Full wwPDB EM Validation Report ⓘ

Nov 29, 2022 – 05:02 AM JST

PDB ID	:	7VWX
EMDB ID	:	EMD-32164
Title	:	CryoEM structure of football-shaped GroEL:ES2 with RuBisCO
Authors	:	Kim, H.; Roh, S.H.
Deposited on	:	2021-11-12
Resolution	:	7.60 Å(reported)
Based on initial models	:	4PKO, 9RUB

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

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

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

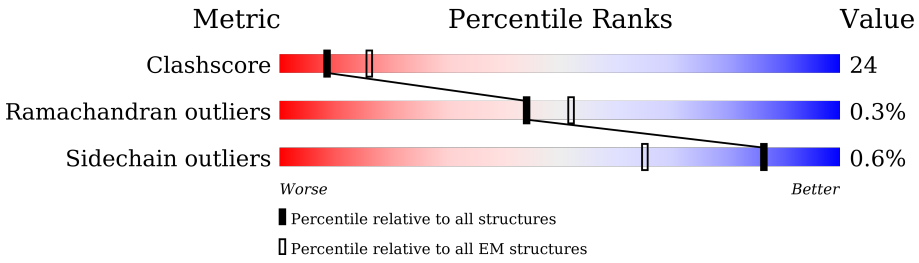
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 7.60 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)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	97	52% 46%
1	2	97	47% 53%
1	O	97	52% 39% 7%
1	P	97	57% 43%
1	Q	97	44% 52%
1	R	97	5% 52% 48%
1	S	97	53% 45%
1	T	97	6% 58% 41%

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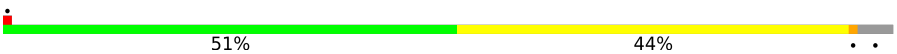
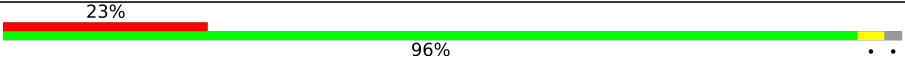
Mol	Chain	Length	Quality of chain
1	U	97	
1	V	97	
1	W	97	
1	X	97	
1	Y	97	
1	Z	97	
2	A	548	
2	B	548	
2	C	548	
2	D	548	
2	E	548	
2	F	548	
2	G	548	
2	H	548	
2	I	548	
2	J	548	
2	K	548	
2	L	548	
2	M	548	
2	N	548	
3	a	466	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 67599 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Co-chaperonin GroES.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	2	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	O	95	Total	C	N	O	S	0	0
			711	445	124	141	1		
1	P	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	Q	96	Total	C	N	O	S	0	0
			719	449	126	143	1		
1	R	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	S	96	Total	C	N	O	S	0	0
			719	449	126	143	1		
1	T	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	U	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	V	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	W	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	X	97	Total	C	N	O	S	0	0
			727	454	127	144	2		
1	Y	96	Total	C	N	O	S	0	0
			722	451	126	143	2		
1	Z	95	Total	C	N	O	S	0	0
			713	446	125	140	2		

- Molecule 2 is a protein called Chaperonin GroEL.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		

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Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	C	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	D	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	E	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	F	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	G	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	H	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	I	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	J	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	K	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	L	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	M	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		
2	N	524	Total	C	N	O	S	0	0
			3855	2397	665	773	20		

- Molecule 3 is a protein called Ribulose bisphosphate carboxylase.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	a	459	Total	C	N	O	S	0	0
			3502	2213	613	658	18		

3 Residue-property plots (i)

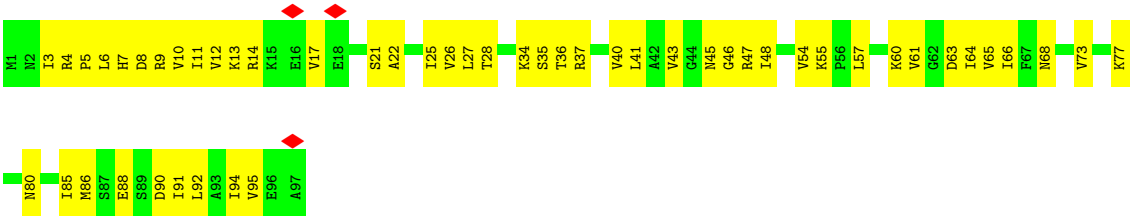
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Co-chaperonin GroES

Chain 1:

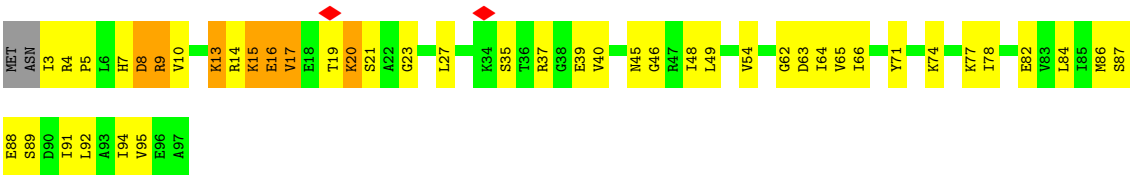
• Molecule 1: Co-chaperonin GroES

Chain 2:



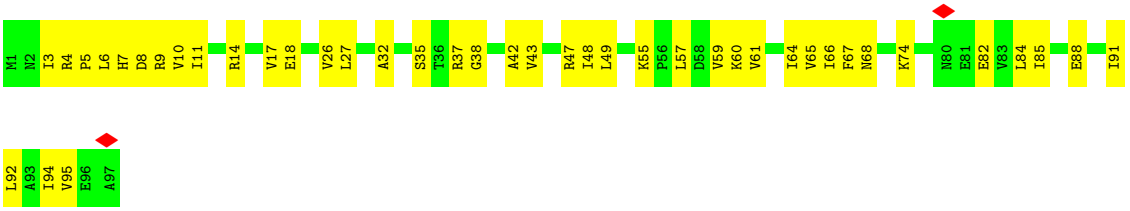
• Molecule 1: Co-chaperonin GroES

Chain O:

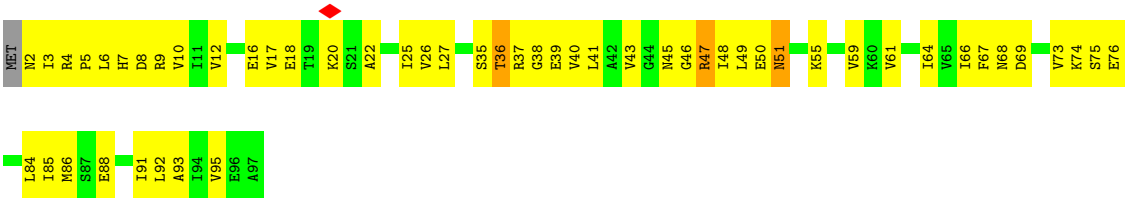


• Molecule 1: Co-chaperonin GroES

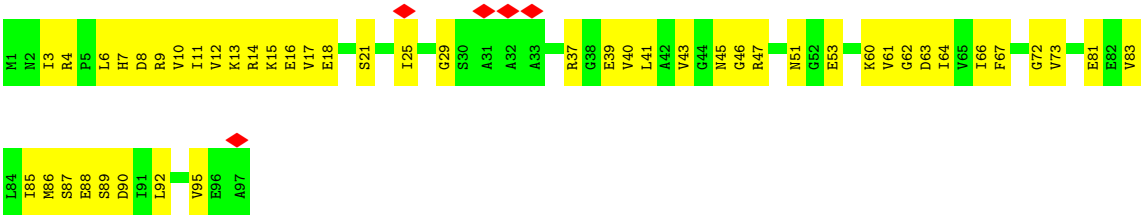
Chain P:



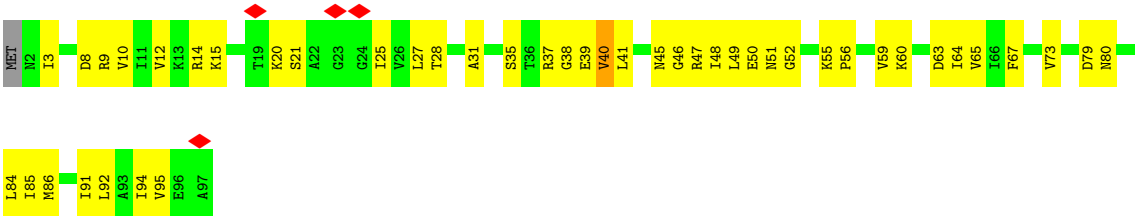
• Molecule 1: Co-chaperonin GroES



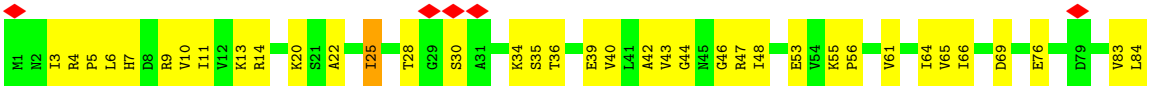
• Molecule 1: Co-chaperonin GroES



• Molecule 1: Co-chaperonin GroES

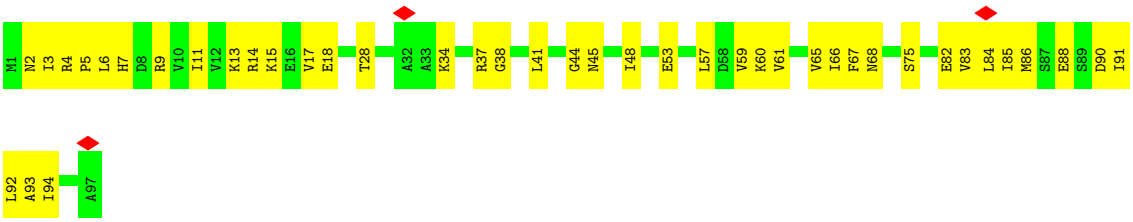


• Molecule 1: Co-chaperonin GroES



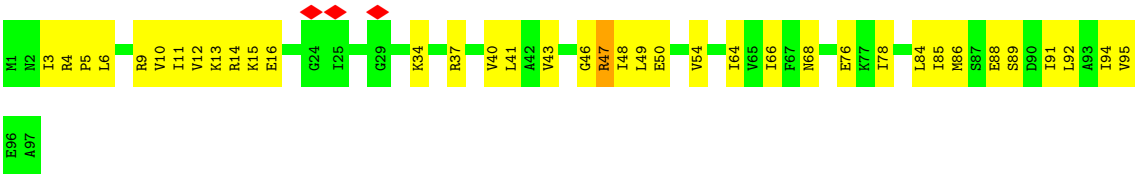
• Molecule 1: Co-chaperonin GroES

Chain U:



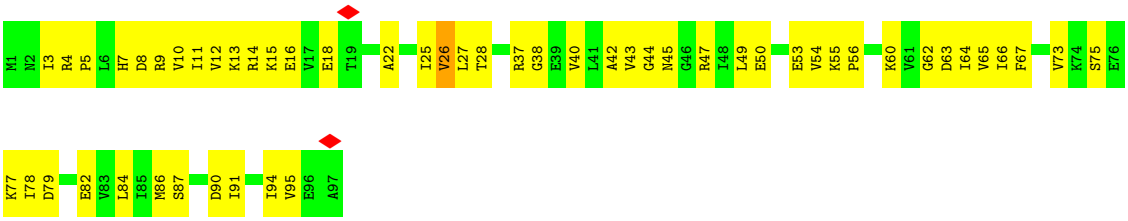
• Molecule 1: Co-chaperonin GroES

Chain V:



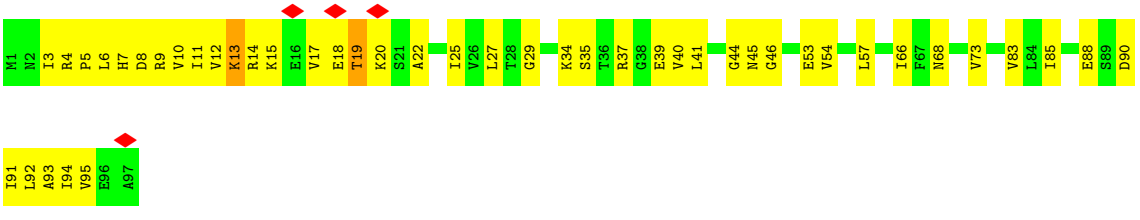
• Molecule 1: Co-chaperonin GroES

Chain W:



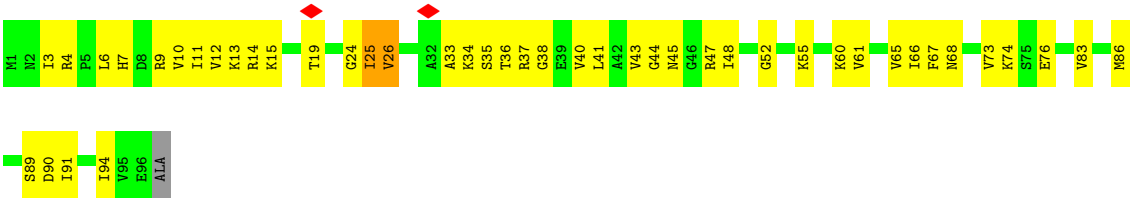
• Molecule 1: Co-chaperonin GroES

Chain X:



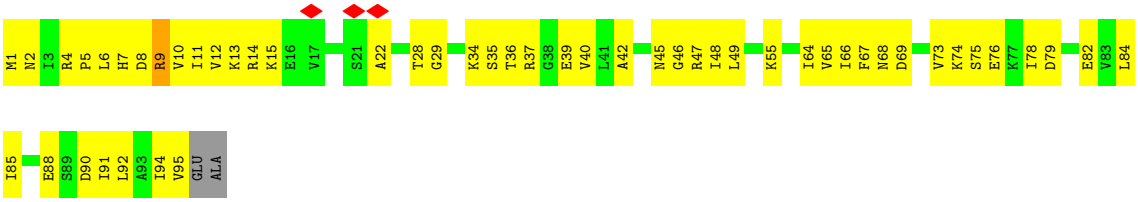
• Molecule 1: Co-chaperonin GroES

Chain Y:



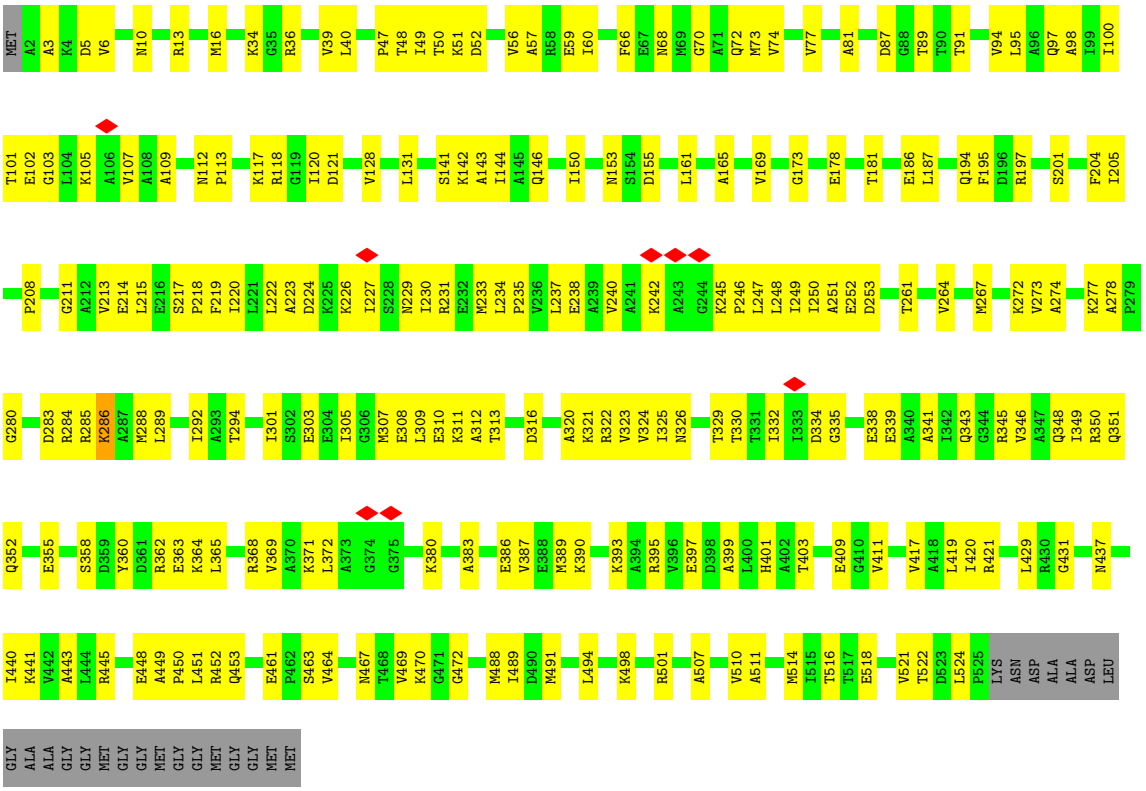
• Molecule 1: Co-chaperonin GroES

Chain Z:



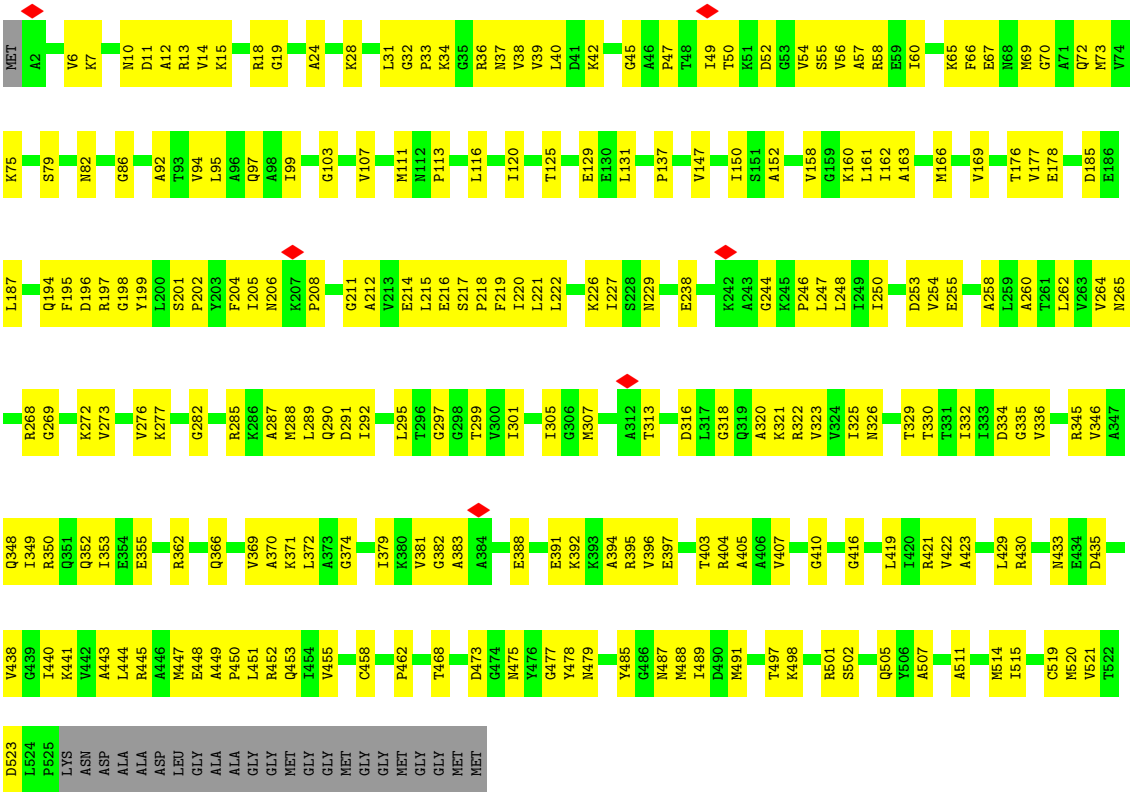
• Molecule 2: Chaperonin GroEL

Chain A:



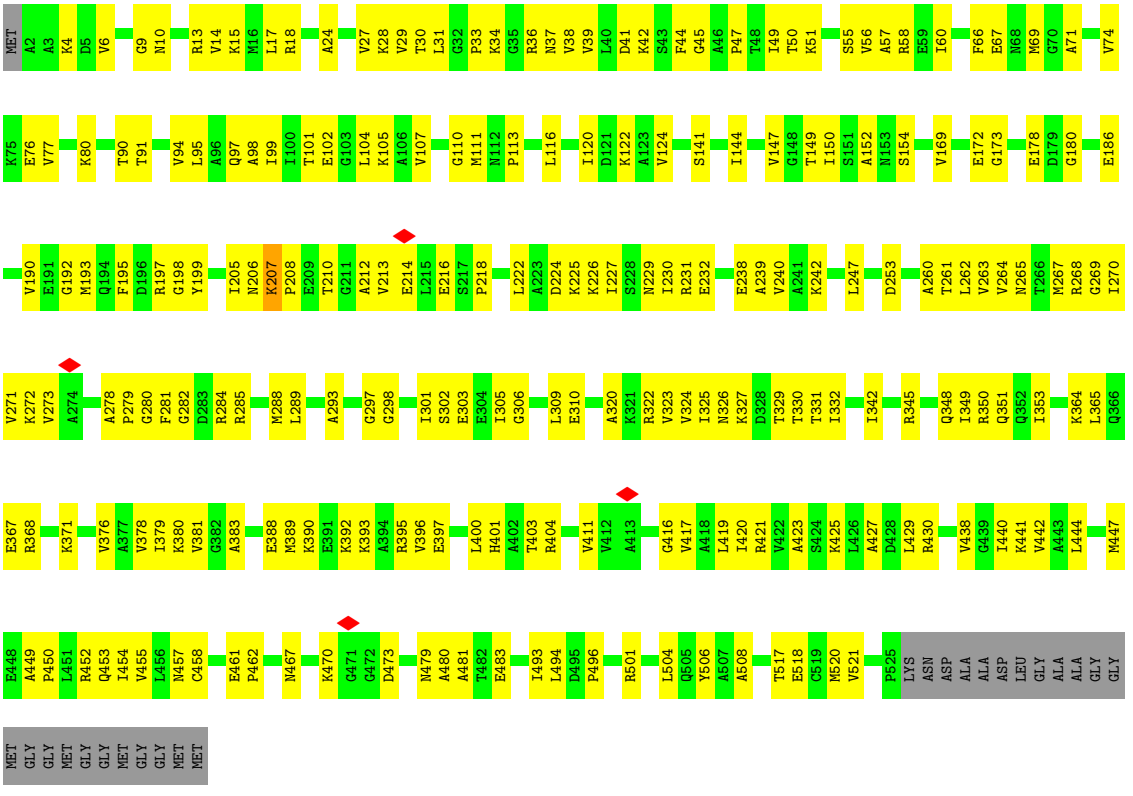
• Molecule 2: Chaperonin GroEL

Chain B:



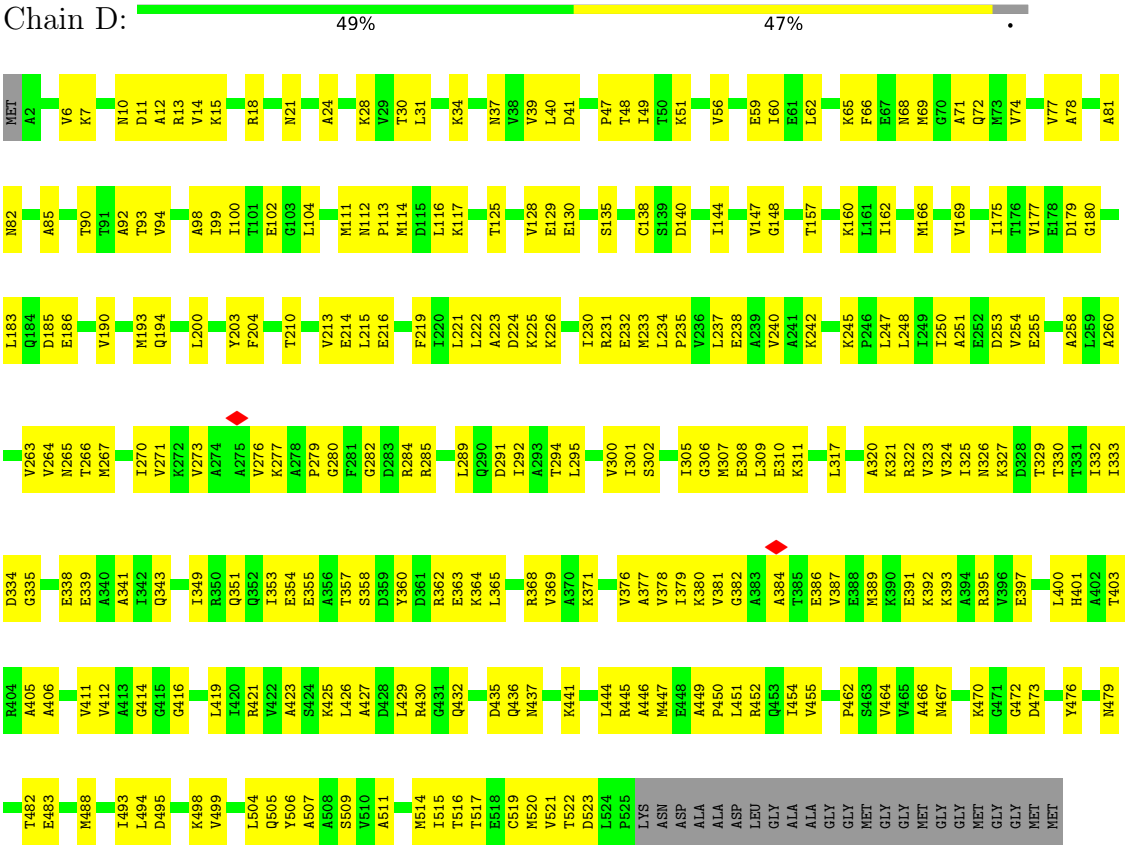
• Molecule 2: Chaperonin GroEL

Chain C:



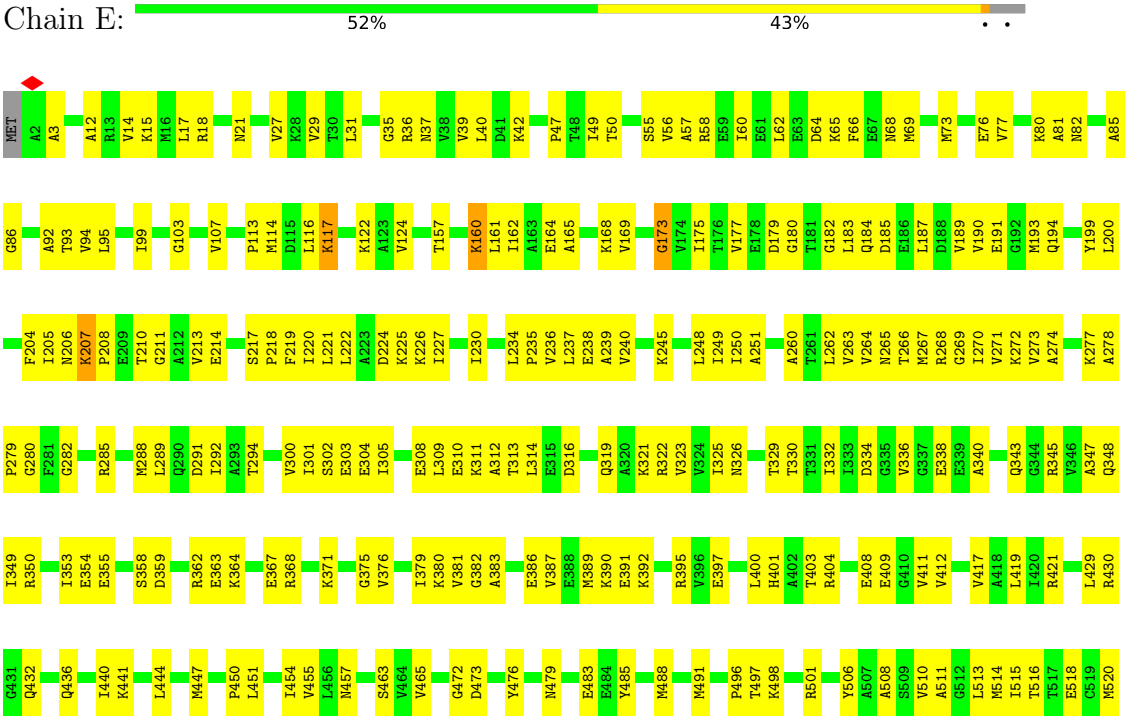
• Molecule 2: Chaperonin GroEL

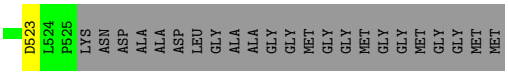
Chain D:



• Molecule 2: Chaperonin GroEL

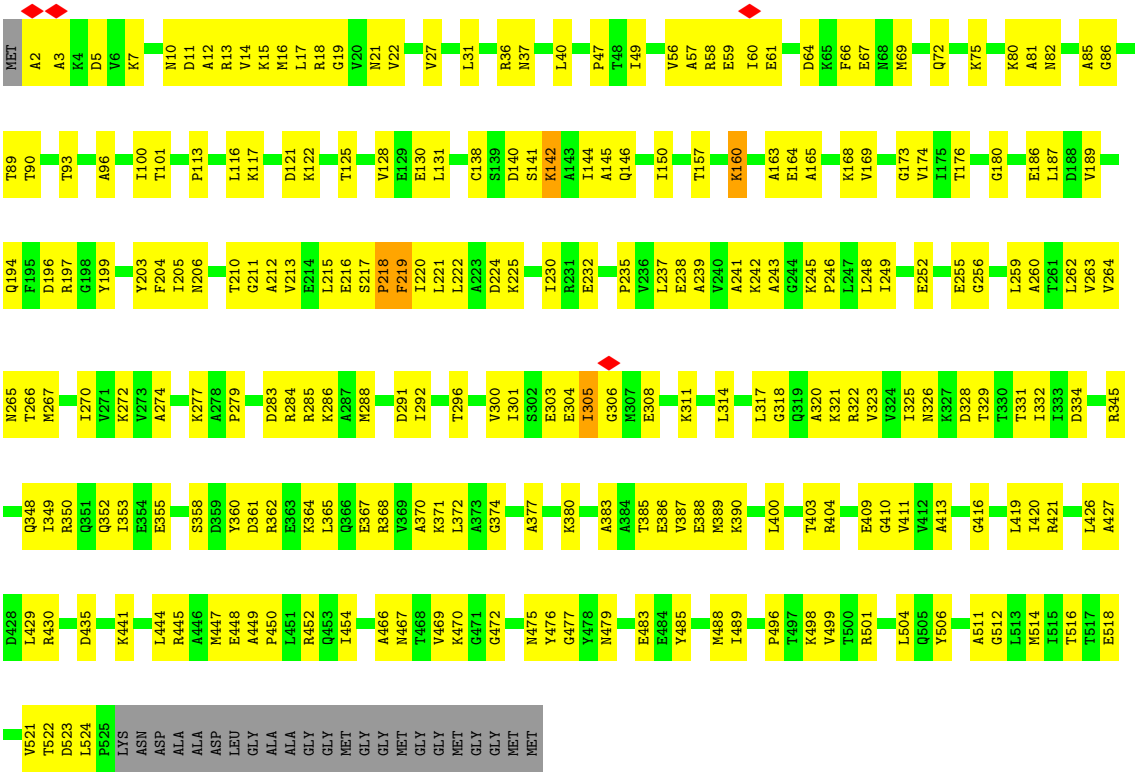
Chain E:





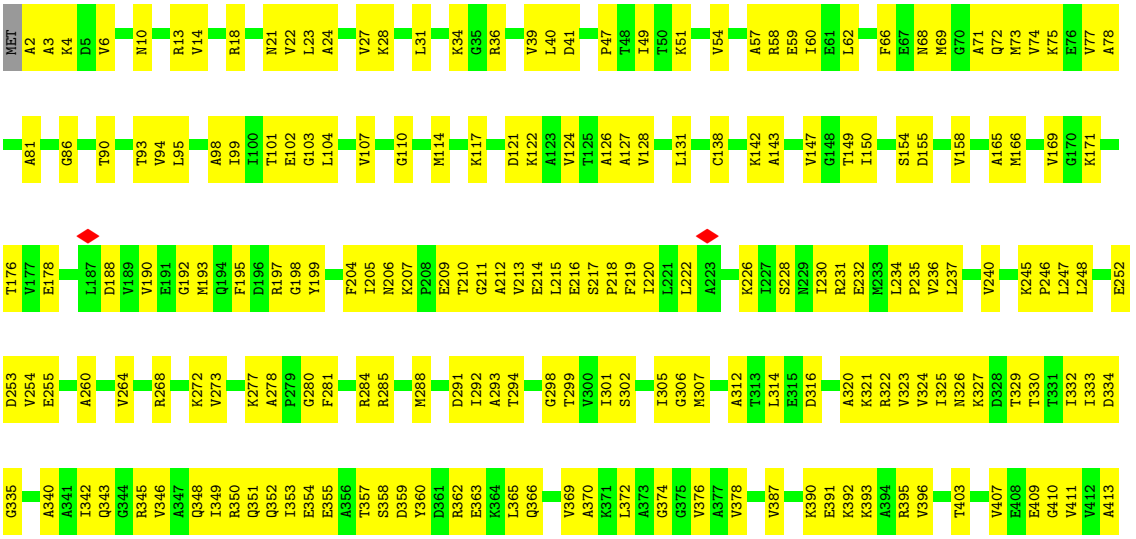
• Molecule 2: Chaperonin GroEL

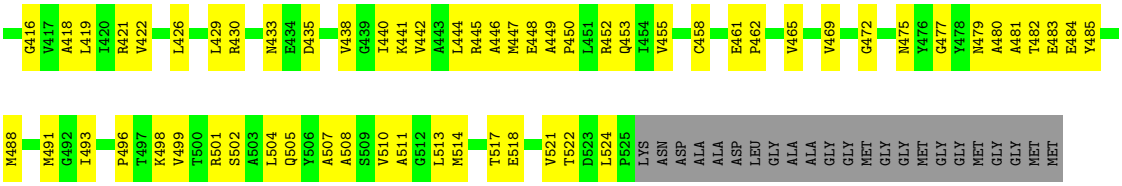
Chain F:



• Molecule 2: Chaperonin GroEL

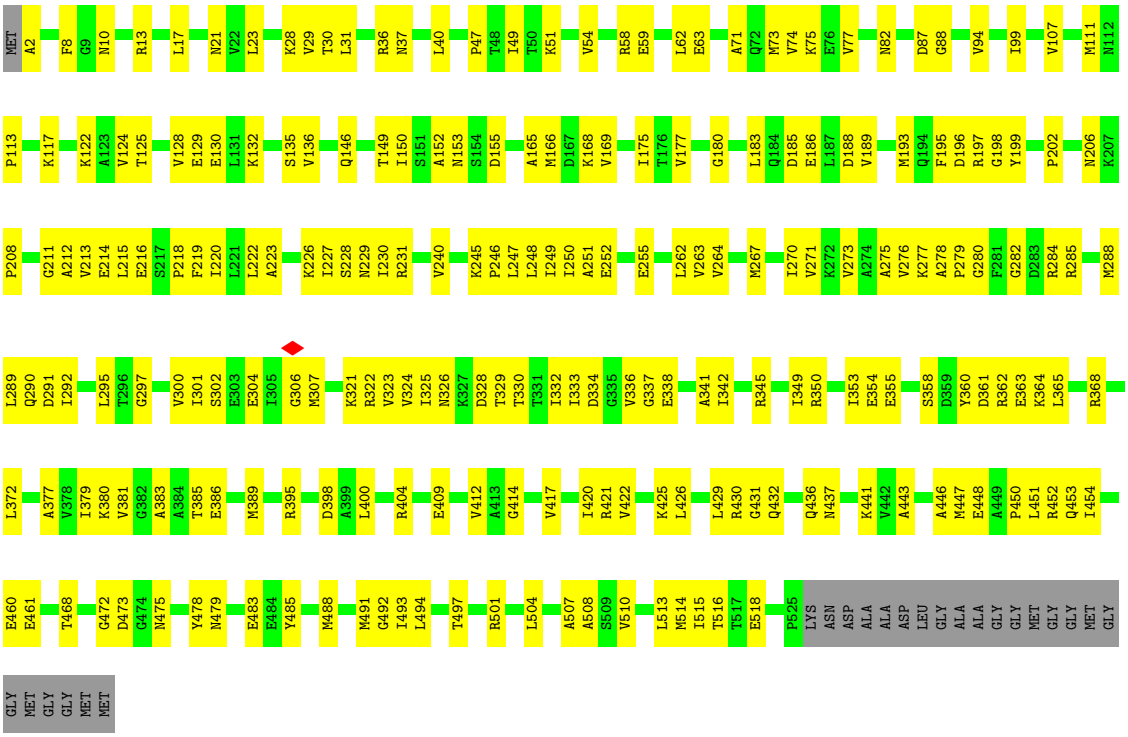
Chain G:





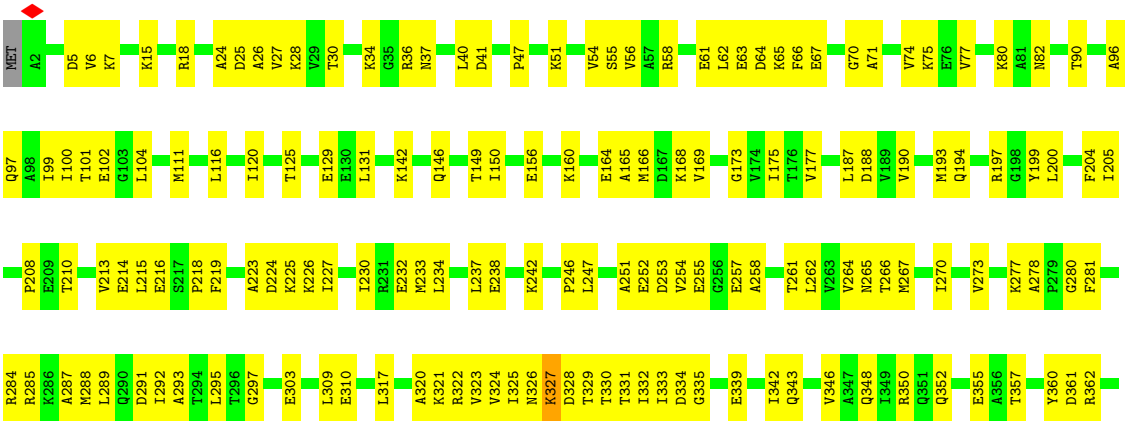
• Molecule 2: Chaperonin GroEL

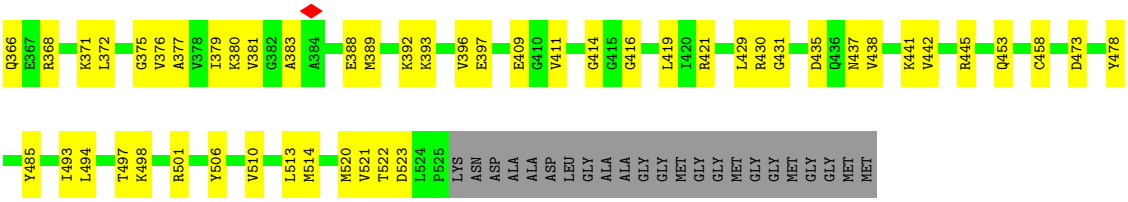
Chain H:



• Molecule 2: Chaperonin GroEL

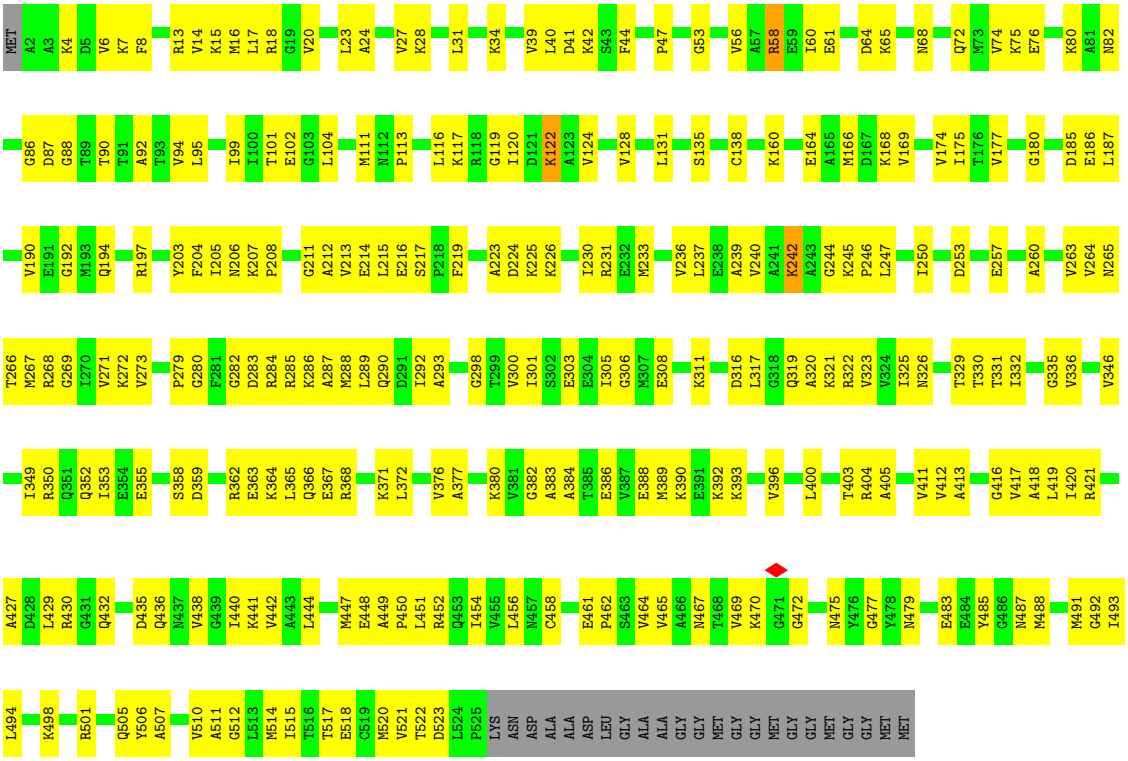
Chain I:





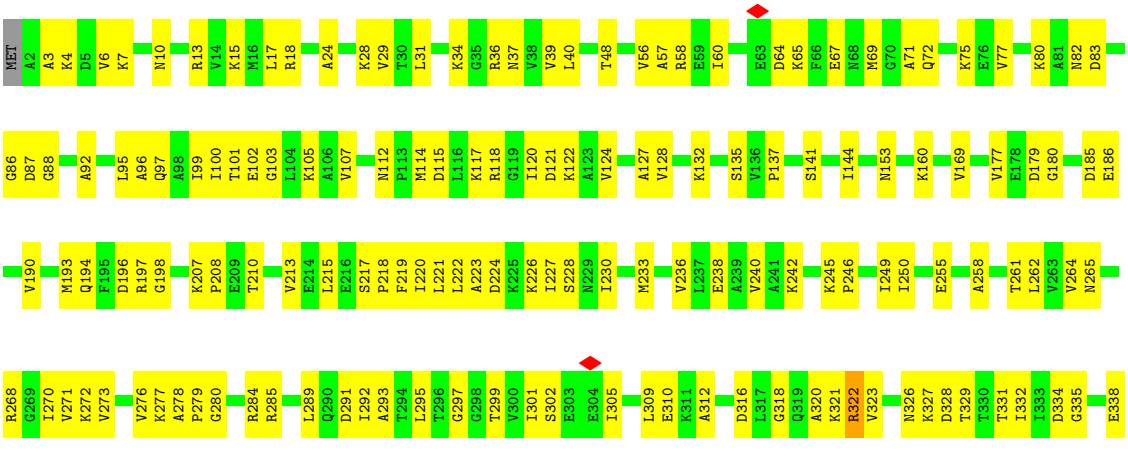
• Molecule 2: Chaperonin GroEL

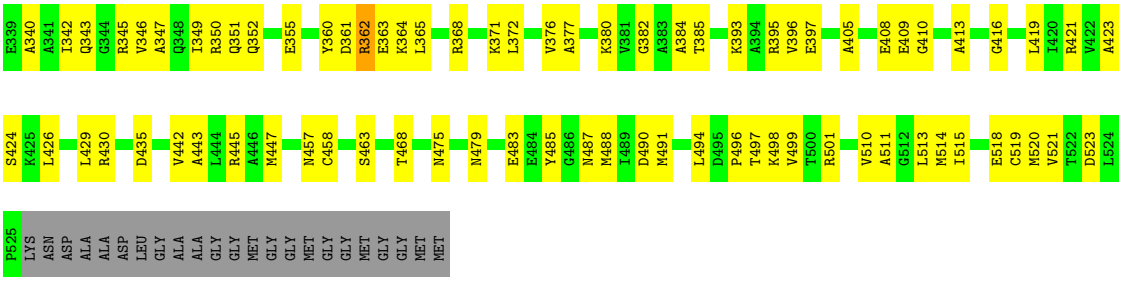
Chain J:



• Molecule 2: Chaperonin GroEL

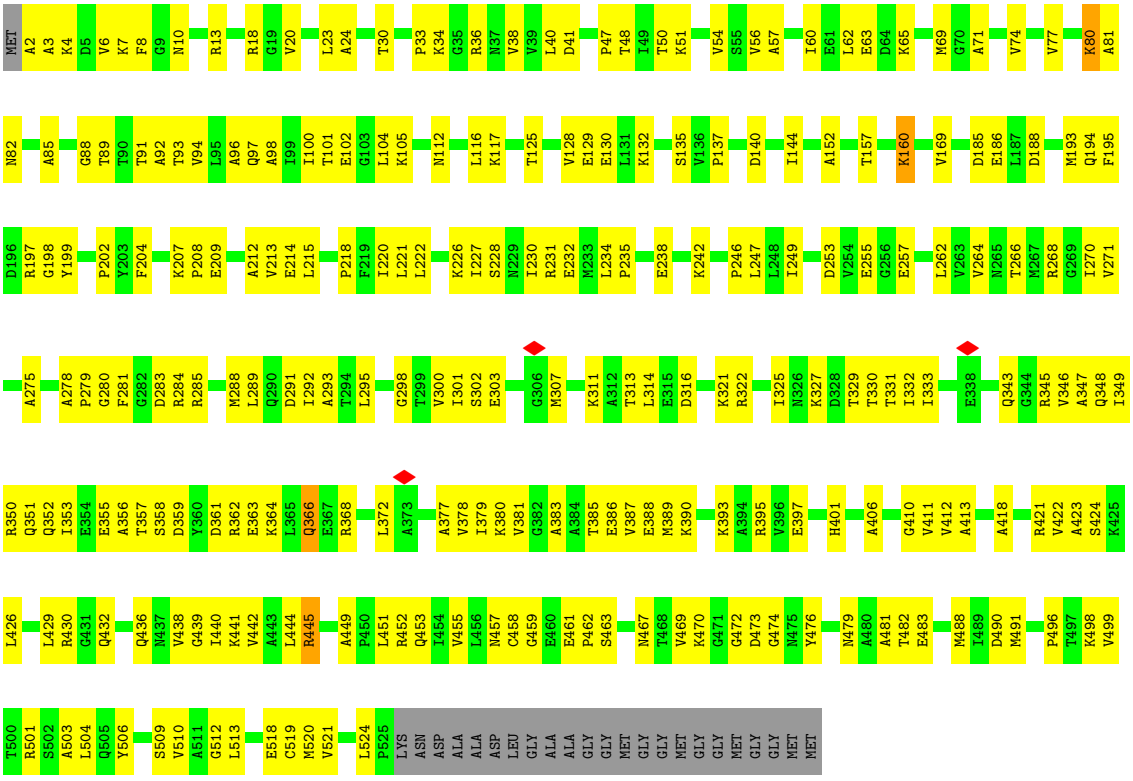
Chain K:





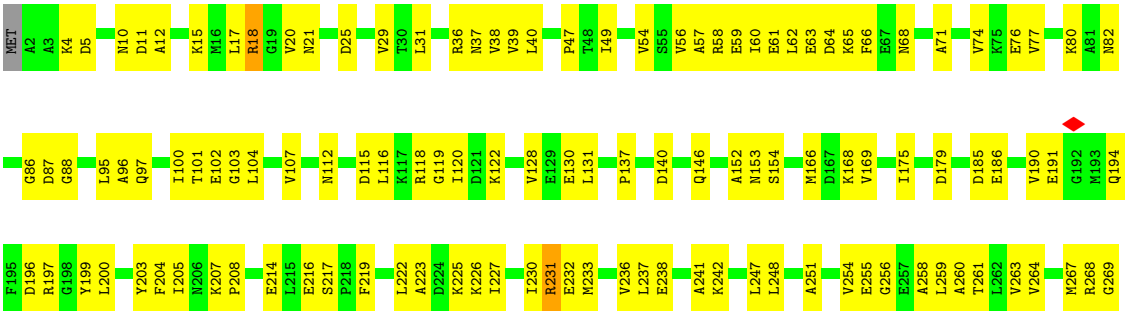
• Molecule 2: Chaperonin GroEL

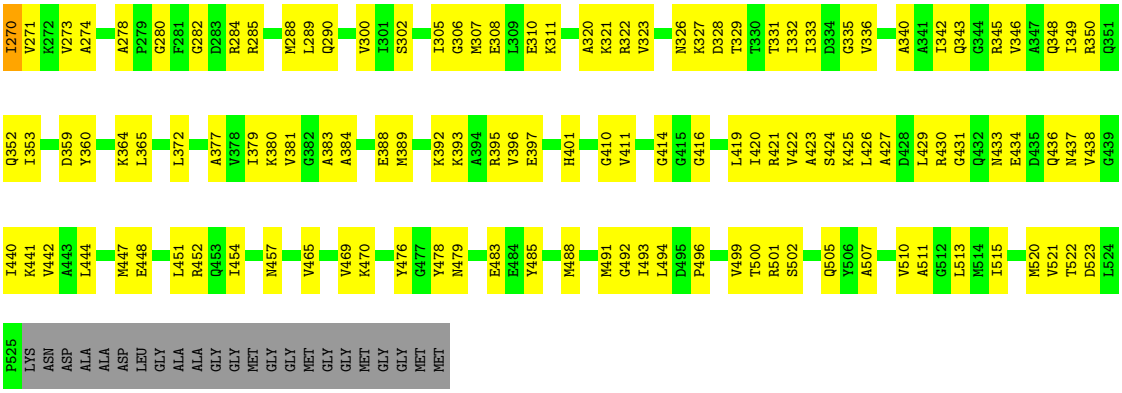
Chain L:



• Molecule 2: Chaperonin GroEL

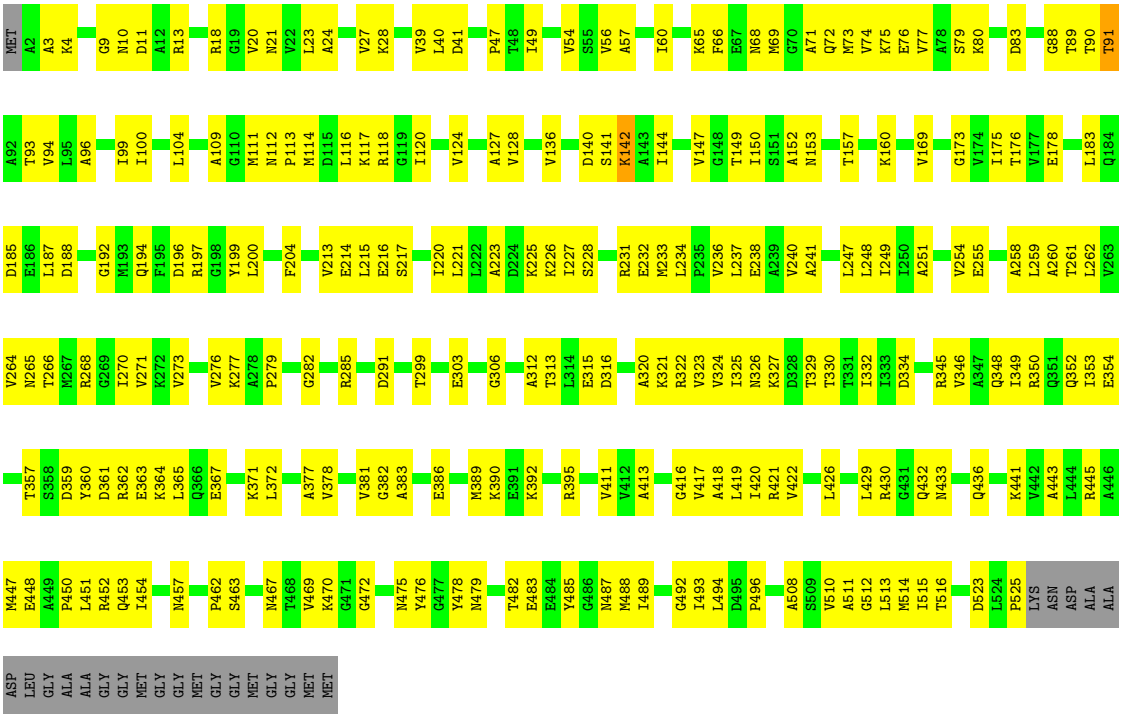
Chain M:





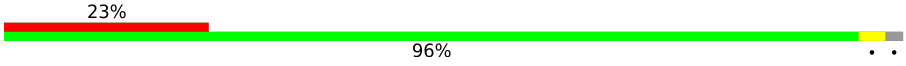
• Molecule 2: Chaperonin GroEL

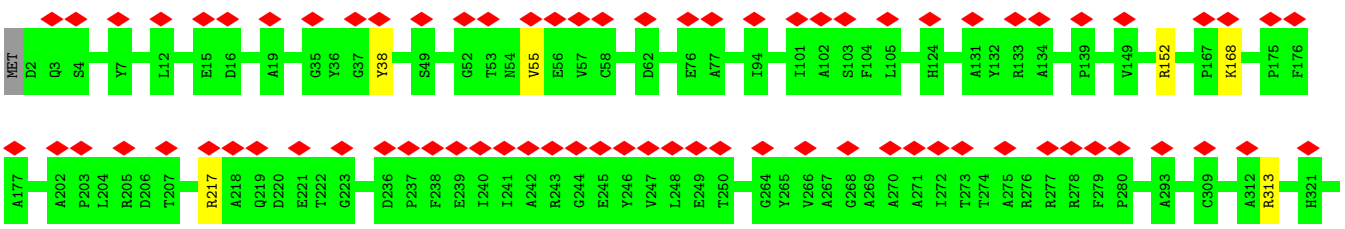
Chain N:

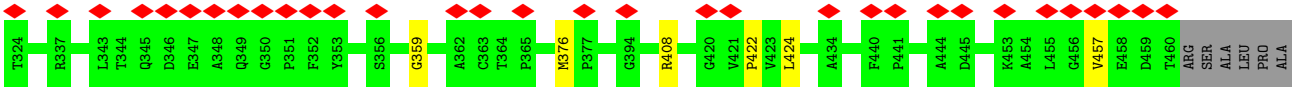


• Molecule 3: Ribulose bisphosphate carboxylase

Chain a:






T324
R337
L343
T344
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A444
D445
K453
A454
L455
G456
V457
E458
D459
T460
ARG
SER
ALA
LEU
PRO
ALA

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	35230	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	JEOL 3200FSC	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.0	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	DIRECT ELECTRON DE-20 (5k x 3k)	Depositor
Maximum map value	3.769	Depositor
Minimum map value	-1.623	Depositor
Average map value	0.015	Depositor
Map value standard deviation	0.204	Depositor
Recommended contour level	0.663	Depositor
Map size (Å)	394.0, 394.0, 394.0	wwPDB
Map dimensions	200, 200, 200	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.97, 1.97, 1.97	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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	1	0.35	1/731 (0.1%)	0.59	0/983
1	2	0.30	0/731	0.57	0/983
1	O	0.33	0/715	0.60	0/962
1	P	0.27	0/731	0.59	0/983
1	Q	0.32	0/723	0.65	0/973
1	R	0.28	0/731	0.59	0/983
1	S	0.29	0/723	0.58	0/973
1	T	0.29	0/731	0.56	0/983
1	U	0.27	0/731	0.60	0/983
1	V	0.29	0/731	0.62	0/983
1	W	0.30	0/731	0.57	0/983
1	X	0.27	0/731	0.60	0/983
1	Y	0.26	0/726	0.62	0/976
1	Z	0.27	0/717	0.56	0/964
2	A	0.26	0/3883	0.53	0/5243
2	B	0.27	0/3883	0.52	0/5243
2	C	0.27	0/3883	0.52	0/5243
2	D	0.28	0/3883	0.53	0/5243
2	E	0.27	0/3883	0.52	0/5243
2	F	0.27	0/3883	0.52	0/5243
2	G	0.28	0/3883	0.54	0/5243
2	H	0.28	0/3883	0.51	0/5243
2	I	0.28	0/3883	0.52	0/5243
2	J	0.28	0/3883	0.53	0/5243
2	K	0.26	0/3883	0.51	0/5243
2	L	0.29	0/3883	0.55	0/5243
2	M	0.28	0/3883	0.54	0/5243
2	N	0.28	0/3883	0.52	0/5243
3	a	0.31	1/3586 (0.0%)	0.58	0/4859
All	All	0.28	2/68131 (0.0%)	0.54	0/91956

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	5	PRO	C-N	5.81	1.47	1.34
3	a	376	MET	C-N	-5.68	1.23	1.34

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	727	0	762	32	0
1	2	727	0	762	55	0
1	O	711	0	744	43	0
1	P	727	0	762	40	0
1	Q	719	0	750	52	0
1	R	727	0	762	41	0
1	S	719	0	750	51	0
1	T	727	0	762	29	0
1	U	727	0	762	38	0
1	V	727	0	762	36	0
1	W	727	0	762	45	0
1	X	727	0	762	53	0
1	Y	722	0	757	47	0
1	Z	713	0	751	53	0
2	A	3855	0	3976	176	0
2	B	3855	0	3976	175	0
2	C	3855	0	3976	181	0
2	D	3855	0	3976	205	0
2	E	3855	0	3976	197	0
2	F	3855	0	3976	190	0
2	G	3855	0	3976	203	0
2	H	3855	0	3976	196	0
2	I	3855	0	3976	168	0
2	J	3855	0	3976	215	0
2	K	3855	0	3976	174	0
2	L	3855	0	3976	231	0
2	M	3855	0	3976	200	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	N	3855	0	3976	207	0
3	a	3502	0	3380	0	0
All	All	67599	0	69654	3173	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All (3173) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:27:VAL:CG1	2:N:90:THR:HG23	1.50	1.42
1:S:14:ARG:NH1	1:S:67:PHE:HE1	1.34	1.23
2:L:349:ILE:O	2:L:353:ILE:HG13	1.36	1.23
2:N:27:VAL:HG13	2:N:90:THR:CG2	1.69	1.21
1:Q:36:THR:HG23	1:Q:66:ILE:HG13	1.19	1.17
2:H:54:VAL:HG22	2:H:58:ARG:HH11	1.02	1.14
2:L:350:ARG:HA	2:L:353:ILE:HB	1.30	1.13
2:L:349:ILE:HG22	2:L:353:ILE:CD1	1.78	1.12
2:L:350:ARG:CA	2:L:353:ILE:HD12	1.79	1.12
1:S:14:ARG:NE	1:S:84:LEU:HD22	1.64	1.11
2:L:358:SER:HA	2:L:362:ARG:HH21	1.02	1.11
2:G:192:GLY:HA3	2:G:332:ILE:O	1.50	1.10
1:2:60:LYS:HE2	1:2:63:ASP:OD2	1.50	1.10
1:V:37:ARG:HD3	1:V:66:ILE:HG12	1.29	1.09
2:N:417:VAL:HG23	2:N:420:ILE:HD11	1.34	1.09
1:Z:7:HIS:CE1	1:Z:48:ILE:HG22	1.88	1.08
2:F:212:ALA:HA	2:F:325:ILE:O	1.53	1.06
2:J:264:VAL:HG11	1:X:27:LEU:CD2	1.85	1.06
2:N:27:VAL:CG1	2:N:90:THR:CG2	2.26	1.06
1:Z:7:HIS:HE1	1:Z:48:ILE:HG22	1.20	1.06
1:S:14:ARG:NH1	1:S:67:PHE:CE1	2.24	1.05
1:S:14:ARG:HE	1:S:84:LEU:HD22	0.90	1.05
2:L:358:SER:HA	2:L:362:ARG:NH2	1.71	1.04
1:S:14:ARG:HH12	1:S:67:PHE:HE1	1.06	1.02
2:H:212:ALA:HA	2:H:325:ILE:O	1.59	1.02
1:S:14:ARG:HE	1:S:84:LEU:CD2	1.71	1.01
1:P:60:LYS:HD2	1:P:61:VAL:H	1.21	1.01
2:C:192:GLY:HA3	2:C:332:ILE:O	1.58	1.01
2:L:349:ILE:CG2	2:L:353:ILE:HD11	1.90	1.01
2:L:349:ILE:HG22	2:L:353:ILE:HD11	1.01	1.00
2:I:270:ILE:HG23	1:W:25:ILE:HD13	1.43	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:36:THR:HG23	1:Q:66:ILE:CG1	1.93	0.98
2:H:54:VAL:HG22	2:H:58:ARG:NH1	1.79	0.97
2:L:358:SER:CA	2:L:362:ARG:HH21	1.76	0.97
1:V:37:ARG:CD	1:V:66:ILE:HG12	1.94	0.97
2:H:54:VAL:CG2	2:H:58:ARG:HH11	1.78	0.96
1:O:7:HIS:CD2	1:O:48:ILE:HD11	2.01	0.95
2:G:127:ALA:HA	2:G:426:LEU:HD11	1.46	0.94
2:L:350:ARG:HA	2:L:353:ILE:CB	1.96	0.94
2:L:347:ALA:O	2:L:351:GLN:HG3	1.65	0.94
2:M:305:ILE:HG22	2:M:306:GLY:H	1.33	0.93
2:L:98:ALA:HB2	2:L:452:ARG:HH22	1.33	0.93
2:L:350:ARG:N	2:L:353:ILE:HD12	1.83	0.93
2:M:185:ASP:HA	2:M:380:LYS:O	1.70	0.91
1:Q:36:THR:CG2	1:Q:66:ILE:HG13	1.99	0.91
2:J:216:GLU:OE1	2:J:322:ARG:HG2	1.71	0.91
2:L:350:ARG:HA	2:L:353:ILE:HD12	1.49	0.91
2:J:264:VAL:HG11	1:X:27:LEU:HD23	1.54	0.90
2:N:417:VAL:O	2:N:421:ARG:HG2	1.71	0.90
1:V:15:LYS:HE3	1:V:64:ILE:HD13	1.54	0.89
1:2:40:VAL:HG12	1:2:61:VAL:HG22	1.52	0.89
2:L:358:SER:H	2:L:362:ARG:HE	1.19	0.89
2:G:127:ALA:CA	2:G:426:LEU:HD11	2.02	0.88
1:X:11:ILE:HD11	1:X:83:VAL:HB	1.57	0.86
2:I:257:GLU:O	2:I:261:THR:HG22	1.75	0.86
2:L:349:ILE:C	2:L:353:ILE:HG13	1.96	0.86
2:A:186:GLU:HB3	2:A:380:LYS:HB2	1.59	0.85
2:L:350:ARG:HA	2:L:353:ILE:CG1	2.06	0.85
2:L:350:ARG:HA	2:L:353:ILE:CD1	2.04	0.85
2:N:99:ILE:HD12	2:N:511:ALA:HB2	1.56	0.85
2:G:72:GLN:NE2	2:G:73:MET:SD	2.48	0.85
2:E:304:GLU:HG3	2:F:260:ALA:HB2	1.58	0.85
2:J:280:GLY:H	2:J:285:ARG:HD3	1.41	0.85
1:O:7:HIS:NE2	1:O:48:ILE:HD11	1.92	0.85
2:M:305:ILE:HG22	2:M:306:GLY:N	1.91	0.84
2:I:258:ALA:O	2:I:262:LEU:HG	1.78	0.84
1:Z:7:HIS:CE1	1:Z:48:ILE:H	1.95	0.84
2:D:213:VAL:HB	2:D:325:ILE:O	1.78	0.84
2:G:358:SER:HA	2:G:362:ARG:HE	1.43	0.83
2:D:185:ASP:HA	2:D:380:LYS:O	1.78	0.83
2:A:10:ASN:HA	2:A:13:ARG:HB2	1.59	0.83
2:C:34:LYS:HD2	2:C:458:CYS:HA	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:233:MET:HB3	2:M:237:LEU:HD12	1.60	0.83
2:C:479:ASN:O	2:C:483:GLU:HA	1.78	0.83
2:I:54:VAL:HG11	2:I:82:ASN:HB2	1.60	0.82
1:T:6:LEU:HB3	1:T:9:ARG:HD2	1.62	0.82
2:E:225:LYS:HB2	2:E:303:GLU:HB3	1.61	0.82
2:J:416:GLY:HA2	2:J:419:LEU:HD13	1.62	0.82
2:N:417:VAL:HA	2:N:420:ILE:HG12	1.61	0.81
2:C:6:VAL:HG12	2:C:521:VAL:HG22	1.63	0.81
2:F:10:ASN:HA	2:F:13:ARG:HB2	1.60	0.81
1:O:7:HIS:CD2	1:O:48:ILE:CD1	2.64	0.81
1:Y:7:HIS:HA	1:Y:45:ASN:H	1.45	0.81
1:V:37:ARG:HD3	1:V:66:ILE:CG1	2.08	0.81
2:L:199:TYR:HB2	2:L:204:PHE:HD2	1.46	0.81
1:S:73:VAL:HA	1:S:85:ILE:O	1.81	0.81
2:A:323:VAL:HG12	2:A:332:ILE:HG12	1.61	0.81
2:J:197:ARG:HE	2:J:279:PRO:HA	1.45	0.81
1:R:15:LYS:HZ2	1:R:64:ILE:HG23	1.45	0.80
2:I:7:LYS:HB2	2:I:520:MET:HB3	1.63	0.80
2:J:326:ASN:HD21	2:J:329:THR:HB	1.47	0.80
2:L:93:THR:HG22	2:L:97:GLN:HE22	1.47	0.80
2:N:27:VAL:HG13	2:N:90:THR:HG23	0.84	0.80
2:M:20:VAL:HG12	2:M:97:GLN:OE1	1.82	0.80
2:C:4:LYS:HB2	2:D:62:LEU:HA	1.62	0.79
2:G:475:ASN:HB3	2:G:488:MET:H	1.46	0.79
2:L:6:VAL:HG12	2:L:521:VAL:HG22	1.61	0.79
2:G:212:ALA:HA	2:G:325:ILE:O	1.83	0.79
1:Q:37:ARG:HH11	1:Q:66:ILE:HB	1.48	0.78
2:I:510:VAL:O	2:I:514:MET:HG3	1.81	0.78
2:A:320:ALA:HA	2:A:335:GLY:HA2	1.65	0.78
2:H:28:LYS:HA	2:H:31:LEU:HD13	1.65	0.78
2:C:416:GLY:HA2	2:C:419:LEU:HD13	1.64	0.78
2:G:6:VAL:HG12	2:G:521:VAL:HG22	1.66	0.78
2:J:323:VAL:HG12	2:J:332:ILE:HG12	1.64	0.78
2:I:326:ASN:HD21	2:I:329:THR:HB	1.49	0.78
2:I:411:VAL:HG21	2:I:494:LEU:HD13	1.66	0.78
1:2:36:THR:OG1	1:2:37:ARG:NH2	2.17	0.78
2:B:321:LYS:HE2	2:B:334:ASP:HB3	1.66	0.78
2:G:325:ILE:HG12	2:G:330:THR:HG23	1.67	0.77
1:Z:7:HIS:HE1	1:Z:48:ILE:H	1.30	0.77
2:E:222:LEU:HD23	2:E:224:ASP:H	1.50	0.77
1:X:57:LEU:HD23	1:Y:6:LEU:HD21	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:208:PRO:HG2	2:I:214:GLU:HB2	1.66	0.77
1:2:60:LYS:CE	1:2:63:ASP:OD2	2.33	0.77
2:A:91:THR:HG23	2:A:450:PRO:HG3	1.65	0.77
2:G:54:VAL:HG23	2:G:78:ALA:HB1	1.66	0.77
2:G:40:LEU:HD11	2:G:59:GLU:HB2	1.66	0.77
2:J:260:ALA:O	2:J:264:VAL:HG23	1.85	0.77
2:N:90:THR:HA	2:N:93:THR:OG1	1.84	0.76
2:G:31:LEU:HB2	2:G:90:THR:HG21	1.68	0.76
1:X:13:LYS:HE3	1:X:39:GLU:HB3	1.67	0.76
2:L:363:GLU:HA	2:L:366:GLN:NE2	2.01	0.76
1:2:40:VAL:HG12	1:2:61:VAL:CG2	2.15	0.76
2:F:355:GLU:H	2:F:362:ARG:HH21	1.34	0.76
2:G:441:LYS:HB2	2:G:445:ARG:HH12	1.49	0.76
2:I:322:ARG:HB3	2:I:333:ILE:HB	1.66	0.76
2:J:282:GLY:HA2	2:J:285:ARG:HH21	1.50	0.76
1:Y:11:ILE:HG23	1:Y:41:LEU:HB2	1.67	0.76
2:B:416:GLY:HA2	2:B:419:LEU:HD13	1.66	0.76
2:F:321:LYS:HD2	2:F:334:ASP:HB3	1.68	0.76
2:K:207:LYS:HG3	2:K:208:PRO:HD3	1.67	0.76
1:Q:36:THR:CG2	1:Q:66:ILE:CG1	2.61	0.76
1:W:12:VAL:HG12	1:W:40:VAL:HA	1.68	0.76
2:B:208:PRO:HB2	2:B:212:ALA:HB3	1.68	0.76
2:L:479:ASN:O	2:L:483:GLU:HA	1.87	0.75
2:G:122:LYS:HE2	2:G:429:LEU:HD11	1.68	0.75
2:N:227:ILE:HG23	2:N:231:ARG:HG2	1.67	0.75
2:E:205:ILE:HG23	2:E:211:GLY:HA2	1.68	0.75
2:M:305:ILE:CG2	2:M:306:GLY:H	1.98	0.75
1:Z:8:ASP:HB3	1:Z:47:ARG:HD3	1.69	0.75
2:M:236:VAL:HG21	2:M:310:GLU:HA	1.69	0.75
2:E:479:ASN:O	2:E:483:GLU:HA	1.86	0.75
1:Y:25:ILE:O	1:Y:26:VAL:HG12	1.86	0.75
2:N:227:ILE:HB	2:N:254:VAL:HG22	1.66	0.75
2:J:217:SER:OG	2:J:319:GLN:NE2	2.20	0.74
2:A:227:ILE:HG23	2:A:230:ILE:HB	1.69	0.74
2:B:31:LEU:HD22	2:B:94:VAL:HG21	1.69	0.74
2:B:120:ILE:HG12	2:B:443:ALA:HB2	1.68	0.74
2:E:190:VAL:O	2:E:376:VAL:HB	1.88	0.74
1:O:15:LYS:HE2	1:O:37:ARG:HB2	1.68	0.74
2:A:355:GLU:H	2:A:362:ARG:HH21	1.36	0.74
1:V:37:ARG:CG	1:V:66:ILE:HG12	2.16	0.74
2:L:40:LEU:HD21	2:L:56:VAL:HG22	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:172:GLU:OE1	2:C:350:ARG:NH2	2.21	0.74
2:H:36:ARG:HH21	2:N:516:THR:HA	1.52	0.74
2:B:199:TYR:HB2	2:B:204:PHE:HD2	1.51	0.74
1:Q:92:LEU:HD11	1:R:85:ILE:HD12	1.69	0.74
2:M:39:VAL:HG22	2:M:49:ILE:HG12	1.70	0.74
2:F:197:ARG:HD3	2:F:277:LYS:HZ2	1.52	0.74
2:H:214:GLU:HB3	2:H:322:ARG:HE	1.52	0.73
2:I:205:ILE:HA	2:I:213:VAL:HG22	1.69	0.73
2:L:197:ARG:HE	2:L:279:PRO:HA	1.51	0.73
2:C:147:VAL:HB	2:C:494:LEU:HD21	1.69	0.73
2:H:518:GLU:HB2	2:I:36:ARG:HD2	1.70	0.73
2:D:265:ASN:HA	2:D:270:ILE:HD12	1.70	0.73
2:M:302:SER:OG	2:M:307:MET:SD	2.47	0.73
2:A:51:LYS:NZ	2:A:87:ASP:OD1	2.21	0.73
2:J:421:ARG:NH2	2:J:472:GLY:O	2.21	0.73
2:N:214:GLU:HG2	2:N:324:VAL:HG22	1.70	0.73
1:W:53:GLU:HG2	1:W:54:VAL:H	1.53	0.73
2:A:339:GLU:O	2:A:343:GLN:NE2	2.21	0.73
2:B:238:GLU:HG2	1:P:26:VAL:HG21	1.69	0.73
2:M:130:GLU:HG2	2:M:426:LEU:HD11	1.70	0.73
2:C:199:TYR:O	2:C:327:LYS:NZ	2.22	0.73
1:X:53:GLU:CD	1:X:54:VAL:H	1.91	0.73
2:L:350:ARG:N	2:L:353:ILE:CD1	2.52	0.73
2:A:40:LEU:O	2:A:47:PRO:HA	1.88	0.73
2:I:234:LEU:HD23	1:W:22:ALA:HB2	1.70	0.73
2:N:221:LEU:HB3	2:N:249:ILE:HG13	1.70	0.73
2:E:193:MET:HB2	2:E:332:ILE:HB	1.69	0.72
1:Z:39:GLU:HA	1:Z:64:ILE:HA	1.71	0.72
2:B:362:ARG:O	2:B:366:GLN:NE2	2.22	0.72
2:J:135:SER:HA	2:J:412:VAL:HG12	1.70	0.72
1:2:47:ARG:HH21	1:2:48:ILE:HG22	1.52	0.72
2:H:448:GLU:OE1	2:H:452:ARG:NH2	2.22	0.72
2:J:518:GLU:HB2	2:K:36:ARG:HG2	1.70	0.72
2:L:350:ARG:CA	2:L:353:ILE:CD1	2.61	0.72
2:G:302:SER:HB2	2:G:305:ILE:HG13	1.71	0.72
2:L:349:ILE:HG22	2:L:353:ILE:CG1	2.20	0.72
2:G:479:ASN:O	2:G:483:GLU:HA	1.90	0.72
2:J:427:ALA:O	2:J:441:LYS:NZ	2.22	0.72
2:N:192:GLY:HA3	2:N:332:ILE:O	1.90	0.72
2:A:397:GLU:O	2:A:401:HIS:ND1	2.22	0.72
2:L:169:VAL:HG11	2:L:377:ALA:HB2	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:37:ARG:HG2	1:P:66:ILE:HG12	1.72	0.72
2:F:360:TYR:O	2:F:364:LYS:NZ	2.22	0.71
2:G:14:VAL:HG13	2:G:18:ARG:HH12	1.52	0.71
2:L:358:SER:N	2:L:362:ARG:HE	1.86	0.71
2:D:24:ALA:HA	2:D:28:LYS:HE3	1.72	0.71
2:L:221:LEU:HD11	2:L:249:ILE:HG23	1.71	0.71
1:O:37:ARG:HG2	1:O:66:ILE:HG12	1.72	0.71
2:F:205:ILE:HG23	2:F:211:GLY:HA2	1.71	0.71
2:L:98:ALA:HB2	2:L:452:ARG:NH2	2.04	0.71
2:A:326:ASN:HD21	2:A:329:THR:HB	1.54	0.71
2:D:40:LEU:HB3	2:D:59:GLU:HG3	1.70	0.71
2:J:386:GLU:HG2	2:J:390:LYS:HE2	1.70	0.71
1:V:4:ARG:NH1	1:V:5:PRO:O	2.23	0.71
2:J:501:ARG:O	2:J:505:GLN:NE2	2.24	0.71
1:P:95:VAL:HG22	1:Q:3:ILE:HG12	1.73	0.71
2:B:220:ILE:HG23	2:B:248:LEU:HD22	1.73	0.71
2:G:124:VAL:HG21	2:G:508:ALA:HB2	1.72	0.71
2:G:421:ARG:NH1	2:G:469:VAL:O	2.23	0.71
2:N:291:ASP:OD1	2:N:345:ARG:NH2	2.21	0.71
2:D:479:ASN:HD22	2:D:493:ILE:HD11	1.55	0.71
2:N:152:ALA:O	2:N:395:ARG:NH1	2.23	0.71
2:F:326:ASN:HD21	2:F:329:THR:HB	1.56	0.71
2:I:214:GLU:HB3	2:I:322:ARG:HH12	1.55	0.71
2:G:326:ASN:HD21	2:G:329:THR:HB	1.56	0.71
2:J:264:VAL:HG11	1:X:27:LEU:HD21	1.71	0.71
2:B:34:LYS:HA	2:B:36:ARG:HH21	1.54	0.70
2:C:427:ALA:O	2:C:441:LYS:NZ	2.24	0.70
2:E:227:ILE:HG23	2:E:230:ILE:HB	1.72	0.70
2:E:349:ILE:HG12	2:E:368:ARG:HH11	1.56	0.70
2:J:224:ASP:HB2	2:J:303:GLU:HB3	1.71	0.70
2:J:421:ARG:NH2	2:J:469:VAL:O	2.23	0.70
2:F:215:LEU:HD21	2:F:246:PRO:HB2	1.71	0.70
2:F:222:LEU:HD22	2:F:300:VAL:HA	1.73	0.70
2:I:233:MET:HG2	2:I:237:LEU:HG	1.71	0.70
2:N:265:ASN:HA	2:N:268:ARG:HG2	1.74	0.70
1:Q:74:LYS:HE3	1:Q:85:ILE:HD11	1.71	0.70
1:V:89:SER:HA	1:W:7:HIS:HE1	1.56	0.70
1:Z:8:ASP:O	1:Z:10:VAL:HG13	1.91	0.70
2:B:152:ALA:O	2:B:395:ARG:NH1	2.23	0.70
2:H:295:LEU:HD13	2:H:342:ILE:HD11	1.71	0.70
2:D:222:LEU:HD22	2:D:300:VAL:HA	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:235:PRO:HG3	2:D:311:LYS:HD2	1.74	0.70
2:K:4:LYS:HG2	2:L:63:GLU:HG2	1.74	0.70
1:1:65:VAL:HG12	1:1:94:ILE:HG23	1.72	0.70
2:C:479:ASN:O	2:C:483:GLU:CA	2.39	0.70
1:P:7:HIS:HB3	1:P:47:ARG:HG3	1.73	0.70
2:L:363:GLU:HA	2:L:366:GLN:HE22	1.54	0.70
2:N:197:ARG:HH21	2:N:277:LYS:HB3	1.56	0.70
2:C:152:ALA:O	2:C:395:ARG:NH1	2.25	0.70
2:D:39:VAL:HG22	2:D:49:ILE:HD13	1.72	0.70
2:D:353:ILE:O	2:D:362:ARG:NH1	2.24	0.70
2:E:194:GLN:O	2:E:371:LYS:NZ	2.24	0.70
2:G:416:GLY:HA2	2:G:419:LEU:HD12	1.72	0.70
2:H:421:ARG:NH1	2:H:472:GLY:O	2.25	0.70
2:N:231:ARG:HD2	2:N:232:GLU:N	2.06	0.70
2:L:93:THR:O	2:L:97:GLN:NE2	2.24	0.70
2:M:397:GLU:O	2:M:401:HIS:ND1	2.25	0.70
2:B:12:ALA:HA	2:B:15:LYS:HE2	1.71	0.69
2:L:10:ASN:HA	2:L:13:ARG:HB2	1.74	0.69
2:A:195:PHE:HB2	2:A:330:THR:HB	1.73	0.69
2:G:281:PHE:H	2:G:284:ARG:HH11	1.40	0.69
2:C:122:LYS:NZ	2:C:430:ARG:O	2.23	0.69
2:L:231:ARG:HH11	2:L:257:GLU:HG2	1.57	0.69
1:V:14:ARG:HH22	1:V:34:LYS:HB2	1.55	0.69
1:X:6:LEU:HA	1:X:45:ASN:H	1.56	0.69
2:L:350:ARG:CA	2:L:353:ILE:HB	2.15	0.69
2:N:157:THR:HA	2:N:160:LYS:HE3	1.74	0.69
1:V:37:ARG:HG2	1:V:66:ILE:HG12	1.73	0.69
2:F:197:ARG:HE	2:F:279:PRO:HA	1.58	0.69
2:H:355:GLU:O	2:H:362:ARG:NH2	2.24	0.69
1:W:14:ARG:NH1	1:W:16:GLU:OE2	2.25	0.69
1:W:78:ILE:HG13	1:W:79:ASP:H	1.58	0.69
2:H:36:ARG:NH1	2:N:114:MET:SD	2.66	0.69
2:J:421:ARG:HH12	2:J:470:LYS:HA	1.57	0.69
1:Z:15:LYS:HD3	1:Z:37:ARG:HB2	1.74	0.69
2:A:155:ASP:OD2	2:A:395:ARG:NH1	2.26	0.69
1:1:71:TYR:O	1:1:74:LYS:NZ	2.26	0.69
2:C:42:LYS:HD2	2:C:45:GLY:H	1.56	0.69
2:G:234:LEU:HA	2:G:237:LEU:HB3	1.73	0.69
2:I:199:TYR:HB2	2:I:204:PHE:HD2	1.58	0.69
2:N:147:VAL:HA	2:N:150:ILE:HD12	1.74	0.69
2:C:208:PRO:HB2	2:C:212:ALA:HB3	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:180:GLY:O	2:E:383:ALA:N	2.25	0.69
2:E:221:LEU:H	2:E:249:ILE:HG23	1.58	0.69
2:I:215:LEU:HD13	2:I:246:PRO:HB2	1.75	0.69
2:J:290:GLN:HG2	2:J:300:VAL:HG13	1.75	0.69
2:K:222:LEU:HD23	2:K:289:LEU:HD22	1.75	0.69
2:K:475:ASN:O	2:K:488:MET:N	2.21	0.69
2:C:6:VAL:HG13	2:D:62:LEU:HD21	1.74	0.69
2:I:34:LYS:HD2	2:I:458:CYS:HA	1.75	0.69
2:M:302:SER:OG	2:M:305:ILE:HB	1.93	0.69
2:D:280:GLY:O	2:D:285:ARG:NH1	2.26	0.68
2:K:221:LEU:HD11	2:K:249:ILE:HG23	1.75	0.68
2:A:68:ASN:O	2:A:72:GLN:NE2	2.26	0.68
2:D:157:THR:HA	2:D:160:LYS:HE3	1.73	0.68
2:M:225:LYS:NZ	2:M:226:LYS:O	2.26	0.68
2:J:6:VAL:HA	2:J:520:MET:O	1.93	0.68
1:P:43:VAL:HB	1:P:57:LEU:HD12	1.75	0.68
1:Y:7:HIS:O	1:Y:9:ARG:NH1	2.27	0.68
2:B:405:ALA:O	2:B:498:LYS:NZ	2.27	0.68
2:C:305:ILE:HG22	2:C:306:GLY:H	1.58	0.68
2:M:17:LEU:HD13	2:M:104:LEU:HD21	1.76	0.68
2:N:27:VAL:HG11	2:N:90:THR:HG23	1.68	0.68
2:E:516:THR:HB	2:F:37:ASN:H	1.59	0.68
2:J:349:ILE:HG13	2:J:365:LEU:HD21	1.76	0.68
2:N:88:GLY:HA2	2:N:91:THR:HG23	1.76	0.68
2:K:112:ASN:HB3	2:K:115:ASP:HB2	1.75	0.68
2:N:261:THR:O	2:N:265:ASN:ND2	2.26	0.68
2:G:195:PHE:HD2	2:G:197:ARG:HG2	1.58	0.68
2:I:327:LYS:HD2	2:I:328:ASP:HB2	1.76	0.68
2:N:40:LEU:HD21	2:N:56:VAL:HG22	1.76	0.68
2:G:351:GLN:NE2	2:G:354:GLU:OE2	2.27	0.68
1:1:9:ARG:NH2	1:Z:88:GLU:O	2.27	0.68
2:F:206:ASN:HB2	2:F:213:VAL:HG22	1.75	0.68
2:J:518:GLU:OE1	2:K:36:ARG:NH1	2.26	0.68
2:N:348:GLN:OE1	2:N:352:GLN:NE2	2.27	0.68
2:H:124:VAL:HG21	2:H:508:ALA:HB2	1.76	0.67
2:H:282:GLY:HA2	2:H:285:ARG:HH21	1.57	0.67
2:K:305:ILE:HG23	2:L:264:VAL:HG22	1.77	0.67
2:L:349:ILE:O	2:L:353:ILE:CG1	2.29	0.67
1:R:11:ILE:HD11	1:R:83:VAL:HG13	1.76	0.67
1:V:4:ARG:NH1	1:V:43:VAL:O	2.26	0.67
2:H:31:LEU:HD21	2:H:94:VAL:HG21	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:25:ILE:HG13	1:Q:26:VAL:HG23	1.76	0.67
2:C:207:LYS:HG3	2:C:208:PRO:HD3	1.76	0.67
2:E:479:ASN:O	2:E:483:GLU:CA	2.42	0.67
2:J:219:PHE:HB3	2:J:317:LEU:HB3	1.76	0.67
2:F:122:LYS:NZ	2:F:430:ARG:O	2.24	0.67
2:L:231:ARG:HE	1:Z:29:GLY:HA3	1.60	0.67
1:X:7:HIS:ND1	1:X:46:GLY:O	2.27	0.67
2:J:194:GLN:HE21	2:J:329:THR:HG23	1.58	0.67
1:R:89:SER:O	1:S:9:ARG:NH1	2.26	0.67
2:L:413:ALA:HB3	2:L:418:ALA:HB2	1.77	0.67
1:O:8:ASP:O	1:O:10:VAL:HG13	1.95	0.67
1:S:21:SER:HA	1:S:27:LEU:HA	1.75	0.67
2:A:349:ILE:HG21	2:A:369:VAL:HG21	1.75	0.67
2:B:39:VAL:HG22	2:B:49:ILE:HG12	1.77	0.67
2:F:221:LEU:HD22	2:F:249:ILE:HG12	1.75	0.67
2:H:295:LEU:HD12	2:H:337:GLY:HA3	1.76	0.67
2:J:416:GLY:HA3	2:J:451:LEU:HD11	1.75	0.67
2:L:34:LYS:HD2	2:L:458:CYS:HA	1.75	0.67
2:B:348:GLN:OE1	2:B:352:GLN:NE2	2.28	0.67
2:K:270:ILE:HG22	2:K:271:VAL:HG13	1.75	0.67
2:A:39:VAL:HG22	2:A:49:ILE:HG12	1.77	0.67
2:E:313:THR:H	2:E:316:ASP:HB2	1.59	0.67
2:M:231:ARG:NH1	2:M:232:GLU:OE1	2.28	0.67
1:S:20:LYS:HE2	1:S:31:ALA:HB3	1.76	0.67
2:F:130:GLU:HG3	2:F:426:LEU:HD11	1.77	0.67
2:G:498:LYS:HG3	2:G:501:ARG:HE	1.58	0.67
2:I:281:PHE:HB2	2:I:284:ARG:HG2	1.77	0.67
2:L:429:LEU:HG	2:L:440:ILE:HD13	1.76	0.67
2:F:421:ARG:NH1	2:F:472:GLY:O	2.28	0.66
2:G:479:ASN:O	2:G:483:GLU:CA	2.43	0.66
1:U:14:ARG:HH11	1:U:84:LEU:HG	1.60	0.66
1:Y:12:VAL:HG12	1:Y:40:VAL:HA	1.77	0.66
2:N:185:ASP:OD1	2:N:382:GLY:N	2.28	0.66
1:V:14:ARG:NH2	1:V:34:LYS:HB2	2.10	0.66
1:1:73:VAL:HB	1:1:84:LEU:HD23	1.78	0.66
2:C:349:ILE:HD13	2:C:368:ARG:HH11	1.59	0.66
2:F:248:LEU:HA	2:F:274:ALA:HB3	1.77	0.66
2:K:190:VAL:HB	2:K:376:VAL:HB	1.77	0.66
2:N:417:VAL:HA	2:N:420:ILE:CD1	2.25	0.66
2:N:417:VAL:HA	2:N:420:ILE:CG1	2.25	0.66
1:Q:67:PHE:HB3	1:Q:91:ILE:HD12	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:88:GLU:HA	1:Q:91:ILE:HG22	1.75	0.66
1:R:37:ARG:HG2	1:R:66:ILE:HG12	1.76	0.66
1:S:65:VAL:HG12	1:S:94:ILE:HG22	1.77	0.66
1:X:37:ARG:HG2	1:X:66:ILE:HG12	1.77	0.66
2:L:194:GLN:HB2	2:L:331:THR:HG23	1.78	0.66
2:M:40:LEU:O	2:M:47:PRO:HA	1.96	0.66
2:F:15:LYS:HD3	2:F:18:ARG:HD3	1.76	0.66
2:G:393:LYS:HA	2:G:396:VAL:HG22	1.77	0.66
2:N:39:VAL:HG22	2:N:49:ILE:HG12	1.78	0.66
1:O:71:TYR:O	1:O:74:LYS:NZ	2.27	0.66
1:R:13:LYS:NZ	1:R:14:ARG:O	2.25	0.66
2:C:227:ILE:HD12	2:C:230:ILE:HD13	1.78	0.66
2:D:18:ARG:NH2	2:D:21:ASN:OD1	2.28	0.66
2:J:206:ASN:HD22	2:J:214:GLU:H	1.44	0.66
2:B:40:LEU:HD21	2:B:56:VAL:HG12	1.78	0.66
2:B:250:ILE:HG12	2:B:276:VAL:HB	1.78	0.66
2:B:265:ASN:O	2:B:269:GLY:N	2.25	0.66
2:N:417:VAL:O	2:N:420:ILE:HG12	1.96	0.66
1:O:78:ILE:HD12	1:U:66:ILE:HD13	1.77	0.66
2:C:388:GLU:HG2	2:C:392:LYS:NZ	2.10	0.66
2:E:322:ARG:NH1	2:E:323:VAL:O	2.29	0.66
2:I:165:ALA:HB2	2:I:187:LEU:HD21	1.78	0.66
2:K:338:GLU:HG3	2:K:340:ALA:H	1.59	0.66
2:L:33:PRO:HG3	2:L:481:ALA:HA	1.76	0.66
2:D:339:GLU:OE2	2:D:343:GLN:NE2	2.26	0.66
2:G:477:GLY:O	2:G:485:TYR:HA	1.96	0.66
2:K:34:LYS:HD2	2:K:458:CYS:HA	1.77	0.66
2:M:65:LYS:NZ	2:M:523:ASP:O	2.26	0.66
2:N:169:VAL:HB	2:N:173:GLY:HA3	1.76	0.66
1:P:65:VAL:HG12	1:P:94:ILE:HG22	1.78	0.66
1:W:9:ARG:HA	1:W:87:SER:HA	1.78	0.66
1:2:65:VAL:HG12	1:2:94:ILE:HG22	1.77	0.65
2:H:130:GLU:HG3	2:H:426:LEU:HD21	1.78	0.65
1:O:9:ARG:NH1	1:U:91:ILE:O	2.29	0.65
2:A:429:LEU:HG	2:A:440:ILE:HD13	1.76	0.65
2:C:325:ILE:HG12	2:C:330:THR:HG23	1.78	0.65
2:L:268:ARG:HD3	2:L:270:ILE:HD11	1.77	0.65
1:O:15:LYS:HD2	1:O:15:LYS:O	1.95	0.65
2:A:311:LYS:NZ	2:A:312:ALA:O	2.29	0.65
2:D:177:VAL:HG23	2:D:378:VAL:HG13	1.77	0.65
2:D:223:ALA:HB3	2:D:251:ALA:HA	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:488:MET:O	2:J:492:GLY:N	2.30	0.65
1:Q:4:ARG:NH1	1:Q:5:PRO:O	2.30	0.65
1:V:9:ARG:HB3	1:V:85:ILE:HD11	1.77	0.65
1:2:40:VAL:CG1	1:2:61:VAL:HG22	2.25	0.65
2:A:294:THR:HG21	2:A:345:ARG:HG3	1.79	0.65
2:L:432:GLN:OE1	2:L:436:GLN:NE2	2.30	0.65
1:R:8:ASP:HB2	1:R:88:GLU:HB3	1.78	0.65
2:A:120:ILE:HG22	2:A:443:ALA:HB2	1.77	0.65
2:A:153:ASN:HB3	2:A:395:ARG:HH11	1.62	0.65
2:G:2:ALA:N	2:G:524:LEU:O	2.30	0.65
2:G:205:ILE:HA	2:G:211:GLY:HA2	1.79	0.65
2:N:57:ALA:HA	2:N:60:ILE:HD12	1.78	0.65
2:A:226:LYS:HB2	2:A:253:ASP:HB3	1.77	0.65
2:H:280:GLY:H	2:H:285:ARG:HD3	1.61	0.65
2:J:215:LEU:HD21	2:J:272:LYS:HG2	1.78	0.65
2:L:4:LYS:HE2	2:M:61:GLU:H	1.61	0.65
2:L:479:ASN:O	2:L:483:GLU:CA	2.44	0.65
2:M:326:ASN:HD21	2:M:329:THR:HB	1.62	0.65
2:B:226:LYS:HE3	2:B:253:ASP:HB3	1.76	0.65
2:C:77:VAL:HG23	2:C:506:TYR:HB3	1.77	0.65
2:C:397:GLU:O	2:C:401:HIS:CD2	2.49	0.65
2:D:28:LYS:HA	2:D:90:THR:HG21	1.79	0.65
2:G:190:VAL:HB	2:G:376:VAL:HB	1.77	0.65
2:K:3:ALA:HA	2:L:63:GLU:HB2	1.78	0.65
2:A:197:ARG:NE	2:A:278:ALA:O	2.30	0.65
2:D:338:GLU:HG3	2:D:341:ALA:H	1.60	0.65
2:H:215:LEU:HD13	2:H:246:PRO:HB2	1.78	0.65
2:J:101:THR:O	2:J:104:LEU:HG	1.97	0.65
2:B:475:ASN:HA	2:B:488:MET:HG2	1.79	0.65
2:G:197:ARG:HD2	2:G:277:LYS:HB2	1.78	0.65
2:H:510:VAL:HA	2:H:513:LEU:HG	1.79	0.65
2:J:479:ASN:HD22	2:J:491:MET:HB2	1.62	0.65
2:N:65:LYS:NZ	2:N:523:ASP:O	2.30	0.65
1:O:37:ARG:HA	1:O:65:VAL:O	1.97	0.65
1:O:74:LYS:HE2	1:U:68:ASN:HD21	1.61	0.65
2:A:48:THR:HG23	2:A:387:VAL:HG12	1.79	0.64
2:B:421:ARG:HE	2:B:473:ASP:HA	1.61	0.64
2:E:239:ALA:HB1	2:E:314:LEU:HB3	1.79	0.64
2:L:2:ALA:N	2:M:61:GLU:O	2.30	0.64
2:A:94:VAL:HG22	2:A:449:ALA:HB1	1.79	0.64
2:C:453:GLN:NE2	2:C:457:ASN:OD1	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:132:LYS:HG2	2:H:501:ARG:HH21	1.63	0.64
2:K:18:ARG:NH1	2:K:67:GLU:OE2	2.30	0.64
2:C:383:ALA:HB2	2:C:392:LYS:NZ	2.12	0.64
2:G:39:VAL:HG22	2:G:49:ILE:HG12	1.79	0.64
2:H:262:LEU:HD11	2:H:273:VAL:HB	1.78	0.64
2:N:117:LYS:HG3	2:N:515:ILE:HD11	1.77	0.64
1:Q:20:LYS:HB2	1:Q:27:LEU:HD12	1.77	0.64
1:V:91:ILE:O	1:W:9:ARG:NH2	2.30	0.64
2:D:28:LYS:NZ	2:D:93:THR:HG22	2.12	0.64
2:D:414:GLY:HA3	2:D:493:ILE:HG22	1.79	0.64
2:C:193:MET:O	2:C:331:THR:HA	1.98	0.64
2:C:279:PRO:HD2	2:C:288:MET:HE3	1.79	0.64
2:G:69:MET:HA	2:G:72:GLN:HG3	1.78	0.64
2:K:208:PRO:HB2	2:K:213:VAL:HA	1.79	0.64
2:L:352:GLN:NE2	2:M:327:LYS:HD3	2.13	0.64
2:M:348:GLN:OE1	2:M:352:GLN:NE2	2.30	0.64
2:A:49:ILE:HD12	2:G:513:LEU:HB2	1.80	0.64
2:H:185:ASP:HA	2:H:380:LYS:O	1.98	0.64
2:K:193:MET:HA	2:K:371:LYS:HD2	1.80	0.64
1:S:15:LYS:HD3	1:S:37:ARG:HB3	1.79	0.64
2:E:29:VAL:O	2:E:36:ARG:N	2.22	0.64
2:J:68:ASN:O	2:J:72:GLN:NE2	2.31	0.64
1:W:10:VAL:HG12	1:W:44:GLY:H	1.63	0.64
1:2:9:ARG:HB3	1:2:85:ILE:HD11	1.78	0.64
2:B:194:GLN:O	2:B:371:LYS:NZ	2.29	0.64
2:E:421:ARG:NH1	2:E:472:GLY:O	2.26	0.64
2:H:479:ASN:O	2:H:483:GLU:HA	1.98	0.64
2:N:489:ILE:HD12	2:N:494:LEU:HG	1.80	0.64
1:S:67:PHE:HB3	1:S:91:ILE:HD12	1.79	0.64
2:A:348:GLN:OE1	2:A:352:GLN:NE2	2.31	0.63
2:C:231:ARG:NH1	2:C:231:ARG:O	2.31	0.63
2:E:31:LEU:HD13	2:E:457:ASN:HD22	1.63	0.63
1:U:4:ARG:NH1	1:U:5:PRO:O	2.31	0.63
1:V:47:ARG:NH1	1:V:48:ILE:O	2.30	0.63
1:X:10:VAL:HG12	1:X:44:GLY:H	1.63	0.63
2:D:28:LYS:HA	2:D:90:THR:CG2	2.27	0.63
2:E:326:ASN:ND2	2:E:329:THR:O	2.30	0.63
2:H:229:ASN:OD1	2:H:230:ILE:N	2.32	0.63
2:H:231:ARG:HG2	2:H:255:GLU:OE1	1.98	0.63
2:H:516:THR:HB	2:I:37:ASN:H	1.63	0.63
2:K:4:LYS:HG3	2:L:62:LEU:HA	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:479:ASN:O	2:M:483:GLU:HA	1.97	0.63
2:J:353:ILE:HA	2:J:365:LEU:HD22	1.80	0.63
2:K:137:PRO:HA	2:K:410:GLY:HA3	1.81	0.63
2:A:421:ARG:NH2	2:A:472:GLY:O	2.31	0.63
2:K:40:LEU:HD21	2:K:56:VAL:HG22	1.80	0.63
1:O:95:VAL:HG13	1:P:3:ILE:HG22	1.80	0.63
2:H:491:MET:HG3	2:H:493:ILE:HG13	1.79	0.63
2:M:196:ASP:HA	2:M:329:THR:HA	1.79	0.63
2:E:463:SER:HB2	2:K:463:SER:HB2	1.80	0.63
2:E:479:ASN:O	2:E:483:GLU:N	2.32	0.63
2:F:40:LEU:HD21	2:F:56:VAL:HG22	1.80	0.63
2:G:27:VAL:HG11	2:G:93:THR:HG21	1.80	0.63
2:G:479:ASN:O	2:G:483:GLU:N	2.31	0.63
2:H:278:ALA:HB1	2:H:285:ARG:HD2	1.81	0.63
1:Z:2:ASN:HA	1:Z:4:ARG:HH12	1.62	0.63
2:C:14:VAL:HG12	2:C:18:ARG:HH21	1.63	0.63
2:C:261:THR:O	2:C:265:ASN:ND2	2.31	0.63
2:K:347:ALA:O	2:K:351:GLN:NE2	2.28	0.63
2:A:352:GLN:OE1	2:A:368:ARG:NH2	2.32	0.63
2:E:168:LYS:HE2	2:E:189:VAL:HG11	1.80	0.63
2:J:264:VAL:CG1	1:X:27:LEU:CD2	2.72	0.63
2:K:220:ILE:HB	2:K:318:GLY:HA3	1.81	0.63
2:N:113:PRO:HB3	2:N:515:ILE:HD12	1.79	0.63
2:B:6:VAL:HG12	2:B:521:VAL:HG22	1.78	0.63
2:C:350:ARG:HD3	2:C:353:ILE:HD12	1.80	0.63
2:D:305:ILE:HG22	2:D:306:GLY:H	1.62	0.63
2:J:40:LEU:HD21	2:J:56:VAL:HG22	1.79	0.63
1:Q:50:GLU:CD	1:Q:51:ASN:H	2.01	0.63
2:B:246:PRO:HA	2:B:272:LYS:HB2	1.81	0.62
2:C:238:GLU:OE1	2:C:242:LYS:NZ	2.30	0.62
2:D:216:GLU:HG2	2:D:322:ARG:HG3	1.80	0.62
2:H:29:VAL:HG23	2:H:30:THR:HG23	1.80	0.62
2:N:247:LEU:HD21	2:N:273:VAL:HG22	1.81	0.62
1:U:4:ARG:HH12	1:U:44:GLY:HA2	1.63	0.62
1:2:13:LYS:HB2	1:2:41:LEU:HD11	1.81	0.62
2:A:386:GLU:HG2	2:A:390:LYS:HE2	1.80	0.62
2:D:416:GLY:HA2	2:D:419:LEU:HD23	1.80	0.62
2:N:60:ILE:HB	2:N:75:LYS:HZ3	1.64	0.62
1:R:15:LYS:NZ	1:R:64:ILE:HG23	2.14	0.62
1:2:40:VAL:CG1	1:2:61:VAL:CG2	2.77	0.62
2:D:301:ILE:HD11	2:D:317:LEU:HA	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:322:ARG:HD2	2:D:333:ILE:HD12	1.81	0.62
2:E:513:LEU:HD21	2:F:388:GLU:HB3	1.80	0.62
1:Z:14:ARG:HH21	1:Z:34:LYS:HD2	1.63	0.62
2:A:240:VAL:HG11	2:A:247:LEU:HD23	1.82	0.62
2:B:227:ILE:HG21	2:B:258:ALA:HB2	1.82	0.62
2:C:262:LEU:HD11	2:C:273:VAL:HB	1.82	0.62
2:D:221:LEU:HA	2:D:301:ILE:HD12	1.81	0.62
2:E:184:GLN:HG2	2:E:185:ASP:H	1.64	0.62
2:F:370:ALA:O	2:F:374:GLY:N	2.32	0.62
2:H:62:LEU:HG	2:N:4:LYS:HB2	1.80	0.62
2:H:177:VAL:HA	2:H:379:ILE:HB	1.81	0.62
2:I:7:LYS:NZ	2:I:522:THR:HG22	2.15	0.62
2:I:197:ARG:HD2	2:I:277:LYS:HB2	1.81	0.62
2:K:65:LYS:NZ	2:K:523:ASP:O	2.27	0.62
1:Q:17:VAL:O	1:Q:18:GLU:HG3	1.99	0.62
2:G:391:GLU:OE1	2:G:395:ARG:NH2	2.33	0.62
2:I:225:LYS:NZ	2:I:226:LYS:O	2.31	0.62
1:S:14:ARG:HB3	1:S:35:SER:HB3	1.82	0.62
1:S:45:ASN:OD1	1:S:46:GLY:N	2.33	0.62
1:V:46:GLY:HA3	1:V:54:VAL:HB	1.81	0.62
2:A:441:LYS:HB3	2:A:445:ARG:HH12	1.65	0.62
2:B:370:ALA:O	2:B:374:GLY:N	2.32	0.62
2:D:397:GLU:O	2:D:401:HIS:ND1	2.29	0.62
2:E:225:LYS:HG3	2:E:226:LYS:H	1.64	0.62
2:K:262:LEU:HD11	2:K:273:VAL:HG21	1.81	0.62
2:F:216:GLU:HG3	2:F:322:ARG:HG3	1.81	0.62
2:G:281:PHE:H	2:G:284:ARG:NH1	1.97	0.62
2:J:403:THR:OG1	2:J:404:ARG:NH1	2.33	0.62
2:M:54:VAL:HG11	2:M:82:ASN:HB2	1.81	0.62
1:P:60:LYS:CD	1:P:61:VAL:H	2.06	0.62
2:H:17:LEU:O	2:H:21:ASN:ND2	2.25	0.62
2:M:488:MET:HA	2:M:491:MET:HG2	1.82	0.62
2:D:427:ALA:O	2:D:441:LYS:NZ	2.27	0.62
2:E:217:SER:N	2:E:321:LYS:O	2.31	0.62
1:O:15:LYS:HB3	1:O:39:GLU:OE2	1.99	0.62
1:Z:45:ASN:OD1	1:Z:46:GLY:N	2.33	0.62
2:A:223:ALA:HB3	2:A:251:ALA:HA	1.80	0.62
2:C:29:VAL:O	2:C:36:ARG:N	2.27	0.62
2:E:161:LEU:HD11	2:E:187:LEU:HB2	1.82	0.62
2:N:77:VAL:HG11	2:N:510:VAL:HG11	1.80	0.62
2:D:226:LYS:NZ	2:D:254:VAL:O	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:59:GLU:OE1	2:H:59:GLU:N	2.32	0.61
2:H:117:LYS:HB2	2:H:515:ILE:HD13	1.81	0.61
2:M:119:GLY:HA3	2:M:436:GLN:HB2	1.81	0.61
2:N:41:ASP:HA	2:N:47:PRO:HB3	1.82	0.61
1:R:60:LYS:HG2	1:R:61:VAL:H	1.65	0.61
1:T:28:THR:HG22	1:T:30:SER:H	1.63	0.61
2:K:77:VAL:HB	2:K:510:VAL:HG11	1.82	0.61
2:F:164:GLU:HB3	2:F:168:LYS:HZ1	1.64	0.61
2:G:291:ASP:OD1	2:G:292:ILE:N	2.33	0.61
2:I:65:LYS:NZ	2:I:523:ASP:O	2.31	0.61
2:I:214:GLU:HB3	2:I:322:ARG:HH22	1.65	0.61
1:W:73:VAL:HB	1:W:86:MET:HG3	1.81	0.61
2:E:42:LYS:HD3	2:E:47:PRO:HA	1.82	0.61
2:L:350:ARG:CB	2:L:353:ILE:HD12	2.29	0.61
1:R:40:VAL:O	1:R:62:GLY:N	2.21	0.61
2:C:214:GLU:HG3	2:C:324:VAL:HG22	1.82	0.61
2:E:162:ILE:HG21	2:E:403:THR:HG21	1.82	0.61
2:H:270:ILE:HG22	2:H:271:VAL:HG13	1.81	0.61
2:N:417:VAL:CA	2:N:420:ILE:HG12	2.31	0.61
1:P:7:HIS:HA	1:P:47:ARG:HA	1.81	0.61
2:G:2:ALA:HB3	2:G:524:LEU:HB2	1.83	0.61
2:H:291:ASP:HB3	2:H:372:LEU:HD21	1.82	0.61
2:K:6:VAL:HG12	2:K:521:VAL:HG22	1.82	0.61
2:K:179:ASP:O	2:K:380:LYS:NZ	2.30	0.61
2:M:349:ILE:HG23	2:M:365:LEU:HD22	1.83	0.61
1:P:11:ILE:HD12	1:P:42:ALA:HB3	1.83	0.61
1:Z:68:ASN:HB2	1:Z:92:LEU:HD21	1.82	0.61
1:1:13:LYS:NZ	1:1:16:GLU:OE2	2.28	0.61
2:K:6:VAL:HA	2:K:520:MET:O	2.00	0.61
2:L:94:VAL:HG13	2:L:449:ALA:HB1	1.83	0.61
2:M:122:LYS:HE3	2:M:429:LEU:HD11	1.82	0.61
2:M:199:TYR:HB2	2:M:204:PHE:HD2	1.64	0.61
2:F:400:LEU:O	2:F:404:ARG:HG2	2.00	0.61
2:H:175:ILE:HA	2:H:377:ALA:HB3	1.82	0.61
2:K:24:ALA:O	2:K:28:LYS:HG2	2.00	0.61
2:K:326:ASN:HD21	2:K:329:THR:HB	1.66	0.61
1:T:7:HIS:O	1:T:9:ARG:NH1	2.34	0.61
2:C:239:ALA:HA	2:C:242:LYS:HZ2	1.65	0.61
2:D:28:LYS:CD	2:D:90:THR:HG23	2.31	0.61
2:F:249:ILE:N	2:F:274:ALA:O	2.32	0.61
2:G:246:PRO:HA	2:G:272:LYS:HG3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:320:ALA:HA	2:G:335:GLY:HA2	1.82	0.61
2:B:429:LEU:O	2:B:430:ARG:NH1	2.31	0.60
2:F:117:LYS:HG3	2:F:512:GLY:HA3	1.82	0.60
2:F:477:GLY:HA3	2:F:488:MET:HB2	1.83	0.60
2:E:206:ASN:HB2	2:E:213:VAL:HG22	1.82	0.60
2:K:36:ARG:HG3	2:K:37:ASN:H	1.66	0.60
2:L:411:VAL:HG12	2:L:496:PRO:HA	1.83	0.60
2:M:308:GLU:HG3	2:M:310:GLU:H	1.66	0.60
1:T:13:LYS:HE2	1:T:39:GLU:HB2	1.82	0.60
2:B:220:ILE:N	2:B:318:GLY:O	2.30	0.60
2:I:320:ALA:HA	2:I:335:GLY:HA2	1.84	0.60
2:N:354:GLU:HA	2:N:362:ARG:HH21	1.66	0.60
1:U:66:ILE:O	1:U:92:LEU:N	2.34	0.60
1:X:88:GLU:OE2	1:Y:7:HIS:NE2	2.34	0.60
1:Z:6:LEU:HD12	1:Z:7:HIS:HB2	1.83	0.60
2:F:326:ASN:ND2	2:F:329:THR:O	2.34	0.60
2:H:206:ASN:HB3	2:H:208:PRO:HD2	1.84	0.60
2:K:186:GLU:HG3	2:K:380:LYS:HB3	1.84	0.60
2:M:186:GLU:O	2:M:379:ILE:HA	2.02	0.60
1:Q:93:ALA:HA	1:R:4:ARG:O	2.02	0.60
2:B:166:MET:HA	2:B:169:VAL:HG22	1.82	0.60
2:B:216:GLU:OE1	2:B:322:ARG:NE	2.33	0.60
2:F:237:LEU:O	2:F:241:ALA:N	2.32	0.60
1:P:11:ILE:HG12	1:P:85:ILE:HD12	1.83	0.60
1:U:11:ILE:HG23	1:U:41:LEU:HB2	1.83	0.60
2:A:128:VAL:HG13	2:A:501:ARG:HD3	1.83	0.60
2:A:215:LEU:HD13	2:A:246:PRO:HB2	1.83	0.60
2:B:195:PHE:HE1	2:B:371:LYS:HD3	1.67	0.60
2:E:220:ILE:HA	2:E:249:ILE:HA	1.83	0.60
2:E:419:LEU:HB2	2:E:451:LEU:HD11	1.84	0.60
2:G:441:LYS:HB2	2:G:445:ARG:NH1	2.17	0.60
2:J:186:GLU:HB3	2:J:380:LYS:HB2	1.84	0.60
1:W:65:VAL:HB	1:W:91:ILE:HD11	1.84	0.60
2:D:190:VAL:HB	2:D:376:VAL:HB	1.84	0.60
2:F:197:ARG:HD2	2:F:277:LYS:HG3	1.84	0.60
2:H:113:PRO:HB3	2:H:515:ILE:HB	1.84	0.60
2:K:280:GLY:HA3	2:K:284:ARG:HD2	1.84	0.60
2:M:302:SER:N	2:M:307:MET:SD	2.70	0.60
1:R:73:VAL:HA	1:R:85:ILE:O	2.02	0.60
2:A:3:ALA:HB1	2:A:524:LEU:HB2	1.83	0.60
2:E:308:GLU:HB3	2:E:311:LYS:HB3	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:397:GLU:O	2:E:401:HIS:ND1	2.34	0.60
2:F:475:ASN:O	2:F:488:MET:N	2.35	0.60
2:K:265:ASN:HD21	1:Y:26:VAL:HG23	1.64	0.60
2:K:323:VAL:HG12	2:K:332:ILE:HA	1.83	0.60
2:K:345:ARG:O	2:K:368:ARG:NH1	2.35	0.60
2:K:117:LYS:HB2	2:K:515:ILE:HD11	1.83	0.60
1:Q:37:ARG:NH2	1:Q:64:ILE:HG12	2.17	0.60
1:W:25:ILE:HG23	1:W:25:ILE:O	2.02	0.60
2:B:227:ILE:HB	2:B:255:GLU:HG2	1.84	0.60
2:D:117:LYS:NZ	2:D:509:SER:O	2.34	0.60
2:E:113:PRO:HG2	2:F:36:ARG:HG2	1.84	0.60
2:E:429:LEU:O	2:E:441:LYS:NZ	2.35	0.60
2:F:266:THR:HG22	2:F:272:LYS:HA	1.84	0.60
2:G:4:LYS:HA	2:G:522:THR:O	2.02	0.60
2:G:369:VAL:HA	2:G:372:LEU:HD12	1.84	0.60
2:J:28:LYS:HD2	2:J:94:VAL:HB	1.84	0.60
2:J:177:VAL:HG13	2:J:393:LYS:HZ2	1.67	0.60
2:L:386:GLU:HG2	2:L:390:LYS:HE2	1.83	0.60
2:A:118:ARG:NH2	2:A:121:ASP:OD2	2.35	0.59
2:F:194:GLN:HB2	2:F:331:THR:HG23	1.83	0.59
2:F:197:ARG:NE	2:F:279:PRO:HA	2.17	0.59
2:G:209:GLU:HG2	2:G:210:THR:H	1.66	0.59
2:I:194:GLN:NE2	2:I:331:THR:OG1	2.34	0.59
2:N:417:VAL:CG2	2:N:420:ILE:HD11	2.22	0.59
2:G:220:ILE:HA	2:G:248:LEU:HB3	1.84	0.59
2:L:54:VAL:HG21	2:L:82:ASN:HB2	1.83	0.59
2:M:479:ASN:O	2:M:483:GLU:CA	2.50	0.59
2:A:218:PRO:HG3	2:A:323:VAL:HG13	1.84	0.59
2:A:441:LYS:HB3	2:A:445:ARG:NH1	2.17	0.59
2:D:326:ASN:HD21	2:D:329:THR:HB	1.68	0.59
2:E:173:GLY:HA3	2:E:375:GLY:H	1.66	0.59
2:F:145:ALA:HB2	2:F:163:ALA:HB2	1.83	0.59
2:G:28:LYS:HE3	2:G:94:VAL:HA	1.85	0.59
2:H:422:VAL:HG23	2:H:425:LYS:HE2	1.85	0.59
2:J:6:VAL:HG12	2:J:521:VAL:HG12	1.83	0.59
2:J:169:VAL:HG11	2:J:377:ALA:HB2	1.83	0.59
2:L:361:ASP:OD1	2:L:364:LYS:NZ	2.30	0.59
2:N:188:ASP:HB2	2:N:378:VAL:HB	1.84	0.59
2:N:199:TYR:HB2	2:N:204:PHE:HD2	1.67	0.59
2:A:252:GLU:OE2	2:A:285:ARG:NH1	2.35	0.59
2:B:10:ASN:HA	2:B:13:ARG:HB2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:222:LEU:HD23	2:B:250:ILE:HB	1.84	0.59
2:C:27:VAL:HG12	2:C:90:THR:HG23	1.84	0.59
2:C:240:VAL:HG11	2:C:247:LEU:HB3	1.84	0.59
2:G:121:ASP:OD1	2:G:122:LYS:N	2.35	0.59
2:G:293:ALA:O	2:G:298:GLY:N	2.34	0.59
2:N:299:THR:OG1	2:N:315:GLU:OE2	2.20	0.59
2:N:429:LEU:O	2:N:430:ARG:NH1	2.30	0.59
2:D:10:ASN:HA	2:D:13:ARG:HB2	1.84	0.59
2:D:65:LYS:NZ	2:D:523:ASP:O	2.34	0.59
2:E:386:GLU:HA	2:E:389:MET:HG2	1.84	0.59
2:F:361:ASP:OD1	2:F:364:LYS:NZ	2.25	0.59
2:I:258:ALA:HA	2:I:261:THR:CG2	2.33	0.59
2:J:231:ARG:NH2	2:J:257:GLU:OE2	2.35	0.59
2:M:77:VAL:HB	2:M:510:VAL:HG11	1.84	0.59
2:M:87:ASP:OD1	2:M:88:GLY:N	2.35	0.59
1:R:10:VAL:HG12	1:R:43:VAL:HA	1.84	0.59
2:A:77:VAL:HB	2:A:510:VAL:HG11	1.84	0.59
2:M:414:GLY:HA3	2:M:493:ILE:HG22	1.84	0.59
1:Y:34:LYS:NZ	1:Y:35:SER:O	2.35	0.59
2:A:218:PRO:HG2	2:A:320:ALA:HB3	1.83	0.59
2:D:66:PHE:HE1	2:D:522:THR:HG21	1.68	0.59
2:E:40:LEU:HD13	2:E:50:THR:HG22	1.85	0.59
2:E:62:LEU:O	2:E:68:ASN:ND2	2.27	0.59
2:I:414:GLY:HA3	2:I:493:ILE:HG22	1.82	0.59
2:J:31:LEU:HB2	2:J:90:THR:HG21	1.85	0.59
2:D:411:VAL:HG21	2:D:494:LEU:HD13	1.84	0.59
2:E:269:GLY:O	2:E:272:LYS:NZ	2.33	0.59
2:E:345:ARG:O	2:E:348:GLN:HG3	2.02	0.59
2:F:27:VAL:HG12	2:F:90:THR:HG23	1.85	0.59
2:G:149:THR:O	2:G:154:SER:N	2.35	0.59
2:I:411:VAL:HB	2:I:494:LEU:HB3	1.83	0.59
1:Z:15:LYS:HE2	1:Z:37:ARG:HD3	1.84	0.59
1:2:57:LEU:HD13	1:2:88:GLU:HG3	1.85	0.59
2:F:353:ILE:O	2:F:362:ARG:NE	2.36	0.59
2:J:111:MET:HE2	2:J:435:ASP:OD1	2.03	0.59
2:M:434:GLU:HA	2:M:437:ASN:HB2	1.85	0.59
1:P:49:LEU:HD21	1:P:55:LYS:HZ2	1.68	0.59
1:V:13:LYS:HB2	1:V:41:LEU:HD11	1.84	0.59
2:A:249:ILE:HG22	2:A:251:ALA:H	1.68	0.59
2:J:15:LYS:O	2:J:18:ARG:HG2	2.02	0.59
2:K:413:ALA:HA	2:K:494:LEU:HD23	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:479:ASN:O	2:L:483:GLU:N	2.36	0.59
2:N:236:VAL:HG22	2:N:312:ALA:HB2	1.83	0.59
2:C:218:PRO:HG2	2:C:320:ALA:HB3	1.85	0.58
2:D:41:ASP:HA	2:D:47:PRO:HB3	1.85	0.58
2:G:254:VAL:H	2:G:277:LYS:NZ	2.01	0.58
2:J:4:LYS:HA	2:J:522:THR:O	2.03	0.58
2:M:197:ARG:NH2	2:M:278:ALA:O	2.36	0.58
2:D:360:TYR:HA	2:D:363:GLU:HG2	1.85	0.58
2:F:7:LYS:HD2	2:F:66:PHE:CZ	2.38	0.58
2:G:14:VAL:HG12	2:G:18:ARG:HH22	1.67	0.58
2:G:101:THR:O	2:G:104:LEU:HG	2.03	0.58
2:H:222:LEU:HG	2:H:250:ILE:HD12	1.86	0.58
2:H:409:GLU:OE2	2:H:501:ARG:NH1	2.36	0.58
1:S:12:VAL:HG22	1:S:40:VAL:HA	1.85	0.58
2:B:220:ILE:HA	2:B:248:LEU:HB3	1.85	0.58
2:D:175:ILE:HG13	2:D:377:ALA:HB3	1.84	0.58
2:H:228:SER:O	2:H:255:GLU:HB2	2.02	0.58
2:J:266:THR:CG2	2:J:273:VAL:H	2.15	0.58
2:M:280:GLY:O	2:M:285:ARG:NH2	2.36	0.58
2:N:383:ALA:HB3	2:N:389:MET:HB3	1.85	0.58
2:I:77:VAL:HG23	2:I:506:TYR:HB3	1.86	0.58
2:N:223:ALA:HB3	2:N:251:ALA:HB2	1.84	0.58
2:N:489:ILE:HG23	2:N:494:LEU:HD11	1.85	0.58
1:S:14:ARG:HH21	1:S:84:LEU:HD23	1.68	0.58
2:A:417:VAL:HG11	2:A:488:MET:HE3	1.85	0.58
2:B:487:ASN:OD1	2:B:489:ILE:N	2.35	0.58
2:C:479:ASN:O	2:C:483:GLU:N	2.36	0.58
2:D:28:LYS:HD3	2:D:90:THR:HG23	1.85	0.58
2:E:294:THR:HG21	2:E:345:ARG:HD3	1.85	0.58
2:F:243:ALA:O	2:F:245:LYS:NZ	2.36	0.58
2:G:10:ASN:HA	2:G:13:ARG:HB2	1.85	0.58
2:H:431:GLY:N	2:H:437:ASN:OD1	2.36	0.58
2:I:219:PHE:HB3	2:I:317:LEU:HB3	1.85	0.58
2:J:95:LEU:HD11	2:J:507:ALA:HB1	1.85	0.58
2:L:345:ARG:O	2:L:348:GLN:HG3	2.04	0.58
2:N:421:ARG:NH1	2:N:469:VAL:O	2.36	0.58
1:Q:8:ASP:OD1	1:Q:9:ARG:NH1	2.36	0.58
1:Z:5:PRO:HG3	1:Z:11:ILE:HG12	1.84	0.58
2:B:423:ALA:HB2	2:B:447:MET:HE3	1.84	0.58
2:C:305:ILE:HG22	2:C:306:GLY:N	2.19	0.58
2:L:349:ILE:C	2:L:353:ILE:CG1	2.70	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:9:ARG:HA	1:R:87:SER:HA	1.84	0.58
1:U:17:VAL:HG13	1:U:18:GLU:HG2	1.86	0.58
2:F:350:ARG:HD3	2:F:353:ILE:HD12	1.85	0.58
2:I:429:LEU:O	2:I:430:ARG:NH1	2.30	0.58
2:L:197:ARG:H	2:L:329:THR:HA	1.67	0.58
2:N:197:ARG:HB2	2:N:279:PRO:HG3	1.84	0.58
1:Q:16:GLU:OE1	1:Q:35:SER:HA	2.04	0.58
1:W:26:VAL:HG12	1:W:28:THR:H	1.68	0.58
1:W:55:LYS:HD2	1:W:56:PRO:HD2	1.85	0.58
1:1:68:ASN:HB3	1:1:92:LEU:HD11	1.86	0.58
2:E:289:LEU:HD23	2:E:292:ILE:HD12	1.84	0.58
2:K:295:LEU:HD12	2:K:372:LEU:HD23	1.84	0.58
2:M:222:LEU:HD11	2:M:289:LEU:HB3	1.84	0.58
1:Y:65:VAL:HG12	1:Y:94:ILE:HG22	1.84	0.58
1:Z:6:LEU:HD12	1:Z:6:LEU:C	2.23	0.58
2:B:416:GLY:HA3	2:B:451:LEU:HD21	1.84	0.58
2:C:279:PRO:HD2	2:C:288:MET:CE	2.34	0.58
2:H:37:ASN:HB3	2:H:49:ILE:HD11	1.86	0.58
2:I:62:LEU:HG	2:I:67:GLU:HB3	1.86	0.58
2:I:214:GLU:HG3	2:I:324:VAL:HA	1.86	0.58
2:K:479:ASN:O	2:K:483:GLU:HA	2.04	0.58
2:N:68:ASN:O	2:N:72:GLN:HG2	2.03	0.58
1:P:68:ASN:HB3	1:P:92:LEU:HD11	1.86	0.58
2:B:197:ARG:NH1	2:B:198:GLY:O	2.37	0.58
2:D:326:ASN:ND2	2:D:329:THR:O	2.36	0.58
2:F:199:TYR:CD2	2:F:204:PHE:HB2	2.39	0.58
2:G:353:ILE:HD11	2:G:369:VAL:HG21	1.86	0.58
2:I:80:LYS:HD2	2:I:506:TYR:CE2	2.38	0.58
2:N:175:ILE:HA	2:N:377:ALA:HB3	1.84	0.58
1:T:4:ARG:NH2	1:T:43:VAL:O	2.36	0.58
1:1:5:PRO:HD3	1:1:42:ALA:HB1	1.86	0.57
1:1:14:ARG:HH12	1:1:83:VAL:HA	1.69	0.57
2:H:196:ASP:HA	2:H:329:THR:HA	1.86	0.57
2:L:4:LYS:HE2	2:M:60:ILE:HA	1.85	0.57
2:L:199:TYR:HB2	2:L:204:PHE:CD2	2.34	0.57
1:X:46:GLY:HA3	1:X:54:VAL:HG13	1.86	0.57
1:X:73:VAL:HA	1:X:85:ILE:O	2.04	0.57
2:D:194:GLN:HE21	2:D:329:THR:HG23	1.69	0.57
2:E:99:ILE:HD13	2:E:511:ALA:HB2	1.85	0.57
2:E:207:LYS:HG3	2:E:208:PRO:HD3	1.84	0.57
2:F:323:VAL:HG12	2:F:332:ILE:HG12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:385:THR:HA	2:N:80:LYS:HE2	1.86	0.57
2:I:7:LYS:HE3	2:I:66:PHE:CE1	2.40	0.57
2:L:358:SER:CB	2:L:362:ARG:HH21	2.17	0.57
1:P:17:VAL:HG12	1:P:35:SER:HB2	1.86	0.57
2:B:37:ASN:HB3	2:B:49:ILE:HG22	1.86	0.57
2:C:15:LYS:HD3	2:C:66:PHE:HD2	1.69	0.57
2:G:252:GLU:OE2	2:G:285:ARG:NH1	2.37	0.57
2:K:233:MET:HB3	2:K:310:GLU:HA	1.84	0.57
1:X:68:ASN:N	1:X:90:ASP:O	2.34	0.57
2:B:226:LYS:N	2:B:229:ASN:OD1	2.32	0.57
2:J:400:LEU:O	2:J:404:ARG:HG2	2.04	0.57
2:J:487:ASN:OD1	2:J:488:MET:N	2.37	0.57
2:L:3:ALA:HB1	2:L:524:LEU:H	1.68	0.57
2:L:479:ASN:OD1	2:L:482:THR:N	2.33	0.57
1:S:46:GLY:HA3	1:S:55:LYS:HB3	1.87	0.57
2:D:479:ASN:O	2:D:483:GLU:N	2.37	0.57
2:G:81:ALA:O	2:G:86:GLY:N	2.38	0.57
2:H:29:VAL:O	2:H:36:ARG:N	2.38	0.57
2:I:30:THR:HB	2:I:51:LYS:HG3	1.87	0.57
2:L:101:THR:HG23	2:L:105:LYS:NZ	2.20	0.57
2:M:17:LEU:HD11	2:M:101:THR:HG22	1.85	0.57
2:M:434:GLU:HG3	2:M:438:VAL:HG23	1.86	0.57
1:X:8:ASP:HB2	1:X:88:GLU:H	1.69	0.57
1:Z:47:ARG:H	1:Z:55:LYS:HB3	1.70	0.57
2:F:216:GLU:HG3	2:F:322:ARG:CG	2.34	0.57
2:H:365:LEU:HD23	2:H:368:ARG:HH21	1.69	0.57
2:K:115:ASP:OD1	2:K:118:ARG:NH2	2.37	0.57
2:K:518:GLU:OE1	2:L:36:ARG:NH1	2.37	0.57
2:M:342:ILE:HG23	2:M:372:LEU:HD21	1.86	0.57
2:C:520:MET:SD	2:D:39:VAL:HB	2.45	0.57
2:D:28:LYS:HE2	2:D:93:THR:CG2	2.34	0.57
2:G:4:LYS:HD2	2:G:521:VAL:HG12	1.86	0.57
2:H:122:LYS:NZ	2:H:430:ARG:O	2.28	0.57
2:I:234:LEU:HA	2:I:237:LEU:HD12	1.86	0.57
2:A:421:ARG:NH2	2:A:469:VAL:O	2.38	0.57
2:C:222:LEU:HB2	2:C:301:ILE:HB	1.86	0.57
2:D:200:LEU:HB2	2:D:204:PHE:HE2	1.69	0.57
2:H:128:VAL:HG23	2:H:504:LEU:HD23	1.87	0.57
2:I:339:GLU:OE2	2:I:343:GLN:NE2	2.37	0.57
2:M:168:LYS:NZ	2:M:191:GLU:OE2	2.26	0.57
2:N:196:ASP:HA	2:N:329:THR:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:37:ARG:HG2	1:W:66:ILE:HG12	1.86	0.57
2:A:40:LEU:HD11	2:A:59:GLU:HG3	1.87	0.57
2:B:268:ARG:HH12	1:P:27:LEU:H	1.53	0.57
2:C:224:ASP:HB2	2:C:302:SER:HA	1.86	0.57
2:F:466:ALA:O	2:F:470:LYS:HE2	2.05	0.57
2:H:214:GLU:HA	2:H:323:VAL:O	2.05	0.57
2:H:422:VAL:HA	2:H:425:LYS:HG2	1.87	0.57
2:K:222:LEU:O	2:K:301:ILE:N	2.34	0.57
1:R:12:VAL:HG12	1:R:40:VAL:HA	1.85	0.57
1:Y:47:ARG:NH2	1:Y:89:SER:OG	2.38	0.57
2:D:194:GLN:O	2:D:371:LYS:NZ	2.29	0.57
2:J:362:ARG:NH1	2:J:366:GLN:OE1	2.38	0.57
2:K:185:ASP:OD1	2:K:382:GLY:N	2.32	0.57
2:N:23:LEU:HD11	2:N:71:ALA:HA	1.86	0.57
1:V:50:GLU:HG3	1:W:50:GLU:HG3	1.87	0.57
1:X:92:LEU:HD21	1:Y:74:LYS:HD3	1.86	0.57
1:Y:15:LYS:HG2	1:Y:38:GLY:HA2	1.86	0.57
2:H:87:ASP:OD1	2:H:88:GLY:N	2.38	0.56
2:I:173:GLY:HA2	2:I:375:GLY:H	1.70	0.56
2:J:352:GLN:HA	2:J:355:GLU:HG2	1.87	0.56
2:L:281:PHE:HE2	2:L:283:ASP:HB2	1.68	0.56
1:P:88:GLU:O	1:P:91:ILE:HG12	2.05	0.56
1:R:18:GLU:OE2	1:R:29:GLY:N	2.28	0.56
1:2:47:ARG:HB3	1:2:55:LYS:HB3	1.85	0.56
2:A:143:ALA:HA	2:A:146:GLN:HE21	1.70	0.56
2:A:345:ARG:O	2:A:348:GLN:HG3	2.05	0.56
2:F:217:SER:O	2:F:217:SER:OG	2.18	0.56
2:F:265:ASN:HA	2:F:270:ILE:HD12	1.85	0.56
2:G:41:ASP:HA	2:G:47:PRO:HA	1.87	0.56
2:G:429:LEU:HG	2:G:440:ILE:HD13	1.87	0.56
2:K:408:GLU:HG3	2:K:409:GLU:OE1	2.05	0.56
1:U:14:ARG:HD2	1:U:34:LYS:HD3	1.88	0.56
1:2:21:SER:HB2	1:2:27:LEU:HD23	1.87	0.56
2:A:56:VAL:O	2:A:60:ILE:HG13	2.05	0.56
2:B:291:ASP:OD1	2:B:345:ARG:NH2	2.39	0.56
2:C:56:VAL:HG12	2:C:60:ILE:HD11	1.86	0.56
2:C:195:PHE:HD2	2:C:197:ARG:HG2	1.69	0.56
2:C:281:PHE:O	2:C:285:ARG:N	2.23	0.56
2:E:189:VAL:HA	2:E:376:VAL:O	2.04	0.56
2:E:303:GLU:HA	2:E:309:LEU:HD21	1.87	0.56
2:E:400:LEU:HD12	2:E:404:ARG:HH11	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:17:LEU:HG	2:F:21:ASN:ND2	2.20	0.56
2:G:195:PHE:CD2	2:G:197:ARG:HG2	2.40	0.56
2:M:5:ASP:O	2:M:521:VAL:HA	2.05	0.56
2:M:62:LEU:HG	2:M:64:ASP:H	1.69	0.56
1:Z:64:ILE:HG23	1:Z:95:VAL:HG23	1.87	0.56
2:A:461:GLU:OE1	2:A:464:VAL:N	2.30	0.56
2:B:421:ARG:NE	2:B:473:ASP:HA	2.19	0.56
2:D:238:GLU:HB3	2:D:242:LYS:NZ	2.20	0.56
2:I:6:VAL:C	2:I:7:LYS:HD3	2.25	0.56
2:L:104:LEU:HD12	2:L:105:LYS:HD3	1.88	0.56
2:L:199:TYR:HE1	2:L:202:PRO:HA	1.70	0.56
2:L:246:PRO:HA	2:L:271:VAL:HB	1.86	0.56
2:M:422:VAL:HA	2:M:425:LYS:HG2	1.87	0.56
1:U:66:ILE:HB	1:U:92:LEU:HB2	1.88	0.56
1:Z:66:ILE:HB	1:Z:92:LEU:HB2	1.87	0.56
2:D:135:SER:HA	2:D:412:VAL:HG12	1.87	0.56
2:D:138:CYS:HB3	2:D:406:ALA:HB1	1.86	0.56
2:E:234:LEU:HD11	1:S:25:ILE:HB	1.87	0.56
2:G:197:ARG:NH2	2:G:278:ALA:O	2.38	0.56
2:A:489:ILE:HD13	2:A:494:LEU:HD21	1.87	0.56
2:B:177:VAL:HA	2:B:379:ILE:HD12	1.87	0.56
2:C:285:ARG:HA	2:C:288:MET:HE2	1.88	0.56
2:J:208:PRO:HB2	2:J:212:ALA:HB3	1.86	0.56
2:K:262:LEU:HD21	2:K:273:VAL:HG11	1.86	0.56
2:N:20:VAL:HG21	2:N:100:ILE:HG21	1.88	0.56
1:1:34:LYS:HE3	1:1:68:ASN:HA	1.88	0.56
1:1:40:VAL:O	1:1:62:GLY:N	2.33	0.56
2:B:111:MET:HG3	2:B:438:VAL:HG11	1.87	0.56
2:C:186:GLU:HB3	2:C:380:LYS:HB2	1.87	0.56
2:E:302:SER:HB2	2:E:305:ILE:HB	1.87	0.56
2:F:17:LEU:HG	2:F:21:ASN:HD21	1.70	0.56
2:K:80:LYS:HD2	2:K:83:ASP:HB2	1.86	0.56
2:K:479:ASN:O	2:K:483:GLU:N	2.37	0.56
2:L:92:ALA:HB2	2:L:503:ALA:HB1	1.86	0.56
2:L:185:ASP:HA	2:L:380:LYS:O	2.05	0.56
2:M:199:TYR:CZ	2:M:205:ILE:HD11	2.40	0.56
2:N:213:VAL:HB	2:N:325:ILE:HB	1.88	0.56
1:T:55:LYS:HD3	1:T:56:PRO:HD2	1.86	0.56
1:V:37:ARG:HG2	1:V:66:ILE:HA	1.88	0.56
2:G:127:ALA:N	2:G:426:LEU:HD11	2.20	0.56
2:G:280:GLY:O	2:G:285:ARG:NH2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:31:LEU:O	2:M:457:ASN:ND2	2.38	0.56
1:U:6:LEU:O	1:U:9:ARG:NE	2.39	0.56
2:B:137:PRO:HA	2:B:410:GLY:HA3	1.88	0.56
2:D:7:LYS:HG3	2:D:12:ALA:HB2	1.87	0.56
2:I:187:LEU:HD13	2:I:379:ILE:HG12	1.88	0.56
2:I:510:VAL:O	2:I:513:LEU:HG	2.06	0.56
2:J:264:VAL:HG21	1:X:27:LEU:HD21	1.88	0.56
2:J:413:ALA:HB3	2:J:418:ALA:HB2	1.87	0.56
2:N:226:LYS:HD3	2:N:255:GLU:OE2	2.05	0.56
2:A:349:ILE:HD13	2:A:369:VAL:HG22	1.87	0.56
2:A:448:GLU:OE1	2:A:452:ARG:NH1	2.38	0.56
2:H:197:ARG:HH21	2:H:279:PRO:HA	1.71	0.56
2:H:290:GLN:HG3	2:H:300:VAL:HG21	1.88	0.56
2:I:287:ALA:HB3	2:I:368:ARG:HH22	1.71	0.56
2:J:205:ILE:HG23	2:J:211:GLY:HA2	1.88	0.56
2:J:392:LYS:O	2:J:396:VAL:HG23	2.05	0.56
2:D:321:LYS:HB2	2:D:334:ASP:HB3	1.87	0.55
2:E:184:GLN:O	2:E:382:GLY:N	2.34	0.55
2:J:449:ALA:HA	2:J:452:ARG:HE	1.70	0.55
1:T:10:VAL:HG13	1:T:43:VAL:HA	1.88	0.55
2:C:122:LYS:HE2	2:C:429:LEU:HD11	1.89	0.55
2:I:150:ILE:CD1	2:I:493:ILE:HA	2.37	0.55
2:I:293:ALA:O	2:I:297:GLY:N	2.39	0.55
1:X:7:HIS:N	1:X:45:ASN:OD1	2.30	0.55
2:B:321:LYS:NZ	2:B:335:GLY:O	2.36	0.55
2:C:37:ASN:ND2	2:C:49:ILE:HG13	2.21	0.55
2:G:24:ALA:HA	2:G:28:LYS:HD3	1.88	0.55
2:H:362:ARG:HA	2:H:365:LEU:HD12	1.88	0.55
2:K:326:ASN:ND2	2:K:329:THR:O	2.39	0.55
1:Q:4:ARG:NH1	1:Q:43:VAL:O	2.39	0.55
1:S:8:ASP:HB3	1:S:47:ARG:HB2	1.88	0.55
2:G:219:PHE:CZ	2:G:245:LYS:HD3	2.42	0.55
2:K:96:ALA:O	2:K:100:ILE:HG12	2.06	0.55
2:M:247:LEU:O	2:M:273:VAL:HA	2.07	0.55
1:Q:6:LEU:HD13	1:Q:7:HIS:HD2	1.71	0.55
2:A:128:VAL:O	2:A:501:ARG:NH1	2.38	0.55
2:B:163:ALA:HA	2:B:166:MET:SD	2.45	0.55
2:C:39:VAL:HG22	2:C:49:ILE:HD13	1.88	0.55
2:C:225:LYS:HG2	2:C:303:GLU:HG3	1.89	0.55
2:G:360:TYR:HA	2:G:363:GLU:HG2	1.89	0.55
2:I:266:THR:HG22	2:I:273:VAL:H	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:120:ILE:O	2:J:124:VAL:HG23	2.06	0.55
2:J:266:THR:HG21	2:J:273:VAL:H	1.71	0.55
1:Q:36:THR:CG2	1:Q:66:ILE:HD11	2.36	0.55
1:2:22:ALA:O	1:2:28:THR:OG1	2.25	0.55
2:C:102:GLU:HA	2:C:105:LYS:HE3	1.88	0.55
2:C:192:GLY:CA	2:C:332:ILE:O	2.45	0.55
2:I:40:LEU:HD21	2:I:56:VAL:HA	1.88	0.55
2:K:479:ASN:O	2:K:483:GLU:CA	2.55	0.55
2:N:270:ILE:HG23	2:N:271:VAL:H	1.71	0.55
1:T:10:VAL:O	1:T:85:ILE:HA	2.07	0.55
1:U:86:MET:HE2	1:U:90:ASP:HB3	1.87	0.55
2:C:10:ASN:HA	2:C:13:ARG:HB2	1.88	0.55
2:C:152:ALA:HA	2:C:395:ARG:HD2	1.88	0.55
2:F:518:GLU:OE1	2:G:36:ARG:NH1	2.40	0.55
2:H:479:ASN:ND2	2:H:491:MET:SD	2.71	0.55
2:K:405:ALA:HA	2:K:408:GLU:HG2	1.88	0.55
2:N:77:VAL:HA	2:N:80:LYS:HG2	1.89	0.55
2:N:113:PRO:HA	2:N:116:LEU:HD12	1.88	0.55
1:Y:91:ILE:O	1:Z:9:ARG:NH2	2.39	0.55
2:B:69:MET:HA	2:B:72:GLN:HG2	1.88	0.55
2:D:210:THR:O	2:D:327:LYS:NZ	2.37	0.55
2:F:523:ASP:OD1	2:F:524:LEU:N	2.39	0.55
2:G:147:VAL:HA	2:G:150:ILE:HG12	1.89	0.55
2:H:325:ILE:HG13	2:H:330:THR:HG23	1.89	0.55
2:J:358:SER:OG	2:J:359:ASP:N	2.40	0.55
2:N:467:ASN:HA	2:N:470:LYS:HE3	1.87	0.55
2:N:479:ASN:OD1	2:N:482:THR:N	2.26	0.55
2:A:117:LYS:HE3	2:A:118:ARG:HH22	1.72	0.55
2:A:348:GLN:O	2:A:351:GLN:HG3	2.06	0.55
2:E:391:GLU:HG3	2:E:395:ARG:HE	1.72	0.55
2:F:220:ILE:N	2:F:318:GLY:O	2.31	0.55
2:F:348:GLN:OE1	2:F:352:GLN:NE2	2.40	0.55
2:G:321:LYS:HB2	2:G:334:ASP:HB3	1.88	0.55
2:M:57:ALA:HA	2:M:60:ILE:HG12	1.88	0.55
2:M:226:LYS:NZ	2:M:255:GLU:OE1	2.38	0.55
2:M:226:LYS:HZ3	2:M:255:GLU:HB2	1.71	0.55
2:M:479:ASN:O	2:M:483:GLU:N	2.40	0.55
1:Z:75:SER:HB2	1:Z:82:GLU:HG3	1.89	0.55
2:C:180:GLY:HA3	2:C:381:VAL:H	1.72	0.55
2:D:306:GLY:HA2	2:E:264:VAL:HG22	1.89	0.55
2:E:218:PRO:HB2	2:E:248:LEU:HB3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:266:THR:HG22	2:E:273:VAL:H	1.72	0.55
2:G:126:ALA:HB1	2:G:426:LEU:HD22	1.88	0.55
2:L:207:LYS:NZ	2:L:214:GLU:H	2.05	0.55
1:R:41:LEU:HD22	1:R:83:VAL:HG21	1.87	0.55
1:Z:2:ASN:OD1	1:Z:4:ARG:NH1	2.39	0.55
2:B:441:LYS:O	2:B:445:ARG:HG2	2.07	0.54
2:I:441:LYS:O	2:I:445:ARG:HG2	2.07	0.54
2:L:117:LYS:NZ	2:L:509:SER:O	2.40	0.54
1:T:7:HIS:HB2	1:T:46:GLY:O	2.06	0.54
2:D:219:PHE:CZ	2:D:245:LYS:HD2	2.42	0.54
2:E:213:VAL:HB	2:E:325:ILE:O	2.07	0.54
2:G:102:GLU:OE1	2:G:442:VAL:HG13	2.07	0.54
2:G:355:GLU:HG3	2:G:357:THR:H	1.72	0.54
2:J:15:LYS:HA	2:J:18:ARG:HE	1.72	0.54
2:J:257:GLU:HG2	1:X:29:GLY:HA3	1.89	0.54
2:L:289:LEU:HD13	2:L:300:VAL:HG11	1.90	0.54
2:M:146:GLN:NE2	2:M:492:GLY:O	2.40	0.54
2:M:384:ALA:N	2:M:388:GLU:OE1	2.38	0.54
2:M:419:LEU:HD21	2:M:500:THR:HG21	1.89	0.54
2:I:190:VAL:O	2:I:376:VAL:HB	2.07	0.54
2:I:197:ARG:NH1	2:I:278:ALA:O	2.40	0.54
2:J:305:ILE:HG12	2:J:306:GLY:H	1.73	0.54
2:K:82:ASN:HA	2:K:86:GLY:HA2	1.90	0.54
1:O:88:GLU:O	1:O:91:ILE:HG22	2.07	0.54
2:B:65:LYS:NZ	2:B:523:ASP:O	2.38	0.54
2:D:14:VAL:HB	2:D:15:LYS:HZ2	1.72	0.54
2:D:266:THR:HG22	2:D:273:VAL:H	1.72	0.54
2:D:517:THR:HG21	2:E:39:VAL:HG23	1.89	0.54
2:E:57:ALA:HA	2:E:60:ILE:HG12	1.89	0.54
2:F:113:PRO:HB2	2:F:516:THR:HG22	1.88	0.54
2:G:158:VAL:HG21	2:G:392:LYS:HE3	1.89	0.54
2:G:421:ARG:NH1	2:G:472:GLY:O	2.41	0.54
2:I:80:LYS:HD2	2:I:506:TYR:HE2	1.70	0.54
2:I:355:GLU:HG3	2:I:357:THR:H	1.72	0.54
2:L:510:VAL:O	2:L:513:LEU:HG	2.08	0.54
2:M:37:ASN:HB3	2:M:49:ILE:HG22	1.90	0.54
2:M:175:ILE:HG13	2:M:377:ALA:HB3	1.89	0.54
2:M:320:ALA:HA	2:M:335:GLY:HA2	1.90	0.54
2:A:355:GLU:O	2:A:362:ARG:NH2	2.40	0.54
2:C:190:VAL:HG23	2:C:376:VAL:HB	1.90	0.54
2:F:429:LEU:O	2:F:430:ARG:NH1	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:321:LYS:HB3	2:H:334:ASP:HB3	1.89	0.54
2:J:432:GLN:OE1	2:J:436:GLN:NE2	2.40	0.54
2:M:260:ALA:O	2:M:264:VAL:HG13	2.08	0.54
2:M:282:GLY:O	2:M:285:ARG:HG2	2.08	0.54
1:2:7:HIS:CE1	1:2:45:ASN:HD21	2.25	0.54
2:A:34:LYS:NZ	2:G:110:GLY:O	2.39	0.54
2:A:346:VAL:O	2:A:350:ARG:HG2	2.08	0.54
2:F:174:VAL:HG11	2:F:367:GLU:HA	1.90	0.54
2:G:206:ASN:HB2	2:G:213:VAL:HG22	1.90	0.54
2:H:135:SER:HA	2:H:412:VAL:HG12	1.88	0.54
2:I:150:ILE:HD13	2:I:493:ILE:HA	1.88	0.54
2:I:166:MET:HA	2:I:169:VAL:HG22	1.89	0.54
2:J:321:LYS:HZ3	2:J:336:VAL:HG22	1.72	0.54
2:J:349:ILE:HD11	2:J:365:LEU:HD11	1.90	0.54
2:L:490:ASP:OD1	2:L:491:MET:N	2.41	0.54
2:A:338:GLU:HG3	2:A:341:ALA:H	1.72	0.54
2:B:176:THR:HG22	2:B:178:GLU:OE2	2.08	0.54
2:E:354:GLU:HG2	2:E:355:GLU:N	2.22	0.54
2:F:220:ILE:HG13	2:F:296:THR:HG21	1.89	0.54
2:I:325:ILE:HG13	2:I:330:THR:HG23	1.90	0.54
2:L:412:VAL:HG12	2:L:413:ALA:H	1.72	0.54
1:Q:2:ASN:OD1	1:Q:3:ILE:N	2.41	0.54
2:B:419:LEU:HB3	2:B:447:MET:HE1	1.90	0.54
2:G:98:ALA:O	2:G:102:GLU:HG2	2.08	0.54
2:J:264:VAL:CG1	1:X:27:LEU:HD21	2.38	0.54
2:J:266:THR:HG22	2:J:271:VAL:O	2.08	0.54
2:J:346:VAL:O	2:J:350:ARG:HG2	2.07	0.54
1:Z:11:ILE:HG13	1:Z:42:ALA:H	1.73	0.54
2:C:13:ARG:NH1	2:C:517:THR:O	2.40	0.54
2:G:447:MET:O	2:G:450:PRO:HD2	2.08	0.54
2:H:197:ARG:H	2:H:329:THR:HA	1.72	0.54
2:H:226:LYS:HA	2:H:252:GLU:HB3	1.89	0.54
2:J:363:GLU:HA	2:J:366:GLN:HE21	1.72	0.54
2:M:392:LYS:O	2:M:396:VAL:HG23	2.08	0.54
2:N:411:VAL:HG12	2:N:496:PRO:HA	1.89	0.54
1:Q:36:THR:CG2	1:Q:66:ILE:CD1	2.86	0.54
1:S:14:ARG:CZ	1:S:84:LEU:HD22	2.34	0.54
1:Y:6:LEU:HG	1:Y:7:HIS:H	1.73	0.54
1:2:14:ARG:HH22	1:2:17:VAL:HG13	1.73	0.54
2:D:349:ILE:HD13	2:D:369:VAL:HG22	1.90	0.54
2:E:403:THR:OG1	2:E:404:ARG:NH1	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:252:GLU:OE1	2:F:285:ARG:NH2	2.41	0.54
2:G:475:ASN:O	2:G:488:MET:N	2.41	0.54
2:H:36:ARG:NH2	2:N:516:THR:HA	2.20	0.54
2:I:383:ALA:HB3	2:I:389:MET:SD	2.48	0.54
2:K:217:SER:N	2:K:321:LYS:O	2.33	0.54
2:L:359:ASP:O	2:L:363:GLU:HG2	2.08	0.54
1:O:77:LYS:HG2	1:O:82:GLU:HB2	1.90	0.54
2:E:358:SER:OG	2:E:359:ASP:N	2.39	0.53
2:F:238:GLU:OE1	2:F:242:LYS:NZ	2.42	0.53
2:I:5:ASP:O	2:I:521:VAL:HA	2.08	0.53
2:K:221:LEU:HD21	2:K:249:ILE:HG12	1.89	0.53
2:L:77:VAL:O	2:L:80:LYS:HG3	2.08	0.53
2:L:238:GLU:HG3	2:L:242:LYS:HZ3	1.73	0.53
2:M:345:ARG:O	2:M:348:GLN:HG3	2.08	0.53
2:N:231:ARG:HH11	2:N:233:MET:H	1.56	0.53
1:X:12:VAL:HG22	1:X:40:VAL:HA	1.90	0.53
1:Z:73:VAL:HB	1:Z:84:LEU:HD23	1.89	0.53
2:A:230:ILE:O	2:A:233:MET:HG2	2.08	0.53
2:B:40:LEU:O	2:B:47:PRO:HA	2.07	0.53
2:D:130:GLU:HG3	2:D:426:LEU:HD11	1.90	0.53
2:M:322:ARG:HB3	2:M:333:ILE:HD12	1.90	0.53
2:M:433:ASN:H	2:M:436:GLN:NE2	2.07	0.53
2:B:519:CYS:HB3	2:C:38:VAL:HG13	1.89	0.53
2:F:449:ALA:O	2:F:452:ARG:HG2	2.08	0.53
2:G:403:THR:O	2:G:407:VAL:HG23	2.08	0.53
2:K:24:ALA:HB1	2:K:28:LYS:NZ	2.24	0.53
2:L:23:LEU:HD13	2:L:74:VAL:HG21	1.88	0.53
2:L:54:VAL:HB	2:L:89:THR:HG21	1.89	0.53
2:N:363:GLU:HG3	2:N:364:LYS:HG2	1.90	0.53
2:B:247:LEU:HD11	2:B:273:VAL:HG13	1.89	0.53
2:E:194:GLN:H	2:E:371:LYS:HZ2	1.57	0.53
2:F:283:ASP:HA	2:F:286:LYS:HD2	1.89	0.53
2:K:346:VAL:O	2:K:350:ARG:HG3	2.08	0.53
2:L:101:THR:O	2:L:104:LEU:HG	2.07	0.53
2:N:89:THR:O	2:N:93:THR:HG23	2.08	0.53
1:W:78:ILE:HG13	1:W:79:ASP:N	2.21	0.53
2:C:91:THR:HA	2:C:94:VAL:HG12	1.91	0.53
2:D:234:LEU:HG	2:D:310:GLU:OE2	2.08	0.53
2:D:302:SER:HA	2:D:309:LEU:HD13	1.90	0.53
2:G:69:MET:O	2:G:72:GLN:NE2	2.41	0.53
2:H:297:GLY:HA3	2:H:336:VAL:HB	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:360:TYR:O	2:H:364:LYS:NZ	2.41	0.53
2:L:421:ARG:HH12	2:L:469:VAL:HG12	1.73	0.53
1:O:7:HIS:NE2	1:O:48:ILE:CD1	2.66	0.53
1:S:50:GLU:CD	1:S:51:ASN:H	2.12	0.53
1:V:10:VAL:HB	1:V:43:VAL:HG23	1.91	0.53
2:F:128:VAL:HG13	2:F:501:ARG:HH11	1.72	0.53
2:L:41:ASP:HA	2:L:47:PRO:HB3	1.90	0.53
2:L:281:PHE:CE2	2:L:283:ASP:HB2	2.43	0.53
1:R:9:ARG:HH11	1:R:87:SER:HB3	1.74	0.53
1:T:20:LYS:O	1:T:25:ILE:HA	2.09	0.53
1:W:94:ILE:O	1:X:3:ILE:HB	2.09	0.53
2:E:164:GLU:O	2:E:168:LYS:HG2	2.09	0.53
2:F:180:GLY:HA2	2:F:380:LYS:HB2	1.90	0.53
2:F:476:TYR:CE2	2:F:485:TYR:HB3	2.44	0.53
2:G:62:LEU:O	2:G:68:ASN:ND2	2.32	0.53
2:H:71:ALA:HA	2:H:74:VAL:HG22	1.91	0.53
2:I:5:ASP:O	2:I:7:LYS:NZ	2.35	0.53
2:J:285:ARG:O	2:J:289:LEU:HG	2.09	0.53
2:K:169:VAL:HG11	2:K:377:ALA:HB2	1.90	0.53
2:K:227:ILE:HG23	2:K:309:LEU:HD22	1.90	0.53
2:M:152:ALA:O	2:M:395:ARG:NH1	2.37	0.53
2:M:421:ARG:NH2	2:M:469:VAL:O	2.41	0.53
2:N:114:MET:HB3	2:N:118:ARG:HH12	1.74	0.53
2:N:120:ILE:HG12	2:N:443:ALA:HB2	1.90	0.53
2:F:449:ALA:HA	2:F:452:ARG:HE	1.73	0.53
2:G:357:THR:HG22	2:G:359:ASP:HB2	1.91	0.53
2:H:36:ARG:HH22	2:N:117:LYS:HZ2	1.56	0.53
2:L:228:SER:HB3	2:L:255:GLU:HG2	1.88	0.53
1:Y:14:ARG:NH2	1:Y:33:ALA:O	2.37	0.53
2:B:288:MET:O	2:B:292:ILE:HG13	2.09	0.53
2:D:186:GLU:O	2:D:379:ILE:HA	2.09	0.53
2:D:233:MET:SD	2:D:237:LEU:HB2	2.49	0.53
2:F:89:THR:O	2:F:93:THR:HG23	2.09	0.53
2:H:350:ARG:HH21	2:H:354:GLU:HB3	1.74	0.53
2:H:468:THR:OG1	2:H:485:TYR:OH	2.23	0.53
2:L:438:VAL:O	2:L:442:VAL:HG23	2.08	0.53
1:P:64:ILE:HG23	1:P:95:VAL:HB	1.91	0.53
1:Q:92:LEU:HD13	1:R:9:ARG:HG2	1.91	0.53
1:S:39:GLU:HA	1:S:64:ILE:HA	1.91	0.53
1:Z:7:HIS:ND1	1:Z:47:ARG:HA	2.23	0.53
1:Z:68:ASN:N	1:Z:90:ASP:O	2.28	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:326:ASN:ND2	2:B:329:THR:OG1	2.30	0.53
2:B:416:GLY:O	2:B:419:LEU:HB2	2.08	0.53
2:C:268:ARG:HH12	1:Q:27:LEU:H	1.57	0.53
2:G:322:ARG:HB3	2:G:333:ILE:HD12	1.90	0.53
2:I:247:LEU:HB3	2:I:273:VAL:HG22	1.90	0.53
2:N:349:ILE:HG12	2:N:365:LEU:HD21	1.91	0.53
1:S:14:ARG:HH21	1:S:84:LEU:CD2	2.20	0.53
1:W:67:PHE:HB3	1:W:91:ILE:HD12	1.90	0.53
2:A:66:PHE:CE1	2:A:522:THR:HB	2.44	0.52
2:B:295:LEU:HD12	2:B:372:LEU:HD23	1.91	0.52
2:F:10:ASN:OD1	2:F:13:ARG:NE	2.24	0.52
2:G:18:ARG:HA	2:G:21:ASN:HB2	1.90	0.52
2:G:465:VAL:HA	2:G:485:TYR:OH	2.09	0.52
2:H:180:GLY:N	2:H:381:VAL:O	2.42	0.52
2:H:197:ARG:NH2	2:H:279:PRO:O	2.42	0.52
2:I:40:LEU:HD11	2:I:56:VAL:HG22	1.92	0.52
2:I:74:VAL:HG12	2:I:514:MET:HE2	1.91	0.52
2:K:218:PRO:HG2	2:K:320:ALA:HB3	1.91	0.52
2:L:473:ASP:OD1	2:L:474:GLY:N	2.42	0.52
2:M:423:ALA:HB1	2:M:444:LEU:HD22	1.90	0.52
1:T:5:PRO:HG3	1:T:11:ILE:HG12	1.90	0.52
2:D:222:LEU:HB2	2:D:301:ILE:H	1.74	0.52
2:F:263:VAL:O	2:F:267:MET:HG2	2.09	0.52
2:G:165:ALA:O	2:G:169:VAL:HG22	2.08	0.52
2:G:370:ALA:O	2:G:374:GLY:N	2.41	0.52
2:G:419:LEU:HB3	2:G:447:MET:HE2	1.91	0.52
2:J:102:GLU:HB3	2:J:442:VAL:HG13	1.91	0.52
2:L:117:LYS:HZ2	2:L:512:GLY:HA3	1.74	0.52
2:L:221:LEU:HD23	2:L:247:LEU:HD21	1.92	0.52
2:N:90:THR:O	2:N:94:VAL:N	2.38	0.52
2:N:513:LEU:O	2:N:516:THR:OG1	2.24	0.52
1:U:37:ARG:HD3	1:U:66:ILE:HG23	1.91	0.52
2:B:220:ILE:O	2:B:318:GLY:N	2.36	0.52
2:B:403:THR:O	2:B:407:VAL:HG23	2.10	0.52
2:C:293:ALA:O	2:C:298:GLY:N	2.37	0.52
2:C:455:VAL:HG11	2:C:462:PRO:HA	1.90	0.52
2:F:403:THR:OG1	2:F:404:ARG:NH1	2.42	0.52
2:G:178:GLU:HG2	2:G:378:VAL:HG13	1.89	0.52
2:I:218:PRO:HG3	2:I:323:VAL:HG22	1.91	0.52
1:Q:22:ALA:N	1:Q:26:VAL:O	2.42	0.52
1:U:18:GLU:HB2	1:U:28:THR:HB	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:57:LEU:HB3	1:U:59:VAL:HG22	1.91	0.52
1:1:89:SER:HA	1:2:9:ARG:HH22	1.75	0.52
2:C:400:LEU:O	2:C:404:ARG:HG2	2.09	0.52
2:C:411:VAL:HG21	2:C:494:LEU:HD13	1.90	0.52
2:D:405:ALA:HB2	2:D:498:LYS:HD3	1.91	0.52
2:E:55:SER:HA	2:E:58:ARG:HD2	1.90	0.52
2:E:400:LEU:O	2:E:404:ARG:HG2	2.09	0.52
2:G:34:LYS:HD2	2:G:458:CYS:HA	1.91	0.52
2:G:510:VAL:HA	2:G:513:LEU:HG	1.91	0.52
2:I:27:VAL:HG12	2:I:90:THR:HG23	1.91	0.52
2:I:28:LYS:HD2	2:I:453:GLN:HG2	1.91	0.52
2:N:199:TYR:HB2	2:N:204:PHE:CD2	2.43	0.52
1:Q:38:GLY:O	1:Q:64:ILE:HG13	2.09	0.52
1:W:22:ALA:HB3	1:W:27:LEU:HD12	1.91	0.52
2:C:400:LEU:O	2:C:403:THR:OG1	2.21	0.52
2:D:81:ALA:O	2:D:85:ALA:N	2.25	0.52
2:E:31:LEU:HD11	2:E:454:ILE:HA	1.91	0.52
2:E:236:VAL:HG22	2:E:312:ALA:HB3	1.92	0.52
2:E:277:LYS:HD2	2:E:278:ALA:O	2.08	0.52
2:F:19:GLY:O	2:F:22:VAL:HG12	2.09	0.52
2:H:220:ILE:HG23	2:H:248:LEU:HD22	1.90	0.52
2:H:350:ARG:O	2:H:354:GLU:HG2	2.09	0.52
1:S:64:ILE:HG23	1:S:95:VAL:HG13	1.92	0.52
2:C:216:GLU:OE1	2:C:322:ARG:NE	2.33	0.52
2:E:80:LYS:HZ3	2:F:385:THR:HB	1.75	0.52
2:H:206:ASN:HB2	2:H:213:VAL:HG12	1.91	0.52
1:Q:40:VAL:HG11	1:Q:61:VAL:HA	1.92	0.52
1:T:47:ARG:HH21	1:T:48:ILE:HG12	1.74	0.52
1:Z:1:MET:N	1:Z:79:ASP:OD2	2.38	0.52
2:D:71:ALA:HA	2:D:74:VAL:HG22	1.91	0.52
2:K:31:LEU:HD12	2:K:457:ASN:HD21	1.75	0.52
2:N:10:ASN:OD1	2:N:11:ASP:N	2.43	0.52
2:N:421:ARG:NH2	2:N:476:TYR:O	2.42	0.52
1:R:39:GLU:HB3	1:R:62:GLY:HA2	1.91	0.52
1:2:40:VAL:HB	1:2:61:VAL:HA	1.90	0.52
2:A:128:VAL:HG13	2:A:501:ARG:HH11	1.75	0.52
2:D:56:VAL:O	2:D:60:ILE:HG12	2.10	0.52
2:D:66:PHE:HA	2:D:69:MET:HE2	1.91	0.52
2:D:219:PHE:HB3	2:D:317:LEU:HD22	1.92	0.52
2:H:249:ILE:HG23	2:H:275:ALA:HA	1.92	0.52
2:I:188:ASP:OD2	2:I:380:LYS:NZ	2.37	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:27:VAL:HG12	2:J:90:THR:HG23	1.92	0.52
2:J:226:LYS:HA	2:J:253:ASP:O	2.10	0.52
2:C:293:ALA:O	2:C:297:GLY:N	2.42	0.52
2:E:345:ARG:O	2:E:349:ILE:HG13	2.10	0.52
2:E:417:VAL:HG11	2:E:488:MET:SD	2.50	0.52
2:F:15:LYS:O	2:F:18:ARG:HG2	2.09	0.52
2:F:450:PRO:O	2:F:454:ILE:HG13	2.10	0.52
2:J:113:PRO:HA	2:J:116:LEU:HD12	1.92	0.52
2:L:18:ARG:NE	2:L:18:ARG:HA	2.25	0.52
2:L:208:PRO:O	2:L:209:GLU:HG3	2.10	0.52
2:M:179:ASP:HA	2:M:393:LYS:HE2	1.92	0.52
1:Y:9:ARG:H	1:Y:44:GLY:HA3	1.74	0.52
2:E:227:ILE:HD13	2:E:251:ALA:HB1	1.92	0.52
2:E:321:LYS:HZ3	2:E:336:VAL:HG22	1.75	0.52
2:F:420:ILE:HG13	2:F:448:GLU:HG2	1.92	0.52
2:J:308:GLU:HB3	2:J:311:LYS:HB3	1.92	0.52
2:K:197:ARG:HH22	2:K:279:PRO:HA	1.74	0.52
2:K:293:ALA:O	2:K:297:GLY:N	2.42	0.52
2:L:322:ARG:HD3	2:L:333:ILE:HD12	1.92	0.52
2:A:113:PRO:HD2	2:B:36:ARG:NH1	2.25	0.51
2:B:197:ARG:HG2	2:B:276:VAL:HG13	1.91	0.51
2:C:113:PRO:HD3	2:D:34:LYS:NZ	2.25	0.51
2:D:7:LYS:HZ2	2:D:15:LYS:HE2	1.75	0.51
2:E:18:ARG:NH2	2:E:21:ASN:OD1	2.42	0.51
2:E:214:GLU:HB2	2:E:322:ARG:HH12	1.75	0.51
2:J:288:MET:O	2:J:292:ILE:HG13	2.10	0.51
2:J:288:MET:SD	2:J:289:LEU:HD23	2.50	0.51
2:L:496:PRO:HG2	2:L:499:VAL:HB	1.92	0.51
1:O:8:ASP:OD1	1:O:88:GLU:N	2.39	0.51
2:A:507:ALA:HA	2:A:510:VAL:HG22	1.92	0.51
2:B:220:ILE:HG13	2:B:248:LEU:HB3	1.91	0.51
2:C:345:ARG:O	2:C:348:GLN:HG3	2.10	0.51
2:G:346:VAL:HG22	2:G:372:LEU:HD13	1.93	0.51
2:I:326:ASN:ND2	2:I:329:THR:HB	2.23	0.51
2:J:124:VAL:O	2:J:128:VAL:HG23	2.10	0.51
2:J:364:LYS:O	2:J:367:GLU:HG3	2.10	0.51
2:M:15:LYS:HA	2:M:18:ARG:HD3	1.91	0.51
1:U:7:HIS:H	1:U:45:ASN:ND2	2.07	0.51
1:2:8:ASP:O	1:2:88:GLU:N	2.43	0.51
2:A:47:PRO:HD2	2:G:72:GLN:NE2	2.25	0.51
2:A:411:VAL:HG21	2:A:494:LEU:HD13	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:206:ASN:H	2:C:213:VAL:HG22	1.74	0.51
2:C:226:LYS:HG3	2:C:253:ASP:HB3	1.92	0.51
2:F:72:GLN:NE2	2:G:41:ASP:OD2	2.42	0.51
2:H:264:VAL:HG22	2:N:306:GLY:HA3	1.92	0.51
2:K:153:ASN:HB3	2:K:395:ARG:HH11	1.76	0.51
2:L:387:VAL:HA	2:L:390:LYS:HE3	1.92	0.51
2:M:216:GLU:HB3	2:M:322:ARG:HH11	1.76	0.51
2:N:90:THR:O	2:N:94:VAL:HG23	2.09	0.51
2:A:339:GLU:HB3	2:A:343:GLN:HE22	1.75	0.51
2:E:511:ALA:O	2:E:515:ILE:HG23	2.09	0.51
2:J:491:MET:HG3	2:J:493:ILE:H	1.74	0.51
2:K:343:GLN:HA	2:K:346:VAL:HG22	1.92	0.51
2:L:218:PRO:HG2	2:L:220:ILE:HD11	1.92	0.51
2:L:349:ILE:C	2:L:353:ILE:CD1	2.78	0.51
2:M:420:ILE:HA	2:M:447:MET:HE3	1.93	0.51
2:C:305:ILE:HD11	2:D:203:TYR:CZ	2.46	0.51
2:G:301:ILE:HD11	2:G:316:ASP:HB3	1.92	0.51
2:I:289:LEU:HD23	2:I:292:ILE:HD12	1.93	0.51
2:J:447:MET:O	2:J:450:PRO:HD2	2.10	0.51
2:K:198:GLY:HA3	2:K:327:LYS:O	2.10	0.51
2:M:411:VAL:HG12	2:M:496:PRO:HA	1.92	0.51
2:N:258:ALA:HA	2:N:261:THR:HG22	1.92	0.51
1:Z:65:VAL:HG12	1:Z:94:ILE:HA	1.93	0.51
2:D:37:ASN:HB3	2:D:49:ILE:HD11	1.91	0.51
2:D:349:ILE:O	2:D:353:ILE:HG13	2.11	0.51
2:G:345:ARG:O	2:G:348:GLN:HG3	2.10	0.51
2:I:96:ALA:O	2:I:100:ILE:HG12	2.11	0.51
2:J:325:ILE:HG13	2:J:330:THR:HG23	1.91	0.51
2:L:441:LYS:HG2	2:L:444:LEU:HD12	1.92	0.51
2:M:214:GLU:OE1	2:M:322:ARG:NH2	2.37	0.51
2:M:452:ARG:HH12	2:M:470:LYS:NZ	2.09	0.51
2:N:478:TYR:HB2	2:N:485:TYR:CE1	2.45	0.51
1:2:66:ILE:HG12	1:2:92:LEU:HD12	1.91	0.51
2:B:195:PHE:HE2	2:B:292:ILE:HD11	1.76	0.51
2:B:201:SER:HB3	2:B:204:PHE:CZ	2.45	0.51
2:H:188:ASP:CG	2:H:380:LYS:HZ1	2.14	0.51
2:I:258:ALA:HA	2:I:261:THR:HG22	1.93	0.51
2:J:175:ILE:HG12	2:J:377:ALA:HB3	1.93	0.51
2:L:8:PHE:HD2	2:M:29:VAL:HG11	1.75	0.51
2:M:76:GLU:HG2	2:M:80:LYS:NZ	2.26	0.51
1:1:76:GLU:CD	1:1:85:ILE:HG13	2.31	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:100:ILE:HG13	2:A:101:THR:N	2.26	0.51
2:C:323:VAL:HG12	2:C:332:ILE:HA	1.92	0.51
2:C:364:LYS:O	2:C:367:GLU:HG2	2.11	0.51
2:D:381:VAL:HG12	2:D:392:LYS:HZ2	1.76	0.51
2:G:193:MET:HB3	2:G:332:ILE:HD13	1.93	0.51
2:I:214:GLU:HB3	2:I:322:ARG:NH1	2.23	0.51
2:K:197:ARG:HH12	2:K:279:PRO:HA	1.76	0.51
2:K:284:ARG:HG3	2:K:364:LYS:HE3	1.93	0.51
2:M:25:ASP:O	2:M:29:VAL:HG13	2.11	0.51
2:N:18:ARG:NH2	2:N:21:ASN:OD1	2.44	0.51
1:Z:7:HIS:HA	1:Z:46:GLY:O	2.11	0.51
2:D:90:THR:O	2:D:94:VAL:HG23	2.10	0.51
2:D:349:ILE:HA	2:D:365:LEU:HD11	1.93	0.51
2:H:198:GLY:HA2	2:H:328:ASP:HA	1.93	0.51
2:J:444:LEU:O	2:J:448:GLU:HG3	2.11	0.51
2:K:69:MET:HA	2:K:72:GLN:HG2	1.93	0.51
2:K:194:GLN:O	2:K:371:LYS:NZ	2.41	0.51
2:L:303:GLU:N	2:L:303:GLU:OE1	2.43	0.51
2:L:441:LYS:HD3	2:L:445:ARG:NE	2.26	0.51
2:N:114:MET:HB3	2:N:118:ARG:NH1	2.26	0.51
2:B:107:VAL:HG22	2:B:515:ILE:HG23	1.92	0.51
2:D:210:THR:O	2:D:210:THR:HG22	2.10	0.51
2:D:224:ASP:HB2	2:D:302:SER:HB2	1.93	0.51
2:H:36:ARG:HH22	2:N:117:LYS:NZ	2.09	0.51
2:N:73:MET:SD	2:N:74:VAL:HG13	2.51	0.51
1:P:8:ASP:HB2	1:P:88:GLU:HB2	1.93	0.51
1:W:53:GLU:HG2	1:W:54:VAL:N	2.24	0.51
2:A:131:LEU:HB2	2:A:501:ARG:HH12	1.76	0.50
2:A:308:GLU:HG3	2:A:311:LYS:HB3	1.93	0.50
2:D:6:VAL:HG22	2:D:521:VAL:HG23	1.94	0.50
2:E:124:VAL:HG21	2:E:508:ALA:HB2	1.94	0.50
2:F:197:ARG:N	2:F:328:ASP:O	2.44	0.50
2:H:128:VAL:HG12	2:H:132:LYS:NZ	2.26	0.50
2:I:71:ALA:O	2:I:75:LYS:HG3	2.12	0.50
2:J:479:ASN:O	2:J:483:GLU:N	2.44	0.50
2:L:8:PHE:CD2	2:M:29:VAL:HG11	2.46	0.50
1:V:3:ILE:HD11	1:V:78:ILE:HG12	1.93	0.50
1:X:95:VAL:HG12	1:Y:3:ILE:HD12	1.93	0.50
2:A:431:GLY:N	2:A:437:ASN:OD1	2.44	0.50
2:D:37:ASN:OD1	2:D:51:LYS:HB2	2.11	0.50
2:D:179:ASP:OD2	2:D:382:GLY:HA2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:479:ASN:OD1	2:D:482:THR:N	2.27	0.50
2:E:180:GLY:N	2:E:381:VAL:O	2.43	0.50
2:E:230:ILE:HG13	2:E:310:GLU:HG3	1.91	0.50
2:F:64:ASP:HB3	2:F:67:GLU:HB2	1.92	0.50
2:F:496:PRO:O	2:F:499:VAL:HG22	2.11	0.50
2:H:124:VAL:HG13	2:H:504:LEU:HG	1.91	0.50
2:J:264:VAL:CG1	1:X:27:LEU:HD23	2.33	0.50
2:J:461:GLU:OE2	2:J:465:VAL:HG23	2.11	0.50
2:L:358:SER:HA	2:L:362:ARG:CZ	2.36	0.50
2:L:518:GLU:HB2	2:M:36:ARG:HD2	1.93	0.50
2:N:325:ILE:HG13	2:N:330:THR:HG23	1.93	0.50
1:O:94:ILE:HD11	1:P:4:ARG:CZ	2.40	0.50
1:Q:43:VAL:HG21	1:Q:59:VAL:HG21	1.93	0.50
1:1:49:LEU:HD12	1:1:50:GLU:O	2.11	0.50
2:B:468:THR:HG1	2:B:485:TYR:HH	1.57	0.50
2:C:403:THR:OG1	2:C:404:ARG:NH1	2.44	0.50
2:E:177:VAL:HG23	2:E:379:ILE:HB	1.92	0.50
2:J:131:LEU:HB2	2:J:501:ARG:HH12	1.76	0.50
2:L:3:ALA:HA	2:M:63:GLU:OE2	2.12	0.50
1:O:3:ILE:HG22	1:O:4:ARG:HE	1.76	0.50
1:1:48:ILE:HA	1:1:54:VAL:HG12	1.92	0.50
2:A:178:GLU:HB2	2:A:181:THR:HG21	1.92	0.50
2:B:511:ALA:O	2:B:515:ILE:HG12	2.10	0.50
2:F:2:ALA:HB1	2:F:523:ASP:HB2	1.92	0.50
2:F:131:LEU:HB2	2:F:501:ARG:HH12	1.76	0.50
2:H:479:ASN:O	2:H:483:GLU:CA	2.59	0.50
2:M:216:GLU:OE1	2:M:216:GLU:N	2.45	0.50
2:M:223:ALA:HB3	2:M:251:ALA:HB2	1.92	0.50
2:N:194:GLN:O	2:N:371:LYS:NZ	2.41	0.50
2:N:448:GLU:O	2:N:452:ARG:HG3	2.11	0.50
2:N:475:ASN:HB2	2:N:487:ASN:ND2	2.26	0.50
1:T:40:VAL:HG13	1:T:61:VAL:HA	1.93	0.50
1:2:66:ILE:HD11	1:V:76:GLU:HG2	1.92	0.50
1:2:73:VAL:HG13	1:2:86:MET:HB3	1.92	0.50
2:B:287:ALA:O	2:B:290:GLN:HG2	2.12	0.50
2:E:179:ASP:HB3	2:E:381:VAL:O	2.11	0.50
2:J:185:ASP:HA	2:J:380:LYS:O	2.11	0.50
2:J:219:PHE:O	2:J:247:LEU:HG	2.11	0.50
2:K:13:ARG:O	2:K:17:LEU:HG	2.11	0.50
2:K:15:LYS:O	2:K:18:ARG:HG3	2.11	0.50
2:L:186:GLU:HB3	2:L:380:LYS:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:430:ARG:NH1	2:M:431:GLY:O	2.44	0.50
2:A:229:ASN:OD1	2:A:231:ARG:NH1	2.42	0.50
2:A:488:MET:HA	2:A:491:MET:HG2	1.94	0.50
2:B:346:VAL:HA	2:B:349:ILE:HG22	1.94	0.50
2:D:111:MET:SD	2:D:435:ASP:HB3	2.51	0.50
2:D:214:GLU:HG2	2:D:324:VAL:HG22	1.91	0.50
2:G:71:ALA:HA	2:G:74:VAL:HG12	1.93	0.50
2:G:348:GLN:O	2:G:352:GLN:HG3	2.11	0.50
2:H:468:THR:HG1	2:H:485:TYR:HH	1.51	0.50
2:J:34:LYS:HD2	2:J:458:CYS:HA	1.94	0.50
2:K:194:GLN:HB2	2:K:331:THR:HG23	1.94	0.50
2:K:361:ASP:O	2:K:365:LEU:HG	2.12	0.50
1:Y:13:LYS:HG3	1:Y:41:LEU:HD21	1.92	0.50
2:B:56:VAL:O	2:B:60:ILE:HG12	2.12	0.50
2:D:147:VAL:HG22	2:D:494:LEU:HB2	1.93	0.50
2:E:199:TYR:HB2	2:E:204:PHE:CD2	2.47	0.50
2:G:294:THR:HB	2:G:345:ARG:HG3	1.92	0.50
2:H:63:GLU:HB2	2:N:3:ALA:HA	1.94	0.50
2:H:197:ARG:N	2:H:328:ASP:O	2.44	0.50
2:H:429:LEU:O	2:H:441:LYS:NZ	2.45	0.50
2:H:443:ALA:O	2:H:447:MET:HG3	2.11	0.50
2:I:227:ILE:HB	2:I:254:VAL:HA	1.94	0.50
2:I:498:LYS:HG3	2:I:501:ARG:NH2	2.26	0.50
2:L:226:LYS:HB3	2:L:253:ASP:HB3	1.94	0.50
1:P:47:ARG:HB3	1:P:55:LYS:HZ1	1.76	0.50
1:S:95:VAL:HA	1:T:3:ILE:HG13	1.93	0.50
2:C:278:ALA:HB3	2:C:285:ARG:NH1	2.26	0.50
2:H:54:VAL:HG21	2:H:82:ASN:HB2	1.93	0.50
2:H:196:ASP:OD1	2:H:196:ASP:N	2.44	0.50
2:H:421:ARG:NH1	2:H:473:ASP:HA	2.27	0.50
2:J:31:LEU:HD21	2:J:454:ILE:HG12	1.93	0.50
2:K:127:ALA:HB2	2:K:426:LEU:HD11	1.93	0.50
2:K:291:ASP:HB3	2:K:345:ARG:HE	1.77	0.50
2:K:349:ILE:HD11	2:K:365:LEU:HD22	1.92	0.50
2:L:441:LYS:NZ	2:L:445:ARG:HD2	2.26	0.50
1:Z:36:THR:HB	1:Z:67:PHE:O	2.11	0.50
2:A:234:LEU:HD13	1:O:23:GLY:H	1.77	0.50
2:C:429:LEU:HG	2:C:440:ILE:HD13	1.93	0.50
2:D:449:ALA:HA	2:D:452:ARG:HG2	1.93	0.50
2:L:285:ARG:O	2:L:289:LEU:HG	2.12	0.50
2:A:201:SER:HB3	2:A:204:PHE:CE2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:37:ASN:OD1	2:C:38:VAL:N	2.45	0.49
2:E:444:LEU:O	2:E:447:MET:HG3	2.11	0.49
2:G:23:LEU:HD11	2:G:60:ILE:HG13	1.94	0.49
2:H:107:VAL:HA	2:H:111:MET:H	1.76	0.49
2:H:231:ARG:CG	2:H:255:GLU:OE1	2.59	0.49
2:K:270:ILE:HG12	1:Y:24:GLY:O	2.11	0.49
2:L:313:THR:H	2:L:316:ASP:HB2	1.76	0.49
1:Q:69:ASP:OD1	1:Q:69:ASP:N	2.45	0.49
1:X:4:ARG:NH2	1:X:45:ASN:HA	2.27	0.49
1:Y:47:ARG:H	1:Y:55:LYS:HE3	1.77	0.49
2:A:307:MET:HG3	2:A:308:GLU:N	2.28	0.49
2:B:197:ARG:HH21	2:B:277:LYS:HB3	1.77	0.49
2:E:210:THR:HG22	2:E:210:THR:O	2.12	0.49
2:G:253:ASP:HA	2:G:277:LYS:HZ2	1.77	0.49
2:H:23:LEU:HD11	2:H:74:VAL:HG21	1.93	0.49
2:J:7:LYS:HG3	2:J:8:PHE:H	1.77	0.49
2:J:80:LYS:NZ	2:K:384:ALA:O	2.45	0.49
2:M:248:LEU:HD12	2:M:274:ALA:O	2.11	0.49
2:N:214:GLU:OE2	2:N:322:ARG:NH1	2.45	0.49
2:N:381:VAL:HG11	2:N:392:LYS:HG2	1.93	0.49
1:Q:45:ASN:OD1	1:Q:46:GLY:N	2.44	0.49
2:B:187:LEU:HG	2:B:379:ILE:HG12	1.94	0.49
2:C:210:THR:O	2:C:210:THR:HG22	2.11	0.49
2:D:114:MET:HE3	2:E:35:GLY:O	2.13	0.49
2:D:325:ILE:HG13	2:D:330:THR:HG23	1.93	0.49
2:D:354:GLU:HA	2:D:362:ARG:HH12	1.76	0.49
2:F:222:LEU:HB2	2:F:301:ILE:HB	1.92	0.49
2:G:114:MET:SD	2:G:117:LYS:HE3	2.53	0.49
2:K:24:ALA:HB2	2:K:97:GLN:OE1	2.12	0.49
2:K:210:THR:O	2:K:210:THR:HG22	2.12	0.49
2:K:360:TYR:HA	2:K:363:GLU:OE2	2.13	0.49
2:M:12:ALA:HA	2:M:15:LYS:HZ3	1.78	0.49
2:M:284:ARG:NH1	2:M:360:TYR:OH	2.44	0.49
2:M:436:GLN:N	2:M:436:GLN:OE1	2.45	0.49
2:N:136:VAL:N	2:N:411:VAL:O	2.43	0.49
1:U:66:ILE:HG22	1:U:92:LEU:HD12	1.93	0.49
1:Z:67:PHE:HE1	1:Z:69:ASP:HB3	1.77	0.49
2:B:125:THR:O	2:B:129:GLU:HG2	2.12	0.49
2:D:472:GLY:HA3	2:D:476:TYR:CD2	2.48	0.49
2:E:31:LEU:HD13	2:E:457:ASN:ND2	2.28	0.49
2:G:214:GLU:HG2	2:G:324:VAL:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:146:GLN:O	2:H:150:ILE:HG12	2.12	0.49
2:M:137:PRO:HA	2:M:410:GLY:HA3	1.93	0.49
2:M:217:SER:HA	2:M:320:ALA:O	2.12	0.49
2:N:361:ASP:OD1	2:N:362:ARG:N	2.45	0.49
1:Q:12:VAL:HG13	1:Q:84:LEU:HB2	1.93	0.49
1:X:14:ARG:NH1	1:X:35:SER:HB2	2.28	0.49
1:1:4:ARG:HG2	1:1:43:VAL:O	2.13	0.49
1:1:15:LYS:HD3	1:1:37:ARG:HB2	1.94	0.49
2:C:9:GLY:N	2:C:518:GLU:O	2.44	0.49
2:E:225:LYS:HG3	2:E:226:LYS:N	2.28	0.49
2:F:305:ILE:HG22	2:F:306:GLY:H	1.77	0.49
2:I:194:GLN:O	2:I:371:LYS:NZ	2.31	0.49
2:I:233:MET:HB3	2:I:309:LEU:HD11	1.93	0.49
2:J:264:VAL:CB	1:X:27:LEU:HD21	2.43	0.49
2:K:219:PHE:CE2	2:K:245:LYS:HD2	2.48	0.49
2:A:103:GLY:O	2:A:107:VAL:HG12	2.13	0.49
2:B:478:TYR:HB2	2:B:485:TYR:CE1	2.47	0.49
2:C:198:GLY:HA2	2:C:326:ASN:O	2.13	0.49
2:D:78:ALA:O	2:D:82:ASN:ND2	2.45	0.49
2:D:219:PHE:HD2	2:D:240:VAL:HG22	1.77	0.49
2:E:66:PHE:HA	2:E:69:MET:HG3	1.94	0.49
2:E:513:LEU:HD13	2:F:387:VAL:HG23	1.94	0.49
2:F:305:ILE:HG22	2:F:306:GLY:N	2.27	0.49
2:H:73:MET:HB3	2:I:47:PRO:HD2	1.95	0.49
2:I:210:THR:O	2:I:210:THR:HG22	2.12	0.49
2:I:284:ARG:O	2:I:288:MET:HG3	2.12	0.49
2:J:204:PHE:CE1	2:J:263:VAL:HG22	2.47	0.49
2:J:240:VAL:O	2:J:244:GLY:N	2.40	0.49
2:L:157:THR:O	2:L:160:LYS:HG3	2.13	0.49
1:O:17:VAL:O	1:O:17:VAL:HG13	2.11	0.49
1:P:37:ARG:HA	1:P:65:VAL:O	2.12	0.49
2:B:28:LYS:HD2	2:B:453:GLN:HG2	1.93	0.49
2:B:33:PRO:O	2:B:36:ARG:NH2	2.45	0.49
2:B:52:ASP:HB3	2:B:55:SER:HB2	1.95	0.49
2:D:28:LYS:HD2	2:D:90:THR:HG23	1.95	0.49
2:E:157:THR:O	2:E:160:LYS:HG3	2.12	0.49
2:E:417:VAL:O	2:E:421:ARG:HG2	2.13	0.49
2:F:400:LEU:O	2:F:404:ARG:NH1	2.45	0.49
2:G:218:PRO:HG2	2:G:220:ILE:HD11	1.94	0.49
2:G:479:ASN:HB2	2:G:491:MET:SD	2.51	0.49
2:H:128:VAL:HG12	2:H:132:LYS:HZ2	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:515:ILE:HG13	2:H:516:THR:HG23	1.94	0.49
2:K:321:LYS:HB2	2:K:334:ASP:HB3	1.95	0.49
2:L:353:ILE:O	2:L:362:ARG:HD2	2.13	0.49
2:M:308:GLU:HG3	2:M:310:GLU:N	2.27	0.49
1:O:49:LEU:H	1:O:49:LEU:HD23	1.78	0.49
2:A:280:GLY:HA3	2:A:284:ARG:NH2	2.28	0.49
2:A:355:GLU:N	2:A:362:ARG:HH21	2.06	0.49
2:B:28:LYS:HA	2:B:94:VAL:HG12	1.94	0.49
2:D:130:GLU:HG3	2:D:426:LEU:HD21	1.94	0.49
2:D:285:ARG:O	2:D:289:LEU:HG	2.13	0.49
2:E:308:GLU:HG2	2:E:310:GLU:H	1.77	0.49
2:E:472:GLY:HA3	2:E:476:TYR:CD2	2.47	0.49
2:F:265:ASN:O	2:F:270:ILE:N	2.46	0.49
2:J:14:VAL:HA	2:J:17:LEU:HD12	1.94	0.49
2:J:469:VAL:HG22	2:J:485:TYR:HE1	1.77	0.49
2:K:102:GLU:HG2	2:K:442:VAL:HG13	1.94	0.49
2:L:343:GLN:HA	2:L:346:VAL:HB	1.93	0.49
2:M:520:MET:SD	2:N:39:VAL:HB	2.53	0.49
1:Q:92:LEU:HA	1:R:6:LEU:HB3	1.93	0.49
2:A:261:THR:HA	2:A:264:VAL:HG22	1.95	0.49
2:B:6:VAL:HA	2:B:520:MET:O	2.11	0.49
2:C:383:ALA:HB2	2:C:392:LYS:HZ1	1.77	0.49
2:E:263:VAL:O	2:E:267:MET:HG3	2.13	0.49
2:G:234:LEU:N	2:G:235:PRO:HD2	2.28	0.49
2:L:135:SER:HA	2:L:412:VAL:HG22	1.95	0.49
2:L:215:LEU:HD22	2:L:246:PRO:HB2	1.95	0.49
1:U:3:ILE:HG21	1:U:11:ILE:HD13	1.94	0.49
1:2:68:ASN:HD21	1:2:90:ASP:HB3	1.78	0.49
2:C:281:PHE:HB3	2:C:284:ARG:HD2	1.95	0.49
2:E:200:LEU:H	2:E:204:PHE:HD2	1.60	0.49
2:E:288:MET:O	2:E:292:ILE:HG13	2.13	0.49
2:G:479:ASN:OD1	2:G:481:ALA:N	2.46	0.49
2:I:156:GLU:O	2:I:160:LYS:HG3	2.13	0.49
2:J:174:VAL:HG13	2:J:376:VAL:HG23	1.94	0.49
2:J:479:ASN:O	2:J:483:GLU:HA	2.12	0.49
2:M:440:ILE:O	2:M:444:LEU:HG	2.13	0.49
2:N:24:ALA:O	2:N:28:LYS:HG2	2.13	0.49
2:A:222:LEU:HD23	2:A:289:LEU:HD22	1.94	0.48
2:A:264:VAL:O	2:A:267:MET:HG2	2.12	0.48
2:E:80:LYS:HZ1	2:F:386:GLU:HG3	1.78	0.48
2:E:214:GLU:HB2	2:E:322:ARG:HH22	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:138:CYS:HB2	2:F:411:VAL:HG22	1.95	0.48
2:J:213:VAL:HB	2:J:325:ILE:HB	1.94	0.48
2:J:293:ALA:O	2:J:298:GLY:N	2.42	0.48
2:K:114:MET:HG2	2:K:118:ARG:NH2	2.28	0.48
2:M:227:ILE:HD13	2:M:254:VAL:HG22	1.95	0.48
1:R:7:HIS:HB3	1:R:47:ARG:HH11	1.78	0.48
2:A:280:GLY:HA3	2:A:284:ARG:CZ	2.43	0.48
2:B:381:VAL:HG21	2:B:392:LYS:HG2	1.95	0.48
2:C:111:MET:HE1	2:C:438:VAL:HB	1.94	0.48
2:C:419:LEU:O	2:C:447:MET:HE1	2.12	0.48
2:D:31:LEU:HD22	2:D:90:THR:HB	1.95	0.48
2:E:214:GLU:HB2	2:E:322:ARG:NH1	2.28	0.48
2:E:411:VAL:HA	2:E:496:PRO:HA	1.95	0.48
2:F:15:LYS:HG3	2:F:66:PHE:HD2	1.77	0.48
2:F:131:LEU:HB2	2:F:501:ARG:NH1	2.28	0.48
2:F:400:LEU:O	2:F:403:THR:OG1	2.27	0.48
2:H:350:ARG:HA	2:H:353:ILE:HD12	1.95	0.48
2:H:451:LEU:HD13	2:H:454:ILE:HD12	1.95	0.48
2:J:219:PHE:CE1	2:J:245:LYS:HD3	2.48	0.48
2:K:238:GLU:HG2	2:K:242:LYS:HD3	1.94	0.48
2:L:193:MET:HB2	2:L:332:ILE:HD12	1.95	0.48
2:L:472:GLY:HA3	2:L:476:TYR:CD2	2.48	0.48
2:M:17:LEU:HG	2:M:21:ASN:HD21	1.78	0.48
2:M:146:GLN:HE22	2:M:494:LEU:H	1.61	0.48
2:N:321:LYS:HD3	2:N:334:ASP:HB3	1.93	0.48
1:W:13:LYS:NZ	1:W:82:GLU:O	2.32	0.48
2:A:325:ILE:HG13	2:A:330:THR:HG23	1.94	0.48
2:C:213:VAL:HB	2:C:325:ILE:HB	1.95	0.48
2:E:69:MET:O	2:E:73:MET:HG2	2.14	0.48
2:G:74:VAL:O	2:G:77:VAL:HG22	2.13	0.48
2:G:188:ASP:HB2	2:G:378:VAL:HB	1.94	0.48
2:G:511:ALA:HA	2:G:514:MET:HG3	1.95	0.48
2:M:200:LEU:HD23	2:M:259:LEU:HD11	1.94	0.48
2:N:386:GLU:HG2	2:N:390:LYS:HE2	1.94	0.48
2:N:418:ALA:O	2:N:421:ARG:HB2	2.13	0.48
1:S:48:ILE:HG13	1:S:52:GLY:H	1.78	0.48
1:W:15:LYS:HG3	1:W:38:GLY:HA2	1.94	0.48
1:W:75:SER:HA	1:W:84:LEU:HA	1.94	0.48
2:C:270:ILE:HG22	2:C:271:VAL:HG23	1.95	0.48
2:D:263:VAL:HG13	2:D:267:MET:HE2	1.95	0.48
2:E:113:PRO:HA	2:E:116:LEU:HD12	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:217:SER:HA	2:G:320:ALA:O	2.14	0.48
2:G:236:VAL:HG13	2:G:314:LEU:HD12	1.95	0.48
2:I:226:LYS:NZ	2:I:252:GLU:OE2	2.46	0.48
2:I:226:LYS:HA	2:I:253:ASP:H	1.78	0.48
2:I:280:GLY:O	2:I:285:ARG:NH2	2.47	0.48
2:L:102:GLU:HG3	2:L:442:VAL:HG13	1.95	0.48
2:N:479:ASN:O	2:N:483:GLU:N	2.47	0.48
1:O:13:LYS:HE3	1:O:39:GLU:HB2	1.95	0.48
1:Y:7:HIS:HA	1:Y:45:ASN:N	2.20	0.48
2:D:488:MET:SD	2:D:493:ILE:HD12	2.53	0.48
2:H:216:GLU:OE2	2:H:322:ARG:NH1	2.47	0.48
2:I:131:LEU:HB3	2:I:497:THR:HG23	1.96	0.48
2:J:128:VAL:HG13	2:J:501:ARG:HH11	1.78	0.48
2:K:429:LEU:O	2:K:430:ARG:NH1	2.38	0.48
1:S:12:VAL:HG13	1:S:40:VAL:H	1.78	0.48
1:S:60:LYS:N	1:S:63:ASP:OD2	2.39	0.48
1:2:45:ASN:OD1	1:2:46:GLY:N	2.47	0.48
2:B:479:ASN:HB2	2:B:491:MET:SD	2.54	0.48
2:E:262:LEU:O	2:E:266:THR:HG23	2.13	0.48
2:E:325:ILE:HG13	2:E:330:THR:HG23	1.96	0.48
2:H:306:GLY:HA3	2:I:264:VAL:HG21	1.95	0.48
2:J:194:GLN:NE2	2:J:329:THR:HG23	2.28	0.48
2:J:518:GLU:CB	2:K:36:ARG:HG2	2.42	0.48
2:L:41:ASP:OD1	2:L:41:ASP:N	2.46	0.48
2:L:501:ARG:O	2:L:504:LEU:HG	2.14	0.48
2:M:61:GLU:HB2	2:M:68:ASN:OD1	2.13	0.48
2:N:282:GLY:HA2	2:N:285:ARG:HG2	1.96	0.48
1:R:45:ASN:OD1	1:R:46:GLY:N	2.46	0.48
1:W:67:PHE:HB2	1:W:86:MET:SD	2.53	0.48
2:B:262:LEU:HD11	2:B:273:VAL:HG11	1.94	0.48
2:D:39:VAL:HG12	2:D:47:PRO:HB2	1.96	0.48
2:F:57:ALA:O	2:F:75:LYS:HE2	2.13	0.48
2:F:164:GLU:HB3	2:F:168:LYS:NZ	2.28	0.48
2:H:412:VAL:HG13	2:H:497:THR:OG1	2.14	0.48
2:I:346:VAL:O	2:I:350:ARG:HG2	2.14	0.48
2:J:510:VAL:HG12	2:K:385:THR:HG21	1.94	0.48
2:J:511:ALA:HA	2:J:514:MET:HG3	1.96	0.48
2:L:221:LEU:HG	2:L:249:ILE:HA	1.95	0.48
2:L:441:LYS:HZ2	2:L:445:ARG:NH1	2.12	0.48
2:N:153:ASN:HB3	2:N:395:ARG:HH11	1.78	0.48
2:N:215:LEU:O	2:N:322:ARG:HA	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:60:LYS:HD2	1:P:61:VAL:N	2.06	0.48
1:R:13:LYS:NZ	1:R:16:GLU:OE1	2.39	0.48
1:S:67:PHE:HA	1:S:92:LEU:HD13	1.94	0.48
1:Y:48:ILE:HG22	1:Y:48:ILE:O	2.12	0.48
2:A:113:PRO:HB2	2:A:516:THR:HG22	1.95	0.48
2:B:82:ASN:O	2:B:86:GLY:N	2.46	0.48
2:E:340:ALA:O	2:E:343:GLN:NE2	2.46	0.48
2:G:216:GLU:OE1	2:G:322:ARG:NH1	2.42	0.48
2:H:452:ARG:HG3	2:H:453:GLN:HE21	1.78	0.48
2:I:223:ALA:HB3	2:I:251:ALA:HA	1.96	0.48
2:J:479:ASN:O	2:J:483:GLU:CA	2.61	0.48
2:L:467:ASN:HA	2:L:470:LYS:HE3	1.95	0.48
2:M:282:GLY:HA2	2:M:285:ARG:NE	2.29	0.48
2:M:321:LYS:HZ3	2:M:336:VAL:HG22	1.78	0.48
2:N:27:VAL:HG11	2:N:90:THR:CG2	2.36	0.48
1:W:77:LYS:NZ	1:W:82:GLU:OE1	2.46	0.48
2:A:220:ILE:HD11	2:A:250:ILE:HD11	1.94	0.48
2:A:305:ILE:HD11	2:A:307:MET:HE1	1.95	0.48
2:B:355:GLU:H	2:B:362:ARG:HE	1.60	0.48
2:C:15:LYS:O	2:C:67:GLU:HG2	2.13	0.48
2:D:355:GLU:HG3	2:D:357:THR:H	1.78	0.48
2:F:221:LEU:HG	2:F:317:LEU:HD22	1.96	0.48
2:G:150:ILE:HD13	2:G:493:ILE:HA	1.96	0.48
2:H:132:LYS:HG2	2:H:501:ARG:NH2	2.29	0.48
2:I:7:LYS:HZ1	2:I:522:THR:HG22	1.79	0.48
2:J:194:GLN:HA	2:J:330:THR:O	2.14	0.48
2:J:301:ILE:HD11	2:J:316:ASP:HB3	1.96	0.48
2:K:135:SER:HA	2:K:497:THR:HG21	1.95	0.48
2:M:422:VAL:HG12	2:M:425:LYS:HE3	1.95	0.48
1:R:95:VAL:HA	1:S:3:ILE:HG22	1.96	0.48
1:2:26:VAL:HA	2:N:268:ARG:HH21	1.79	0.48
2:C:37:ASN:OD1	2:C:50:THR:N	2.47	0.48
2:C:116:LEU:O	2:C:120:ILE:HG12	2.14	0.48
2:D:11:ASP:O	2:D:15:LYS:NZ	2.33	0.48
2:G:254:VAL:H	2:G:277:LYS:HZ2	1.62	0.48
2:I:227:ILE:N	2:I:253:ASP:O	2.32	0.48
2:K:10:ASN:HA	2:K:13:ARG:HB2	1.94	0.48
2:L:350:ARG:HB3	2:L:353:ILE:HD12	1.95	0.48
2:L:472:GLY:HA3	2:L:476:TYR:HD2	1.79	0.48
2:M:256:GLY:HA2	2:M:259:LEU:HD12	1.96	0.48
2:M:346:VAL:O	2:M:350:ARG:HG2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:383:ALA:HB3	2:M:389:MET:SD	2.54	0.48
2:N:326:ASN:ND2	2:N:329:THR:OG1	2.37	0.48
1:1:6:LEU:HB3	1:1:7:HIS:ND1	2.29	0.47
2:D:222:LEU:HB2	2:D:301:ILE:HB	1.95	0.47
2:E:81:ALA:O	2:E:85:ALA:N	2.40	0.47
2:E:237:LEU:HG	2:E:271:VAL:HG11	1.96	0.47
2:H:338:GLU:HG2	2:H:341:ALA:H	1.79	0.47
2:J:349:ILE:HD12	2:J:352:GLN:HB2	1.97	0.47
2:K:362:ARG:HA	2:K:365:LEU:HD12	1.96	0.47
2:K:519:CYS:HB3	2:L:38:VAL:HG13	1.95	0.47
2:L:71:ALA:HA	2:L:74:VAL:HG22	1.96	0.47
2:N:217:SER:HA	2:N:320:ALA:O	2.14	0.47
2:B:58:ARG:HH22	2:B:79:SER:HB2	1.78	0.47
2:B:113:PRO:HA	2:B:116:LEU:HD12	1.96	0.47
2:C:95:LEU:O	2:C:99:ILE:HG12	2.15	0.47
2:E:219:PHE:CZ	2:E:319:GLN:HG2	2.50	0.47
2:E:411:VAL:HG12	2:E:496:PRO:HA	1.96	0.47
2:F:168:LYS:HD2	2:F:189:VAL:HG21	1.96	0.47
2:F:511:ALA:HA	2:F:514:MET:HG3	1.96	0.47
2:G:66:PHE:O	2:G:69:MET:HG3	2.14	0.47
2:I:348:GLN:O	2:I:352:GLN:HG3	2.14	0.47
2:J:224:ASP:OD2	2:J:303:GLU:N	2.47	0.47
1:X:14:ARG:HH11	1:X:35:SER:HB2	1.79	0.47
2:C:57:ALA:HA	2:C:60:ILE:HG12	1.96	0.47
2:C:392:LYS:HG2	2:C:395:ARG:NH2	2.30	0.47
2:D:466:ALA:HB1	2:D:470:LYS:NZ	2.29	0.47
2:E:103:GLY:O	2:E:107:VAL:HG23	2.15	0.47
2:E:199:TYR:OH	2:E:211:GLY:O	2.27	0.47
2:F:224:ASP:N	2:F:303:GLU:OE1	2.48	0.47
2:G:57:ALA:O	2:G:75:LYS:HE2	2.14	0.47
2:H:196:ASP:O	2:H:197:ARG:NH1	2.47	0.47
2:H:349:ILE:O	2:H:353:ILE:HG13	2.15	0.47
2:J:99:ILE:HG21	2:J:511:ALA:HB1	1.95	0.47
2:M:359:ASP:OD1	2:M:359:ASP:N	2.45	0.47
2:N:65:LYS:HZ1	2:N:525:PRO:HD3	1.79	0.47
2:N:231:ARG:HD2	2:N:233:MET:H	1.79	0.47
1:P:5:PRO:HB2	1:P:9:ARG:HB2	1.96	0.47
1:Q:16:GLU:OE2	1:Q:37:ARG:HG2	2.13	0.47
2:A:94:VAL:HG21	2:A:453:GLN:HB2	1.95	0.47
2:C:193:MET:SD	2:C:371:LYS:HD3	2.54	0.47
2:C:411:VAL:HG12	2:C:496:PRO:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:175:ILE:HD12	2:E:376:VAL:HG13	1.94	0.47
2:F:441:LYS:O	2:F:444:LEU:HG	2.14	0.47
2:J:41:ASP:N	2:J:41:ASP:OD1	2.47	0.47
2:J:267:MET:O	2:J:269:GLY:N	2.48	0.47
2:M:496:PRO:HG2	2:M:499:VAL:HG22	1.96	0.47
1:R:12:VAL:HG12	1:R:40:VAL:HG13	1.95	0.47
1:R:15:LYS:HB3	1:R:17:VAL:HG13	1.95	0.47
1:1:11:ILE:HA	1:1:84:LEU:O	2.15	0.47
1:1:14:ARG:HD2	1:1:84:LEU:HD13	1.96	0.47
1:2:40:VAL:CG1	1:2:61:VAL:HG23	2.45	0.47
2:A:97:GLN:HA	2:A:100:ILE:HG12	1.95	0.47
2:A:368:ARG:O	2:A:372:LEU:HG	2.14	0.47
2:B:447:MET:O	2:B:450:PRO:HD2	2.14	0.47
2:D:400:LEU:O	2:D:403:THR:OG1	2.27	0.47
2:E:193:MET:HE1	2:E:292:ILE:HG23	1.97	0.47
2:J:82:ASN:HA	2:J:86:GLY:HA2	1.97	0.47
2:J:282:GLY:HA2	2:J:285:ARG:NH2	2.24	0.47
2:J:388:GLU:HG2	2:J:392:LYS:HE2	1.96	0.47
2:L:519:CYS:SG	2:L:520:MET:N	2.87	0.47
2:N:432:GLN:N	2:N:436:GLN:OE1	2.29	0.47
1:Q:73:VAL:HG23	1:Q:86:MET:HB3	1.97	0.47
1:U:14:ARG:NH2	1:U:82:GLU:HB2	2.28	0.47
1:W:86:MET:HE3	1:W:90:ASP:HB2	1.97	0.47
2:A:102:GLU:HA	2:A:105:LYS:HE3	1.96	0.47
2:C:101:THR:O	2:C:104:LEU:HG	2.15	0.47
2:E:65:LYS:NZ	2:E:523:ASP:O	2.34	0.47
2:E:206:ASN:HB3	2:E:208:PRO:HD2	1.96	0.47
2:I:150:ILE:HG21	2:I:493:ILE:HG12	1.96	0.47
2:I:214:GLU:HG3	2:I:324:VAL:HG22	1.97	0.47
2:I:393:LYS:O	2:I:397:GLU:OE1	2.32	0.47
2:J:68:ASN:CG	2:J:72:GLN:HE22	2.17	0.47
2:J:203:TYR:HB2	2:J:263:VAL:HG11	1.96	0.47
2:M:15:LYS:HD2	2:M:66:PHE:CG	2.50	0.47
2:N:140:ASP:OD1	2:N:140:ASP:N	2.47	0.47
2:N:149:THR:HA	2:N:152:ALA:HB3	1.97	0.47
2:N:313:THR:HG23	2:N:316:ASP:H	1.79	0.47
1:R:6:LEU:HD23	1:R:7:HIS:CG	2.50	0.47
2:A:70:GLY:HA2	2:A:73:MET:HG3	1.97	0.47
2:A:165:ALA:HB2	2:A:187:LEU:HD21	1.95	0.47
2:B:218:PRO:HG2	2:B:220:ILE:HD11	1.96	0.47
2:C:33:PRO:HG3	2:C:481:ALA:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:195:PHE:O	2:C:329:THR:HA	2.15	0.47
2:D:28:LYS:HE2	2:D:93:THR:HG21	1.97	0.47
2:D:193:MET:HG2	2:D:292:ILE:HD13	1.96	0.47
2:E:280:GLY:H	2:E:285:ARG:HD3	1.80	0.47
2:E:359:ASP:OD1	2:E:362:ARG:NH2	2.48	0.47
2:F:7:LYS:HD2	2:F:66:PHE:HZ	1.79	0.47
2:F:40:LEU:HD13	2:F:59:GLU:HG3	1.96	0.47
2:G:54:VAL:O	2:G:58:ARG:HG2	2.15	0.47
2:H:417:VAL:O	2:H:421:ARG:HG2	2.15	0.47
2:I:70:GLY:O	2:I:74:VAL:HG13	2.14	0.47
2:J:164:GLU:O	2:J:168:LYS:HG2	2.15	0.47
2:J:467:ASN:HA	2:J:470:LYS:HE3	1.96	0.47
2:K:39:VAL:HA	2:K:48:THR:O	2.14	0.47
2:K:40:LEU:HB2	2:K:48:THR:HB	1.95	0.47
2:K:277:LYS:HD2	2:K:278:ALA:O	2.14	0.47
2:K:393:LYS:O	2:K:396:VAL:HB	2.15	0.47
2:L:361:ASP:HA	2:L:364:LYS:NZ	2.29	0.47
2:M:76:GLU:HG2	2:M:80:LYS:HZ1	1.79	0.47
2:M:219:PHE:O	2:M:247:LEU:HD12	2.14	0.47
2:N:220:ILE:HG22	2:N:248:LEU:H	1.79	0.47
1:P:7:HIS:CE1	1:P:48:ILE:HD12	2.49	0.47
1:V:89:SER:HA	1:W:7:HIS:CE1	2.43	0.47
1:Z:88:GLU:HG3	1:Z:91:ILE:HD11	1.95	0.47
1:1:37:ARG:HG2	1:1:66:ILE:HG13	1.96	0.47
2:A:383:ALA:HB3	2:A:389:MET:HG2	1.96	0.47
2:H:452:ARG:HG3	2:H:453:GLN:NE2	2.30	0.47
2:J:215:LEU:HB2	2:J:323:VAL:CG2	2.45	0.47
2:K:468:THR:OG1	2:K:485:TYR:OH	2.25	0.47
2:L:519:CYS:HB3	2:M:38:VAL:HG22	1.96	0.47
2:M:102:GLU:HB2	2:M:442:VAL:HG13	1.96	0.47
2:N:359:ASP:OD1	2:N:360:TYR:N	2.48	0.47
2:N:413:ALA:HB3	2:N:418:ALA:HB2	1.96	0.47
1:Y:48:ILE:C	1:Y:52:GLY:H	2.18	0.47
2:A:309:LEU:HD12	2:A:310:GLU:HB2	1.96	0.47
2:A:448:GLU:O	2:A:452:ARG:HG3	2.15	0.47
2:C:199:TYR:CZ	2:C:327:LYS:HE3	2.49	0.47
2:D:148:GLY:HA3	2:D:162:ILE:HD11	1.97	0.47
2:D:389:MET:O	2:D:393:LYS:HG2	2.14	0.47
2:E:40:LEU:HD11	2:E:56:VAL:HG22	1.97	0.47
2:G:198:GLY:HA3	2:G:327:LYS:O	2.15	0.47
2:H:129:GLU:CD	2:H:132:LYS:HZ1	2.16	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:200:LEU:HB2	2:I:204:PHE:HE2	1.80	0.47
2:K:114:MET:HG2	2:K:118:ARG:HH21	1.79	0.47
2:K:416:GLY:HA2	2:K:419:LEU:HD13	1.97	0.47
1:P:6:LEU:HB3	1:P:7:HIS:CD2	2.50	0.47
1:Q:74:LYS:NZ	1:Q:76:GLU:OE2	2.48	0.47
1:T:92:LEU:HG	1:U:85:ILE:HG21	1.97	0.47
1:U:15:LYS:HB2	1:U:37:ARG:HB2	1.97	0.47
2:A:107:VAL:HG22	2:A:109:ALA:O	2.15	0.47
2:B:205:ILE:HG13	2:B:211:GLY:HA2	1.97	0.47
2:C:71:ALA:HA	2:C:74:VAL:HG22	1.97	0.47
2:C:195:PHE:CD1	2:C:279:PRO:HB3	2.49	0.47
2:C:353:ILE:HG23	2:C:365:LEU:HD21	1.97	0.47
2:E:291:ASP:OD1	2:E:345:ARG:NH2	2.31	0.47
2:F:131:LEU:HD11	2:F:504:LEU:HD21	1.97	0.47
2:F:349:ILE:HD11	2:F:365:LEU:HD22	1.96	0.47
2:G:102:GLU:HG3	2:G:446:ALA:HB2	1.96	0.47
2:I:193:MET:HB3	2:I:332:ILE:HB	1.96	0.47
2:K:261:THR:HA	2:K:264:VAL:HG12	1.96	0.47
2:L:48:THR:HG22	2:L:50:THR:HB	1.97	0.47
2:L:85:ALA:HB1	2:L:499:VAL:HG13	1.96	0.47
2:L:128:VAL:O	2:L:132:LYS:HG2	2.14	0.47
2:M:505:GLN:HE21	2:N:183:LEU:HD11	1.80	0.47
2:N:225:LYS:HE2	2:N:303:GLU:HB2	1.97	0.47
2:N:417:VAL:C	2:N:420:ILE:HG12	2.36	0.47
2:N:510:VAL:HA	2:N:513:LEU:HG	1.96	0.47
1:R:39:GLU:HA	1:R:63:ASP:O	2.15	0.47
1:Y:36:THR:HG22	1:Y:37:ARG:NH1	2.30	0.47
2:A:112:ASN:OD1	2:B:36:ARG:NH1	2.48	0.46
2:B:313:THR:HG23	2:B:316:ASP:H	1.80	0.46
2:C:37:ASN:CG	2:C:49:ILE:HG13	2.36	0.46
2:D:429:LEU:O	2:D:430:ARG:NH1	2.45	0.46
2:F:197:ARG:HD3	2:F:197:ARG:HA	1.75	0.46
2:H:36:ARG:NH2	2:N:113:PRO:HB2	2.30	0.46
2:H:227:ILE:HB	2:H:251:ALA:HB1	1.97	0.46
2:H:417:VAL:O	2:H:420:ILE:HG22	2.15	0.46
2:M:267:MET:SD	2:M:268:ARG:HG2	2.55	0.46
2:N:254:VAL:HG12	2:N:259:LEU:HG	1.97	0.46
2:N:323:VAL:HG12	2:N:332:ILE:HA	1.97	0.46
1:V:13:LYS:HE3	1:V:41:LEU:HD21	1.97	0.46
1:Z:76:GLU:OE1	1:Z:78:ILE:HG23	2.15	0.46
2:B:99:ILE:HD11	2:B:507:ALA:HB1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:17:LEU:HD11	2:C:97:GLN:HE22	1.81	0.46
2:C:195:PHE:CG	2:C:279:PRO:HB3	2.51	0.46
2:C:423:ALA:HB1	2:C:444:LEU:HD12	1.96	0.46
2:E:214:GLU:HB2	2:E:322:ARG:NH2	2.31	0.46
2:E:354:GLU:HG2	2:E:355:GLU:H	1.81	0.46
2:E:367:GLU:HG2	2:E:371:LYS:HE2	1.98	0.46
2:F:128:VAL:O	2:F:501:ARG:NH1	2.44	0.46
2:G:230:ILE:HG13	2:G:232:GLU:HG2	1.98	0.46
2:I:15:LYS:HA	2:I:18:ARG:NE	2.30	0.46
2:I:233:MET:HB3	2:I:309:LEU:HD21	1.97	0.46
2:I:438:VAL:HA	2:I:441:LYS:HG2	1.97	0.46
2:J:76:GLU:OE2	2:J:80:LYS:HE3	2.15	0.46
2:J:177:VAL:HG13	2:J:393:LYS:NZ	2.29	0.46
2:J:450:PRO:O	2:J:454:ILE:HG13	2.16	0.46
2:L:3:ALA:HB1	2:L:524:LEU:N	2.30	0.46
2:L:441:LYS:O	2:L:445:ARG:NE	2.48	0.46
2:M:118:ARG:NH1	2:M:122:LYS:HB2	2.30	0.46
2:N:291:ASP:HB3	2:N:372:LEU:HD21	1.97	0.46
1:P:35:SER:OG	1:P:37:ARG:O	2.22	0.46
1:2:68:ASN:HB3	1:2:92:LEU:HD21	1.96	0.46
2:A:57:ALA:HA	2:A:60:ILE:HD12	1.97	0.46
2:F:141:SER:HA	2:F:144:ILE:HD12	1.97	0.46
2:F:157:THR:O	2:F:160:LYS:HG3	2.14	0.46
2:F:169:VAL:HB	2:F:173:GLY:HA3	1.96	0.46
2:G:501:ARG:O	2:G:504:LEU:HG	2.16	0.46
2:H:250:ILE:HG23	2:H:276:VAL:HG23	1.98	0.46
2:I:7:LYS:HZ2	2:I:522:THR:HG22	1.80	0.46
2:I:149:THR:HG21	2:I:156:GLU:HG2	1.96	0.46
2:I:478:TYR:HB2	2:I:485:TYR:CE2	2.50	0.46
2:K:423:ALA:HB2	2:K:447:MET:HG3	1.97	0.46
2:N:141:SER:HA	2:N:144:ILE:HD12	1.98	0.46
1:Q:73:VAL:CG2	1:Q:84:LEU:HB3	2.44	0.46
1:Z:66:ILE:O	1:Z:92:LEU:N	2.46	0.46
2:A:363:GLU:OE1	2:A:364:LYS:HD3	2.15	0.46
2:D:324:VAL:O	2:D:330:THR:HA	2.15	0.46
2:D:355:GLU:HG3	2:D:357:THR:N	2.31	0.46
2:D:381:VAL:HG12	2:D:392:LYS:NZ	2.31	0.46
2:D:391:GLU:HG3	2:D:395:ARG:HH21	1.78	0.46
2:E:350:ARG:CZ	2:E:353:ILE:HD11	2.46	0.46
2:F:203:TYR:HD2	2:F:263:VAL:HG11	1.80	0.46
2:F:210:THR:O	2:F:210:THR:HG22	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:246:PRO:HB3	2:F:272:LYS:HG3	1.98	0.46
2:F:264:VAL:HG23	2:F:267:MET:HE3	1.97	0.46
2:H:288:MET:O	2:H:292:ILE:HG13	2.15	0.46
2:J:320:ALA:HA	2:J:335:GLY:HA2	1.97	0.46
2:K:29:VAL:O	2:K:36:ARG:N	2.34	0.46
2:B:197:ARG:O	2:B:330:THR:OG1	2.25	0.46
2:B:199:TYR:HE1	2:B:202:PRO:HA	1.80	0.46
2:D:519:CYS:SG	2:D:520:MET:N	2.89	0.46
2:E:268:ARG:NH2	1:S:28:THR:O	2.49	0.46
2:F:31:LEU:HD21	2:F:454:ILE:HG12	1.97	0.46
2:F:232:GLU:OE1	2:F:232:GLU:N	2.49	0.46
2:I:227:ILE:O	2:I:255:GLU:HG2	2.16	0.46
2:J:64:ASP:OD1	2:J:65:LYS:N	2.48	0.46
2:J:122:LYS:HE3	2:J:440:ILE:HD11	1.97	0.46
2:M:166:MET:HA	2:M:169:VAL:HG22	1.97	0.46
2:M:269:GLY:C	2:M:271:VAL:H	2.19	0.46
2:M:476:TYR:CZ	2:M:485:TYR:HB3	2.51	0.46
1:Q:10:VAL:HG23	1:Q:43:VAL:HA	1.98	0.46
1:X:94:ILE:HD11	1:Y:4:ARG:HH11	1.80	0.46
1:1:77:LYS:HA	1:1:81:GLU:O	2.15	0.46
2:A:205:ILE:HG23	2:A:211:GLY:HA2	1.97	0.46
2:B:215:LEU:HB2	2:B:323:VAL:CG2	2.45	0.46
2:E:432:GLN:OE1	2:E:436:GLN:NE2	2.49	0.46
2:G:197:ARG:HD3	2:G:197:ARG:HA	1.65	0.46
2:G:409:GLU:CD	2:G:498:LYS:H	2.19	0.46
2:H:37:ASN:OD1	2:H:51:LYS:HB2	2.16	0.46
2:H:214:GLU:HB2	2:H:322:ARG:HH21	1.81	0.46
2:H:277:LYS:HD2	2:H:278:ALA:O	2.15	0.46
2:I:409:GLU:OE2	2:I:498:LYS:N	2.49	0.46
2:J:514:MET:O	2:J:517:THR:HG23	2.16	0.46
2:L:212:ALA:HA	2:L:325:ILE:O	2.15	0.46
2:B:282:GLY:HA2	2:B:285:ARG:NH2	2.31	0.46
2:B:392:LYS:O	2:B:396:VAL:HG23	2.16	0.46
2:B:433:ASN:HD21	2:B:435:ASP:HB2	1.80	0.46
2:C:480:ALA:O	2:C:483:GLU:HG3	2.16	0.46
2:D:48:THR:HG23	2:D:387:VAL:HG12	1.98	0.46
2:D:162:ILE:O	2:D:166:MET:HG3	2.15	0.46
2:E:114:MET:O	2:E:117:LYS:HG3	2.16	0.46
2:E:421:ARG:NH1	2:E:473:ASP:HA	2.31	0.46
2:E:455:VAL:HG21	2:E:465:VAL:HB	1.97	0.46
2:F:5:ASP:O	2:F:521:VAL:HA	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:199:TYR:CE1	2:G:211:GLY:HA3	2.50	0.46
2:H:130:GLU:HB3	2:H:425:LYS:HE3	1.96	0.46
2:J:246:PRO:HB3	2:J:272:LYS:HB3	1.98	0.46
1:T:39:GLU:HG3	1:T:64:ILE:HG13	1.98	0.46
1:V:11:ILE:HG23	1:V:85:ILE:HD13	1.97	0.46
1:W:4:ARG:HH11	1:W:45:ASN:HD21	1.62	0.46
1:Y:6:LEU:HB3	1:Y:9:ARG:HD2	1.97	0.46
1:Z:12:VAL:HA	1:Z:40:VAL:HA	1.97	0.46
2:A:178:GLU:H	2:A:393:LYS:NZ	2.14	0.46
2:A:313:THR:N	2:A:316:ASP:OD2	2.44	0.46
2:C:198:GLY:HA3	2:C:327:LYS:HA	1.98	0.46
2:D:30:THR:O	2:D:51:LYS:HE2	2.15	0.46
2:F:225:LYS:HB2	2:F:303:GLU:HB2	1.97	0.46
2:J:190:VAL:HG12	2:J:371:LYS:NZ	2.31	0.46
2:K:268:ARG:HB3	2:K:270:ILE:HD12	1.97	0.46
2:K:295:LEU:HD23	2:K:335:GLY:HA3	1.98	0.46
2:K:423:ALA:HA	2:K:426:LEU:HB2	1.97	0.46
2:L:262:LEU:O	2:L:266:THR:HG23	2.16	0.46
2:M:261:THR:HA	2:M:264:VAL:HG22	1.97	0.46
2:M:285:ARG:HA	2:M:288:MET:HG3	1.97	0.46
2:N:109:ALA:HB3	2:N:111:MET:HE1	1.98	0.46
2:N:124:VAL:HG21	2:N:508:ALA:HB2	1.98	0.46
1:1:96:GLU:HG3	1:2:4:ARG:HB2	1.97	0.46
2:D:69:MET:HE1	2:D:522:THR:HB	1.97	0.46
2:E:117:LYS:HB3	2:E:515:ILE:HD11	1.98	0.46
2:E:513:LEU:HD11	2:F:388:GLU:HB3	1.98	0.46
2:F:96:ALA:O	2:F:100:ILE:HG12	2.15	0.46
2:F:225:LYS:N	2:F:303:GLU:OE1	2.29	0.46
2:F:235:PRO:O	2:F:238:GLU:HB3	2.16	0.46
2:F:409:GLU:OE1	2:F:498:LYS:HB2	2.16	0.46
2:G:127:ALA:CA	2:G:426:LEU:CD1	2.87	0.46
2:G:438:VAL:O	2:G:442:VAL:HG23	2.16	0.46
2:I:291:ASP:OD2	2:I:368:ARG:NH1	2.49	0.46
2:J:216:GLU:OE1	2:J:322:ARG:CG	2.53	0.46
2:K:141:SER:HA	2:K:144:ILE:HD12	1.97	0.46
2:K:421:ARG:O	2:K:424:SER:OG	2.23	0.46
2:M:511:ALA:O	2:M:515:ILE:HG23	2.16	0.46
2:N:56:VAL:O	2:N:60:ILE:HG13	2.16	0.46
2:N:90:THR:CA	2:N:93:THR:OG1	2.61	0.46
2:N:512:GLY:O	2:N:516:THR:HG23	2.16	0.46
1:O:65:VAL:HG12	1:O:94:ILE:HG22	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:48:ILE:HG22	1:T:53:GLU:HA	1.96	0.46
1:U:67:PHE:HA	1:U:92:LEU:H	1.81	0.46
1:Y:35:SER:HB3	1:Y:67:PHE:HZ	1.80	0.46
2:A:6:VAL:HG12	2:A:521:VAL:HG22	1.97	0.46
2:A:214:GLU:HB3	2:A:322:ARG:NH2	2.30	0.46
2:B:355:GLU:H	2:B:362:ARG:NE	2.12	0.46
2:C:282:GLY:HA2	2:C:285:ARG:HG2	1.98	0.46
2:E:260:ALA:O	2:E:264:VAL:HG23	2.15	0.46
2:G:488:MET:HA	2:G:491:MET:HE2	1.98	0.46
2:J:160:LYS:O	2:J:164:GLU:OE1	2.33	0.46
2:J:166:MET:HA	2:J:175:ILE:HD11	1.98	0.46
2:J:177:VAL:HG21	2:J:396:VAL:HG11	1.98	0.46
2:J:475:ASN:HA	2:J:488:MET:CE	2.46	0.46
2:K:100:ILE:HD12	2:K:514:MET:SD	2.56	0.46
2:K:236:VAL:HG11	2:K:312:ALA:HB3	1.98	0.46
2:L:188:ASP:HB2	2:L:378:VAL:HB	1.98	0.46
2:L:222:LEU:HD22	2:L:300:VAL:HG22	1.98	0.46
2:L:307:MET:HA	2:L:311:LYS:HD2	1.98	0.46
2:M:267:MET:SD	2:M:268:ARG:N	2.89	0.46
2:M:465:VAL:O	2:M:485:TYR:OH	2.34	0.46
2:N:451:LEU:HD13	2:N:454:ILE:HD12	1.98	0.46
1:R:86:MET:SD	1:R:90:ASP:HB3	2.56	0.46
1:T:14:ARG:HB2	1:T:84:LEU:HD11	1.98	0.46
1:W:64:ILE:HB	1:W:95:VAL:HB	1.98	0.46
1:2:37:ARG:NH2	1:2:66:ILE:HG13	2.32	0.45
2:A:98:ALA:HB2	2:A:449:ALA:HB2	1.98	0.45
2:A:360:TYR:HA	2:A:364:LYS:NZ	2.31	0.45
2:A:409:GLU:OE1	2:A:498:LYS:N	2.49	0.45
2:D:14:VAL:HB	2:D:15:LYS:NZ	2.31	0.45
2:D:183:LEU:HA	2:D:382:GLY:HA3	1.97	0.45
2:E:80:LYS:HB3	2:E:506:TYR:CE2	2.52	0.45
2:F:13:ARG:O	2:F:16:MET:HB2	2.16	0.45
2:F:176:THR:OG1	2:F:377:ALA:O	2.27	0.45
2:I:190:VAL:HG12	2:I:194:GLN:HG3	1.97	0.45
2:I:232:GLU:HA	2:I:234:LEU:HD13	1.98	0.45
2:J:349:ILE:O	2:J:353:ILE:HG13	2.16	0.45
2:M:238:GLU:O	2:M:242:LYS:HG3	2.17	0.45
2:N:234:LEU:HA	2:N:237:LEU:HD12	1.98	0.45
1:Q:92:LEU:HB2	1:R:6:LEU:H	1.81	0.45
2:A:142:LYS:NZ	2:A:146:GLN:OE1	2.33	0.45
2:B:221:LEU:N	2:B:248:LEU:O	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:468:THR:OG1	2:B:485:TYR:OH	2.28	0.45
2:B:511:ALA:HA	2:B:514:MET:HG3	1.99	0.45
2:C:232:GLU:HG3	2:C:310:GLU:HG3	1.97	0.45
2:E:182:GLY:O	2:E:183:LEU:HB2	2.16	0.45
2:F:239:ALA:HB1	2:F:314:LEU:HG	1.99	0.45
2:F:383:ALA:HB3	2:F:389:MET:HG2	1.99	0.45
2:G:138:CYS:SG	2:G:410:GLY:HA2	2.57	0.45
2:G:207:LYS:HD3	2:G:207:LYS:HA	1.72	0.45
2:H:40:LEU:O	2:H:47:PRO:HA	2.15	0.45
2:H:122:LYS:HE2	2:H:429:LEU:HD11	1.99	0.45
2:H:285:ARG:HA	2:H:288:MET:HG3	1.98	0.45
2:I:321:LYS:HD2	2:I:334:ASP:OD2	2.16	0.45
2:J:207:LYS:HA	2:J:207:LYS:HD3	1.74	0.45
2:L:453:GLN:NE2	2:L:457:ASN:OD1	2.40	0.45
2:M:433:ASN:H	2:M:436:GLN:HE22	1.65	0.45
2:N:54:VAL:HG21	2:N:79:SER:HA	1.98	0.45
2:N:419:LEU:C	2:N:421:ARG:N	2.69	0.45
1:O:16:GLU:O	1:O:35:SER:HB2	2.16	0.45
1:2:64:ILE:HG23	1:2:95:VAL:HB	1.99	0.45
2:B:13:ARG:HD2	2:B:107:VAL:HG11	1.97	0.45
2:B:158:VAL:O	2:B:162:ILE:HG12	2.17	0.45
2:D:447:MET:O	2:D:450:PRO:HD2	2.17	0.45
2:E:12:ALA:HA	2:E:15:LYS:HB2	1.99	0.45
2:F:66:PHE:CE1	2:F:522:THR:HB	2.51	0.45
2:G:149:THR:HG22	2:G:155:ASP:O	2.15	0.45
2:H:87:ASP:OD2	2:H:398:ASP:HB3	2.17	0.45
2:M:231:ARG:HA	2:M:233:MET:HE1	1.98	0.45
2:N:176:THR:OG1	2:N:178:GLU:OE2	2.22	0.45
1:Q:7:HIS:HA	1:Q:45:ASN:OD1	2.16	0.45
1:S:55:LYS:HD2	1:S:56:PRO:HD2	1.97	0.45
1:V:94:ILE:O	1:W:3:ILE:HB	2.16	0.45
1:X:88:GLU:O	1:X:91:ILE:HG22	2.15	0.45
2:A:141:SER:HA	2:A:144:ILE:HD12	1.98	0.45
2:A:214:GLU:HG2	2:A:324:VAL:HG22	1.99	0.45
2:A:222:LEU:HB2	2:A:301:ILE:HB	1.97	0.45
2:B:196:ASP:HA	2:B:329:THR:HG22	1.98	0.45
2:C:268:ARG:HG3	2:C:270:ILE:HG12	1.98	0.45
2:D:437:ASN:O	2:D:441:LYS:HG2	2.16	0.45
2:E:498:LYS:HG3	2:E:501:ARG:NH2	2.32	0.45
2:G:131:LEU:HD23	2:G:422:VAL:HG11	1.99	0.45
2:H:149:THR:O	2:H:153:ASN:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:240:VAL:HG13	2:K:245:LYS:HE2	1.98	0.45
2:L:195:PHE:CD2	2:L:279:PRO:HG3	2.52	0.45
2:M:103:GLY:O	2:M:107:VAL:HG23	2.17	0.45
2:M:421:ARG:O	2:M:424:SER:OG	2.28	0.45
1:O:20:LYS:HD3	1:O:27:LEU:HD13	1.97	0.45
1:S:47:ARG:HH12	1:S:49:LEU:HB2	1.80	0.45
1:W:25:ILE:O	1:W:27:LEU:N	2.49	0.45
1:Z:73:VAL:O	1:Z:74:LYS:HE2	2.17	0.45
1:1:47:ARG:HD2	1:1:88:GLU:HG2	1.98	0.45
1:2:37:ARG:HH21	1:2:66:ILE:HG13	1.81	0.45
2:A:113:PRO:HD2	2:B:36:ARG:CZ	2.47	0.45
2:A:215:LEU:HD22	2:A:246:PRO:HG2	1.97	0.45
2:B:7:LYS:NZ	2:B:11:ASP:OD2	2.33	0.45
2:C:438:VAL:O	2:C:442:VAL:HG23	2.17	0.45
2:D:247:LEU:HB3	2:D:273:VAL:HG22	1.99	0.45
2:D:364:LYS:HB3	2:D:368:ARG:HH12	1.82	0.45
2:F:117:LYS:HG3	2:F:512:GLY:CA	2.47	0.45
2:I:388:GLU:HG2	2:I:392:LYS:NZ	2.31	0.45
2:J:226:LYS:HG3	2:J:253:ASP:HB3	1.99	0.45
2:N:196:ASP:OD1	2:N:196:ASP:N	2.49	0.45
2:N:268:ARG:CZ	2:N:270:ILE:HB	2.46	0.45
2:N:472:GLY:HA3	2:N:476:TYR:HD2	1.82	0.45
1:Z:12:VAL:HG23	1:Z:39:GLU:C	2.37	0.45
2:A:217:SER:HB3	2:A:245:LYS:HE2	1.98	0.45
2:C:113:PRO:HD3	2:D:34:LYS:HZ1	1.81	0.45
2:C:303:GLU:OE2	2:C:309:LEU:HB2	2.17	0.45
2:F:368:ARG:O	2:F:372:LEU:HD23	2.16	0.45
2:G:214:GLU:HA	2:G:323:VAL:O	2.16	0.45
2:H:28:LYS:HE2	2:H:453:GLN:HB3	1.99	0.45
2:I:226:LYS:N	2:I:252:GLU:HB3	2.32	0.45
2:K:102:GLU:OE2	2:K:445:ARG:HB2	2.16	0.45
2:L:293:ALA:O	2:L:298:GLY:N	2.50	0.45
2:L:441:LYS:HD3	2:L:445:ARG:CZ	2.46	0.45
2:L:506:TYR:HE1	2:M:384:ALA:HA	1.80	0.45
2:M:18:ARG:HA	2:M:21:ASN:ND2	2.32	0.45
2:N:418:ALA:O	2:N:422:VAL:HG13	2.17	0.45
1:X:14:ARG:HG2	1:X:35:SER:HB3	1.98	0.45
1:Y:60:LYS:HD3	1:Y:61:VAL:O	2.17	0.45
1:Z:14:ARG:NH2	1:Z:35:SER:O	2.49	0.45
1:2:43:VAL:HB	1:2:57:LEU:HD12	1.99	0.45
2:A:5:ASP:HB3	2:A:522:THR:HG22	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:36:ARG:HB2	2:G:518:GLU:HB2	1.99	0.45
2:C:41:ASP:HA	2:C:47:PRO:HB3	1.98	0.45
2:C:381:VAL:HG12	2:C:383:ALA:H	1.81	0.45
2:C:383:ALA:HB3	2:C:389:MET:CE	2.47	0.45
2:C:390:LYS:O	2:C:393:LYS:HG2	2.16	0.45
2:D:222:LEU:HD13	2:D:301:ILE:HG13	1.98	0.45
2:E:217:SER:HB3	2:E:245:LYS:HE2	1.98	0.45
2:G:452:ARG:HG3	2:G:453:GLN:NE2	2.31	0.45
2:J:138:CYS:HB2	2:J:411:VAL:HG13	1.97	0.45
2:J:346:VAL:HA	2:J:349:ILE:HG22	1.98	0.45
2:M:284:ARG:HD3	2:M:364:LYS:HE3	1.97	0.45
2:N:488:MET:SD	2:N:493:ILE:HD11	2.57	0.45
1:O:87:SER:OG	1:O:89:SER:OG	2.34	0.45
1:T:35:SER:HB3	1:T:69:ASP:HB3	1.99	0.45
2:B:349:ILE:HG13	2:B:352:GLN:OE1	2.17	0.45
2:B:419:LEU:O	2:B:422:VAL:HG22	2.17	0.45
2:E:265:ASN:OD1	1:S:27:LEU:HD21	2.17	0.45
2:E:412:VAL:HG13	2:E:497:THR:OG1	2.17	0.45
2:F:304:GLU:OE1	2:F:304:GLU:N	2.50	0.45
2:H:218:PRO:HG2	2:H:220:ILE:HD11	1.98	0.45
2:H:478:TYR:HD1	2:H:485:TYR:CD1	2.34	0.45
2:J:477:GLY:O	2:J:485:TYR:HA	2.17	0.45
2:K:291:ASP:OD1	2:K:292:ILE:N	2.50	0.45
2:L:193:MET:SD	2:L:292:ILE:HG12	2.56	0.45
2:L:284:ARG:NH2	2:L:364:LYS:HG3	2.31	0.45
2:L:362:ARG:O	2:L:366:GLN:NE2	2.50	0.45
2:N:364:LYS:O	2:N:367:GLU:HB2	2.15	0.45
1:O:40:VAL:HB	1:O:62:GLY:H	1.82	0.45
2:A:131:LEU:HD11	2:A:419:LEU:HD11	1.98	0.45
2:A:303:GLU:HG3	2:A:309:LEU:HB2	1.99	0.45
2:B:15:LYS:HA	2:B:18:ARG:HG2	1.98	0.45
2:F:186:GLU:HB3	2:F:380:LYS:CG	2.47	0.45
2:F:220:ILE:HD11	2:F:320:ALA:HB2	1.98	0.45
2:F:441:LYS:HG3	2:F:445:ARG:NH1	2.32	0.45
2:G:128:VAL:HG13	2:G:501:ARG:HD3	1.98	0.45
2:G:307:MET:CE	2:G:312:ALA:HA	2.47	0.45
2:H:362:ARG:O	2:H:365:LEU:HB2	2.16	0.45
2:I:214:GLU:HB3	2:I:322:ARG:NH2	2.30	0.45
2:J:117:LYS:HZ2	2:J:512:GLY:HA3	1.82	0.45
2:K:226:LYS:HD3	2:K:228:SER:OG	2.17	0.45
2:M:59:GLU:N	2:M:59:GLU:OE1	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:326:ASN:ND2	2:N:329:THR:O	2.50	0.45
1:O:5:PRO:HA	1:U:93:ALA:HA	1.98	0.45
1:P:14:ARG:NH2	1:P:38:GLY:HA3	2.31	0.45
1:Q:7:HIS:CE1	1:Q:45:ASN:HD21	2.35	0.45
1:X:4:ARG:HH21	1:X:45:ASN:HA	1.81	0.45
1:Y:68:ASN:OD1	1:Y:90:ASP:HB3	2.17	0.45
1:Y:74:LYS:NZ	1:Y:76:GLU:OE2	2.50	0.45
2:B:19:GLY:HA2	2:B:67:GLU:OE2	2.17	0.45
2:E:49:ILE:HD12	2:E:49:ILE:HA	1.89	0.45
2:I:99:ILE:O	2:I:102:GLU:HG2	2.17	0.45
2:J:58:ARG:O	2:J:58:ARG:NH1	2.49	0.45
2:J:119:GLY:O	2:J:122:LYS:HG3	2.17	0.45
2:J:206:ASN:HB3	2:J:208:PRO:HD2	1.99	0.45
2:J:283:ASP:OD1	2:J:284:ARG:N	2.48	0.45
2:K:196:ASP:OD1	2:K:196:ASP:N	2.46	0.45
2:L:249:ILE:HB	2:L:275:ALA:HA	1.97	0.45
2:L:350:ARG:CA	2:L:353:ILE:CG1	2.86	0.45
2:L:429:LEU:HB3	2:L:440:ILE:HG21	1.99	0.45
2:M:18:ARG:HA	2:M:21:ASN:HB2	1.99	0.45
2:N:140:ASP:OD2	2:N:142:LYS:HE3	2.17	0.45
1:S:79:ASP:O	1:S:80:ASN:ND2	2.50	0.45
1:X:17:VAL:HA	1:X:34:LYS:HG2	1.99	0.45
2:A:343:GLN:HA	2:A:346:VAL:HB	1.99	0.44
2:A:365:LEU:HA	2:A:368:ARG:HG2	1.98	0.44
2:B:350:ARG:HD3	2:B:353:ILE:HD12	1.99	0.44
2:C:149:THR:HG22	2:C:154:SER:HA	1.98	0.44
2:C:178:GLU:OE1	2:C:379:ILE:N	2.39	0.44
2:D:77:VAL:HG23	2:D:506:TYR:HB3	1.98	0.44
2:E:421:ARG:CZ	2:E:473:ASP:HA	2.47	0.44
2:E:518:GLU:HB2	2:F:36:ARG:HB2	1.97	0.44
2:G:340:ALA:O	2:G:343:GLN:HG3	2.17	0.44
2:H:99:ILE:HD13	2:H:446:ALA:HB3	1.98	0.44
2:I:97:GLN:O	2:I:97:GLN:NE2	2.48	0.44
2:J:231:ARG:NH2	1:X:29:GLY:H	2.14	0.44
2:J:260:ALA:O	2:J:264:VAL:CG2	2.62	0.44
2:K:114:MET:SD	2:K:114:MET:N	2.90	0.44
2:N:150:ILE:HD11	2:N:492:GLY:O	2.16	0.44
2:N:200:LEU:HD13	2:N:276:VAL:HA	1.99	0.44
2:N:346:VAL:O	2:N:350:ARG:HG2	2.16	0.44
1:O:74:LYS:O	1:O:84:LEU:HA	2.17	0.44
1:X:8:ASP:OD2	1:X:9:ARG:NH2	2.34	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:169:VAL:HB	2:A:173:GLY:HA3	1.99	0.44
2:A:246:PRO:HB3	2:A:272:LYS:O	2.17	0.44
2:C:94:VAL:HG11	2:C:450:PRO:HA	1.99	0.44
2:C:305:ILE:HG13	2:D:263:VAL:HG11	2.00	0.44
2:D:464:VAL:HG23	2:L:463:SER:HB3	1.99	0.44
2:G:31:LEU:HA	2:G:51:LYS:HE2	1.99	0.44
2:H:302:SER:OG	2:H:304:GLU:OE1	2.31	0.44
2:I:25:ASP:HA	2:I:28:LYS:HG3	1.98	0.44
2:I:357:THR:HB	2:I:361:ASP:HB2	1.99	0.44
2:K:291:ASP:HB3	2:K:345:ARG:NE	2.32	0.44
2:L:213:VAL:HB	2:L:325:ILE:HB	2.00	0.44
2:L:449:ALA:HA	2:L:452:ARG:CZ	2.48	0.44
2:L:488:MET:SD	2:L:488:MET:N	2.90	0.44
1:U:88:GLU:O	1:U:91:ILE:HG12	2.17	0.44
1:V:15:LYS:O	1:V:16:GLU:HG2	2.16	0.44
1:2:65:VAL:HB	1:2:91:ILE:HD11	1.99	0.44
2:A:399:ALA:O	2:A:403:THR:HG23	2.16	0.44
2:B:217:SER:HA	2:B:320:ALA:O	2.17	0.44
2:B:299:THR:HB	2:B:316:ASP:OD1	2.17	0.44
2:B:355:GLU:H	2:B:362:ARG:NH2	2.15	0.44
2:C:282:GLY:HA2	2:C:285:ARG:HE	1.81	0.44
2:C:392:LYS:O	2:C:396:VAL:HG23	2.17	0.44
2:D:232:GLU:HG3	2:D:233:MET:N	2.33	0.44
2:E:219:PHE:O	2:E:249:ILE:HG12	2.18	0.44
2:G:215:LEU:O	2:G:322:ARG:HA	2.17	0.44
2:I:197:ARG:HD3	2:I:197:ARG:HA	1.74	0.44
2:J:267:MET:C	2:J:269:GLY:N	2.71	0.44
2:K:223:ALA:HA	2:K:301:ILE:HB	1.98	0.44
2:L:383:ALA:HB1	2:L:388:GLU:OE1	2.17	0.44
2:L:429:LEU:O	2:L:430:ARG:NH1	2.40	0.44
2:M:4:LYS:HB3	2:M:521:VAL:CG2	2.47	0.44
2:M:10:ASN:OD1	2:M:11:ASP:N	2.49	0.44
2:M:190:VAL:HG13	2:M:194:GLN:HB3	1.99	0.44
2:M:255:GLU:O	2:M:259:LEU:HG	2.18	0.44
1:O:14:ARG:HH11	1:O:84:LEU:HD13	1.82	0.44
1:V:88:GLU:O	1:V:91:ILE:HG22	2.16	0.44
1:2:6:LEU:O	1:2:9:ARG:HG3	2.17	0.44
2:A:117:LYS:HA	2:A:120:ILE:HG12	1.98	0.44
2:C:80:LYS:NZ	2:D:384:ALA:O	2.51	0.44
2:D:68:ASN:O	2:D:72:GLN:HG2	2.17	0.44
2:D:166:MET:HA	2:D:169:VAL:HG22	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:347:ALA:HA	2:E:350:ARG:HG2	1.98	0.44
2:F:165:ALA:HB2	2:F:187:LEU:HD11	2.00	0.44
2:H:193:MET:CG	2:H:332:ILE:HB	2.47	0.44
2:H:247:LEU:HB2	2:H:273:VAL:HG22	1.98	0.44
2:I:125:THR:O	2:I:129:GLU:HG2	2.17	0.44
2:J:87:ASP:OD1	2:J:88:GLY:N	2.44	0.44
2:J:237:LEU:HD11	2:J:265:ASN:ND2	2.33	0.44
2:K:87:ASP:OD1	2:K:88:GLY:N	2.47	0.44
2:K:487:ASN:HB3	2:K:490:ASP:HB2	1.98	0.44
2:K:510:VAL:O	2:K:513:LEU:HG	2.17	0.44
2:L:230:ILE:HB	2:L:232:GLU:HG2	2.00	0.44
2:L:302:SER:HB2	2:L:307:MET:SD	2.58	0.44
2:M:451:LEU:HD13	2:M:454:ILE:HD12	2.00	0.44
2:N:321:LYS:HB2	2:N:334:ASP:HB2	1.99	0.44
2:N:353:ILE:O	2:N:362:ARG:NE	2.46	0.44
1:R:15:LYS:HD2	1:R:39:GLU:OE2	2.17	0.44
1:U:15:LYS:HG2	1:U:38:GLY:HA2	2.00	0.44
1:Z:66:ILE:HG22	1:Z:92:LEU:HD12	1.99	0.44
2:A:247:LEU:HG	2:A:273:VAL:HG22	1.99	0.44
2:A:285:ARG:O	2:A:289:LEU:HG	2.17	0.44
2:D:351:GLN:NE2	2:D:351:GLN:O	2.51	0.44
2:D:432:GLN:HB2	2:D:436:GLN:NE2	2.32	0.44
2:G:352:GLN:O	2:G:355:GLU:HB2	2.18	0.44
2:I:101:THR:O	2:I:104:LEU:HG	2.18	0.44
2:J:233:MET:SD	2:J:236:VAL:HB	2.58	0.44
2:L:81:ALA:O	2:L:85:ALA:N	2.48	0.44
2:L:288:MET:HA	2:L:291:ASP:OD2	2.17	0.44
1:P:8:ASP:OD2	1:P:88:GLU:N	2.47	0.44
1:Q:37:ARG:HH22	1:Q:95:VAL:CG2	2.29	0.44
1:S:37:ARG:HG2	1:S:64:ILE:HD11	1.98	0.44
1:S:59:VAL:HG23	1:S:63:ASP:HB2	1.99	0.44
1:X:18:GLU:O	1:X:20:LYS:N	2.50	0.44
2:A:323:VAL:HB	2:A:325:ILE:HD11	2.00	0.44
2:A:467:ASN:HA	2:A:470:LYS:HE3	2.00	0.44
2:B:161:LEU:HD23	2:B:187:LEU:HD13	2.00	0.44
2:B:369:VAL:HA	2:B:372:LEU:HD12	2.00	0.44
2:D:111:MET:HG2	2:D:116:LEU:HD21	1.98	0.44
2:D:200:LEU:HD11	2:D:277:LYS:H	1.82	0.44
2:D:231:ARG:HE	2:D:237:LEU:HD22	1.82	0.44
2:D:349:ILE:O	2:D:365:LEU:HD21	2.18	0.44
2:D:416:GLY:O	2:D:419:LEU:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:450:PRO:O	2:E:454:ILE:HG13	2.18	0.44
2:F:279:PRO:HB2	2:F:284:ARG:NH1	2.32	0.44
2:F:386:GLU:O	2:F:390:LYS:HG3	2.18	0.44
2:G:479:ASN:HB3	2:G:482:THR:OG1	2.17	0.44
2:H:51:LYS:HB3	2:H:395:ARG:NH1	2.32	0.44
2:H:186:GLU:HB3	2:H:380:LYS:HE2	1.99	0.44
2:I:116:LEU:O	2:I:120:ILE:HG12	2.18	0.44
2:K:265:ASN:HA	2:K:270:ILE:HD13	2.00	0.44
2:N:194:GLN:HE21	2:N:329:THR:HB	1.83	0.44
1:P:14:ARG:HG3	1:P:82:GLU:HG3	2.00	0.44
1:U:7:HIS:H	1:U:45:ASN:HD21	1.65	0.44
1:1:40:VAL:HG12	1:1:61:VAL:HA	1.99	0.44
2:A:288:MET:O	2:A:292:ILE:HG13	2.18	0.44
2:C:55:SER:HA	2:C:58:ARG:NH1	2.33	0.44
2:C:193:MET:H	2:C:332:ILE:HG23	1.83	0.44
2:D:226:LYS:HE2	2:D:253:ASP:OD2	2.17	0.44
2:E:37:ASN:HB3	2:E:49:ILE:HG13	1.99	0.44
2:E:266:THR:HG22	2:E:272:LYS:HA	2.00	0.44
2:G:219:PHE:HB2	2:G:246:PRO:O	2.17	0.44
2:G:230:ILE:O	2:G:231:ARG:HG2	2.17	0.44
2:H:326:ASN:HB3	2:H:329:THR:HG22	2.00	0.44
2:L:422:VAL:O	2:L:426:LEU:HG	2.18	0.44
2:M:278:ALA:HB1	2:M:285:ARG:HD3	1.99	0.44
1:O:10:VAL:HG23	1:O:86:MET:SD	2.58	0.44
2:A:393:LYS:HA	2:A:393:LYS:HD3	1.76	0.44
2:B:24:ALA:HB1	2:B:28:LYS:HE2	1.99	0.44
2:B:31:LEU:HG	2:B:32:GLY:N	2.33	0.44
2:B:219:PHE:H	2:B:247:LEU:HA	1.83	0.44
2:C:180:GLY:HA3	2:C:381:VAL:N	2.32	0.44
2:E:221:LEU:HD11	2:E:300:VAL:HA	2.00	0.44
2:E:479:ASN:HB2	2:E:491:MET:SD	2.58	0.44
2:G:496:PRO:O	2:G:499:VAL:HG22	2.17	0.44
2:H:507:ALA:HA	2:H:510:VAL:HG22	2.00	0.44
2:I:226:LYS:HE3	2:I:253:ASP:HB3	2.00	0.44
2:L:137:PRO:HA	2:L:410:GLY:HA3	2.00	0.44
2:L:379:ILE:HG22	2:L:381:VAL:HG23	1.99	0.44
2:M:12:ALA:HA	2:M:15:LYS:NZ	2.33	0.44
2:M:15:LYS:HA	2:M:18:ARG:HH11	1.83	0.44
2:M:223:ALA:O	2:M:251:ALA:HA	2.17	0.44
2:N:96:ALA:O	2:N:100:ILE:HG13	2.17	0.44
2:N:127:ALA:HB2	2:N:426:LEU:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:262:LEU:O	2:N:266:THR:HG23	2.17	0.44
1:X:15:LYS:HE2	1:X:37:ARG:HH12	1.83	0.44
1:Y:10:VAL:HG22	1:Y:43:VAL:HG23	1.99	0.44
1:Y:11:ILE:HD11	1:Y:83:VAL:HB	2.00	0.44
1:Y:14:ARG:NH1	1:Y:35:SER:HB2	2.33	0.44
2:A:234:LEU:HA	2:A:237:LEU:HB2	2.00	0.44
2:B:34:LYS:HD2	2:B:458:CYS:O	2.18	0.44
2:B:103:GLY:O	2:B:107:VAL:HG23	2.17	0.44
2:B:440:ILE:O	2:B:444:LEU:HD23	2.17	0.44
2:C:124:VAL:HG21	2:C:508:ALA:HB2	1.99	0.44
2:C:260:ALA:O	2:C:264:VAL:HG23	2.18	0.44
2:E:220:ILE:HB	2:E:250:ILE:H	1.82	0.44
2:F:14:VAL:O	2:F:17:LEU:HB3	2.18	0.44
2:F:413:ALA:HB2	2:F:489:ILE:HG12	1.98	0.44
2:G:507:ALA:HA	2:G:510:VAL:HG22	2.00	0.44
2:H:189:VAL:HG22	2:H:377:ALA:HA	2.00	0.44
2:H:289:LEU:HD23	2:H:292:ILE:HD12	2.00	0.44
2:H:450:PRO:O	2:H:454:ILE:HG13	2.18	0.44
2:I:416:GLY:HA2	2:I:419:LEU:HD23	1.98	0.44
2:I:431:GLY:N	2:I:437:ASN:OD1	2.24	0.44
2:K:285:ARG:O	2:K:289:LEU:HG	2.18	0.44
2:L:397:GLU:HG3	2:L:401:HIS:NE2	2.32	0.44
2:M:65:LYS:HD3	2:M:522:THR:OG1	2.17	0.44
2:M:270:ILE:HG22	2:M:270:ILE:O	2.16	0.44
2:M:430:ARG:HD3	2:M:431:GLY:O	2.18	0.44
1:O:48:ILE:HA	1:O:54:VAL:HG12	1.99	0.44
1:P:67:PHE:HA	1:P:92:LEU:HG	1.99	0.44
1:W:8:ASP:HB2	1:W:47:ARG:HB2	2.00	0.44
2:A:420:ILE:HD13	2:A:451:LEU:HD23	2.00	0.43
2:B:24:ALA:HA	2:B:97:GLN:OE1	2.18	0.43
2:B:69:MET:HE2	2:C:47:PRO:HG2	2.00	0.43
2:C:501:ARG:O	2:C:504:LEU:HG	2.18	0.43
2:D:423:ALA:HA	2:D:444:LEU:HD11	2.00	0.43
2:F:56:VAL:O	2:F:60:ILE:HG12	2.17	0.43
2:G:176:THR:OG1	2:G:178:GLU:OE2	2.24	0.43
2:G:307:MET:HE1	2:G:312:ALA:HA	2.00	0.43
2:K:15:LYS:HD3	2:K:18:ARG:HE	1.83	0.43
2:L:412:VAL:HG12	2:L:413:ALA:N	2.32	0.43
2:L:498:LYS:HG3	2:L:501:ARG:NH2	2.32	0.43
2:M:112:ASN:HB3	2:M:115:ASP:HB2	2.00	0.43
2:N:433:ASN:OD1	2:N:436:GLN:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:86:MET:SD	1:O:86:MET:N	2.91	0.43
1:S:94:ILE:HG13	1:S:94:ILE:O	2.18	0.43
1:V:95:VAL:HA	1:W:3:ILE:HB	2.00	0.43
2:B:391:GLU:OE2	2:B:395:ARG:NE	2.40	0.43
2:E:279:PRO:HG2	2:E:289:LEU:HD21	1.99	0.43
2:F:259:LEU:O	2:F:263:VAL:HG23	2.18	0.43
2:G:441:LYS:HG3	2:G:445:ARG:HH22	1.83	0.43
2:H:223:ALA:HB1	2:H:227:ILE:HD11	2.00	0.43
2:H:263:VAL:O	2:H:267:MET:HE2	2.18	0.43
2:I:177:VAL:HB	2:I:396:VAL:HG11	2.00	0.43
2:J:20:VAL:O	2:J:23:LEU:HG	2.18	0.43
2:J:239:ALA:O	2:J:242:LYS:HG3	2.17	0.43
2:L:7:LYS:HB2	2:L:520:MET:HG3	2.00	0.43
2:M:197:ARG:HD3	2:M:197:ARG:HA	1.81	0.43
2:N:216:GLU:OE1	2:N:322:ARG:HG3	2.18	0.43
2:N:228:SER:HB3	2:N:255:GLU:CD	2.38	0.43
1:P:7:HIS:HD2	1:P:9:ARG:HH12	1.65	0.43
1:2:7:HIS:HE1	1:2:48:ILE:HD13	1.84	0.43
2:A:56:VAL:HG12	2:A:60:ILE:HD11	2.00	0.43
2:A:219:PHE:CE2	2:A:245:LYS:HB2	2.53	0.43
2:A:311:LYS:HA	2:A:311:LYS:HD2	1.81	0.43
2:A:321:LYS:HD3	2:A:334:ASP:HB3	2.00	0.43
2:C:150:ILE:HD12	2:C:493:ILE:HG12	2.00	0.43
2:D:291:ASP:O	2:D:294:THR:OG1	2.30	0.43
2:E:31:LEU:HD21	2:E:454:ILE:HA	2.00	0.43
2:E:94:VAL:HG21	2:E:450:PRO:HA	1.99	0.43
2:E:409:GLU:OE1	2:E:501:ARG:NH2	2.34	0.43
2:H:358:SER:HA	2:H:362:ARG:HD2	2.00	0.43
2:J:386:GLU:HA	2:J:389:MET:CE	2.48	0.43
2:L:20:VAL:HG11	2:L:100:ILE:HD11	2.00	0.43
2:L:281:PHE:CZ	2:L:284:ARG:HB2	2.53	0.43
2:L:368:ARG:O	2:L:372:LEU:HG	2.18	0.43
2:M:510:VAL:O	2:M:513:LEU:HG	2.18	0.43
2:N:268:ARG:NH1	2:N:270:ILE:HB	2.33	0.43
1:O:7:HIS:HD2	1:O:48:ILE:CD1	2.25	0.43
1:P:4:ARG:NH1	1:P:6:LEU:HD23	2.34	0.43
1:U:13:LYS:HE2	1:U:82:GLU:OE2	2.18	0.43
1:1:45:ASN:OD1	1:1:46:GLY:N	2.52	0.43
2:B:321:LYS:HB2	2:B:334:ASP:CB	2.48	0.43
2:B:345:ARG:O	2:B:348:GLN:HG3	2.19	0.43
2:C:152:ALA:C	2:C:395:ARG:HH11	2.20	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:386:GLU:HA	2:D:389:MET:HE2	2.01	0.43
2:D:421:ARG:CZ	2:D:473:ASP:HA	2.48	0.43
2:E:199:TYR:HB2	2:E:204:PHE:HB3	1.99	0.43
2:F:140:ASP:OD2	2:F:142:LYS:HE3	2.18	0.43
2:G:22:VAL:HG11	2:G:62:LEU:HD21	2.01	0.43
2:J:13:ARG:O	2:J:17:LEU:HG	2.18	0.43
2:J:506:TYR:O	2:J:510:VAL:HG13	2.19	0.43
2:K:160:LYS:HD2	2:K:160:LYS:HA	1.79	0.43
2:M:40:LEU:HD21	2:M:56:VAL:HG22	2.01	0.43
2:N:451:LEU:HA	2:N:454:ILE:HD12	2.00	0.43
2:N:452:ARG:NH1	2:N:463:SER:OG	2.46	0.43
1:Y:36:THR:HG22	1:Y:37:ARG:HH11	1.83	0.43
1:Y:36:THR:O	1:Y:66:ILE:HG12	2.18	0.43
2:C:31:LEU:HD22	2:C:90:THR:HB	1.99	0.43
2:C:98:ALA:O	2:C:101:THR:OG1	2.31	0.43
2:D:226:LYS:HA	2:D:253:ASP:O	2.18	0.43
2:D:414:GLY:HA2	2:D:495:ASP:CG	2.39	0.43
2:D:421:ARG:NH1	2:D:473:ASP:HA	2.33	0.43
2:D:498:LYS:HG3	2:D:499:VAL:N	2.34	0.43
2:E:77:VAL:HB	2:E:510:VAL:HG11	2.00	0.43
2:E:235:PRO:HA	2:E:238:GLU:HG2	2.00	0.43
2:F:230:ILE:HG22	2:F:232:GLU:H	1.84	0.43
2:G:199:TYR:HB2	2:G:204:PHE:HD2	1.82	0.43
2:H:475:ASN:HB3	2:H:488:MET:HB2	2.00	0.43
2:I:437:ASN:C	2:I:441:LYS:HZ2	2.21	0.43
2:J:192:GLY:HA3	2:J:332:ILE:O	2.19	0.43
2:J:461:GLU:OE1	2:J:464:VAL:N	2.45	0.43
2:K:230:ILE:HB	2:K:309:LEU:HD11	1.99	0.43
2:K:342:ILE:HG23	2:K:372:LEU:HD13	2.01	0.43
2:N:153:ASN:HB3	2:N:395:ARG:NH1	2.34	0.43
2:A:362:ARG:O	2:A:365:LEU:HG	2.19	0.43
2:D:179:ASP:OD1	2:D:180:GLY:N	2.52	0.43
2:E:27:VAL:HG11	2:E:93:THR:HB	1.99	0.43
2:E:165:ALA:O	2:E:169:VAL:HG22	2.19	0.43
2:F:255:GLU:OE1	2:F:255:GLU:N	2.52	0.43
2:G:222:LEU:HD22	2:G:299:THR:O	2.19	0.43
2:H:216:GLU:HG3	2:H:322:ARG:HH11	1.83	0.43
2:I:339:GLU:O	2:I:342:ILE:HB	2.18	0.43
2:K:31:LEU:HB2	2:K:457:ASN:HD22	1.83	0.43
2:K:118:ARG:O	2:K:122:LYS:HG3	2.18	0.43
2:K:120:ILE:O	2:K:124:VAL:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:358:SER:H	2:L:362:ARG:NE	2.01	0.43
2:M:116:LEU:O	2:M:120:ILE:HG12	2.19	0.43
2:M:416:GLY:O	2:M:419:LEU:HB2	2.18	0.43
2:N:447:MET:O	2:N:450:PRO:HD2	2.18	0.43
1:U:13:LYS:HB2	1:U:41:LEU:HD11	1.99	0.43
1:X:11:ILE:HD13	1:X:85:ILE:HG13	1.99	0.43
1:2:73:VAL:HG22	1:2:86:MET:HB2	2.01	0.43
2:A:16:MET:SD	2:A:70:GLY:HA3	2.58	0.43
2:B:305:ILE:HB	2:B:307:MET:HG3	2.00	0.43
2:B:404:ARG:O	2:B:407:VAL:N	2.51	0.43
2:B:502:SER:O	2:B:505:GLN:HG3	2.19	0.43
2:C:269:GLY:HA2	2:C:272:LYS:HE3	2.00	0.43
2:C:393:LYS:O	2:C:397:GLU:OE1	2.36	0.43
2:C:450:PRO:O	2:C:454:ILE:HG13	2.18	0.43
2:C:461:GLU:HA	2:C:462:PRO:HD3	1.91	0.43
2:D:99:ILE:HD11	2:D:511:ALA:HB3	2.00	0.43
2:D:292:ILE:HD12	2:D:295:LEU:HB3	2.01	0.43
2:E:440:ILE:O	2:E:444:LEU:HG	2.19	0.43
2:F:69:MET:HA	2:F:72:GLN:HG2	2.00	0.43
2:F:82:ASN:HA	2:F:86:GLY:HA2	2.00	0.43
2:F:479:ASN:O	2:F:483:GLU:N	2.52	0.43
2:G:138:CYS:HB3	2:G:411:VAL:HG22	1.99	0.43
2:G:449:ALA:HA	2:G:452:ARG:HG2	1.99	0.43
2:H:195:PHE:CE2	2:H:197:ARG:HB2	2.53	0.43
2:H:279:PRO:HG2	2:H:289:LEU:HD21	2.01	0.43
2:H:284:ARG:HD3	2:H:284:ARG:HA	1.78	0.43
2:H:386:GLU:HA	2:H:389:MET:HE2	2.00	0.43
2:I:219:PHE:O	2:I:247:LEU:HD12	2.19	0.43
2:J:400:LEU:O	2:J:403:THR:OG1	2.29	0.43
2:K:39:VAL:O	2:K:40:LEU:HD23	2.19	0.43
2:K:309:LEU:HD12	2:K:310:GLU:N	2.33	0.43
2:K:346:VAL:HA	2:K:349:ILE:HG22	2.01	0.43
2:L:101:THR:O	2:L:105:LYS:HE2	2.18	0.43
2:L:193:MET:HE3	2:L:295:LEU:HD13	2.00	0.43
2:L:194:GLN:HA	2:L:331:THR:HA	2.00	0.43
2:L:207:LYS:HZ3	2:L:214:GLU:H	1.67	0.43
2:L:349:ILE:O	2:L:353:ILE:N	2.50	0.43
2:L:381:VAL:HB	2:L:393:LYS:NZ	2.34	0.43
2:L:389:MET:O	2:L:393:LYS:HG2	2.18	0.43
2:M:95:LEU:HD13	2:M:447:MET:HA	2.00	0.43
2:N:240:VAL:HG11	2:N:247:LEU:HD22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:478:TYR:HB2	2:N:485:TYR:CD1	2.54	0.43
1:S:10:VAL:HG23	1:S:86:MET:SD	2.58	0.43
1:Y:73:VAL:HG22	1:Y:86:MET:HB3	2.01	0.43
1:2:21:SER:HA	1:2:27:LEU:HA	2.01	0.43
2:A:229:ASN:HA	2:A:231:ARG:NH1	2.33	0.43
2:A:429:LEU:HB3	2:A:440:ILE:HG21	2.00	0.43
2:B:355:GLU:H	2:B:362:ARG:HH21	1.67	0.43
2:E:191:GLU:C	2:E:194:GLN:HE22	2.22	0.43
2:E:516:THR:C	2:F:49:ILE:HD11	2.38	0.43
2:H:291:ASP:CG	2:H:345:ARG:HH21	2.22	0.43
2:L:88:GLY:O	2:L:91:THR:OG1	2.23	0.43
2:L:441:LYS:HZ3	2:L:445:ARG:HD2	1.83	0.43
2:M:140:ASP:OD1	2:M:140:ASP:N	2.51	0.43
2:M:230:ILE:O	2:M:230:ILE:HG22	2.18	0.43
2:N:80:LYS:HA	2:N:83:ASP:OD2	2.19	0.43
2:N:349:ILE:O	2:N:353:ILE:HG13	2.18	0.43
1:X:15:LYS:HZ2	1:X:39:GLU:HB2	1.83	0.43
2:A:165:ALA:O	2:A:169:VAL:HG22	2.18	0.43
2:A:511:ALA:HA	2:A:514:MET:HG3	2.00	0.43
2:D:98:ALA:O	2:D:102:GLU:HG2	2.19	0.43
2:D:111:MET:HG3	2:D:112:ASN:N	2.34	0.43
2:E:179:ASP:HA	2:E:380:LYS:HA	2.01	0.43
2:F:3:ALA:HB3	2:F:524:LEU:H	1.83	0.43
2:F:475:ASN:OD1	2:F:489:ILE:HD12	2.18	0.43
2:G:23:LEU:HD21	2:G:60:ILE:HG21	2.00	0.43
2:G:455:VAL:HG11	2:G:462:PRO:HA	2.01	0.43
2:G:475:ASN:HB3	2:G:488:MET:N	2.25	0.43
2:H:54:VAL:HG22	2:H:58:ARG:HG3	2.01	0.43
2:H:361:ASP:HA	2:H:364:LYS:NZ	2.34	0.43
2:I:55:SER:HA	2:I:58:ARG:CZ	2.48	0.43
2:J:217:SER:HA	2:J:320:ALA:O	2.19	0.43
2:J:236:VAL:O	2:J:240:VAL:HG23	2.19	0.43
2:K:221:LEU:HG	2:K:249:ILE:HA	2.01	0.43
2:K:393:LYS:O	2:K:397:GLU:OE1	2.36	0.43
2:L:130:GLU:OE1	2:L:422:VAL:HB	2.19	0.43
2:L:193:MET:HE1	2:L:292:ILE:HA	2.01	0.43
2:M:203:TYR:HD2	2:M:263:VAL:HG11	1.84	0.43
2:M:507:ALA:HA	2:M:510:VAL:HG22	2.01	0.43
1:S:49:LEU:O	1:S:50:GLU:HG3	2.19	0.43
1:U:6:LEU:HD12	1:U:9:ARG:HH21	1.84	0.43
1:2:12:VAL:HG22	1:2:40:VAL:HA	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:40:LEU:O	2:A:47:PRO:CA	2.61	0.43
2:A:91:THR:HA	2:A:94:VAL:HG12	2.00	0.43
2:B:222:LEU:O	2:B:301:ILE:HB	2.19	0.43
2:B:227:ILE:HG12	2:B:254:VAL:HA	2.00	0.43
2:D:113:PRO:HB2	2:D:516:THR:HG22	1.99	0.43
2:H:10:ASN:OD1	2:H:10:ASN:N	2.52	0.43
2:H:240:VAL:HG11	2:H:247:LEU:HG	2.01	0.43
2:I:253:ASP:HA	2:I:277:LYS:HZ1	1.84	0.43
2:J:286:LYS:HA	2:J:289:LEU:HG	2.01	0.43
2:K:177:VAL:HG11	2:K:393:LYS:HG3	2.01	0.43
2:K:219:PHE:HE2	2:K:245:LYS:HD2	1.84	0.43
2:K:511:ALA:HA	2:K:514:MET:HG3	2.01	0.43
2:L:57:ALA:HA	2:L:60:ILE:HG22	2.01	0.43
2:L:280:GLY:O	2:L:285:ARG:NE	2.38	0.43
2:L:355:GLU:C	2:L:357:THR:H	2.22	0.43
2:N:114:MET:HA	2:N:117:LYS:HE2	2.01	0.43
1:Q:47:ARG:CZ	1:Q:55:LYS:HG2	2.49	0.43
1:S:12:VAL:HA	1:S:41:LEU:H	1.83	0.43
1:Z:9:ARG:HB2	1:Z:85:ILE:HG13	2.00	0.43
2:A:74:VAL:O	2:A:77:VAL:HG12	2.19	0.42
2:A:95:LEU:HD11	2:A:507:ALA:CB	2.49	0.42
2:A:250:ILE:O	2:A:250:ILE:HG22	2.19	0.42
2:B:14:VAL:HG12	2:B:18:ARG:NH1	2.34	0.42
2:C:205:ILE:HA	2:C:213:VAL:HG22	2.01	0.42
2:C:351:GLN:HG2	2:D:210:THR:HG21	2.01	0.42
2:C:449:ALA:HA	2:C:452:ARG:HG2	1.99	0.42
2:E:76:GLU:OE2	2:E:80:LYS:HD2	2.18	0.42
2:E:82:ASN:HA	2:E:86:GLY:HA2	1.99	0.42
2:F:238:GLU:O	2:F:241:ALA:HB3	2.19	0.42
2:G:206:ASN:HB3	2:G:213:VAL:HA	2.00	0.42
2:G:349:ILE:HD12	2:G:372:LEU:HD11	2.00	0.42
2:H:8:PHE:HE2	2:I:26:ALA:HA	1.84	0.42
2:H:54:VAL:O	2:H:58:ARG:HG3	2.19	0.42
2:I:146:GLN:O	2:I:150:ILE:HG12	2.19	0.42
2:J:92:ALA:O	2:J:95:LEU:HG	2.19	0.42
2:K:112:ASN:ND2	2:K:114:MET:SD	2.92	0.42
2:K:224:ASP:HB2	2:K:302:SER:HA	2.01	0.42
2:K:479:ASN:HB2	2:K:491:MET:SD	2.59	0.42
2:L:65:LYS:HG2	2:L:69:MET:HE1	2.01	0.42
2:L:222:LEU:O	2:L:301:ILE:HG22	2.19	0.42
2:M:15:LYS:HA	2:M:18:ARG:NH1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:77:VAL:HA	2:M:80:LYS:HG2	2.00	0.42
2:M:82:ASN:HA	2:M:86:GLY:HA2	2.01	0.42
2:N:9:GLY:O	2:N:13:ARG:HG2	2.19	0.42
2:N:117:LYS:CG	2:N:515:ILE:HD11	2.48	0.42
1:Q:39:GLU:CD	1:Q:41:LEU:H	2.23	0.42
1:X:45:ASN:OD1	1:X:46:GLY:N	2.51	0.42
1:X:93:ALA:HB1	1:Y:3:ILE:HG12	2.00	0.42
1:Z:13:LYS:HG2	1:Z:39:GLU:HG3	2.00	0.42
2:A:194:GLN:HB2	2:A:371:LYS:HE3	2.02	0.42
2:B:147:VAL:HA	2:B:150:ILE:HG12	2.00	0.42
2:B:297:GLY:HA3	2:B:336:VAL:HB	2.01	0.42
2:B:498:LYS:HA	2:B:501:ARG:NE	2.34	0.42
2:C:280:GLY:O	2:C:285:ARG:NH2	2.52	0.42
2:C:305:ILE:CG2	2:C:306:GLY:H	2.29	0.42
2:C:349:ILE:O	2:C:353:ILE:HG13	2.19	0.42
2:D:28:LYS:CE	2:D:93:THR:HG22	2.49	0.42
2:E:236:VAL:O	2:E:240:VAL:HG23	2.18	0.42
2:E:279:PRO:HB2	2:E:285:ARG:HG3	2.01	0.42
2:F:256:GLY:O	2:F:259:LEU:HG	2.18	0.42
2:F:467:ASN:HD22	2:F:467:ASN:HA	1.68	0.42
2:G:206:ASN:HD22	2:G:213:VAL:HG13	1.84	0.42
2:H:152:ALA:HB1	2:H:155:ASP:HB3	2.01	0.42
2:H:322:ARG:HB3	2:H:333:ILE:HD12	2.01	0.42
2:J:23:LEU:HD22	2:J:74:VAL:HG21	2.01	0.42
2:J:194:GLN:HB2	2:J:331:THR:HG23	2.00	0.42
2:L:116:LEU:HA	2:L:439:GLY:HA3	2.01	0.42
2:L:125:THR:O	2:L:129:GLU:HG2	2.19	0.42
2:L:281:PHE:O	2:L:285:ARG:HG2	2.19	0.42
2:L:451:LEU:HD12	2:L:452:ARG:N	2.35	0.42
2:M:15:LYS:HD2	2:M:66:PHE:CD2	2.54	0.42
2:M:207:LYS:N	2:M:208:PRO:HD2	2.34	0.42
2:M:479:ASN:HB2	2:M:491:MET:SD	2.60	0.42
2:N:238:GLU:O	2:N:241:ALA:HB3	2.18	0.42
1:O:45:ASN:OD1	1:O:46:GLY:N	2.53	0.42
1:P:49:LEU:HD11	1:P:55:LYS:HZ3	1.84	0.42
1:S:10:VAL:O	1:S:85:ILE:HD12	2.19	0.42
1:Y:35:SER:HB3	1:Y:67:PHE:CZ	2.55	0.42
2:B:219:PHE:HE2	2:B:244:GLY:HA3	1.83	0.42
2:B:325:ILE:HG13	2:B:330:THR:HG23	2.00	0.42
2:D:219:PHE:O	2:D:247:LEU:HD12	2.19	0.42
2:E:234:LEU:N	2:E:235:PRO:HD2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:433:ASN:HD21	2:G:435:ASP:HB2	1.84	0.42
2:J:65:LYS:HE2	2:J:523:ASP:HB2	2.00	0.42
2:J:507:ALA:HA	2:J:510:VAL:HG22	2.01	0.42
2:K:255:GLU:OE2	2:K:258:ALA:N	2.43	0.42
2:L:278:ALA:HB1	2:L:285:ARG:HB2	2.01	0.42
2:M:54:VAL:O	2:M:58:ARG:HG3	2.20	0.42
2:M:238:GLU:HA	2:M:241:ALA:HB3	2.01	0.42
2:N:124:VAL:O	2:N:128:VAL:HG23	2.19	0.42
1:U:34:LYS:HZ3	1:U:67:PHE:HE2	1.67	0.42
1:U:65:VAL:HB	1:U:94:ILE:HG22	2.00	0.42
1:X:11:ILE:HG23	1:X:41:LEU:HB3	2.01	0.42
1:2:77:LYS:NZ	1:2:80:ASN:HA	2.34	0.42
2:A:365:LEU:HA	2:A:368:ARG:NE	2.34	0.42
2:B:383:ALA:HB1	2:B:388:GLU:OE1	2.20	0.42
2:B:477:GLY:O	2:B:485:TYR:HD1	2.02	0.42
2:C:15:LYS:HG3	2:C:18:ARG:HH22	1.84	0.42
2:C:417:VAL:O	2:C:421:ARG:HG2	2.19	0.42
2:D:66:PHE:HA	2:D:69:MET:CE	2.49	0.42
2:D:128:VAL:HG21	2:D:505:GLN:HE21	1.84	0.42
2:G:362:ARG:O	2:G:366:GLN:HG3	2.19	0.42
2:H:125:THR:O	2:H:129:GLU:HG2	2.20	0.42
2:I:63:GLU:HG2	2:I:64:ASP:N	2.33	0.42
2:I:175:ILE:HA	2:I:377:ALA:HB3	2.02	0.42
2:J:180:GLY:O	2:J:382:GLY:HA2	2.20	0.42
2:J:368:ARG:O	2:J:372:LEU:HG	2.18	0.42
2:K:180:GLY:HA2	2:K:380:LYS:HZ2	1.84	0.42
2:L:152:ALA:O	2:L:395:ARG:HD2	2.19	0.42
2:M:340:ALA:O	2:M:343:GLN:NE2	2.52	0.42
2:N:348:GLN:O	2:N:352:GLN:HG3	2.19	0.42
1:O:39:GLU:OE1	1:O:39:GLU:N	2.53	0.42
1:O:92:LEU:O	1:P:9:ARG:HD2	2.19	0.42
1:U:48:ILE:HA	1:U:53:GLU:O	2.19	0.42
1:V:68:ASN:HB2	1:V:92:LEU:HD11	2.01	0.42
1:X:19:THR:O	1:X:19:THR:HG23	2.19	0.42
1:2:7:HIS:HA	1:2:46:GLY:O	2.19	0.42
2:B:69:MET:O	2:B:72:GLN:HG2	2.19	0.42
2:C:24:ALA:O	2:C:28:LYS:HG3	2.18	0.42
2:C:76:GLU:O	2:C:80:LYS:HG3	2.19	0.42
2:C:342:ILE:H	2:C:342:ILE:HD12	1.84	0.42
2:F:358:SER:HA	2:F:362:ARG:NE	2.35	0.42
2:H:165:ALA:O	2:H:168:LYS:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:421:ARG:HD3	2:I:421:ARG:HA	1.86	0.42
2:J:405:ALA:HB1	2:J:498:LYS:HB3	2.00	0.42
2:J:456:LEU:HB2	2:J:462:PRO:HG3	2.01	0.42
2:J:511:ALA:O	2:J:515:ILE:HG13	2.19	0.42
2:K:115:ASP:HB3	2:K:435:ASP:HB3	2.01	0.42
2:N:66:PHE:HA	2:N:69:MET:SD	2.59	0.42
1:U:15:LYS:HA	1:U:15:LYS:HD3	1.68	0.42
2:A:197:ARG:HH11	2:A:277:LYS:HE2	1.85	0.42
2:A:224:ASP:HA	2:A:252:GLU:HB2	2.01	0.42
2:A:283:ASP:O	2:A:286:LYS:HG3	2.19	0.42
2:B:54:VAL:O	2:B:58:ARG:HG2	2.20	0.42
2:B:394:ALA:O	2:B:397:GLU:HG2	2.20	0.42
2:D:92:ALA:HB1	2:D:507:ALA:HB2	2.01	0.42
2:D:169:VAL:HG11	2:D:377:ALA:HB2	2.02	0.42
2:D:200:LEU:HD11	2:D:277:LYS:N	2.34	0.42
2:D:504:LEU:HD12	2:D:505:GLN:N	2.34	0.42
2:E:321:LYS:HB2	2:E:334:ASP:HB2	2.02	0.42
2:I:74:VAL:O	2:I:77:VAL:HG12	2.20	0.42
2:K:58:ARG:HA	2:K:75:LYS:HE2	2.02	0.42
2:K:498:LYS:HG3	2:K:501:ARG:NH2	2.34	0.42
2:L:197:ARG:HD3	2:L:197:ARG:HA	1.85	0.42
2:M:97:GLN:O	2:M:101:THR:HG23	2.19	0.42
2:N:417:VAL:O	2:N:420:ILE:CG1	2.65	0.42
1:S:60:LYS:HG2	1:S:63:ASP:OD2	2.19	0.42
1:S:94:ILE:O	1:T:3:ILE:HG13	2.19	0.42
1:Z:14:ARG:NH2	1:Z:35:SER:OG	2.41	0.42
2:B:289:LEU:HD23	2:B:292:ILE:HD12	2.01	0.42
2:B:497:THR:O	2:B:501:ARG:HG2	2.19	0.42
2:C:66:PHE:HA	2:C:69:MET:HG2	2.02	0.42
2:D:37:ASN:HB3	2:D:49:ILE:CD1	2.49	0.42
2:D:186:GLU:HB3	2:D:380:LYS:HE2	2.02	0.42
2:E:12:ALA:HB3	2:E:520:MET:CE	2.50	0.42
2:E:421:ARG:NH1	2:E:473:ASP:OD1	2.53	0.42
2:F:100:ILE:HG13	2:F:101:THR:N	2.34	0.42
2:G:102:GLU:HB3	2:G:442:VAL:CG1	2.50	0.42
2:G:166:MET:CE	2:G:171:LYS:HA	2.50	0.42
2:H:183:LEU:HG	2:H:383:ALA:HA	2.00	0.42
2:H:214:GLU:HG2	2:H:324:VAL:HG22	2.02	0.42
2:H:363:GLU:HG2	2:H:364:LYS:N	2.34	0.42
2:J:27:VAL:HG13	2:J:53:GLY:HA3	2.02	0.42
2:J:168:LYS:NZ	2:J:187:LEU:HD21	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:213:VAL:HB	2:J:325:ILE:O	2.20	0.42
2:K:215:LEU:O	2:K:322:ARG:HA	2.19	0.42
2:M:131:LEU:HD11	2:M:501:ARG:HG3	2.01	0.42
2:M:448:GLU:O	2:M:452:ARG:HG3	2.20	0.42
2:N:265:ASN:O	2:N:270:ILE:HG22	2.19	0.42
1:V:12:VAL:HG12	1:V:40:VAL:HA	2.00	0.42
1:X:7:HIS:ND1	1:X:45:ASN:OD1	2.52	0.42
1:1:26:VAL:HG11	2:M:269:GLY:HA2	2.01	0.42
2:A:81:ALA:HB1	2:A:89:THR:HG22	2.02	0.42
2:A:518:GLU:HG3	2:B:37:ASN:O	2.19	0.42
2:D:100:ILE:HG12	2:D:515:ILE:HD13	2.01	0.42
2:D:416:GLY:HA3	2:D:451:LEU:HD21	2.01	0.42
2:F:81:ALA:O	2:F:85:ALA:N	2.40	0.42
2:F:186:GLU:HB3	2:F:380:LYS:HG3	2.01	0.42
2:F:284:ARG:O	2:F:288:MET:HG3	2.20	0.42
2:F:345:ARG:O	2:F:348:GLN:HG3	2.19	0.42
2:H:321:LYS:CB	2:H:334:ASP:HB3	2.50	0.42
2:H:414:GLY:H	2:H:494:LEU:HA	1.85	0.42
2:H:488:MET:O	2:H:492:GLY:N	2.49	0.42
2:I:41:ASP:OD1	2:I:41:ASP:N	2.51	0.42
2:I:342:ILE:HG23	2:I:372:LEU:HD13	2.00	0.42
2:I:506:TYR:OH	2:J:384:ALA:O	2.29	0.42
2:J:58:ARG:O	2:J:75:LYS:NZ	2.28	0.42
2:J:362:ARG:O	2:J:366:GLN:HG3	2.19	0.42
2:J:488:MET:HB3	2:J:494:LEU:HD21	2.02	0.42
2:L:140:ASP:O	2:L:144:ILE:HG13	2.19	0.42
2:L:345:ARG:O	2:L:349:ILE:HG13	2.20	0.42
2:M:96:ALA:O	2:M:100:ILE:HG22	2.19	0.42
2:M:270:ILE:HD12	2:M:270:ILE:N	2.34	0.42
1:P:10:VAL:HG22	1:P:43:VAL:HG12	2.01	0.42
1:Q:68:ASN:ND2	1:R:72:GLY:O	2.53	0.42
1:R:11:ILE:HD13	1:R:85:ILE:HG12	2.02	0.42
1:R:67:PHE:HA	1:R:92:LEU:HG	2.02	0.42
1:W:11:ILE:HB	1:W:42:ALA:HB3	2.01	0.42
2:A:146:GLN:O	2:A:150:ILE:HG12	2.20	0.42
2:A:213:VAL:HG11	2:A:274:ALA:HB2	2.02	0.42
2:A:234:LEU:HB3	1:O:23:GLY:HA2	2.02	0.42
2:B:455:VAL:HG11	2:B:462:PRO:HA	2.02	0.42
2:C:390:LYS:HG2	2:C:393:LYS:HZ2	1.85	0.42
2:D:231:ARG:NH1	2:D:234:LEU:HD22	2.35	0.42
2:E:465:VAL:HA	2:E:485:TYR:OH	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3:ALA:O	2:G:524:LEU:N	2.53	0.42
2:I:7:LYS:HB2	2:I:7:LYS:HE2	1.93	0.42
2:I:7:LYS:HE3	2:I:66:PHE:HE1	1.84	0.42
2:I:295:LEU:HD23	2:I:335:GLY:HA3	2.01	0.42
2:I:362:ARG:HG3	2:I:366:GLN:OE1	2.20	0.42
2:K:250:ILE:HA	2:K:276:VAL:O	2.19	0.42
2:L:30:THR:HA	2:L:36:ARG:O	2.20	0.42
2:L:93:THR:HG22	2:L:97:GLN:NE2	2.26	0.42
2:L:285:ARG:HA	2:L:288:MET:HE3	2.02	0.42
2:L:385:THR:HG23	2:L:388:GLU:H	1.84	0.42
2:M:71:ALA:HA	2:M:74:VAL:HG22	2.01	0.42
2:M:308:GLU:HB3	2:M:311:LYS:HB3	2.01	0.42
2:N:357:THR:HG22	2:N:360:TYR:HB3	2.02	0.42
2:N:441:LYS:O	2:N:445:ARG:HG2	2.20	0.42
1:O:39:GLU:HA	1:O:63:ASP:O	2.20	0.42
1:O:39:GLU:HG3	1:O:64:ILE:HG13	2.01	0.42
1:P:18:GLU:OE2	1:P:32:ALA:N	2.53	0.42
1:U:60:LYS:HG2	1:U:61:VAL:H	1.85	0.42
1:V:84:LEU:HB3	1:V:86:MET:HE3	2.00	0.42
1:W:5:PRO:HG3	1:W:42:ALA:HB1	2.01	0.42
1:X:12:VAL:HG22	1:X:40:VAL:HG23	2.00	0.42
1:2:14:ARG:HG3	1:2:37:ARG:O	2.20	0.42
1:2:34:LYS:NZ	1:2:36:THR:HG22	2.34	0.42
1:2:40:VAL:HG11	1:2:61:VAL:HG23	2.02	0.42
2:A:208:PRO:HG3	2:A:214:GLU:HG3	2.02	0.42
2:B:70:GLY:O	2:B:73:MET:HG2	2.19	0.42
2:C:42:LYS:HD3	2:C:44:PHE:HB2	2.00	0.42
2:D:125:THR:O	2:D:129:GLU:OE1	2.37	0.42
2:E:200:LEU:N	2:E:204:PHE:HD2	2.17	0.42
2:E:404:ARG:O	2:E:408:GLU:HG2	2.20	0.42
2:H:2:ALA:O	2:I:61:GLU:HB3	2.19	0.42
2:H:71:ALA:O	2:H:75:LYS:HG3	2.20	0.42
2:I:142:LYS:HE3	2:I:146:GLN:HE21	1.84	0.42
2:J:111:MET:CE	2:J:438:VAL:HB	2.50	0.42
2:J:217:SER:O	2:J:245:LYS:HE3	2.20	0.42
2:J:383:ALA:HB3	2:J:389:MET:HG2	2.02	0.42
2:J:383:ALA:HB3	2:J:389:MET:CG	2.50	0.42
2:K:128:VAL:HG12	2:K:132:LYS:HE2	2.02	0.42
2:L:101:THR:HG23	2:L:105:LYS:HZ3	1.83	0.42
2:M:502:SER:O	2:M:505:GLN:HG2	2.19	0.42
2:N:199:TYR:CD1	2:N:204:PHE:HB2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:421:ARG:NH2	2:N:469:VAL:O	2.53	0.42
2:N:452:ARG:HA	2:N:462:PRO:HB3	2.02	0.42
1:X:5:PRO:HB2	1:X:9:ARG:O	2.20	0.42
1:1:7:HIS:CE1	1:Z:88:GLU:HB3	2.55	0.41
2:B:444:LEU:O	2:B:448:GLU:HG3	2.19	0.41
2:C:141:SER:HA	2:C:144:ILE:HD12	2.02	0.41
2:C:421:ARG:NE	2:C:473:ASP:HA	2.34	0.41
2:D:10:ASN:CG	2:D:13:ARG:HH21	2.23	0.41
2:E:220:ILE:HG22	2:E:249:ILE:HA	2.02	0.41
2:F:7:LYS:HD2	2:F:66:PHE:CE2	2.53	0.41
2:F:80:LYS:HG3	2:F:506:TYR:CE2	2.55	0.41
2:F:218:PRO:HB2	2:F:219:PHE:H	1.69	0.41
2:F:291:ASP:OD1	2:F:292:ILE:N	2.53	0.41
2:G:199:TYR:CE1	2:G:327:LYS:HA	2.55	0.41
2:G:502:SER:HA	2:G:505:GLN:HE21	1.85	0.41
2:H:301:ILE:HD12	2:H:307:MET:HG2	2.01	0.41
2:H:338:GLU:OE1	2:H:338:GLU:N	2.52	0.41
2:I:24:ALA:O	2:I:28:LYS:HG3	2.19	0.41
2:I:381:VAL:HG13	2:I:392:LYS:HE2	2.01	0.41
2:J:13:ARG:O	2:J:16:MET:HB2	2.20	0.41
2:J:223:ALA:N	2:J:250:ILE:O	2.53	0.41
2:J:417:VAL:HA	2:J:420:ILE:HG12	2.02	0.41
2:K:103:GLY:O	2:K:107:VAL:HG23	2.19	0.41
2:L:461:GLU:HA	2:L:462:PRO:HD3	1.93	0.41
2:M:349:ILE:O	2:M:353:ILE:HG13	2.19	0.41
2:N:56:VAL:HG12	2:N:60:ILE:HD11	2.02	0.41
2:N:420:ILE:HG22	2:N:447:MET:HG3	2.02	0.41
1:Z:7:HIS:HB3	1:Z:8:ASP:H	1.69	0.41
1:1:89:SER:O	1:2:9:ARG:NH2	2.52	0.41
2:A:307:MET:HG3	2:A:308:GLU:H	1.83	0.41
2:B:185:ASP:OD1	2:B:382:GLY:N	2.32	0.41
2:B:475:ASN:OD1	2:B:488:MET:HB2	2.19	0.41
2:C:178:GLU:CD	2:C:378:VAL:HA	2.40	0.41
2:C:267:MET:SD	2:C:268:ARG:N	2.93	0.41
2:C:285:ARG:O	2:C:289:LEU:HG	2.19	0.41
2:D:250:ILE:HA	2:D:276:VAL:HG12	2.02	0.41
2:D:306:GLY:N	2:E:267:MET:HE3	2.35	0.41
2:E:359:ASP:O	2:E:363:GLU:HG3	2.20	0.41
2:F:138:CYS:H	2:F:410:GLY:HA2	1.85	0.41
2:F:239:ALA:HA	2:F:242:LYS:HZ3	1.84	0.41
2:F:245:LYS:HD3	2:F:245:LYS:HA	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:368:ARG:HA	2:F:371:LYS:HG2	2.02	0.41
2:F:400:LEU:HD23	2:F:404:ARG:HH11	1.84	0.41
2:G:268:ARG:NE	2:G:268:ARG:HA	2.35	0.41
2:I:230:ILE:C	2:I:232:GLU:H	2.23	0.41
2:J:42:LYS:HZ2	2:J:44:PHE:H	1.68	0.41
2:J:58:ARG:HA	2:J:75:LYS:HD3	2.01	0.41
2:J:230:ILE:HG13	2:J:231:ARG:N	2.35	0.41
2:K:121:ASP:OD1	2:K:122:LYS:N	2.52	0.41
2:K:197:ARG:HD2	2:K:276:VAL:HB	2.01	0.41
2:K:352:GLN:O	2:K:355:GLU:HB2	2.20	0.41
2:K:496:PRO:HG2	2:K:499:VAL:CG2	2.51	0.41
2:L:421:ARG:O	2:L:424:SER:OG	2.26	0.41
2:L:423:ALA:HA	2:L:426:LEU:HD12	2.02	0.41
2:N:72:GLN:O	2:N:76:GLU:OE1	2.38	0.41
2:N:194:GLN:NE2	2:N:329:THR:HB	2.35	0.41
1:P:74:LYS:O	1:P:84:LEU:HA	2.20	0.41
1:T:36:THR:O	1:T:66:ILE:HA	2.20	0.41
1:T:96:GLU:OE1	1:U:2:ASN:HB3	2.20	0.41
1:U:83:VAL:HG12	1:U:84:LEU:N	2.34	0.41
1:W:26:VAL:HG12	1:W:28:THR:N	2.35	0.41
2:A:234:LEU:N	2:A:235:PRO:HD2	2.35	0.41
2:B:57:ALA:O	2:B:75:LYS:HE2	2.21	0.41
2:B:260:ALA:O	2:B:264:VAL:HG23	2.20	0.41
2:B:265:ASN:OD1	2:B:268:ARG:NH2	2.51	0.41
2:C:98:ALA:O	2:C:102:GLU:HG2	2.20	0.41
2:C:107:VAL:C	2:C:110:GLY:H	2.22	0.41
2:C:111:MET:CE	2:C:116:LEU:HD21	2.50	0.41
2:C:388:GLU:HG2	2:C:392:LYS:HZ3	1.85	0.41
2:D:282:GLY:C	2:D:284:ARG:H	2.24	0.41
2:E:248:LEU:HD12	2:E:274:ALA:O	2.20	0.41
2:E:266:THR:HG22	2:E:273:VAL:N	2.36	0.41
2:E:270:ILE:HD12	1:S:27:LEU:HD22	2.01	0.41
2:F:197:ARG:HD3	2:F:277:LYS:NZ	2.30	0.41
2:F:387:VAL:HA	2:F:390:LYS:HD2	2.02	0.41
2:G:10:ASN:OD1	2:G:14:VAL:HG23	2.20	0.41
2:G:143:ALA:O	2:G:147:VAL:HG13	2.20	0.41
2:H:185:ASP:OD1	2:H:186:GLU:N	2.54	0.41
2:H:213:VAL:HG22	2:H:325:ILE:HB	2.02	0.41
2:J:68:ASN:OD1	2:J:72:GLN:NE2	2.49	0.41
2:L:220:ILE:H	2:L:220:ILE:HD12	1.85	0.41
2:L:227:ILE:O	2:L:255:GLU:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:284:ARG:NH1	2:L:364:LYS:HE2	2.36	0.41
2:M:54:VAL:HA	2:M:57:ALA:HB3	2.01	0.41
2:M:128:VAL:O	2:M:131:LEU:HG	2.20	0.41
2:M:502:SER:HA	2:M:505:GLN:OE1	2.21	0.41
2:N:112:ASN:HA	2:N:113:PRO:HD3	1.94	0.41
2:N:454:ILE:HA	2:N:457:ASN:OD1	2.20	0.41
1:S:20:LYS:HG3	1:S:27:LEU:O	2.20	0.41
1:S:39:GLU:OE1	1:S:39:GLU:N	2.52	0.41
2:A:36:ARG:NH1	2:G:517:THR:O	2.43	0.41
2:A:91:THR:HG23	2:A:450:PRO:CG	2.43	0.41
2:B:66:PHE:O	2:B:69:MET:HG3	2.21	0.41
2:B:449:ALA:HA	2:B:452:ARG:HG2	2.02	0.41
2:C:94:VAL:HG22	2:C:449:ALA:HB1	2.01	0.41
2:C:263:VAL:O	2:C:267:MET:HG3	2.20	0.41
2:D:215:LEU:HD12	2:D:248:LEU:HD21	2.01	0.41
2:D:279:PRO:HD2	2:D:285:ARG:HG3	2.02	0.41
2:E:3:ALA:HA	2:F:61:GLU:HG2	2.01	0.41
2:F:383:ALA:HB1	2:F:388:GLU:OE2	2.19	0.41
2:G:284:ARG:O	2:G:288:MET:HG3	2.20	0.41
2:H:199:TYR:OH	2:H:211:GLY:HA3	2.20	0.41
2:I:111:MET:CE	2:I:435:ASP:HB3	2.51	0.41
2:I:264:VAL:HA	2:I:267:MET:HG3	2.01	0.41
2:L:24:ALA:HB2	2:L:97:GLN:HG2	2.01	0.41
2:M:420:ILE:H	2:M:420:ILE:HD12	1.85	0.41
2:N:28:LYS:HD2	2:N:453:GLN:HG2	2.03	0.41
2:N:346:VAL:HA	2:N:349:ILE:HG22	2.02	0.41
2:N:386:GLU:O	2:N:390:LYS:HG3	2.19	0.41
1:R:8:ASP:O	1:R:10:VAL:HG13	2.20	0.41
1:W:5:PRO:HD3	1:W:42:ALA:HB1	2.02	0.41
1:Y:14:ARG:CZ	1:Y:35:SER:HB2	2.50	0.41
1:2:90:ASP:HA	1:V:9:ARG:NH2	2.35	0.41
2:A:50:THR:HG23	2:A:52:ASP:H	1.85	0.41
2:A:161:LEU:HD21	2:A:187:LEU:HB2	2.03	0.41
2:A:238:GLU:HG2	2:A:242:LYS:HE2	2.01	0.41
2:A:463:SER:HB3	2:H:461:GLU:HG3	2.02	0.41
2:E:80:LYS:HZ1	2:F:386:GLU:H	1.67	0.41
2:E:338:GLU:CD	2:E:340:ALA:H	2.24	0.41
2:F:121:ASP:O	2:F:125:THR:HG23	2.19	0.41
2:F:262:LEU:HA	2:F:262:LEU:HD12	1.86	0.41
2:G:103:GLY:O	2:G:107:VAL:HG23	2.20	0.41
2:G:253:ASP:OD1	2:G:254:VAL:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:234:LEU:O	2:I:238:GLU:HG2	2.20	0.41
2:L:96:ALA:O	2:L:100:ILE:HG12	2.21	0.41
2:L:234:LEU:N	2:L:235:PRO:HD2	2.35	0.41
2:N:327:LYS:HE2	2:N:327:LYS:HB3	1.82	0.41
1:Q:7:HIS:ND1	1:Q:48:ILE:HD11	2.35	0.41
1:R:13:LYS:HE2	1:R:81:GLU:OE2	2.20	0.41
1:U:75:SER:HA	1:U:84:LEU:HD23	2.02	0.41
1:X:95:VAL:HB	1:Y:3:ILE:HG13	2.02	0.41
1:2:25:ILE:H	1:2:25:ILE:HD12	1.85	0.41
2:B:28:LYS:HG3	2:B:97:GLN:OE1	2.20	0.41
2:B:38:VAL:HG22	2:B:50:THR:O	2.20	0.41
2:B:92:ALA:O	2:B:95:LEU:HG	2.21	0.41
2:B:214:GLU:OE2	2:B:322:ARG:HD3	2.20	0.41
2:C:229:ASN:OD1	2:C:229:ASN:N	2.52	0.41
2:C:420:ILE:HD11	2:C:470:LYS:HG3	2.02	0.41
2:C:455:VAL:CG1	2:C:462:PRO:HA	2.51	0.41
2:G:350:ARG:O	2:G:353:ILE:HB	2.21	0.41
2:H:222:LEU:HD23	2:H:289:LEU:HB3	2.02	0.41
2:I:238:GLU:O	2:I:242:LYS:HD3	2.20	0.41
2:I:289:LEU:HD23	2:I:289:LEU:HA	1.89	0.41
2:J:24:ALA:O	2:J:28:LYS:HE2	2.21	0.41
2:J:206:ASN:HB3	2:J:212:ALA:O	2.20	0.41
2:J:488:MET:HA	2:J:491:MET:HG2	2.02	0.41
2:K:101:THR:HG22	2:K:105:LYS:NZ	2.35	0.41
2:L:231:ARG:NH1	2:L:257:GLU:HG2	2.28	0.41
2:M:488:MET:HA	2:M:491:MET:CG	2.50	0.41
2:N:57:ALA:HB1	2:N:75:LYS:HG3	2.02	0.41
2:N:60:ILE:O	2:N:75:LYS:NZ	2.54	0.41
1:T:76:GLU:HB2	1:T:83:VAL:HG23	2.03	0.41
1:Z:22:ALA:HB3	1:Z:28:THR:OG1	2.21	0.41
2:B:7:LYS:HA	2:B:7:LYS:HD2	1.81	0.41
2:B:323:VAL:HG12	2:B:332:ILE:HA	2.03	0.41
2:D:231:ARG:HH21	2:D:237:LEU:HD22	1.86	0.41
2:D:320:ALA:HA	2:D:335:GLY:HA2	2.01	0.41
2:D:441:LYS:O	2:D:445:ARG:HG2	2.20	0.41
2:E:221:LEU:HD21	2:E:301:ILE:HG13	2.02	0.41
2:F:444:LEU:O	2:F:447:MET:HG2	2.21	0.41
2:F:469:VAL:HG23	2:F:485:TYR:OH	2.20	0.41
2:G:122:LYS:NZ	2:G:430:ARG:O	2.34	0.41
2:H:149:THR:HA	2:H:152:ALA:HB3	2.02	0.41
2:H:199:TYR:HE1	2:H:202:PRO:HA	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:247:LEU:HD13	2:H:271:VAL:HB	2.03	0.41
2:H:460:GLU:OE2	2:H:478:TYR:OH	2.39	0.41
2:I:224:ASP:HB3	2:I:303:GLU:HB2	2.03	0.41
2:I:421:ARG:NH1	2:I:473:ASP:HA	2.35	0.41
2:J:230:ILE:O	2:J:231:ARG:HG2	2.21	0.41
2:K:362:ARG:NH1	2:K:363:GLU:HB3	2.35	0.41
2:L:6:VAL:HA	2:L:520:MET:O	2.21	0.41
2:L:112:ASN:O	2:L:116:LEU:HG	2.20	0.41
2:N:88:GLY:CA	2:N:91:THR:HG23	2.47	0.41
2:N:94:VAL:HG12	2:N:450:PRO:HG3	2.02	0.41
2:N:270:ILE:HG23	2:N:271:VAL:N	2.34	0.41
1:T:47:ARG:HE	1:T:48:ILE:H	1.69	0.41
1:V:47:ARG:CZ	1:V:49:LEU:HB2	2.51	0.41
1:Z:67:PHE:CE1	1:Z:69:ASP:HB3	2.55	0.41
2:B:58:ARG:NH2	2:B:79:SER:HB2	2.36	0.41
2:B:160:LYS:HD2	2:B:160:LYS:HA	1.80	0.41
2:B:205:ILE:HG12	2:B:206:ASN:O	2.21	0.41
2:B:219:PHE:O	2:B:248:LEU:N	2.33	0.41
2:D:100:ILE:O	2:D:104:LEU:HG	2.20	0.41
2:E:268:ARG:NE	1:S:27:LEU:HD13	2.34	0.41
2:E:511:ALA:HA	2:E:514:MET:HG3	2.02	0.41
2:F:146:GLN:O	2:F:150:ILE:HG12	2.20	0.41
2:G:236:VAL:O	2:G:240:VAL:HG23	2.21	0.41
2:G:444:LEU:O	2:G:448:GLU:HG3	2.20	0.41
2:H:74:VAL:O	2:H:77:VAL:HG12	2.20	0.41
2:I:232:GLU:HB2	2:I:310:GLU:OE2	2.21	0.41
2:J:56:VAL:O	2:J:60:ILE:HG12	2.21	0.41
2:J:285:ARG:O	2:J:288:MET:HG3	2.20	0.41
2:K:36:ARG:HG3	2:K:37:ASN:N	2.34	0.41
2:K:197:ARG:N	2:K:328:ASP:O	2.54	0.41
2:M:197:ARG:N	2:M:328:ASP:O	2.53	0.41
1:R:21:SER:HB2	1:R:25:ILE:HA	2.02	0.41
1:T:34:LYS:NZ	1:T:36:THR:HB	2.36	0.41
1:Y:9:ARG:O	1:Y:44:GLY:N	2.53	0.41
1:Y:47:ARG:HD2	1:Y:55:LYS:HE2	2.03	0.41
1:Z:49:LEU:HD23	1:Z:49:LEU:HA	1.95	0.41
1:1:93:ALA:HB1	1:2:3:ILE:HG22	2.02	0.41
1:2:10:VAL:O	1:2:85:ILE:HD12	2.21	0.41
2:A:73:MET:HB3	2:B:47:PRO:HD2	2.02	0.41
2:A:360:TYR:HA	2:A:364:LYS:HZ3	1.85	0.41
2:C:17:LEU:CD1	2:C:97:GLN:HE22	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:378:VAL:HG12	2:C:380:LYS:HZ2	1.86	0.41
2:D:260:ALA:O	2:D:264:VAL:HG23	2.21	0.41
2:D:266:THR:HA	2:D:271:VAL:O	2.20	0.41
2:D:323:VAL:HG23	2:D:332:ILE:HD13	2.02	0.41
2:D:365:LEU:O	2:D:369:VAL:HG23	2.20	0.41
2:D:511:ALA:HA	2:D:514:MET:HG3	2.02	0.41
2:E:14:VAL:HA	2:E:17:LEU:HB3	2.03	0.41
2:E:92:ALA:O	2:E:95:LEU:HG	2.21	0.41
2:E:122:LYS:NZ	2:E:430:ARG:O	2.35	0.41
2:F:12:ALA:O	2:F:15:LYS:HB2	2.21	0.41
2:F:40:LEU:O	2:F:47:PRO:HA	2.21	0.41
2:F:69:MET:O	2:F:72:GLN:HG2	2.21	0.41
2:F:196:ASP:OD1	2:F:196:ASP:N	2.48	0.41
2:F:303:GLU:HA	2:F:308:GLU:HA	2.03	0.41
2:G:260:ALA:O	2:G:264:VAL:HG23	2.21	0.41
2:G:342:ILE:O	2:G:346:VAL:HG23	2.21	0.41
2:G:480:ALA:O	2:G:483:GLU:HG3	2.21	0.41
2:G:510:VAL:O	2:G:513:LEU:HG	2.21	0.41
2:H:13:ARG:O	2:H:17:LEU:HG	2.21	0.41
2:H:400:LEU:O	2:H:404:ARG:HG2	2.20	0.41
2:H:426:LEU:HD23	2:H:426:LEU:HA	1.83	0.41
2:H:510:VAL:O	2:H:514:MET:HG2	2.21	0.41
2:I:7:LYS:HD3	2:I:7:LYS:N	2.36	0.41
2:I:164:GLU:OE2	2:I:168:LYS:HD2	2.21	0.41
2:I:265:ASN:HA	2:I:270:ILE:HD12	2.02	0.41
2:J:61:GLU:HB2	2:J:68:ASN:OD1	2.21	0.41
2:J:267:MET:C	2:J:269:GLY:H	2.24	0.41
2:J:363:GLU:HA	2:J:366:GLN:NE2	2.34	0.41
2:K:71:ALA:O	2:K:75:LYS:HG2	2.21	0.41
2:L:104:LEU:CD1	2:L:105:LYS:HD3	2.50	0.41
2:L:325:ILE:HG13	2:L:330:THR:HG23	2.01	0.41
2:M:60:ILE:O	2:M:60:ILE:HG13	2.21	0.41
2:M:101:THR:O	2:M:104:LEU:HG	2.21	0.41
2:M:118:ARG:HH12	2:M:122:LYS:HB2	1.84	0.41
2:M:194:GLN:HB2	2:M:331:THR:HG23	2.02	0.41
2:M:323:VAL:HG12	2:M:332:ILE:HA	2.03	0.41
2:M:348:GLN:O	2:M:352:GLN:HG3	2.20	0.41
2:N:100:ILE:O	2:N:104:LEU:HG	2.21	0.41
2:N:228:SER:HB3	2:N:255:GLU:OE2	2.21	0.41
1:Q:49:LEU:HD12	1:Q:49:LEU:O	2.21	0.41
1:Q:73:VAL:HA	1:Q:85:ILE:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:75:SER:HA	1:Q:84:LEU:HD23	2.03	0.41
1:S:38:GLY:O	1:S:65:VAL:HG22	2.21	0.41
1:T:10:VAL:HG22	1:T:44:GLY:H	1.85	0.41
1:T:11:ILE:HD11	1:T:42:ALA:HB3	2.02	0.41
1:T:65:VAL:HG12	1:T:94:ILE:HG13	2.01	0.41
1:X:19:THR:OG1	1:X:22:ALA:HB3	2.21	0.41
1:Z:8:ASP:OD1	1:Z:8:ASP:N	2.49	0.41
1:2:5:PRO:HB2	1:2:9:ARG:HB2	2.02	0.41
1:2:91:ILE:HG23	1:V:6:LEU:HD11	2.02	0.41
2:C:229:ASN:OD1	2:C:230:ILE:HD12	2.21	0.41
2:D:230:ILE:O	2:D:231:ARG:HG2	2.21	0.41
2:D:255:GLU:HB2	2:D:258:ALA:CB	2.51	0.41
2:E:268:ARG:HG3	2:E:270:ILE:H	1.85	0.41
2:F:345:ARG:HA	2:F:348:GLN:HG3	2.03	0.41
2:F:427:ALA:O	2:F:430:ARG:NH1	2.34	0.41
2:G:95:LEU:O	2:G:99:ILE:HG23	2.21	0.41
2:G:122:LYS:HG2	2:G:429:LEU:HD21	2.02	0.41
2:G:226:LYS:HE3	2:G:253:ASP:HB3	2.03	0.41
2:H:361:ASP:HA	2:H:364:LYS:HZ3	1.84	0.41
2:H:364:LYS:HB3	2:H:368:ARG:NH1	2.35	0.41
2:H:432:GLN:HB2	2:H:436:GLN:NE2	2.37	0.41
2:I:357:THR:HG22	2:I:360:TYR:HB3	2.01	0.41
2:J:39:VAL:HG22	2:J:47:PRO:HB2	2.02	0.41
2:J:225:LYS:HB2	2:J:303:GLU:OE1	2.21	0.41
2:J:429:LEU:O	2:J:430:ARG:NH1	2.47	0.41
2:J:461:GLU:OE2	2:J:464:VAL:HB	2.21	0.41
2:K:95:LEU:O	2:K:99:ILE:HG13	2.20	0.41
2:K:102:GLU:OE2	2:K:442:VAL:HA	2.21	0.41
2:K:246:PRO:HB3	2:K:272:LYS:HE3	2.03	0.41
2:L:222:LEU:HD21	2:L:292:ILE:HB	2.03	0.41
2:L:313:THR:HG22	2:L:314:LEU:N	2.36	0.41
2:N:100:ILE:HG23	2:N:514:MET:HE1	2.03	0.41
1:R:51:ASN:HB3	1:R:53:GLU:HG3	2.01	0.41
1:T:20:LYS:HG3	1:T:22:ALA:H	1.86	0.41
1:W:40:VAL:O	1:W:62:GLY:N	2.48	0.41
1:X:92:LEU:O	1:Y:9:ARG:HD3	2.21	0.41
1:Z:88:GLU:HA	1:Z:91:ILE:HG12	2.02	0.41
1:2:7:HIS:ND1	1:2:48:ILE:HB	2.36	0.40
2:D:140:ASP:O	2:D:144:ILE:HG12	2.21	0.40
2:D:322:ARG:HG2	2:D:323:VAL:N	2.35	0.40
2:D:450:PRO:O	2:D:454:ILE:HG13	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:349:ILE:O	2:G:353:ILE:HG13	2.21	0.40
2:G:413:ALA:HB3	2:G:418:ALA:HB2	2.03	0.40
2:H:136:VAL:O	2:H:136:VAL:HG13	2.21	0.40
2:I:55:SER:HA	2:I:58:ARG:NH2	2.36	0.40
2:I:393:LYS:O	2:I:396:VAL:HB	2.21	0.40
2:K:18:ARG:NH2	2:K:64:ASP:OD1	2.48	0.40
2:K:346:VAL:HG23	2:K:350:ARG:NH1	2.36	0.40
2:K:487:ASN:O	2:K:491:MET:HG3	2.21	0.40
2:L:314:LEU:HD12	2:L:314:LEU:HA	1.94	0.40
2:M:258:ALA:HA	2:M:261:THR:HG22	2.02	0.40
2:N:187:LEU:HA	2:N:378:VAL:O	2.20	0.40
2:N:416:GLY:O	2:N:419:LEU:HB2	2.20	0.40
1:P:43:VAL:HG11	1:P:59:VAL:HG23	2.03	0.40
1:V:89:SER:O	1:W:9:ARG:NH1	2.51	0.40
1:Y:91:ILE:HG23	1:Z:9:ARG:NH2	2.36	0.40
1:1:97:ALA:N	1:2:4:ARG:HH21	2.18	0.40
1:2:11:ILE:HG23	1:2:41:LEU:HB2	2.03	0.40
1:2:14:ARG:HD2	1:2:35:SER:O	2.21	0.40
2:A:131:LEU:HB2	2:A:501:ARG:NH1	2.36	0.40
2:D:102:GLU:HG3	2:D:446:ALA:HB2	2.04	0.40
2:D:179:ASP:HA	2:D:380:LYS:HG3	2.03	0.40
2:D:421:ARG:O	2:D:425:LYS:HG2	2.21	0.40
2:F:7:LYS:HD3	2:F:11:ASP:CG	2.42	0.40
2:F:116:LEU:HD23	2:F:435:ASP:O	2.21	0.40
2:F:416:GLY:HA2	2:F:419:LEU:HD13	2.02	0.40
2:G:57:ALA:HA	2:G:60:ILE:HG12	2.03	0.40
2:G:387:VAL:HA	2:G:390:LYS:HE2	2.02	0.40
2:H:214:GLU:HG2	2:H:324:VAL:HG13	2.03	0.40
2:I:54:VAL:O	2:I:58:ARG:HG3	2.20	0.40
2:K:57:ALA:HA	2:K:60:ILE:HG12	2.04	0.40
2:K:75:LYS:HA	2:K:75:LYS:HD2	1.77	0.40
2:L:193:MET:O	2:L:332:ILE:N	2.54	0.40
2:L:198:GLY:HA3	2:L:327:LYS:O	2.21	0.40
2:L:406:ALA:HA	2:L:410:GLY:HA2	2.03	0.40
2:M:65:LYS:HG3	2:M:66:PHE:CD1	2.57	0.40
1:S:15:LYS:O	1:S:35:SER:OG	2.40	0.40
1:W:49:LEU:HD21	1:W:55:LYS:HB2	2.02	0.40
1:W:60:LYS:N	1:W:63:ASP:OD2	2.49	0.40
2:A:349:ILE:HG21	2:A:369:VAL:CG2	2.46	0.40
2:B:42:LYS:NZ	2:B:45:GLY:HA3	2.37	0.40
2:C:169:VAL:O	2:C:173:GLY:HA3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:265:ASN:HA	2:C:268:ARG:NE	2.37	0.40
2:D:263:VAL:HG13	2:D:267:MET:CE	2.51	0.40
2:D:307:MET:HG3	2:D:308:GLU:H	1.85	0.40
2:E:387:VAL:HA	2:E:390:LYS:HE2	2.04	0.40
2:G:94:VAL:HG21	2:G:450:PRO:HA	2.03	0.40
2:G:288:MET:HA	2:G:291:ASP:OD2	2.21	0.40
2:G:349:ILE:HG23	2:G:365:LEU:HD11	2.03	0.40
2:H:166:MET:HA	2:H:169:VAL:HG22	2.03	0.40
2:H:355:GLU:H	2:H:362:ARG:HH21	1.69	0.40
2:I:175:ILE:HG23	2:I:377:ALA:HB3	2.04	0.40
2:I:216:GLU:HA	2:I:322:ARG:HD2	2.03	0.40
2:J:364:LYS:HG3	2:J:368:ARG:HH21	1.86	0.40
2:L:30:THR:O	2:L:51:LYS:HE2	2.21	0.40
2:M:153:ASN:O	2:M:154:SER:OG	2.35	0.40
2:M:290:GLN:HB2	2:M:300:VAL:HG21	2.02	0.40
2:N:260:ALA:O	2:N:264:VAL:HG22	2.21	0.40
2:N:432:GLN:OE1	2:N:436:GLN:NE2	2.38	0.40
1:O:19:THR:O	1:O:21:SER:N	2.55	0.40
1:P:92:LEU:HD13	1:Q:85:ILE:HD13	2.03	0.40
1:V:47:ARG:NE	1:V:49:LEU:HB2	2.36	0.40
1:W:10:VAL:HG12	1:W:43:VAL:HA	2.04	0.40
1:X:25:ILE:O	1:X:25:ILE:HG22	2.20	0.40
2:A:448:GLU:HB2	2:A:452:ARG:HH11	1.87	0.40
2:B:131:LEU:HD23	2:B:131:LEU:HA	1.87	0.40
2:C:30:THR:O	2:C:51:LYS:HE2	2.21	0.40
2:C:467:ASN:HA	2:C:470:LYS:HE3	2.04	0.40
2:D:39:VAL:CG1	2:D:47:PRO:HB2	2.51	0.40
2:D:193:MET:SD	2:D:371:LYS:HD3	2.61	0.40
2:E:64:ASP:O	2:E:68:ASN:ND2	2.54	0.40
2:E:364:LYS:HA	2:E:364:LYS:HD2	1.90	0.40
2:G:228:SER:HB3	2:G:255:GLU:CD	2.42	0.40
2:G:461:GLU:HA	2:G:462:PRO:HD3	1.96	0.40
2:G:482:THR:OG1	2:G:484:GLU:HG2	2.22	0.40
2:H:219:PHE:HE1	2:H:245:LYS:HB2	1.87	0.40
2:H:342:ILE:HD13	2:H:342:ILE:HA	1.90	0.40
2:K:7:LYS:HB2	2:K:520:MET:HB2	2.01	0.40
2:K:299:THR:N	2:K:316:ASP:O	2.52	0.40
2:K:443:ALA:O	2:K:447:MET:HG2	2.20	0.40
2:L:455:VAL:O	2:L:459:GLY:N	2.54	0.40
2:M:185:ASP:OD1	2:M:381:VAL:HA	2.22	0.40
2:M:199:TYR:OH	2:M:327:LYS:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:268:ARG:O	2:M:270:ILE:N	2.48	0.40
2:M:427:ALA:HB1	2:M:441:LYS:NZ	2.36	0.40
1:Q:93:ALA:HB1	1:R:3:ILE:CG2	2.51	0.40
1:R:60:LYS:HG2	1:R:61:VAL:N	2.34	0.40
1:W:18:GLU:OE2	1:W:28:THR:HA	2.21	0.40
1:X:9:ARG:HD3	1:X:85:ILE:HG22	2.04	0.40
1:Y:19:THR:HG21	1:Y:25:ILE:HG23	2.02	0.40
1:Z:75:SER:HB3	1:Z:84:LEU:HG	2.02	0.40
1:1:24:GLY:HA3	2:M:238:GLU:HG2	2.04	0.40
1:1:44:GLY:O	1:1:57:LEU:HD23	2.21	0.40
2:A:248:LEU:HD23	2:A:249:ILE:N	2.37	0.40
2:D:455:VAL:HG11	2:D:462:PRO:HA	2.03	0.40
2:E:282:GLY:HA2	2:E:285:ARG:HH21	1.86	0.40
2:E:392:LYS:HD3	2:E:395:ARG:HH12	1.86	0.40
2:F:448:GLU:HB2	2:F:452:ARG:HH21	1.86	0.40
2:G:247:LEU:HB2	2:G:273:VAL:HG22	2.02	0.40
2:G:369:VAL:O	2:G:372:LEU:HB2	2.21	0.40
2:H:165:ALA:HA	2:H:168:LYS:HD3	2.03	0.40
2:I:102:GLU:HB2	2:I:442:VAL:CG1	2.51	0.40
2:I:199:TYR:HB2	2:I:204:PHE:CD2	2.46	0.40
2:J:287:ALA:HA	2:J:290:GLN:OE1	2.22	0.40
2:J:421:ARG:NH1	2:J:470:LYS:HA	2.29	0.40
2:K:92:ALA:O	2:K:95:LEU:HG	2.22	0.40
2:M:305:ILE:CG2	2:M:306:GLY:N	2.59	0.40
2:M:478:TYR:HB2	2:M:485:TYR:CE1	2.56	0.40
1:Y:14:ARG:HG3	1:Y:35:SER:OG	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	1	95/97 (98%)	86 (90%)	9 (10%)	0	100	100
1	2	95/97 (98%)	84 (88%)	10 (10%)	1 (1%)	14	52
1	O	93/97 (96%)	84 (90%)	7 (8%)	2 (2%)	6	35
1	P	95/97 (98%)	90 (95%)	5 (5%)	0	100	100
1	Q	94/97 (97%)	84 (89%)	10 (11%)	0	100	100
1	R	95/97 (98%)	85 (90%)	10 (10%)	0	100	100
1	S	94/97 (97%)	85 (90%)	8 (8%)	1 (1%)	14	52
1	T	95/97 (98%)	87 (92%)	7 (7%)	1 (1%)	14	52
1	U	95/97 (98%)	88 (93%)	7 (7%)	0	100	100
1	V	95/97 (98%)	87 (92%)	8 (8%)	0	100	100
1	W	95/97 (98%)	83 (87%)	11 (12%)	1 (1%)	14	52
1	X	95/97 (98%)	82 (86%)	12 (13%)	1 (1%)	14	52
1	Y	94/97 (97%)	86 (92%)	6 (6%)	2 (2%)	7	36
1	Z	93/97 (96%)	88 (95%)	5 (5%)	0	100	100
2	A	522/548 (95%)	497 (95%)	24 (5%)	1 (0%)	47	81
2	B	522/548 (95%)	505 (97%)	17 (3%)	0	100	100
2	C	522/548 (95%)	507 (97%)	15 (3%)	0	100	100
2	D	522/548 (95%)	500 (96%)	21 (4%)	1 (0%)	47	81
2	E	522/548 (95%)	496 (95%)	25 (5%)	1 (0%)	47	81
2	F	522/548 (95%)	501 (96%)	19 (4%)	2 (0%)	34	72
2	G	522/548 (95%)	494 (95%)	27 (5%)	1 (0%)	47	81
2	H	522/548 (95%)	496 (95%)	26 (5%)	0	100	100
2	I	522/548 (95%)	500 (96%)	22 (4%)	0	100	100
2	J	522/548 (95%)	502 (96%)	19 (4%)	1 (0%)	47	81
2	K	522/548 (95%)	501 (96%)	21 (4%)	0	100	100
2	L	522/548 (95%)	501 (96%)	20 (4%)	1 (0%)	47	81
2	M	522/548 (95%)	493 (94%)	28 (5%)	1 (0%)	47	81
2	N	522/548 (95%)	497 (95%)	25 (5%)	0	100	100
3	a	457/466 (98%)	352 (77%)	99 (22%)	6 (1%)	12	48
All	All	9088/9496 (96%)	8541 (94%)	523 (6%)	24 (0%)	44	77

All (24) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	J	268	ARG
2	M	270	ILE
1	O	20	LYS
3	a	38	TYR
3	a	422	PRO
3	a	457	VAL
1	2	54	VAL
2	G	306	GLY
1	T	25	ILE
1	Y	26	VAL
3	a	359	GLY
2	F	218	PRO
1	X	19	THR
1	Y	25	ILE
3	a	55	VAL
3	a	408	ARG
2	F	305	ILE
2	L	356	ALA
1	S	40	VAL
2	A	358	SER
2	D	358	SER
1	W	26	VAL
1	O	17	VAL
2	E	173	GLY

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	1	80/80 (100%)	79 (99%)	1 (1%)	69 81
1	2	80/80 (100%)	80 (100%)	0	100 100
1	O	78/80 (98%)	73 (94%)	5 (6%)	17 42
1	P	80/80 (100%)	80 (100%)	0	100 100
1	Q	79/80 (99%)	76 (96%)	3 (4%)	33 57
1	R	80/80 (100%)	80 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	S	79/80 (99%)	79 (100%)	0	100	100
1	T	80/80 (100%)	80 (100%)	0	100	100
1	U	80/80 (100%)	80 (100%)	0	100	100
1	V	80/80 (100%)	79 (99%)	1 (1%)	69	81
1	W	80/80 (100%)	80 (100%)	0	100	100
1	X	80/80 (100%)	79 (99%)	1 (1%)	69	81
1	Y	80/80 (100%)	80 (100%)	0	100	100
1	Z	79/80 (99%)	78 (99%)	1 (1%)	69	81
2	A	404/415 (97%)	403 (100%)	1 (0%)	93	96
2	B	404/415 (97%)	404 (100%)	0	100	100
2	C	404/415 (97%)	402 (100%)	2 (0%)	88	93
2	D	404/415 (97%)	402 (100%)	2 (0%)	88	93
2	E	404/415 (97%)	401 (99%)	3 (1%)	84	90
2	F	404/415 (97%)	399 (99%)	5 (1%)	71	83
2	G	404/415 (97%)	403 (100%)	1 (0%)	93	96
2	H	404/415 (97%)	404 (100%)	0	100	100
2	I	404/415 (97%)	403 (100%)	1 (0%)	93	96
2	J	404/415 (97%)	401 (99%)	3 (1%)	84	90
2	K	404/415 (97%)	402 (100%)	2 (0%)	88	93
2	L	404/415 (97%)	399 (99%)	5 (1%)	71	83
2	M	404/415 (97%)	402 (100%)	2 (0%)	88	93
2	N	404/415 (97%)	402 (100%)	2 (0%)	88	93
3	a	348/354 (98%)	343 (99%)	5 (1%)	67	80
All	All	7119/7284 (98%)	7073 (99%)	46 (1%)	86	92

All (46) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	14	ARG
2	A	286	LYS
2	C	207	LYS
2	C	425	LYS
2	D	225	LYS
2	D	467	ASN

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Mol	Chain	Res	Type
2	E	117	LYS
2	E	160	LYS
2	E	207	LYS
2	F	58	ARG
2	F	142	LYS
2	F	160	LYS
2	F	219	PHE
2	F	311	LYS
2	G	142	LYS
2	I	327	LYS
2	J	58	ARG
2	J	122	LYS
2	J	242	LYS
2	K	322	ARG
2	K	362	ARG
2	L	80	LYS
2	L	160	LYS
2	L	321	LYS
2	L	366	GLN
2	L	445	ARG
2	M	18	ARG
2	M	231	ARG
2	N	91	THR
2	N	142	LYS
1	O	8	ASP
1	O	9	ARG
1	O	13	LYS
1	O	15	LYS
1	O	16	GLU
1	Q	36	THR
1	Q	47	ARG
1	Q	51	ASN
1	V	47	ARG
1	X	13	LYS
1	Z	9	ARG
3	a	152	ARG
3	a	168	LYS
3	a	217	ARG
3	a	313	ARG
3	a	424	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
1	2	7	HIS
2	A	72	GLN
2	A	343	GLN
2	B	366	GLN
2	C	97	GLN
2	C	401	HIS
2	C	453	GLN
2	C	457	ASN
2	D	194	GLN
2	E	194	GLN
2	E	457	ASN
2	F	21	ASN
2	F	326	ASN
2	J	72	GLN
2	J	194	GLN
2	J	319	GLN
2	K	453	GLN
2	K	457	ASN
2	L	97	GLN
2	L	352	GLN
2	L	366	GLN
2	M	457	ASN
2	N	194	GLN
2	N	348	GLN
2	N	352	GLN
1	O	7	HIS
1	P	7	HIS
1	S	80	ASN
1	W	7	HIS
1	Z	7	HIS
3	a	9	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

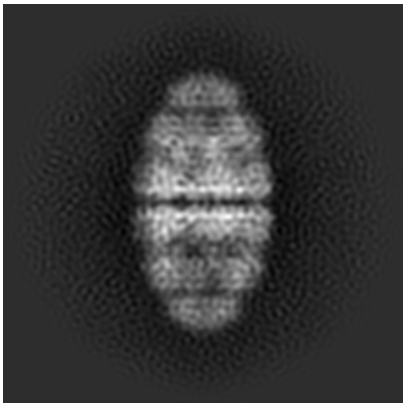
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-32164. These allow visual inspection of the internal detail of the map and identification of artifacts.

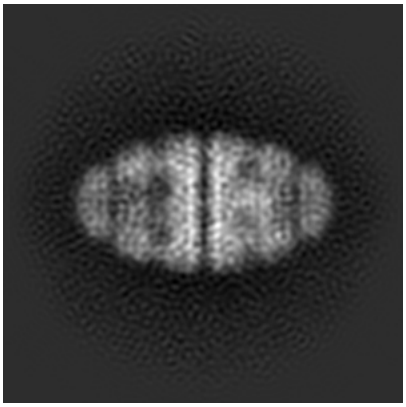
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

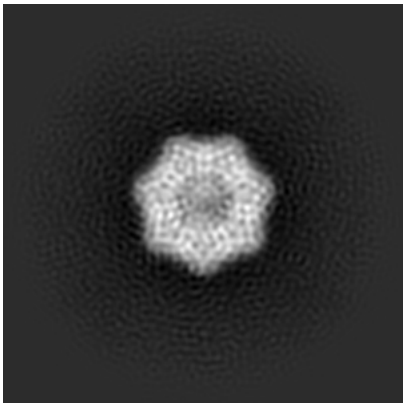
6.1.1 Primary map



X



Y

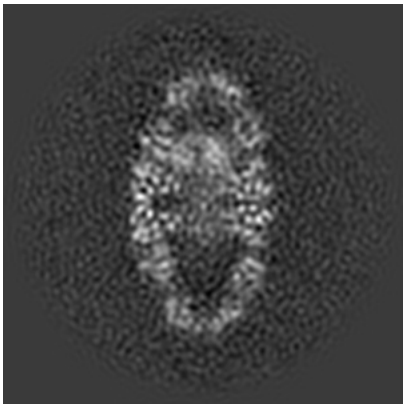


Z

The images above show the map projected in three orthogonal directions.

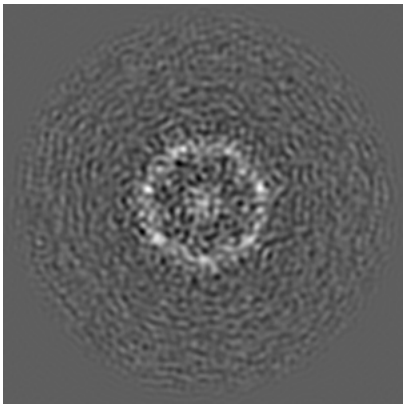
6.2 Central slices

6.2.1 Primary map



X Index: 100

Y Index: 100



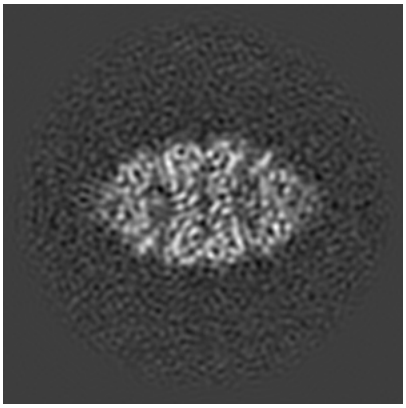
Z Index: 100

The images above show central slices of the map in three orthogonal directions.

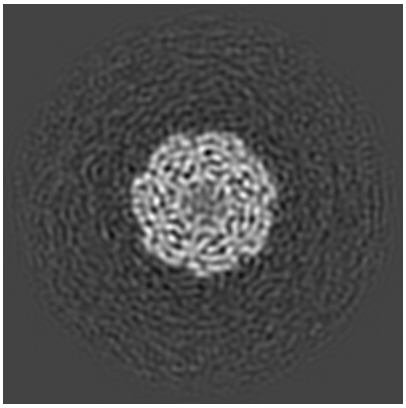
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 98



Y Index: 81



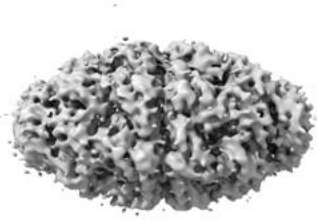
Z Index: 93

The images above show the largest variance slices of the map in three orthogonal directions.

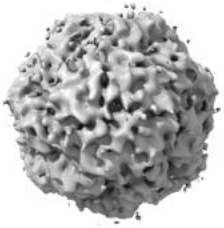
6.4 Orthogonal surface views (i)

6.4.1 Primary map

X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.663. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

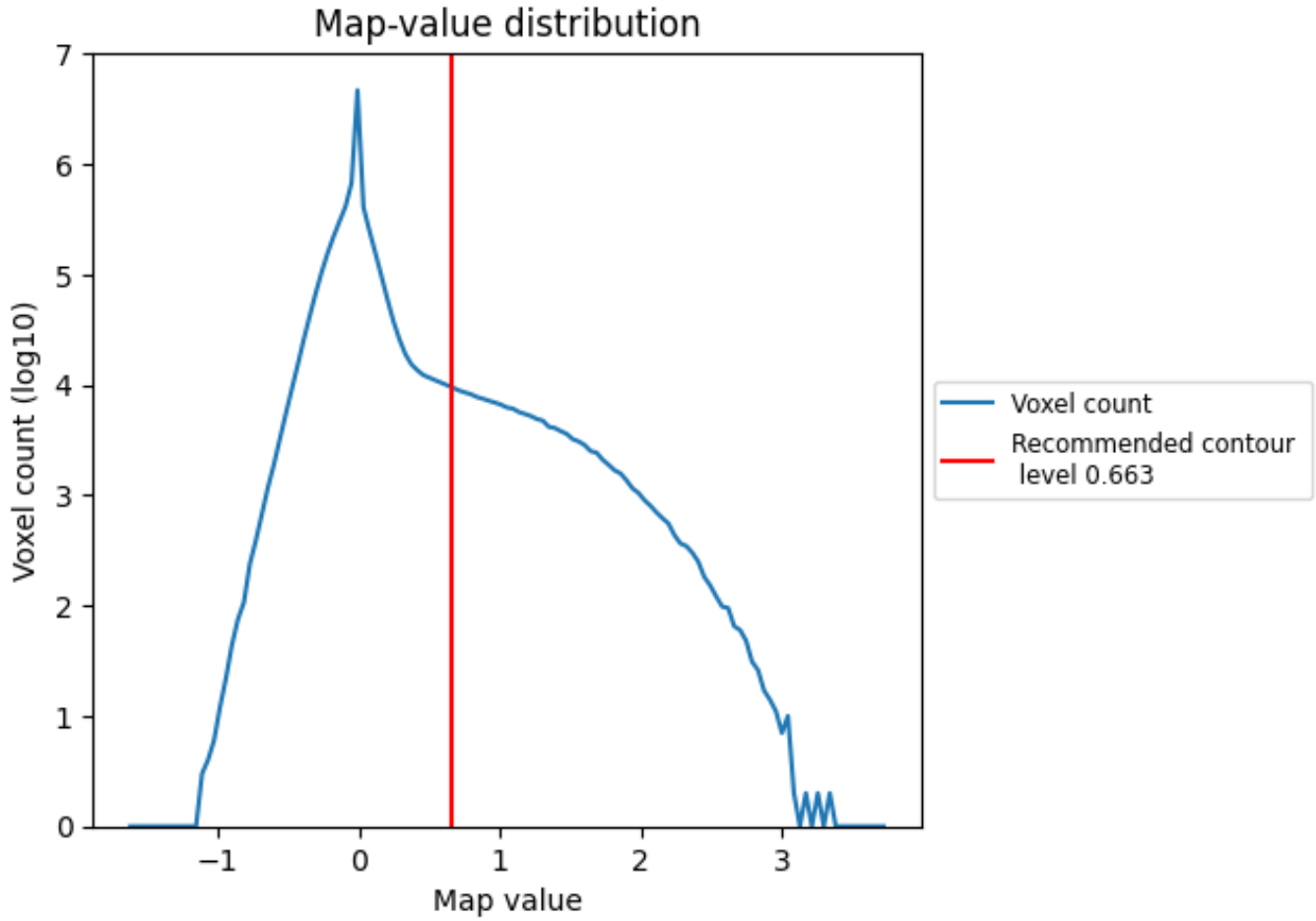
6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

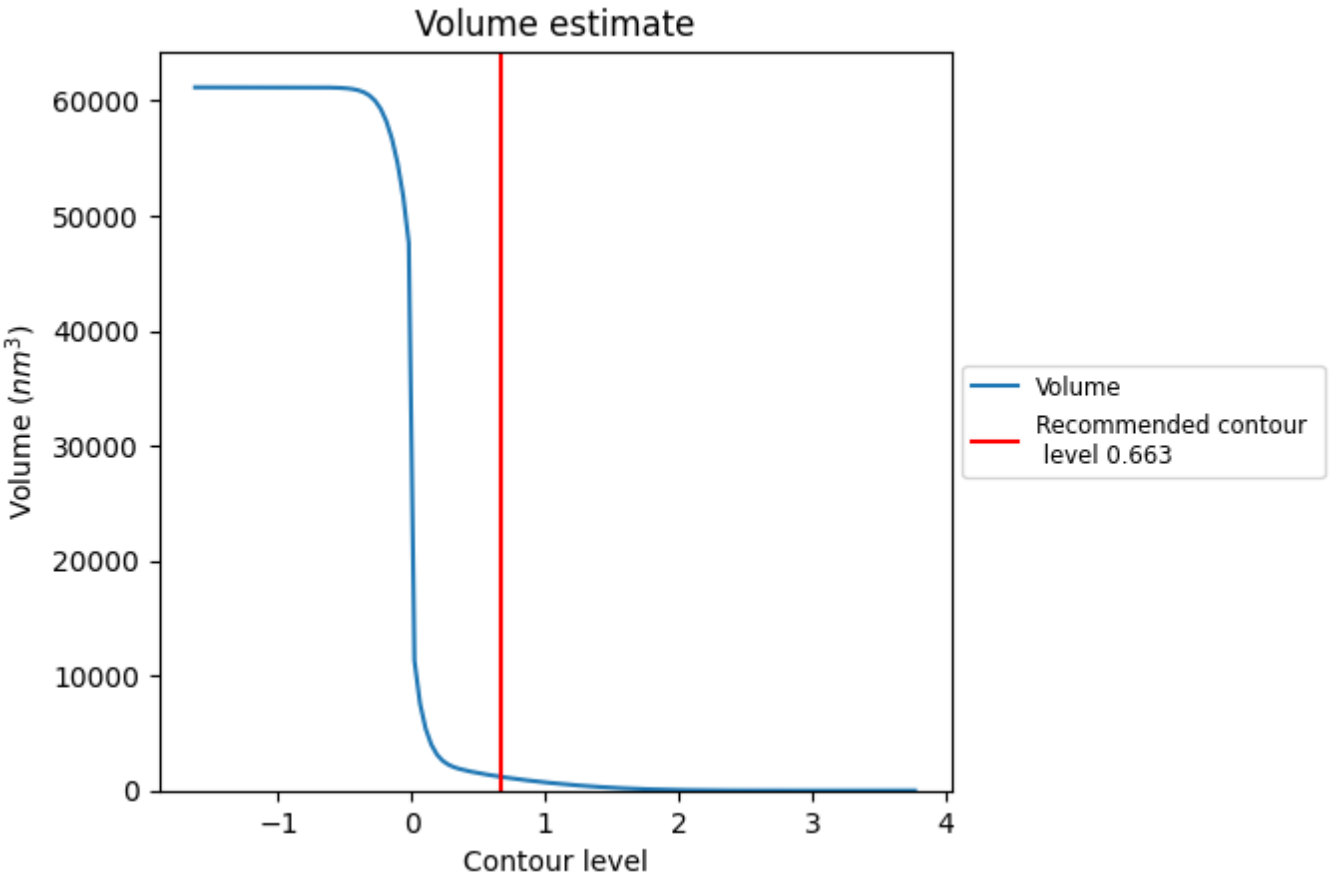
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

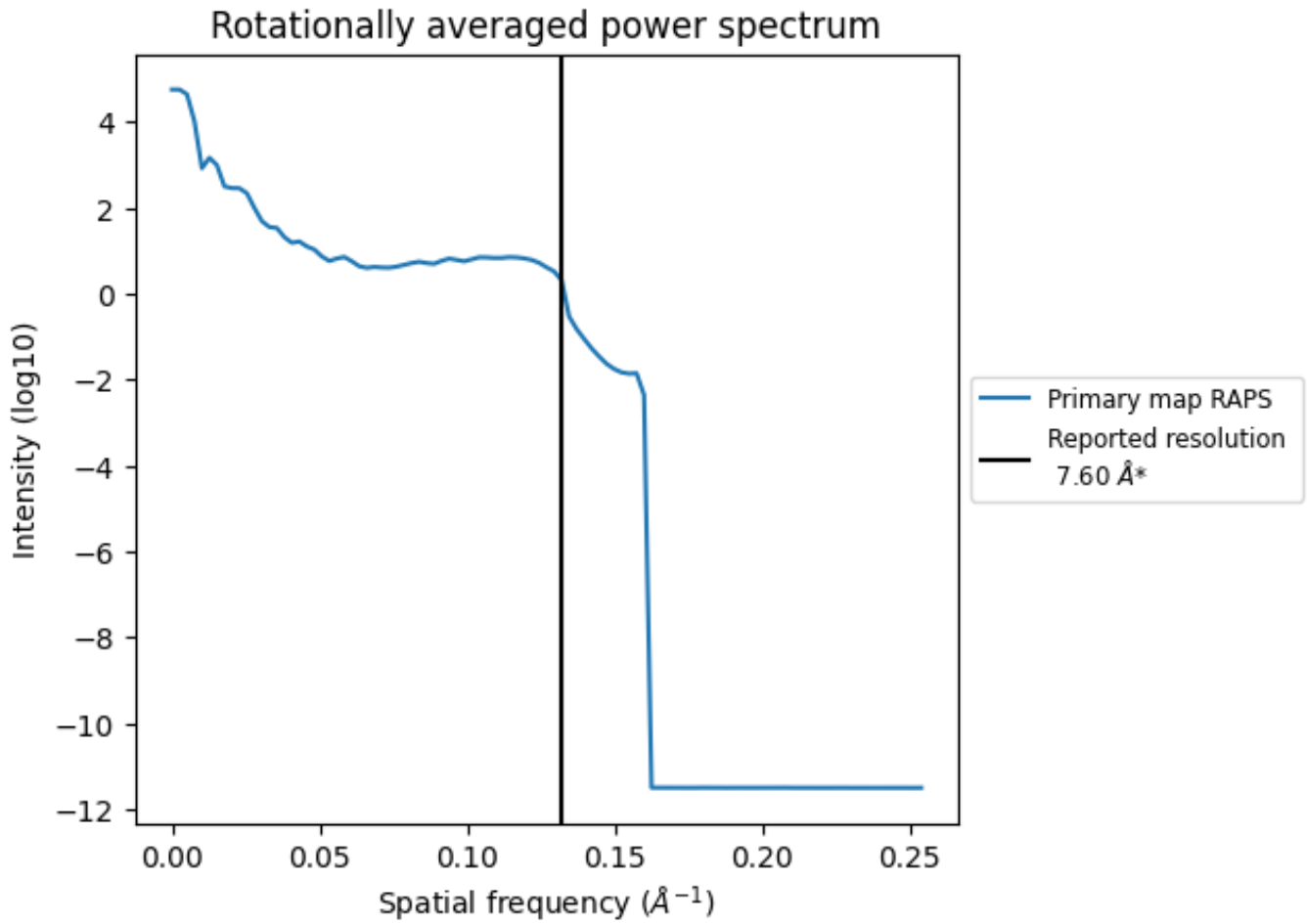
7.2 Volume estimate



The volume at the recommended contour level is 1203 nm^3; this corresponds to an approximate mass of 1086 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

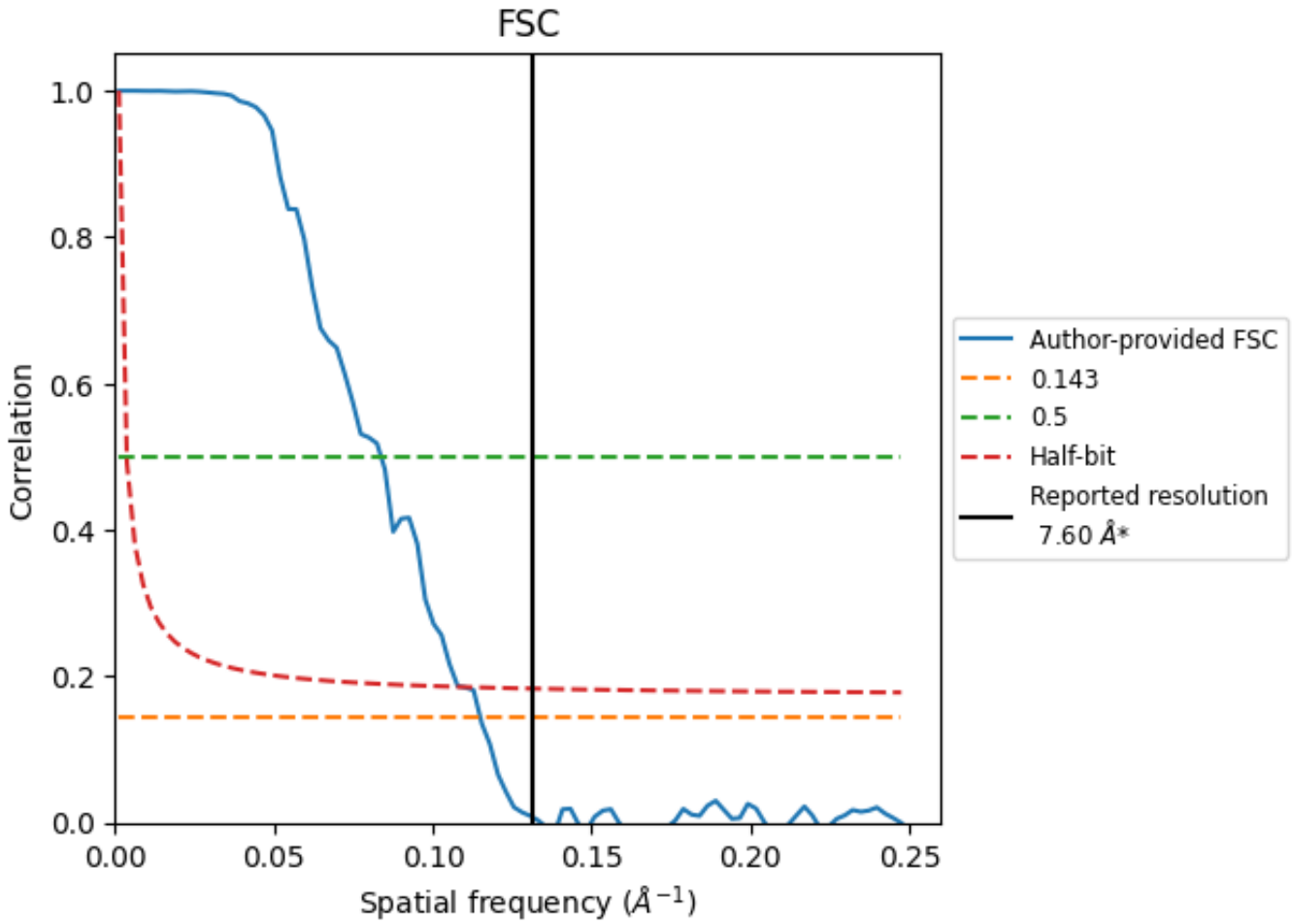


*Reported resolution corresponds to spatial frequency of 0.132 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.132 Å^{-1}

8.2 Resolution estimates (i)

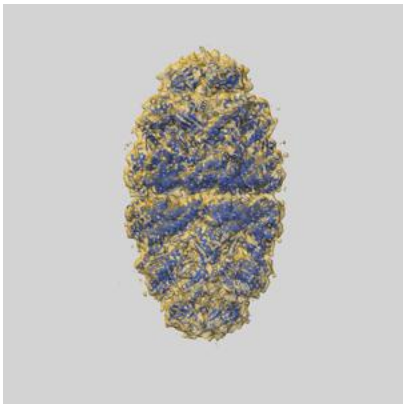
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	7.60	-	-
Author-provided FSC curve	8.70	11.93	9.14
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from author-provided FSC intersecting FSC 0.143 CUT-OFF 8.70 differs from the reported value 7.6 by more than 10 %

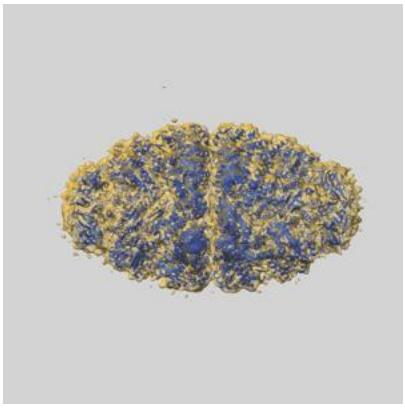
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-32164 and PDB model 7VWX. Per-residue inclusion information can be found in section 3 on page 6.

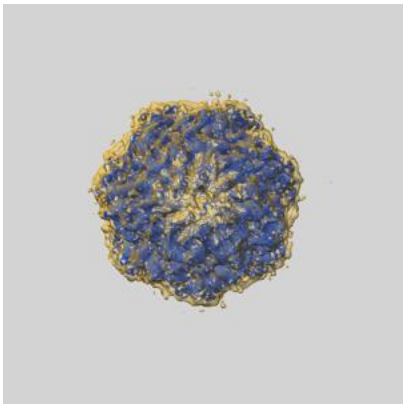
9.1 Map-model overlay



X



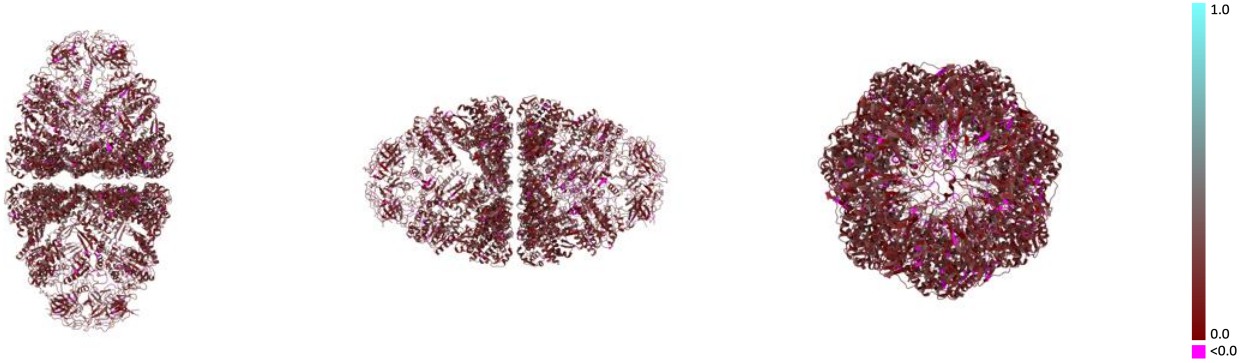
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.663 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

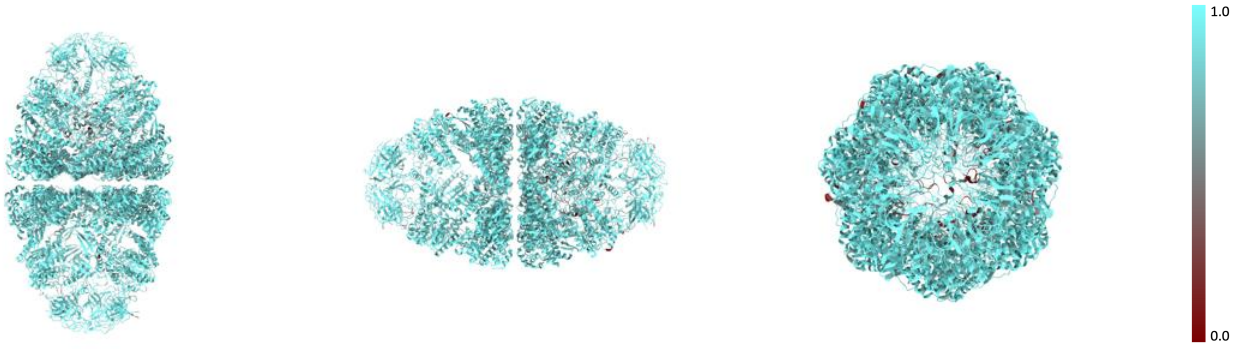
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

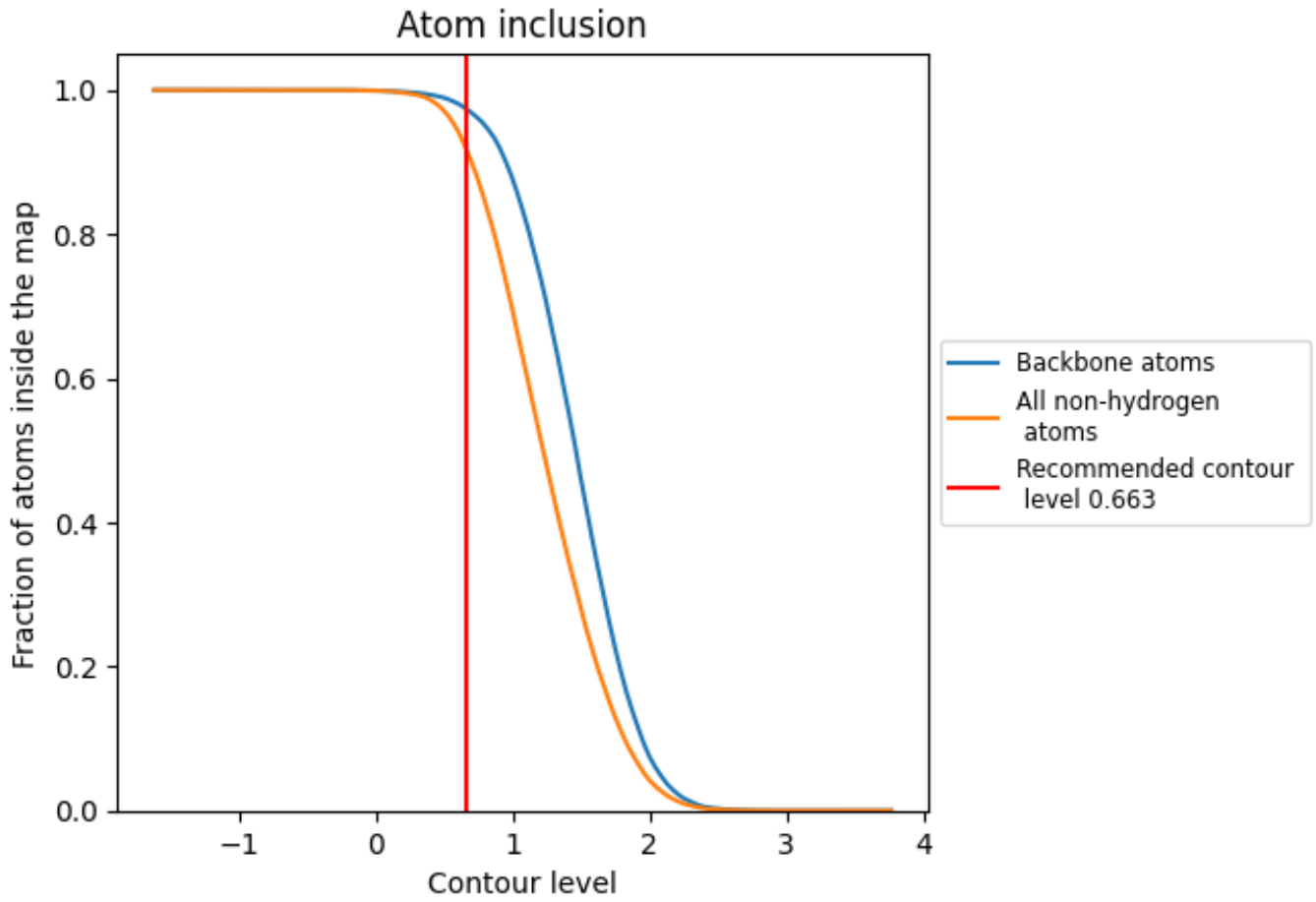
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.663).

9.4 Atom inclusion (i)



At the recommended contour level, 97% of all backbone atoms, 92% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.663) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9161	0.1900
1	0.9539	0.1950
2	0.9078	0.1890
A	0.9138	0.1950
B	0.9122	0.1900
C	0.9267	0.1960
D	0.9301	0.1940
E	0.9256	0.1910
F	0.9172	0.1930
G	0.9256	0.1950
H	0.9317	0.1960
I	0.9290	0.1950
J	0.9330	0.2000
K	0.9324	0.1990
L	0.9377	0.1840
M	0.9385	0.2010
N	0.9374	0.1980
O	0.9243	0.1930
P	0.9064	0.1970
Q	0.9294	0.1910
R	0.9190	0.1680
S	0.8941	0.2010
T	0.9008	0.1880
U	0.9274	0.1850
V	0.9246	0.1960
W	0.9358	0.2150
X	0.9106	0.1870
Y	0.9241	0.1980
Z	0.9345	0.1930
a	0.7181	0.1200