



Full wwPDB X-ray Structure Validation Report

Feb 28, 2014 – 10:24 AM GMT

PDB ID : 1R4M
Title : APPBP1-UBA3-NEDD8, an E1-ubiquitin-like protein complex
Authors : Walden, H.; Podgorski, M.S.; Holton, J.M.; Schulman, B.A.
Deposited on : 2003-10-07
Resolution : 3.00 Å(reported)

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

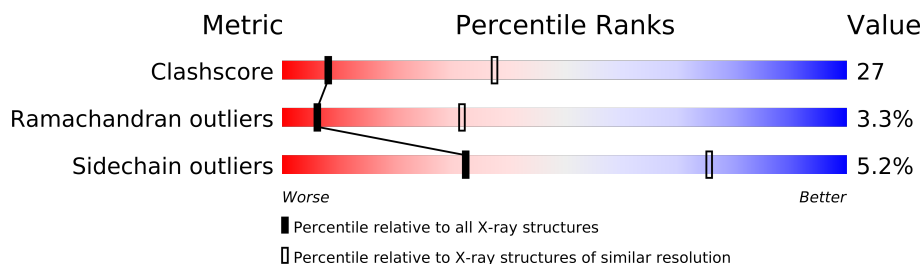
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable22683

1 Overall quality at a glance

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	79885	1594 (3.00-3.00)
Ramachandran outliers	78287	1537 (3.00-3.00)
Sidechain outliers	78261	1540 (3.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	529	
1	C	529	
1	E	529	
1	G	529	
2	B	431	
2	D	431	
2	F	431	
2	H	431	
3	I	76	
3	J	76	
3	K	76	
3	L	76	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 31620 atoms, of which 0 are hydrogen and 0 are deuterium.

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

- Molecule 1 is a protein called amyloid beta precursor protein-binding protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	516	Total	C	N	O	S	0	0	0
			4105	2602	699	789	15			
1	C	516	Total	C	N	O	S	0	0	0
			4105	2602	699	789	15			
1	E	516	Total	C	N	O	S	0	0	0
			4105	2602	699	789	15			
1	G	516	Total	C	N	O	S	0	0	0
			4105	2602	699	789	15			

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	ASN	DELETION	UNP Q13564
A	?	-	GLU	DELETION	UNP Q13564
A	?	-	ASN	DELETION	UNP Q13564
A	?	-	GLY	DELETION	UNP Q13564
A	?	-	ALA	DELETION	UNP Q13564
C	?	-	ASN	DELETION	UNP Q13564
C	?	-	GLU	DELETION	UNP Q13564
C	?	-	ASN	DELETION	UNP Q13564
C	?	-	GLY	DELETION	UNP Q13564
C	?	-	ALA	DELETION	UNP Q13564
E	?	-	ASN	DELETION	UNP Q13564
E	?	-	GLU	DELETION	UNP Q13564
E	?	-	ASN	DELETION	UNP Q13564
E	?	-	GLY	DELETION	UNP Q13564
E	?	-	ALA	DELETION	UNP Q13564
G	?	-	ASN	DELETION	UNP Q13564
G	?	-	GLU	DELETION	UNP Q13564
G	?	-	ASN	DELETION	UNP Q13564
G	?	-	GLY	DELETION	UNP Q13564
G	?	-	ALA	DELETION	UNP Q13564

- Molecule 2 is a protein called ubiquitin-activating enzyme E1C.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	418	Total	C	N	O	S	0	0	0
			3199	2038	549	595	17			
2	D	418	Total	C	N	O	S	0	0	0
			3199	2038	549	595	17			
2	F	418	Total	C	N	O	S	0	0	0
			3199	2038	549	595	17			
2	H	418	Total	C	N	O	S	0	0	0
			3199	2038	549	595	17			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	216	ALA	CYS	ENGINEERED	UNP Q8TBC4
D	216	ALA	CYS	ENGINEERED	UNP Q8TBC4
F	216	ALA	CYS	ENGINEERED	UNP Q8TBC4
H	216	ALA	CYS	ENGINEERED	UNP Q8TBC4

- Molecule 3 is a protein called Ubiquitin-like protein NEDD8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	I	76	Total	C	N	O	S	0	0	0
			600	378	104	116	2			
3	J	76	Total	C	N	O	S	0	0	0
			600	378	104	116	2			
3	K	76	Total	C	N	O	S	0	0	0
			600	378	104	116	2			
3	L	76	Total	C	N	O	S	0	0	0
			600	378	104	116	2			

- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	H	2	Total	Zn	0	0
			2	2		
4	J	1	Total	Zn	0	0
			1	1		
4	F	1	Total	Zn	0	0
			1	1		

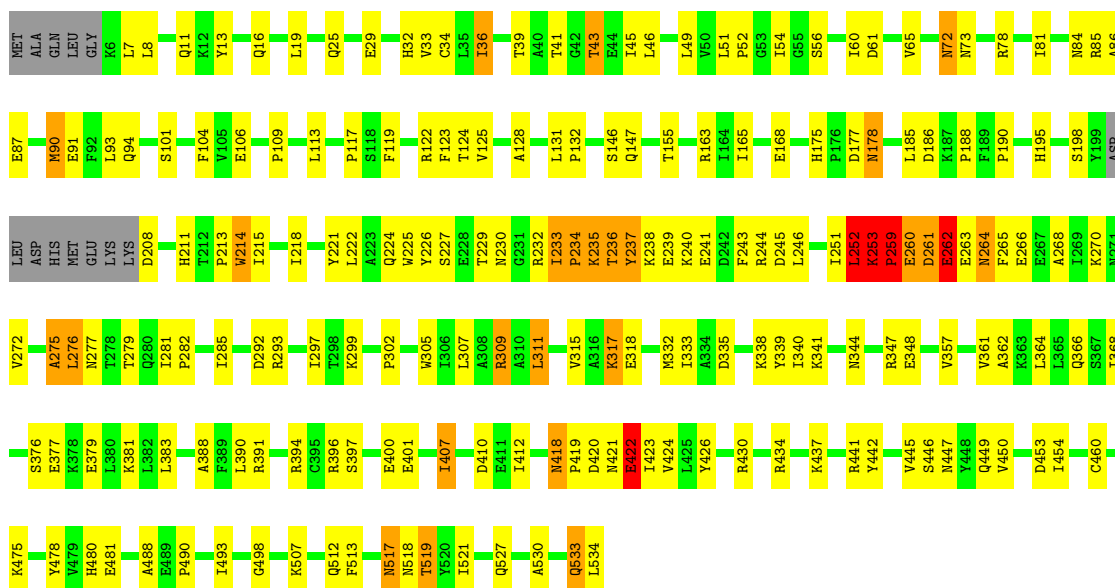
3 Residue-property plots

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

Note EDS was not executed.

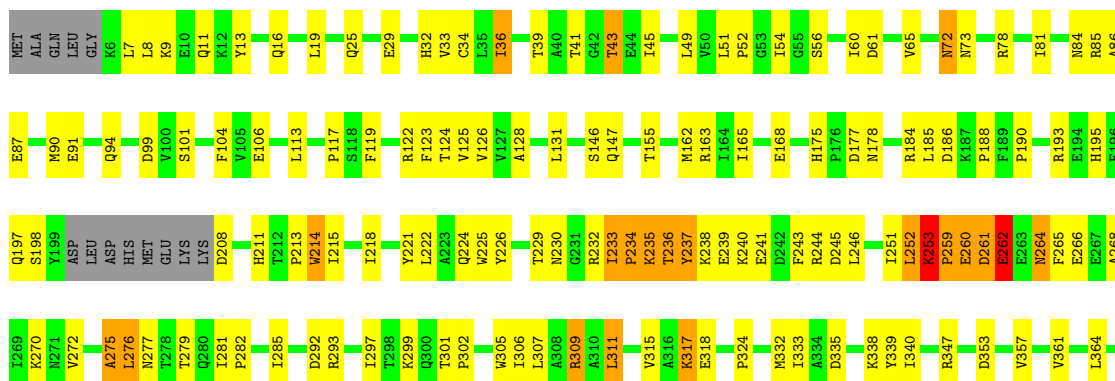
- Molecule 1: amyloid beta precursor protein-binding protein 1

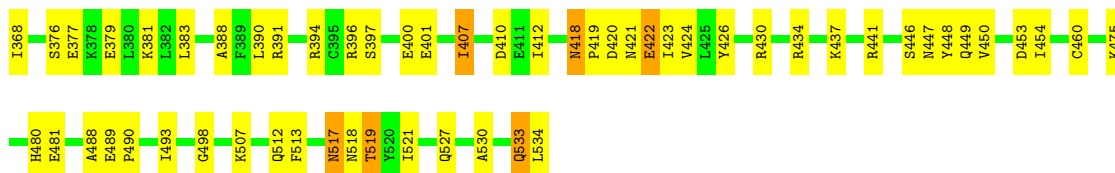
Chain A: 



- Molecule 1: amyloid beta precursor protein-binding protein 1

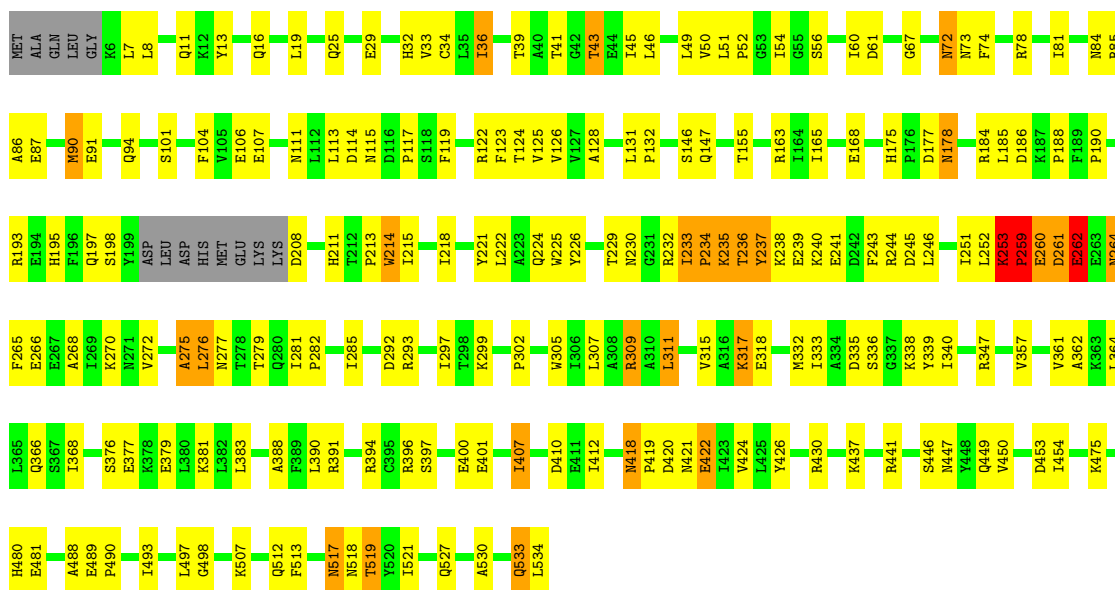
Chain C: 





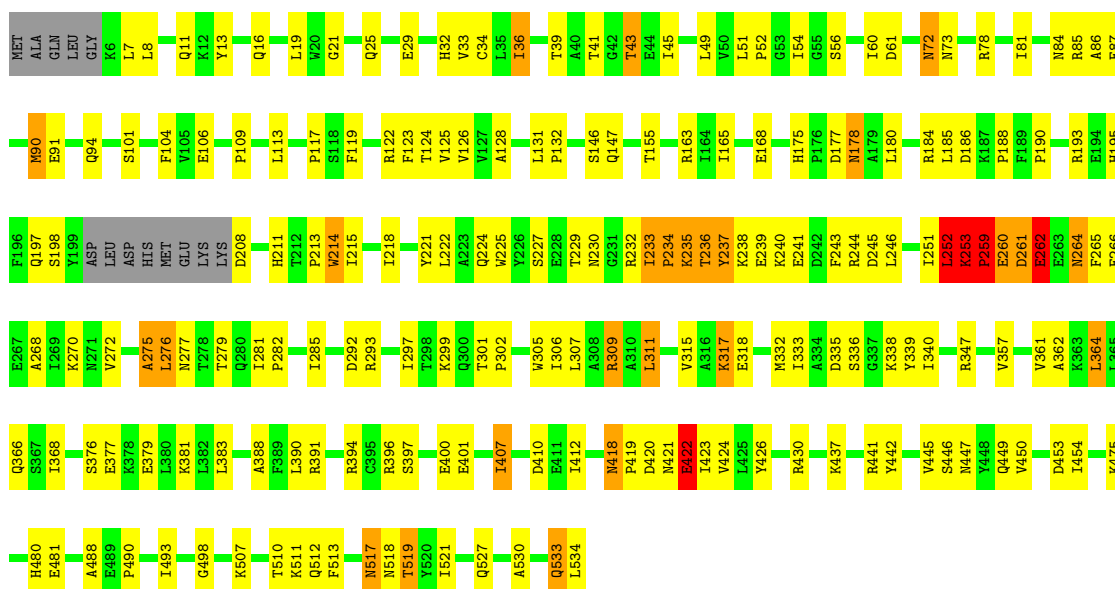
- Molecule 1: amyloid beta precursor protein-binding protein 1

Chain E:



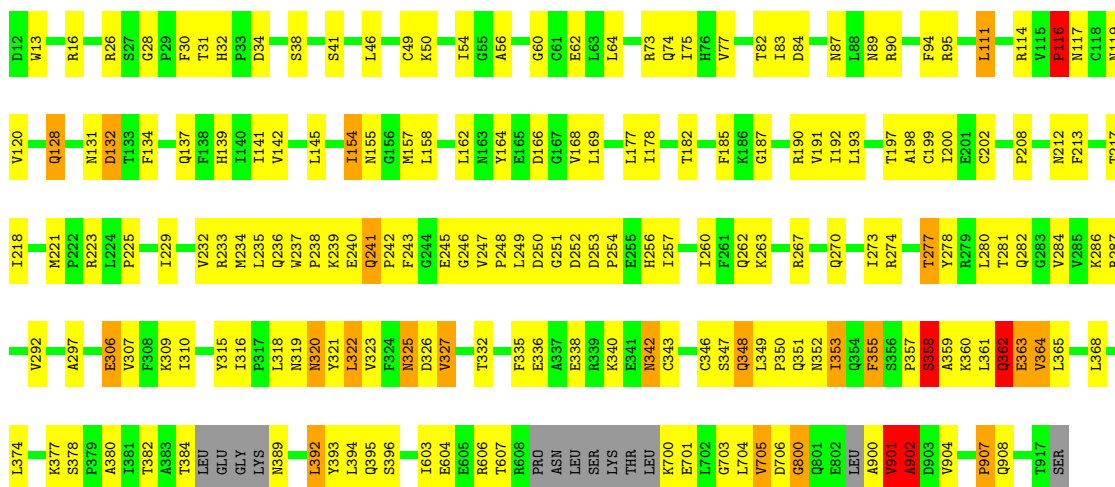
- Molecule 1: amyloid beta precursor protein-binding protein 1

Chain G:



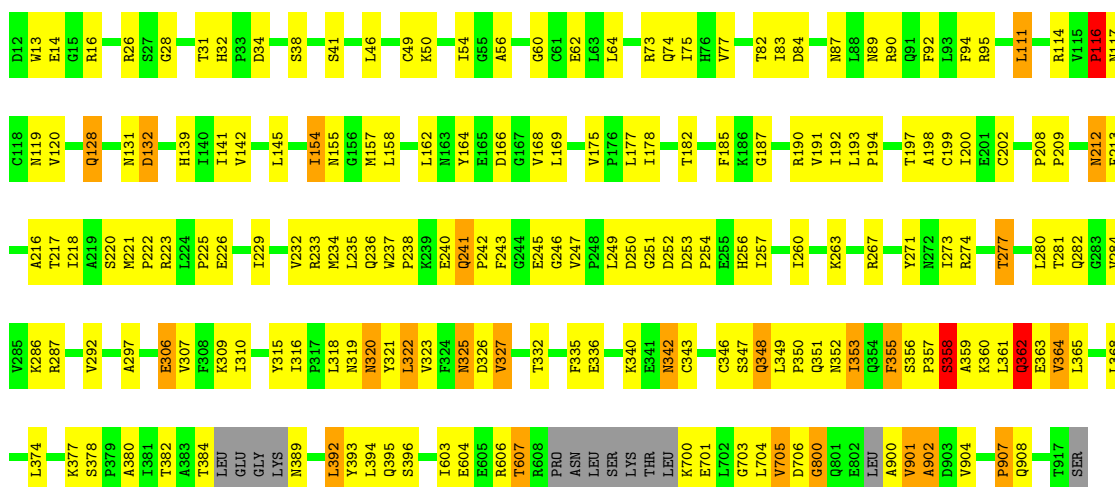
- Molecule 2: ubiquitin-activating enzyme E1C

Chain B:



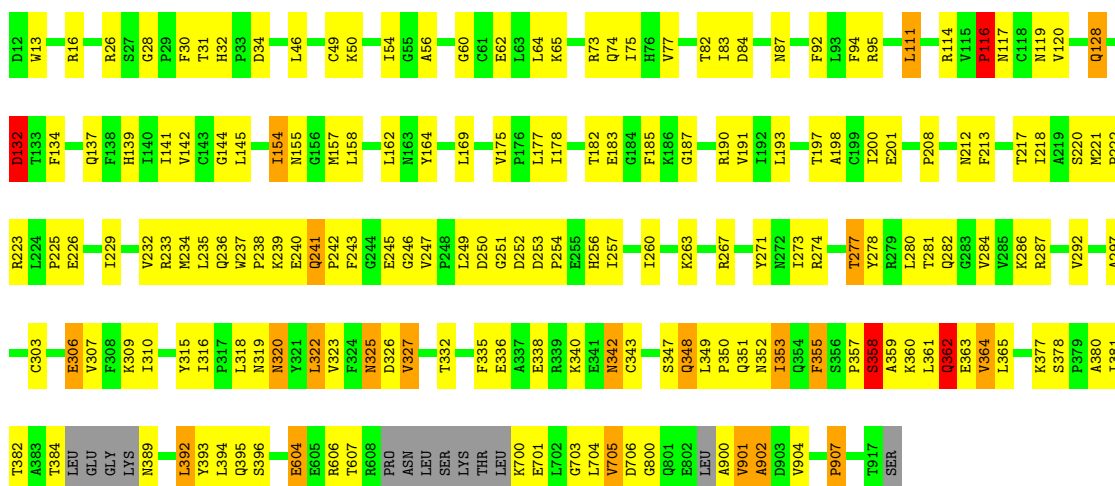
• Molecule 2: ubiquitin-activating enzyme E1C

Chain D:



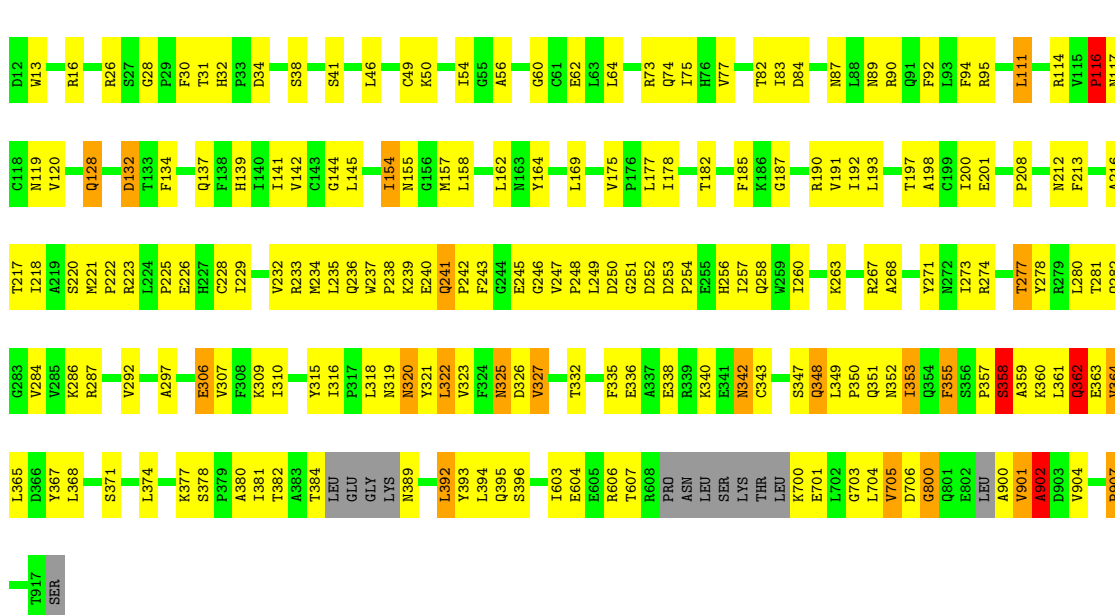
• Molecule 2: ubiquitin-activating enzyme E1C

Chain F:



- Molecule 2: ubiquitin-activating enzyme E1C

Chain H:



- Molecule 3: Ubiquitin-like protein NEDD8

Chain I:



- Molecule 3: Ubiquitin-like protein NEDD8

Chain J:



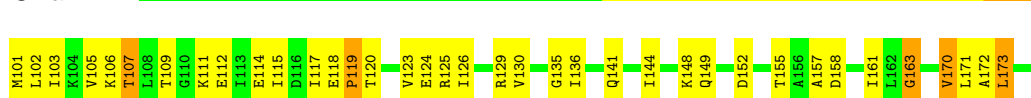
- Molecule 3: Ubiquitin-like protein NEDD8

Chain K:



- Molecule 3: Ubiquitin-like protein NEDD8

Chain L:



4 Data and refinement statistics

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

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	135.40Å 198.90Å 209.80Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.00	Depositor
% Data completeness (in resolution range)	99.9 (50.00-3.00)	Depositor
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.240 , 0.280	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	31620	wwPDB-VP
Average B, all atoms (Å ²)	77.0	wwPDB-VP

5 Model quality i

5.1 Standard geometry i

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.44	2/4185 (0.0%)	0.68	5/5661 (0.1%)
1	C	0.44	3/4185 (0.1%)	0.65	2/5661 (0.0%)
1	E	0.42	0/4185	0.66	1/5661 (0.0%)
1	G	0.45	2/4185 (0.0%)	0.69	5/5661 (0.1%)
2	B	0.44	0/3268	0.72	5/4447 (0.1%)
2	D	0.43	0/3268	0.71	4/4447 (0.1%)
2	F	0.45	0/3268	0.72	5/4447 (0.1%)
2	H	0.44	0/3268	0.73	6/4447 (0.1%)
3	I	0.38	0/605	0.72	1/808 (0.1%)
3	J	0.38	0/605	0.72	1/808 (0.1%)
3	K	0.38	0/605	0.73	1/808 (0.1%)
3	L	0.36	0/605	0.71	1/808 (0.1%)
All	All	0.43	7/32232 (0.0%)	0.70	37/43664 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	1
2	D	0	1
2	F	0	1
All	All	0	3

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	253	LYS	C-N	6.87	1.47	1.34
1	A	259	PRO	N-CA	6.64	1.58	1.47
1	C	259	PRO	N-CA	6.41	1.58	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	253	LYS	C-N	6.04	1.45	1.34
1	G	259	PRO	N-CA	5.93	1.57	1.47
1	C	253	LYS	CA-C	5.63	1.67	1.52
1	G	253	LYS	C-N	5.63	1.45	1.34

All (37) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	259	PRO	CA-N-CD	-15.83	89.34	111.50
1	E	259	PRO	CA-N-CD	-14.39	91.35	111.50
1	A	259	PRO	CA-N-CD	-12.29	94.29	111.50
1	C	252	LEU	O-C-N	-8.30	109.42	122.70
2	B	800	GLY	N-CA-C	-8.16	92.69	113.10
2	H	800	GLY	N-CA-C	-8.14	92.74	113.10
2	D	800	GLY	N-CA-C	-8.13	92.78	113.10
1	A	252	LEU	O-C-N	-7.77	110.27	122.70
2	F	800	GLY	N-CA-C	-7.37	94.68	113.10
2	H	355	PHE	CA-CB-CG	-7.06	96.95	113.90
2	F	902	ALA	N-CA-C	-6.65	93.04	111.00
2	B	392	LEU	CA-CB-CG	-6.24	100.95	115.30
1	A	259	PRO	CA-CB-CG	-6.17	92.28	104.00
2	H	902	ALA	N-CA-C	-6.08	94.59	111.00
3	K	173	LEU	CA-CB-CG	-6.06	101.36	115.30
1	C	252	LEU	CA-C-N	6.03	130.46	117.20
1	G	259	PRO	N-CA-C	5.95	127.56	112.10
3	I	173	LEU	CA-CB-CG	-5.89	101.75	115.30
2	B	907	PRO	N-CA-CB	5.88	110.36	103.30
3	J	173	LEU	CA-CB-CG	-5.88	101.78	115.30
2	F	907	PRO	N-CA-CB	5.88	110.36	103.30
2	H	907	PRO	N-CA-CB	5.84	110.31	103.30
1	A	252	LEU	CA-C-N	5.71	129.75	117.20
3	L	173	LEU	CA-CB-CG	-5.69	102.21	115.30
2	D	907	PRO	N-CA-CB	5.69	110.13	103.30
2	F	392	LEU	CA-CB-CG	-5.69	102.22	115.30
2	B	901	VAL	CA-C-N	-5.62	104.84	117.20
2	H	392	LEU	CA-CB-CG	-5.62	102.39	115.30
2	D	392	LEU	CA-CB-CG	-5.61	102.39	115.30
1	G	252	LEU	CA-C-N	5.52	129.34	117.20
1	G	253	LYS	CA-C-N	5.50	132.49	117.10
1	G	259	PRO	CA-CB-CG	-5.32	93.89	104.00
2	B	902	ALA	N-CA-C	-5.27	96.76	111.00
2	H	144	GLY	N-CA-C	-5.16	100.21	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	259	PRO	N-CA-C	5.15	125.49	112.10
2	F	144	GLY	N-CA-C	-5.11	100.32	113.10
2	D	607	THR	C-N-CA	5.07	134.38	121.70

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	355	PHE	Sidechain
2	D	355	PHE	Sidechain
2	F	355	PHE	Sidechain

5.2 Close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4105	0	4063	201	0
1	C	4105	0	4063	203	0
1	E	4105	0	4063	218	0
1	G	4105	0	4063	204	0
2	B	3199	0	3066	196	0
2	D	3199	0	3066	195	0
2	F	3199	0	3062	189	0
2	H	3199	0	3062	194	0
3	I	600	0	635	44	0
3	J	600	0	635	42	0
3	K	600	0	635	46	0
3	L	600	0	635	46	0
4	F	1	0	0	0	0
4	H	2	0	0	0	0
4	J	1	0	0	0	0
All	All	31620	0	31048	1658	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 27.

All (1658) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:K:123:VAL:HB	3:K:152:ASP:HA	1.31	1.11
1:A:252:LEU:O	1:A:253:LYS:C	1.90	1.09
3:J:123:VAL:HB	3:J:152:ASP:HA	1.33	1.08
3:I:123:VAL:HB	3:I:152:ASP:HA	1.30	1.08
2:B:274:ARG:HH22	1:E:107:GLU:HA	1.18	1.07
1:G:252:LEU:O	1:G:253:LYS:C	1.93	1.07
3:L:107:THR:HG22	3:L:111:LYS:H	1.21	1.06
3:L:123:VAL:HB	3:L:152:ASP:HA	1.35	1.05
1:E:211:HIS:HB3	1:E:335:ASP:HB2	1.39	1.05
1:A:211:HIS:HB3	1:A:335:ASP:HB2	1.39	1.03
1:G:211:HIS:HB3	1:G:335:ASP:HB2	1.38	1.03
1:C:211:HIS:HB3	1:C:335:ASP:HB2	1.40	1.02
3:K:107:THR:HG22	3:K:111:LYS:H	1.23	1.02
2:B:262:GLN:NE2	1:E:67:GLY:H	1.59	1.01
3:J:107:THR:HG22	3:J:111:LYS:H	1.22	1.01
2:D:323:VAL:HG21	3:J:170:VAL:HG22	1.44	0.99
3:I:107:THR:HG22	3:I:111:LYS:H	1.26	0.98
2:H:323:VAL:HG21	3:L:170:VAL:HG22	1.46	0.97
1:A:344:ASN:ND2	1:E:111:ASN:HD22	1.63	0.97
2:H:342:ASN:H	2:H:342:ASN:HD22	0.95	0.95
2:F:323:VAL:HG21	3:K:170:VAL:HG22	1.49	0.92
2:F:342:ASN:HD22	2:F:342:ASN:H	0.93	0.92
1:A:421:ASN:O	1:A:424:VAL:HG23	1.71	0.91
1:E:421:ASN:O	1:E:424:VAL:HG23	1.71	0.91
1:A:344:ASN:HD22	1:E:111:ASN:ND2	1.68	0.90
1:A:252:LEU:O	1:A:253:LYS:O	1.88	0.90
2:B:274:ARG:NH2	1:E:107:GLU:HA	1.86	0.90
1:G:421:ASN:O	1:G:424:VAL:HG23	1.72	0.90
2:B:342:ASN:HD22	2:B:342:ASN:N	1.68	0.90
2:D:342:ASN:H	2:D:342:ASN:HD22	0.92	0.89
2:H:64:LEU:HB3	2:H:111:LEU:CD1	2.02	0.89
2:F:342:ASN:HD22	2:F:342:ASN:N	1.70	0.88
1:E:253:LYS:O	1:E:260:GLU:N	2.06	0.88
2:B:342:ASN:HD22	2:B:342:ASN:H	0.92	0.88
1:C:421:ASN:O	1:C:424:VAL:HG23	1.75	0.87
2:D:342:ASN:HD22	2:D:342:ASN:N	1.70	0.87
2:B:323:VAL:HG21	3:I:170:VAL:HG22	1.55	0.87
2:H:342:ASN:N	2:H:342:ASN:HD22	1.72	0.86
2:F:342:ASN:ND2	2:F:342:ASN:H	1.74	0.86
1:E:297:ILE:HG22	1:E:368:ILE:HD11	1.58	0.86
2:D:64:LEU:HB3	2:D:111:LEU:CD1	2.05	0.86
2:F:64:LEU:HB3	2:F:111:LEU:CD1	2.05	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:901:VAL:C	2:H:902:ALA:O	2.04	0.85
2:B:342:ASN:H	2:B:342:ASN:ND2	1.73	0.85
1:G:297:ILE:HG22	1:G:368:ILE:HD11	1.58	0.85
2:B:64:LEU:HB3	2:B:111:LEU:CD1	2.07	0.84
2:H:141:ILE:HD12	2:H:158:LEU:HD21	1.59	0.84
1:A:297:ILE:HG22	1:A:368:ILE:HD11	1.58	0.84
2:B:262:GLN:HE22	1:E:67:GLY:N	1.74	0.84
2:B:262:GLN:HE22	1:E:67:GLY:H	0.88	0.84
2:D:393:TYR:CE1	2:D:607:THR:HA	2.13	0.84
2:H:342:ASN:ND2	2:H:342:ASN:H	1.76	0.84
2:B:128:GLN:H	2:B:128:GLN:HE21	1.26	0.84
2:F:141:ILE:HD12	2:F:158:LEU:HD21	1.60	0.84
2:H:128:GLN:HE21	2:H:128:GLN:H	1.26	0.83
2:D:901:VAL:C	2:D:902:ALA:O	2.13	0.83
2:B:208:PRO:HG3	3:I:171:LEU:HD11	1.61	0.82
2:D:141:ILE:HD12	2:D:158:LEU:HD21	1.60	0.82
2:F:128:GLN:HE21	2:F:128:GLN:H	1.27	0.82
1:C:236:THR:HG23	1:C:237:TYR:H	1.45	0.82
2:D:128:GLN:HE21	2:D:128:GLN:H	1.28	0.82
1:C:297:ILE:HG22	1:C:368:ILE:HD11	1.62	0.82
2:B:361:LEU:O	2:B:363:GLU:N	2.13	0.82
2:D:342:ASN:ND2	2:D:342:ASN:H	1.73	0.82
2:B:352:ASN:C	2:B:353:ILE:HD13	2.00	0.81
2:D:213:PHE:HB2	2:D:218:ILE:HD11	1.63	0.81
1:A:236:THR:HG23	1:A:237:TYR:H	1.45	0.81
2:D:352:ASN:C	2:D:353:ILE:HD13	2.01	0.81
2:D:14:GLU:HG3	2:H:258:GLN:HG3	1.62	0.81
3:L:107:THR:HG23	3:L:109:THR:H	1.46	0.81
2:B:141:ILE:HD12	2:B:158:LEU:HD21	1.61	0.81
1:E:236:THR:HG23	1:E:237:TYR:H	1.45	0.81
1:G:236:THR:HG23	1:G:237:TYR:H	1.44	0.80
2:H:393:TYR:CE1	2:H:607:THR:HA	2.17	0.79
2:F:352:ASN:C	2:F:353:ILE:HD13	2.02	0.79
2:H:352:ASN:C	2:H:353:ILE:HD13	2.02	0.79
3:K:107:THR:HG23	3:K:109:THR:H	1.49	0.78
3:L:155:THR:HG23	3:L:158:ASP:H	1.48	0.78
2:B:213:PHE:HB2	2:B:218:ILE:HD11	1.64	0.78
2:H:213:PHE:HB2	2:H:218:ILE:HD11	1.66	0.77
2:D:241:GLN:HE21	2:D:246:GLY:H	1.31	0.77
2:D:208:PRO:HG3	3:J:171:LEU:HD11	1.66	0.77
3:K:155:THR:HG22	3:K:158:ASP:OD2	1.84	0.77
2:B:128:GLN:H	2:B:128:GLN:NE2	1.82	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:128:GLN:NE2	2:D:128:GLN:H	1.82	0.77
3:J:107:THR:HG23	3:J:109:THR:H	1.49	0.77
3:K:155:THR:HG23	3:K:158:ASP:H	1.50	0.77
2:B:241:GLN:HE21	2:B:246:GLY:H	1.32	0.77
3:I:107:THR:HG23	3:I:109:THR:H	1.50	0.76
2:F:241:GLN:HE21	2:F:246:GLY:H	1.31	0.76
2:H:241:GLN:HE21	2:H:246:GLY:H	1.30	0.76
3:J:155:THR:HG23	3:J:158:ASP:H	1.49	0.76
2:F:213:PHE:HB2	2:F:218:ILE:HD11	1.67	0.76
1:E:376:SER:OG	1:E:379:GLU:HG3	1.86	0.76
2:D:351:GLN:HG3	2:D:353:ILE:HD11	1.68	0.76
1:G:297:ILE:CG2	1:G:368:ILE:HD11	2.15	0.75
1:A:376:SER:OG	1:A:379:GLU:HG3	1.86	0.75
2:H:208:PRO:HG3	3:L:171:LEU:HD11	1.67	0.75
1:A:224:GLN:NE2	1:A:246:LEU:HD11	2.02	0.75
2:H:128:GLN:NE2	2:H:128:GLN:H	1.83	0.74
3:I:155:THR:HG23	3:I:158:ASP:H	1.49	0.74
1:E:297:ILE:CG2	1:E:368:ILE:HD11	2.17	0.74
1:A:297:ILE:CG2	1:A:368:ILE:HD11	2.16	0.74
1:A:262:GLU:HB3	1:A:265:PHE:HB2	1.69	0.74
2:H:353:ILE:HB	2:H:355:PHE:CE1	2.23	0.74
3:I:155:THR:HG22	3:I:158:ASP:OD2	1.86	0.74
1:C:376:SER:OG	1:C:379:GLU:HG3	1.87	0.74
2:F:208:PRO:HG3	3:K:171:LEU:HD11	1.70	0.74
1:C:297:ILE:CG2	1:C:368:ILE:HD11	2.18	0.74
2:H:185:PHE:HB3	2:H:326:ASP:HB2	1.68	0.74
2:D:185:PHE:HB3	2:D:326:ASP:HB2	1.69	0.74
2:F:128:GLN:NE2	2:F:128:GLN:H	1.84	0.73
3:J:155:THR:HG22	3:J:158:ASP:OD2	1.88	0.73
2:F:353:ILE:HB	2:F:355:PHE:CE1	2.24	0.73
1:G:252:LEU:O	1:G:253:LYS:O	2.06	0.73
1:G:262:GLU:HB3	1:G:265:PHE:HB2	1.70	0.73
2:B:393:TYR:CE1	2:B:607:THR:HA	2.23	0.73
1:G:376:SER:OG	1:G:379:GLU:HG3	1.87	0.73
1:E:224:GLN:NE2	1:E:246:LEU:HD11	2.04	0.73
1:E:264:ASN:N	1:E:264:ASN:HD22	1.85	0.73
2:D:361:LEU:O	2:D:363:GLU:N	2.21	0.73
1:E:262:GLU:HB3	1:E:265:PHE:HB2	1.71	0.73
1:A:264:ASN:N	1:A:264:ASN:HD22	1.84	0.73
1:G:264:ASN:N	1:G:264:ASN:HD22	1.86	0.73
2:D:322:LEU:HD12	2:D:323:VAL:N	2.04	0.73
2:B:267:ARG:HH11	2:B:267:ARG:HG2	1.53	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:224:GLN:NE2	1:C:246:LEU:HD11	2.04	0.72
1:E:317:LYS:HB3	1:E:318:GLU:OE1	1.89	0.72
1:C:264:ASN:HD22	1:C:264:ASN:N	1.85	0.72
2:H:322:LEU:HD12	2:H:323:VAL:N	2.05	0.72
2:F:361:LEU:O	2:F:364:VAL:HG22	1.89	0.72
2:B:185:PHE:HB3	2:B:326:ASP:HB2	1.70	0.72
1:C:262:GLU:HB3	1:C:265:PHE:HB2	1.70	0.72
2:D:267:ARG:HG2	2:D:267:ARG:HH11	1.55	0.72
2:F:351:GLN:HG3	2:F:353:ILE:HD11	1.71	0.72
2:H:351:GLN:HG3	2:H:353:ILE:HD11	1.70	0.72
3:L:155:THR:HG22	3:L:158:ASP:OD2	1.89	0.72
2:F:361:LEU:O	2:F:363:GLU:N	2.22	0.72
2:H:267:ARG:HH11	2:H:267:ARG:HG2	1.55	0.72
2:D:361:LEU:O	2:D:364:VAL:HG22	1.90	0.72
2:F:393:TYR:CE1	2:F:607:THR:HA	2.24	0.72
2:H:901:VAL:O	2:H:902:ALA:O	2.07	0.71
2:B:351:GLN:HG3	2:B:353:ILE:HD11	1.71	0.71
2:H:703:GLY:C	2:H:705:VAL:H	1.93	0.71
2:H:361:LEU:O	2:H:363:GLU:N	2.23	0.71
1:G:224:GLN:NE2	1:G:246:LEU:HD11	2.06	0.71
2:D:703:GLY:C	2:D:705:VAL:H	1.93	0.71
1:A:317:LYS:HB3	1:A:318:GLU:OE1	1.90	0.71
3:J:124:GLU:HB2	3:J:152:ASP:O	1.90	0.71
2:F:703:GLY:C	2:F:705:VAL:H	1.94	0.71
1:E:340:ILE:HD11	2:F:273:ILE:HG12	1.73	0.71
1:G:61:ASP:HB3	1:G:86:ALA:HB2	1.73	0.71
2:H:62:GLU:HG2	2:H:297:ALA:HA	1.73	0.71
2:B:50:LYS:H	2:B:139:HIS:CD2	2.09	0.71
1:A:61:ASP:HB3	1:A:86:ALA:HB2	1.72	0.70
2:B:353:ILE:HB	2:B:355:PHE:CE1	2.26	0.70
2:H:901:VAL:O	2:H:902:ALA:C	2.30	0.70
1:A:224:GLN:HE22	1:A:246:LEU:HD11	1.55	0.70
1:E:251:ILE:HG23	1:E:262:GLU:HB2	1.73	0.70
2:H:348:GLN:C	2:H:348:GLN:HE21	1.94	0.70
1:G:251:ILE:HG23	1:G:262:GLU:HB2	1.74	0.70
2:D:50:LYS:H	2:D:139:HIS:CD2	2.10	0.70
2:F:185:PHE:HB3	2:F:326:ASP:HB2	1.72	0.70
3:I:101:MET:HB3	3:I:117:ILE:O	1.92	0.70
1:C:251:ILE:HG23	1:C:262:GLU:HB2	1.72	0.70
1:C:61:ASP:HB3	1:C:86:ALA:HB2	1.74	0.70
2:H:361:LEU:O	2:H:364:VAL:HG22	1.92	0.70
3:L:101:MET:HB3	3:L:117:ILE:O	1.90	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:187:GLY:HA2	3:J:173:LEU:HD13	1.72	0.70
3:I:124:GLU:HB2	3:I:152:ASP:O	1.92	0.70
3:L:124:GLU:HB2	3:L:152:ASP:O	1.92	0.70
2:D:393:TYR:HE1	2:D:607:THR:HA	1.55	0.70
2:B:54:ILE:HG22	2:B:145:LEU:HD21	1.73	0.70
3:K:123:VAL:CB	3:K:152:ASP:HA	2.17	0.70
2:H:50:LYS:H	2:H:139:HIS:CD2	2.10	0.70
2:F:901:VAL:C	2:F:902:ALA:O	2.23	0.70
1:A:163:ARG:HG2	1:A:163:ARG:HH11	1.56	0.70
2:D:348:GLN:HE21	2:D:348:GLN:C	1.95	0.70
1:A:61:ASP:OD2	1:A:85:ARG:HD2	1.92	0.69
2:F:62:GLU:HG2	2:F:297:ALA:HA	1.74	0.69
1:G:317:LYS:HB3	1:G:318:GLU:OE1	1.92	0.69
1:E:224:GLN:HE22	1:E:246:LEU:HD11	1.58	0.69
1:C:224:GLN:HE22	1:C:246:LEU:HD11	1.58	0.69
1:E:61:ASP:HB3	1:E:86:ALA:HB2	1.75	0.69
1:C:517:ASN:ND2	1:C:517:ASN:O	2.26	0.69
2:F:54:ILE:HG22	2:F:145:LEU:HD21	1.74	0.69
2:B:348:GLN:HE21	2:B:348:GLN:C	1.95	0.69
2:F:267:ARG:HG2	2:F:267:ARG:HH11	1.57	0.69
1:E:517:ASN:O	1:E:517:ASN:ND2	2.26	0.69
3:K:124:GLU:HB2	3:K:152:ASP:O	1.93	0.69
2:F:348:GLN:C	2:F:348:GLN:HE21	1.95	0.69
2:B:703:GLY:C	2:B:705:VAL:H	1.95	0.69
3:J:123:VAL:CB	3:J:152:ASP:HA	2.18	0.69
1:A:251:ILE:HG23	1:A:262:GLU:HB2	1.75	0.68
2:F:241:GLN:NE2	2:F:246:GLY:H	1.91	0.68
1:C:163:ARG:HG2	1:C:163:ARG:HH11	1.59	0.68
2:F:322:LEU:HD12	2:F:323:VAL:N	2.09	0.68
1:G:61:ASP:OD2	1:G:85:ARG:HD2	1.93	0.68
2:D:187:GLY:CA	3:J:173:LEU:HD13	2.23	0.68
1:A:178:ASN:HD22	3:I:136:ILE:HG12	1.57	0.68
2:D:901:VAL:O	2:D:902:ALA:O	2.10	0.68
2:H:187:GLY:HA2	3:L:173:LEU:HD13	1.75	0.68
1:A:235:LYS:HB3	1:A:239:GLU:HB2	1.76	0.68
2:F:50:LYS:H	2:F:139:HIS:CD2	2.11	0.68
3:I:123:VAL:CB	3:I:152:ASP:HA	2.17	0.68
1:G:340:ILE:HD11	2:H:273:ILE:HG12	1.75	0.68
2:B:322:LEU:HD12	2:B:323:VAL:N	2.08	0.68
2:H:241:GLN:NE2	2:H:246:GLY:H	1.92	0.68
3:K:101:MET:HB3	3:K:117:ILE:O	1.93	0.68
1:A:264:ASN:H	1:A:264:ASN:HD22	1.42	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:61:ASP:OD2	1:C:85:ARG:HD2	1.93	0.68
1:A:517:ASN:ND2	1:A:517:ASN:O	2.26	0.68
1:G:224:GLN:HE22	1:G:246:LEU:HD11	1.59	0.68
2:D:62:GLU:HG2	2:D:297:ALA:HA	1.76	0.68
1:C:235:LYS:HB3	1:C:239:GLU:HB2	1.74	0.68
1:A:240:LYS:HE2	1:A:276:LEU:HD12	1.76	0.67
1:C:317:LYS:HB3	1:C:318:GLU:OE1	1.94	0.67
1:E:163:ARG:HH11	1:E:163:ARG:HG2	1.58	0.67
2:B:62:GLU:HG2	2:B:297:ALA:HA	1.75	0.67
1:C:264:ASN:HD22	1:C:264:ASN:H	1.42	0.67
3:J:101:MET:HB3	3:J:117:ILE:O	1.94	0.67
1:G:517:ASN:ND2	1:G:517:ASN:O	2.26	0.67
2:D:241:GLN:NE2	2:D:246:GLY:H	1.92	0.67
1:A:195:HIS:O	1:A:198:SER:HB3	1.94	0.67
2:F:900:ALA:O	2:F:901:VAL:CB	2.43	0.67
1:C:177:ASP:OD2	2:D:327:VAL:HG21	1.95	0.67
1:A:344:ASN:ND2	1:E:111:ASN:ND2	2.31	0.66
1:C:260:GLU:O	1:C:261:ASP:HB2	1.94	0.66
1:G:8:LEU:HD12	1:G:11:GLN:OE1	1.96	0.66
2:D:202:CYS:HG	2:D:343:CYS:HG	1.41	0.66
2:B:241:GLN:NE2	2:B:246:GLY:H	1.93	0.66
2:F:393:TYR:HE1	2:F:607:THR:HA	1.59	0.66
2:H:54:ILE:HG22	2:H:145:LEU:HD21	1.78	0.66
1:A:307:LEU:HB3	1:A:383:LEU:HD22	1.78	0.66
1:E:307:LEU:HB3	1:E:383:LEU:HD22	1.75	0.66
1:E:235:LYS:HB3	1:E:239:GLU:HB2	1.77	0.66
1:G:347:ARG:HH22	2:H:274:ARG:HD2	1.59	0.66
1:G:41:THR:O	1:G:45:ILE:HG13	1.96	0.66
2:B:705:VAL:O	2:B:800:GLY:O	2.14	0.66
2:H:322:LEU:HD12	2:H:322:LEU:C	2.16	0.66
1:G:163:ARG:HH11	1:G:163:ARG:HG2	1.59	0.66
2:D:54:ILE:HG22	2:D:145:LEU:HD21	1.78	0.66
1:G:235:LYS:HB3	1:G:239:GLU:HB2	1.77	0.66
2:F:384:THR:HA	2:F:389:ASN:HA	1.77	0.66
2:B:384:THR:HA	2:B:389:ASN:HA	1.78	0.65
1:A:401:GLU:HG3	1:A:533:GLN:HE22	1.61	0.65
2:D:322:LEU:HD12	2:D:322:LEU:C	2.17	0.65
1:C:45:ILE:HG12	1:C:498:GLY:HA2	1.78	0.65
2:D:705:VAL:O	2:D:800:GLY:O	2.14	0.65
2:H:237:TRP:HB3	2:H:238:PRO:HD3	1.78	0.65
2:B:900:ALA:O	2:B:901:VAL:CB	2.44	0.65
1:A:285:ILE:HD11	1:A:388:ALA:HA	1.79	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:187:GLY:CA	3:L:173:LEU:HD13	2.26	0.65
3:K:117:ILE:HD13	3:K:126:ILE:HG12	1.78	0.65
2:D:384:THR:HA	2:D:389:ASN:HA	1.78	0.65
2:B:361:LEU:O	2:B:364:VAL:HG22	1.97	0.65
2:H:384:THR:HA	2:H:389:ASN:HA	1.78	0.65
1:G:297:ILE:HD11	1:G:309:ARG:HG2	1.78	0.65
2:D:353:ILE:HB	2:D:355:PHE:CE1	2.31	0.65
2:H:393:TYR:HE1	2:H:607:THR:HA	1.57	0.65
1:E:61:ASP:OD2	1:E:85:ARG:HD2	1.97	0.65
1:C:195:HIS:O	1:C:198:SER:HB3	1.96	0.65
1:E:240:LYS:HE2	1:E:276:LEU:HD12	1.78	0.65
1:G:401:GLU:HG3	1:G:533:GLN:HE22	1.62	0.64
2:B:16:ARG:NH2	2:B:116:PRO:HB2	2.13	0.64
2:F:322:LEU:C	2:F:322:LEU:HD12	2.18	0.64
2:D:900:ALA:O	2:D:901:VAL:CB	2.45	0.64
1:C:297:ILE:HD11	1:C:309:ARG:HG2	1.80	0.64
1:E:264:ASN:HD22	1:E:264:ASN:H	1.45	0.64
1:E:397:SER:OG	1:E:400:GLU:HG3	1.97	0.64
1:C:422:GLU:HG3	1:C:530:ALA:HB3	1.79	0.64
2:B:322:LEU:HD12	2:B:322:LEU:C	2.18	0.64
1:G:264:ASN:H	1:G:264:ASN:HD22	1.45	0.64
1:G:240:LYS:HE2	1:G:276:LEU:HD12	1.78	0.64
2:F:235:LEU:O	2:F:238:PRO:HD2	1.97	0.64
1:E:49:LEU:C	1:E:52:PRO:HD2	2.18	0.64
1:G:397:SER:OG	1:G:400:GLU:HG3	1.98	0.64
1:E:45:ILE:HG12	1:E:498:GLY:HA2	1.80	0.64
2:B:235:LEU:O	2:B:238:PRO:HD2	1.98	0.64
1:C:51:LEU:HB2	1:C:52:PRO:HD3	1.80	0.64
1:E:195:HIS:O	1:E:198:SER:HB3	1.98	0.64
2:B:277:THR:HG23	2:B:280:LEU:H	1.63	0.64
1:C:8:LEU:HD12	1:C:11:GLN:OE1	1.98	0.64
1:E:8:LEU:HD12	1:E:11:GLN:OE1	1.98	0.63
1:C:307:LEU:HB3	1:C:383:LEU:HD22	1.80	0.63
1:G:422:GLU:HG3	1:G:530:ALA:HB3	1.80	0.63
1:C:390:LEU:O	1:C:391:ARG:HG2	1.97	0.63
1:A:33:VAL:CG2	1:A:54:ILE:HD11	2.29	0.63
2:B:358:SER:O	2:B:358:SER:OG	2.14	0.63
1:G:260:GLU:O	1:G:261:ASP:HB2	1.97	0.63
1:C:235:LYS:HB3	1:C:239:GLU:CG	2.28	0.63
1:C:41:THR:O	1:C:45:ILE:HG13	1.97	0.63
2:H:229:ILE:HD13	2:H:281:THR:HA	1.80	0.63
2:F:187:GLY:HA2	3:K:173:LEU:HD13	1.81	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:235:LEU:O	2:D:238:PRO:HD2	1.99	0.63
2:B:393:TYR:HE1	2:B:607:THR:HA	1.62	0.63
2:H:335:PHE:CZ	3:L:144:ILE:HD13	2.34	0.63
2:F:229:ILE:HD13	2:F:281:THR:HA	1.80	0.63
2:B:95:ARG:HH11	2:B:95:ARG:HG3	1.64	0.63
1:C:235:LYS:HD3	1:C:239:GLU:HG3	1.80	0.63
1:A:8:LEU:HD12	1:A:11:GLN:OE1	1.98	0.63
2:F:95:ARG:HG3	2:F:95:ARG:HH11	1.63	0.63
2:D:393:TYR:CD1	2:D:607:THR:HA	2.34	0.63
1:C:448:TYR:CE2	2:H:240:GLU:OE2	2.52	0.63
3:J:117:ILE:HD13	3:J:126:ILE:HG12	1.81	0.63
2:B:237:TRP:HB3	2:B:238:PRO:HD3	1.79	0.63
1:A:45:ILE:HG12	1:A:498:GLY:HA2	1.81	0.63
1:G:285:ILE:HD11	1:G:388:ALA:HA	1.81	0.63
2:H:95:ARG:HG3	2:H:95:ARG:HH11	1.63	0.63
1:G:195:HIS:O	1:G:198:SER:HB3	1.99	0.62
2:H:277:THR:HG23	2:H:280:LEU:H	1.64	0.62
1:A:213:PRO:HB3	1:A:332:MET:HE2	1.81	0.62
1:E:401:GLU:HG3	1:E:533:GLN:HE22	1.64	0.62
1:C:241:GLU:HA	1:C:244:ARG:HH11	1.65	0.62
2:F:277:THR:HG23	2:F:280:LEU:H	1.65	0.62
2:B:252:ASP:O	2:B:254:PRO:HD3	1.99	0.62
1:G:45:ILE:HG12	1:G:498:GLY:HA2	1.80	0.62
1:C:446:SER:HB2	1:C:449:GLN:HG3	1.79	0.62
1:A:297:ILE:HD11	1:A:309:ARG:HG2	1.81	0.62
2:F:237:TRP:HB3	2:F:238:PRO:HD3	1.82	0.62
1:G:307:LEU:HB3	1:G:383:LEU:HD22	1.79	0.62
1:A:260:GLU:O	1:A:261:ASP:HB2	2.00	0.62
1:E:41:THR:O	1:E:45:ILE:HG13	2.00	0.62
2:D:229:ILE:HD13	2:D:281:THR:HA	1.81	0.62
2:B:306:GLU:OE2	2:B:309:LYS:HD2	1.98	0.62
2:D:95:ARG:HH11	2:D:95:ARG:HG3	1.64	0.62
3:K:106:LYS:HG3	3:K:112:GLU:HB2	1.81	0.62
1:A:396:ARG:HG3	1:A:534:LEU:HD11	1.81	0.62
1:E:309:ARG:HG3	1:E:364:LEU:HD21	1.82	0.62
3:K:125:ARG:HD3	3:K:129:ARG:NH2	2.15	0.62
1:A:51:LEU:HB2	1:A:52:PRO:HD3	1.81	0.62
3:K:170:VAL:HG13	3:K:171:LEU:N	2.14	0.62
1:A:241:GLU:HA	1:A:244:ARG:HH11	1.65	0.62
3:J:125:ARG:HD3	3:J:129:ARG:NH2	2.15	0.62
2:D:252:ASP:O	2:D:254:PRO:HD3	2.00	0.62
1:C:285:ILE:HD11	1:C:388:ALA:HA	1.82	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:297:ILE:HD11	1:E:309:ARG:HG2	1.81	0.61
1:G:241:GLU:HA	1:G:244:ARG:HH11	1.65	0.61
1:E:347:ARG:HH22	2:F:274:ARG:HD2	1.65	0.61
1:C:397:SER:OG	1:C:400:GLU:HG3	1.99	0.61
1:G:51:LEU:HB2	1:G:52:PRO:HD3	1.82	0.61
1:E:56:SER:HB3	1:E:101:SER:OG	2.01	0.61
1:E:422:GLU:HG3	1:E:530:ALA:HB3	1.82	0.61
1:G:235:LYS:HD3	1:G:239:GLU:HG3	1.82	0.61
1:G:124:THR:HG22	1:G:125:VAL:HG23	1.81	0.61
2:H:338:GLU:HG3	3:L:148:LYS:HD3	1.82	0.61
3:L:106:LYS:HG3	3:L:112:GLU:HB2	1.82	0.61
1:C:448:TYR:HE2	2:H:240:GLU:OE2	1.84	0.61
1:E:235:LYS:HB3	1:E:239:GLU:CG	2.30	0.61
1:E:235:LYS:HD3	1:E:239:GLU:HG3	1.82	0.61
1:A:285:ILE:CD1	1:A:388:ALA:HA	2.31	0.61
1:C:340:ILE:HD11	2:D:273:ILE:HG12	1.82	0.61
2:H:252:ASP:O	2:H:254:PRO:HD3	2.00	0.61
3:L:125:ARG:HD3	3:L:129:ARG:NH2	2.15	0.61
1:E:241:GLU:HA	1:E:244:ARG:HH11	1.66	0.61
2:B:237:TRP:O	2:B:242:PRO:HD3	2.01	0.61
1:A:49:LEU:C	1:A:52:PRO:HD2	2.21	0.61
1:A:446:SER:HB2	1:A:449:GLN:HG3	1.81	0.61
1:E:390:LEU:O	1:E:391:ARG:HG2	2.01	0.61
2:D:901:VAL:O	2:D:902:ALA:C	2.39	0.61
1:E:396:ARG:HG3	1:E:534:LEU:HD11	1.83	0.61
1:E:285:ILE:HD11	1:E:388:ALA:HA	1.83	0.61
2:B:187:GLY:HA2	3:I:173:LEU:HD13	1.81	0.61
2:B:362:GLN:OE1	2:B:362:GLN:HA	2.01	0.61
2:B:901:VAL:C	2:B:902:ALA:O	2.32	0.61
2:H:193:LEU:H	2:H:197:THR:HB	1.65	0.61
1:C:396:ARG:HG3	1:C:534:LEU:HD11	1.83	0.61
1:C:214:TRP:CZ3	1:C:332:MET:HB3	2.36	0.61
3:L:123:VAL:CB	3:L:152:ASP:HA	2.22	0.61
2:B:64:LEU:HD21	2:B:77:VAL:CG2	2.30	0.61
2:D:351:GLN:CG	2:D:353:ILE:HD11	2.30	0.61
1:A:517:ASN:HD22	1:A:517:ASN:C	2.04	0.61
1:A:235:LYS:HD3	1:A:239:GLU:HG3	1.83	0.60
2:H:237:TRP:O	2:H:242:PRO:HD3	2.01	0.60
3:I:106:LYS:HG3	3:I:112:GLU:HB2	1.84	0.60
2:H:705:VAL:O	2:H:800:GLY:O	2.19	0.60
1:C:235:LYS:HE2	1:C:238:LYS:HB3	1.83	0.60
2:D:237:TRP:HB3	2:D:238:PRO:HD3	1.83	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:396:ARG:HG3	1:G:534:LEU:HD11	1.82	0.60
1:C:178:ASN:HD22	3:J:136:ILE:HG12	1.66	0.60
1:G:235:LYS:HE2	1:G:238:LYS:HB3	1.82	0.60
1:A:311:LEU:O	1:A:315:VAL:HG23	2.00	0.60
3:J:106:LYS:HG3	3:J:112:GLU:HB2	1.82	0.60
2:B:202:CYS:HG	2:B:343:CYS:HG	1.49	0.60
2:F:237:TRP:O	2:F:242:PRO:HD3	2.01	0.60
3:L:125:ARG:HD3	3:L:129:ARG:HH21	1.66	0.60
1:G:390:LEU:O	1:G:391:ARG:HG2	2.02	0.60
2:D:343:CYS:O	2:D:347:SER:HB3	2.01	0.60
3:I:117:ILE:HD13	3:I:126:ILE:HG12	1.83	0.60
1:A:397:SER:OG	1:A:400:GLU:HG3	2.00	0.60
1:E:333:ILE:HA	2:F:223:ARG:NH2	2.15	0.60
1:E:446:SER:HB2	1:E:449:GLN:HG3	1.83	0.60
2:H:362:GLN:OE1	2:H:362:GLN:HA	2.01	0.60
1:G:517:ASN:ND2	1:G:534:LEU:HD12	2.16	0.60
1:E:450:VAL:O	1:E:454:ILE:HG13	2.00	0.60
2:H:318:LEU:HD12	2:H:319:ASN:H	1.66	0.60
1:A:104:PHE:HE1	1:A:106:GLU:HG3	1.66	0.60
2:B:54:ILE:CG2	2:B:145:LEU:HD21	2.31	0.60
3:I:125:ARG:HD3	3:I:129:ARG:NH2	2.16	0.60
2:F:343:CYS:O	2:F:347:SER:HB3	2.01	0.60
1:A:390:LEU:O	1:A:391:ARG:HG2	2.02	0.60
2:D:64:LEU:HD21	2:D:77:VAL:CG2	2.32	0.60
2:D:16:ARG:NH2	2:D:116:PRO:HB2	2.17	0.60
1:E:33:VAL:CG2	1:E:54:ILE:HD11	2.32	0.60
1:G:446:SER:HB2	1:G:449:GLN:HG3	1.83	0.60
1:E:178:ASN:HD22	3:K:136:ILE:HG12	1.66	0.60
1:C:33:VAL:CG2	1:C:54:ILE:HD11	2.31	0.60
2:D:362:GLN:HA	2:D:362:GLN:OE1	2.01	0.60
2:D:50:LYS:H	2:D:139:HIS:HD2	1.49	0.60
1:G:235:LYS:HB3	1:G:239:GLU:CG	2.31	0.60
2:F:252:ASP:O	2:F:254:PRO:HD3	2.02	0.60
2:F:358:SER:O	2:F:358:SER:OG	2.17	0.60
1:G:422:GLU:HG3	1:G:530:ALA:CB	2.32	0.59
1:E:177:ASP:OD2	2:F:327:VAL:HG21	2.02	0.59
2:B:229:ILE:HD13	2:B:281:THR:HA	1.83	0.59
1:C:517:ASN:ND2	1:C:534:LEU:HD12	2.16	0.59
2:H:306:GLU:OE2	2:H:309:LYS:HD2	2.01	0.59
2:B:325:ASN:HD21	2:B:327:VAL:HG22	1.68	0.59
1:E:214:TRP:CZ3	1:E:332:MET:HB3	2.38	0.59
3:J:125:ARG:HD3	3:J:129:ARG:HH21	1.67	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:F:193:LEU:H	2:F:197:THR:HB	1.68	0.59
2:H:358:SER:OG	2:H:358:SER:O	2.17	0.59
1:C:235:LYS:HB3	1:C:239:GLU:CB	2.32	0.59
3:K:125:ARG:HD3	3:K:129:ARG:HH21	1.68	0.59
1:A:422:GLU:HG3	1:A:530:ALA:HB3	1.83	0.59
2:D:306:GLU:OE2	2:D:309:LYS:HD2	2.02	0.59
2:F:54:ILE:CG2	2:F:145:LEU:HD21	2.32	0.59
1:A:235:LYS:HB3	1:A:239:GLU:CG	2.31	0.59
2:D:358:SER:OG	2:D:358:SER:O	2.19	0.59
1:C:401:GLU:HG3	1:C:533:GLN:HE22	1.68	0.59
3:K:155:THR:HG22	3:K:158:ASP:CG	2.22	0.59
1:G:507:LYS:HG2	1:G:513:PHE:HB2	1.84	0.59
2:D:193:LEU:H	2:D:197:THR:HB	1.68	0.59
1:E:104:PHE:HE1	1:E:106:GLU:HG3	1.66	0.59
2:H:64:LEU:HD21	2:H:77:VAL:CG2	2.33	0.59
3:I:170:VAL:HG13	3:I:171:LEU:N	2.18	0.59
1:A:178:ASN:ND2	3:I:136:ILE:HG12	2.17	0.59
2:B:16:ARG:HH22	2:B:116:PRO:HB2	1.67	0.59
1:G:49:LEU:C	1:G:52:PRO:HD2	2.22	0.59
2:F:335:PHE:CZ	3:K:144:ILE:HD13	2.38	0.59
1:A:517:ASN:ND2	1:A:534:LEU:HD12	2.17	0.59
1:G:285:ILE:CD1	1:G:388:ALA:HA	2.33	0.59
1:E:309:ARG:CG	1:E:364:LEU:HD21	2.32	0.58
2:F:187:GLY:CA	3:K:173:LEU:HD13	2.33	0.58
2:B:187:GLY:CA	3:I:173:LEU:HD13	2.32	0.58
1:E:488:ALA:O	1:E:490:PRO:HD3	2.03	0.58
1:G:377:GLU:OE2	1:G:381:LYS:HE3	2.03	0.58
3:K:149:GLN:HG3	3:K:149:GLN:O	2.02	0.58
1:E:285:ILE:CD1	1:E:388:ALA:HA	2.33	0.58
3:I:125:ARG:HD3	3:I:129:ARG:HH21	1.68	0.58
3:J:170:VAL:HG13	3:J:171:LEU:N	2.18	0.58
2:B:351:GLN:CG	2:B:353:ILE:HD11	2.33	0.58
1:E:235:LYS:HE2	1:E:238:LYS:HB3	1.84	0.58
2:D:277:THR:HG23	2:D:280:LEU:H	1.67	0.58
2:D:335:PHE:CZ	3:J:144:ILE:HD13	2.39	0.58
2:F:306:GLU:OE2	2:F:309:LYS:HD2	2.02	0.58
1:A:60:ILE:HD11	1:A:119:PHE:HE2	1.68	0.58
1:G:309:ARG:HG3	1:G:364:LEU:HD21	1.85	0.58
1:C:309:ARG:HG3	1:C:364:LEU:HD21	1.85	0.58
1:E:377:GLU:OE2	1:E:381:LYS:HE3	2.03	0.58
1:E:218:ILE:O	1:E:222:LEU:HB2	2.03	0.58
3:I:149:GLN:HG3	3:I:149:GLN:O	2.02	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:237:TRP:O	2:D:242:PRO:HD3	2.02	0.58
2:H:701:GLU:HA	2:H:704:LEU:CB	2.34	0.58
1:A:309:ARG:HG3	1:A:364:LEU:HD21	1.85	0.58
2:F:362:GLN:HA	2:F:362:GLN:OE1	2.03	0.58
1:C:104:PHE:HE1	1:C:106:GLU:HG3	1.68	0.58
1:E:311:LEU:O	1:E:315:VAL:HG23	2.04	0.58
1:E:260:GLU:O	1:E:261:ASP:HB2	2.03	0.58
1:C:285:ILE:CD1	1:C:388:ALA:HA	2.34	0.58
2:H:318:LEU:HD12	2:H:319:ASN:N	2.19	0.58
1:G:450:VAL:O	1:G:454:ILE:HG13	2.02	0.58
1:C:25:GLN:O	1:C:29:GLU:HG3	2.04	0.58
2:D:325:ASN:HD21	2:D:327:VAL:HG22	1.67	0.58
2:F:325:ASN:HD21	2:F:327:VAL:HG22	1.69	0.58
1:C:454:ILE:HD13	1:C:480:HIS:ND1	2.19	0.58
1:A:124:THR:HG22	1:A:125:VAL:HG23	1.84	0.58
1:G:78:ARG:O	1:G:81:ILE:HG13	2.03	0.58
1:C:178:ASN:ND2	3:J:136:ILE:HG12	2.18	0.58
2:H:235:LEU:O	2:H:238:PRO:HD2	2.03	0.58
1:A:177:ASP:OD2	2:B:327:VAL:HG21	2.04	0.58
1:C:218:ILE:O	1:C:222:LEU:HB2	2.04	0.58
2:H:343:CYS:O	2:H:347:SER:HB3	2.04	0.58
1:C:240:LYS:HE2	1:C:276:LEU:HD12	1.85	0.58
2:F:132:ASP:HA	2:F:157:MET:HE2	1.86	0.58
1:C:377:GLU:OE2	1:C:381:LYS:HE3	2.03	0.58
1:E:517:ASN:ND2	1:E:534:LEU:HD12	2.18	0.58
1:C:214:TRP:CE3	1:C:332:MET:HB3	2.39	0.58
1:G:214:TRP:CZ3	1:G:332:MET:HB3	2.39	0.58
2:F:64:LEU:HD21	2:F:77:VAL:CG2	2.33	0.57
2:H:351:GLN:CG	2:H:353:ILE:HD11	2.33	0.57
2:D:164:TYR:CE2	2:D:169:LEU:HB2	2.39	0.57
1:G:454:ILE:HD13	1:G:480:HIS:ND1	2.18	0.57
2:H:217:THR:HA	2:H:221:MET:HG2	1.86	0.57
2:B:335:PHE:CZ	3:I:144:ILE:HD13	2.38	0.57
1:G:33:VAL:CG2	1:G:54:ILE:HD11	2.34	0.57
1:A:235:LYS:HE2	1:A:238:LYS:HB3	1.84	0.57
2:D:325:ASN:ND2	2:D:327:VAL:HG22	2.18	0.57
1:A:454:ILE:HD13	1:A:480:HIS:ND1	2.19	0.57
1:E:507:LYS:HG2	1:E:513:PHE:HB2	1.85	0.57
3:J:155:THR:HG22	3:J:158:ASP:CG	2.25	0.57
1:G:517:ASN:C	1:G:517:ASN:HD22	2.08	0.57
1:E:481:GLU:HB2	2:F:30:PHE:HE1	1.69	0.57
2:H:393:TYR:CD1	2:H:607:THR:HA	2.39	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:F:351:GLN:CG	2:F:353:ILE:HD11	2.33	0.57
1:A:450:VAL:O	1:A:454:ILE:HG13	2.04	0.57
2:H:325:ASN:HD21	2:H:327:VAL:HG22	1.70	0.57
2:D:243:PHE:O	2:D:247:VAL:HG21	2.04	0.57
1:G:418:ASN:ND2	1:G:420:ASP:H	2.03	0.57
3:L:170:VAL:HG13	3:L:171:LEU:N	2.19	0.57
2:B:208:PRO:HG3	3:I:171:LEU:CD1	2.32	0.57
2:H:164:TYR:CE2	2:H:169:LEU:HB2	2.39	0.57
1:C:213:PRO:HB3	1:C:332:MET:HE2	1.87	0.57
1:E:33:VAL:HG23	1:E:54:ILE:HD11	1.85	0.57
1:A:56:SER:HB3	1:A:101:SER:OG	2.05	0.57
2:H:64:LEU:HB3	2:H:111:LEU:HD13	1.86	0.57
1:E:124:THR:HG22	1:E:125:VAL:HG23	1.86	0.57
1:A:218:ILE:O	1:A:222:LEU:HB2	2.03	0.57
1:A:33:VAL:HG23	1:A:54:ILE:HD11	1.86	0.57
1:G:104:PHE:HE1	1:G:106:GLU:HG3	1.69	0.57
1:C:309:ARG:CG	1:C:364:LEU:HD21	2.35	0.57
3:L:155:THR:HG22	3:L:158:ASP:CG	2.24	0.57
1:C:124:THR:HG22	1:C:125:VAL:HG23	1.86	0.57
1:G:218:ILE:O	1:G:222:LEU:HB2	2.04	0.57
1:C:517:ASN:C	1:C:517:ASN:HD22	2.08	0.57
1:E:39:THR:O	1:E:43:THR:HB	2.05	0.57
3:K:118:GLU:O	3:K:120:THR:N	2.38	0.57
3:I:155:THR:HG22	3:I:158:ASP:CG	2.25	0.56
2:H:50:LYS:H	2:H:139:HIS:HD2	1.51	0.56
1:C:49:LEU:C	1:C:52:PRO:HD2	2.25	0.56
2:D:84:ASP:H	2:D:87:ASN:ND2	2.03	0.56
2:H:178:ILE:HD11	2:H:310:ILE:HD12	1.86	0.56
1:A:377:GLU:OE2	1:A:381:LYS:HE3	2.05	0.56
2:D:701:GLU:HA	2:D:704:LEU:CB	2.35	0.56
1:C:347:ARG:HH22	2:D:274:ARG:HD2	1.70	0.56
2:B:199:CYS:HG	2:B:343:CYS:HG	1.52	0.56
2:B:164:TYR:CE2	2:B:169:LEU:HB2	2.40	0.56
1:E:235:LYS:HB3	1:E:239:GLU:CB	2.36	0.56
3:L:118:GLU:O	3:L:120:THR:N	2.39	0.56
2:B:193:LEU:H	2:B:197:THR:HB	1.68	0.56
1:E:517:ASN:C	1:E:517:ASN:HD22	2.08	0.56
2:H:132:ASP:HA	2:H:157:MET:HE2	1.87	0.56
1:E:113:LEU:O	1:E:117:PRO:HG3	2.06	0.56
3:L:149:GLN:O	3:L:149:GLN:HG3	2.05	0.56
2:F:392:LEU:O	2:F:606:ARG:CB	2.54	0.56
1:A:36:ILE:HB	1:A:128:ALA:HA	1.87	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:325:ASN:ND2	2:B:327:VAL:HG22	2.20	0.56
1:C:450:VAL:O	1:C:454:ILE:HG13	2.06	0.56
1:A:418:ASN:ND2	1:A:420:ASP:H	2.01	0.56
1:C:418:ASN:ND2	1:C:420:ASP:H	2.03	0.56
1:C:56:SER:HB3	1:C:101:SER:OG	2.04	0.56
1:E:527:GLN:OE1	1:E:527:GLN:HA	2.05	0.56
1:E:51:LEU:HB2	1:E:52:PRO:HD3	1.87	0.56
1:A:235:LYS:HB3	1:A:239:GLU:CB	2.35	0.56
1:G:235:LYS:HB3	1:G:239:GLU:CB	2.36	0.56
1:C:422:GLU:HG3	1:C:530:ALA:CB	2.35	0.56
1:A:104:PHE:CE1	1:A:106:GLU:HG3	2.41	0.56
2:H:243:PHE:O	2:H:247:VAL:HG21	2.05	0.56
3:J:118:GLU:O	3:J:120:THR:N	2.39	0.56
1:A:25:GLN:O	1:A:29:GLU:HG3	2.06	0.56
1:E:104:PHE:CE1	1:E:106:GLU:HG3	2.41	0.56
3:J:155:THR:O	3:J:158:ASP:HB2	2.06	0.56
1:E:422:GLU:HG3	1:E:530:ALA:CB	2.36	0.56
2:B:217:THR:HA	2:B:221:MET:HG2	1.88	0.56
2:B:217:THR:HG21	2:B:223:ARG:HH22	1.70	0.56
2:B:251:GLY:O	2:B:286:LYS:HE3	2.05	0.56
3:L:107:THR:HG22	3:L:111:LYS:N	2.06	0.56
2:D:208:PRO:HG3	3:J:171:LEU:CD1	2.36	0.56
2:F:164:TYR:CE2	2:F:169:LEU:HB2	2.41	0.56
1:C:60:ILE:HD11	1:C:119:PHE:HE2	1.71	0.56
1:G:56:SER:HB3	1:G:101:SER:OG	2.06	0.56
2:H:16:ARG:NH2	2:H:116:PRO:HB2	2.21	0.56
1:C:39:THR:O	1:C:43:THR:HB	2.06	0.56
1:C:260:GLU:HG3	1:C:261:ASP:N	2.21	0.56
1:G:25:GLN:O	1:G:29:GLU:HG3	2.06	0.56
1:C:507:LYS:HG2	1:C:513:PHE:HB2	1.87	0.56
2:H:54:ILE:CG2	2:H:145:LEU:HD21	2.35	0.56
1:E:441:ARG:NH2	1:E:453:ASP:OD2	2.39	0.56
2:D:251:GLY:O	2:D:257:ILE:HD11	2.06	0.56
2:F:178:ILE:HD11	2:F:310:ILE:HD12	1.87	0.56
3:J:149:GLN:O	3:J:149:GLN:HG3	2.06	0.56
2:H:900:ALA:O	2:H:901:VAL:CB	2.53	0.55
1:A:309:ARG:CG	1:A:364:LEU:HD21	2.36	0.55
3:K:155:THR:O	3:K:158:ASP:HB2	2.04	0.55
2:F:325:ASN:ND2	2:F:327:VAL:HG22	2.21	0.55
1:C:113:LEU:O	1:C:117:PRO:HG3	2.06	0.55
1:E:418:ASN:ND2	1:E:420:ASP:H	2.04	0.55
1:A:527:GLN:OE1	1:A:527:GLN:HA	2.05	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:L:155:THR:O	3:L:158:ASP:HB2	2.04	0.55
2:D:54:ILE:CG2	2:D:145:LEU:HD21	2.36	0.55
3:I:118:GLU:O	3:I:120:THR:N	2.39	0.55
1:A:447:ASN:ND2	2:B:26:ARG:HH21	2.03	0.55
1:A:430:ARG:NH1	1:A:430:ARG:HB3	2.21	0.55
1:C:418:ASN:HD22	1:C:419:PRO:CD	2.19	0.55
1:G:60:ILE:HD11	1:G:119:PHE:HE2	1.71	0.55
1:G:233:ILE:N	1:G:234:PRO:HD3	2.21	0.55
1:E:25:GLN:O	1:E:29:GLU:HG3	2.06	0.55
1:A:78:ARG:O	1:A:81:ILE:HG13	2.05	0.55
2:F:50:LYS:H	2:F:139:HIS:HD2	1.52	0.55
1:A:41:THR:O	1:A:45:ILE:HG13	2.05	0.55
1:C:419:PRO:HB2	1:C:475:LYS:HE3	1.88	0.55
1:A:233:ILE:N	1:A:234:PRO:HD3	2.21	0.55
1:E:347:ARG:HH12	2:F:274:ARG:HD2	1.71	0.55
2:F:217:THR:HA	2:F:221:MET:HG2	1.89	0.55
1:C:33:VAL:HG23	1:C:54:ILE:HD11	1.87	0.55
1:G:177:ASP:OD2	2:H:327:VAL:HG21	2.07	0.55
1:C:36:ILE:HB	1:C:128:ALA:HA	1.89	0.55
1:A:441:ARG:NH2	1:A:453:ASP:OD2	2.40	0.55
1:A:332:MET:HG2	1:A:339:TYR:HE1	1.72	0.55
1:A:422:GLU:HG3	1:A:530:ALA:CB	2.36	0.55
3:I:155:THR:O	3:I:158:ASP:HB2	2.07	0.55
1:C:233:ILE:N	1:C:234:PRO:HD3	2.22	0.55
1:G:332:MET:HG2	1:G:339:TYR:HE1	1.71	0.55
3:J:102:LEU:HD11	3:J:114:GLU:HG2	1.88	0.55
1:C:311:LEU:O	1:C:315:VAL:HG23	2.07	0.55
1:A:488:ALA:O	1:A:490:PRO:HD3	2.07	0.55
1:G:311:LEU:O	1:G:315:VAL:HG23	2.07	0.55
2:F:64:LEU:HB3	2:F:111:LEU:HD13	1.86	0.55
3:L:117:ILE:HD13	3:L:126:ILE:HG12	1.87	0.55
1:E:215:ILE:HG13	1:E:332:MET:CE	2.37	0.55
2:B:225:PRO:HG3	2:B:274:ARG:O	2.07	0.54
1:G:309:ARG:CG	1:G:364:LEU:HD21	2.37	0.54
1:E:233:ILE:N	1:E:234:PRO:HD3	2.21	0.54
1:A:507:LYS:HG2	1:A:513:PHE:HB2	1.88	0.54
2:H:84:ASP:H	2:H:87:ASN:ND2	2.05	0.54
1:C:527:GLN:OE1	1:C:527:GLN:HA	2.06	0.54
2:F:243:PHE:O	2:F:247:VAL:HG21	2.06	0.54
1:A:214:TRP:CZ3	1:A:332:MET:HB3	2.42	0.54
1:E:332:MET:HG2	1:E:339:TYR:HE1	1.72	0.54
2:F:701:GLU:HA	2:F:704:LEU:CB	2.37	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:178:ILE:HD11	2:B:310:ILE:HD12	1.89	0.54
2:H:232:VAL:HG11	2:H:263:LYS:HB2	1.89	0.54
2:D:217:THR:HA	2:D:221:MET:HG2	1.89	0.54
2:D:16:ARG:HH22	2:D:116:PRO:HB2	1.72	0.54
1:E:214:TRP:CE3	1:E:332:MET:HB3	2.43	0.54
1:A:419:PRO:HB2	1:A:475:LYS:HE3	1.89	0.54
2:B:701:GLU:HA	2:B:704:LEU:CB	2.37	0.54
2:D:257:ILE:HD13	2:D:282:GLN:HG2	1.89	0.54
2:F:73:ARG:HD3	2:F:117:ASN:O	2.06	0.54
2:B:49:CYS:HA	2:B:139:HIS:HD2	1.73	0.54
2:B:50:LYS:H	2:B:139:HIS:HD2	1.51	0.54
2:H:392:LEU:O	2:H:606:ARG:CB	2.55	0.54
2:B:233:ARG:HH12	2:B:234:MET:HB2	1.73	0.54
2:H:256:HIS:O	2:H:260:ILE:HG13	2.08	0.54
1:E:36:ILE:HB	1:E:128:ALA:HA	1.90	0.54
1:A:340:ILE:HD11	2:B:273:ILE:HG12	1.89	0.54
2:F:232:VAL:HG11	2:F:263:LYS:HB2	1.90	0.54
1:A:39:THR:O	1:A:43:THR:HB	2.06	0.54
1:G:262:GLU:HA	1:G:262:GLU:OE1	2.08	0.54
1:G:214:TRP:CE3	1:G:332:MET:HB3	2.43	0.54
2:F:251:GLY:O	2:F:286:LYS:HE3	2.07	0.54
1:C:441:ARG:NH2	1:C:453:ASP:OD1	2.40	0.54
2:F:251:GLY:O	2:F:257:ILE:HD11	2.07	0.54
1:C:208:ASP:OD1	1:C:211:HIS:HB2	2.08	0.54
2:B:49:CYS:HA	2:B:139:HIS:CD2	2.43	0.54
2:B:257:ILE:HD13	2:B:282:GLN:HG2	1.90	0.54
1:C:441:ARG:NH2	1:C:453:ASP:OD2	2.40	0.54
2:B:392:LEU:O	2:B:606:ARG:CB	2.55	0.54
2:F:16:ARG:NH2	2:F:116:PRO:HB2	2.23	0.54
1:E:49:LEU:O	1:E:52:PRO:HD2	2.08	0.54
1:A:214:TRP:CD1	1:A:214:TRP:C	2.81	0.54
1:G:33:VAL:HG23	1:G:54:ILE:HD11	1.90	0.54
3:I:102:LEU:HD11	3:I:114:GLU:HG2	1.89	0.54
2:D:233:ARG:HH12	2:D:234:MET:HB2	1.73	0.54
1:C:262:GLU:OE1	1:C:262:GLU:HA	2.09	0.53
1:E:178:ASN:ND2	3:K:136:ILE:HG12	2.23	0.53
2:H:32:HIS:CD2	2:H:34:ASP:H	2.26	0.53
2:F:241:GLN:HG3	2:F:245:GLU:HA	1.90	0.53
2:D:361:LEU:O	2:D:364:VAL:CG2	2.56	0.53
1:E:454:ILE:HD13	1:E:480:HIS:ND1	2.23	0.53
1:A:447:ASN:HD22	2:B:26:ARG:HH21	1.56	0.53
1:G:447:ASN:ND2	2:H:26:ARG:HH21	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:78:ARG:O	1:E:81:ILE:HG13	2.08	0.53
1:E:175:HIS:HD2	1:E:512:GLN:O	1.92	0.53
3:K:102:LEU:HD11	3:K:114:GLU:HG2	1.90	0.53
2:B:243:PHE:O	2:B:247:VAL:HG21	2.08	0.53
1:A:229:THR:O	1:A:230:ASN:CB	2.57	0.53
1:A:264:ASN:N	1:A:264:ASN:ND2	2.55	0.53
2:B:128:GLN:NE2	2:B:128:GLN:N	2.56	0.53
2:D:353:ILE:HB	2:D:355:PHE:CZ	2.43	0.53
1:E:163:ARG:HG3	1:E:519:THR:H	1.73	0.53
1:G:419:PRO:HB2	1:G:475:LYS:HE3	1.90	0.53
1:C:488:ALA:O	1:C:490:PRO:HD3	2.08	0.53
2:B:131:ASN:HB3	2:D:131:ASN:HD22	1.74	0.53
2:H:353:ILE:HB	2:H:355:PHE:CZ	2.42	0.53
1:A:163:ARG:NH2	1:A:518:ASN:HD21	2.06	0.53
2:D:318:LEU:HD12	2:D:319:ASN:H	1.74	0.53
2:D:241:GLN:HG3	2:D:245:GLU:HA	1.90	0.53
1:C:104:PHE:CE1	1:C:106:GLU:HG3	2.43	0.53
2:D:225:PRO:HG3	2:D:274:ARG:O	2.09	0.53
2:B:251:GLY:O	2:B:257:ILE:HD11	2.08	0.53
1:G:488:ALA:O	1:G:490:PRO:HD3	2.08	0.53
2:F:208:PRO:HG3	3:K:171:LEU:CD1	2.39	0.53
2:D:49:CYS:HA	2:D:139:HIS:HD2	1.74	0.53
2:H:325:ASN:ND2	2:H:327:VAL:HG22	2.23	0.53
1:E:418:ASN:HD22	1:E:419:PRO:CD	2.22	0.53
2:F:256:HIS:O	2:F:260:ILE:HG13	2.09	0.53
1:C:407:ILE:O	1:C:407:ILE:HG23	2.08	0.53
1:G:185:LEU:O	1:G:188:PRO:HD3	2.09	0.53
2:B:73:ARG:HD3	2:B:117:ASN:O	2.09	0.53
1:C:430:ARG:NH1	1:C:430:ARG:HB3	2.23	0.53
1:A:208:ASP:OD1	1:A:211:HIS:HB2	2.08	0.53
1:E:264:ASN:N	1:E:264:ASN:ND2	2.57	0.53
1:C:264:ASN:ND2	1:C:264:ASN:N	2.57	0.53
2:D:49:CYS:HA	2:D:139:HIS:CD2	2.44	0.53
2:F:49:CYS:HA	2:F:139:HIS:CD2	2.43	0.53
3:K:117:ILE:HD11	3:K:126:ILE:HG23	1.90	0.53
1:C:78:ARG:O	1:C:81:ILE:HG13	2.09	0.53
2:F:318:LEU:HD12	2:F:319:ASN:H	1.73	0.53
1:A:262:GLU:HA	1:A:262:GLU:OE1	2.08	0.53
2:H:340:LYS:HB3	2:H:342:ASN:ND2	2.24	0.53
2:F:64:LEU:HD11	2:F:77:VAL:HG21	1.90	0.53
2:H:251:GLY:O	2:H:257:ILE:HD11	2.08	0.53
2:F:32:HIS:CD2	2:F:34:ASP:H	2.26	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:349:LEU:HB3	2:H:350:PRO:CD	2.38	0.53
1:G:264:ASN:N	1:G:264:ASN:ND2	2.57	0.52
1:G:208:ASP:OD1	1:G:211:HIS:HB2	2.09	0.52
1:C:264:ASN:ND2	1:C:264:ASN:H	2.08	0.52
2:H:225:PRO:HG3	2:H:274:ARG:O	2.09	0.52
2:F:280:LEU:O	2:F:284:VAL:HG23	2.09	0.52
1:E:488:ALA:C	1:E:490:PRO:HD3	2.29	0.52
1:A:119:PHE:O	1:A:122:ARG:HG3	2.08	0.52
1:G:214:TRP:CD1	1:G:214:TRP:C	2.81	0.52
1:G:36:ILE:HB	1:G:128:ALA:HA	1.91	0.52
2:F:318:LEU:HD12	2:F:319:ASN:N	2.25	0.52
1:G:34:CYS:HB2	1:G:123:PHE:CG	2.43	0.52
1:C:175:HIS:HD2	1:C:512:GLN:O	1.92	0.52
2:B:64:LEU:HB3	2:B:111:LEU:HD13	1.88	0.52
1:E:307:LEU:HB3	1:E:383:LEU:CD2	2.39	0.52
2:F:225:PRO:HG3	2:F:274:ARG:O	2.09	0.52
1:C:418:ASN:HD22	1:C:419:PRO:N	2.08	0.52
1:C:119:PHE:O	1:C:122:ARG:HG3	2.10	0.52
1:E:262:GLU:HA	1:E:262:GLU:OE1	2.10	0.52
1:E:213:PRO:HB3	1:E:332:MET:HE2	1.90	0.52
1:E:419:PRO:HB2	1:E:475:LYS:HE3	1.90	0.52
1:A:481:GLU:OE2	2:B:315:TYR:HE2	1.92	0.52
2:D:132:ASP:HA	2:D:157:MET:HE2	1.91	0.52
2:F:361:LEU:O	2:F:364:VAL:CG2	2.56	0.52
1:G:213:PRO:HB3	1:G:332:MET:HE2	1.90	0.52
1:G:104:PHE:CE1	1:G:106:GLU:HG3	2.44	0.52
2:H:249:LEU:CD1	2:H:260:ILE:HD11	2.40	0.52
2:B:131:ASN:HD22	2:D:131:ASN:HB3	1.75	0.52
2:D:73:ARG:HD3	2:D:117:ASN:O	2.09	0.52
2:D:343:CYS:SG	2:D:346:CYS:SG	3.08	0.52
1:C:214:TRP:CD1	1:C:214:TRP:C	2.82	0.52
1:E:214:TRP:CD1	1:E:214:TRP:C	2.82	0.52
2:H:217:THR:HG21	2:H:223:ARG:HH22	1.75	0.52
2:F:249:LEU:CD1	2:F:260:ILE:HD11	2.40	0.52
2:H:257:ILE:HD13	2:H:282:GLN:HG2	1.91	0.52
1:G:113:LEU:O	1:G:117:PRO:HG3	2.10	0.52
3:J:111:LYS:O	3:J:112:GLU:HB3	2.10	0.52
1:C:253:LYS:O	1:C:260:GLU:N	2.42	0.52
1:G:235:LYS:NZ	1:G:238:LYS:HD3	2.25	0.52
2:F:232:VAL:HA	2:F:236:GLN:HB3	1.91	0.52
2:B:232:VAL:HG11	2:B:263:LYS:HB2	1.92	0.52
2:H:73:ARG:HD3	2:H:117:ASN:O	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:J:107:THR:HG22	3:J:111:LYS:N	2.07	0.52
2:H:351:GLN:HA	2:H:351:GLN:HE21	1.75	0.52
2:D:46:LEU:O	2:D:73:ARG:HB2	2.10	0.52
1:A:61:ASP:CB	1:A:86:ALA:HB2	2.37	0.52
1:G:336:SER:HB2	2:H:221:MET:HA	1.92	0.52
2:D:318:LEU:HD12	2:D:319:ASN:N	2.25	0.52
2:D:351:GLN:HE21	2:D:351:GLN:HA	1.75	0.52
2:H:49:CYS:HA	2:H:139:HIS:CD2	2.44	0.52
1:G:215:ILE:H	1:G:332:MET:HE3	1.75	0.52
2:H:142:VAL:HG21	2:H:307:VAL:HG21	1.91	0.52
1:A:264:ASN:H	1:A:264:ASN:ND2	2.06	0.52
2:F:49:CYS:HA	2:F:139:HIS:HD2	1.73	0.52
1:E:215:ILE:H	1:E:332:MET:HE3	1.74	0.52
1:E:441:ARG:NH2	1:E:453:ASP:OD1	2.42	0.52
2:B:318:LEU:HD12	2:B:319:ASN:H	1.75	0.52
1:A:348:GLU:HG3	1:E:115:ASN:ND2	2.24	0.52
1:G:61:ASP:CB	1:G:86:ALA:HB2	2.39	0.51
2:B:132:ASP:HA	2:B:157:MET:HE2	1.92	0.51
1:A:175:HIS:HD2	1:A:512:GLN:O	1.93	0.51
1:G:527:GLN:OE1	1:G:527:GLN:HA	2.10	0.51
1:G:264:ASN:H	1:G:264:ASN:ND2	2.09	0.51
2:B:343:CYS:O	2:B:347:SER:HB3	2.10	0.51
1:E:163:ARG:NH1	1:E:165:ILE:HG12	2.25	0.51
1:A:214:TRP:CE3	1:A:332:MET:HB3	2.46	0.51
2:D:233:ARG:NH1	2:D:233:ARG:HG2	2.25	0.51
2:B:199:CYS:HG	2:B:346:CYS:HG	1.54	0.51
2:D:232:VAL:HG11	2:D:263:LYS:HB2	1.92	0.51
2:B:393:TYR:CD1	2:B:607:THR:HA	2.45	0.51
1:G:7:LEU:O	1:G:11:GLN:HG3	2.11	0.51
1:G:418:ASN:HD22	1:G:419:PRO:CD	2.23	0.51
2:H:251:GLY:O	2:H:286:LYS:HE3	2.10	0.51
2:F:349:LEU:HB3	2:F:350:PRO:CD	2.40	0.51
1:G:39:THR:O	1:G:43:THR:HB	2.11	0.51
1:E:34:CYS:HB2	1:E:123:PHE:CG	2.45	0.51
1:C:221:TYR:HD2	1:C:246:LEU:HG	1.76	0.51
1:C:61:ASP:CB	1:C:86:ALA:HB2	2.39	0.51
1:A:418:ASN:HD22	1:A:419:PRO:CD	2.23	0.51
1:G:441:ARG:NH2	1:G:453:ASP:OD2	2.42	0.51
2:B:351:GLN:HA	2:B:351:GLN:HE21	1.76	0.51
2:H:361:LEU:O	2:H:364:VAL:CG2	2.57	0.51
1:G:481:GLU:HB2	2:H:30:PHE:HE1	1.76	0.51
3:I:111:LYS:O	3:I:112:GLU:HB3	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:264:ASN:ND2	1:E:264:ASN:H	2.09	0.51
2:H:49:CYS:HA	2:H:139:HIS:HD2	1.74	0.51
1:E:235:LYS:NZ	1:E:238:LYS:HD3	2.26	0.51
1:C:332:MET:HG2	1:C:339:TYR:HE1	1.76	0.51
1:G:418:ASN:C	1:G:418:ASN:HD22	2.14	0.51
2:H:232:VAL:HA	2:H:236:GLN:HB3	1.91	0.51
1:E:60:ILE:HD11	1:E:119:PHE:HE2	1.76	0.51
1:A:213:PRO:HB3	1:A:332:MET:CE	2.41	0.51
1:E:347:ARG:HH12	2:F:274:ARG:CD	2.23	0.51
1:G:215:ILE:HG13	1:G:332:MET:CE	2.40	0.51
2:D:178:ILE:HD11	2:D:310:ILE:HD12	1.93	0.51
2:D:377:LYS:O	2:D:378:SER:C	2.49	0.51
1:A:113:LEU:O	1:A:117:PRO:HG3	2.10	0.51
1:A:208:ASP:O	1:A:208:ASP:OD1	2.29	0.51
1:G:84:ASN:OD1	1:G:86:ALA:HB3	2.11	0.51
1:C:163:ARG:NH2	1:C:518:ASN:HD21	2.09	0.51
2:H:280:LEU:O	2:H:284:VAL:HG23	2.10	0.51
1:G:333:ILE:HA	2:H:223:ARG:NH2	2.24	0.51
2:B:249:LEU:CD1	2:B:260:ILE:HD11	2.41	0.51
2:F:340:LYS:HB3	2:F:342:ASN:ND2	2.26	0.51
2:D:232:VAL:HA	2:D:236:GLN:HB3	1.93	0.51
1:E:221:TYR:HD2	1:E:246:LEU:HG	1.76	0.51
2:D:703:GLY:C	2:D:705:VAL:N	2.63	0.51
1:C:163:ARG:NH1	1:C:165:ILE:HG12	2.26	0.51
1:E:213:PRO:HB3	1:E:332:MET:CE	2.41	0.51
1:C:447:ASN:ND2	2:D:26:ARG:HH21	2.08	0.51
2:D:142:VAL:HG21	2:D:307:VAL:HG21	1.92	0.51
3:L:102:LEU:HD11	3:L:114:GLU:HG2	1.92	0.51
1:C:208:ASP:O	1:C:208:ASP:OD1	2.29	0.51
2:B:342:ASN:ND2	2:B:342:ASN:N	2.41	0.51
2:H:703:GLY:C	2:H:705:VAL:N	2.64	0.51
1:G:307:LEU:HB3	1:G:383:LEU:CD2	2.40	0.51
1:C:34:CYS:HB2	1:C:123:PHE:CG	2.46	0.51
1:G:488:ALA:C	1:G:490:PRO:HD3	2.31	0.51
1:C:7:LEU:O	1:C:11:GLN:HG3	2.11	0.50
1:C:488:ALA:C	1:C:490:PRO:HD3	2.31	0.50
2:H:191:VAL:H	2:H:320:ASN:HA	1.76	0.50
1:G:221:TYR:HD2	1:G:246:LEU:HG	1.76	0.50
2:B:142:VAL:HG21	2:B:307:VAL:HG21	1.93	0.50
1:E:229:THR:O	1:E:230:ASN:CB	2.60	0.50
3:K:111:LYS:O	3:K:112:GLU:HB3	2.11	0.50
1:C:235:LYS:NZ	1:C:238:LYS:HD3	2.26	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:277:THR:HG23	2:H:280:LEU:CB	2.41	0.50
1:A:418:ASN:C	1:A:418:ASN:HD22	2.15	0.50
1:G:19:LEU:HD12	2:H:292:VAL:HG13	1.93	0.50
1:A:251:ILE:O	1:A:252:LEU:C	2.50	0.50
1:E:208:ASP:OD1	1:E:211:HIS:HB2	2.10	0.50
1:E:61:ASP:CB	1:E:86:ALA:HB2	2.40	0.50
1:G:163:ARG:HG3	1:G:519:THR:H	1.77	0.50
1:E:32:HIS:HA	1:E:56:SER:O	2.12	0.50
1:A:430:ARG:HB3	1:A:430:ARG:HH11	1.77	0.50
1:A:87:GLU:O	1:A:91:GLU:HG3	2.11	0.50
1:E:357:VAL:O	1:E:361:VAL:HG23	2.11	0.50
2:B:262:GLN:NE2	1:E:67:GLY:N	2.42	0.50
2:D:64:LEU:HB3	2:D:111:LEU:HD13	1.88	0.50
2:F:703:GLY:C	2:F:705:VAL:N	2.64	0.50
1:A:235:LYS:NZ	1:A:238:LYS:HD3	2.26	0.50
1:A:441:ARG:NH2	1:A:453:ASP:OD1	2.45	0.50
2:B:349:LEU:HB3	2:B:350:PRO:CD	2.40	0.50
2:D:360:LYS:HA	2:D:700:LYS:O	2.12	0.50
2:D:349:LEU:HB3	2:D:350:PRO:CD	2.42	0.50
1:C:185:LEU:O	1:C:188:PRO:HD3	2.12	0.50
3:K:107:THR:HG22	3:K:111:LYS:N	2.08	0.50
2:B:64:LEU:HD11	2:B:77:VAL:HG21	1.94	0.50
2:B:241:GLN:HG3	2:B:245:GLU:HA	1.93	0.50
1:A:163:ARG:HG2	1:A:163:ARG:NH1	2.27	0.50
1:E:7:LEU:O	1:E:11:GLN:HG3	2.12	0.50
2:F:257:ILE:HD13	2:F:282:GLN:HG2	1.93	0.50
1:E:447:ASN:ND2	2:F:26:ARG:HH21	2.10	0.50
1:G:178:ASN:HD22	3:L:136:ILE:HG12	1.76	0.50
2:H:241:GLN:HG3	2:H:245:GLU:HA	1.92	0.50
1:A:33:VAL:HG21	1:A:54:ILE:HD11	1.94	0.50
1:A:7:LEU:O	1:A:11:GLN:HG3	2.11	0.50
1:A:418:ASN:HD22	1:A:419:PRO:N	2.09	0.50
1:E:119:PHE:O	1:E:122:ARG:HG3	2.11	0.50
2:B:232:VAL:HA	2:B:236:GLN:HB3	1.93	0.50
1:G:236:THR:HG23	1:G:237:TYR:CD2	2.47	0.50
2:F:353:ILE:HB	2:F:355:PHE:CZ	2.45	0.50
2:B:54:ILE:HG22	2:B:145:LEU:CD2	2.42	0.50
1:G:418:ASN:HD22	1:G:419:PRO:N	2.10	0.50
1:E:43:THR:HG21	1:E:73:ASN:OD1	2.12	0.50
1:C:236:THR:HG23	1:C:237:TYR:N	2.22	0.50
2:F:351:GLN:HA	2:F:351:GLN:HE21	1.77	0.50
1:C:243:PHE:O	1:C:246:LEU:HB3	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:251:ILE:HG23	1:C:262:GLU:CB	2.41	0.50
2:H:132:ASP:N	2:H:132:ASP:OD1	2.45	0.50
2:F:46:LEU:O	2:F:73:ARG:HB2	2.12	0.50
2:B:233:ARG:NH1	2:B:234:MET:HB2	2.26	0.50
2:D:233:ARG:NH1	2:D:234:MET:HB2	2.26	0.50
1:A:229:THR:O	1:A:230:ASN:HB2	2.12	0.50
1:A:481:GLU:HB2	2:B:30:PHE:HE1	1.77	0.50
2:F:84:ASP:H	2:F:87:ASN:ND2	2.10	0.50
2:D:199:CYS:SG	2:D:346:CYS:SG	3.07	0.49
3:J:172:ALA:C	3:J:173:LEU:HG	2.32	0.49
1:A:233:ILE:HG22	1:A:233:ILE:O	2.11	0.49
1:C:225:TRP:NE1	1:C:233:ILE:HG12	2.27	0.49
1:G:229:THR:O	1:G:230:ASN:CB	2.60	0.49
2:F:197:THR:CG2	2:F:198:ALA:N	2.75	0.49
2:D:217:THR:HG21	2:D:223:ARG:HH22	1.77	0.49
1:A:168:GLU:HG3	1:A:394:ARG:HE	1.77	0.49
2:F:128:GLN:N	2:F:128:GLN:HE21	2.04	0.49
2:B:280:LEU:O	2:B:284:VAL:HG23	2.11	0.49
1:A:215:ILE:HG13	1:A:332:MET:CE	2.42	0.49
2:F:217:THR:HG21	2:F:223:ARG:HH22	1.76	0.49
2:H:233:ARG:NH1	2:H:233:ARG:HG2	2.26	0.49
2:B:377:LYS:O	2:B:378:SER:C	2.49	0.49
1:G:430:ARG:HB3	1:G:430:ARG:NH1	2.28	0.49
1:C:236:THR:HG23	1:C:237:TYR:CD2	2.47	0.49
1:G:155:THR:HG23	1:G:493:ILE:HG22	1.95	0.49
1:C:229:THR:O	1:C:230:ASN:CB	2.59	0.49
2:F:377:LYS:O	2:F:378:SER:C	2.50	0.49
1:E:19:LEU:HD12	2:F:292:VAL:HG13	1.94	0.49
2:H:360:LYS:HA	2:H:700:LYS:O	2.12	0.49
3:L:111:LYS:O	3:L:112:GLU:HB3	2.13	0.49
2:B:267:ARG:HG2	2:B:267:ARG:NH1	2.25	0.49
2:D:251:GLY:O	2:D:286:LYS:HE3	2.12	0.49
1:E:407:ILE:O	1:E:407:ILE:HG23	2.12	0.49
3:J:117:ILE:HD11	3:J:126:ILE:HG23	1.94	0.49
2:B:46:LEU:O	2:B:73:ARG:HB2	2.12	0.49
1:C:84:ASN:OD1	1:C:86:ALA:HB3	2.12	0.49
1:G:163:ARG:NH1	1:G:165:ILE:HG12	2.28	0.49
2:B:233:ARG:NH1	2:B:233:ARG:HG2	2.28	0.49
2:B:32:HIS:CD2	2:B:34:ASP:H	2.30	0.49
3:L:107:THR:HG23	3:L:109:THR:N	2.22	0.49
1:E:208:ASP:O	1:E:208:ASP:OD1	2.31	0.49
1:C:186:ASP:HB2	1:C:232:ARG:NH2	2.28	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:213:PRO:HB3	1:G:332:MET:CE	2.42	0.49
2:B:318:LEU:HD12	2:B:319:ASN:N	2.27	0.49
3:L:117:ILE:HD11	3:L:126:ILE:HG23	1.94	0.49
3:I:172:ALA:C	3:I:173:LEU:HG	2.33	0.49
1:C:418:ASN:C	1:C:418:ASN:HD22	2.14	0.49
1:E:418:ASN:HD22	1:E:418:ASN:C	2.16	0.49
1:G:447:ASN:HD22	2:H:26:ARG:HH21	1.60	0.49
2:H:208:PRO:HG3	3:L:171:LEU:CD1	2.38	0.49
2:D:340:LYS:HB3	2:D:342:ASN:ND2	2.28	0.49
2:B:353:ILE:HB	2:B:355:PHE:CZ	2.48	0.49
1:C:163:ARG:HG3	1:C:519:THR:H	1.76	0.49
1:C:418:ASN:HD22	1:C:419:PRO:HD2	1.78	0.49
2:F:360:LYS:HA	2:F:700:LYS:O	2.12	0.49
1:G:211:HIS:O	1:G:338:LYS:HD2	2.13	0.48
2:D:351:GLN:HG3	2:D:353:ILE:CD1	2.40	0.48
2:H:603:ILE:O	2:H:607:THR:N	2.35	0.48
2:H:154:ILE:HD13	2:H:154:ILE:O	2.12	0.48
2:B:197:THR:CG2	2:B:198:ALA:N	2.76	0.48
1:A:488:ALA:C	1:A:490:PRO:HD3	2.32	0.48
2:F:233:ARG:NH1	2:F:233:ARG:HG2	2.28	0.48
1:A:34:CYS:HB2	1:A:123:PHE:CG	2.47	0.48
2:F:142:VAL:HG21	2:F:307:VAL:HG21	1.95	0.48
1:A:299:LYS:HA	1:A:368:ILE:HG23	1.95	0.48
3:L:172:ALA:C	3:L:173:LEU:HG	2.32	0.48
1:G:186:ASP:HB2	1:G:232:ARG:NH2	2.27	0.48
1:E:78:ARG:CZ	2:F:13:TRP:HB3	2.43	0.48
2:B:84:ASP:H	2:B:87:ASN:ND2	2.10	0.48
1:E:185:LEU:O	1:E:188:PRO:HD3	2.14	0.48
1:G:208:ASP:OD1	1:G:208:ASP:O	2.31	0.48
2:H:64:LEU:HB3	2:H:111:LEU:HD12	1.91	0.48
1:A:236:THR:HG23	1:A:237:TYR:CD2	2.47	0.48
1:A:186:ASP:HB2	1:A:232:ARG:NH2	2.28	0.48
2:D:392:LEU:O	2:D:606:ARG:CB	2.62	0.48
1:E:252:LEU:HB2	1:E:260:GLU:HG2	1.95	0.48
2:D:351:GLN:NE2	2:D:351:GLN:HA	2.28	0.48
1:C:225:TRP:CE2	1:C:233:ILE:HG12	2.48	0.48
2:B:277:THR:HG23	2:B:280:LEU:CB	2.43	0.48
2:D:249:LEU:CD1	2:D:260:ILE:HD11	2.42	0.48
1:C:215:ILE:HG13	1:C:332:MET:CE	2.43	0.48
1:G:441:ARG:NH2	1:G:453:ASP:OD1	2.45	0.48
2:B:128:GLN:HE21	2:B:128:GLN:N	2.03	0.48
2:B:351:GLN:HA	2:B:351:GLN:NE2	2.29	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:213:PHE:CB	2:D:218:ILE:HD11	2.40	0.48
2:D:351:GLN:CD	2:D:353:ILE:HD11	2.33	0.48
2:D:236:GLN:HE22	2:D:263:LYS:HB3	1.78	0.48
3:I:101:MET:HG3	3:I:163:GLY:H	1.79	0.48
1:A:232:ARG:C	1:A:233:ILE:HG13	2.34	0.48
1:C:34:CYS:HB2	1:C:123:PHE:CD2	2.48	0.48
1:G:119:PHE:O	1:G:122:ARG:HG3	2.13	0.48
2:D:393:TYR:HE1	2:D:607:THR:CA	2.24	0.48
1:G:51:LEU:HD11	2:H:92:PHE:HB3	1.95	0.48
2:D:277:THR:HG23	2:D:280:LEU:CB	2.42	0.48
1:E:418:ASN:HD22	1:E:419:PRO:N	2.11	0.48
1:A:447:ASN:HD22	2:B:26:ARG:NH2	2.11	0.48
2:B:191:VAL:H	2:B:320:ASN:HA	1.78	0.48
2:H:158:LEU:CD1	2:H:177:LEU:HB2	2.44	0.48
1:E:236:THR:HG23	1:E:237:TYR:CD2	2.48	0.48
2:F:353:ILE:HB	2:F:355:PHE:HE1	1.77	0.48
1:A:163:ARG:NH1	1:A:165:ILE:HG12	2.29	0.48
2:F:277:THR:HG23	2:F:280:LEU:CB	2.43	0.48
1:E:481:GLU:OE2	2:F:315:TYR:HE2	1.97	0.48
2:B:236:GLN:HE22	2:B:263:LYS:HB3	1.79	0.48
1:G:155:THR:HG23	1:G:493:ILE:CG2	2.44	0.48
1:G:175:HIS:HD2	1:G:512:GLN:O	1.96	0.48
1:A:307:LEU:HB3	1:A:383:LEU:CD2	2.42	0.48
1:E:186:ASP:HB2	1:E:232:ARG:NH2	2.28	0.48
1:C:213:PRO:HB3	1:C:332:MET:CE	2.42	0.48
2:D:197:THR:CG2	2:D:198:ALA:N	2.77	0.48
1:E:418:ASN:HD22	1:E:419:PRO:HD2	1.79	0.48
2:F:191:VAL:H	2:F:320:ASN:HA	1.79	0.48
2:B:360:LYS:HA	2:B:700:LYS:O	2.14	0.48
2:H:267:ARG:HG2	2:H:267:ARG:NH1	2.27	0.48
2:F:16:ARG:HH22	2:F:116:PRO:HB2	1.77	0.48
1:E:34:CYS:HB2	1:E:123:PHE:CD2	2.49	0.48
2:F:75:ILE:O	2:F:120:VAL:HA	2.13	0.48
2:D:32:HIS:CD2	2:D:34:ASP:H	2.32	0.48
1:A:211:HIS:O	1:A:338:LYS:HD2	2.14	0.48
1:G:299:LYS:HA	1:G:368:ILE:HG23	1.96	0.48
1:C:299:LYS:HA	1:C:368:ILE:HG23	1.96	0.48
2:B:351:GLN:HG3	2:B:353:ILE:CD1	2.44	0.48
1:C:43:THR:HG21	1:C:73:ASN:OD1	2.14	0.48
1:C:447:ASN:HD22	2:D:26:ARG:HH21	1.62	0.48
2:H:75:ILE:O	2:H:120:VAL:HA	2.14	0.48
1:G:407:ILE:HG23	1:G:407:ILE:O	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:191:VAL:H	2:D:320:ASN:HA	1.79	0.48
2:H:89:ASN:OD1	2:H:90:ARG:NH1	2.46	0.48
1:C:51:LEU:HD11	2:D:92:PHE:HB3	1.96	0.47
3:K:172:ALA:C	3:K:173:LEU:HG	2.34	0.47
2:F:220:SER:HB2	2:F:221:MET:HE3	1.96	0.47
2:D:357:PRO:O	2:D:358:SER:CB	2.62	0.47
1:A:348:GLU:HG3	1:E:115:ASN:CG	2.34	0.47
1:E:229:THR:O	1:E:230:ASN:HB2	2.14	0.47
1:C:19:LEU:HD12	2:D:292:VAL:HG13	1.96	0.47
2:H:377:LYS:O	2:H:378:SER:C	2.52	0.47
1:E:146:SER:O	1:E:147:GLN:HB2	2.13	0.47
1:E:211:HIS:O	1:E:338:LYS:HD2	2.14	0.47
3:I:107:THR:HG23	3:I:109:THR:N	2.23	0.47
2:F:158:LEU:CD1	2:F:177:LEU:HB2	2.44	0.47
2:B:703:GLY:C	2:B:705:VAL:N	2.65	0.47
2:B:338:GLU:HG3	3:I:148:LYS:HD3	1.97	0.47
1:A:185:LEU:O	1:A:188:PRO:HD3	2.14	0.47
1:A:347:ARG:HH22	2:B:274:ARG:HD2	1.78	0.47
1:A:221:TYR:HD2	1:A:246:LEU:HG	1.78	0.47
2:D:13:TRP:HZ3	2:D:116:PRO:HG2	1.79	0.47
1:A:36:ILE:HG21	1:A:131:LEU:HD21	1.96	0.47
1:G:437:LYS:HA	1:G:437:LYS:HD2	1.75	0.47
1:G:236:THR:HG23	1:G:237:TYR:N	2.22	0.47
2:D:240:GLU:O	2:D:241:GLN:C	2.53	0.47
3:L:101:MET:HG3	3:L:163:GLY:H	1.79	0.47
1:A:225:TRP:NE1	1:A:233:ILE:HG12	2.28	0.47
3:J:101:MET:HG3	3:J:163:GLY:H	1.79	0.47
1:C:229:THR:O	1:C:230:ASN:HB2	2.14	0.47
3:K:107:THR:CG2	3:K:109:THR:H	2.24	0.47
2:B:361:LEU:O	2:B:362:GLN:C	2.52	0.47
2:B:240:GLU:O	2:B:241:GLN:C	2.53	0.47
1:A:243:PHE:O	1:A:246:LEU:HB3	2.14	0.47
1:G:233:ILE:HG22	1:G:233:ILE:O	2.15	0.47
1:G:307:LEU:HD22	1:G:383:LEU:HD22	1.97	0.47
2:H:197:THR:CG2	2:H:198:ALA:N	2.78	0.47
2:F:233:ARG:HH12	2:F:234:MET:HB2	1.78	0.47
2:D:320:ASN:HD21	2:D:336:GLU:HG3	1.79	0.47
2:H:155:ASN:CG	2:H:200:ILE:HB	2.35	0.47
3:K:106:LYS:HA	3:K:112:GLU:HA	1.97	0.47
2:D:342:ASN:ND2	2:D:342:ASN:N	2.42	0.47
2:D:14:GLU:HG3	2:H:258:GLN:CG	2.40	0.47
2:B:158:LEU:HD12	2:B:177:LEU:HD22	1.96	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:351:GLN:HA	2:H:351:GLN:NE2	2.28	0.47
2:H:240:GLU:O	2:H:241:GLN:C	2.53	0.47
2:F:154:ILE:HD13	2:F:154:ILE:O	2.13	0.47
2:D:233:ARG:HG2	2:D:233:ARG:HH11	1.78	0.47
2:D:132:ASP:OD1	2:D:132:ASP:N	2.48	0.47
3:J:107:THR:HG23	3:J:109:THR:N	2.24	0.47
1:G:243:PHE:O	1:G:246:LEU:HB3	2.14	0.47
1:A:163:ARG:HG3	1:A:519:THR:H	1.80	0.47
1:A:186:ASP:OD2	1:A:279:THR:HB	2.15	0.47
1:G:225:TRP:NE1	1:G:233:ILE:HG12	2.29	0.47
1:C:215:ILE:H	1:C:332:MET:HE3	1.80	0.47
2:F:357:PRO:O	2:F:358:SER:CB	2.62	0.47
1:C:430:ARG:HH11	1:C:430:ARG:HB3	1.79	0.47
2:H:46:LEU:O	2:H:73:ARG:HB2	2.14	0.47
2:D:75:ILE:O	2:D:120:VAL:HA	2.15	0.47
1:G:362:ALA:O	1:G:366:GLN:HG3	2.14	0.47
1:A:341:LYS:HE3	1:E:114:ASP:OD1	2.15	0.47
2:H:128:GLN:N	2:H:128:GLN:NE2	2.59	0.47
1:E:233:ILE:O	1:E:233:ILE:HG22	2.15	0.47
1:E:234:PRO:O	1:E:235:LYS:C	2.53	0.47
1:G:238:LYS:O	1:G:241:GLU:N	2.48	0.47
2:B:13:TRP:HZ3	2:B:116:PRO:HG2	1.78	0.47
2:H:16:ARG:HH22	2:H:116:PRO:HB2	1.77	0.47
1:G:34:CYS:HB2	1:G:123:PHE:CD2	2.50	0.47
1:G:481:GLU:OE2	2:H:315:TYR:HE2	1.98	0.47
2:H:233:ARG:HG2	2:H:233:ARG:HH11	1.78	0.47
2:H:249:LEU:HD11	2:H:260:ILE:HD11	1.96	0.47
1:G:268:ALA:O	1:G:272:VAL:HG23	2.15	0.47
1:C:357:VAL:O	1:C:361:VAL:HG23	2.15	0.47
2:F:351:GLN:HA	2:F:351:GLN:NE2	2.30	0.47
2:D:236:GLN:NE2	2:D:263:LYS:HB3	2.30	0.47
3:K:101:MET:HG3	3:K:163:GLY:H	1.80	0.47
1:E:215:ILE:HG13	1:E:332:MET:HE3	1.97	0.47
2:D:280:LEU:O	2:D:284:VAL:HG23	2.14	0.47
1:G:229:THR:O	1:G:230:ASN:HB2	2.15	0.47
1:E:430:ARG:NH1	1:E:430:ARG:HB3	2.30	0.47
2:D:64:LEU:HB3	2:D:111:LEU:HD12	1.93	0.46
2:F:351:GLN:CD	2:F:353:ILE:HD11	2.36	0.46
1:E:243:PHE:O	1:E:246:LEU:HB3	2.15	0.46
1:C:252:LEU:HB2	1:C:260:GLU:HG2	1.96	0.46
1:E:184:ARG:HB3	1:E:279:THR:OG1	2.15	0.46
1:A:43:THR:HG21	1:A:73:ASN:OD1	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:299:LYS:HA	1:E:368:ILE:HG23	1.97	0.46
2:F:703:GLY:HA2	2:F:706:ASP:CB	2.45	0.46
3:I:101:MET:CG	3:I:163:GLY:H	2.28	0.46
2:F:233:ARG:NH1	2:F:234:MET:HB2	2.30	0.46
2:H:38:SER:HB3	2:H:41:SER:OG	2.15	0.46
1:E:155:THR:HG23	1:E:493:ILE:HG22	1.98	0.46
2:D:158:LEU:CD1	2:D:177:LEU:HB2	2.44	0.46
2:F:128:GLN:N	2:F:128:GLN:NE2	2.59	0.46
2:D:267:ARG:HG2	2:D:267:ARG:NH1	2.26	0.46
1:C:260:GLU:CG	1:C:261:ASP:N	2.77	0.46
1:G:232:ARG:C	1:G:233:ILE:HG13	2.35	0.46
1:A:268:ALA:O	1:A:272:VAL:HG23	2.14	0.46
2:B:351:GLN:CD	2:B:353:ILE:HD11	2.36	0.46
3:I:117:ILE:HD11	3:I:126:ILE:HG23	1.97	0.46
1:E:225:TRP:NE1	1:E:233:ILE:HG12	2.30	0.46
2:B:901:VAL:O	2:B:902:ALA:O	2.32	0.46
2:H:233:ARG:HH12	2:H:234:MET:HB2	1.80	0.46
2:D:128:GLN:HE21	2:D:128:GLN:N	2.06	0.46
3:L:103:ILE:HA	3:L:163:GLY:O	2.15	0.46
3:L:103:ILE:HG21	3:L:161:ILE:CG2	2.46	0.46
1:E:238:LYS:O	1:E:241:GLU:N	2.48	0.46
1:C:119:PHE:CE1	1:C:122:ARG:NE	2.82	0.46
2:B:320:ASN:HD21	2:B:336:GLU:HG3	1.79	0.46
1:E:268:ALA:O	1:E:272:VAL:HG23	2.16	0.46
1:E:168:GLU:HG3	1:E:394:ARG:HE	1.80	0.46
2:H:28:GLY:O	2:H:31:THR:HG22	2.16	0.46
1:G:72:ASN:HD22	1:G:72:ASN:H	1.64	0.46
3:K:170:VAL:CG1	3:K:171:LEU:N	2.79	0.46
1:E:232:ARG:C	1:E:233:ILE:HG13	2.35	0.46
1:A:155:THR:HG23	1:A:493:ILE:HG22	1.98	0.46
2:H:381:ILE:CG2	2:H:902:ALA:HB1	2.45	0.46
2:B:603:ILE:O	2:B:607:THR:N	2.35	0.46
2:D:361:LEU:O	2:D:362:GLN:C	2.54	0.46
2:H:95:ARG:CG	2:H:95:ARG:HH11	2.28	0.46
2:F:132:ASP:OD1	2:F:132:ASP:N	2.48	0.46
1:A:32:HIS:HA	1:A:56:SER:O	2.15	0.46
3:L:106:LYS:HA	3:L:112:GLU:HA	1.98	0.46
1:C:260:GLU:HG3	1:C:261:ASP:H	1.78	0.46
1:A:215:ILE:H	1:A:332:MET:HE3	1.80	0.46
1:E:347:ARG:NH2	2:F:274:ARG:HD2	2.31	0.46
1:E:347:ARG:NH2	2:F:274:ARG:NH1	2.63	0.46
1:E:125:VAL:HG12	1:E:126:VAL:N	2.30	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:146:SER:O	1:C:147:GLN:HB2	2.16	0.46
2:F:338:GLU:HG3	3:K:148:LYS:HD3	1.97	0.46
3:K:107:THR:HG23	3:K:109:THR:N	2.23	0.46
1:A:84:ASN:OD1	1:A:86:ALA:HB3	2.16	0.46
2:D:162:LEU:HD22	2:D:169:LEU:HD11	1.98	0.46
1:A:307:LEU:HD22	1:A:383:LEU:HD22	1.97	0.46
1:C:32:HIS:HA	1:C:56:SER:O	2.16	0.46
1:E:36:ILE:O	1:E:60:ILE:O	2.33	0.46
1:A:34:CYS:HB2	1:A:123:PHE:CD2	2.51	0.46
2:B:340:LYS:HB3	2:B:342:ASN:ND2	2.30	0.46
3:J:103:ILE:HG21	3:J:161:ILE:CG2	2.46	0.46
1:A:266:GLU:O	1:A:270:LYS:HG3	2.16	0.46
2:D:212:ASN:HD22	2:D:212:ASN:HA	1.54	0.46
2:B:74:GLN:HE22	2:B:119:ASN:HD22	1.64	0.46
1:A:407:ILE:HG23	1:A:407:ILE:O	2.16	0.46
1:E:236:THR:HG23	1:E:237:TYR:N	2.22	0.45
2:B:162:LEU:HD22	2:B:169:LEU:HD11	1.98	0.45
1:G:234:PRO:O	1:G:235:LYS:C	2.54	0.45
1:A:418:ASN:HD22	1:A:419:PRO:HD2	1.81	0.45
1:G:36:ILE:O	1:G:60:ILE:O	2.34	0.45
1:C:87:GLU:O	1:C:91:GLU:HG3	2.16	0.45
2:H:226:GLU:OE1	2:H:226:GLU:N	2.48	0.45
2:H:351:GLN:CD	2:H:353:ILE:HD11	2.36	0.45
2:F:197:THR:HG22	2:F:198:ALA:N	2.31	0.45
3:K:118:GLU:C	3:K:120:THR:H	2.20	0.45
2:H:232:VAL:HG12	2:H:232:VAL:O	2.16	0.45
2:B:236:GLN:NE2	2:B:263:LYS:HB3	2.31	0.45
1:G:72:ASN:C	1:G:72:ASN:ND2	2.69	0.45
2:D:380:ALA:O	2:D:904:VAL:HA	2.17	0.45
3:J:106:LYS:HA	3:J:112:GLU:HA	1.97	0.45
2:D:232:VAL:HG12	2:D:232:VAL:O	2.16	0.45
1:E:163:ARG:NH1	1:E:163:ARG:HG2	2.29	0.45
1:G:49:LEU:O	1:G:52:PRO:HD2	2.17	0.45
1:G:32:HIS:HA	1:G:56:SER:O	2.17	0.45
1:A:185:LEU:HD12	1:A:275:ALA:HB1	1.99	0.45
1:G:266:GLU:O	1:G:270:LYS:HG3	2.17	0.45
2:B:158:LEU:CD1	2:B:177:LEU:HB2	2.47	0.45
2:H:357:PRO:O	2:H:358:SER:CB	2.65	0.45
1:A:481:GLU:OE1	1:A:481:GLU:HA	2.16	0.45
1:G:178:ASN:ND2	3:L:136:ILE:HG12	2.31	0.45
2:B:394:LEU:C	2:B:396:SER:H	2.20	0.45
2:H:64:LEU:HD11	2:H:77:VAL:HG21	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:F:240:GLU:O	2:F:241:GLN:C	2.55	0.45
2:F:213:PHE:CB	2:F:218:ILE:HD11	2.43	0.45
2:B:50:LYS:N	2:B:139:HIS:HD2	2.14	0.45
2:F:162:LEU:HD22	2:F:169:LEU:HD11	1.98	0.45
2:H:349:LEU:HB3	2:H:350:PRO:HD2	1.98	0.45
2:H:233:ARG:NH1	2:H:234:MET:HB2	2.32	0.45
1:A:13:TYR:O	1:A:16:GLN:HG2	2.16	0.45
1:E:266:GLU:O	1:E:270:LYS:HG3	2.17	0.45
2:D:64:LEU:HD11	2:D:77:VAL:HG21	1.98	0.45
2:F:365:LEU:HD11	2:F:395:GLN:NE2	2.31	0.45
2:F:267:ARG:NH1	2:F:267:ARG:HG2	2.28	0.45
1:A:238:LYS:O	1:A:241:GLU:N	2.49	0.45
3:K:101:MET:CG	3:K:163:GLY:H	2.29	0.45
3:J:101:MET:CG	3:J:163:GLY:H	2.29	0.45
2:H:13:TRP:HZ3	2:H:116:PRO:HG2	1.81	0.45
2:F:249:LEU:HD11	2:F:260:ILE:HD11	1.98	0.45
1:C:268:ALA:O	1:C:272:VAL:HG23	2.17	0.45
2:F:361:LEU:O	2:F:362:GLN:C	2.55	0.45
2:B:703:GLY:HA2	2:B:706:ASP:CB	2.47	0.45
1:C:232:ARG:C	1:C:233:ILE:HG13	2.37	0.45
2:D:256:HIS:O	2:D:260:ILE:HG13	2.16	0.45
1:E:178:ASN:ND2	3:K:136:ILE:HG23	2.32	0.45
2:F:13:TRP:HZ3	2:F:116:PRO:HG2	1.82	0.45
1:G:447:ASN:HD22	2:H:26:ARG:NH2	2.14	0.45
1:A:155:THR:HG23	1:A:493:ILE:CG2	2.46	0.45
3:I:106:LYS:HA	3:I:112:GLU:HA	1.99	0.45
1:E:251:ILE:HG23	1:E:262:GLU:CB	2.42	0.45
3:I:103:ILE:HA	3:I:163:GLY:O	2.17	0.45
1:C:163:ARG:HG2	1:C:163:ARG:NH1	2.28	0.45
1:C:186:ASP:OD2	1:C:279:THR:HB	2.17	0.45
1:G:184:ARG:HB3	1:G:279:THR:OG1	2.17	0.45
1:E:336:SER:HB2	2:F:221:MET:HA	1.99	0.45
1:G:481:GLU:HA	1:G:481:GLU:OE1	2.16	0.45
2:B:256:HIS:O	2:B:260:ILE:HG13	2.17	0.45
2:F:226:GLU:OE1	2:F:226:GLU:N	2.49	0.45
2:B:274:ARG:NH1	1:E:106:GLU:O	2.49	0.45
2:H:267:ARG:CG	2:H:267:ARG:HH11	2.28	0.45
2:H:361:LEU:O	2:H:362:GLN:C	2.56	0.45
3:L:101:MET:CG	3:L:163:GLY:H	2.30	0.45
2:D:249:LEU:HD11	2:D:260:ILE:HD11	1.98	0.45
2:H:236:GLN:HE22	2:H:263:LYS:HB3	1.81	0.45
2:B:233:ARG:HH11	2:B:233:ARG:HG2	1.81	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:320:ASN:HD21	2:H:336:GLU:HG3	1.81	0.45
2:B:142:VAL:CG2	2:B:307:VAL:HG21	2.47	0.45
1:E:447:ASN:HD22	2:F:26:ARG:NH2	2.14	0.45
1:G:146:SER:O	1:G:147:GLN:HB2	2.16	0.45
1:E:302:PRO:HG2	1:E:305:TRP:HD1	1.82	0.45
1:C:13:TYR:O	1:C:16:GLN:HG2	2.17	0.45
1:C:437:LYS:HD2	1:C:437:LYS:HA	1.75	0.45
1:A:236:THR:HG23	1:A:237:TYR:N	2.22	0.45
1:C:251:ILE:HG23	1:C:262:GLU:HG2	1.98	0.45
2:H:162:LEU:HD22	2:H:169:LEU:HD11	1.99	0.45
1:E:84:ASN:OD1	1:E:86:ALA:HB3	2.17	0.45
1:A:225:TRP:CE2	1:A:233:ILE:HG12	2.52	0.45
1:C:234:PRO:O	1:C:235:LYS:C	2.55	0.45
1:C:235:LYS:HB2	1:C:239:GLU:OE2	2.17	0.45
1:E:235:LYS:HB3	1:E:239:GLU:HG3	1.98	0.45
1:E:347:ARG:HH22	2:F:274:ARG:CD	2.29	0.45
2:H:197:THR:HG22	2:H:198:ALA:N	2.32	0.45
1:C:33:VAL:HG21	1:C:54:ILE:HD11	1.98	0.45
2:H:236:GLN:NE2	2:H:263:LYS:HB3	2.32	0.45
1:E:119:PHE:CE1	1:E:122:ARG:NE	2.83	0.45
1:C:441:ARG:NH2	1:C:453:ASP:CG	2.70	0.45
1:C:407:ILE:HD11	1:C:412:ILE:HD12	1.98	0.45
2:F:233:ARG:HG2	2:F:233:ARG:HH11	1.82	0.45
1:A:90:MET:O	1:A:94:GLN:HB2	2.17	0.45
1:A:357:VAL:O	1:A:361:VAL:HG23	2.17	0.45
1:C:90:MET:O	1:C:94:GLN:HB2	2.17	0.45
1:G:357:VAL:O	1:G:361:VAL:HG23	2.16	0.45
2:B:361:LEU:C	2:B:363:GLU:N	2.69	0.44
3:K:101:MET:HG3	3:K:163:GLY:HA2	1.99	0.44
1:G:163:ARG:NH2	1:G:518:ASN:HD21	2.13	0.44
1:A:119:PHE:CE1	1:A:122:ARG:NE	2.84	0.44
1:E:155:THR:HG23	1:E:493:ILE:CG2	2.47	0.44
1:G:87:GLU:O	1:G:91:GLU:HG3	2.18	0.44
2:D:603:ILE:O	2:D:607:THR:N	2.38	0.44
1:E:251:ILE:HG23	1:E:262:GLU:HG2	1.99	0.44
2:D:361:LEU:C	2:D:363:GLU:N	2.70	0.44
2:D:164:TYR:CE2	2:D:348:GLN:HG2	2.52	0.44
1:A:235:LYS:HB2	1:A:239:GLU:OE2	2.17	0.44
2:F:95:ARG:HH11	2:F:95:ARG:CG	2.29	0.44
1:A:49:LEU:O	1:A:52:PRO:HD2	2.18	0.44
1:G:510:THR:O	1:G:511:LYS:HB2	2.18	0.44
2:F:236:GLN:NE2	2:F:263:LYS:HB3	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:430:ARG:HB3	1:G:430:ARG:HH11	1.83	0.44
1:G:442:TYR:O	1:G:445:VAL:HG23	2.17	0.44
2:B:64:LEU:HB3	2:B:111:LEU:HD12	1.97	0.44
2:F:604:GLU:HA	2:F:607:THR:CB	2.47	0.44
2:D:703:GLY:HA2	2:D:706:ASP:CB	2.48	0.44
3:K:103:ILE:HG21	3:K:161:ILE:CG2	2.47	0.44
3:K:103:ILE:HA	3:K:163:GLY:O	2.17	0.44
1:E:481:GLU:OE1	1:E:481:GLU:HA	2.17	0.44
2:F:236:GLN:HE22	2:F:263:LYS:HB3	1.81	0.44
1:C:447:ASN:HD22	2:D:26:ARG:NH2	2.14	0.44
2:F:351:GLN:HG3	2:F:353:ILE:CD1	2.43	0.44
1:C:238:LYS:O	1:C:241:GLU:N	2.50	0.44
2:D:54:ILE:HG22	2:D:145:LEU:CD2	2.46	0.44
2:B:13:TRP:CZ3	2:B:116:PRO:HG2	2.52	0.44
1:C:419:PRO:CB	1:C:475:LYS:HE3	2.47	0.44
2:B:132:ASP:OD1	2:B:132:ASP:N	2.48	0.44
1:G:168:GLU:HG3	1:G:394:ARG:HE	1.82	0.44
1:G:251:ILE:HG23	1:G:262:GLU:HG2	2.00	0.44
2:H:703:GLY:HA2	2:H:706:ASP:CB	2.47	0.44
2:F:54:ILE:HG22	2:F:145:LEU:CD2	2.44	0.44
1:C:177:ASP:O	1:C:178:ASN:HB2	2.17	0.44
2:B:197:THR:HG22	2:B:198:ALA:N	2.32	0.44
1:E:407:ILE:HD11	1:E:412:ILE:HD12	1.99	0.44
1:E:46:LEU:O	1:E:50:VAL:HG23	2.18	0.44
1:A:442:TYR:O	1:A:445:VAL:HG23	2.17	0.44
2:F:56:ALA:HA	2:F:60:GLY:HA3	2.00	0.44
1:A:281:ILE:HA	1:A:282:PRO:HD3	1.86	0.44
1:C:266:GLU:O	1:C:270:LYS:HG3	2.16	0.44
1:E:426:TYR:HB2	1:E:521:ILE:HD11	1.99	0.44
2:D:199:CYS:HG	2:D:346:CYS:HG	1.63	0.44
1:G:163:ARG:NH1	1:G:163:ARG:HG2	2.29	0.44
1:E:51:LEU:HD11	2:F:92:PHE:HB3	1.99	0.44
1:C:347:ARG:NH2	2:D:274:ARG:NH1	2.66	0.44
2:H:132:ASP:HA	2:H:157:MET:CE	2.48	0.44
1:E:441:ARG:NH2	1:E:453:ASP:CG	2.70	0.44
1:E:419:PRO:CB	1:E:475:LYS:HE3	2.48	0.44
2:B:155:ASN:CG	2:B:200:ILE:HB	2.38	0.44
2:D:226:GLU:OE1	2:D:226:GLU:N	2.48	0.44
2:B:353:ILE:N	2:B:353:ILE:HD13	2.33	0.44
1:C:235:LYS:HB3	1:C:239:GLU:HG3	1.97	0.44
1:G:347:ARG:HH12	2:H:274:ARG:HD2	1.83	0.44
1:G:225:TRP:CE2	1:G:233:ILE:HG12	2.52	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:220:SER:HB2	2:H:221:MET:HE3	1.98	0.44
3:L:136:ILE:O	3:L:141:GLN:NE2	2.49	0.44
2:H:361:LEU:C	2:H:363:GLU:N	2.71	0.44
1:G:235:LYS:HB3	1:G:239:GLU:HG3	2.00	0.44
2:H:95:ARG:HD3	2:H:95:ARG:HA	1.74	0.44
1:E:185:LEU:HD12	1:E:275:ALA:HB1	1.99	0.44
2:D:64:LEU:HD21	2:D:77:VAL:HG21	2.00	0.44
3:L:118:GLU:C	3:L:120:THR:H	2.22	0.44
2:B:178:ILE:N	2:B:178:ILE:HD12	2.33	0.44
1:C:185:LEU:HD12	1:C:275:ALA:HB1	1.99	0.44
2:B:28:GLY:O	2:B:31:THR:HG22	2.18	0.44
1:C:489:GLU:O	1:C:489:GLU:HG2	2.18	0.44
2:H:322:LEU:CD1	2:H:322:LEU:C	2.85	0.43
2:F:361:LEU:C	2:F:363:GLU:N	2.71	0.43
2:F:393:TYR:CD1	2:F:607:THR:HA	2.52	0.43
3:I:103:ILE:HG21	3:I:161:ILE:CG2	2.48	0.43
1:E:87:GLU:O	1:E:91:GLU:HG3	2.18	0.43
2:B:380:ALA:O	2:B:904:VAL:HA	2.18	0.43
1:A:252:LEU:HB2	1:A:260:GLU:HG2	1.99	0.43
2:B:323:VAL:O	2:B:332:THR:HA	2.18	0.43
1:E:517:ASN:C	1:E:517:ASN:ND2	2.70	0.43
2:F:50:LYS:N	2:F:139:HIS:HD2	2.15	0.43
2:B:901:VAL:O	2:B:902:ALA:C	2.53	0.43
1:E:347:ARG:HH22	2:F:274:ARG:NH1	2.17	0.43
3:I:118:GLU:C	3:I:120:THR:H	2.22	0.43
1:C:36:ILE:HG21	1:C:131:LEU:HD21	1.99	0.43
2:H:134:PHE:O	2:H:137:GLN:HG3	2.18	0.43
2:D:56:ALA:HA	2:D:60:GLY:HA3	2.00	0.43
1:E:437:LYS:HD2	1:E:437:LYS:HA	1.75	0.43
1:G:251:ILE:HG23	1:G:262:GLU:CB	2.43	0.43
2:H:213:PHE:CB	2:H:218:ILE:HD11	2.43	0.43
1:E:264:ASN:ND2	1:E:265:PHE:H	2.16	0.43
1:A:234:PRO:O	1:A:235:LYS:C	2.55	0.43
1:G:131:LEU:HA	1:G:132:PRO:HD3	1.81	0.43
2:H:222:PRO:HD2	2:H:271:TYR:CD2	2.54	0.43
2:D:74:GLN:HE22	2:D:119:ASN:HD22	1.65	0.43
2:H:56:ALA:HA	2:H:60:GLY:HA3	2.01	0.43
2:D:89:ASN:OD1	2:D:90:ARG:NH1	2.49	0.43
2:H:74:GLN:HE22	2:H:119:ASN:HD22	1.67	0.43
1:G:260:GLU:HG3	1:G:261:ASP:N	2.33	0.43
1:A:518:ASN:O	1:A:519:THR:O	2.37	0.43
1:G:517:ASN:C	1:G:517:ASN:ND2	2.71	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:186:ASP:HB2	1:G:232:ARG:CZ	2.49	0.43
1:A:36:ILE:HG23	1:A:109:PRO:HG3	2.00	0.43
1:A:348:GLU:HG3	1:E:115:ASN:CB	2.47	0.43
2:H:250:ASP:HB3	2:H:253:ASP:HB2	1.99	0.43
1:A:362:ALA:O	1:A:366:GLN:HG3	2.19	0.43
2:H:228:CYS:SG	2:H:268:ALA:HA	2.59	0.43
1:G:302:PRO:HG2	1:G:305:TRP:HD1	1.84	0.43
2:H:158:LEU:HD22	2:H:175:VAL:HB	2.01	0.43
1:C:238:LYS:O	1:C:239:GLU:C	2.56	0.43
1:C:307:LEU:HB3	1:C:383:LEU:CD2	2.46	0.43
1:A:33:VAL:HG21	1:A:54:ILE:CD1	2.48	0.43
2:F:132:ASP:HA	2:F:157:MET:CE	2.49	0.43
1:G:128:ALA:HB1	1:G:131:LEU:HD11	2.01	0.43
2:D:220:SER:HB2	2:D:221:MET:HE3	2.01	0.43
2:B:249:LEU:HD11	2:B:260:ILE:HD11	2.00	0.43
2:H:320:ASN:O	2:H:321:TYR:HB2	2.18	0.43
1:C:168:GLU:HG3	1:C:394:ARG:HE	1.84	0.43
2:F:394:LEU:C	2:F:396:SER:H	2.21	0.43
1:C:72:ASN:HD22	1:C:72:ASN:H	1.67	0.43
2:D:28:GLY:O	2:D:31:THR:HG22	2.18	0.43
2:H:323:VAL:O	2:H:332:THR:HA	2.18	0.43
2:F:323:VAL:O	2:F:332:THR:HA	2.19	0.43
1:E:186:ASP:HB2	1:E:232:ARG:CZ	2.49	0.43
1:E:347:ARG:HH22	2:F:274:ARG:HH11	1.66	0.43
1:G:418:ASN:HD22	1:G:419:PRO:HD2	1.81	0.43
1:E:131:LEU:HA	1:E:132:PRO:HD3	1.85	0.43
1:G:185:LEU:HD12	1:G:275:ALA:HB1	2.00	0.43
1:C:481:GLU:OE2	2:D:315:TYR:HE2	2.01	0.43
2:D:394:LEU:C	2:D:396:SER:H	2.21	0.43
1:C:426:TYR:HB2	1:C:521:ILE:HD11	2.01	0.43
2:B:75:ILE:O	2:B:120:VAL:HA	2.18	0.43
1:A:251:ILE:HG23	1:A:262:GLU:CB	2.45	0.43
1:C:208:ASP:CG	1:C:211:HIS:HB2	2.39	0.43
1:C:211:HIS:O	1:C:338:LYS:HD2	2.19	0.43
2:B:361:LEU:O	2:B:364:VAL:CG2	2.65	0.43
2:D:353:ILE:HD13	2:D:353:ILE:N	2.33	0.43
1:C:186:ASP:HB2	1:C:232:ARG:CZ	2.49	0.43
1:E:235:LYS:HB2	1:E:239:GLU:OE2	2.19	0.43
1:G:33:VAL:HG21	1:G:54:ILE:HD11	2.00	0.43
1:A:419:PRO:CB	1:A:475:LYS:HE3	2.49	0.43
1:A:146:SER:O	1:A:147:GLN:HB2	2.18	0.43
1:E:90:MET:O	1:E:94:GLN:HB2	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:90:MET:O	1:G:94:GLN:HB2	2.18	0.43
2:H:351:GLN:HG3	2:H:353:ILE:CD1	2.43	0.43
2:B:357:PRO:O	2:B:358:SER:CB	2.65	0.43
3:I:115:ILE:HD13	3:I:129:ARG:HB2	2.01	0.43
2:D:322:LEU:C	2:D:322:LEU:CD1	2.86	0.43
2:F:158:LEU:HD12	2:F:177:LEU:HD22	2.01	0.43
2:B:213:PHE:CB	2:B:218:ILE:HD11	2.41	0.43
2:B:54:ILE:CD1	2:B:154:ILE:HG13	2.49	0.43
2:B:154:ILE:HD13	2:B:154:ILE:O	2.18	0.43
3:J:101:MET:HG3	3:J:163:GLY:HA2	2.01	0.43
2:F:303:CYS:O	2:F:307:VAL:HG23	2.19	0.43
1:E:281:ILE:HA	1:E:282:PRO:HD3	1.87	0.43
3:K:119:PRO:O	3:K:157:ALA:HB2	2.19	0.43
3:I:107:THR:CG2	3:I:109:THR:H	2.23	0.43
3:J:103:ILE:HA	3:J:163:GLY:O	2.18	0.43
1:E:186:ASP:OD2	1:E:279:THR:HB	2.18	0.43
2:D:13:TRP:CZ3	2:D:116:PRO:HG2	2.53	0.43
2:D:197:THR:HG22	2:D:198:ALA:N	2.33	0.43
2:D:284:VAL:O	2:D:287:ARG:NH1	2.52	0.43
1:E:311:LEU:HD12	1:E:311:LEU:HA	1.85	0.43
3:J:118:GLU:C	3:J:120:THR:H	2.22	0.43
1:A:441:ARG:NH2	1:A:453:ASP:CG	2.72	0.43
1:C:333:ILE:HA	2:D:223:ARG:NH2	2.33	0.43
2:B:349:LEU:HB3	2:B:350:PRO:HD2	1.99	0.43
1:C:324:PRO:HB3	1:C:353:ASP:HB3	2.01	0.43
2:F:155:ASN:CG	2:F:200:ILE:HB	2.39	0.43
2:B:353:ILE:HB	2:B:355:PHE:HE1	1.80	0.42
2:F:353:ILE:HD13	2:F:353:ILE:N	2.34	0.42
2:H:50:LYS:N	2:H:139:HIS:HD2	2.15	0.42
1:A:238:LYS:O	1:A:239:GLU:C	2.57	0.42
1:A:235:LYS:HB3	1:A:239:GLU:HG3	2.00	0.42
1:E:33:VAL:HG21	1:E:54:ILE:HD11	2.01	0.42
1:A:229:THR:O	1:A:230:ASN:ND2	2.52	0.42
1:G:43:THR:HG21	1:G:73:ASN:OD1	2.19	0.42
2:D:349:LEU:HB3	2:D:350:PRO:HD2	2.00	0.42
2:F:250:ASP:HB3	2:F:253:ASP:HB2	2.01	0.42
1:G:426:TYR:HB2	1:G:521:ILE:HD11	2.00	0.42
2:B:250:ASP:HB3	2:B:253:ASP:HB2	2.01	0.42
2:H:365:LEU:HD11	2:H:395:GLN:NE2	2.34	0.42
1:E:72:ASN:ND2	1:E:72:ASN:C	2.72	0.42
2:D:162:LEU:HD21	2:D:194:PRO:O	2.19	0.42
2:F:164:TYR:CE2	2:F:348:GLN:HG2	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:54:ILE:HG22	2:H:145:LEU:CD2	2.47	0.42
1:E:307:LEU:HD22	1:E:383:LEU:HD22	2.02	0.42
2:H:201:GLU:HB3	2:H:343:CYS:SG	2.59	0.42
2:F:74:GLN:HE22	2:F:119:ASN:HD22	1.68	0.42
1:E:497:LEU:HD12	1:E:497:LEU:HA	1.91	0.42
2:D:158:LEU:HD22	2:D:175:VAL:HB	2.02	0.42
1:A:396:ARG:HD2	1:A:534:LEU:HD21	2.01	0.42
1:E:163:ARG:NH2	1:E:518:ASN:HD21	2.16	0.42
1:E:238:LYS:O	1:E:239:GLU:C	2.57	0.42
2:H:284:VAL:O	2:H:287:ARG:NH1	2.51	0.42
1:A:347:ARG:HH22	2:B:274:ARG:NH1	2.17	0.42
1:A:208:ASP:CG	1:A:211:HIS:HB2	2.39	0.42
2:F:322:LEU:C	2:F:322:LEU:CD1	2.86	0.42
1:E:225:TRP:CE2	1:E:233:ILE:HG12	2.54	0.42
2:D:154:ILE:HD13	2:D:154:ILE:O	2.19	0.42
1:G:235:LYS:HB2	1:G:239:GLU:OE2	2.20	0.42
2:B:284:VAL:O	2:B:287:ARG:NH1	2.52	0.42
2:H:216:ALA:O	2:H:220:SER:HB2	2.20	0.42
1:G:311:LEU:HA	1:G:311:LEU:HD12	1.83	0.42
1:C:426:TYR:HB2	1:C:521:ILE:CD1	2.49	0.42
1:C:155:THR:HG23	1:C:493:ILE:CG2	2.49	0.42
2:D:250:ASP:HB3	2:D:253:ASP:HB2	2.01	0.42
2:D:323:VAL:O	2:D:332:THR:HA	2.19	0.42
2:F:158:LEU:HD22	2:F:175:VAL:HB	2.02	0.42
2:B:393:TYR:CZ	2:B:395:GLN:HG2	2.54	0.42
2:B:267:ARG:CG	2:B:267:ARG:HH11	2.24	0.42
3:I:101:MET:HG3	3:I:163:GLY:HA2	2.01	0.42
2:B:164:TYR:CE2	2:B:348:GLN:HG2	2.55	0.42
1:C:454:ILE:HD13	1:C:480:HIS:CE1	2.55	0.42
2:H:257:ILE:HG22	2:H:278:TYR:CE1	2.55	0.42
2:D:132:ASP:HA	2:D:157:MET:CE	2.50	0.42
2:B:232:VAL:O	2:B:232:VAL:HG12	2.19	0.42
1:G:441:ARG:NH2	1:G:453:ASP:CG	2.73	0.42
2:D:155:ASN:CG	2:D:200:ILE:HB	2.39	0.42
3:I:145:TYR:O	3:I:146:SER:C	2.58	0.42
2:F:145:LEU:O	3:K:176:GLY:HA3	2.20	0.42
2:F:320:ASN:HD21	2:F:336:GLU:HG3	1.84	0.42
1:E:362:ALA:O	1:E:366:GLN:HG3	2.18	0.42
2:F:380:ALA:O	2:F:904:VAL:HA	2.19	0.42
2:B:64:LEU:HD21	2:B:77:VAL:HG21	2.00	0.42
1:E:234:PRO:HB2	1:E:235:LYS:H	1.71	0.42
1:C:347:ARG:HH22	2:D:274:ARG:NH1	2.16	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:347:ARG:HH12	2:D:274:ARG:HD2	1.85	0.42
2:F:178:ILE:N	2:F:178:ILE:HD12	2.35	0.42
1:E:426:TYR:HB2	1:E:521:ILE:CD1	2.49	0.42
2:D:74:GLN:NE2	2:D:119:ASN:HD22	2.17	0.42
2:B:89:ASN:OD1	2:B:90:ARG:NH1	2.48	0.42
2:B:83:ILE:HD13	2:B:94:PHE:HB3	2.02	0.42
1:A:426:TYR:HB2	1:A:521:ILE:CD1	2.50	0.42
1:G:281:ILE:HA	1:G:282:PRO:HD3	1.87	0.42
2:H:368:LEU:HA	2:H:374:LEU:HD12	2.01	0.42
3:L:101:MET:HG3	3:L:163:GLY:HA2	2.02	0.42
2:F:183:GLU:HB2	3:K:173:LEU:HB3	2.02	0.42
2:F:284:VAL:O	2:F:287:ARG:NH1	2.53	0.42
1:E:33:VAL:CG2	1:E:54:ILE:CD1	2.98	0.42
2:B:74:GLN:NE2	2:B:119:ASN:HD22	2.17	0.42
1:C:155:THR:HG23	1:C:493:ILE:HG22	2.02	0.42
2:B:134:PHE:O	2:B:137:GLN:HG3	2.19	0.42
2:D:83:ILE:HD13	2:D:94:PHE:HB3	2.01	0.42
2:B:368:LEU:HA	2:B:374:LEU:HD12	2.00	0.42
2:F:83:ILE:HD13	2:F:94:PHE:HB3	2.01	0.42
1:G:251:ILE:O	1:G:252:LEU:C	2.59	0.42
1:G:297:ILE:HG21	1:G:368:ILE:HD11	2.00	0.42
2:D:199:CYS:HG	2:D:343:CYS:HG	1.61	0.42
2:F:241:GLN:CG	2:F:245:GLU:HA	2.49	0.42
2:F:257:ILE:HG22	2:F:278:TYR:CE1	2.55	0.42
1:G:412:ILE:HA	1:G:423:ILE:HD13	2.02	0.42
1:A:407:ILE:HD11	1:A:412:ILE:HD12	2.02	0.42
1:G:426:TYR:HB2	1:G:521:ILE:CD1	2.49	0.42
2:H:394:LEU:C	2:H:396:SER:H	2.22	0.42
1:A:72:ASN:ND2	1:A:72:ASN:C	2.73	0.42
2:D:241:GLN:CG	2:D:245:GLU:HA	2.49	0.42
2:F:235:LEU:C	2:F:238:PRO:HD2	2.40	0.42
1:C:33:VAL:HG21	1:C:54:ILE:CD1	2.50	0.42
1:C:125:VAL:HG12	1:C:126:VAL:N	2.34	0.42
2:D:222:PRO:HD2	2:D:271:TYR:CD2	2.55	0.42
1:G:264:ASN:ND2	1:G:265:PHE:H	2.17	0.41
2:H:340:LYS:HB3	2:H:342:ASN:HD21	1.85	0.41
1:C:518:ASN:O	1:C:519:THR:O	2.38	0.41
2:D:54:ILE:CD1	2:D:154:ILE:HG13	2.50	0.41
1:G:332:MET:HG2	1:G:339:TYR:CE1	2.53	0.41
2:B:132:ASP:HA	2:B:157:MET:CE	2.49	0.41
1:G:208:ASP:CG	1:G:211:HIS:HB2	2.39	0.41
2:B:365:LEU:HD11	2:B:395:GLN:NE2	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:F:381:ILE:CG2	2:F:902:ALA:HB1	2.50	0.41
1:C:233:ILE:O	1:C:233:ILE:HG22	2.20	0.41
2:H:54:ILE:CD1	2:H:154:ILE:HG13	2.50	0.41
1:G:238:LYS:O	1:G:239:GLU:C	2.58	0.41
1:A:33:VAL:CG2	1:A:54:ILE:CD1	2.97	0.41
2:F:95:ARG:HD3	2:F:95:ARG:HA	1.73	0.41
2:H:178:ILE:HD12	2:H:178:ILE:N	2.36	0.41
2:F:236:GLN:HE22	2:F:263:LYS:HD2	1.85	0.41
2:H:142:VAL:CG2	2:H:307:VAL:HG21	2.50	0.41
2:F:349:LEU:HB3	2:F:350:PRO:HD2	2.00	0.41
1:G:407:ILE:HD11	1:G:412:ILE:HD12	2.01	0.41
1:G:180:LEU:HD23	3:L:135:GLY:CA	2.49	0.41
1:G:193:ARG:O	1:G:197:GLN:HG3	2.20	0.41
3:I:170:VAL:CG1	3:I:171:LEU:N	2.82	0.41
2:D:50:LYS:N	2:D:139:HIS:HD2	2.14	0.41
1:G:186:ASP:OD2	1:G:279:THR:HB	2.20	0.41
1:C:307:LEU:HD22	1:C:383:LEU:HD22	2.01	0.41
2:B:95:ARG:HD3	2:B:95:ARG:HA	1.73	0.41
2:F:201:GLU:HB3	2:F:343:CYS:SG	2.61	0.41
1:G:418:ASN:C	1:G:418:ASN:ND2	2.73	0.41
1:G:419:PRO:CB	1:G:475:LYS:HE3	2.50	0.41
1:G:119:PHE:CE1	1:G:122:ARG:NE	2.85	0.41
1:C:226:TYR:O	1:C:230:ASN:N	2.53	0.41
1:E:72:ASN:HD22	1:E:72:ASN:H	1.68	0.41
2:D:368:LEU:HA	2:D:374:LEU:HD12	2.02	0.41
2:H:335:PHE:CZ	3:L:144:ILE:CD1	3.02	0.41
1:G:454:ILE:HD13	1:G:480:HIS:CE1	2.55	0.41
1:A:131:LEU:HA	1:A:132:PRO:HD3	1.84	0.41
2:H:13:TRP:CZ3	2:H:116:PRO:HG2	2.55	0.41
1:A:227:SER:C	1:A:229:THR:H	2.22	0.41
1:C:302:PRO:HG2	1:C:305:TRP:HD1	1.84	0.41
1:A:19:LEU:HD12	2:B:292:VAL:HG13	2.01	0.41
1:E:396:ARG:HD2	1:E:534:LEU:HD21	2.02	0.41
1:A:186:ASP:HB2	1:A:232:ARG:CZ	2.51	0.41
1:C:184:ARG:HB3	1:C:279:THR:OG1	2.19	0.41
1:C:281:ILE:HA	1:C:282:PRO:HD3	1.86	0.41
2:F:222:PRO:HD2	2:F:271:TYR:CD2	2.55	0.41
1:E:418:ASN:ND2	1:E:418:ASN:C	2.74	0.41
2:D:320:ASN:O	2:D:321:TYR:HB2	2.19	0.41
1:A:426:TYR:HB2	1:A:521:ILE:HD11	2.02	0.41
2:D:209:PRO:HD3	3:J:142:ARG:HH21	1.86	0.41
2:B:38:SER:HB3	2:B:41:SER:OG	2.19	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:353:ILE:N	2:H:353:ILE:HD13	2.36	0.41
2:B:267:ARG:O	2:B:270:GLN:HB2	2.21	0.41
2:F:393:TYR:CZ	2:F:395:GLN:HG2	2.56	0.41
3:L:115:ILE:HD13	3:L:129:ARG:HB2	2.02	0.41
2:B:217:THR:CG2	2:B:223:ARG:HH22	2.33	0.41
2:F:13:TRP:CZ3	2:F:116:PRO:HG2	2.56	0.41
1:A:412:ILE:HA	1:A:423:ILE:HD13	2.02	0.41
1:C:72:ASN:C	1:C:72:ASN:ND2	2.71	0.41
1:C:481:GLU:HA	1:C:481:GLU:OE1	2.20	0.41
1:A:424:VAL:HG11	1:A:478:TYR:CD1	2.55	0.41
1:C:65:VAL:CG2	1:C:85:ARG:HA	2.51	0.41
1:A:518:ASN:O	1:A:519:THR:C	2.59	0.41
2:F:54:ILE:CD1	2:F:154:ILE:HG13	2.50	0.41
1:E:336:SER:OG	2:F:271:TYR:HD2	2.04	0.41
2:F:232:VAL:HG12	2:F:232:VAL:O	2.19	0.41
1:E:226:TYR:O	1:E:230:ASN:N	2.54	0.41
2:B:192:ILE:CD1	2:B:200:ILE:HG12	2.50	0.41
2:D:192:ILE:CD1	2:D:200:ILE:HG12	2.51	0.41
1:A:434:ARG:HD3	1:A:460:CYS:HB3	2.03	0.41
1:A:46:LEU:HD23	1:A:93:LEU:HD13	2.02	0.41
1:C:434:ARG:HD3	1:C:460:CYS:HB3	2.03	0.41
1:G:396:ARG:HD2	1:G:534:LEU:HD21	2.03	0.41
2:H:380:ALA:O	2:H:904:VAL:HA	2.19	0.41
1:E:489:GLU:O	1:E:489:GLU:HG2	2.20	0.41
1:G:252:LEU:HD12	1:G:260:GLU:HG2	2.02	0.41
3:L:170:VAL:CG1	3:L:171:LEU:N	2.84	0.41
2:H:64:LEU:HD21	2:H:77:VAL:HG21	2.01	0.41
1:A:65:VAL:CG2	1:A:85:ARG:HA	2.51	0.41
2:H:164:TYR:CE2	2:H:348:GLN:HG2	2.56	0.41
1:C:396:ARG:HD2	1:C:534:LEU:HD21	2.02	0.41
1:C:162:MET:O	1:C:519:THR:HA	2.21	0.41
1:G:347:ARG:NH2	2:H:274:ARG:HD2	2.30	0.41
2:D:235:LEU:C	2:D:238:PRO:HD2	2.40	0.41
2:D:237:TRP:CZ2	2:D:249:LEU:HA	2.56	0.41
1:G:125:VAL:HG12	1:G:126:VAL:N	2.36	0.41
1:E:33:VAL:HG21	1:E:54:ILE:CD1	2.51	0.41
1:A:418:ASN:C	1:A:418:ASN:ND2	2.74	0.41
1:A:226:TYR:O	1:A:230:ASN:N	2.54	0.41
1:C:412:ILE:HA	1:C:423:ILE:HD13	2.03	0.41
2:F:74:GLN:NE2	2:F:74:GLN:HA	2.36	0.41
3:J:105:VAL:HG11	3:J:130:VAL:HG22	2.02	0.41
1:C:9:LYS:HE2	1:C:99:ASP:OD1	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:L:105:VAL:HG11	3:L:130:VAL:HG22	2.03	0.41
3:L:119:PRO:O	3:L:157:ALA:HB2	2.21	0.41
2:H:367:TYR:O	2:H:371:SER:HB2	2.21	0.41
1:A:437:LYS:HA	1:A:437:LYS:HD2	1.75	0.41
1:G:301:THR:HG22	1:G:306:ILE:HG13	2.03	0.41
3:I:107:THR:HG22	3:I:111:LYS:N	2.10	0.41
1:E:297:ILE:HG21	1:E:368:ILE:HD11	2.02	0.41
1:C:234:PRO:HB2	1:C:235:LYS:H	1.73	0.41
1:C:33:VAL:CG2	1:C:54:ILE:CD1	2.99	0.41
3:K:118:GLU:C	3:K:120:THR:N	2.73	0.41
1:A:263:GLU:OE1	1:A:333:ILE:HD13	2.21	0.41
2:B:257:ILE:HG22	2:B:278:TYR:CE1	2.55	0.41
1:G:36:ILE:HG23	1:G:109:PRO:HG3	2.03	0.41
1:G:72:ASN:HD22	1:G:72:ASN:N	2.19	0.41
3:I:105:VAL:HG11	3:I:130:VAL:HG22	2.03	0.41
2:B:267:ARG:CG	2:B:267:ARG:NH1	2.83	0.40
1:C:282:PRO:HD2	1:C:285:ILE:HD12	2.03	0.40
2:B:221:MET:HG2	2:B:221:MET:H	1.80	0.40
2:D:216:ALA:O	2:D:220:SER:HB2	2.21	0.40
1:E:193:ARG:O	1:E:197:GLN:HG3	2.22	0.40
2:B:56:ALA:HA	2:B:60:GLY:HA3	2.03	0.40
1:A:264:ASN:ND2	1:A:265:PHE:H	2.19	0.40
2:B:235:LEU:C	2:B:238:PRO:HD2	2.40	0.40
1:C:33:VAL:CG1	1:C:34:CYS:N	2.85	0.40
1:A:333:ILE:HA	2:B:223:ARG:NH2	2.36	0.40
2:B:247:VAL:HA	2:B:248:PRO:HD3	1.77	0.40
2:B:320:ASN:O	2:B:321:TYR:HB2	2.20	0.40
2:D:74:GLN:NE2	2:D:74:GLN:HA	2.35	0.40
2:H:83:ILE:HD13	2:H:94:PHE:HB3	2.03	0.40
1:C:193:ARG:O	1:C:197:GLN:HG3	2.21	0.40
2:D:166:ASP:C	2:D:168:VAL:H	2.25	0.40
2:F:241:GLN:CB	2:F:245:GLU:HA	2.52	0.40
2:D:95:ARG:HA	2:D:95:ARG:HD3	1.76	0.40
1:G:507:LYS:O	1:G:511:LYS:N	2.52	0.40
1:C:407:ILE:O	1:C:407:ILE:CG2	2.69	0.40
1:A:302:PRO:HG2	1:A:305:TRP:HD1	1.86	0.40
1:C:301:THR:HG22	1:C:306:ILE:HG13	2.04	0.40
2:B:166:ASP:C	2:B:168:VAL:H	2.24	0.40
1:E:13:TYR:O	1:E:16:GLN:HG2	2.20	0.40
2:D:365:LEU:HD11	2:D:395:GLN:NE2	2.36	0.40
3:J:107:THR:CG2	3:J:109:THR:H	2.26	0.40
1:C:262:GLU:HG3	1:C:265:PHE:CD1	2.56	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:356:SER:HA	2:D:357:PRO:HD3	1.93	0.40
1:G:215:ILE:HG13	1:G:332:MET:HE3	2.04	0.40
1:G:33:VAL:HG21	1:G:54:ILE:CD1	2.52	0.40
1:A:128:ALA:HB1	1:A:131:LEU:HD11	2.02	0.40
2:H:247:VAL:HA	2:H:248:PRO:HD3	1.81	0.40
3:J:102:LEU:CD1	3:J:114:GLU:HG2	2.52	0.40
1:E:128:ALA:HB1	1:E:131:LEU:HD11	2.04	0.40
1:G:227:SER:C	1:G:229:THR:H	2.24	0.40
2:H:74:GLN:NE2	2:H:74:GLN:HA	2.36	0.40
2:D:38:SER:HB3	2:D:41:SER:OG	2.21	0.40
1:G:13:TYR:O	1:G:16:GLN:HG2	2.21	0.40
2:F:28:GLY:O	2:F:31:THR:HG22	2.21	0.40
2:D:236:GLN:O	2:D:240:GLU:HG2	2.22	0.40
1:E:332:MET:HG2	1:E:339:TYR:CE1	2.54	0.40
2:H:343:CYS:O	2:H:347:SER:CB	2.70	0.40
1:C:418:ASN:C	1:C:418:ASN:ND2	2.74	0.40
1:E:229:THR:O	1:E:230:ASN:ND2	2.55	0.40
2:H:192:ILE:CD1	2:H:200:ILE:HG12	2.52	0.40
1:E:74:PHE:CD1	2:F:65:LYS:HG3	2.57	0.40
2:F:134:PHE:O	2:F:137:GLN:HG3	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	512/529 (97%)	459 (90%)	34 (7%)	19 (4%)	5	28
1	C	512/529 (97%)	458 (90%)	38 (7%)	16 (3%)	7	34
1	E	512/529 (97%)	459 (90%)	36 (7%)	17 (3%)	6	32
1	G	512/529 (97%)	460 (90%)	32 (6%)	20 (4%)	5	26
2	B	408/431 (95%)	342 (84%)	52 (13%)	14 (3%)	6	31
2	D	408/431 (95%)	341 (84%)	55 (14%)	12 (3%)	7	35

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	F	408/431 (95%)	342 (84%)	54 (13%)	12 (3%)	7	35
2	H	408/431 (95%)	345 (85%)	51 (12%)	12 (3%)	7	35
3	I	74/76 (97%)	63 (85%)	9 (12%)	2 (3%)	8	38
3	J	74/76 (97%)	64 (86%)	8 (11%)	2 (3%)	8	38
3	K	74/76 (97%)	64 (86%)	8 (11%)	2 (3%)	8	38
3	L	74/76 (97%)	64 (86%)	8 (11%)	2 (3%)	8	38
All	All	3976/4144 (96%)	3461 (87%)	385 (10%)	130 (3%)	6	32

All (130) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	234	PRO
1	A	235	LYS
1	A	236	THR
1	A	259	PRO
1	A	261	ASP
1	A	519	THR
2	B	116	PRO
2	B	358	SER
2	B	362	GLN
2	B	901	VAL
1	C	234	PRO
1	C	235	LYS
1	C	236	THR
1	C	253	LYS
1	C	261	ASP
1	C	519	THR
2	D	116	PRO
2	D	358	SER
2	D	362	GLN
2	D	901	VAL
2	D	902	ALA
1	E	234	PRO
1	E	235	LYS
1	E	236	THR
1	E	253	LYS
1	E	259	PRO
1	E	261	ASP
1	E	519	THR
2	F	116	PRO

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Mol	Chain	Res	Type
2	F	358	SER
2	F	362	GLN
2	F	901	VAL
1	G	234	PRO
1	G	235	LYS
1	G	236	THR
1	G	259	PRO
1	G	261	ASP
1	G	519	THR
2	H	116	PRO
2	H	358	SER
2	H	362	GLN
2	H	901	VAL
2	H	902	ALA
1	A	237	TYR
1	A	533	GLN
2	B	902	ALA
3	I	163	GLY
1	C	237	TYR
1	C	259	PRO
1	C	275	ALA
1	C	533	GLN
2	D	604	GLU
3	J	163	GLY
1	E	237	TYR
1	E	275	ALA
1	E	533	GLN
3	K	163	GLY
1	G	237	TYR
1	G	275	ALA
1	G	533	GLN
3	L	163	GLY
1	A	252	LEU
1	A	253	LYS
1	A	275	ALA
1	A	276	LEU
2	B	320	ASN
2	B	604	GLU
3	I	119	PRO
1	C	36	ILE
1	C	276	LEU
2	D	320	ASN

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Mol	Chain	Res	Type
3	J	119	PRO
1	E	276	LEU
2	F	320	ASN
2	F	604	GLU
3	K	119	PRO
1	G	252	LEU
1	G	276	LEU
2	H	320	ASN
2	H	604	GLU
3	L	119	PRO
1	A	36	ILE
1	A	178	ASN
1	A	233	ILE
1	A	262	GLU
1	A	317	LYS
1	A	422	GLU
2	B	359	ALA
2	B	907	PRO
2	B	908	GLN
2	D	359	ALA
2	D	907	PRO
2	D	908	GLN
1	E	317	LYS
2	F	359	ALA
2	F	907	PRO
1	G	36	ILE
1	G	253	LYS
2	H	359	ALA
2	H	705	VAL
2	H	907	PRO
2	B	239	LYS
2	B	241	GLN
2	B	705	VAL
1	C	233	ILE
1	C	262	GLU
1	C	317	LYS
2	D	241	GLN
2	D	705	VAL
1	E	36	ILE
1	E	178	ASN
1	E	233	ILE
1	E	262	GLU

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Mol	Chain	Res	Type
2	F	239	LYS
2	F	241	GLN
2	F	705	VAL
1	G	233	ILE
1	G	262	GLU
1	G	317	LYS
1	G	422	GLU
2	H	239	LYS
2	H	241	GLN
2	B	363	GLU
2	F	132	ASP
1	G	178	ASN
1	E	190	PRO
1	G	190	PRO
1	C	190	PRO
1	G	21	GLY
1	A	190	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	450/461 (98%)	430 (96%)	20 (4%)	39	82
1	C	450/461 (98%)	432 (96%)	18 (4%)	42	84
1	E	450/461 (98%)	430 (96%)	20 (4%)	39	82
1	G	450/461 (98%)	430 (96%)	20 (4%)	39	82
2	B	334/379 (88%)	311 (93%)	23 (7%)	22	62
2	D	334/379 (88%)	311 (93%)	23 (7%)	22	62
2	F	334/379 (88%)	311 (93%)	23 (7%)	22	62
2	H	334/379 (88%)	311 (93%)	23 (7%)	22	62
3	I	66/66 (100%)	64 (97%)	2 (3%)	53	90
3	J	66/66 (100%)	64 (97%)	2 (3%)	53	90
3	K	66/66 (100%)	64 (97%)	2 (3%)	53	90
3	L	66/66 (100%)	64 (97%)	2 (3%)	53	90

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	3400/3624 (94%)	3222 (95%)	178 (5%)	32 75

All (178) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	43	THR
1	A	72	ASN
1	A	90	MET
1	A	214	TRP
1	A	245	ASP
1	A	253	LYS
1	A	259	PRO
1	A	260	GLU
1	A	262	GLU
1	A	264	ASN
1	A	277	ASN
1	A	292	ASP
1	A	293	ARG
1	A	309	ARG
1	A	311	LEU
1	A	407	ILE
1	A	410	ASP
1	A	418	ASN
1	A	422	GLU
1	A	517	ASN
2	B	82	THR
2	B	111	LEU
2	B	114	ARG
2	B	116	PRO
2	B	128	GLN
2	B	132	ASP
2	B	154	ILE
2	B	182	THR
2	B	190	ARG
2	B	212	ASN
2	B	277	THR
2	B	306	GLU
2	B	316	ILE
2	B	322	LEU
2	B	325	ASN
2	B	327	VAL
2	B	342	ASN

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Mol	Chain	Res	Type
2	B	348	GLN
2	B	353	ILE
2	B	358	SER
2	B	362	GLN
2	B	364	VAL
2	B	382	THR
3	I	107	THR
3	I	170	VAL
1	C	43	THR
1	C	72	ASN
1	C	214	TRP
1	C	245	ASP
1	C	253	LYS
1	C	260	GLU
1	C	262	GLU
1	C	264	ASN
1	C	277	ASN
1	C	292	ASP
1	C	293	ARG
1	C	309	ARG
1	C	311	LEU
1	C	407	ILE
1	C	410	ASP
1	C	418	ASN
1	C	422	GLU
1	C	517	ASN
2	D	82	THR
2	D	111	LEU
2	D	114	ARG
2	D	116	PRO
2	D	128	GLN
2	D	132	ASP
2	D	154	ILE
2	D	182	THR
2	D	190	ARG
2	D	212	ASN
2	D	277	THR
2	D	306	GLU
2	D	316	ILE
2	D	322	LEU
2	D	325	ASN
2	D	327	VAL

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Mol	Chain	Res	Type
2	D	342	ASN
2	D	348	GLN
2	D	353	ILE
2	D	358	SER
2	D	362	GLN
2	D	364	VAL
2	D	382	THR
3	J	107	THR
3	J	170	VAL
1	E	43	THR
1	E	72	ASN
1	E	90	MET
1	E	214	TRP
1	E	245	ASP
1	E	253	LYS
1	E	259	PRO
1	E	260	GLU
1	E	262	GLU
1	E	264	ASN
1	E	277	ASN
1	E	292	ASP
1	E	293	ARG
1	E	309	ARG
1	E	311	LEU
1	E	407	ILE
1	E	410	ASP
1	E	418	ASN
1	E	422	GLU
1	E	517	ASN
2	F	82	THR
2	F	111	LEU
2	F	114	ARG
2	F	116	PRO
2	F	128	GLN
2	F	132	ASP
2	F	154	ILE
2	F	182	THR
2	F	190	ARG
2	F	212	ASN
2	F	277	THR
2	F	306	GLU
2	F	316	ILE

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Mol	Chain	Res	Type
2	F	322	LEU
2	F	325	ASN
2	F	327	VAL
2	F	342	ASN
2	F	348	GLN
2	F	353	ILE
2	F	358	SER
2	F	362	GLN
2	F	364	VAL
2	F	382	THR
3	K	107	THR
3	K	170	VAL
1	G	43	THR
1	G	72	ASN
1	G	90	MET
1	G	214	TRP
1	G	245	ASP
1	G	259	PRO
1	G	260	GLU
1	G	262	GLU
1	G	264	ASN
1	G	277	ASN
1	G	292	ASP
1	G	293	ARG
1	G	309	ARG
1	G	311	LEU
1	G	364	LEU
1	G	407	ILE
1	G	410	ASP
1	G	418	ASN
1	G	422	GLU
1	G	517	ASN
2	H	82	THR
2	H	111	LEU
2	H	114	ARG
2	H	116	PRO
2	H	128	GLN
2	H	132	ASP
2	H	154	ILE
2	H	182	THR
2	H	190	ARG
2	H	212	ASN

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Mol	Chain	Res	Type
2	H	277	THR
2	H	306	GLU
2	H	316	ILE
2	H	322	LEU
2	H	325	ASN
2	H	327	VAL
2	H	342	ASN
2	H	348	GLN
2	H	353	ILE
2	H	358	SER
2	H	362	GLN
2	H	364	VAL
2	H	382	THR
3	L	107	THR
3	L	170	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (125) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	37	ASN
1	A	72	ASN
1	A	77	GLN
1	A	178	ASN
1	A	197	GLN
1	A	209	HIS
1	A	224	GLN
1	A	264	ASN
1	A	271	ASN
1	A	277	ASN
1	A	320	GLN
1	A	344	ASN
1	A	359	ASN
1	A	418	ASN
1	A	439	GLN
1	A	447	ASN
1	A	517	ASN
1	A	533	GLN
2	B	74	GLN
2	B	87	ASN
2	B	128	GLN
2	B	139	HIS
2	B	212	ASN

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Mol	Chain	Res	Type
2	B	236	GLN
2	B	241	GLN
2	B	262	GLN
2	B	325	ASN
2	B	342	ASN
2	B	348	GLN
2	B	351	GLN
2	B	370	ASN
2	B	395	GLN
1	C	37	ASN
1	C	72	ASN
1	C	77	GLN
1	C	178	ASN
1	C	197	GLN
1	C	209	HIS
1	C	224	GLN
1	C	230	ASN
1	C	264	ASN
1	C	271	ASN
1	C	277	ASN
1	C	320	GLN
1	C	359	ASN
1	C	418	ASN
1	C	439	GLN
1	C	447	ASN
1	C	517	ASN
1	C	533	GLN
2	D	74	GLN
2	D	87	ASN
2	D	128	GLN
2	D	139	HIS
2	D	212	ASN
2	D	236	GLN
2	D	241	GLN
2	D	325	ASN
2	D	342	ASN
2	D	348	GLN
2	D	351	GLN
2	D	370	ASN
2	D	395	GLN
1	E	37	ASN
1	E	72	ASN

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Mol	Chain	Res	Type
1	E	77	GLN
1	E	115	ASN
1	E	178	ASN
1	E	197	GLN
1	E	209	HIS
1	E	224	GLN
1	E	230	ASN
1	E	264	ASN
1	E	271	ASN
1	E	277	ASN
1	E	320	GLN
1	E	359	ASN
1	E	418	ASN
1	E	439	GLN
1	E	447	ASN
1	E	517	ASN
2	F	74	GLN
2	F	87	ASN
2	F	125	ASN
2	F	128	GLN
2	F	139	HIS
2	F	212	ASN
2	F	236	GLN
2	F	241	GLN
2	F	325	ASN
2	F	342	ASN
2	F	348	GLN
2	F	351	GLN
2	F	370	ASN
2	F	395	GLN
1	G	37	ASN
1	G	72	ASN
1	G	77	GLN
1	G	178	ASN
1	G	197	GLN
1	G	209	HIS
1	G	224	GLN
1	G	264	ASN
1	G	271	ASN
1	G	277	ASN
1	G	320	GLN
1	G	359	ASN

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Mol	Chain	Res	Type
1	G	418	ASN
1	G	439	GLN
1	G	447	ASN
1	G	517	ASN
1	G	533	GLN
2	H	74	GLN
2	H	87	ASN
2	H	128	GLN
2	H	139	HIS
2	H	212	ASN
2	H	236	GLN
2	H	241	GLN
2	H	325	ASN
2	H	342	ASN
2	H	348	GLN
2	H	351	GLN
2	H	370	ASN
2	H	395	GLN

5.3.3 RNA ⓘ

There are no RNA chains in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.