2.13	0.48
2:B:294:SER:O	2:B:295:LEU:C	2.55	0.48
3:C:88:SER:HB3	3:C:250:LEU:HD21	1.95	0.48
3:C:357:LEU:O	3:C:361:LEU:HG	2.13	0.48
4:D:138:PRO:HB3	8:H:55:THR:CA	2.43	0.48
4:D:237:TYR:CD2	4:D:239:PRO:HD3	2.48	0.48
5:E:72:SER:HB2	3:O:168:PHE:CE2	2.48	0.48
6:F:73:GLN:HG2	7:G:36:ASN:HD21	1.78	0.48
7:G:40:ARG:O	7:G:41:THR:C	2.55	0.48
1:M:379:ILE:O	1:M:383:LEU:HG	2.13	0.48
3:O:150:LEU:O	3:O:153:ILE:HD13	2.13	0.48
4:P:117:VAL:CG1	4:P:191:ARG:HH11	2.25	0.48
1:A:39:VAL:HG23	1:A:113:LEU:HD23	1.95	0.48
2:B:207:ILE:CG2	2:B:379:LEU:HD12	2.43	0.48
2:B:303:VAL:CG1	2:B:304:HIS:H	2.26	0.48
3:C:210:GLY:HA3	3:C:314:SER:CB	2.41	0.48
3:C:282:ARG:O	3:C:283:SER:C	2.55	0.48
3:C:338:ILE:HA	3:C:341:GLN:CG	2.43	0.48
4:D:23:HIS:O	4:D:24:THR:C	2.55	0.48
7:G:33:GLY:O	7:G:34:ILE:C	2.56	0.48
1:M:4:TYR:CE1	2:N:43:PRO:HB3	2.48	0.48
1:M:213:GLN:CB	1:M:215:HIS:NE2	2.70	0.48
1:M:243:HIS:CD2	1:M:425:PHE:CE1	3.01	0.48
1:M:262:TRP:CE3	1:M:385:THR:HG21	2.48	0.48
1:M:426:GLY:HA2	1:M:428:ILE:CG1	2.37	0.48
2:N:24:LEU:HD13	2:N:392:TYR:CD2	2.48	0.48
2:N:72:ALA:HB2	2:N:140:LEU:CD2	2.43	0.48
2:N:262:ALA:HB2	2:N:272:PHE:CE2	2.49	0.48
3:O:25:SER:HB3	6:R:70:MET:HE2	1.94	0.48
3:O:26:ASN:HA	6:R:70:MET:HA	1.94	0.48
3:O:227:LYS:HG2	4:P:223:LYS:HZ3	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:33:LYS:HB2	10:V:10:TYR:CE1	2.48	0.48
6:R:103:GLU:O	6:R:104:ARG:C	2.55	0.48
2:B:76:THR:HG21	2:B:133:ARG:NH2	2.29	0.48
2:B:130:PRO:HB2	2:B:132:PHE:CE1	2.48	0.48
2:B:213:HIS:O	2:B:213:HIS:HD2	1.96	0.48
4:D:153:PHE:O	4:D:156:GLN:N	2.35	0.48
4:D:224:ARG:HH21	7:G:27:PRO:HD2	1.78	0.48
7:G:80:ASP:CG	8:H:47:ARG:HH22	2.22	0.48
1:M:335:MET:HE3	1:M:335:MET:O	2.14	0.48
1:M:417:ASP:CG	10:V:10:TYR:OH	2.52	0.48
2:N:132:PHE:HD2	2:N:191:LEU:HD13	1.67	0.48
3:O:126:THR:HG21	12:O:380:HEM:CAB	2.43	0.48
3:O:192:ILE:HD13	3:O:192:ILE:N	2.28	0.48
3:O:221:HIS:N	3:O:222:PRO:HD2	2.28	0.48
6:R:45:GLU:O	6:R:49:ARG:HG3	2.14	0.48
2:B:38:LEU:O	2:B:39:GLU:C	2.56	0.48
3:C:119:LEU:HG	12:C:381:HEM:HBB2	1.90	0.48
7:G:44:CYS:O	7:G:45:ILE:C	2.57	0.48
2:N:24:LEU:HD13	2:N:392:TYR:HD2	1.78	0.48
2:N:92:VAL:O	2:N:92:VAL:CG1	2.60	0.48
2:N:111:CYS:HB3	2:N:119:LEU:CD2	2.32	0.48
2:N:381:GLU:OE1	2:N:381:GLU:HA	2.13	0.48
3:O:28:SER:CB	3:O:30:TRP:HD1	2.26	0.48
3:O:147:THR:CG2	3:O:165:TRP:NE1	2.75	0.48
3:O:300:ILE:HD13	3:O:362:ILE:HG21	1.95	0.48
4:P:178:THR:O	4:P:179:MET:C	2.55	0.48
4:P:224:ARG:HH21	7:S:27:PRO:HD2	1.79	0.48
1:A:239:SER:HB2	7:G:18:LEU:HD23	1.95	0.48
1:A:433:ASP:O	1:A:434:TYR:C	2.56	0.48
2:B:126:VAL:O	2:B:126:VAL:HG12	2.11	0.48
4:D:3:LEU:HD21	7:G:71:ARG:HA	1.95	0.48
4:D:69:GLU:HG3	4:D:84:PRO:HA	1.94	0.48
4:D:91:PHE:HA	4:D:92:PRO:HD3	1.58	0.48
13:D:242:HEC:HBD1	13:D:242:HEC:HHA	1.95	0.48
5:E:12:ASP:O	7:G:24:ARG:NH2	2.35	0.48
5:E:15:ARG:HH21	5:E:32:ARG:CB	2.24	0.48
1:M:4:TYR:O	1:M:5:ALA:C	2.56	0.48
1:M:53:ASN:ND2	1:M:165:GLN:HG3	2.29	0.48
1:M:100:LYS:HD2	1:M:373:THR:OG1	2.13	0.48
1:M:392:LEU:HA	1:M:395:TRP:HD1	1.72	0.48
2:N:271:ALA:O	2:N:272:PHE:C	2.57	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:122:THR:CG2	3:O:189:ILE:HG12	2.44	0.48
3:O:248:ASP:CG	4:P:118:ARG:HH21	2.22	0.48
5:Q:87:MET:HG2	5:Q:89:PHE:HE1	1.78	0.48
5:Q:141:HIS:HE2	5:Q:175:PRO:HB2	1.78	0.48
10:V:38:GLY:O	10:V:42:ILE:HG13	2.14	0.48
1:A:43:ALA:HB1	1:A:189:HIS:HB3	1.94	0.48
1:A:84:ALA:HB2	1:A:101:ALA:CB	2.37	0.48
4:D:23:HIS:NE2	10:J:51:LEU:HA	2.29	0.48
4:D:102:ARG:HE	4:D:109:LEU:HB2	1.78	0.48
4:D:165:TYR:H	4:D:168:VAL:CG2	2.26	0.48
4:D:241:LYS:HE3	6:F:53:ASN:HB3	1.96	0.48
5:E:40:THR:HG22	10:J:20:PHE:HZ	1.79	0.48
8:H:62:LEU:O	8:H:65:ARG:HG2	2.14	0.48
1:M:80:GLU:O	1:M:82:MET:N	2.46	0.48
1:M:290:LEU:HD13	1:M:295:ALA:HB1	1.95	0.48
2:N:237:ALA:HB2	2:N:318:ASP:CG	2.37	0.48
2:N:312:PHE:HD1	9:U:58:GLN:O	1.97	0.48
3:O:115:ILE:HD13	3:O:115:ILE:N	2.27	0.48
8:T:15:ASP:CB	8:T:16:PRO:CD	2.91	0.48
2:B:183:ILE:HG22	2:B:184:GLY:N	2.28	0.48
2:B:207:ILE:HG22	2:B:379:LEU:HD12	1.95	0.48
2:B:341:TYR:O	2:B:342:ASN:C	2.57	0.48
4:D:160:MET:HE2	4:D:163:PRO:HG3	1.95	0.48
6:F:35:ASP:OD1	6:F:89:TYR:OH	2.21	0.48
9:I:60:ALA:HB3	9:I:63:PRO:O	2.12	0.48
11:K:19:PRO:O	11:K:23:LEU:HG	2.14	0.48
1:M:34:THR:HB	2:N:373:GLU:OE1	2.14	0.48
1:M:89:TYR:CD1	1:M:89:TYR:C	2.90	0.48
1:M:255:ILE:O	1:M:321:GLY:HA3	2.14	0.48
1:M:307:PHE:CD1	1:M:307:PHE:C	2.91	0.48
3:O:107:TYR:HE1	3:O:305:PRO:HA	1.78	0.48
3:O:130:GLY:HA3	3:O:182:HIS:CE1	2.49	0.48
4:P:10:TYR:CZ	4:P:128:PHE:CE2	2.92	0.48
4:P:168:VAL:HG12	4:P:169:LEU:CD2	2.42	0.48
5:Q:122:HIS:ND1	5:Q:124:LEU:HB2	2.29	0.48
5:Q:158:CYS:SG	5:Q:160:CYS:HB2	2.54	0.48
6:R:7:SER:O	6:R:11:ARG:HD2	2.13	0.48
9:U:51:CYS:SG	9:U:53:GLU:HB3	2.52	0.48
1:A:296:SER:O	1:A:297:ILE:C	2.55	0.48
2:B:52:LYS:CB	2:B:203:ARG:HB3	2.28	0.48
2:B:198:HIS:HE1	2:B:233:SER:CB	2.19	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:26:ASN:N	6:F:70:MET:HB2	2.29	0.48
3:C:44:GLN:HE22	3:C:86:GLY:HA3	1.78	0.48
3:C:361:LEU:CD2	3:C:365:LEU:HD12	2.42	0.48
4:D:131:LEU:HD22	4:D:163:PRO:HB3	1.95	0.48
8:H:50:THR:HG22	8:H:51:GLU:N	2.29	0.48
9:I:70:LEU:HG	9:I:72:VAL:H	1.78	0.48
4:P:220:TYR:CD2	7:S:26:PHE:CE1	3.02	0.48
10:V:32:GLU:HG2	10:V:33:ARG:N	2.29	0.48
10:V:61:ASN:O	10:V:62:LYS:HB2	2.13	0.48
1:A:84:ALA:HB1	1:A:100:LYS:O	2.14	0.48
1:A:277:ILE:CG2	1:A:294:LEU:HD12	2.44	0.48
2:B:47:ILE:CG2	2:B:48:GLY:N	2.77	0.48
3:C:80:ARG:HD3	3:C:80:ARG:C	2.39	0.48
3:C:147:THR:HG21	3:C:165:TRP:CD1	2.48	0.48
3:C:213:SER:O	3:C:214:ASP:C	2.56	0.48
3:C:215:VAL:O	6:F:63:LYS:CE	2.62	0.48
3:C:284:ILE:CG2	3:C:285:PRO:HD2	2.44	0.48
4:D:83:ARG:CB	4:D:84:PRO:CD	2.66	0.48
10:J:13:LEU:O	10:J:19:THR:OG1	2.16	0.48
1:M:280:TYR:O	1:M:306:SER:HA	2.14	0.48
2:N:128:THR:HG23	2:N:226:ILE:HD11	1.96	0.48
2:N:250:ASP:OD1	2:N:251:SER:N	2.47	0.48
3:O:122:THR:HB	3:O:189:ILE:HD13	1.95	0.48
3:O:252:ASP:CB	3:O:253:PRO:HD3	2.34	0.48
5:Q:46:GLY:O	5:Q:49:TYR:HB3	2.14	0.48
5:Q:103:LYS:HA	5:Q:106:ILE:CD1	2.43	0.48
5:Q:134:ILE:HD11	5:Q:185:TYR:CD1	2.48	0.48
1:A:61:HIS:CE1	1:A:134:ILE:HD11	2.49	0.48
2:B:99:THR:O	2:B:99:THR:HG22	2.14	0.48
2:B:276:GLN:OE1	2:B:313:ASN:HB3	2.14	0.48
3:C:192:ILE:N	3:C:192:ILE:CD1	2.77	0.48
4:D:32:VAL:CB	4:D:186:VAL:HG22	2.43	0.48
1:M:184:GLU:O	1:M:185:TYR:C	2.56	0.48
1:M:436:ARG:HE	3:O:222:PRO:HG3	1.79	0.48
2:N:194:TYR:O	2:N:195:VAL:C	2.54	0.48
2:N:254:HIS:O	2:N:426:ALA:HA	2.13	0.48
2:N:262:ALA:HB3	2:N:269:ALA:CA	2.44	0.48
2:N:360:ALA:O	2:N:363:LYS:N	2.47	0.48
3:O:47:THR:HG21	3:O:83:HIS:CB	2.43	0.48
4:P:49:ARG:HG3	4:P:49:ARG:O	2.13	0.48
13:P:242:HEC:HBC2	13:P:242:HEC:CHD	2.26	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:9:ASP:OD1	5:Q:11:SER:OG	2.30	0.48
5:Q:121:GLN:CG	5:Q:179:ASN:ND2	2.77	0.48
1:A:131:ARG:NH2	1:A:177:LEU:O	2.47	0.47
1:A:260:PRO:HG3	1:A:414:TYR:CZ	2.49	0.47
1:A:315:ALA:HB3	1:A:316:ASP:OD1	2.13	0.47
2:B:76:THR:HG21	2:B:133:ARG:CZ	2.44	0.47
2:B:140:LEU:O	2:B:142:PRO:N	2.47	0.47
2:B:141:GLN:HE22	2:B:186:VAL:HB	1.79	0.47
2:B:381:GLU:OE1	2:B:381:GLU:HA	2.13	0.47
3:C:328:LEU:O	3:C:329:VAL:C	2.56	0.47
4:D:3:LEU:HD22	7:G:70:LYS:HZ3	1.78	0.47
4:D:93:LYS:O	4:D:94:PRO:C	2.56	0.47
1:M:385:THR:CG2	1:M:386:TYR:CD1	2.96	0.47
3:O:269:LYS:HA	3:O:270:PRO:HD3	1.74	0.47
5:Q:102:THR:O	5:Q:105:GLU:N	2.46	0.47
1:A:64:PHE:HE2	1:A:88:ALA:CB	2.27	0.47
2:B:162:ASN:ND2	2:B:244:ILE:CG2	2.61	0.47
4:D:7:PRO:CB	4:D:125:ASP:HB3	2.43	0.47
4:D:117:VAL:CG1	4:D:191:ARG:HH11	2.27	0.47
5:E:65:SER:O	5:E:66:ALA:C	2.55	0.47
8:H:15:ASP:N	8:H:16:PRO:CD	2.73	0.47
1:M:329:MET:CA	1:M:329:MET:HE3	2.44	0.47
1:M:406:VAL:O	1:M:410:VAL:HG23	2.13	0.47
2:N:84:LYS:O	2:N:85:ILE:C	2.56	0.47
2:N:269:ALA:O	2:N:270:ASN:C	2.57	0.47
2:N:299:VAL:O	2:N:303:VAL:HG23	2.14	0.47
3:O:119:LEU:CD1	3:O:192:ILE:HG22	2.45	0.47
3:O:233:LEU:CD2	4:P:219:VAL:HG21	2.44	0.47
4:P:153:PHE:O	4:P:156:GLN:N	2.36	0.47
4:P:220:TYR:HE2	7:S:26:PHE:CE1	2.19	0.47
5:Q:18:VAL:HG21	7:S:22:GLU:OE1	2.14	0.47
5:Q:163:SER:HA	5:Q:173:LYS:O	2.14	0.47
10:V:52:TRP:CE3	10:V:52:TRP:N	2.82	0.47
2:B:83:PHE:CZ	2:B:87:ARG:HG3	2.49	0.47
2:B:235:ALA:O	2:B:236:LYS:CB	2.62	0.47
2:B:252:LEU:HD11	9:I:49:VAL:HB	1.95	0.47
2:B:360:ALA:O	2:B:363:LYS:HB2	2.14	0.47
3:C:345:HIS:N	3:C:346:PRO:HD2	2.29	0.47
4:D:76:GLU:OE2	4:D:93:LYS:O	2.33	0.47
7:G:34:ILE:O	7:G:38:LEU:HG	2.14	0.47
1:M:431:LEU:HD12	1:M:432:PRO:HD2	1.94	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:218:ILE:HG23	3:O:223:TYR:CE2	2.48	0.47
4:P:10:TYR:HD1	8:T:74:PHE:CD1	2.32	0.47
4:P:188:THR:O	4:P:189:PHE:C	2.55	0.47
5:Q:122:HIS:HB3	5:Q:125:GLU:HG3	1.97	0.47
1:A:36:THR:CB	1:A:372:THR:HG22	2.44	0.47
1:A:51:LYS:O	1:A:53:ASN:N	2.46	0.47
2:B:128:THR:C	2:B:130:PRO:HD2	2.39	0.47
2:B:139:ALA:O	2:B:142:PRO:HD2	2.14	0.47
3:C:108:THR:O	3:C:110:LEU:N	2.46	0.47
4:D:232:SER:CB	7:G:23:GLN:OE1	2.62	0.47
5:E:32:ARG:HH12	7:G:22:GLU:CD	2.21	0.47
5:E:65:SER:OG	5:E:67:ASP:HB3	2.15	0.47
1:M:64:PHE:HA	1:M:75:LEU:HD23	1.96	0.47
1:M:433:ASP:CG	3:O:223:TYR:HH	2.19	0.47
2:N:79:GLY:H	2:N:125:ASN:ND2	2.11	0.47
2:N:163:LEU:HD22	2:N:256:ALA:CB	2.45	0.47
3:O:153:ILE:CG2	3:O:154:PRO:HD2	2.45	0.47
3:O:221:HIS:N	3:O:222:PRO:CD	2.77	0.47
3:O:234:LEU:CD2	4:P:216:LEU:CD2	2.87	0.47
4:P:66:GLU:O	4:P:69:GLU:HG2	2.13	0.47
5:Q:94:LYS:HD2	5:Q:138:VAL:HG21	1.97	0.47
10:V:4:THR:O	10:V:5:LEU:C	2.57	0.47
1:A:260:PRO:CD	1:A:414:TYR:CE1	2.92	0.47
1:A:360:LEU:HD22	2:B:93:GLY:HA2	1.97	0.47
3:C:218:ILE:CG2	3:C:223:TYR:CE2	2.97	0.47
3:C:326:TRP:NE1	7:G:48:VAL:HG22	2.29	0.47
4:D:161:ALA:O	4:D:163:PRO:HD3	2.14	0.47
6:F:36:THR:O	6:F:36:THR:HG22	2.14	0.47
7:G:56:TYR:O	7:G:57:LEU:C	2.56	0.47
8:H:15:ASP:HB2	8:H:16:PRO:CD	2.45	0.47
8:H:22:GLU:O	8:H:23:GLN:C	2.57	0.47
1:M:241:ILE:HG13	7:S:16:TYR:CD2	2.50	0.47
3:O:269:LYS:CD	3:O:340:GLY:HA2	2.44	0.47
3:O:322:GLN:HE21	3:O:326:TRP:HE1	1.62	0.47
5:Q:122:HIS:ND1	5:Q:124:LEU:N	2.57	0.47
1:A:345:LEU:HD23	1:A:345:LEU:HA	1.68	0.47
1:A:405:ARG:O	1:A:409:GLU:HG3	2.15	0.47
2:B:37:SER:HB3	2:B:213:HIS:HB2	1.97	0.47
3:C:6:LYS:HG2	3:C:16:ASN:OD1	2.15	0.47
4:D:82:MET:SD	4:D:86:LYS:NZ	2.82	0.47
7:G:52:PHE:O	7:G:53:VAL:C	2.54	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:67:GLU:O	7:G:71:ARG:HB3	2.14	0.47
1:M:260:PRO:HG3	1:M:414:TYR:CZ	2.50	0.47
1:M:329:MET:HA	1:M:329:MET:HE3	1.95	0.47
2:N:132:PHE:CE2	2:N:191:LEU:HD22	2.49	0.47
2:N:197:ASN:HB2	2:N:198:HIS:CD2	2.49	0.47
2:N:316:TYR:HH	9:U:64:LEU:HD23	1.72	0.47
2:N:338:LYS:O	2:N:339:ALA:C	2.58	0.47
3:O:119:LEU:HD23	12:O:381:HEM:C3B	2.49	0.47
5:Q:29:SER:CA	5:Q:32:ARG:HD3	2.44	0.47
7:S:34:ILE:O	7:S:38:LEU:HG	2.14	0.47
1:A:70:ARG:HB3	1:A:74:ALA:HB3	1.97	0.47
1:A:106:LEU:O	1:A:107:PRO:C	2.56	0.47
1:A:415:PHE:O	1:A:441:MET:HE2	2.13	0.47
3:C:206:ASN:ND2	3:C:207:ASN:N	2.60	0.47
4:D:32:VAL:HG11	4:D:186:VAL:HG22	1.97	0.47
4:D:36:VAL:HG23	4:D:169:LEU:HD11	1.96	0.47
4:D:220:TYR:O	4:D:221:ALA:C	2.56	0.47
6:F:51:PRO:HG3	2:N:134:ARG:HH12	1.78	0.47
6:F:73:GLN:HA	7:G:39:ARG:NH2	2.28	0.47
6:F:95:LYS:O	6:F:96:GLU:C	2.57	0.47
7:G:36:ASN:HA	7:G:39:ARG:CD	2.32	0.47
10:J:32:GLU:HG2	10:J:33:ARG:H	1.79	0.47
11:K:18:VAL:HB	11:K:19:PRO:HD3	1.95	0.47
1:M:61:HIS:CD2	2:N:287:ARG:HD3	2.49	0.47
1:M:75:LEU:HD12	1:M:112:LEU:HD11	1.96	0.47
1:M:134:ILE:O	1:M:137:GLU:N	2.47	0.47
1:M:251:ALA:O	1:M:325:VAL:HA	2.14	0.47
2:N:308:ASP:OD1	2:N:308:ASP:C	2.57	0.47
3:O:9:PRO:HB2	3:O:12:LYS:HB2	1.96	0.47
3:O:26:ASN:ND2	3:O:26:ASN:O	2.48	0.47
3:O:107:TYR:CE1	3:O:305:PRO:HA	2.50	0.47
3:O:218:ILE:CD1	4:P:230:LEU:HD13	2.45	0.47
3:O:276:PHE:CG	3:O:277:ALA:N	2.82	0.47
3:O:277:ALA:O	3:O:278:TYR:C	2.57	0.47
3:O:341:GLN:NE2	3:O:341:GLN:HA	2.29	0.47
5:Q:105:GLU:O	5:Q:108:GLN:HB3	2.14	0.47
5:Q:127:VAL:CG1	5:Q:133:VAL:HG23	2.44	0.47
5:Q:141:HIS:HA	5:Q:177:PRO:HD3	1.96	0.47
6:R:70:MET:HB3	6:R:70:MET:HE3	1.65	0.47
7:S:80:ASP:CG	8:T:47:ARG:HH22	2.22	0.47
10:V:56:LYS:HE2	10:V:60:GLU:OE1	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:85:HIS:CE1	2:B:284:HIS:ND1	2.82	0.47
1:A:312:ILE:HB	1:A:319:LEU:HB2	1.97	0.47
1:A:392:LEU:HA	1:A:395:TRP:NE1	2.30	0.47
3:C:334:THR:O	3:C:337:TRP:HB3	2.15	0.47
4:D:25:SER:O	4:D:26:ILE:C	2.58	0.47
6:F:46:ALA:O	6:F:47:ILE:C	2.56	0.47
7:G:34:ILE:CB	7:G:35:PRO:CD	2.89	0.47
7:G:45:ILE:HD12	7:G:45:ILE:HA	1.67	0.47
1:M:33:PRO:O	1:M:103:SER:HB3	2.14	0.47
1:M:37:VAL:HG13	1:M:199:ALA:CB	2.45	0.47
1:M:395:TRP:O	1:M:396:GLU:C	2.57	0.47
3:O:137:GLN:HE22	3:O:263:ASN:HB3	1.80	0.47
5:Q:171:ILE:O	5:Q:171:ILE:CG2	2.62	0.47
6:R:88:SER:O	6:R:92:PRO:HD2	2.15	0.47
8:T:40:CYS:O	8:T:44:VAL:HG23	2.15	0.47
2:B:24:LEU:HG	2:B:38:LEU:CD1	2.31	0.47
2:B:113:ARG:O	2:B:116:VAL:HG23	2.15	0.47
2:B:207:ILE:HG22	2:B:379:LEU:CD1	2.44	0.47
3:C:26:ASN:ND2	3:C:26:ASN:O	2.48	0.47
3:C:373:GLU:HA	3:C:376:LEU:HD12	1.97	0.47
4:D:168:VAL:HG12	4:D:169:LEU:HD23	1.97	0.47
1:M:170:PRO:O	1:M:171:SER:C	2.55	0.47
1:M:408:ARG:HH12	11:W:15:ARG:CD	2.28	0.47
2:N:129:ALA:O	2:N:130:PRO:C	2.58	0.47
2:N:279:LEU:CD2	2:N:295:LEU:HD13	2.45	0.47
3:O:248:ASP:O	3:O:249:LEU:C	2.58	0.47
3:O:313:ARG:CB	6:R:38:HIS:CD2	2.98	0.47
4:P:64:LEU:O	4:P:68:VAL:HG23	2.15	0.47
4:P:131:LEU:HD22	4:P:163:PRO:HB2	1.96	0.47
5:Q:170:ARG:O	5:Q:172:ARG:HG2	2.15	0.47
7:S:39:ARG:HA	7:S:42:ARG:HD2	1.96	0.47
1:A:67:THR:CG2	1:A:70:ARG:HB2	2.43	0.47
2:B:242:GLY:H	2:B:423:SER:HB3	1.80	0.47
3:C:280:ILE:HD13	3:C:280:ILE:H	1.80	0.47
3:C:310:SER:OG	3:C:311:LYS:N	2.48	0.47
4:D:50:HIS:CE1	4:D:91:PHE:HZ	2.31	0.47
10:J:61:ASN:O	10:J:62:LYS:HB2	2.15	0.47
1:M:34:THR:CB	2:N:373:GLU:OE1	2.62	0.47
1:M:49:SER:N	1:M:52:ASN:OD1	2.41	0.47
1:M:130:GLU:O	1:M:131:ARG:C	2.57	0.47
1:M:361:LEU:HG	1:M:399:ILE:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:396:SER:O	2:N:399:LEU:HB2	2.15	0.47
3:O:61:THR:O	3:O:64:SER:N	2.48	0.47
4:P:31:GLN:O	4:P:32:VAL:C	2.56	0.47
4:P:178:THR:HB	4:P:181:GLN:CG	2.32	0.47
5:Q:15:ARG:HH21	5:Q:32:ARG:CB	2.27	0.47
5:Q:122:HIS:CE1	5:Q:124:LEU:HD12	2.50	0.47
5:Q:141:HIS:HB3	5:Q:142:LEU:H	1.49	0.47
5:Q:153:PHE:HE1	5:Q:173:LYS:CG	2.25	0.47
10:V:4:THR:HG22	10:V:6:THR:H	1.79	0.47
1:A:106:LEU:N	1:A:107:PRO:CD	2.77	0.46
1:A:177:LEU:HD12	1:A:177:LEU:HA	1.74	0.46
1:A:191:LYS:NZ	1:A:220:SER:OG	2.45	0.46
2:B:145:ARG:HG3	2:B:183:ILE:HD13	1.97	0.46
3:C:165:TRP:HA	3:C:174:THR:OG1	2.15	0.46
3:C:252:ASP:CB	3:C:253:PRO:CD	2.88	0.46
3:C:297:SER:O	3:C:300:ILE:CG2	2.62	0.46
3:C:334:THR:HG1	7:G:55:PHE:HD1	1.64	0.46
4:D:35:GLN:OE1	4:D:35:GLN:HA	2.15	0.46
5:E:33:LYS:HA	7:G:21:PHE:CD2	2.50	0.46
6:F:99:ARG:O	6:F:100:GLU:C	2.57	0.46
7:G:36:ASN:O	7:G:37:VAL:C	2.56	0.46
1:M:46:ARG:HB3	1:M:92:ARG:O	2.15	0.46
1:M:253:VAL:O	1:M:323:HIS:HA	2.16	0.46
1:M:279:HIS:CE1	1:M:284:TYR:HH	2.32	0.46
2:N:38:LEU:HD13	2:N:378:PHE:CE2	2.50	0.46
3:O:63:PHE:O	3:O:67:THR:OG1	2.33	0.46
3:O:236:ILE:O	3:O:237:LEU:C	2.57	0.46
4:P:30:PHE:CE1	4:P:50:HIS:CE1	3.03	0.46
10:V:23:THR:O	10:V:24:ILE:C	2.58	0.46
11:W:24:TRP:O	11:W:25:GLY:C	2.59	0.46
1:A:52:ASN:HB2	1:A:55:ALA:HB2	1.96	0.46
2:B:71:LEU:HD13	2:B:143:GLN:HG3	1.97	0.46
2:B:159:VAL:HG12	2:B:160:ILE:N	2.30	0.46
2:B:161:GLU:CD	2:B:175:SER:HB2	2.40	0.46
2:B:300:ALA:HA	2:B:307:PHE:HZ	1.74	0.46
3:C:31:TRP:CD2	3:C:100:ARG:HD2	2.50	0.46
3:C:202:GLU:OE2	3:O:10:LEU:CB	2.48	0.46
4:D:195:GLU:HG3	4:D:195:GLU:O	2.15	0.46
1:M:252:HIS:O	1:M:424:GLY:HA2	2.16	0.46
3:O:26:ASN:O	3:O:27:ILE:HG13	2.14	0.46
3:O:64:SER:O	3:O:65:SER:C	2.55	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:146:GLY:O	4:P:148:TYR:HD1	1.97	0.46
1:A:60:GLU:OE1	1:A:90:SER:HB2	2.15	0.46
2:B:24:LEU:H	2:B:24:LEU:CD1	2.03	0.46
2:B:135:TRP:NE1	2:B:136:GLU:HG3	2.31	0.46
3:C:376:LEU:HD13	6:F:20:TYR:CD2	2.51	0.46
4:D:82:MET:CG	4:D:86:LYS:HZ2	2.28	0.46
6:F:50:LEU:HA	6:F:51:PRO:HD2	1.74	0.46
7:G:11:ARG:HB3	7:G:12:HIS:CD2	2.50	0.46
10:J:55:ILE:O	10:J:58:LYS:HD2	2.14	0.46
1:M:28:GLU:OE1	1:M:375:VAL:HG11	2.15	0.46
1:M:45:SER:OG	1:M:92:ARG:HG2	2.15	0.46
1:M:61:HIS:HB3	1:M:130:GLU:HG3	1.97	0.46
2:N:346:THR:HG23	2:N:351:ASN:HB3	1.96	0.46
2:N:362:ASN:O	2:N:363:LYS:C	2.57	0.46
3:O:309:THR:HG23	3:O:310:SER:N	2.30	0.46
5:Q:99:ARG:NH1	5:Q:156:TYR:CZ	2.83	0.46
5:Q:114:VAL:O	5:Q:117:LEU:CB	2.63	0.46
1:A:39:VAL:CG1	1:A:195:MET:CE	2.94	0.46
1:A:120:CYS:HB2	1:A:122:LEU:HD21	1.96	0.46
3:C:315:MET:O	3:C:318:ARG:N	2.35	0.46
5:E:7:VAL:HG13	7:G:16:TYR:CD1	2.51	0.46
1:M:40:TRP:HZ2	1:M:377:GLU:CB	2.28	0.46
1:M:430:GLN:O	1:M:430:GLN:CG	2.63	0.46
2:N:286:LYS:O	2:N:287:ARG:HB2	2.14	0.46
3:O:152:ALA:HB2	3:O:287:LYS:HZ3	1.79	0.46
4:P:220:TYR:CD2	7:S:26:PHE:CZ	3.04	0.46
5:Q:42:THR:O	5:Q:45:VAL:N	2.45	0.46
8:T:73:LEU:CD2	8:T:74:PHE:HD1	2.28	0.46
1:A:21:ASN:CB	1:A:217:SER:CB	2.89	0.46
1:A:184:GLU:O	1:A:188:ARG:HG3	2.16	0.46
1:A:184:GLU:O	1:A:185:TYR:C	2.59	0.46
2:B:227:ARG:N	2:B:227:ARG:HD2	2.30	0.46
2:B:262:ALA:HB2	2:B:268:GLU:HB3	1.98	0.46
2:B:270:ASN:O	2:B:271:ALA:C	2.59	0.46
3:C:136:GLY:O	3:C:139:SER:N	2.49	0.46
3:C:149:LEU:O	3:C:291:VAL:HG21	2.15	0.46
3:C:152:ALA:HB2	3:C:287:LYS:HZ3	1.81	0.46
3:C:269:LYS:HA	3:C:270:PRO:HD3	1.81	0.46
4:D:116:ILE:HD11	4:D:120:ARG:HG3	1.97	0.46
4:D:150:ASN:OD1	4:D:151:PRO:N	2.49	0.46
4:D:197:GLU:O	4:D:198:HIS:C	2.59	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:44:CYS:O	7:G:47:ARG:N	2.47	0.46
1:M:41:ILE:HD12	1:M:41:ILE:N	2.24	0.46
1:M:236:PHE:HD2	1:M:258:GLU:CB	2.29	0.46
2:N:198:HIS:HE1	2:N:233:SER:HB3	1.81	0.46
2:N:203:ARG:NH2	2:N:230:LEU:HD23	2.31	0.46
3:O:347:TYR:O	3:O:348:ILE:C	2.58	0.46
4:P:91:PHE:HA	4:P:92:PRO:HD3	1.60	0.46
2:B:134:ARG:HE	2:B:134:ARG:HB3	1.54	0.46
2:B:267:ALA:O	2:B:268:GLU:C	2.59	0.46
3:C:8:HIS:O	3:C:9:PRO:C	2.57	0.46
3:C:51:LEU:CD2	3:C:79:ILE:CG2	2.93	0.46
3:C:132:VAL:HA	3:C:139:SER:CB	2.42	0.46
1:M:32:GLN:CG	1:M:33:PRO:CD	2.86	0.46
1:M:243:HIS:O	1:M:425:PHE:HA	2.16	0.46
1:M:394:GLU:O	1:M:397:SER:N	2.49	0.46
3:O:312:GLN:NE2	3:O:317:PHE:HB2	2.30	0.46
3:O:316:MET:HE2	3:O:317:PHE:CZ	2.51	0.46
5:Q:147:ILE:O	5:Q:148:ALA:C	2.57	0.46
11:W:34:SER:OG	11:W:35:ALA:N	2.46	0.46
1:A:32:GLN:HG2	1:A:33:PRO:N	2.30	0.46
2:B:218:GLN:O	2:B:221:GLU:HB2	2.15	0.46
4:D:138:PRO:CB	8:H:55:THR:HA	2.46	0.46
1:M:16:VAL:HG11	1:M:388:ARG:HB2	1.98	0.46
1:M:24:ARG:CG	1:M:196:VAL:HG22	2.45	0.46
1:M:50:GLU:O	1:M:173:ASN:ND2	2.49	0.46
1:M:246:ASP:HA	1:M:427:PRO:HD3	1.97	0.46
2:N:352:LEU:HD21	2:N:357:VAL:CG2	2.46	0.46
3:O:41:LEU:HD23	3:O:190:MET:HG3	1.96	0.46
5:Q:49:TYR:O	5:Q:50:ALA:C	2.56	0.46
5:Q:131:GLU:HG2	5:Q:132:TRP:CD1	2.51	0.46
6:R:64:ARG:O	6:R:68:LEU:HD12	2.16	0.46
1:A:277:ILE:HG22	1:A:294:LEU:HD12	1.96	0.46
1:A:324:PHE:CG	1:A:334:MET:HG2	2.50	0.46
1:A:365:LEU:HG	1:A:365:LEU:O	2.15	0.46
2:B:262:ALA:HB3	2:B:269:ALA:N	2.31	0.46
2:B:308:ASP:OD2	9:I:54:SER:O	2.32	0.46
3:C:15:ASN:ND2	3:C:18:PHE:HE1	2.12	0.46
3:C:40:CYS:HB3	3:C:90:PHE:HD2	1.81	0.46
3:C:148:ASN:O	3:C:151:SER:OG	2.26	0.46
1:M:279:HIS:CE1	1:M:284:TYR:OH	2.68	0.46
2:N:35:ILE:HD11	2:N:213:HIS:CD2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:141:GLN:CB	2:N:142:PRO:HD3	2.46	0.46
2:N:345:LYS:HG2	2:N:418:VAL:CG1	2.46	0.46
3:O:44:GLN:OE1	3:O:83:HIS:CE1	2.69	0.46
5:Q:43:THR:HG22	5:Q:44:THR:N	2.30	0.46
5:Q:136:ILE:O	5:Q:138:VAL:N	2.49	0.46
5:Q:188:THR:HG21	5:Q:194:ILE:HG13	1.96	0.46
6:R:22:ASN:O	6:R:23:ALA:C	2.57	0.46
1:A:192:ALA:HA	1:A:194:ARG:N	2.31	0.46
1:A:379:ILE:CD1	1:A:390:ILE:HD12	2.41	0.46
1:A:426:GLY:CA	1:A:427:PRO:C	2.86	0.46
3:C:30:TRP:HA	3:C:33:PHE:CE2	2.51	0.46
3:C:105:GLY:HA2	3:C:107:TYR:CE1	2.50	0.46
3:C:281:LEU:HD12	3:C:281:LEU:O	2.16	0.46
1:M:57:TYR:HE2	1:M:134:ILE:HD12	1.80	0.46
1:M:192:ALA:HA	1:M:194:ARG:N	2.31	0.46
1:M:276:ILE:O	1:M:277:ILE:C	2.57	0.46
1:M:287:GLY:O	1:M:289:HIS:N	2.48	0.46
1:M:294:LEU:HD23	1:M:337:VAL:HG12	1.98	0.46
2:N:433:THR:HA	2:N:434:PRO:HD2	1.58	0.46
3:O:116:GLY:HA3	12:O:381:HEM:C3C	2.51	0.46
4:P:218:LEU:HD23	4:P:218:LEU:HA	1.73	0.46
5:Q:120:PRO:O	5:Q:121:GLN:NE2	2.49	0.46
5:Q:186:GLU:HG3	5:Q:186:GLU:O	2.16	0.46
1:A:91:THR:HG22	1:A:92:ARG:N	2.31	0.46
1:A:197:LEU:HD11	1:A:208:LEU:HD11	1.98	0.46
1:A:372:THR:O	1:A:373:THR:C	2.58	0.46
2:B:84:LYS:HG3	2:B:122:PHE:HZ	1.80	0.46
2:B:299:VAL:CG1	2:B:303:VAL:HG21	2.46	0.46
3:C:61:THR:O	3:C:64:SER:HB3	2.16	0.46
3:C:108:THR:CB	3:C:313:ARG:HH11	2.27	0.46
3:C:246:ALA:N	3:C:247:PRO:HD3	2.31	0.46
4:D:5:LEU:HG	4:D:152:TYR:CE1	2.51	0.46
4:D:10:TYR:CE1	8:H:73:LEU:HD22	2.51	0.46
4:D:54:VAL:O	4:D:54:VAL:CG1	2.60	0.46
4:D:220:TYR:CD2	7:G:26:PHE:CE1	3.03	0.46
3:O:109:PHE:HD1	3:O:203:THR:HG1	1.60	0.46
4:P:241:LYS:NZ	6:R:53:ASN:HB2	2.31	0.46
7:S:73:ASN:N	7:S:74:PRO:HD2	2.31	0.46
10:V:52:TRP:HE3	10:V:52:TRP:H	1.62	0.46
10:V:55:ILE:CG2	10:V:58:LYS:HE2	2.46	0.46
1:A:39:VAL:HG22	1:A:197:LEU:HD22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:358:LYS:HD2	1:A:402:VAL:HB	1.98	0.45
2:B:271:ALA:O	2:B:272:PHE:C	2.58	0.45
3:C:182:HIS:O	3:C:186:PRO:CD	2.64	0.45
5:E:15:ARG:HH21	5:E:32:ARG:CG	2.29	0.45
5:E:45:VAL:HG13	10:J:28:ALA:CA	2.46	0.45
6:F:10:SER:HA	6:F:13:LEU:CD1	2.45	0.45
7:G:48:VAL:O	7:G:51:PRO:HD2	2.16	0.45
1:M:271:GLN:O	1:M:272:VAL:C	2.59	0.45
1:M:438:ARG:HG3	1:M:438:ARG:NH1	2.31	0.45
2:N:50:PHE:CE1	2:N:207:ILE:HG13	2.52	0.45
2:N:276:GLN:OE1	2:N:313:ASN:HB3	2.15	0.45
2:N:314:ALA:HB1	9:U:64:LEU:HD22	1.97	0.45
4:P:161:ALA:O	4:P:163:PRO:N	2.49	0.45
4:P:183:ALA:HA	4:P:186:VAL:HG23	1.97	0.45
4:P:240:PRO:CG	4:P:241:LYS:N	2.79	0.45
8:T:65:ARG:O	8:T:69:VAL:HG23	2.16	0.45
2:B:216:LEU:O	2:B:217:LYS:C	2.58	0.45
2:B:304:HIS:CD2	2:B:305:GLN:N	2.85	0.45
3:C:152:ALA:N	3:C:287:LYS:NZ	2.64	0.45
3:C:276:PHE:CE2	3:C:297:SER:OG	2.68	0.45
3:C:341:GLN:HA	3:C:341:GLN:NE2	2.31	0.45
4:D:109:LEU:HA	4:D:110:PRO:HD2	1.74	0.45
6:F:43:VAL:O	6:F:44:LYS:C	2.57	0.45
10:J:55:ILE:CG2	10:J:58:LYS:HE2	2.44	0.45
1:M:43:ALA:CB	1:M:189:HIS:CB	2.94	0.45
1:M:70:ARG:HB3	1:M:74:ALA:HB3	1.97	0.45
2:N:51:ILE:CG2	2:N:199:PHE:HA	2.33	0.45
3:O:218:ILE:CG2	3:O:219:PRO:HD2	2.46	0.45
3:O:280:ILE:HD13	3:O:335:LEU:CD2	2.44	0.45
4:P:115:TYR:O	4:P:119:ALA:N	2.47	0.45
5:Q:7:VAL:HG13	5:Q:8:PRO:HD2	1.98	0.45
1:A:17:SER:HB2	1:A:25:VAL:HB	1.99	0.45
1:A:341:GLN:OE1	1:A:344:ARG:HD3	2.16	0.45
2:B:285:VAL:HG12	2:B:288:GLY:HA3	1.98	0.45
3:C:90:PHE:CE1	3:C:123:VAL:HG11	2.52	0.45
3:C:200:LEU:O	3:C:200:LEU:HG	2.15	0.45
4:D:98:PRO:O	4:D:101:ALA:HB3	2.16	0.45
4:D:165:TYR:CD1	4:D:168:VAL:HG22	2.51	0.45
4:D:221:ALA:O	4:D:222:MET:C	2.57	0.45
7:G:71:ARG:O	7:G:73:ASN:N	2.50	0.45
1:M:53:ASN:CG	1:M:170:PRO:HD3	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:441:MET:HE3	1:M:441:MET:HB3	1.74	0.45
3:O:116:GLY:O	3:O:119:LEU:HB2	2.16	0.45
3:O:183:PHE:CE1	3:O:187:PHE:CE2	3.03	0.45
5:Q:29:SER:OG	5:Q:32:ARG:HD3	2.17	0.45
5:Q:40:THR:CG2	10:V:20:PHE:HZ	2.28	0.45
1:A:195:MET:HE2	1:A:195:MET:HB3	1.82	0.45
2:B:56:ARG:HH21	2:B:103:GLU:CD	2.25	0.45
2:B:243:GLU:HA	2:B:424:MET:O	2.17	0.45
3:C:294:LEU:O	3:C:297:SER:HB3	2.17	0.45
4:D:7:PRO:HG3	4:D:126:TYR:CA	2.43	0.45
1:M:125:SER:O	1:M:129:LYS:HG3	2.16	0.45
1:M:245:GLU:C	1:M:247:GLY:H	2.24	0.45
4:P:227:TRP:CE3	4:P:230:LEU:HD12	2.51	0.45
6:R:7:SER:O	6:R:11:ARG:HB2	2.16	0.45
1:A:146:ARG:NH2	1:A:308:GLN:NE2	2.58	0.45
1:A:252:HIS:NE2	1:A:325:VAL:HG21	2.32	0.45
2:B:42:ALA:HB1	2:B:43:PRO:CD	2.40	0.45
2:B:182:ARG:NH1	2:B:185:LYS:CG	2.77	0.45
2:B:395:PRO:O	2:B:396:SER:C	2.59	0.45
3:C:136:GLY:O	3:C:138:MET:N	2.49	0.45
3:C:347:TYR:O	3:C:348:ILE:C	2.59	0.45
4:D:6:HIS:HA	4:D:7:PRO:HD3	1.80	0.45
4:D:233:ARG:CG	7:G:17:SER:CB	2.94	0.45
1:M:64:PHE:CZ	1:M:88:ALA:HB2	2.51	0.45
1:M:233:PRO:HG2	5:Q:23:LYS:HD3	1.98	0.45
1:M:277:ILE:HG22	1:M:294:LEU:HD12	1.99	0.45
2:N:62:ASN:HD21	2:N:65:THR:CB	2.28	0.45
2:N:239:TYR:HE2	2:N:421:ARG:HB3	1.81	0.45
3:O:10:LEU:O	3:O:13:ILE:HG13	2.17	0.45
4:P:26:ILE:HG21	4:P:54:VAL:HG22	1.98	0.45
4:P:65:ALA:O	4:P:69:GLU:OE2	2.35	0.45
4:P:74:PRO:O	4:P:79:GLU:N	2.42	0.45
1:A:91:THR:HG22	1:A:93:GLU:N	2.18	0.45
1:A:199:ALA:HB3	1:A:208:LEU:HD21	1.99	0.45
1:A:369:LEU:HD21	1:A:378:ASP:OD2	2.16	0.45
1:A:428:ILE:CG2	1:A:431:LEU:HD22	2.47	0.45
2:B:160:ILE:HD12	2:B:160:ILE:HA	1.73	0.45
3:C:63:PHE:O	3:C:67:THR:OG1	2.33	0.45
1:M:11:VAL:CG1	1:M:12:PRO:HD2	2.46	0.45
2:N:135:TRP:CD1	2:N:136:GLU:HG3	2.52	0.45
4:P:50:HIS:CE1	4:P:91:PHE:HZ	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:138:PRO:CB	8:T:55:THR:HA	2.46	0.45
5:Q:133:VAL:HG13	5:Q:133:VAL:O	2.15	0.45
6:R:73:GLN:HA	7:S:39:ARG:NH2	2.29	0.45
7:S:44:CYS:O	7:S:45:ILE:C	2.59	0.45
1:A:39:VAL:HG12	1:A:41:ILE:HD12	1.95	0.45
1:A:236:PHE:HD2	1:A:258:GLU:CB	2.29	0.45
1:A:291:SER:OG	2:B:90:GLU:OE1	2.26	0.45
2:B:154:ASN:O	2:B:155:PRO:C	2.60	0.45
3:C:192:ILE:HD13	3:C:192:ILE:H	1.82	0.45
3:C:357:LEU:HG	3:C:361:LEU:HD11	1.98	0.45
3:C:378:LYS:NZ	6:F:91:GLU:OE1	2.48	0.45
4:D:23:HIS:CD2	10:J:50:LYS:O	2.70	0.45
4:D:74:PRO:CG	4:D:82:MET:HB3	2.46	0.45
6:F:67:ASP:HA	6:F:70:MET:HE2	1.98	0.45
7:G:50:PRO:CB	7:G:51:PRO:CD	2.92	0.45
1:M:43:ALA:HB1	1:M:189:HIS:HB3	1.97	0.45
1:M:236:PHE:CD2	1:M:258:GLU:CG	2.95	0.45
1:M:445:ARG:O	1:M:446:PHE:CB	2.55	0.45
2:N:68:LEU:HG	2:N:191:LEU:HD21	1.98	0.45
2:N:84:LYS:O	2:N:88:GLY:N	2.47	0.45
2:N:156:GLN:OE1	9:U:58:GLN:NE2	2.39	0.45
3:O:183:PHE:CD1	3:O:183:PHE:C	2.94	0.45
4:P:228:SER:HB2	7:S:23:GLN:NE2	2.32	0.45
5:Q:76:ILE:CG2	5:Q:194:ILE:CG1	2.74	0.45
5:Q:138:VAL:O	5:Q:139:CYS:C	2.59	0.45
8:T:59:LEU:HD23	8:T:59:LEU:HA	1.71	0.45
1:A:64:PHE:CZ	1:A:88:ALA:HB2	2.51	0.45
1:A:248:LEU:HA	1:A:249:PRO:HD3	1.59	0.45
1:A:255:ILE:HG13	1:A:422:VAL:HG22	1.98	0.45
1:A:389:ARG:C	1:A:391:PRO:HD3	2.42	0.45
2:B:29:LEU:HD12	2:B:33:LEU:HD21	1.98	0.45
2:B:83:PHE:CZ	6:R:104:ARG:HG2	2.52	0.45
2:B:264:ILE:HG21	2:B:317:SER:HA	1.97	0.45
3:C:183:PHE:HZ	3:O:184:ILE:HB	1.82	0.45
7:G:75:ALA:O	7:G:76:ALA:C	2.60	0.45
9:I:51:CYS:SG	9:I:53:GLU:HB3	2.57	0.45
10:J:27:GLY:O	10:J:28:ALA:C	2.59	0.45
10:J:57:HIS:O	10:J:60:GLU:HG2	2.17	0.45
1:M:426:GLY:H	1:M:428:ILE:HD11	1.82	0.45
2:N:235:ALA:O	2:N:236:LYS:CB	2.65	0.45
2:N:275:LEU:O	2:N:276:GLN:C	2.60	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:337:TRP:O	3:O:341:GLN:HG2	2.17	0.45
3:O:373:GLU:O	3:O:377:LEU:HD12	2.16	0.45
4:P:23:HIS:NE2	10:V:51:LEU:HA	2.31	0.45
4:P:55:CYS:SG	10:V:52:TRP:HA	2.56	0.45
4:P:102:ARG:O	4:P:106:ASN:N	2.49	0.45
5:Q:76:ILE:HD12	5:Q:192:MET:HE1	1.97	0.45
5:Q:81:ILE:HD11	5:Q:132:TRP:HH2	1.82	0.45
6:R:43:VAL:HG22	6:R:94:LEU:CD2	2.45	0.45
1:A:243:HIS:CD2	1:A:425:PHE:CE2	3.04	0.45
1:A:255:ILE:HD12	1:A:335:MET:CE	2.47	0.45
1:A:293:PRO:HA	1:A:296:SER:OG	2.17	0.45
2:B:160:ILE:HD13	2:B:160:ILE:N	2.31	0.45
2:B:346:THR:O	2:B:347:ILE:C	2.60	0.45
4:D:28:ARG:HB2	4:D:185:ASP:HB3	1.99	0.45
4:D:32:VAL:CG2	4:D:186:VAL:HG22	2.44	0.45
4:D:180:SER:HB3	8:H:17:LEU:HB2	1.98	0.45
6:F:58:ARG:HG2	6:F:58:ARG:HH11	1.82	0.45
10:J:51:LEU:O	10:J:54:HIS:N	2.46	0.45
1:M:339:GLN:O	1:M:343:MET:HG2	2.17	0.45
2:N:159:VAL:CG1	2:N:160:ILE:N	2.79	0.45
2:N:207:ILE:CD1	2:N:383:GLY:CA	2.93	0.45
2:N:308:ASP:O	2:N:309:VAL:HG23	2.17	0.45
3:O:26:ASN:HB2	6:R:69:SER:OG	2.17	0.45
4:P:23:HIS:CD2	10:V:52:TRP:N	2.85	0.45
11:W:23:LEU:N	11:W:23:LEU:HD23	2.32	0.45
1:A:332:ASP:OD1	1:A:332:ASP:O	2.34	0.45
2:B:124:LEU:HD13	2:B:223:PHE:CG	2.52	0.45
2:B:211:VAL:HG12	2:B:212:SER:N	2.32	0.45
3:C:152:ALA:CA	3:C:287:LYS:HZ2	2.30	0.45
4:D:150:ASN:OD1	4:D:150:ASN:C	2.59	0.45
1:M:14:THR:HG21	1:M:390:ILE:HG13	1.98	0.45
1:M:40:TRP:CZ2	1:M:377:GLU:CA	2.95	0.45
1:M:43:ALA:HB2	1:M:189:HIS:HB3	1.99	0.45
1:M:329:MET:HG3	7:S:2:ARG:HH11	1.82	0.45
2:N:360:ALA:O	2:N:361:LYS:C	2.58	0.45
3:O:55:TYR:CE2	3:O:56:THR:O	2.71	0.45
3:O:90:PHE:CE1	3:O:123:VAL:HG11	2.52	0.45
3:O:316:MET:HE2	3:O:317:PHE:HE1	1.77	0.45
3:O:364:VAL:O	3:O:367:PRO:HG2	2.17	0.45
10:V:49:GLY:HA2	10:V:54:HIS:HB3	1.98	0.45
1:A:7:ALA:O	1:A:8:LEU:C	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:33:PRO:O	1:A:103:SER:HB3	2.17	0.44
1:A:240:GLN:HE21	1:A:431:LEU:HD21	1.81	0.44
1:A:349:ALA:O	1:A:408:ARG:NH2	2.50	0.44
2:B:285:VAL:HG12	2:B:285:VAL:O	2.16	0.44
3:C:115:ILE:HG21	3:C:196:HIS:CB	2.33	0.44
6:F:37:ILE:CD1	6:F:43:VAL:HG22	2.47	0.44
1:M:381:ARG:HA	1:M:384:LEU:HD12	1.98	0.44
2:N:53:ALA:HB2	2:N:198:HIS:HB3	1.99	0.44
2:N:109:VAL:HG22	2:N:119:LEU:HD23	1.99	0.44
2:N:161:GLU:O	2:N:162:ASN:C	2.60	0.44
2:N:300:ALA:HA	2:N:307:PHE:HZ	1.77	0.44
2:N:338:LYS:O	2:N:341:TYR:N	2.50	0.44
3:O:264:THR:O	3:O:266:PRO:HD3	2.16	0.44
3:O:277:ALA:HB1	3:O:294:LEU:HD11	1.98	0.44
4:P:28:ARG:HD2	4:P:185:ASP:OD2	2.17	0.44
9:U:57:GLY:O	9:U:78:TYR:CE2	2.70	0.44
1:A:51:LYS:C	1:A:53:ASN:H	2.25	0.44
1:A:417:ASP:CG	10:J:10:TYR:OH	2.55	0.44
2:B:122:PHE:O	2:B:126:VAL:HG23	2.18	0.44
3:C:26:ASN:CA	6:F:70:MET:HB2	2.48	0.44
3:C:177:ARG:HG2	3:C:181:PHE:HE2	1.82	0.44
3:C:243:VAL:O	3:C:243:VAL:HG22	2.17	0.44
3:C:310:SER:OG	3:C:312:GLN:N	2.48	0.44
12:C:380:HEM:CMB	12:C:380:HEM:HBB2	2.48	0.44
11:K:31:GLY:O	11:K:35:ALA:N	2.46	0.44
1:M:76:GLU:O	1:M:77:LYS:C	2.60	0.44
1:M:272:VAL:HG13	1:M:358:LYS:HA	1.98	0.44
2:N:261:SER:HB3	2:N:321:LEU:C	2.42	0.44
3:O:185:LEU:N	3:O:186:PRO:CD	2.80	0.44
3:O:276:PHE:HE2	3:O:297:SER:OG	2.00	0.44
4:P:143:LEU:HD11	4:P:149:PHE:HB2	1.98	0.44
4:P:211:MET:O	4:P:214:LEU:N	2.41	0.44
4:P:237:TYR:HB2	6:R:60:PHE:CE1	2.53	0.44
6:R:28:LYS:HB3	6:R:74:ILE:CD1	2.47	0.44
7:S:68:LYS:O	7:S:69:SER:C	2.58	0.44
10:V:52:TRP:CG	10:V:53:LYS:N	2.85	0.44
1:A:152:TYR:OH	1:A:243:HIS:CD2	2.70	0.44
1:A:349:ALA:HB3	1:A:408:ARG:CG	2.48	0.44
2:B:211:VAL:CG1	2:B:212:SER:N	2.81	0.44
2:B:264:ILE:HG22	2:B:317:SER:HA	1.99	0.44
3:C:110:LEU:HG	3:C:114:ASN:ND2	2.27	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:125:ALA:HB3	3:C:185:LEU:HD21	1.98	0.44
4:D:120:ARG:HH11	4:D:120:ARG:HG2	1.82	0.44
10:J:52:TRP:CG	10:J:53:LYS:N	2.86	0.44
1:M:366:VAL:HG11	2:N:44:ALA:HB2	1.99	0.44
1:M:392:LEU:O	1:M:392:LEU:HG	2.09	0.44
1:M:430:GLN:O	1:M:430:GLN:HG2	2.16	0.44
2:N:51:ILE:HD13	2:N:199:PHE:CD2	2.53	0.44
2:N:53:ALA:O	2:N:105:MET:HB2	2.17	0.44
2:N:304:HIS:HD2	2:N:306:PRO:CD	2.28	0.44
2:N:380:ASP:O	2:N:381:GLU:C	2.61	0.44
3:O:303:LEU:HD23	3:O:303:LEU:HA	1.85	0.44
3:O:315:MET:O	3:O:318:ARG:N	2.40	0.44
3:O:327:ALA:HA	7:S:51:PRO:HB3	1.99	0.44
3:O:352:GLN:O	3:O:356:VAL:HG23	2.17	0.44
5:Q:182:VAL:C	5:Q:183:PRO:O	2.57	0.44
10:V:46:ILE:H	10:V:46:ILE:HG12	1.40	0.44
1:A:61:HIS:HB3	1:A:130:GLU:HG3	1.97	0.44
3:C:11:MET:HE3	3:C:11:MET:HB3	1.67	0.44
3:C:47:THR:HG23	3:C:79:ILE:HG23	1.99	0.44
3:C:183:PHE:CE1	3:C:187:PHE:HE2	2.35	0.44
3:C:227:LYS:HG3	4:D:223:LYS:HZ3	1.83	0.44
3:C:235:LEU:HG	3:C:236:ILE:N	2.32	0.44
4:D:10:TYR:HD1	8:H:74:PHE:CD1	2.35	0.44
4:D:116:ILE:HD12	4:D:116:ILE:HA	1.69	0.44
1:M:19:LEU:HB2	1:M:23:LEU:HB3	1.99	0.44
1:M:224:ASP:O	1:M:225:GLU:C	2.60	0.44
1:M:287:GLY:O	1:M:290:LEU:HG	2.18	0.44
1:M:324:PHE:CG	1:M:334:MET:HG2	2.52	0.44
2:N:332:SER:O	2:N:333:ALA:C	2.60	0.44
3:O:48:GLY:HA3	12:O:380:HEM:C3C	2.52	0.44
4:P:165:TYR:CZ	4:P:168:VAL:HG22	2.53	0.44
5:Q:99:ARG:NH1	5:Q:148:ALA:HB1	2.32	0.44
5:Q:134:ILE:C	5:Q:135:LEU:HD23	2.42	0.44
7:S:40:ARG:O	7:S:44:CYS:SG	2.71	0.44
10:V:57:HIS:O	10:V:60:GLU:HG2	2.18	0.44
1:A:179:ARG:HG3	1:A:180:ALA:N	2.31	0.44
2:B:262:ALA:CB	2:B:268:GLU:HB3	2.47	0.44
3:C:26:ASN:HA	6:F:70:MET:HA	1.98	0.44
3:C:28:SER:CB	3:C:30:TRP:HD1	2.28	0.44
3:C:336:THR:O	3:C:336:THR:HG22	2.18	0.44
4:D:165:TYR:CD2	4:D:168:VAL:HG22	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:167:GLU:HG2	4:D:167:GLU:O	2.17	0.44
4:D:233:ARG:CG	7:G:17:SER:HB3	2.48	0.44
5:E:7:VAL:HA	5:E:8:PRO:HD3	1.84	0.44
6:F:46:ALA:O	6:F:49:ARG:N	2.30	0.44
8:H:69:VAL:O	8:H:73:LEU:HB3	2.18	0.44
1:M:349:ALA:O	1:M:408:ARG:CZ	2.65	0.44
2:N:182:ARG:O	2:N:185:LYS:HB3	2.17	0.44
2:N:286:LYS:HD3	2:N:287:ARG:HH12	1.80	0.44
3:O:41:LEU:HD12	12:O:380:HEM:HBB1	2.00	0.44
7:S:73:ASN:ND2	8:T:56:GLU:OE2	2.38	0.44
2:B:71:LEU:HA	2:B:71:LEU:HD23	1.72	0.44
2:B:257:LEU:HD22	2:B:424:MET:HE2	2.00	0.44
3:C:242:LEU:HD21	3:C:250:LEU:HD22	1.99	0.44
3:C:245:PHE:CE1	4:D:17:LEU:HB3	2.53	0.44
3:C:371:THR:O	3:C:372:ILE:C	2.61	0.44
4:D:67:GLU:O	4:D:70:VAL:HG12	2.17	0.44
4:D:168:VAL:HG12	4:D:169:LEU:CD2	2.47	0.44
6:F:106:GLU:OE1	6:F:109:LYS:HE2	2.17	0.44
1:M:64:PHE:HE1	1:M:86:LEU:CD1	2.31	0.44
2:N:322:PHE:CD1	2:N:322:PHE:C	2.96	0.44
3:O:341:GLN:HA	3:O:341:GLN:HE21	1.82	0.44
11:W:32:LEU:O	11:W:33:VAL:C	2.61	0.44
1:A:16:VAL:HG11	1:A:388:ARG:HB2	1.99	0.44
1:A:197:LEU:CD1	1:A:208:LEU:HD11	2.47	0.44
2:B:140:LEU:O	2:B:143:GLN:N	2.40	0.44
2:B:346:THR:O	2:B:349:GLN:N	2.39	0.44
3:C:113:TRP:O	3:C:117:VAL:HG23	2.17	0.44
3:C:271:GLU:OE2	3:C:273:TYR:OH	2.36	0.44
4:D:10:TYR:CE1	4:D:128:PHE:HE2	2.34	0.44
4:D:35:GLN:HB2	4:D:169:LEU:HD11	1.98	0.44
4:D:220:TYR:CD2	7:G:26:PHE:CZ	3.06	0.44
1:M:38:GLY:HA3	1:M:40:TRP:CZ3	2.50	0.44
1:M:85:HIS:HA	2:N:284:HIS:O	2.18	0.44
1:M:333:ASP:O	1:M:334:MET:C	2.58	0.44
2:N:62:ASN:ND2	2:N:65:THR:CB	2.81	0.44
2:N:134:ARG:HE	2:N:134:ARG:HB3	1.49	0.44
2:N:279:LEU:HD23	2:N:295:LEU:HD13	2.00	0.44
3:O:101:GLY:O	3:O:107:TYR:HD2	2.01	0.44
3:O:252:ASP:CB	3:O:253:PRO:CD	2.90	0.44
3:O:310:SER:HA	3:O:374:ASN:ND2	2.07	0.44
4:P:27:ARG:NH1	10:V:58:LYS:HE3	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:22:THR:O	5:Q:22:THR:OG1	2.34	0.44
1:A:46:ARG:NH2	1:A:316:ASP:CG	2.62	0.44
2:B:334:GLY:O	2:B:335:ASP:C	2.59	0.44
3:C:157:GLY:O	3:C:160:LEU:N	2.51	0.44
3:C:170:VAL:CG1	3:C:174:THR:CG2	2.89	0.44
10:J:4:THR:HG22	10:J:6:THR:N	2.33	0.44
2:N:140:LEU:O	2:N:142:PRO:N	2.51	0.44
2:N:170:ASN:OD1	2:N:171:ALA:N	2.50	0.44
2:N:222:GLN:HB3	2:N:223:PHE:CD2	2.53	0.44
2:N:357:VAL:O	2:N:360:ALA:HB3	2.18	0.44
3:O:58:ASP:O	3:O:59:THR:C	2.60	0.44
3:O:80:ARG:HH11	3:O:80:ARG:HD2	1.33	0.44
3:O:126:THR:CG2	12:O:380:HEM:C3B	3.01	0.44
4:P:116:ILE:O	4:P:117:VAL:C	2.60	0.44
5:Q:107:ASP:O	5:Q:110:ALA:N	2.51	0.44
2:B:338:LYS:HD3	2:B:439:LEU:CD2	2.46	0.44
3:C:30:TRP:O	3:C:33:PHE:CD2	2.61	0.44
3:C:32:ASN:O	3:C:36:LEU:HG	2.18	0.44
3:C:299:LEU:HD22	3:C:299:LEU:HA	1.79	0.44
3:C:365:LEU:O	3:C:366:MET:C	2.61	0.44
4:D:31:GLN:OE1	4:D:31:GLN:HA	2.17	0.44
4:D:72:ASP:OD2	4:D:92:PRO:HB2	2.18	0.44
4:D:138:PRO:CG	8:H:55:THR:HA	2.48	0.44
4:D:161:ALA:O	4:D:163:PRO:CD	2.66	0.44
4:D:229:VAL:HG12	4:D:229:VAL:O	2.18	0.44
6:F:52:GLU:HG3	6:F:56:ASP:OD2	2.18	0.44
7:G:39:ARG:HA	7:G:42:ARG:HD2	2.00	0.44
10:J:18:SER:CB	11:K:23:LEU:HD12	2.30	0.44
3:O:373:GLU:HB3	6:R:20:TYR:OH	2.18	0.44
4:P:25:SER:O	4:P:26:ILE:C	2.61	0.44
4:P:26:ILE:CG2	4:P:54:VAL:HG13	2.47	0.44
4:P:28:ARG:O	4:P:29:GLY:C	2.61	0.44
4:P:136:GLU:O	4:P:137:PRO:C	2.60	0.44
1:A:32:GLN:HE22	2:B:373:GLU:HA	1.83	0.43
2:B:360:ALA:O	2:B:361:LYS:C	2.60	0.43
3:C:338:ILE:HA	3:C:341:GLN:HG3	1.99	0.43
1:M:145:MET:CE	1:M:248:LEU:HD12	2.48	0.43
1:M:345:LEU:HA	1:M:345:LEU:HD23	1.69	0.43
2:N:99:THR:O	2:N:106:ALA:N	2.51	0.43
3:O:31:TRP:CD2	3:O:100:ARG:HD2	2.53	0.43
3:O:102:LEU:HA	3:O:102:LEU:HD23	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:160:LEU:O	3:O:160:LEU:HD12	2.18	0.43
4:P:161:ALA:O	4:P:163:PRO:HD3	2.18	0.43
5:Q:122:HIS:HB3	5:Q:125:GLU:CG	2.48	0.43
5:Q:186:GLU:O	5:Q:186:GLU:CG	2.66	0.43
9:U:70:LEU:CD2	9:U:73:PRO:CD	2.92	0.43
10:V:4:THR:CG2	10:V:6:THR:OG1	2.66	0.43
1:A:385:THR:HG22	1:A:386:TYR:CD1	2.52	0.43
2:B:275:LEU:HD11	2:B:279:LEU:HD12	1.99	0.43
3:C:53:MET:SD	3:O:181:PHE:CZ	3.10	0.43
3:C:103:TYR:CE1	3:C:322:GLN:HG3	2.53	0.43
3:C:122:THR:CG2	3:C:189:ILE:CG1	2.97	0.43
3:C:153:ILE:HD12	3:C:153:ILE:H	1.82	0.43
3:C:357:LEU:HD12	3:C:361:LEU:HG	2.00	0.43
6:F:88:SER:O	6:F:92:PRO:HD3	2.18	0.43
10:J:49:GLY:H	10:J:54:HIS:CD2	2.37	0.43
10:J:52:TRP:N	10:J:52:TRP:HE3	2.14	0.43
11:K:20:THR:HG23	11:K:24:TRP:HD1	1.83	0.43
1:M:8:LEU:HD11	1:M:396:GLU:HG3	2.00	0.43
1:M:56:GLY:O	1:M:57:TYR:C	2.59	0.43
1:M:62:LEU:O	1:M:63:ALA:C	2.57	0.43
1:M:211:LEU:HD12	1:M:211:LEU:O	2.18	0.43
3:O:107:TYR:OH	3:O:308:HIS:HB2	2.17	0.43
3:O:208:PRO:O	3:O:314:SER:OG	2.30	0.43
4:P:210:LEU:O	4:P:211:MET:C	2.60	0.43
5:Q:121:GLN:O	5:Q:170:ARG:HD3	2.18	0.43
5:Q:150:ALA:CB	5:Q:157:TYR:HB2	2.48	0.43
1:A:347:THR:HA	11:K:16:ASN:HD22	1.84	0.43
2:B:314:ALA:CB	9:I:64:LEU:HD22	2.48	0.43
2:B:347:ILE:N	2:B:347:ILE:CD1	2.81	0.43
2:B:367:GLY:O	2:B:368:TYR:C	2.59	0.43
2:B:433:THR:HA	2:B:434:PRO:HD2	1.90	0.43
3:C:26:ASN:HD22	3:C:208:PRO:HD2	1.82	0.43
3:C:234:LEU:HD21	4:D:216:LEU:HD21	2.00	0.43
4:D:158:ILE:CG1	4:D:159:GLY:N	2.81	0.43
1:M:157:ALA:HB2	1:M:421:ALA:HB1	1.99	0.43
1:M:158:PHE:HE1	1:M:317:THR:HG21	1.72	0.43
1:M:195:MET:HE3	1:M:195:MET:HB3	1.61	0.43
1:M:292:SER:O	1:M:295:ALA:N	2.52	0.43
2:N:81:SER:O	2:N:84:LYS:N	2.50	0.43
2:N:283:PRO:HG3	9:U:55:LEU:CG	2.49	0.43
3:O:282:ARG:O	3:O:283:SER:C	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:338:ILE:HA	3:O:341:GLN:HG3	1.99	0.43
4:P:33:TYR:O	4:P:37:CYS:N	2.41	0.43
4:P:34:LYS:O	4:P:34:LYS:HG2	2.18	0.43
4:P:94:PRO:HB2	4:P:95:TYR:CD1	2.53	0.43
5:Q:171:ILE:HB	5:Q:178:LEU:O	2.17	0.43
7:S:68:LYS:HD3	7:S:72:LYS:HE3	2.01	0.43
1:A:231:LEU:H	1:A:231:LEU:HG	1.67	0.43
1:A:311:ASN:CG	1:A:320:LEU:CD2	2.91	0.43
2:B:24:LEU:CG	2:B:38:LEU:HD11	2.31	0.43
3:C:172:LYS:O	3:C:173:ALA:C	2.60	0.43
3:C:319:PRO:O	3:C:322:GLN:N	2.52	0.43
5:E:15:ARG:H	5:E:15:ARG:HG2	1.66	0.43
7:G:60:THR:O	7:G:61:TRP:C	2.59	0.43
1:M:75:LEU:HD21	1:M:116:ILE:HG12	2.00	0.43
2:N:47:ILE:CG2	2:N:48:GLY:H	2.31	0.43
2:N:206:LEU:C	2:N:207:ILE:HG12	2.43	0.43
2:N:334:GLY:O	2:N:335:ASP:C	2.60	0.43
3:O:30:TRP:HA	3:O:33:PHE:CE2	2.52	0.43
3:O:136:GLY:O	3:O:137:GLN:C	2.60	0.43
8:T:22:GLU:O	8:T:23:GLN:C	2.60	0.43
1:A:86:LEU:HD12	1:A:98:TYR:O	2.19	0.43
1:A:255:ILE:HD12	1:A:335:MET:HE1	2.01	0.43
2:B:181:TYR:CD1	2:B:181:TYR:C	2.96	0.43
2:B:295:LEU:O	2:B:299:VAL:HG23	2.19	0.43
3:C:7:SER:O	3:C:8:HIS:O	2.36	0.43
4:D:10:TYR:CE1	4:D:128:PHE:CE2	3.07	0.43
4:D:116:ILE:CD1	4:D:120:ARG:HH11	2.32	0.43
4:D:187:CYS:O	4:D:188:THR:C	2.60	0.43
6:F:70:MET:HE2	6:F:70:MET:HB3	1.60	0.43
2:N:372:VAL:O	2:N:372:VAL:CG1	2.67	0.43
3:O:227:LYS:CG	4:P:223:LYS:NZ	2.82	0.43
3:O:278:TYR:O	3:O:281:LEU:N	2.48	0.43
6:R:50:LEU:HA	6:R:51:PRO:HD2	1.71	0.43
6:R:94:LEU:O	6:R:98:ILE:HG13	2.19	0.43
10:V:44:GLU:O	10:V:45:HIS:C	2.62	0.43
1:A:29:GLN:HA	1:A:201:GLY:O	2.18	0.43
1:A:260:PRO:HG3	1:A:414:TYR:OH	2.19	0.43
3:C:107:TYR:CE2	3:C:305:PRO:HA	2.53	0.43
4:D:136:GLU:O	4:D:137:PRO:C	2.61	0.43
10:J:31:PHE:CD1	10:J:31:PHE:C	2.96	0.43
1:M:158:PHE:O	1:M:164:ALA:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:245:GLU:C	1:M:247:GLY:N	2.76	0.43
1:M:281:ASP:HB3	1:M:284:TYR:CD1	2.53	0.43
1:M:426:GLY:CA	1:M:427:PRO:C	2.90	0.43
3:O:123:VAL:O	3:O:123:VAL:CG1	2.65	0.43
3:O:183:PHE:CD1	3:O:183:PHE:O	2.72	0.43
3:O:207:ASN:O	3:O:208:PRO:C	2.62	0.43
4:P:115:TYR:O	4:P:116:ILE:C	2.60	0.43
5:Q:97:PHE:CD1	5:Q:137:GLY:HA3	2.54	0.43
1:A:213:GLN:HB3	1:A:215:HIS:CD2	2.53	0.43
2:B:110:GLU:O	2:B:111:CYS:HB3	2.18	0.43
3:C:147:THR:CG2	3:C:165:TRP:NE1	2.78	0.43
3:C:254:ASP:HB3	4:D:119:ALA:O	2.18	0.43
4:D:131:LEU:HD13	4:D:164:ILE:CD1	2.48	0.43
1:M:73:ASN:O	1:M:77:LYS:CD	2.66	0.43
1:M:106:LEU:HA	1:M:109:ALA:HB3	2.01	0.43
2:N:83:PHE:CZ	2:N:87:ARG:HG3	2.53	0.43
3:O:207:ASN:OD1	3:O:207:ASN:O	2.37	0.43
4:P:174:GLY:O	4:P:175:THR:C	2.61	0.43
8:T:58:LEU:CD1	8:T:62:LEU:HG	2.48	0.43
1:A:66:GLY:O	1:A:121:SER:N	2.50	0.43
1:A:426:GLY:CA	1:A:428:ILE:HG12	2.48	0.43
2:B:59:ASN:CG	2:B:60:SER:N	2.74	0.43
2:B:68:LEU:O	2:B:71:LEU:N	2.50	0.43
3:C:8:HIS:HB2	3:C:9:PRO:HD2	2.00	0.43
3:C:196:HIS:HE1	12:C:381:HEM:C1D	2.37	0.43
3:C:200:LEU:HD13	12:C:381:HEM:CAD	2.49	0.43
3:C:257:THR:O	3:C:258:PRO:C	2.61	0.43
6:F:68:LEU:HD11	6:F:75:LEU:HD13	2.01	0.43
1:M:91:THR:HG22	1:M:94:HIS:N	2.33	0.43
1:M:149:VAL:CG1	1:M:150:PHE:N	2.81	0.43
1:M:239:SER:CB	7:S:18:LEU:HD23	2.49	0.43
1:M:297:ILE:HG22	1:M:303:LEU:CD1	2.43	0.43
1:M:385:THR:HB	1:M:386:TYR:CD1	2.53	0.43
2:N:47:ILE:HB	2:N:109:VAL:CG1	2.49	0.43
2:N:160:ILE:HD11	2:N:325:TYR:CE2	2.53	0.43
2:N:182:ARG:NH1	2:N:185:LYS:CG	2.79	0.43
2:N:213:HIS:HD2	2:N:213:HIS:O	2.02	0.43
2:N:258:VAL:HG21	2:N:312:PHE:HD2	1.82	0.43
3:O:103:TYR:CE1	3:O:322:GLN:HG3	2.53	0.43
3:O:211:ILE:HG22	3:O:212:SER:N	2.34	0.43
3:O:235:LEU:O	3:O:235:LEU:HD12	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:131:LEU:HD22	4:P:163:PRO:CB	2.48	0.43
1:A:385:THR:HB	1:A:386:TYR:HD1	1.83	0.43
1:A:436:ARG:NE	3:C:222:PRO:HG3	2.33	0.43
6:F:49:ARG:NH2	6:F:100:GLU:OE2	2.47	0.43
1:M:4:TYR:CD1	2:N:43:PRO:HB3	2.53	0.43
1:M:152:TYR:OH	1:M:243:HIS:CD2	2.71	0.43
1:M:226:ASP:O	1:M:228:VAL:N	2.51	0.43
2:N:163:LEU:HD22	2:N:256:ALA:HB1	2.01	0.43
2:N:257:LEU:CD1	2:N:424:MET:HE2	2.49	0.43
4:P:131:LEU:CD2	4:P:163:PRO:HB3	2.48	0.43
4:P:165:TYR:CE1	4:P:168:VAL:HA	2.54	0.43
4:P:224:ARG:O	4:P:225:HIS:C	2.62	0.43
5:Q:119:ASP:OD1	5:Q:120:PRO:CD	2.67	0.43
1:A:152:TYR:O	1:A:153:LEU:C	2.57	0.43
1:A:168:GLU:H	1:A:168:GLU:HG3	1.63	0.43
3:C:37:LEU:CD1	3:C:97:HIS:CD2	3.01	0.43
3:C:71:ARG:HB3	4:D:49:ARG:HH22	1.84	0.43
3:C:243:VAL:HG13	3:C:244:LEU:CD1	2.48	0.43
3:C:342:PRO:HG2	7:G:66:PHE:CZ	2.53	0.43
3:C:368:THR:O	3:C:369:ALA:C	2.62	0.43
4:D:7:PRO:HB2	4:D:125:ASP:CB	2.49	0.43
8:H:15:ASP:HB2	8:H:16:PRO:HD3	2.01	0.43
2:N:264:ILE:HB	2:N:316:TYR:C	2.44	0.43
3:O:7:SER:O	3:O:8:HIS:C	2.61	0.43
3:O:44:GLN:OE1	3:O:44:GLN:HA	2.19	0.43
3:O:122:THR:HB	3:O:189:ILE:CD1	2.49	0.43
4:P:35:GLN:OE1	4:P:35:GLN:HA	2.18	0.43
4:P:102:ARG:HE	4:P:109:LEU:HB2	1.83	0.43
4:P:226:LYS:HD3	4:P:226:LYS:HA	1.76	0.43
6:R:48:ARG:HD3	6:R:48:ARG:HA	1.51	0.43
7:S:45:ILE:HD12	7:S:45:ILE:HA	1.88	0.43
10:V:24:ILE:O	10:V:25:VAL:C	2.61	0.43
10:V:51:LEU:O	10:V:52:TRP:C	2.61	0.43
1:A:41:ILE:CD1	1:A:41:ILE:H	2.25	0.42
1:A:80:GLU:C	1:A:82:MET:N	2.77	0.42
1:A:154:HIS:HE1	1:A:314:TYR:OH	2.02	0.42
1:A:277:ILE:HB	1:A:309:THR:HG21	2.00	0.42
1:A:381:ARG:O	1:A:382:SER:C	2.62	0.42
2:B:331:ALA:CA	2:B:432:HIS:ND1	2.79	0.42
3:C:90:PHE:CZ	3:C:123:VAL:HG21	2.54	0.42
3:C:239:LEU:O	3:C:243:VAL:HB	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:195:GLU:HA	4:D:196:PRO:HD2	1.80	0.42
5:E:15:ARG:O	5:E:16:PRO:C	2.61	0.42
8:H:15:ASP:CB	8:H:16:PRO:CD	2.97	0.42
1:M:213:GLN:CB	1:M:215:HIS:CD2	3.02	0.42
1:M:428:ILE:CG2	1:M:431:LEU:CG	2.97	0.42
2:N:34:VAL:O	2:N:35:ILE:HG22	2.19	0.42
2:N:99:THR:OG1	9:U:68:VAL:HG13	2.19	0.42
3:O:88:SER:O	3:O:89:MET:C	2.61	0.42
1:A:19:LEU:HD22	1:A:214:LYS:NZ	2.34	0.42
1:A:426:GLY:H	1:A:428:ILE:HD11	1.83	0.42
2:B:46:ARG:NH1	2:B:376:GLU:HG3	2.30	0.42
2:B:158:HIS:ND1	2:B:246:GLU:OE1	2.52	0.42
2:B:262:ALA:HB2	2:B:272:PHE:CE2	2.53	0.42
3:C:373:GLU:O	3:C:377:LEU:HD12	2.18	0.42
6:F:103:GLU:O	6:F:104:ARG:C	2.62	0.42
9:I:64:LEU:HG	9:I:65:VAL:HG23	1.99	0.42
1:M:78:GLU:HG2	1:M:112:LEU:HD21	2.02	0.42
2:N:90:GLU:O	2:N:91:ALA:C	2.62	0.42
2:N:109:VAL:O	2:N:109:VAL:CG1	2.66	0.42
2:N:257:LEU:HD12	2:N:257:LEU:HA	1.67	0.42
3:O:47:THR:HG23	3:O:79:ILE:HG23	2.01	0.42
3:O:183:PHE:CE1	3:O:187:PHE:HE2	2.37	0.42
3:O:230:LEU:O	3:O:230:LEU:HG	2.17	0.42
3:O:314:SER:OG	3:O:316:MET:HB3	2.19	0.42
3:O:338:ILE:HA	3:O:341:GLN:CG	2.49	0.42
4:P:139:THR:HB	8:T:54:CYS:SG	2.58	0.42
5:Q:33:LYS:HA	7:S:21:PHE:CE1	2.55	0.42
5:Q:114:VAL:HG13	5:Q:120:PRO:HB3	2.01	0.42
6:R:37:ILE:CG1	6:R:43:VAL:HG21	2.40	0.42
1:A:53:ASN:CG	1:A:170:PRO:HD3	2.44	0.42
1:A:54:GLY:O	1:A:55:ALA:O	2.37	0.42
3:C:92:ILE:HG12	3:C:272:TRP:CH2	2.54	0.42
3:C:107:TYR:HE2	3:C:305:PRO:HA	1.83	0.42
3:C:126:THR:HG21	12:C:380:HEM:C3B	2.53	0.42
4:D:69:GLU:O	4:D:73:GLY:CA	2.67	0.42
4:D:90:TYR:O	4:D:91:PHE:C	2.62	0.42
6:F:87:LYS:HG3	6:F:89:TYR:HB3	2.00	0.42
1:M:136:GLN:HE21	9:U:50:LEU:HG	1.84	0.42
1:M:262:TRP:CE3	1:M:385:THR:HG23	2.52	0.42
2:N:294:SER:O	2:N:297:GLN:N	2.53	0.42
4:P:68:VAL:CG1	4:P:92:PRO:HG2	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:240:PRO:CG	4:P:241:LYS:H	2.33	0.42
5:Q:29:SER:CB	5:Q:32:ARG:HD3	2.49	0.42
5:Q:114:VAL:O	5:Q:117:LEU:N	2.48	0.42
5:Q:141:HIS:CE1	5:Q:175:PRO:HG2	2.54	0.42
1:A:3:THR:O	1:A:4:TYR:C	2.62	0.42
1:A:56:GLY:O	1:A:59:VAL:HB	2.19	0.42
1:A:62:LEU:HB3	1:A:122:LEU:HD22	2.02	0.42
1:A:255:ILE:CD1	1:A:335:MET:HE1	2.49	0.42
2:B:79:GLY:H	2:B:125:ASN:HD22	1.67	0.42
2:B:135:TRP:CE2	6:R:49:ARG:HD3	2.53	0.42
3:C:13:ILE:HG21	3:C:13:ILE:HD13	1.83	0.42
3:C:53:MET:SD	3:O:181:PHE:HZ	2.43	0.42
3:C:163:TRP:CD1	5:Q:63:SER:HA	2.55	0.42
3:C:206:ASN:CB	3:C:313:ARG:NH2	2.61	0.42
3:C:226:ILE:O	3:C:227:LYS:C	2.61	0.42
3:C:346:PRO:CG	7:G:66:PHE:HD1	2.28	0.42
4:D:41:HIS:CD2	13:D:242:HEC:NB	2.84	0.42
1:M:64:PHE:HE2	1:M:88:ALA:HB2	1.81	0.42
1:M:153:LEU:CD2	1:M:319:LEU:HD13	2.48	0.42
2:N:162:ASN:ND2	2:N:244:ILE:HG21	2.33	0.42
2:N:204:MET:HE1	2:N:224:LEU:HB3	2.00	0.42
3:O:88:SER:HA	3:O:272:TRP:CZ2	2.53	0.42
3:O:211:ILE:CG2	6:R:62:ILE:HD13	2.50	0.42
3:O:234:LEU:O	3:O:237:LEU:HB3	2.19	0.42
4:P:230:LEU:O	4:P:233:ARG:HB2	2.19	0.42
5:Q:14:ARG:HA	7:S:23:GLN:HA	2.01	0.42
5:Q:185:TYR:HD2	5:Q:193:VAL:HG21	1.84	0.42
1:A:134:ILE:O	1:A:137:GLU:N	2.53	0.42
1:A:227:ALA:O	1:A:229:PRO:HD3	2.19	0.42
1:A:328:HIS:NE2	1:A:329:MET:HG2	2.35	0.42
1:A:343:MET:H	1:A:343:MET:HG2	1.34	0.42
2:B:170:ASN:OD1	2:B:171:ALA:N	2.52	0.42
3:C:156:ILE:HG12	3:C:157:GLY:N	2.29	0.42
3:C:177:ARG:O	3:C:181:PHE:CD2	2.72	0.42
3:C:274:PHE:O	3:C:275:LEU:C	2.62	0.42
4:D:21:LEU:CD1	4:D:26:ILE:HD11	2.49	0.42
2:N:211:VAL:HG12	2:N:212:SER:N	2.34	0.42
2:N:282:GLY:HA2	2:N:283:PRO:HD2	1.78	0.42
2:N:309:VAL:CG1	2:N:310:SER:N	2.82	0.42
2:N:312:PHE:CD1	9:U:58:GLN:O	2.73	0.42
2:N:382:VAL:O	2:N:383:GLY:C	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:5:LEU:HG	4:P:152:TYR:CE1	2.54	0.42
4:P:7:PRO:HB3	4:P:125:ASP:HB3	2.01	0.42
4:P:175:THR:HA	4:P:176:PRO:HD2	1.71	0.42
5:Q:73:LYS:O	5:Q:74:ILE:HD13	2.20	0.42
5:Q:118:ARG:HH11	5:Q:118:ARG:HD2	1.69	0.42
6:R:51:PRO:O	6:R:52:GLU:C	2.62	0.42
6:R:101:ARG:HG2	6:R:105:GLU:OE2	2.19	0.42
10:V:52:TRP:N	10:V:52:TRP:HE3	2.18	0.42
1:A:61:HIS:HB2	1:A:130:GLU:HG3	2.00	0.42
1:A:262:TRP:CE3	1:A:385:THR:CG2	3.02	0.42
2:B:55:SER:HG	2:B:102:ARG:HG2	1.83	0.42
3:C:25:SER:HA	3:C:218:ILE:HD11	1.98	0.42
4:D:8:PRO:O	4:D:125:ASP:CG	2.62	0.42
4:D:208:MET:HE2	4:D:208:MET:C	2.44	0.42
1:M:67:THR:OG1	1:M:119:ASN:HB2	2.20	0.42
1:M:85:HIS:CD2	2:N:370:MET:HE1	2.54	0.42
1:M:224:ASP:OD1	1:M:224:ASP:O	2.37	0.42
1:M:283:THR:OG1	9:U:74:ALA:HB3	2.20	0.42
2:N:31:ASN:HB3	2:N:201:SER:CB	2.50	0.42
3:O:18:PHE:O	3:O:220:PHE:HD2	2.03	0.42
3:O:56:THR:HG22	3:O:57:SER:N	2.34	0.42
3:O:119:LEU:CD1	3:O:192:ILE:CG2	2.97	0.42
3:O:192:ILE:N	3:O:192:ILE:CD1	2.82	0.42
4:P:206:LEU:HG	4:P:210:LEU:HD11	2.02	0.42
5:Q:102:THR:H	5:Q:105:GLU:CB	2.32	0.42
5:Q:150:ALA:CB	5:Q:157:TYR:CB	2.98	0.42
6:R:84:GLU:H	6:R:84:GLU:CD	2.28	0.42
11:W:24:TRP:CE3	11:W:24:TRP:HA	2.55	0.42
2:B:134:ARG:HG2	2:B:135:TRP:N	2.35	0.42
2:B:283:PRO:HG3	9:I:55:LEU:CG	2.50	0.42
2:B:283:PRO:CG	9:I:55:LEU:HD13	2.50	0.42
2:B:348:ALA:CB	2:B:418:VAL:HG21	2.49	0.42
4:D:165:TYR:O	4:D:166:ASN:C	2.61	0.42
1:M:43:ALA:HB1	1:M:189:HIS:CB	2.50	0.42
1:M:63:ALA:HB2	1:M:97:TYR:HE2	1.84	0.42
1:M:252:HIS:CD2	1:M:325:VAL:HG22	2.53	0.42
1:M:349:ALA:HB3	1:M:408:ARG:NE	2.34	0.42
2:N:303:VAL:HG12	2:N:304:HIS:H	1.84	0.42
2:N:346:THR:O	2:N:347:ILE:C	2.62	0.42
2:N:396:SER:HA	2:N:399:LEU:HD12	2.02	0.42
3:O:25:SER:HA	3:O:218:ILE:HD12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:196:HIS:HE1	12:O:381:HEM:CHD	2.32	0.42
3:O:284:ILE:HG23	3:O:285:PRO:HD2	2.02	0.42
3:O:378:LYS:CD	6:R:33:ARG:HH12	2.32	0.42
4:P:178:THR:HG23	8:T:15:ASP:N	2.34	0.42
4:P:233:ARG:O	4:P:234:LYS:HE2	2.19	0.42
5:Q:20:ASP:O	5:Q:22:THR:N	2.52	0.42
5:Q:40:THR:HG22	10:V:20:PHE:CZ	2.51	0.42
5:Q:145:VAL:HA	5:Q:146:PRO:HD3	1.75	0.42
5:Q:185:TYR:HB3	5:Q:195:VAL:HA	2.00	0.42
1:A:151:ASN:O	1:A:154:HIS:N	2.53	0.42
1:A:253:VAL:O	1:A:323:HIS:HA	2.20	0.42
1:A:280:TYR:CD1	1:A:280:TYR:C	2.98	0.42
1:A:311:ASN:OD1	1:A:320:LEU:HD23	2.18	0.42
2:B:68:LEU:HB2	2:B:144:LEU:HD21	2.02	0.42
2:B:83:PHE:CE1	6:R:104:ARG:HG2	2.54	0.42
2:B:258:VAL:HG11	2:B:321:LEU:HD22	2.00	0.42
2:B:279:LEU:CD2	2:B:344:VAL:HG22	2.49	0.42
3:C:61:THR:O	3:C:62:ALA:C	2.63	0.42
3:C:89:MET:O	3:C:90:PHE:C	2.62	0.42
4:D:55:CYS:SG	10:J:52:TRP:HB2	2.60	0.42
4:D:223:LYS:NZ	4:D:227:TRP:CD1	2.86	0.42
6:F:91:GLU:O	6:F:92:PRO:C	2.62	0.42
7:G:26:PHE:N	7:G:27:PRO:HD3	2.33	0.42
11:K:20:THR:HG23	11:K:24:TRP:CD1	2.54	0.42
1:M:19:LEU:CD1	1:M:214:LYS:HG2	2.48	0.42
1:M:42:ASP:O	1:M:42:ASP:CG	2.63	0.42
1:M:61:HIS:HB2	1:M:130:GLU:HG3	2.02	0.42
1:M:152:TYR:CE2	1:M:243:HIS:HD2	2.38	0.42
2:N:49:LEU:HD21	2:N:204:MET:SD	2.60	0.42
2:N:72:ALA:HB1	2:N:75:LEU:CD1	2.49	0.42
2:N:135:TRP:NE1	2:N:136:GLU:HG3	2.35	0.42
3:O:115:ILE:HG22	3:O:196:HIS:HB2	1.97	0.42
3:O:244:LEU:O	4:P:201:ARG:HG2	2.20	0.42
3:O:282:ARG:CZ	3:O:343:VAL:HG22	2.49	0.42
3:O:366:MET:N	3:O:367:PRO:HD2	2.33	0.42
4:P:58:GLU:O	4:P:62:LYS:HB2	2.19	0.42
4:P:167:GLU:O	4:P:167:GLU:HG2	2.20	0.42
4:P:240:PRO:HG2	4:P:241:LYS:N	2.34	0.42
9:U:66:ALA:O	9:U:77:ARG:HG3	2.20	0.42
1:A:8:LEU:HD11	1:A:396:GLU:HG3	2.02	0.42
1:A:33:PRO:O	1:A:103:SER:CB	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:224:ASP:OD1	1:A:224:ASP:O	2.38	0.42
1:A:280:TYR:HB3	1:A:307:PHE:CD2	2.55	0.42
1:A:361:LEU:HD12	1:A:361:LEU:O	2.19	0.42
2:B:129:ALA:O	2:B:130:PRO:C	2.62	0.42
2:B:239:TYR:OH	2:B:423:SER:OG	2.37	0.42
3:C:3:ASN:HA	3:C:8:HIS:CD2	2.55	0.42
3:C:78:ILE:HG21	3:C:78:ILE:HD13	1.80	0.42
3:C:184:ILE:O	3:C:184:ILE:HG12	2.19	0.42
3:C:218:ILE:CG2	3:C:219:PRO:N	2.82	0.42
3:C:280:ILE:HA	3:C:355:SER:OG	2.20	0.42
4:D:29:GLY:HA2	4:D:32:VAL:HG23	2.02	0.42
6:F:10:SER:HA	6:F:13:LEU:HG	2.01	0.42
6:F:64:ARG:O	6:F:68:LEU:HD12	2.20	0.42
7:G:63:THR:O	7:G:64:GLN:C	2.63	0.42
1:M:69:ASN:C	1:M:71:PRO:HD3	2.45	0.42
1:M:297:ILE:CG2	1:M:303:LEU:HD12	2.43	0.42
2:N:243:GLU:HA	2:N:424:MET:O	2.20	0.42
2:N:343:GLN:O	2:N:343:GLN:HG3	2.20	0.42
2:N:367:GLY:O	2:N:368:TYR:C	2.61	0.42
3:O:319:PRO:O	3:O:320:LEU:C	2.61	0.42
4:P:195:GLU:HA	4:P:196:PRO:HD2	1.73	0.42
5:Q:13:TYR:O	7:S:24:ARG:HG3	2.20	0.42
6:R:71:ARG:O	6:R:72:GLN:HB2	2.19	0.42
9:U:64:LEU:CG	9:U:65:VAL:HG23	2.42	0.42
1:A:46:ARG:NH1	1:A:316:ASP:OD1	2.50	0.42
1:A:314:TYR:HB2	1:A:317:THR:O	2.20	0.42
2:B:177:TYR:C	2:B:178:CYS:O	2.60	0.42
2:B:369:LEU:O	2:B:370:MET:C	2.61	0.42
4:D:116:ILE:CD1	4:D:120:ARG:HG3	2.49	0.42
4:D:171:PHE:HZ	4:D:182:VAL:HG22	1.85	0.42
6:F:94:LEU:O	6:F:94:LEU:HD12	2.20	0.42
1:M:31:SER:N	1:M:202:GLY:HA2	2.35	0.42
1:M:59:VAL:CG2	1:M:186:LEU:HD11	2.50	0.42
1:M:100:LYS:HG2	2:N:370:MET:SD	2.59	0.42
1:M:372:THR:O	1:M:373:THR:C	2.62	0.42
1:M:420:PRO:HG3	1:M:441:MET:SD	2.60	0.42
4:P:23:HIS:O	4:P:26:ILE:HB	2.20	0.42
4:P:43:MET:HE3	4:P:91:PHE:CE2	2.54	0.42
4:P:50:HIS:HB3	4:P:54:VAL:HG21	2.01	0.42
4:P:150:ASN:OD1	4:P:151:PRO:HD2	2.19	0.42
4:P:192:TRP:CE3	4:P:193:ALA:N	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:46:ARG:NH2	1:A:316:ASP:OD1	2.52	0.41
1:A:146:ARG:HH21	1:A:308:GLN:HE22	1.62	0.41
2:B:51:ILE:CG2	2:B:199:PHE:HA	2.34	0.41
2:B:81:SER:O	2:B:82:SER:C	2.62	0.41
2:B:397:THR:O	2:B:398:VAL:C	2.63	0.41
3:C:159:ASN:O	3:C:162:GLU:HB2	2.20	0.41
3:C:235:LEU:HD12	3:C:235:LEU:O	2.19	0.41
3:C:248:ASP:CG	4:D:118:ARG:HH21	2.28	0.41
4:D:201:ARG:HD3	4:D:201:ARG:HH11	1.50	0.41
7:G:3:GLN:HA	7:G:3:GLN:OE1	2.20	0.41
7:G:36:ASN:OD1	7:G:39:ARG:NE	2.52	0.41
10:J:20:PHE:O	10:J:23:THR:HB	2.20	0.41
10:J:24:ILE:O	10:J:25:VAL:C	2.62	0.41
1:M:213:GLN:HB2	1:M:215:HIS:CD2	2.54	0.41
1:M:241:ILE:HG21	1:M:241:ILE:HD13	1.64	0.41
1:M:385:THR:HG22	1:M:386:TYR:CD1	2.55	0.41
2:N:29:LEU:HG	2:N:33:LEU:CD2	2.50	0.41
2:N:33:LEU:HB2	2:N:204:MET:O	2.20	0.41
2:N:276:GLN:OE1	9:U:59:ALA:HB1	2.20	0.41
2:N:363:LYS:O	2:N:364:LEU:C	2.61	0.41
2:N:435:PHE:N	2:N:438:GLU:HB2	2.35	0.41
3:O:63:PHE:CD1	3:O:63:PHE:C	2.98	0.41
4:P:12:TRP:O	4:P:13:SER:C	2.61	0.41
4:P:165:TYR:CE2	4:P:168:VAL:HG22	2.55	0.41
4:P:204:MET:O	4:P:205:GLY:C	2.60	0.41
4:P:206:LEU:O	4:P:207:LYS:C	2.61	0.41
6:R:67:ASP:HA	6:R:70:MET:HE3	2.01	0.41
6:R:87:LYS:HE2	6:R:89:TYR:HB3	2.01	0.41
7:S:33:GLY:O	7:S:37:VAL:HB	2.19	0.41
11:W:20:THR:HG23	11:W:24:TRP:HD1	1.85	0.41
1:A:5:ALA:O	1:A:6:GLN:O	2.38	0.41
1:A:252:HIS:O	1:A:424:GLY:HA2	2.20	0.41
2:B:312:PHE:N	2:B:323:GLY:O	2.47	0.41
3:C:36:LEU:HD22	3:C:235:LEU:HB2	2.02	0.41
3:C:300:ILE:HD11	3:C:362:ILE:CG2	2.50	0.41
3:C:307:LEU:O	3:C:308:HIS:C	2.62	0.41
4:D:214:LEU:O	4:D:218:LEU:HG	2.19	0.41
6:F:51:PRO:O	6:F:52:GLU:C	2.63	0.41
1:M:166:SER:HB2	5:Q:3:THR:HG22	2.02	0.41
2:N:122:PHE:HD1	2:N:122:PHE:HA	1.74	0.41
3:O:244:LEU:HD12	3:O:244:LEU:HA	1.91	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:277:ALA:HB1	3:O:294:LEU:CD1	2.50	0.41
3:O:300:ILE:CD1	3:O:362:ILE:HG21	2.50	0.41
4:P:220:TYR:O	4:P:223:LYS:N	2.52	0.41
5:Q:31:ALA:HB2	10:V:7:ALA:HB2	2.03	0.41
5:Q:109:GLU:OE2	5:Q:166:ASP:OD2	2.37	0.41
8:T:67:HIS:O	8:T:68:CYS:C	2.62	0.41
1:A:64:PHE:HA	1:A:75:LEU:HD22	2.02	0.41
1:A:127:ILE:HD13	1:A:127:ILE:HA	1.88	0.41
1:A:136:GLN:HE21	9:I:50:LEU:HG	1.84	0.41
2:B:55:SER:OG	2:B:102:ARG:HA	2.20	0.41
4:D:137:PRO:HA	4:D:138:PRO:HD3	1.44	0.41
4:D:207:LYS:HB3	10:J:35:PHE:HE2	1.85	0.41
4:D:237:TYR:HE2	4:D:239:PRO:HG3	1.81	0.41
5:E:33:LYS:HA	7:G:21:PHE:HE2	1.82	0.41
6:F:75:LEU:HD12	6:F:75:LEU:HA	1.80	0.41
6:F:98:ILE:O	6:F:99:ARG:C	2.63	0.41
1:M:369:LEU:HD21	1:M:378:ASP:OD2	2.20	0.41
2:N:59:ASN:CG	2:N:60:SER:N	2.77	0.41
3:O:207:ASN:CB	3:O:208:PRO:HD2	2.45	0.41
3:O:282:ARG:NH1	3:O:343:VAL:HG22	2.36	0.41
4:P:102:ARG:HG2	4:P:109:LEU:HB2	2.02	0.41
4:P:139:THR:CG2	8:T:44:VAL:HB	2.50	0.41
7:S:36:ASN:OD1	7:S:39:ARG:NE	2.53	0.41
1:A:224:ASP:O	1:A:225:GLU:C	2.61	0.41
1:A:260:PRO:HG3	1:A:414:TYR:CE1	2.55	0.41
1:A:367:SER:O	1:A:368:HIS:C	2.63	0.41
2:B:250:ASP:OD1	2:B:251:SER:N	2.54	0.41
2:B:327:ILE:O	2:B:327:ILE:HG22	2.20	0.41
3:C:335:LEU:HA	3:C:335:LEU:HD23	1.70	0.41
5:E:51:ALA:O	5:E:52:LYS:C	2.62	0.41
9:I:62:ARG:HB3	9:I:63:PRO:CD	2.50	0.41
1:M:88:ALA:O	2:N:286:LYS:HD2	2.20	0.41
1:M:137:GLU:O	1:M:138:LEU:C	2.63	0.41
1:M:227:ALA:O	1:M:229:PRO:HD3	2.20	0.41
1:M:333:ASP:O	1:M:337:VAL:HG23	2.21	0.41
2:N:81:SER:O	2:N:82:SER:C	2.63	0.41
2:N:160:ILE:CD1	2:N:325:TYR:HE2	2.33	0.41
3:O:146:ILE:O	3:O:147:THR:C	2.62	0.41
5:Q:62:MET:HE3	5:Q:62:MET:HB3	1.79	0.41
1:A:29:GLN:HG3	1:A:203:LEU:O	2.21	0.41
1:A:34:THR:OG1	2:B:373:GLU:OE1	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:43:ALA:HB1	1:A:189:HIS:CB	2.51	0.41
1:A:292:SER:O	1:A:293:PRO:C	2.63	0.41
2:B:72:ALA:HB2	2:B:140:LEU:CD2	2.50	0.41
2:B:312:PHE:HB3	2:B:323:GLY:O	2.20	0.41
3:C:103:TYR:O	3:C:315:MET:HB3	2.20	0.41
3:C:198:LEU:HD22	3:O:11:MET:HG2	2.02	0.41
3:C:219:PRO:HB2	3:C:222:PRO:HD2	2.03	0.41
3:C:317:PHE:CD1	6:F:26:PHE:HB3	2.55	0.41
4:D:106:ASN:HD22	4:D:106:ASN:C	2.28	0.41
4:D:146:GLY:O	4:D:148:TYR:HD1	2.04	0.41
6:F:45:GLU:O	6:F:46:ALA:C	2.56	0.41
7:G:27:PRO:O	7:G:28:HIS:C	2.62	0.41
8:H:50:THR:CG2	8:H:51:GLU:N	2.83	0.41
8:H:65:ARG:HG2	8:H:66:ASP:OD2	2.21	0.41
10:J:43:TYR:O	10:J:43:TYR:CG	2.73	0.41
1:M:257:VAL:O	1:M:320:LEU:HB2	2.20	0.41
2:N:201:SER:OG	2:N:226:ILE:N	2.51	0.41
2:N:223:PHE:O	2:N:224:LEU:HD23	2.21	0.41
2:N:255:ALA:HA	2:N:426:ALA:HA	2.02	0.41
2:N:264:ILE:HD12	2:N:315:SER:OG	2.20	0.41
2:N:333:ALA:O	2:N:337:ILE:HD12	2.20	0.41
4:P:48:TYR:OH	4:P:68:VAL:HG21	2.21	0.41
5:Q:65:SER:HG	5:Q:67:ASP:HB3	1.81	0.41
5:Q:106:ILE:HG13	5:Q:106:ILE:H	1.78	0.41
5:Q:113:GLU:O	5:Q:114:VAL:C	2.63	0.41
5:Q:134:ILE:HD13	5:Q:134:ILE:HG21	1.76	0.41
1:A:48:GLU:HB2	1:A:53:ASN:HA	2.03	0.41
1:A:394:GLU:O	1:A:397:SER:OG	2.26	0.41
2:B:92:VAL:HG11	2:B:115:ASP:HB3	2.02	0.41
2:B:162:ASN:CB	2:B:244:ILE:HG21	2.50	0.41
2:B:282:GLY:HA2	2:B:283:PRO:HD2	1.77	0.41
3:C:101:GLY:HA2	3:C:106:SER:HB2	2.02	0.41
3:C:119:LEU:HD12	3:C:119:LEU:HA	1.85	0.41
3:C:145:VAL:HG12	3:C:145:VAL:O	2.20	0.41
4:D:146:GLY:O	4:D:148:TYR:CD1	2.73	0.41
4:D:165:TYR:CE1	4:D:168:VAL:HA	2.56	0.41
1:M:282:CYS:SG	1:M:305:GLN:CD	3.03	0.41
1:M:356:ARG:HG2	1:M:357:GLY:N	2.36	0.41
1:M:446:PHE:HE2	3:O:6:LYS:HZ1	1.66	0.41
2:N:47:ILE:HB	2:N:109:VAL:HG12	2.02	0.41
2:N:56:ARG:HH21	2:N:103:GLU:CD	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:242:LEU:HD12	3:O:242:LEU:HA	1.96	0.41
3:O:246:ALA:N	3:O:247:PRO:HD3	2.36	0.41
4:P:41:HIS:HD2	4:P:113:LEU:HD11	1.81	0.41
4:P:229:VAL:HG12	4:P:233:ARG:NE	2.32	0.41
5:Q:16:PRO:O	5:Q:17:GLU:C	2.63	0.41
5:Q:41:ALA:HA	10:V:24:ILE:HD11	2.03	0.41
1:A:136:GLN:NE2	9:I:50:LEU:HG	2.35	0.41
1:A:256:ALA:HB3	1:A:421:ALA:HB3	2.02	0.41
2:B:163:LEU:HD21	2:B:258:VAL:HG21	2.03	0.41
2:B:259:ALA:O	2:B:260:GLU:C	2.61	0.41
3:C:11:MET:HG2	3:O:198:LEU:HD22	2.03	0.41
3:C:122:THR:HG21	3:C:189:ILE:HG12	2.03	0.41
3:C:257:THR:OG1	3:C:257:THR:O	2.38	0.41
3:C:263:ASN:OD1	3:C:264:THR:N	2.54	0.41
3:C:316:MET:HG2	3:C:317:PHE:CD1	2.54	0.41
4:D:43:MET:HA	4:D:112:ASP:OD1	2.20	0.41
4:D:44:ASP:OD1	4:D:93:LYS:HE3	2.20	0.41
4:D:211:MET:HA	4:D:211:MET:CE	2.49	0.41
1:M:48:GLU:HB3	1:M:52:ASN:O	2.21	0.41
1:M:85:HIS:HE2	2:N:370:MET:HE1	1.86	0.41
1:M:262:TRP:CD2	1:M:385:THR:CG2	2.97	0.41
2:N:79:GLY:CA	2:N:125:ASN:ND2	2.83	0.41
2:N:285:VAL:HG12	2:N:285:VAL:O	2.20	0.41
3:O:10:LEU:HD12	3:O:13:ILE:CD1	2.50	0.41
3:O:125:ALA:HB3	3:O:185:LEU:HD21	2.03	0.41
3:O:149:LEU:O	3:O:291:VAL:HG21	2.21	0.41
3:O:337:TRP:NE1	3:O:341:GLN:OE1	2.54	0.41
5:Q:15:ARG:HH21	5:Q:32:ARG:HB2	1.85	0.41
5:Q:76:ILE:O	5:Q:77:LYS:CG	2.68	0.41
5:Q:109:GLU:OE2	5:Q:166:ASP:CG	2.63	0.41
6:R:74:ILE:HG23	6:R:75:LEU:O	2.21	0.41
1:A:145:MET:HE3	1:A:145:MET:HB2	1.92	0.41
1:A:433:ASP:O	1:A:436:ARG:N	2.52	0.41
2:B:154:ASN:O	2:B:157:ALA:N	2.54	0.41
2:B:335:ASP:O	2:B:336:VAL:C	2.64	0.41
2:B:338:LYS:O	2:B:339:ALA:C	2.64	0.41
3:C:73:VAL:O	3:C:73:VAL:HG12	2.18	0.41
3:C:338:ILE:O	3:C:341:GLN:N	2.51	0.41
4:D:57:THR:CG2	4:D:58:GLU:N	2.83	0.41
4:D:204:MET:O	4:D:207:LYS:N	2.53	0.41
2:N:38:LEU:O	2:N:40:ASN:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:95:LYS:HG3	9:U:70:LEU:HD13	2.02	0.41
2:N:134:ARG:CG	2:N:135:TRP:N	2.81	0.41
3:O:66:VAL:O	3:O:69:ILE:HB	2.21	0.41
3:O:133:LEU:HA	3:O:175:LEU:HD11	2.01	0.41
3:O:227:LYS:HG3	4:P:223:LYS:NZ	2.36	0.41
4:P:28:ARG:HD2	4:P:28:ARG:HH11	1.75	0.41
4:P:138:PRO:CG	8:T:55:THR:HA	2.50	0.41
4:P:139:THR:O	8:T:44:VAL:HG11	2.20	0.41
5:Q:14:ARG:HB2	5:Q:15:ARG:H	1.70	0.41
5:Q:177:PRO:HB2	5:Q:178:LEU:HG	2.03	0.41
6:R:54:LEU:HD12	6:R:54:LEU:HA	1.95	0.41
6:R:55:TYR:CD1	6:R:55:TYR:C	2.99	0.41
7:S:71:ARG:NH2	8:T:60:ASP:OD1	2.38	0.41
1:A:75:LEU:O	1:A:79:VAL:CG2	2.63	0.41
1:A:86:LEU:CD1	1:A:99:ILE:HG12	2.44	0.41
1:A:241:ILE:O	1:A:241:ILE:CG2	2.69	0.41
1:A:244:ARG:NH1	7:G:10:VAL:HG21	2.35	0.41
1:A:358:LYS:HD2	1:A:402:VAL:HG12	2.03	0.41
1:A:366:VAL:HG11	2:B:44:ALA:HB2	2.01	0.41
2:B:168:TYR:CB	2:B:173:ALA:HB2	2.44	0.41
3:C:1:MET:HG3	3:C:4:ILE:HB	2.03	0.41
3:C:48:GLY:HA3	12:C:380:HEM:C3C	2.56	0.41
3:C:97:HIS:HD2	12:C:381:HEM:C1C	2.39	0.41
3:C:109:PHE:HD2	3:C:203:THR:HG1	1.59	0.41
3:C:122:THR:C	3:C:124:MET:N	2.79	0.41
3:C:341:GLN:OE1	3:C:347:TYR:CZ	2.74	0.41
4:D:20:SER:OG	4:D:21:LEU:N	2.46	0.41
4:D:27:ARG:NH1	10:J:58:LYS:CE	2.84	0.41
4:D:139:THR:CB	8:H:44:VAL:HB	2.50	0.41
4:D:209:LEU:O	4:D:210:LEU:C	2.62	0.41
6:F:13:LEU:O	6:F:14:GLU:C	2.64	0.41
9:I:70:LEU:CG	9:I:72:VAL:H	2.34	0.41
10:J:44:GLU:O	10:J:45:HIS:C	2.62	0.41
1:M:28:GLU:OE1	1:M:375:VAL:CG1	2.68	0.41
1:M:37:VAL:CG1	1:M:199:ALA:HB2	2.51	0.41
1:M:64:PHE:HE2	1:M:88:ALA:CB	2.34	0.41
1:M:71:PRO:O	1:M:72:GLY:C	2.64	0.41
1:M:142:ASP:OD1	5:Q:2:HIS:ND1	2.45	0.41
1:M:156:THR:OG1	1:M:241:ILE:HB	2.21	0.41
1:M:241:ILE:HD11	7:S:16:TYR:CE2	2.55	0.41
1:M:257:VAL:N	1:M:320:LEU:O	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:22:GLN:OE1	2:N:22:GLN:HA	2.21	0.41
2:N:200:THR:OG1	2:N:201:SER:N	2.53	0.41
3:O:26:ASN:O	3:O:26:ASN:CG	2.63	0.41
3:O:156:ILE:HG13	3:O:157:GLY:N	2.29	0.41
3:O:160:LEU:CD1	3:O:164:ILE:HD11	2.51	0.41
3:O:257:THR:O	3:O:258:PRO:C	2.62	0.41
4:P:7:PRO:HB3	4:P:125:ASP:C	2.46	0.41
4:P:14:HIS:HA	4:P:19:SER:CB	2.51	0.41
4:P:139:THR:CB	8:T:44:VAL:HB	2.49	0.41
4:P:229:VAL:CG1	4:P:233:ARG:HE	2.32	0.41
5:Q:87:MET:O	5:Q:89:PHE:HD1	2.04	0.41
5:Q:109:GLU:OE2	5:Q:166:ASP:HB2	2.21	0.41
5:Q:115:SER:C	5:Q:117:LEU:H	2.28	0.41
6:R:35:ASP:OD2	6:R:61:ARG:HD2	2.20	0.41
6:R:62:ILE:O	6:R:66:LEU:HG	2.21	0.41
6:R:74:ILE:H	7:S:39:ARG:NH2	2.19	0.41
8:T:58:LEU:HD11	8:T:62:LEU:HD12	2.03	0.41
9:U:70:LEU:HD11	9:U:72:VAL:H	1.85	0.41
10:V:55:ILE:HD13	10:V:55:ILE:HG21	1.90	0.41
1:A:266:ASP:N	1:A:266:ASP:OD1	2.54	0.41
1:A:277:ILE:H	1:A:277:ILE:HG12	1.53	0.41
2:B:56:ARG:HH22	2:B:318:ASP:CG	2.22	0.41
2:B:57:TYR:HB3	2:B:198:HIS:CE1	2.55	0.41
2:B:133:ARG:O	2:B:134:ARG:C	2.64	0.41
2:B:211:VAL:HG11	2:B:216:LEU:HD13	2.02	0.41
2:B:262:ALA:HB3	2:B:269:ALA:HA	2.03	0.41
2:B:346:THR:HG23	2:B:351:ASN:HB3	2.03	0.41
1:M:32:GLN:HG2	1:M:33:PRO:N	2.36	0.41
1:M:158:PHE:HB2	1:M:164:ALA:HB2	2.02	0.41
1:M:329:MET:HA	1:M:329:MET:CE	2.50	0.41
1:M:347:THR:HA	11:W:16:ASN:HD22	1.85	0.41
2:N:245:ARG:HH11	2:N:245:ARG:HD3	1.67	0.41
3:O:75:TYR:CG	5:Q:57:GLN:HG2	2.56	0.41
3:O:156:ILE:O	3:O:158:THR:N	2.54	0.41
3:O:276:PHE:CE2	3:O:297:SER:OG	2.74	0.41
4:P:120:ARG:HD2	13:P:242:HEC:CGA	2.50	0.41
4:P:138:PRO:CG	8:T:55:THR:OG1	2.61	0.41
9:U:62:ARG:HB3	9:U:63:PRO:CD	2.51	0.41
1:A:43:ALA:CB	1:A:189:HIS:CB	2.97	0.40
1:A:97:TYR:CD1	1:A:97:TYR:N	2.88	0.40
2:B:92:VAL:O	2:B:92:VAL:CG1	2.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:182:ARG:HH11	2:B:182:ARG:HD2	1.72	0.40
2:B:342:ASN:O	2:B:345:LYS:N	2.52	0.40
3:C:174:THR:HG23	3:C:178:PHE:CD1	2.52	0.40
8:H:62:LEU:HD23	8:H:62:LEU:HA	1.91	0.40
1:M:146:ARG:CZ	1:M:308:GLN:HE22	2.34	0.40
1:M:248:LEU:HA	1:M:249:PRO:HD3	1.78	0.40
2:N:70:ARG:HD2	9:U:69:SER:HB3	2.01	0.40
2:N:97:SER:HB2	2:N:108:THR:CG2	2.52	0.40
2:N:309:VAL:HG22	2:N:326:THR:HG22	2.03	0.40
2:N:309:VAL:CG2	2:N:326:THR:HG22	2.50	0.40
2:N:345:LYS:O	2:N:346:THR:C	2.64	0.40
3:O:15:ASN:ND2	3:O:18:PHE:CD2	2.88	0.40
3:O:26:ASN:ND2	3:O:26:ASN:C	2.78	0.40
3:O:135:TRP:HH2	3:O:170:VAL:O	2.04	0.40
4:P:21:LEU:CD1	4:P:192:TRP:HB2	2.50	0.40
4:P:153:PHE:HA	4:P:154:PRO:HD2	1.87	0.40
4:P:211:MET:O	4:P:212:MET:C	2.62	0.40
5:Q:7:VAL:HA	5:Q:8:PRO:HD2	1.77	0.40
5:Q:78:LEU:CD2	5:Q:132:TRP:CZ2	3.05	0.40
6:R:10:SER:HA	6:R:13:LEU:HG	2.03	0.40
8:T:37:LEU:HD21	8:T:58:LEU:CA	2.49	0.40
10:V:42:ILE:O	10:V:46:ILE:HG12	2.22	0.40
1:A:176:LYS:O	1:A:177:LEU:C	2.64	0.40
1:A:270:LEU:O	1:A:273:ALA:HB3	2.21	0.40
1:A:282:CYS:SG	1:A:305:GLN:CD	3.04	0.40
2:B:53:ALA:HB2	2:B:198:HIS:HB3	2.03	0.40
2:B:264:ILE:HA	2:B:315:SER:OG	2.22	0.40
3:C:8:HIS:CB	3:C:9:PRO:HD2	2.51	0.40
3:C:192:ILE:O	3:C:193:ALA:C	2.62	0.40
3:C:264:THR:HG21	5:Q:144:CYS:SG	2.60	0.40
3:C:317:PHE:O	6:F:24:ALA:CB	2.69	0.40
4:D:143:LEU:HD11	4:D:149:PHE:HB2	2.03	0.40
4:D:149:PHE:CZ	8:H:55:THR:HG23	2.54	0.40
4:D:187:CYS:O	4:D:190:LEU:N	2.55	0.40
7:G:31:SER:O	7:G:35:PRO:CD	2.62	0.40
10:J:29:LEU:HD12	10:J:32:GLU:OE2	2.21	0.40
1:M:130:GLU:OE2	9:U:52:ARG:NH2	2.54	0.40
2:N:160:ILE:HG21	9:U:65:VAL:CG2	2.52	0.40
2:N:168:TYR:CZ	2:N:172:LEU:HD12	2.56	0.40
3:O:184:ILE:O	3:O:184:ILE:HG12	2.20	0.40
3:O:226:ILE:O	3:O:227:LYS:C	2.63	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:57:THR:HB	4:P:60:GLU:H	1.86	0.40
4:P:206:LEU:HG	4:P:210:LEU:CD1	2.52	0.40
4:P:206:LEU:O	4:P:210:LEU:HD12	2.22	0.40
6:R:91:GLU:O	6:R:95:LYS:HG3	2.21	0.40
7:S:61:TRP:O	7:S:62:GLY:C	2.64	0.40
10:V:2:ALA:HB1	10:V:3:PRO:HD2	2.03	0.40
1:A:80:GLU:O	1:A:81:SER:C	2.63	0.40
1:A:257:VAL:N	1:A:320:LEU:O	2.48	0.40
2:B:213:HIS:O	2:B:213:HIS:CD2	2.74	0.40
2:B:304:HIS:CD2	2:B:305:GLN:H	2.40	0.40
3:C:40:CYS:CB	3:C:90:PHE:HD2	2.34	0.40
3:C:168:PHE:CE2	5:Q:72:SER:HB2	2.56	0.40
3:C:200:LEU:CD1	12:C:381:HEM:HAD2	2.51	0.40
3:C:226:ILE:N	3:C:226:ILE:HD13	2.35	0.40
12:C:380:HEM:CMB	12:C:380:HEM:CBB	2.99	0.40
4:D:161:ALA:O	4:D:162:PRO:C	2.63	0.40
5:E:5:ILE:H	5:E:5:ILE:HG13	1.71	0.40
11:K:24:TRP:CE3	11:K:24:TRP:HA	2.56	0.40
1:M:24:ARG:HH11	1:M:24:ARG:HD2	1.75	0.40
1:M:97:TYR:CD1	1:M:97:TYR:N	2.88	0.40
1:M:134:ILE:HG21	1:M:174:VAL:CG2	2.51	0.40
1:M:244:ARG:NH1	7:S:10:VAL:HB	2.36	0.40
1:M:426:GLY:H	1:M:428:ILE:CG1	2.31	0.40
2:N:54:GLY:HA3	2:N:102:ARG:O	2.20	0.40
2:N:102:ARG:NH1	2:N:174:ASN:O	2.53	0.40
2:N:178:CYS:HA	2:N:179:PRO:HD3	1.63	0.40
2:N:341:TYR:O	2:N:342:ASN:C	2.64	0.40
3:O:211:ILE:CG2	3:O:212:SER:N	2.83	0.40
3:O:345:HIS:CB	3:O:346:PRO:CD	2.88	0.40
3:O:350:ILE:O	3:O:351:GLY:C	2.64	0.40
4:P:10:TYR:CE1	4:P:128:PHE:HE2	2.37	0.40
4:P:153:PHE:O	4:P:154:PRO:C	2.64	0.40
4:P:220:TYR:HD2	7:S:26:PHE:CZ	2.39	0.40
5:Q:181:GLU:HG2	5:Q:182:VAL:N	2.36	0.40
6:R:29:LEU:HD22	6:R:68:LEU:HB2	2.03	0.40
1:A:39:VAL:HG13	1:A:195:MET:CE	2.51	0.40
2:B:68:LEU:HD12	2:B:68:LEU:O	2.21	0.40
3:C:149:LEU:HD21	3:C:281:LEU:HD22	2.04	0.40
4:D:165:TYR:HD1	4:D:166:ASN:O	2.04	0.40
4:D:200:HIS:O	4:D:203:ARG:HB3	2.20	0.40
4:D:237:TYR:HD1	7:G:13:VAL:HG22	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:34:GLY:CA	10:J:10:TYR:HD2	2.33	0.40
1:M:4:TYR:HE2	1:M:396:GLU:HG3	1.85	0.40
1:M:17:SER:HB2	1:M:25:VAL:HB	2.03	0.40
1:M:391:PRO:HB2	1:M:395:TRP:CE2	2.57	0.40
1:M:418:GLN:O	1:M:420:PRO:HD3	2.21	0.40
2:N:42:ALA:HA	2:N:43:PRO:HD3	1.80	0.40
2:N:160:ILE:HD12	2:N:160:ILE:HA	1.93	0.40
2:N:180:ASP:HA	2:N:183:ILE:HD12	2.02	0.40
2:N:239:TYR:OH	2:N:421:ARG:O	2.29	0.40
3:O:11:MET:O	3:O:14:VAL:HB	2.21	0.40
4:P:69:GLU:O	4:P:73:GLY:CA	2.70	0.40
5:Q:119:ASP:HA	5:Q:120:PRO:HD3	1.91	0.40
6:R:104:ARG:O	6:R:105:GLU:C	2.64	0.40
9:U:60:ALA:HB3	9:U:63:PRO:O	2.21	0.40
10:V:31:PHE:CD2	10:V:31:PHE:C	2.98	0.40
1:A:297:ILE:HG22	1:A:303:LEU:CD1	2.49	0.40
2:B:112:LEU:HD22	2:B:112:LEU:HA	1.79	0.40
2:B:168:TYR:HD2	2:B:238:LYS:O	2.04	0.40
3:C:68:HIS:NE2	5:E:67:ASP:CB	2.85	0.40
4:D:5:LEU:HG	4:D:152:TYR:HE1	1.86	0.40
4:D:50:HIS:HB3	4:D:54:VAL:HG21	2.01	0.40
1:M:289:HIS:O	2:N:87:ARG:NE	2.54	0.40
2:N:92:VAL:HG11	2:N:115:ASP:CB	2.51	0.40
2:N:275:LEU:HD11	2:N:279:LEU:HD11	2.03	0.40
3:O:51:LEU:HD12	12:O:380:HEM:O1D	2.21	0.40
3:O:170:VAL:O	3:O:170:VAL:CG1	2.68	0.40
3:O:272:TRP:CE2	3:O:273:TYR:HD1	2.39	0.40
5:Q:29:SER:O	5:Q:33:LYS:HG3	2.22	0.40
5:Q:87:MET:O	5:Q:98:VAL:HG22	2.21	0.40
7:S:50:PRO:O	7:S:53:VAL:HB	2.21	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:412:ASN:ND2	5:Q:122:HIS:NE2[6_554]	2.01	0.19
8:H:41:ASP:OD1	6:R:77:LYS:NZ[5_565]	2.19	0.01

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	444/446 (100%)	355 (80%)	66 (15%)	23 (5%)	1	9
1	M	444/446 (100%)	370 (83%)	54 (12%)	20 (4%)	2	12
2	B	417/439 (95%)	341 (82%)	67 (16%)	9 (2%)	5	26
2	N	417/439 (95%)	344 (82%)	62 (15%)	11 (3%)	4	23
3	C	377/379 (100%)	303 (80%)	60 (16%)	14 (4%)	2	15
3	O	377/379 (100%)	317 (84%)	49 (13%)	11 (3%)	3	20
4	D	239/241 (99%)	188 (79%)	36 (15%)	15 (6%)	1	6
4	P	239/241 (99%)	195 (82%)	32 (13%)	12 (5%)	1	10
5	E	73/196 (37%)	57 (78%)	14 (19%)	2 (3%)	4	22
5	Q	194/196 (99%)	148 (76%)	35 (18%)	11 (6%)	1	8
6	F	104/110 (94%)	89 (86%)	12 (12%)	3 (3%)	3	20
6	R	104/110 (94%)	86 (83%)	16 (15%)	2 (2%)	6	30
7	G	79/81 (98%)	63 (80%)	13 (16%)	3 (4%)	2	15
7	S	79/81 (98%)	60 (76%)	16 (20%)	3 (4%)	2	15
8	H	62/78 (80%)	52 (84%)	10 (16%)	0	100	100
8	T	62/78 (80%)	51 (82%)	10 (16%)	1 (2%)	7	34
9	I	31/78 (40%)	19 (61%)	10 (32%)	2 (6%)	1	5
9	U	31/78 (40%)	17 (55%)	11 (36%)	3 (10%)	0	2
10	J	60/62 (97%)	41 (68%)	13 (22%)	6 (10%)	0	2
10	V	60/62 (97%)	44 (73%)	12 (20%)	4 (7%)	1	5
11	K	20/56 (36%)	17 (85%)	2 (10%)	1 (5%)	1	10
11	W	20/56 (36%)	15 (75%)	3 (15%)	2 (10%)	0	2
All	All	3933/4332 (91%)	3172 (81%)	603 (15%)	158 (4%)	2	14

All (158) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	327	ASP
1	A	426	GLY
1	A	427	PRO
2	B	141	GLN
2	B	183	ILE
2	B	305	GLN
3	C	8	HIS
3	C	27	ILE
3	C	109	PHE
4	D	51	LEU
4	D	73	GLY
4	D	98	PRO
9	I	72	VAL
1	M	55	ALA
1	M	427	PRO
2	N	141	GLN
2	N	183	ILE
2	N	351	ASN
3	O	8	HIS
3	O	27	ILE
3	O	157	GLY
4	P	51	LEU
4	P	73	GLY
5	Q	114	VAL
5	Q	141	HIS
9	U	72	VAL
10	V	58	LYS
1	A	55	ALA
1	A	56	GLY
1	A	72	GLY
1	A	80	GLU
1	A	81	SER
1	A	227	ALA
1	A	287	GLY
1	A	288	ALA
1	A	342	TRP
2	B	236	LYS
2	B	351	ASN
3	C	28	SER
3	C	137	GLN
3	C	157	GLY
3	C	313	ARG
4	D	119	ALA

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Mol	Chain	Res	Type
4	D	154	PRO
7	G	68	LYS
10	J	58	LYS
1	M	52	ASN
1	M	72	GLY
1	M	227	ALA
1	M	246	ASP
1	M	282	CYS
1	M	385	THR
2	N	236	LYS
5	Q	137	GLY
9	U	59	ALA
10	V	23	THR
10	V	24	ILE
1	A	52	ASN
1	A	352	SER
1	A	385	THR
1	A	395	TRP
2	B	91	ALA
3	C	283	SER
3	C	319	PRO
4	D	27	ARG
4	D	162	PRO
4	D	218	LEU
5	E	16	PRO
5	E	72	SER
9	I	59	ALA
10	J	23	THR
10	J	35	PHE
1	M	81	SER
1	M	107	PRO
1	M	426	GLY
2	N	24	LEU
2	N	305	GLN
3	O	28	SER
3	O	62	ALA
3	O	316	MET
3	O	319	PRO
4	P	80	MET
4	P	162	PRO
5	Q	64	ALA
5	Q	177	PRO

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Mol	Chain	Res	Type
7	S	68	LYS
10	V	57	HIS
11	W	33	VAL
1	A	107	PRO
1	A	246	ASP
1	A	391	PRO
3	C	236	ILE
3	C	365	LEU
4	D	80	MET
4	D	147	LEU
6	F	95	LYS
10	J	4	THR
10	J	57	HIS
1	M	6	GLN
1	M	109	ALA
2	N	269	ALA
2	N	409	ASP
3	O	24	PRO
3	O	109	PHE
4	P	147	LEU
5	Q	130	PRO
6	R	95	LYS
1	A	6	GLN
1	A	152	TYR
2	B	39	GLU
3	C	316	MET
7	G	72	LYS
1	M	338	LEU
1	M	391	PRO
3	O	247	PRO
3	O	255	ASN
4	P	83	ARG
4	P	98	PRO
4	P	110	PRO
4	P	154	PRO
5	Q	16	PRO
5	Q	69	LEU
5	Q	188	THR
7	S	50	PRO
11	W	34	SER
1	A	33	PRO
2	B	52	LYS

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Mol	Chain	Res	Type
4	D	110	PRO
4	D	163	PRO
4	D	176	PRO
7	G	45	ILE
1	M	185	TYR
2	N	52	LYS
4	P	176	PRO
5	Q	43	THR
2	B	129	ALA
6	F	51	PRO
1	M	56	GLY
1	M	293	PRO
3	C	339	GLY
4	D	83	ARG
2	N	85	ILE
2	N	109	VAL
4	P	123	GLY
8	T	69	VAL
10	J	24	ILE
5	Q	84	GLY
6	R	51	PRO
7	S	45	ILE
1	A	260	PRO
4	D	26	ILE
11	K	33	VAL
4	P	163	PRO
9	U	65	VAL
3	C	372	ILE
6	F	47	ILE
1	M	71	PRO
1	M	193	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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	370/370 (100%)	278 (75%)	92 (25%)	0	4
1	M	370/370 (100%)	284 (77%)	86 (23%)	1	4
2	B	328/343 (96%)	254 (77%)	74 (23%)	1	5
2	N	328/343 (96%)	254 (77%)	74 (23%)	1	5
3	C	327/327 (100%)	251 (77%)	76 (23%)	1	4
3	O	327/327 (100%)	259 (79%)	68 (21%)	1	7
4	D	206/206 (100%)	172 (84%)	34 (16%)	2	12
4	P	206/206 (100%)	170 (82%)	36 (18%)	2	10
5	E	65/168 (39%)	47 (72%)	18 (28%)	0	2
5	Q	167/168 (99%)	110 (66%)	57 (34%)	0	1
6	F	96/98 (98%)	68 (71%)	28 (29%)	0	2
6	R	96/98 (98%)	76 (79%)	20 (21%)	1	7
7	G	71/71 (100%)	53 (75%)	18 (25%)	0	3
7	S	71/71 (100%)	51 (72%)	20 (28%)	0	2
8	H	61/74 (82%)	50 (82%)	11 (18%)	2	10
8	T	61/74 (82%)	50 (82%)	11 (18%)	2	10
9	I	27/60 (45%)	19 (70%)	8 (30%)	0	2
9	U	27/60 (45%)	19 (70%)	8 (30%)	0	2
10	J	52/52 (100%)	43 (83%)	9 (17%)	2	10
10	V	52/52 (100%)	42 (81%)	10 (19%)	1	8
11	K	15/46 (33%)	11 (73%)	4 (27%)	0	3
11	W	15/46 (33%)	10 (67%)	5 (33%)	0	1
All	All	3338/3630 (92%)	2571 (77%)	767 (23%)	1	5

All (767) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	THR
1	A	13	GLU
1	A	24	ARG
1	A	31	SER
1	A	35	CYS

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Mol	Chain	Res	Type
1	A	37	VAL
1	A	42	ASP
1	A	46	ARG
1	A	48	GLU
1	A	49	SER
1	A	65	LYS
1	A	68	LYS
1	A	70	ARG
1	A	75	LEU
1	A	79	VAL
1	A	86	LEU
1	A	89	TYR
1	A	90	SER
1	A	91	THR
1	A	92	ARG
1	A	97	TYR
1	A	99	ILE
1	A	102	LEU
1	A	108	LYS
1	A	112	LEU
1	A	120	CYS
1	A	125	SER
1	A	127	ILE
1	A	128	GLU
1	A	130	GLU
1	A	133	VAL
1	A	134	ILE
1	A	138	LEU
1	A	143	THR
1	A	149	VAL
1	A	156	THR
1	A	159	GLN
1	A	163	LEU
1	A	174	VAL
1	A	175	ARG
1	A	176	LYS
1	A	177	LEU
1	A	178	SER
1	A	179	ARG
1	A	183	THR
1	A	187	SER
1	A	191	LYS

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Mol	Chain	Res	Type
1	A	195	MET
1	A	196	VAL
1	A	197	LEU
1	A	208	LEU
1	A	211	LEU
1	A	213	GLN
1	A	216	PHE
1	A	222	THR
1	A	225	GLU
1	A	231	LEU
1	A	239	SER
1	A	241	ILE
1	A	245	GLU
1	A	246	ASP
1	A	248	LEU
1	A	255	ILE
1	A	272	VAL
1	A	277	ILE
1	A	296	SER
1	A	302	LYS
1	A	312	ILE
1	A	316	ASP
1	A	330	SER
1	A	334	MET
1	A	337	VAL
1	A	341	GLN
1	A	344	ARG
1	A	346	CYS
1	A	351	GLU
1	A	352	SER
1	A	353	GLU
1	A	356	ARG
1	A	358	LYS
1	A	360	LEU
1	A	366	VAL
1	A	367	SER
1	A	370	ASP
1	A	379	ILE
1	A	384	LEU
1	A	386	TYR
1	A	398	ARG
1	A	407	VAL

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Mol	Chain	Res	Type
1	A	413	LYS
1	A	428	ILE
1	A	441	MET
2	B	23	ASP
2	B	24	LEU
2	B	35	ILE
2	B	37	SER
2	B	38	LEU
2	B	45	SER
2	B	46	ARG
2	B	51	ILE
2	B	52	LYS
2	B	56	ARG
2	B	58	GLU
2	B	60	SER
2	B	74	SER
2	B	77	THR
2	B	78	LYS
2	B	81	SER
2	B	85	ILE
2	B	86	THR
2	B	95	LYS
2	B	96	LEU
2	B	99	THR
2	B	101	THR
2	B	108	THR
2	B	112	LEU
2	B	113	ARG
2	B	117	ASP
2	B	119	LEU
2	B	131	GLU
2	B	134	ARG
2	B	140	LEU
2	B	145	ARG
2	B	159	VAL
2	B	160	ILE
2	B	175	SER
2	B	185	LYS
2	B	187	THR
2	B	190	GLU
2	B	196	GLN
2	B	203	ARG

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Mol	Chain	Res	Type
2	B	206	LEU
2	B	215	VAL
2	B	219	VAL
2	B	238	LYS
2	B	240	HIS
2	B	245	ARG
2	B	253	VAL
2	B	264	ILE
2	B	286	LYS
2	B	292	THR
2	B	294	SER
2	B	295	LEU
2	B	297	GLN
2	B	310	SER
2	B	318	ASP
2	B	319	SER
2	B	327	ILE
2	B	328	SER
2	B	337	ILE
2	B	347	ILE
2	B	353	SER
2	B	354	ASN
2	B	374	SER
2	B	391	SER
2	B	393	THR
2	B	396	SER
2	B	402	ILE
2	B	416	LYS
2	B	418	VAL
2	B	422	LYS
2	B	423	SER
2	B	430	LEU
2	B	436	ILE
2	B	437	ASP
2	B	438	GLU
3	C	1	MET
3	C	5	ARG
3	C	6	LYS
3	C	7	SER
3	C	11	MET
3	C	25	SER
3	C	26	ASN

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Mol	Chain	Res	Type
3	C	27	ILE
3	C	29	SER
3	C	32	ASN
3	C	39	ILE
3	C	43	LEU
3	C	51	LEU
3	C	57	SER
3	C	60	THR
3	C	61	THR
3	C	65	SER
3	C	67	THR
3	C	73	VAL
3	C	78	ILE
3	C	94	LEU
3	C	115	ILE
3	C	118	ILE
3	C	119	LEU
3	C	123	VAL
3	C	138	MET
3	C	139	SER
3	C	144	THR
3	C	156	ILE
3	C	158	THR
3	C	161	VAL
3	C	169	SER
3	C	174	THR
3	C	176	THR
3	C	177	ARG
3	C	188	ILE
3	C	192	ILE
3	C	197	LEU
3	C	198	LEU
3	C	205	SER
3	C	212	SER
3	C	217	LYS
3	C	226	ILE
3	C	229	ILE
3	C	233	LEU
3	C	237	LEU
3	C	240	MET
3	C	241	LEU
3	C	243	VAL

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Mol	Chain	Res	Type
3	C	244	LEU
3	C	247	PRO
3	C	262	LEU
3	C	271	GLU
3	C	273	TYR
3	C	280	ILE
3	C	281	LEU
3	C	282	ARG
3	C	284	ILE
3	C	291	VAL
3	C	299	LEU
3	C	304	ILE
3	C	310	SER
3	C	311	LYS
3	C	312	GLN
3	C	313	ARG
3	C	314	SER
3	C	316	MET
3	C	318	ARG
3	C	321	SER
3	C	324	LEU
3	C	343	VAL
3	C	353	LEU
3	C	362	ILE
3	C	363	LEU
3	C	375	LYS
3	C	377	LEU
4	D	3	LEU
4	D	9	SER
4	D	10	TYR
4	D	17	LEU
4	D	20	SER
4	D	21	LEU
4	D	26	ILE
4	D	27	ARG
4	D	32	VAL
4	D	40	CYS
4	D	42	SER
4	D	43	MET
4	D	52	VAL
4	D	55	CYS
4	D	80	MET

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Mol	Chain	Res	Type
4	D	82	MET
4	D	83	ARG
4	D	87	LEU
4	D	106	ASN
4	D	116	ILE
4	D	120	ARG
4	D	124	GLU
4	D	127	VAL
4	D	132	THR
4	D	139	THR
4	D	141	VAL
4	D	179	MET
4	D	182	VAL
4	D	186	VAL
4	D	201	ARG
4	D	208	MET
4	D	218	LEU
4	D	228	SER
4	D	231	LYS
5	E	1	SER
5	E	5	ILE
5	E	6	LYS
5	E	11	SER
5	E	14	ARG
5	E	15	ARG
5	E	17	GLU
5	E	19	LEU
5	E	28	SER
5	E	30	GLU
5	E	32	ARG
5	E	33	LYS
5	E	40	THR
5	E	52	LYS
5	E	58	PHE
5	E	63	SER
5	E	67	ASP
5	E	68	VAL
6	F	7	SER
6	F	9	SER
6	F	10	SER
6	F	11	ARG
6	F	13	LEU

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Mol	Chain	Res	Type
6	F	16	ILE
6	F	18	LYS
6	F	35	ASP
6	F	44	LYS
6	F	47	ILE
6	F	48	ARG
6	F	50	LEU
6	F	53	ASN
6	F	54	LEU
6	F	58	ARG
6	F	68	LEU
6	F	69	SER
6	F	70	MET
6	F	74	ILE
6	F	77	LYS
6	F	82	LYS
6	F	88	SER
6	F	90	LEU
6	F	94	LEU
6	F	95	LYS
6	F	98	ILE
6	F	100	GLU
6	F	110	LYS
7	G	4	PHE
7	G	8	THR
7	G	9	ARG
7	G	10	VAL
7	G	15	THR
7	G	19	SER
7	G	23	GLN
7	G	24	ARG
7	G	39	ARG
7	G	40	ARG
7	G	41	THR
7	G	42	ARG
7	G	45	ILE
7	G	46	LEU
7	G	58	VAL
7	G	60	THR
7	G	69	SER
7	G	70	LYS
8	H	20	VAL

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Mol	Chain	Res	Type
8	H	29	LYS
8	H	30	CYS
8	H	31	VAL
8	H	54	CYS
8	H	57	GLU
8	H	58	LEU
8	H	59	LEU
8	H	73	LEU
8	H	74	PHE
8	H	76	SER
9	I	46	LYS
9	I	49	VAL
9	I	54	SER
9	I	69	SER
9	I	70	LEU
9	I	72	VAL
9	I	77	ARG
9	I	78	TYR
10	J	4	THR
10	J	11	SER
10	J	13	LEU
10	J	17	THR
10	J	18	SER
10	J	24	ILE
10	J	25	VAL
10	J	46	ILE
10	J	58	LYS
11	K	20	THR
11	K	23	LEU
11	K	27	VAL
11	K	36	THR
1	M	3	THR
1	M	13	GLU
1	M	24	ARG
1	M	31	SER
1	M	37	VAL
1	M	42	ASP
1	M	45	SER
1	M	46	ARG
1	M	48	GLU
1	M	51	LYS
1	M	70	ARG

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Mol	Chain	Res	Type
1	M	79	VAL
1	M	86	LEU
1	M	89	TYR
1	M	91	THR
1	M	92	ARG
1	M	97	TYR
1	M	99	ILE
1	M	108	LYS
1	M	112	LEU
1	M	125	SER
1	M	127	ILE
1	M	128	GLU
1	M	130	GLU
1	M	133	VAL
1	M	137	GLU
1	M	138	LEU
1	M	143	THR
1	M	149	VAL
1	M	156	THR
1	M	159	GLN
1	M	163	LEU
1	M	174	VAL
1	M	175	ARG
1	M	176	LYS
1	M	177	LEU
1	M	179	ARG
1	M	183	THR
1	M	187	SER
1	M	191	LYS
1	M	195	MET
1	M	197	LEU
1	M	208	LEU
1	M	211	LEU
1	M	213	GLN
1	M	216	PHE
1	M	222	THR
1	M	225	GLU
1	M	231	LEU
1	M	232	SER
1	M	245	GLU
1	M	246	ASP
1	M	248	LEU

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Mol	Chain	Res	Type
1	M	257	VAL
1	M	277	ILE
1	M	296	SER
1	M	302	LYS
1	M	307	PHE
1	M	309	THR
1	M	316	ASP
1	M	319	LEU
1	M	329	MET
1	M	330	SER
1	M	334	MET
1	M	337	VAL
1	M	341	GLN
1	M	344	ARG
1	M	346	CYS
1	M	347	THR
1	M	351	GLU
1	M	353	GLU
1	M	356	ARG
1	M	358	LYS
1	M	360	LEU
1	M	366	VAL
1	M	370	ASP
1	M	379	ILE
1	M	382	SER
1	M	384	LEU
1	M	386	TYR
1	M	407	VAL
1	M	412	SER
1	M	413	LYS
1	M	419	CYS
1	M	428	ILE
1	M	441	MET
2	N	23	ASP
2	N	24	LEU
2	N	35	ILE
2	N	37	SER
2	N	38	LEU
2	N	45	SER
2	N	46	ARG
2	N	52	LYS
2	N	56	ARG

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Mol	Chain	Res	Type
2	N	58	GLU
2	N	60	SER
2	N	65	THR
2	N	78	LYS
2	N	81	SER
2	N	84	LYS
2	N	85	ILE
2	N	86	THR
2	N	96	LEU
2	N	99	THR
2	N	100	SER
2	N	101	THR
2	N	102	ARG
2	N	108	THR
2	N	111	CYS
2	N	112	LEU
2	N	113	ARG
2	N	117	ASP
2	N	119	LEU
2	N	134	ARG
2	N	145	ARG
2	N	159	VAL
2	N	160	ILE
2	N	175	SER
2	N	183	ILE
2	N	185	LYS
2	N	190	GLU
2	N	196	GLN
2	N	201	SER
2	N	203	ARG
2	N	206	LEU
2	N	207	ILE
2	N	215	VAL
2	N	219	VAL
2	N	233	SER
2	N	238	LYS
2	N	240	HIS
2	N	244	ILE
2	N	253	VAL
2	N	264	ILE
2	N	266	SER
2	N	286	LYS

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Mol	Chain	Res	Type
2	N	292	THR
2	N	295	LEU
2	N	297	GLN
2	N	315	SER
2	N	317	SER
2	N	318	ASP
2	N	327	ILE
2	N	328	SER
2	N	329	GLN
2	N	337	ILE
2	N	345	LYS
2	N	346	THR
2	N	354	ASN
2	N	357	VAL
2	N	384	SER
2	N	402	ILE
2	N	403	ASP
2	N	416	LYS
2	N	418	VAL
2	N	424	MET
2	N	436	ILE
2	N	437	ASP
2	N	438	GLU
3	O	1	MET
3	O	5	ARG
3	O	6	LYS
3	O	7	SER
3	O	11	MET
3	O	13	ILE
3	O	27	ILE
3	O	32	ASN
3	O	35	SER
3	O	39	ILE
3	O	44	GLN
3	O	60	THR
3	O	61	THR
3	O	67	THR
3	O	69	ILE
3	O	73	VAL
3	O	92	ILE
3	O	94	LEU
3	O	100	ARG

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Mol	Chain	Res	Type
3	O	115	ILE
3	O	118	ILE
3	O	119	LEU
3	O	138	MET
3	O	139	SER
3	O	144	THR
3	O	153	ILE
3	O	156	ILE
3	O	158	THR
3	O	161	VAL
3	O	169	SER
3	O	174	THR
3	O	176	THR
3	O	184	ILE
3	O	188	ILE
3	O	189	ILE
3	O	192	ILE
3	O	197	LEU
3	O	212	SER
3	O	215	VAL
3	O	226	ILE
3	O	229	ILE
3	O	233	LEU
3	O	241	LEU
3	O	242	LEU
3	O	243	VAL
3	O	244	LEU
3	O	257	THR
3	O	262	LEU
3	O	271	GLU
3	O	281	LEU
3	O	282	ARG
3	O	287	LYS
3	O	291	VAL
3	O	297	SER
3	O	299	LEU
3	O	300	ILE
3	O	313	ARG
3	O	316	MET
3	O	318	ARG
3	O	324	LEU
3	O	338	ILE

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Mol	Chain	Res	Type
3	O	349	THR
3	O	356	VAL
3	O	362	ILE
3	O	363	LEU
3	O	375	LYS
3	O	377	LEU
3	O	378	LYS
4	P	3	LEU
4	P	10	TYR
4	P	13	SER
4	P	17	LEU
4	P	20	SER
4	P	21	LEU
4	P	38	SER
4	P	39	SER
4	P	40	CYS
4	P	42	SER
4	P	43	MET
4	P	52	VAL
4	P	55	CYS
4	P	80	MET
4	P	82	MET
4	P	83	ARG
4	P	88	SER
4	P	106	ASN
4	P	120	ARG
4	P	124	GLU
4	P	127	VAL
4	P	132	THR
4	P	139	THR
4	P	141	VAL
4	P	158	ILE
4	P	160	MET
4	P	179	MET
4	P	180	SER
4	P	182	VAL
4	P	186	VAL
4	P	201	ARG
4	P	208	MET
4	P	210	LEU
4	P	223	LYS
4	P	226	LYS

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Mol	Chain	Res	Type
4	P	231	LYS
5	Q	5	ILE
5	Q	6	LYS
5	Q	11	SER
5	Q	14	ARG
5	Q	17	GLU
5	Q	18	VAL
5	Q	19	LEU
5	Q	22	THR
5	Q	23	LYS
5	Q	28	SER
5	Q	30	GLU
5	Q	32	ARG
5	Q	33	LYS
5	Q	36	SER
5	Q	40	THR
5	Q	42	THR
5	Q	43	THR
5	Q	44	THR
5	Q	45	VAL
5	Q	58	PHE
5	Q	60	SER
5	Q	61	SER
5	Q	62	MET
5	Q	63	SER
5	Q	65	SER
5	Q	68	VAL
5	Q	71	MET
5	Q	73	LYS
5	Q	74	ILE
5	Q	76	ILE
5	Q	78	LEU
5	Q	81	ILE
5	Q	87	MET
5	Q	95	PRO
5	Q	98	VAL
5	Q	102	THR
5	Q	103	LYS
5	Q	106	ILE
5	Q	109	GLU
5	Q	113	GLU
5	Q	114	VAL

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Mol	Chain	Res	Type
5	Q	125	GLU
5	Q	129	LYS
5	Q	136	ILE
5	Q	139	CYS
5	Q	140	THR
5	Q	144	CYS
5	Q	147	ILE
5	Q	152	ASP
5	Q	158	CYS
5	Q	168	SER
5	Q	171	ILE
5	Q	172	ARG
5	Q	178	LEU
5	Q	192	MET
5	Q	194	ILE
5	Q	195	VAL
6	R	7	SER
6	R	11	ARG
6	R	16	ILE
6	R	35	ASP
6	R	47	ILE
6	R	48	ARG
6	R	54	LEU
6	R	64	ARG
6	R	68	LEU
6	R	70	MET
6	R	75	LEU
6	R	77	LYS
6	R	88	SER
6	R	90	LEU
6	R	94	LEU
6	R	98	ILE
6	R	100	GLU
6	R	101	ARG
6	R	103	GLU
6	R	110	LYS
7	S	4	PHE
7	S	7	LEU
7	S	8	THR
7	S	9	ARG
7	S	10	VAL
7	S	15	THR

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Mol	Chain	Res	Type
7	S	18	LEU
7	S	19	SER
7	S	23	GLN
7	S	24	ARG
7	S	31	SER
7	S	39	ARG
7	S	40	ARG
7	S	41	THR
7	S	42	ARG
7	S	45	ILE
7	S	46	LEU
7	S	58	VAL
7	S	69	SER
7	S	70	LYS
8	T	20	VAL
8	T	29	LYS
8	T	30	CYS
8	T	31	VAL
8	T	46	SER
8	T	48	SER
8	T	54	CYS
8	T	57	GLU
8	T	58	LEU
8	T	73	LEU
8	T	74	PHE
9	U	46	LYS
9	U	49	VAL
9	U	68	VAL
9	U	70	LEU
9	U	72	VAL
9	U	76	VAL
9	U	77	ARG
9	U	78	TYR
10	V	4	THR
10	V	9	LEU
10	V	12	LEU
10	V	13	LEU
10	V	16	ARG
10	V	18	SER
10	V	42	ILE
10	V	46	ILE
10	V	55	ILE

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Mol	Chain	Res	Type
10	V	58	LYS
11	W	20	THR
11	W	23	LEU
11	W	27	VAL
11	W	34	SER
11	W	36	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (86) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	18	GLN
1	A	21	ASN
1	A	32	GLN
1	A	73	ASN
1	A	85	HIS
1	A	136	GLN
1	A	151	ASN
1	A	154	HIS
1	A	189	HIS
1	A	240	GLN
1	A	243	HIS
1	A	252	HIS
1	A	289	HIS
1	A	308	GLN
1	A	435	ASN
2	B	62	ASN
2	B	67	HIS
2	B	125	ASN
2	B	162	ASN
2	B	164	HIS
2	B	198	HIS
2	B	247	GLN
2	B	304	HIS
2	B	429	ASN
3	C	15	ASN
3	C	26	ASN
3	C	32	ASN
3	C	114	ASN
3	C	206	ASN
3	C	312	GLN
3	C	374	ASN
4	D	6	HIS

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Mol	Chain	Res	Type
4	D	50	HIS
4	D	106	ASN
4	D	181	GLN
4	D	225	HIS
5	E	57	GLN
6	F	38	HIS
7	G	6	HIS
7	G	12	HIS
7	G	73	ASN
9	I	71	ASN
10	J	54	HIS
11	K	16	ASN
1	M	18	GLN
1	M	32	GLN
1	M	85	HIS
1	M	136	GLN
1	M	151	ASN
1	M	154	HIS
1	M	159	GLN
1	M	189	HIS
1	M	213	GLN
1	M	240	GLN
1	M	243	HIS
1	M	308	GLN
1	M	323	HIS
1	M	339	GLN
1	M	435	ASN
2	N	62	ASN
2	N	67	HIS
2	N	125	ASN
2	N	141	GLN
2	N	198	HIS
2	N	247	GLN
2	N	304	HIS
2	N	429	ASN
3	O	15	ASN
3	O	26	ASN
3	O	32	ASN
3	O	114	ASN
3	O	206	ASN
3	O	374	ASN
4	P	6	HIS

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Mol	Chain	Res	Type
4	P	50	HIS
4	P	75	ASN
4	P	106	ASN
4	P	181	GLN
4	P	225	HIS
5	Q	53	ASN
5	Q	121	GLN
6	R	38	HIS
6	R	73	GLN
7	S	6	HIS
10	V	54	HIS
11	W	16	ASN

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](#)

7 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
13	HEC	P	242	4	46,50,50	1.89	7 (15%)	58,82,82	1.55	4 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
12	HEM	C	381	3	50,50,50	1.27	6 (12%)	67,82,82	1.73	17 (25%)
13	HEC	D	242	4	46,50,50	1.85	7 (15%)	58,82,82	1.53	7 (12%)
12	HEM	O	381	3	50,50,50	1.37	7 (14%)	67,82,82	1.73	14 (20%)
14	FES	Q	197	5	0,4,4	-	-	-	-	-
12	HEM	C	380	3	50,50,50	1.31	7 (14%)	67,82,82	1.51	9 (13%)
12	HEM	O	380	3	50,50,50	1.41	8 (16%)	67,82,82	1.87	18 (26%)

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
13	HEC	P	242	4	-	10/14/54/54	-
12	HEM	C	381	3	-	6/14/54/54	-
13	HEC	D	242	4	-	8/14/54/54	-
12	HEM	O	381	3	-	4/14/54/54	-
14	FES	Q	197	5	-	-	0/1/1/1
12	HEM	C	380	3	-	4/14/54/54	-
12	HEM	O	380	3	-	6/14/54/54	-

All (42) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	P	242	HEC	CAB-C3B	6.65	1.56	1.35
13	P	242	HEC	CAC-C3C	6.46	1.56	1.35
13	D	242	HEC	CAB-C3B	6.46	1.56	1.35
13	D	242	HEC	CAC-C3C	6.30	1.55	1.35
13	D	242	HEC	CBB-CAB	-3.72	1.35	1.49
13	P	242	HEC	CBC-CAC	-3.66	1.35	1.49
13	D	242	HEC	CBC-CAC	-3.54	1.36	1.49
13	P	242	HEC	CBB-CAB	-3.48	1.36	1.49
12	C	380	HEM	CAB-C3B	3.43	1.56	1.47
12	O	381	HEM	FE-NA	3.40	2.06	1.95
12	O	380	HEM	CAB-C3B	3.38	1.56	1.47
12	O	381	HEM	FE-NC	3.36	2.06	1.95
12	C	380	HEM	FE-NB	3.18	2.04	1.94
12	O	380	HEM	FE-NB	3.12	2.04	1.94
12	C	381	HEM	CHB-C4A	-3.09	1.32	1.39
12	C	380	HEM	C3B-C2B	-3.01	1.31	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	O	380	HEM	C1B-C2B	2.73	1.50	1.44
12	O	381	HEM	CAC-C3C	2.72	1.54	1.47
12	O	380	HEM	CAC-C3C	2.60	1.54	1.47
12	O	381	HEM	C1A-NA	2.53	1.44	1.39
12	C	380	HEM	FE-ND	2.48	2.02	1.94
12	C	380	HEM	CAC-C3C	2.44	1.53	1.47
12	O	381	HEM	FE-NB	2.39	2.02	1.94
13	P	242	HEC	C3C-C2C	-2.34	1.33	1.41
13	D	242	HEC	C3B-C2B	-2.30	1.33	1.41
12	O	380	HEM	C3D-C2D	-2.28	1.31	1.36
12	C	381	HEM	FE-ND	2.28	2.01	1.94
12	C	381	HEM	FE-NC	2.27	2.02	1.95
12	O	380	HEM	C2A-C3A	-2.27	1.33	1.38
12	O	381	HEM	CAB-C3B	2.26	1.53	1.47
12	C	380	HEM	C2A-C3A	-2.26	1.33	1.38
13	P	242	HEC	C3B-C2B	-2.24	1.33	1.41
12	O	381	HEM	C2A-C3A	-2.22	1.33	1.38
12	C	381	HEM	FE-NB	2.17	2.01	1.94
12	C	381	HEM	CAB-C3B	2.17	1.53	1.47
13	D	242	HEC	C3C-C2C	-2.16	1.33	1.41
12	O	380	HEM	FE-NA	2.16	2.02	1.95
13	P	242	HEC	C3D-C2D	-2.12	1.33	1.38
12	C	380	HEM	CMB-C2B	2.08	1.55	1.50
12	O	380	HEM	CMD-C2D	2.07	1.55	1.50
12	C	381	HEM	C1C-C2C	2.03	1.49	1.45
13	D	242	HEC	CMD-C2D	2.00	1.54	1.50

All (69) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	D	242	HEC	CBC-CAC-C3C	-6.70	114.05	127.43
13	P	242	HEC	CBB-CAB-C3B	-6.69	114.06	127.43
13	P	242	HEC	CBC-CAC-C3C	-6.11	115.23	127.43
12	O	380	HEM	C3B-C2B-C1B	-5.36	102.39	106.41
13	D	242	HEC	CBB-CAB-C3B	-4.98	117.47	127.43
12	O	381	HEM	C3B-C2B-C1B	4.97	110.14	106.41
12	O	380	HEM	CMA-C3A-C4A	-4.92	117.92	125.42
12	C	380	HEM	CBD-CAD-C3D	4.79	125.78	112.53
12	O	381	HEM	C2A-C1A-NA	-4.21	105.48	110.15
12	O	381	HEM	CHC-C4B-NB	4.13	128.87	124.42
12	C	380	HEM	O1D-CGD-CBD	-4.05	110.26	123.09
12	O	381	HEM	CHA-C1A-C2A	3.90	133.84	125.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	C	380	HEM	CBB-CAB-C3B	-3.86	108.26	127.53
12	C	381	HEM	CAA-CBA-CGA	3.83	123.83	113.67
12	O	381	HEM	CHB-C1B-NB	-3.77	119.70	124.37
12	O	380	HEM	C2B-C1B-NB	3.70	114.09	109.84
12	O	380	HEM	O1D-CGD-CBD	-3.63	111.59	123.09
12	O	380	HEM	C4B-C3B-C2B	3.61	110.60	107.28
12	O	380	HEM	CHB-C1B-NB	-3.49	120.05	124.37
12	C	381	HEM	C3C-C2C-C1C	-3.47	103.76	107.05
12	C	381	HEM	CMA-C3A-C4A	-3.46	120.16	125.42
12	O	380	HEM	O2D-CGD-O1D	3.43	132.15	123.33
12	C	381	HEM	CHD-C1D-ND	3.34	128.01	124.42
12	O	380	HEM	CMA-C3A-C2A	3.30	132.61	125.62
12	C	381	HEM	C4D-ND-C1D	3.09	108.87	105.21
12	O	381	HEM	O1D-CGD-CBD	-3.09	113.30	123.09
12	C	381	HEM	O2A-CGA-CBA	3.07	123.69	114.00
12	C	381	HEM	C4A-CHB-C1B	2.97	133.23	126.25
12	C	381	HEM	CHC-C1C-NC	-2.87	121.33	124.45
12	C	381	HEM	O2A-CGA-O1A	-2.84	116.02	123.33
12	C	381	HEM	CMA-C3A-C2A	2.84	131.64	125.62
12	C	381	HEM	CHB-C1B-NB	-2.81	120.89	124.37
12	C	380	HEM	O2A-CGA-O1A	2.81	130.56	123.33
12	O	381	HEM	CAA-C2A-C1A	-2.76	119.55	124.94
12	C	380	HEM	CMB-C2B-C1B	-2.74	120.75	125.03
12	O	380	HEM	CMD-C2D-C1D	-2.72	120.78	125.03
13	P	242	HEC	O1D-CGD-CBD	-2.70	114.53	123.09
12	C	381	HEM	CAD-CBD-CGD	2.65	120.70	113.67
12	C	381	HEM	CBD-CAD-C3D	2.61	119.75	112.53
12	O	380	HEM	CAB-C3B-C2B	-2.59	120.01	128.43
12	O	380	HEM	C1B-NB-C4B	-2.57	102.16	105.21
13	D	242	HEC	O1A-CGA-CBA	-2.56	114.97	123.09
12	C	380	HEM	O2D-CGD-CBD	2.51	121.92	114.00
12	O	380	HEM	CBD-CAD-C3D	2.50	119.45	112.53
12	C	381	HEM	CAA-C2A-C1A	-2.48	120.09	124.94
12	O	381	HEM	CMB-C2B-C3B	-2.44	122.51	128.43
12	O	380	HEM	CMB-C2B-C3B	2.44	134.33	128.43
12	C	380	HEM	CMA-C3A-C4A	-2.44	121.71	125.42
13	D	242	HEC	O2D-CGD-O1D	2.42	129.56	123.33
12	C	381	HEM	C4C-NC-C1C	-2.40	101.91	105.82
12	O	380	HEM	CHA-C4D-ND	-2.39	121.41	124.37
12	C	381	HEM	C3D-C4D-ND	-2.34	107.61	110.17
12	O	381	HEM	C4B-C3B-C2B	-2.31	105.16	107.28
13	D	242	HEC	O1D-CGD-CBD	-2.31	115.78	123.09

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	O	381	HEM	O2D-CGD-CBD	2.26	121.15	114.00
13	D	242	HEC	CAD-C3D-C2D	2.26	132.14	127.07
12	O	380	HEM	C4A-C3A-C2A	2.25	109.39	106.82
12	C	380	HEM	CHC-C1C-NC	2.23	126.88	124.45
12	O	380	HEM	C3C-C2C-C1C	2.21	109.13	107.05
12	C	381	HEM	C2A-C1A-NA	-2.19	107.72	110.15
12	O	381	HEM	CMD-C2D-C1D	-2.16	121.66	125.03
12	O	381	HEM	CHA-C1A-NA	-2.15	119.97	123.86
12	O	381	HEM	CMC-C2C-C1C	-2.13	120.97	124.73
12	O	380	HEM	O1A-CGA-CBA	-2.09	116.46	123.09
12	O	381	HEM	CHC-C4B-C3B	-2.07	120.94	125.07
13	D	242	HEC	CAD-C3D-C4D	-2.06	120.91	124.94
12	C	380	HEM	CMA-C3A-C2A	2.04	129.95	125.62
13	P	242	HEC	O1A-CGA-CBA	-2.04	116.63	123.09
12	O	380	HEM	CHA-C4D-C3D	2.01	128.94	125.23

There are no chirality outliers.

All (38) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
12	O	380	HEM	C2B-C3B-CAB-CBB
13	D	242	HEC	C2B-C3B-CAB-CBB
13	D	242	HEC	C4B-C3B-CAB-CBB
13	D	242	HEC	C2C-C3C-CAC-CBC
13	D	242	HEC	C4C-C3C-CAC-CBC
13	P	242	HEC	C2B-C3B-CAB-CBB
13	P	242	HEC	C2C-C3C-CAC-CBC
13	P	242	HEC	C4C-C3C-CAC-CBC
12	O	380	HEM	C4B-C3B-CAB-CBB
13	P	242	HEC	C1A-C2A-CAA-CBA
13	P	242	HEC	C3A-C2A-CAA-CBA
12	C	381	HEM	C2B-C3B-CAB-CBB
13	P	242	HEC	C4B-C3B-CAB-CBB
13	D	242	HEC	C1A-C2A-CAA-CBA
13	D	242	HEC	C3A-C2A-CAA-CBA
13	D	242	HEC	CAA-CBA-CGA-O1A
13	D	242	HEC	CAA-CBA-CGA-O2A
13	P	242	HEC	CAA-CBA-CGA-O1A
12	O	380	HEM	CAD-CBD-CGD-O2D
13	P	242	HEC	CAA-CBA-CGA-O2A
12	C	381	HEM	CAD-CBD-CGD-O1D
12	C	381	HEM	CAA-CBA-CGA-O2A

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Mol	Chain	Res	Type	Atoms
12	O	381	HEM	CAA-CBA-CGA-O1A
12	O	380	HEM	CAD-CBD-CGD-O1D
13	P	242	HEC	C2A-CAA-CBA-CGA
12	O	381	HEM	CAD-CBD-CGD-O2D
12	C	380	HEM	CAD-CBD-CGD-O1D
12	C	380	HEM	CAD-CBD-CGD-O2D
12	C	381	HEM	CAA-CBA-CGA-O1A
12	C	381	HEM	CAD-CBD-CGD-O2D
12	O	380	HEM	CAA-CBA-CGA-O2A
12	O	381	HEM	CAA-CBA-CGA-O2A
12	O	381	HEM	CAD-CBD-CGD-O1D
12	C	380	HEM	CAA-CBA-CGA-O2A
12	O	380	HEM	CAA-CBA-CGA-O1A
12	C	381	HEM	C4B-C3B-CAB-CBB
12	C	380	HEM	CAA-CBA-CGA-O1A
13	P	242	HEC	CAD-CBD-CGD-O2D

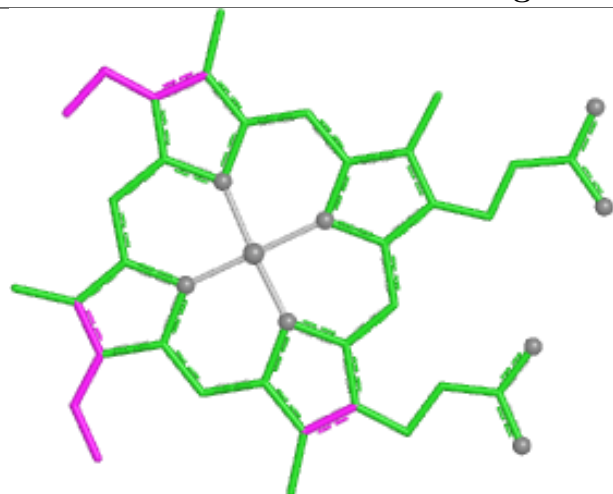
There are no ring outliers.

6 monomers are involved in 53 short contacts:

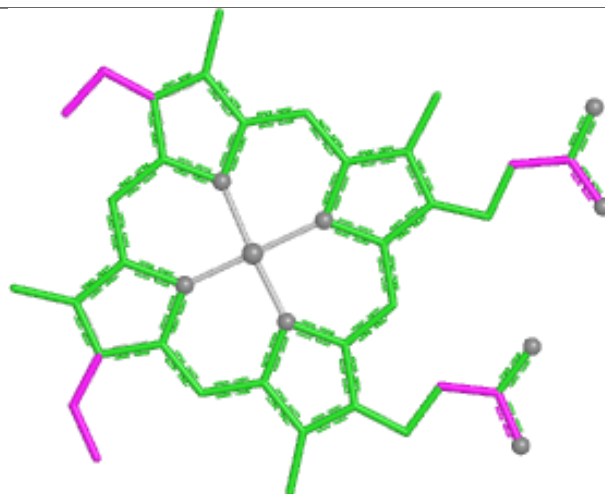
Mol	Chain	Res	Type	Clashes	Symm-Clashes
13	P	242	HEC	3	0
12	C	381	HEM	14	0
13	D	242	HEC	5	0
12	O	381	HEM	14	0
12	C	380	HEM	6	0
12	O	380	HEM	11	0

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.

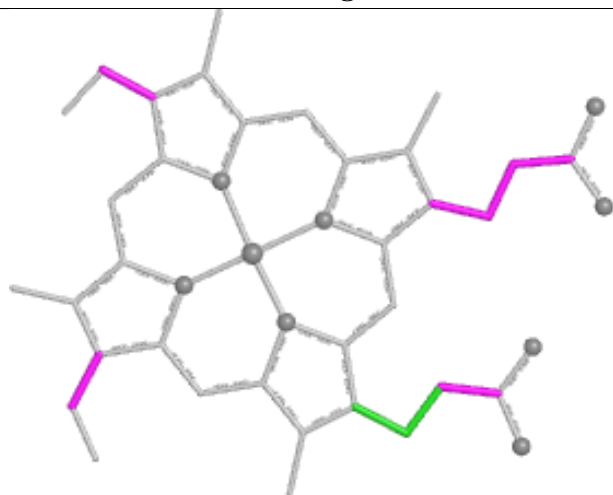
Ligand HEC P 242



Bond lengths



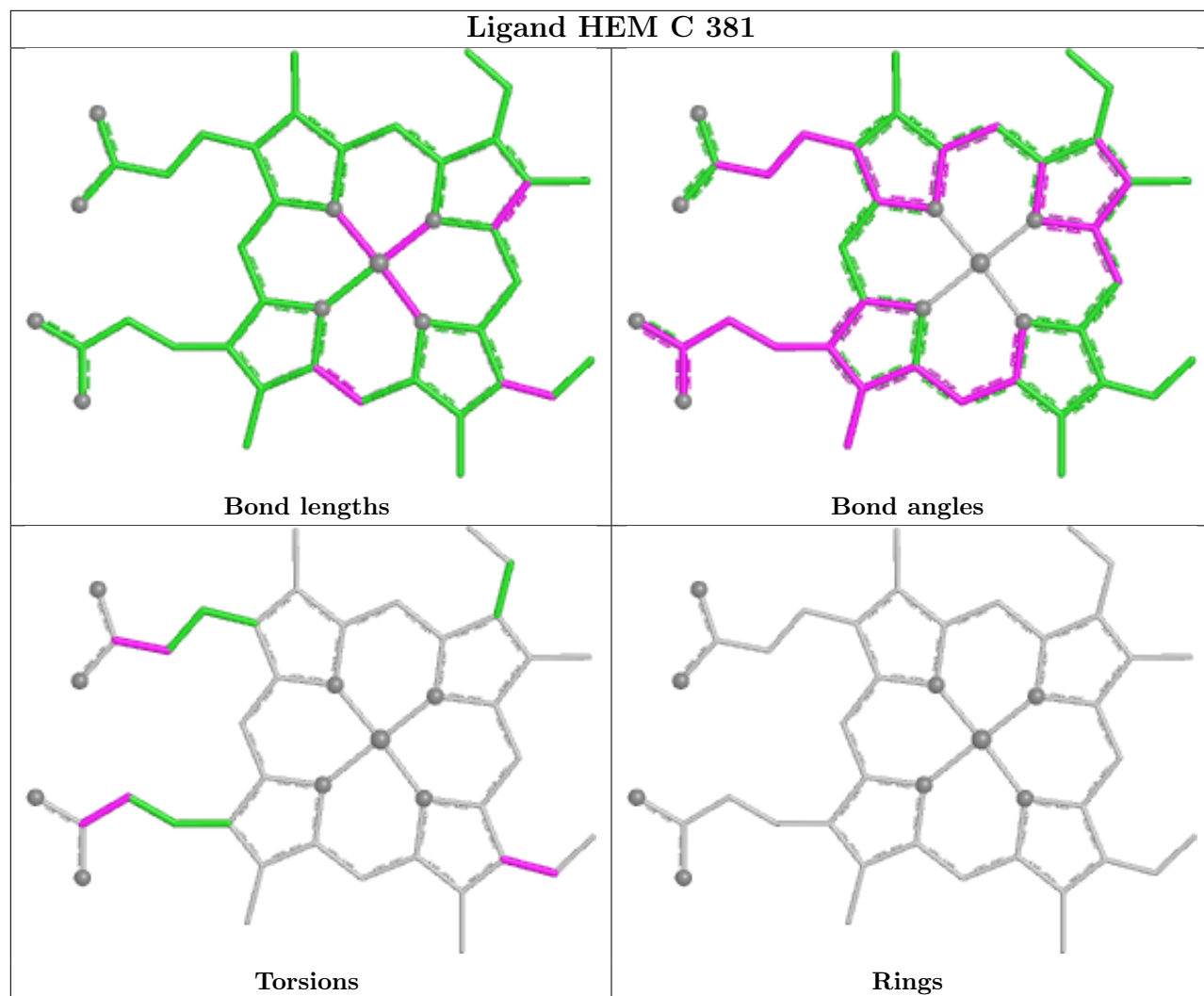
Bond angles



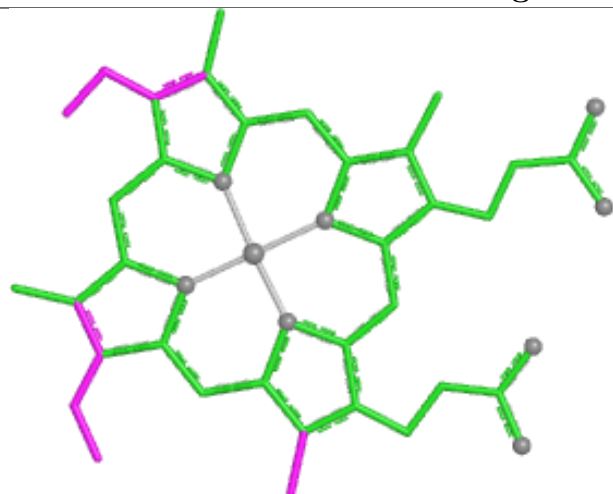
Torsions



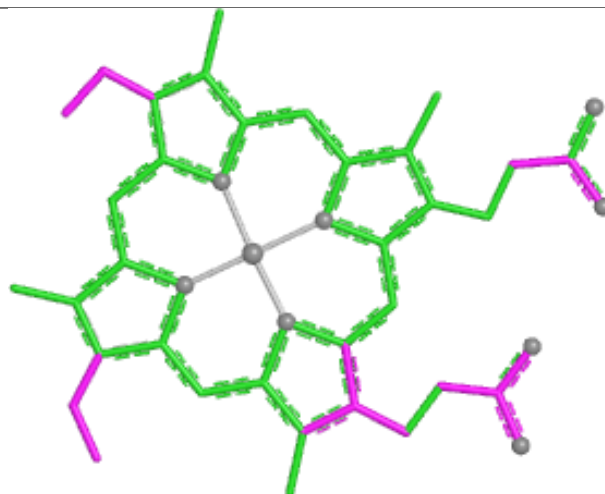
Rings



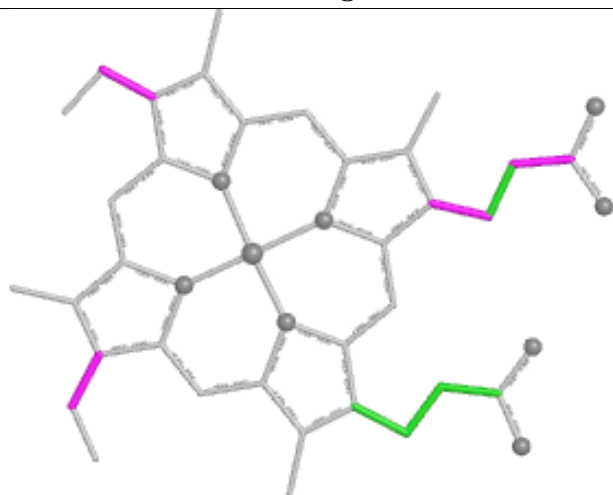
Ligand HEC D 242



Bond lengths



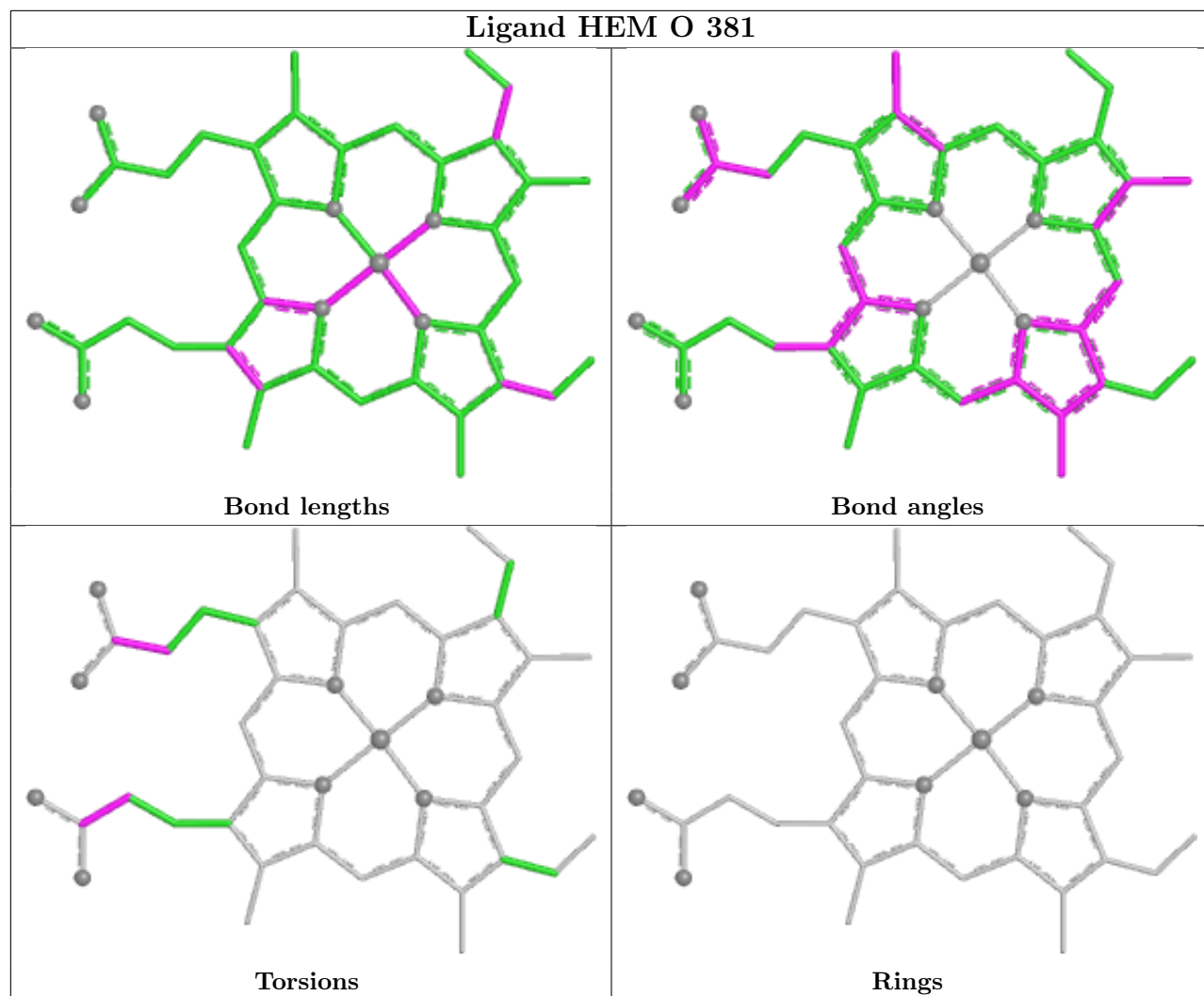
Bond angles

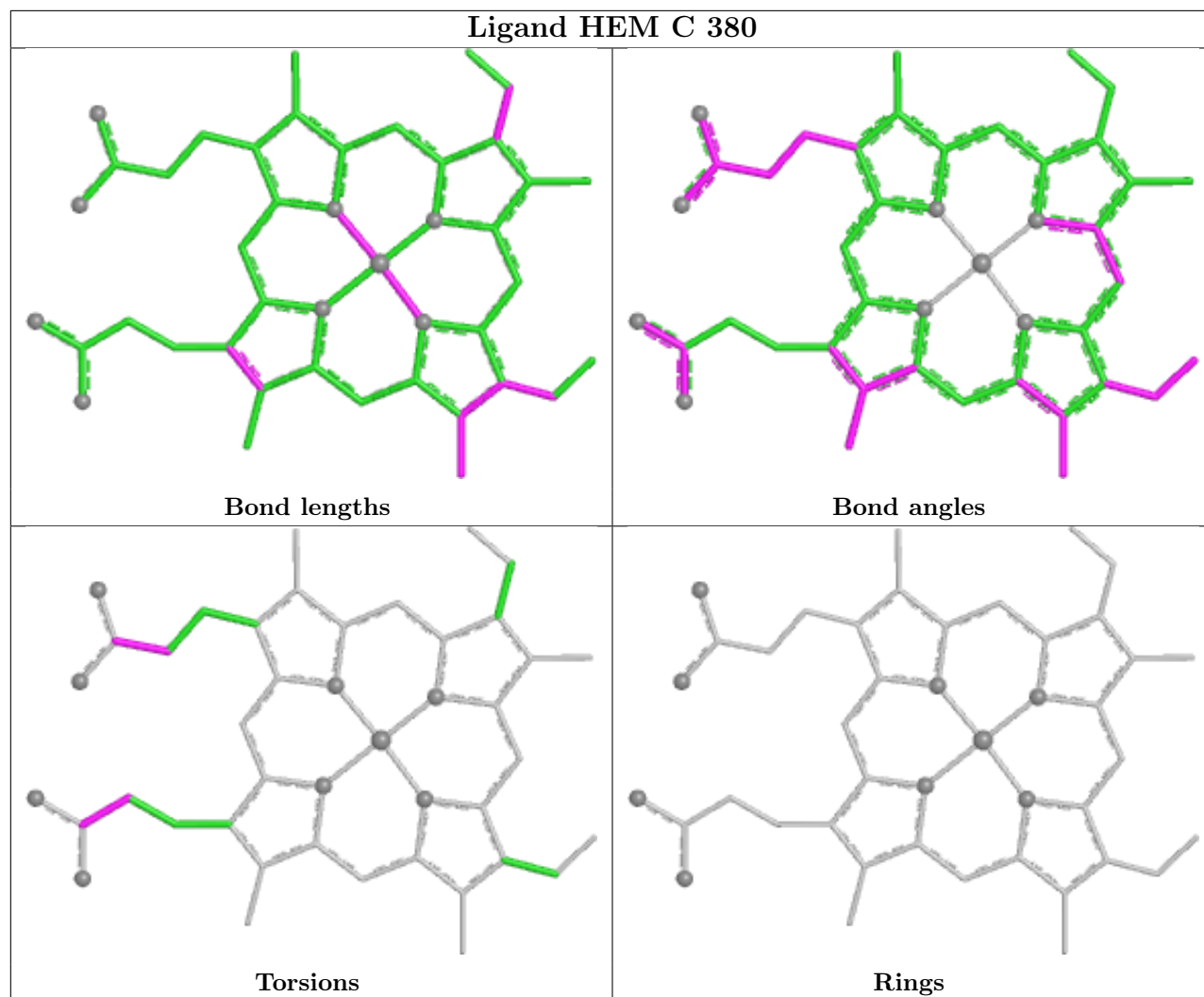


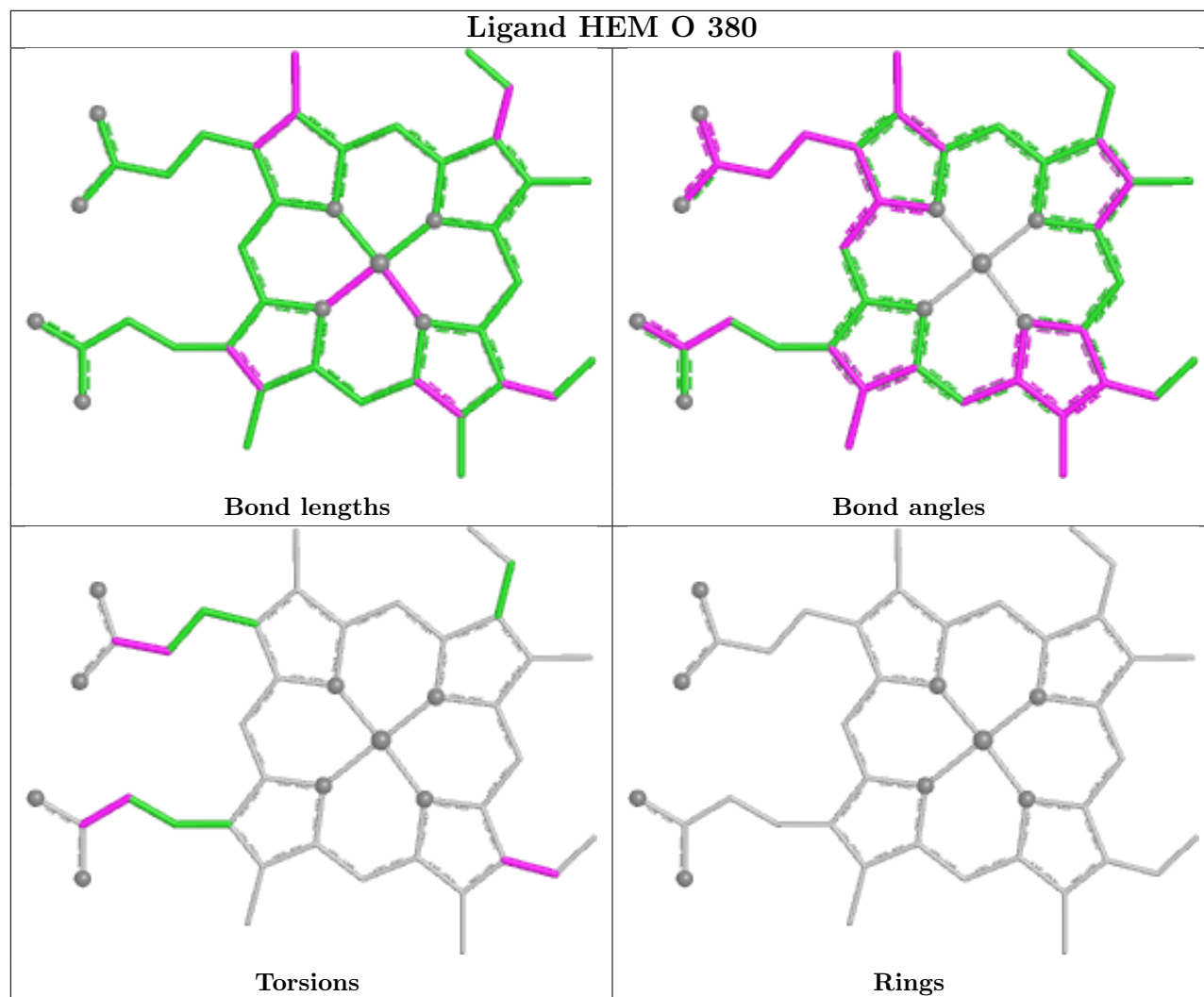
Torsions



Rings







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

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.