



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 07:15 PM UTC

PDB ID : 7VWX / pdb_00007vwx
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.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

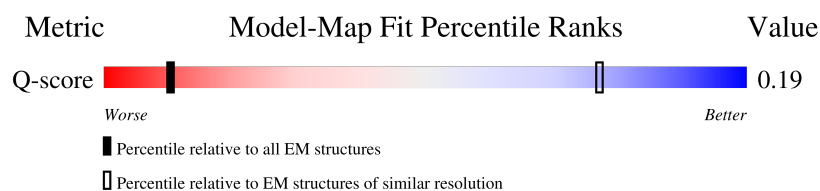
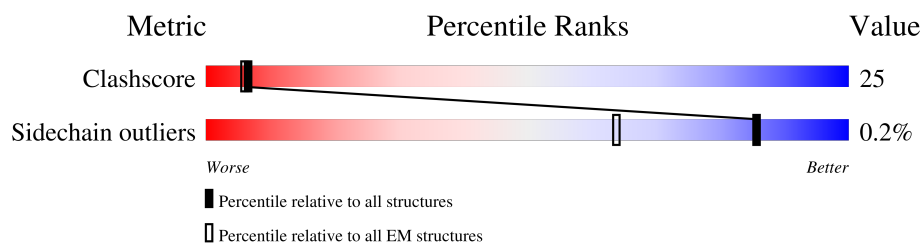
1 Overall quality at a glance i

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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	389 (7.10 - 8.10)

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 $\leq 5\%$. 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	 44% 55% .
1	2	97	 46% 53% .
1	O	97	 51% 45% ..
1	P	97	 57% 43%
1	Q	97	 43% 54% ..

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Mol	Chain	Length	Quality of chain
1	R	97	5% 52% 48%
1	S	97	53% 46%
1	T	97	6% 54% 46%
1	U	97	57% 43%
1	V	97	60% 40%
1	W	97	44% 55%
1	X	97	51% 49%
1	Y	97	52% 46%
1	Z	97	43% 55%
2	A	548	55% 40%
2	B	548	53% 42%
2	C	548	53% 42%
2	D	548	48% 47%
2	E	548	49% 46%
2	F	548	51% 44%
2	G	548	46% 49%
2	H	548	55% 41%
2	I	548	56% 40%
2	J	548	49% 47%
2	K	548	53% 42%
2	L	548	50% 45%
2	M	548	50% 45%
2	N	548	51% 45%
3	a	466	23% 64% 34%

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		

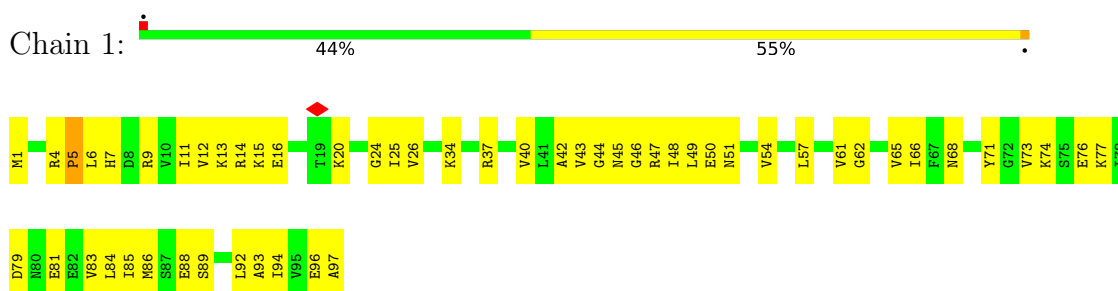
- Molecule 3 is a protein called Ribulose biphosphate carboxylase.

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

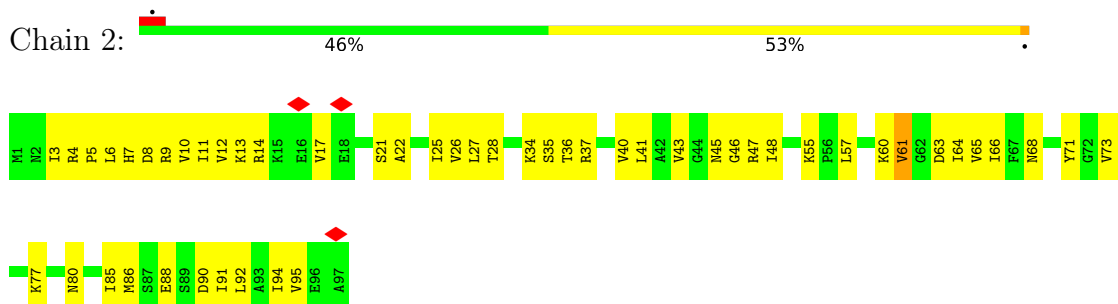
3 Residue-property plots [i](#)

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.

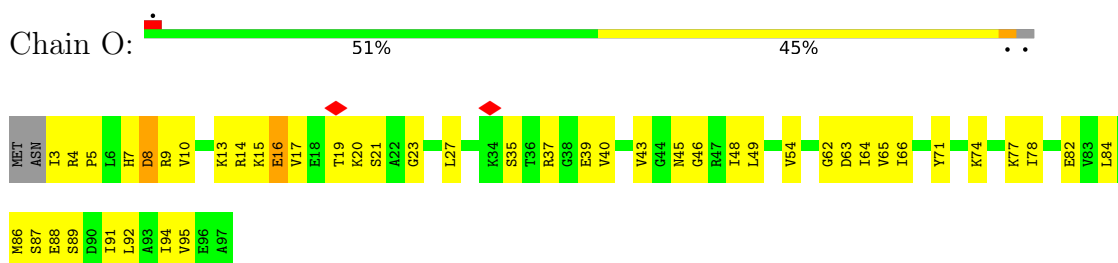
- Molecule 1: Co-chaperonin GroES



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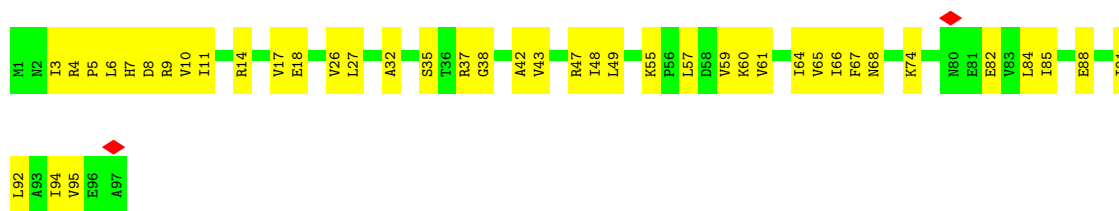


- Molecule 1: Co-chaperonin GroES

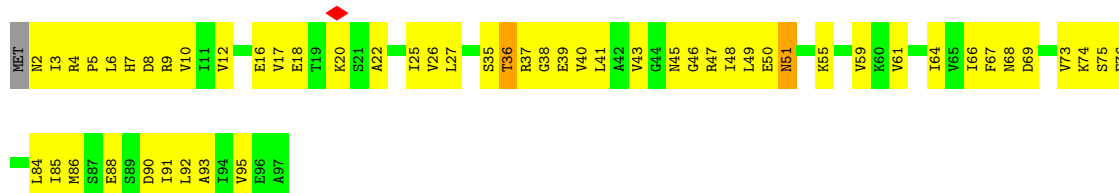


- Molecule 1: Co-chaperonin GroES

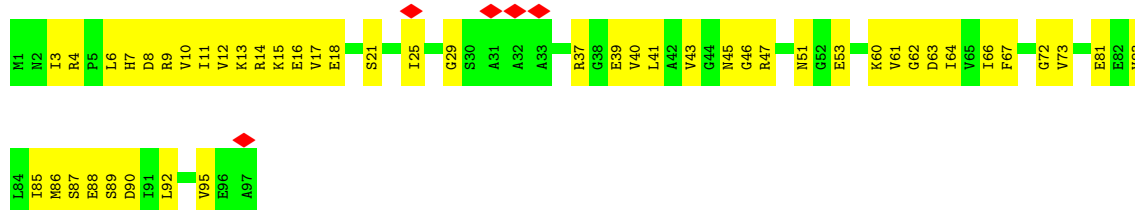




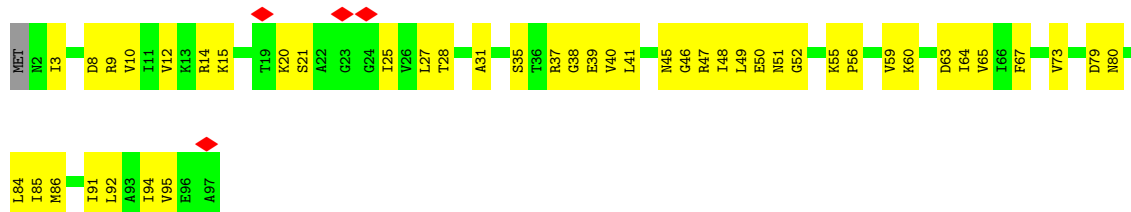
- Molecule 1: Co-chaperonin GroES



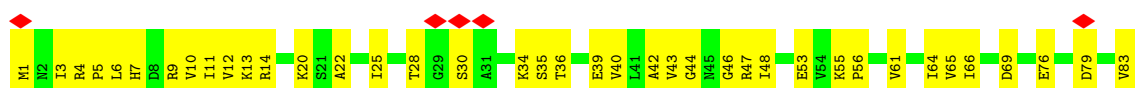
- Molecule 1: Co-chaperonin GroES

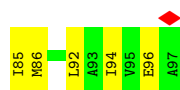


- Molecule 1: Co-chaperonin GroES

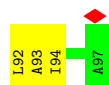


- Molecule 1: Co-chaperonin GroES





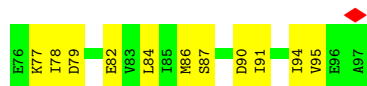
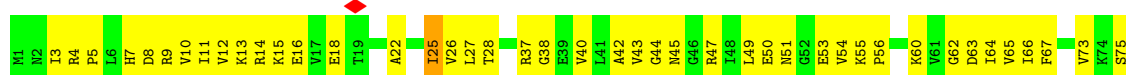
- Molecule 1: Co-chaperonin GroES



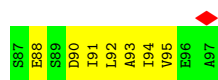
- Molecule 1: Co-chaperonin GroES



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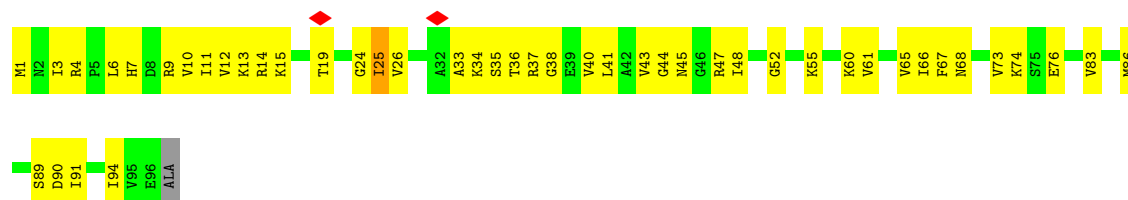


- Molecule 1: Co-chaperonin GroES

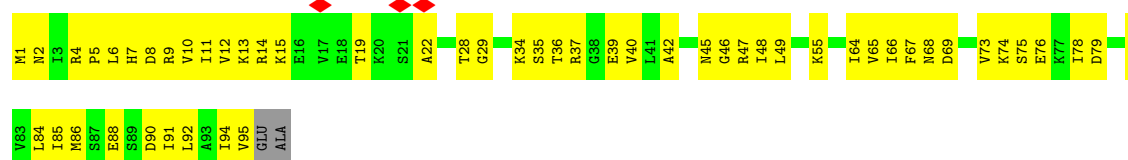


- Molecule 1: Co-chaperonin GroES

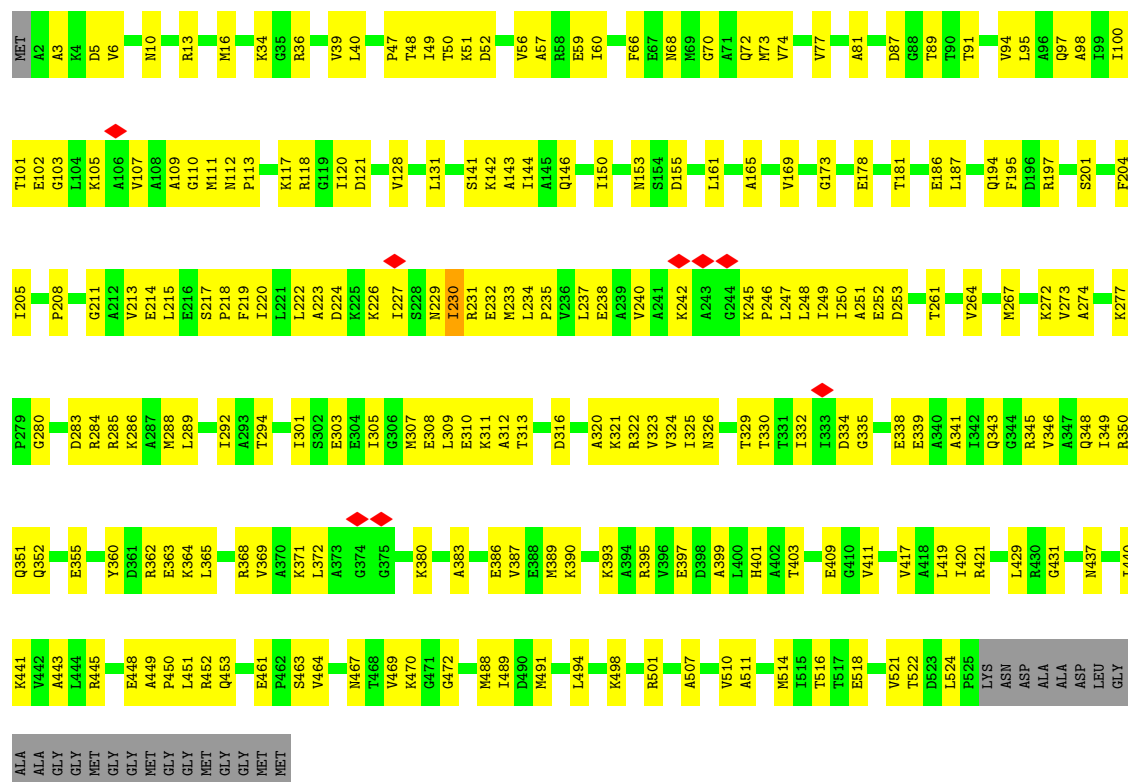




• Molecule 1: Co-chaperonin GroES



• Molecule 2: Chaperonin GroEL



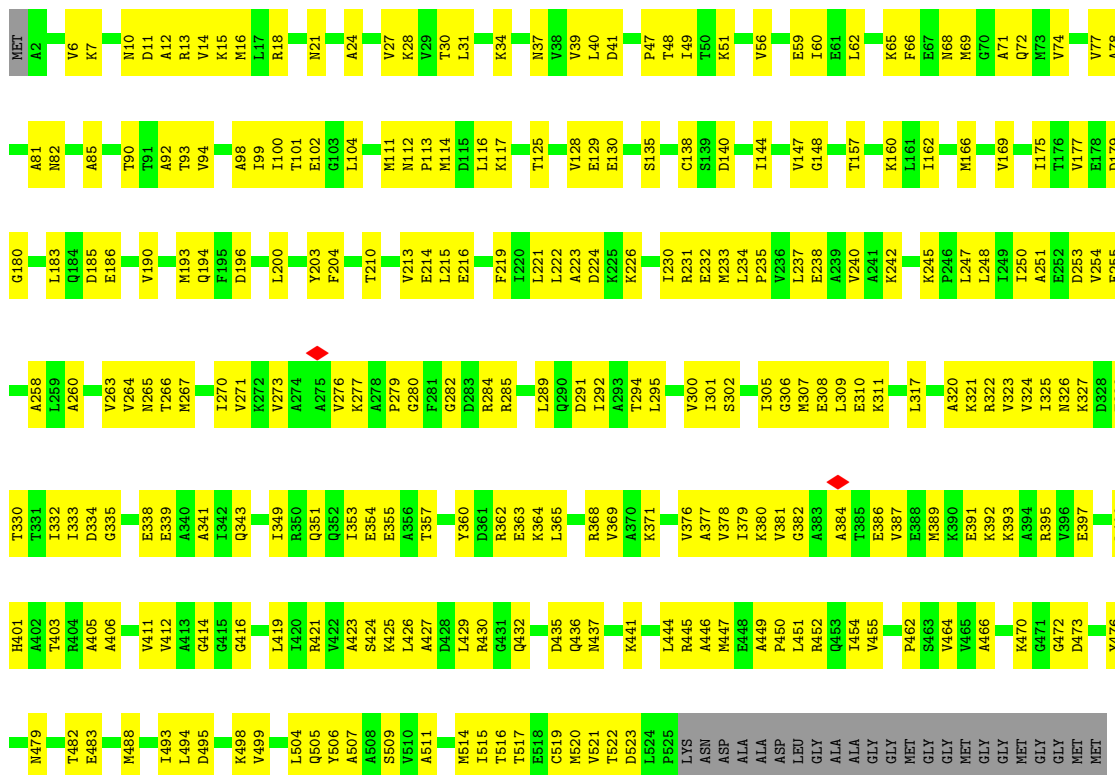
• Molecule 2: Chaperonin GroEL





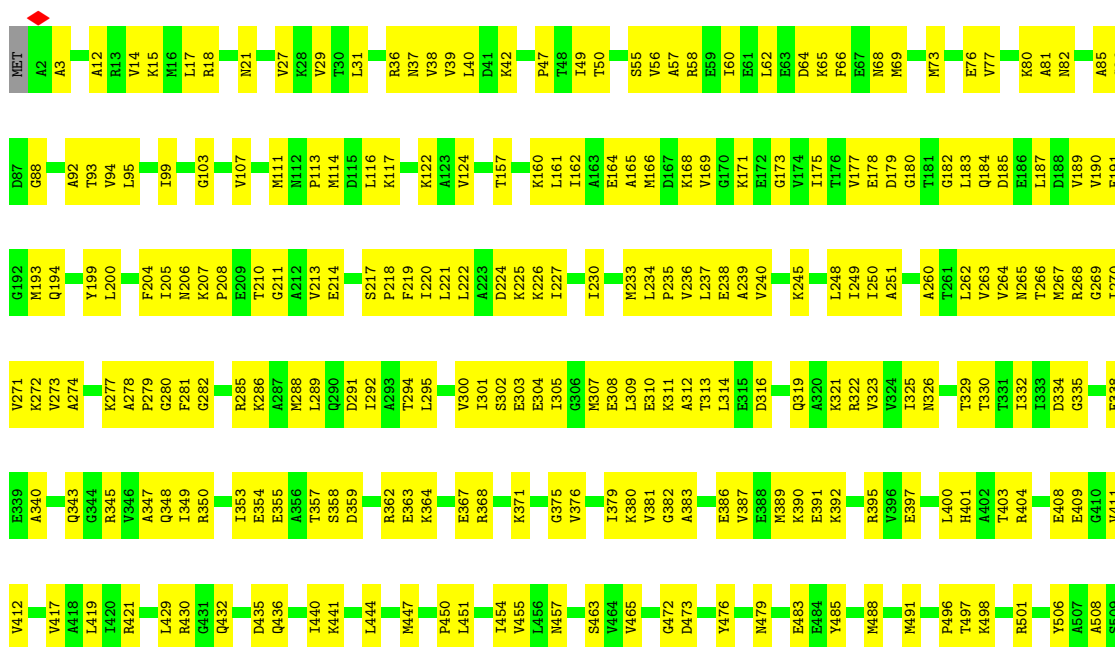
• Molecule 2: Chaperonin GroEL

Chain D:  48% 47%



• Molecule 2: Chaperonin GroEL

Chain E:  49% 46%



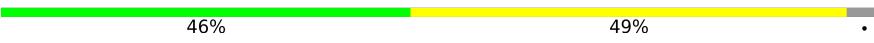
V510	AS11	G512	L513	M514	I515	T516	T517	E518	C519	M520	D523	L524	P525	LYS	ASN	ASP	ALA	ALA	ASP	LEU	GLY	ALA	ALA	GLY	GLY	MET	GLY	GLY	GLY	MET	MET
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• Molecule 2: Chaperonin GroEL

Chain F:  51% 44%

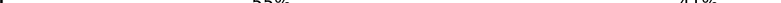
G512	L426	I333	L259	E186	G86	MET
L513	A427	D334	A260	L186	T89	A2
M514	A427	R345	T261	L187	T90	A3
T516	L429	D428	V263	D188	T93	K4
T517	R430	Q348	V264	V189	T93	D5
E518	D435	I349	N265	Q194	A96	V6
V521	K441	R350	T266	F195	A96	K7
T522		Q352	M267	D196	I100	N10
D523		I353		R197	T101	D11
L524	L444	E354	I270	G198	T101	A12
F525	R445	E355	K272	Y199		R13
LYS	A446	S358	D271	Y203	A109	V14
ASN	M447	D359	A274	F204	G110	K15
ASP	E448	R360		I205	M111	M16
ALA	A449	Y360	K277	N112		L17
ALA	P450	D361	A278	P113		R18
ASP	L451	R362	P279	N206		G19
LEU	R452	E363		T210	L116	V20
GLY	Q453	K364	D283	G211	K117	N21
ALA	I454	L365	A212	V213		V22
ALA		Q366	R285	E214	D121	
GLY	A466	E367	K286	L215	K122	V27
GLY	N467	R368	A287	E216	T125	L31
MET	T468	V369	N288	S217		
GLY	V469	A370	P218	P218	V128	R36
GLY	K470	K371	F219	E129	E129	N37
MET	G471	L372	I220	E130		
GLY	G472	A373	L221	L131	L131	L40
GLY		G374	L222	L222		
MET	N475		T296	A223	G138	G45
GLY	Y476	A377	V300	D224	S139	A46
GLY	G477		I301	K225	D140	P47
MET	Y478	K380	S302		S141	
MET	N479		E303	I230	K142	T48
		A383	E304	E232	A143	I49
E483	E483	E386	I305	E232	I144	
F484	Y485	R387	G306	P235	A145	V56
Y485		E388	M307	V236	Q146	A57
M488		M389	E308	L237	I150	R58
I489		K390		E238		E59
D490			L314	A239	T157	I60
M491	G492	L400		V240		E61
G492	I493	T403	L317	A241	K160	D64
		R404	G318	K242		F65
P496			Q319	A243	A163	F66
T497		E409	A320	K242	E164	E67
K498		G410	K321	K245	A165	M68
V499		V411	R322	P246		M69
T500		V412	V323	P246		
R501		A413	V324	L248	K168	Q72
		G416	I325	I249	V169	
L504			N326	E252		K75
Q505			K327		G173	
Y506			D328	E255	V174	
			T329	G256	I175	K80
A511			T330		T176	A81
			T331			N82
			I332		G180	
						A85

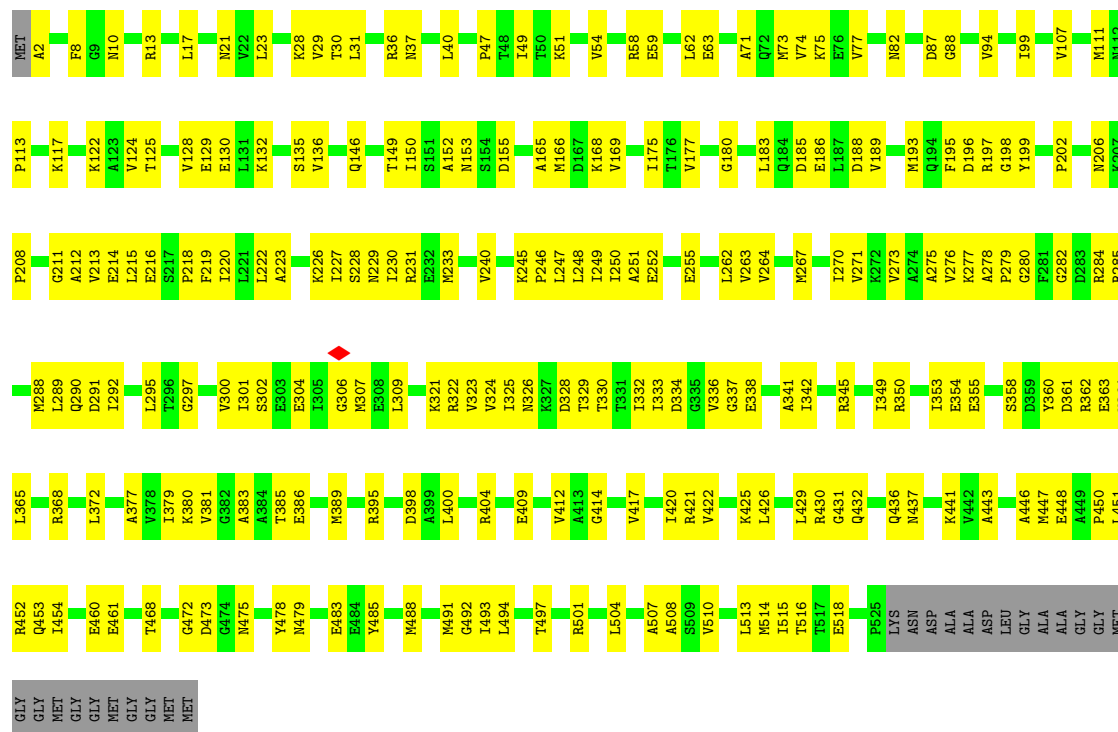
• Molecule 2: Chaperonin GroEL

Chain G:  46% 49%

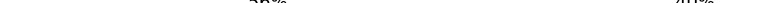
T329	K245	V169	E76	MET
T330	P246	G170	V77	A2
T331	L247	K171	A78	A3
I332	L248			K4
I333		E178	A81	D5
D334	E252	E186	G86	V6
G335	D253	L187	T90	K7
A340	E255	D188		
A341		V189	T93	N10
I342	A260	E190	V94	R13
Q343	V264	E191	L95	V14
Q344		G192		
R345	R268	M193	A98	R18
A347		G194	I99	
Q348	K272	F195	T100	N21
I349	V273	D196	T101	V22
R350		R197	E102	L23
Q351	K277	E198	G103	A24
Q352	A278	Y199	L104	
I353	P279			V27
E354	G280	F204	V107	K28
E355	F281	I205	A108	L31
A356		N206	A109	
T357	R284	K207	G110	K34
S358	R285	P208	M11	Q35
D359		E209		R36
Y360	M288	T210	M14	
D361		G211		
R362	D291	A212	K117	V39
E363	T292	V213	D41	L40
K364	A293	E214		
L365	T294	L215	D121	
Q366		K122	F44	
E367		E216	A123	
R368	G298	S217	V124	P47
V369	T299	P218	T125	T48
A370	V300	F219	A126	I49
K371	S302	L221	A127	T50
L372		L222	V128	K51
A373	I305	A223	L131	V54
G374	G306			
G375	M307	K226	C138	A57
V376		I227		R58
A377	A312	S228	A143	E59
V378	T313	V229		I60
I379	L314	T230	V147	E61
K380	E315	R231	G148	L62
	D316	E232	T149	
		M233	I150	F66
V387	A320	L234	E67	
	K321	P235	S154	N68
K390	R322	V236	D155	M69
E391	V323	L237		G70
K392	V324	E238	V159	A71
K393	I325	A239		Q72
A394	N326	V240	A165	M73
R395	K327	A241	M166	V74
V396	R398	K242		K75

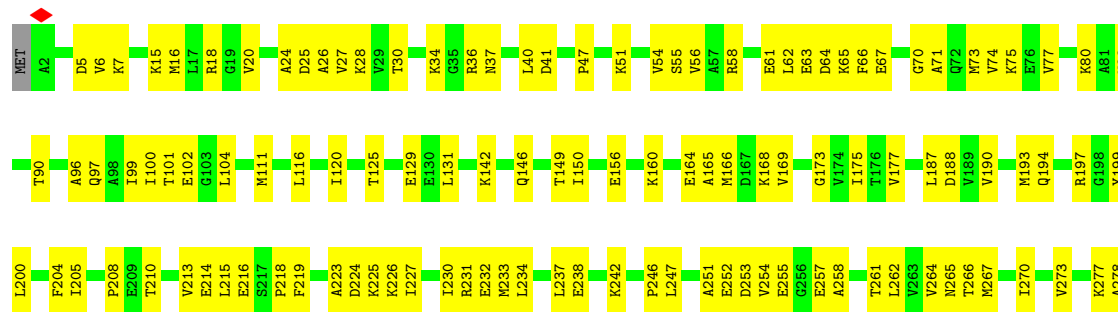
- Molecule 2: Chaperonin GroEL

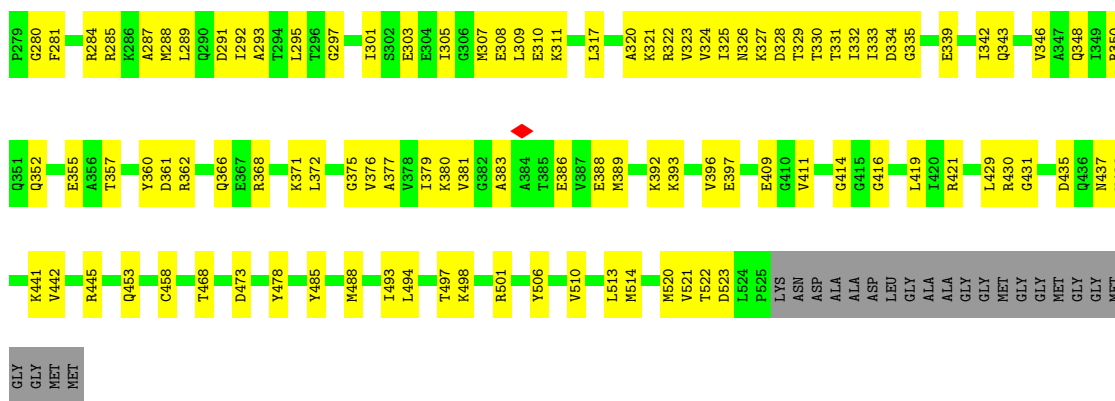
Chain H:  55% 41%



- Molecule 2: Chaperonin GroEL

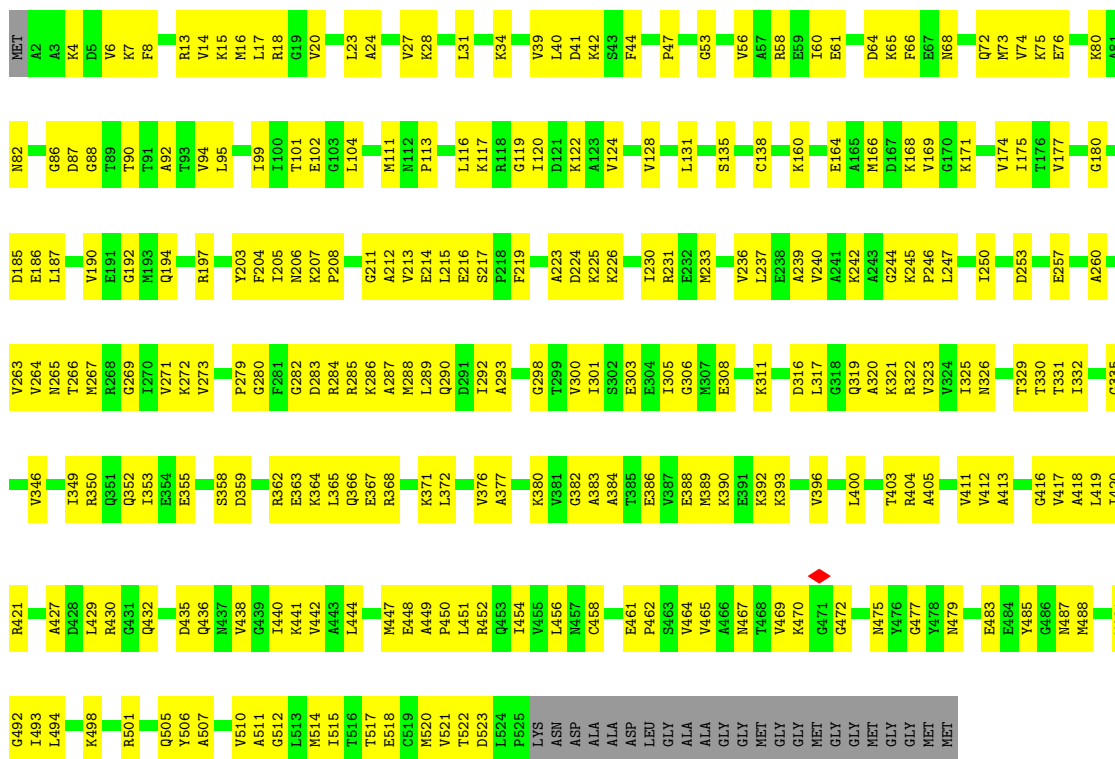
Chain I:  56% 40% .





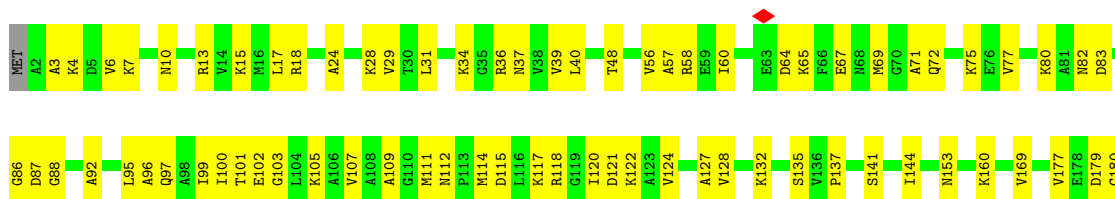
• Molecule 2: Chaperonin GroEL

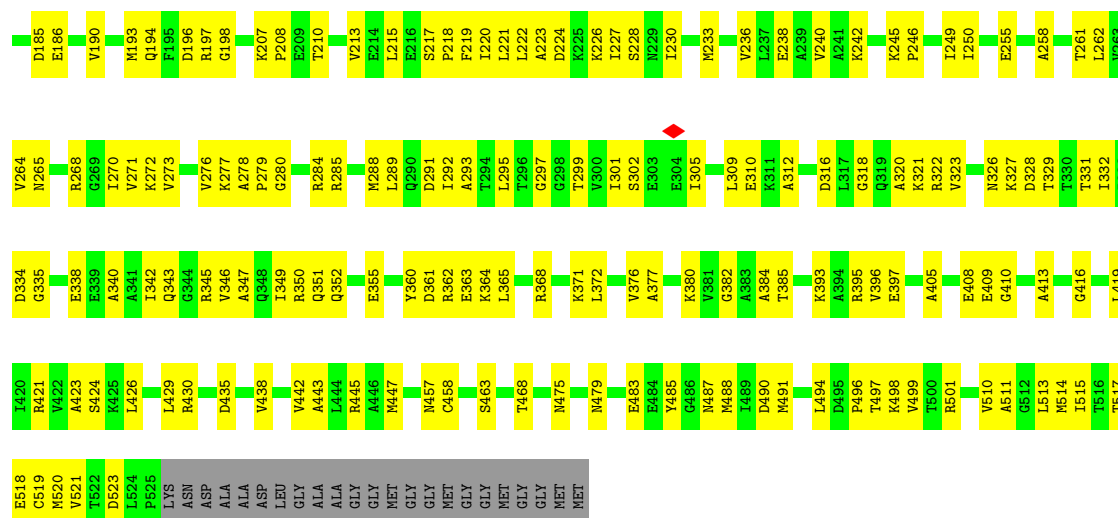
Chain J: 49% 47% .



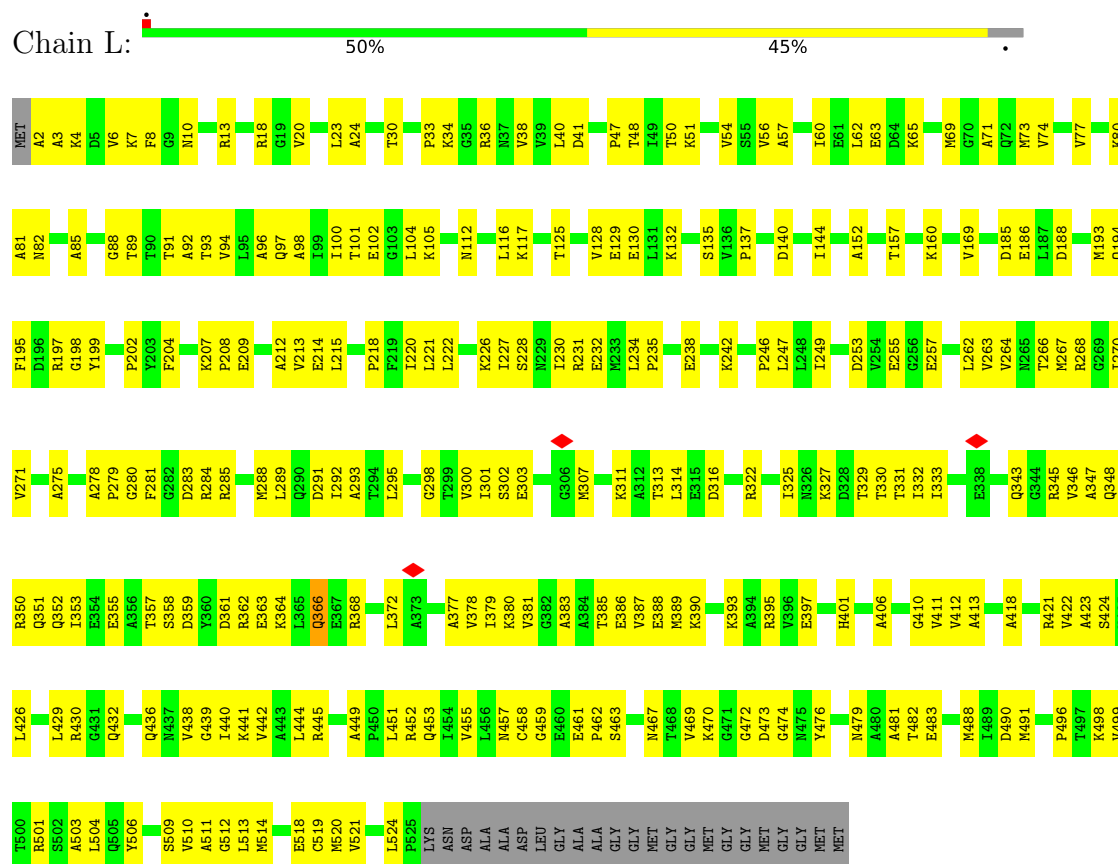
• Molecule 2: Chaperonin GroEL

Chain K: 53% 42% .

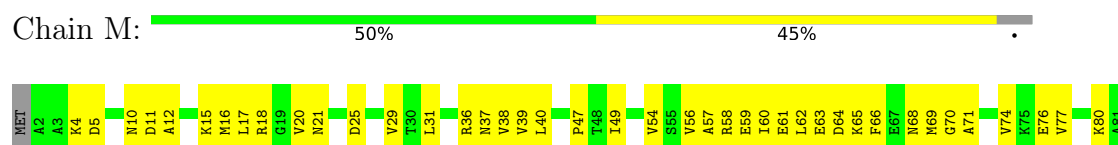


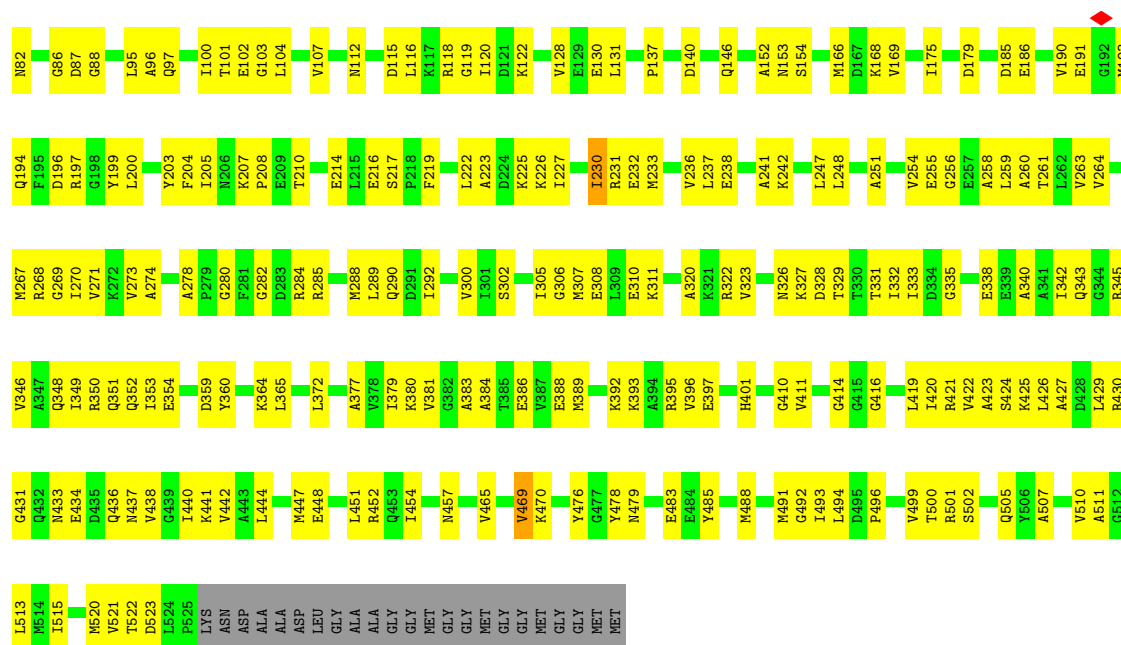


• Molecule 2: Chaperonin GroEL



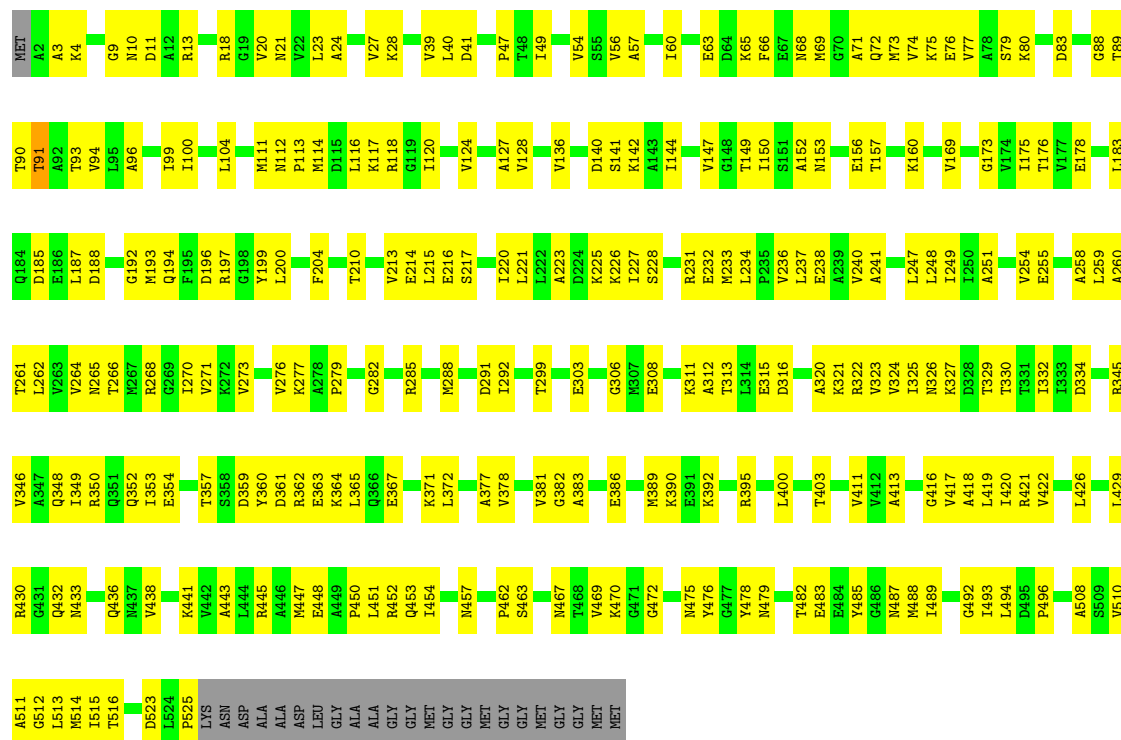
• Molecule 2: Chaperonin GroEL





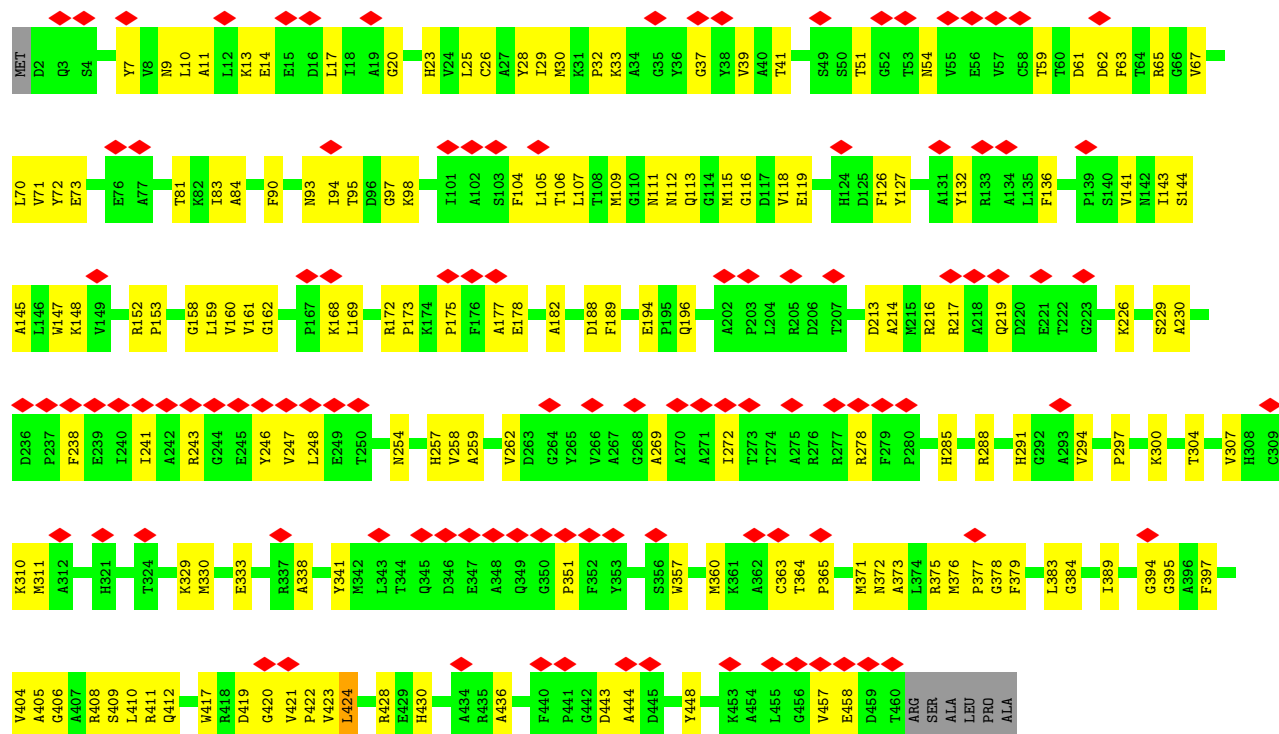
• Molecule 2: Chaperonin GroEL

Chain N: 51% 45%



• Molecule 3: Ribulose biphosphate carboxylase

Chain a: 23% 64% 34%



4 Experimental information

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 ($e^-/\text{\AA}^2$)	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 ($\text{\AA}$)	394.0, 394.0, 394.0	wwPDB
Map dimensions	200, 200, 200	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	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	0.46	1/731 (0.1%)	0.50	0/983
1	2	0.27	0/731	0.45	0/983
1	O	0.36	0/715	0.56	0/962
1	P	0.15	0/731	0.44	0/983
1	Q	0.22	0/723	0.54	0/973
1	R	0.17	0/731	0.48	0/983
1	S	0.23	0/723	0.50	0/973
1	T	0.24	0/731	0.44	0/983
1	U	0.16	0/731	0.43	0/983
1	V	0.22	0/731	0.51	0/983
1	W	0.26	0/731	0.47	0/983
1	X	0.17	0/731	0.47	0/983
1	Y	0.16	0/726	0.56	2/976 (0.2%)
1	Z	0.23	0/717	0.45	0/964
2	A	0.15	0/3883	0.39	1/5243 (0.0%)
2	B	0.18	0/3883	0.40	0/5243
2	C	0.16	0/3883	0.40	0/5243
2	D	0.21	0/3883	0.42	0/5243
2	E	0.17	0/3883	0.40	1/5243 (0.0%)
2	F	0.20	0/3883	0.39	0/5243
2	G	0.22	0/3883	0.43	1/5243 (0.0%)
2	H	0.21	0/3883	0.40	0/5243
2	I	0.19	0/3883	0.41	0/5243
2	J	0.20	0/3883	0.44	0/5243
2	K	0.15	0/3883	0.35	0/5243
2	L	0.21	0/3883	0.45	0/5243
2	M	0.21	0/3883	0.45	1/5243 (0.0%)
2	N	0.20	0/3883	0.42	0/5243
3	a	0.26	0/3586	0.54	1/4859 (0.0%)
All	All	0.21	1/68131 (0.0%)	0.43	7/91956 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	5	PRO	C-N	11.69	1.47	1.33

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	M	230	ILE	N-CA-C	-7.60	105.14	111.91
1	Y	25	ILE	CA-C-N	6.26	133.25	121.97
1	Y	25	ILE	C-N-CA	6.26	133.25	121.97
2	E	88	GLY	N-CA-C	-5.67	106.94	115.32
2	A	230	ILE	N-CA-C	-5.37	106.26	112.98
3	a	61	ASP	N-CA-C	-5.34	105.54	111.36
2	G	353	ILE	O-C-N	5.28	127.27	121.83

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	36	0
1	2	727	0	762	57	0
1	O	711	0	744	45	0
1	P	727	0	762	39	0
1	Q	719	0	750	54	0
1	R	727	0	762	41	0
1	S	719	0	750	52	0
1	T	727	0	762	32	0
1	U	727	0	762	38	0
1	V	727	0	762	38	0
1	W	727	0	762	47	0
1	X	727	0	762	57	0
1	Y	722	0	757	48	0
1	Z	713	0	751	56	0
2	A	3855	0	3976	184	0
2	B	3855	0	3976	175	0
2	C	3855	0	3976	190	0
2	D	3855	0	3976	213	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	E	3855	0	3976	209	0
2	F	3855	0	3976	198	0
2	G	3855	0	3976	215	0
2	H	3855	0	3976	198	0
2	I	3855	0	3976	181	0
2	J	3855	0	3976	221	0
2	K	3855	0	3976	182	0
2	L	3855	0	3976	237	0
2	M	3855	0	3976	210	0
2	N	3855	0	3976	218	0
3	a	3502	0	3380	145	0
All	All	67599	0	69654	3445	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 25.

All (3445) 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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:358:SER:HA	2:L:362:ARG:NH2	1.71	1.04
3:a:421:VAL:HG23	3:a:424:LEU:HD11	1.39	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
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
3:a:188:ASP:HB3	3:a:410:LEU:HD21	1.47	0.95
1:O:7:HIS:CD2	1:O:48:ILE:HD11	2.01	0.95
3:a:127:TYR:HD2	3:a:357:TRP:HE1	1.12	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:349:ILE:C	2:L:353:ILE:HG13	1.96	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
2:C:279:PRO:HD2	2:C:288:MET:HE1	1.52	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
3:a:421:VAL:CG2	3:a:424:LEU:HD11	2.02	0.89
2:L:358:SER:H	2:L:362:ARG:HE	1.19	0.89
3:a:33:LYS:NZ	3:a:119:GLU:HG3	1.87	0.88
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:A:186:GLU:HB3	2:A:380:LYS:HB2	1.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:188:ASP:CB	3:a:410:LEU:HD21	2.06	0.84
2:D:213:VAL:HB	2:D:325:ILE:O	1.78	0.84
3:a:93:ASN:H	3:a:97:GLY:HA2	1.42	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:111:MET:HE1	2:C:438:VAL:HB	1.61	0.83
2:C:34:LYS:HD2	2:C:458:CYS:HA	1.60	0.83
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
1:R:15:LYS:HZ2	1:R:64:ILE:HG23	1.43	0.82
3:a:421:VAL:HG23	3:a:424:LEU:CD1	2.09	0.82
2:L:65:LYS:HG2	2:L:69:MET:HE1	1.61	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:C:383:ALA:HB3	2:C:389:MET:HE2	1.63	0.81
2:J:197:ARG:HE	2:J:279:PRO:HA	1.45	0.81
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:285:ARG:HA	2:C:288:MET:HE2	1.63	0.79
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
3:a:188:ASP:CG	3:a:410:LEU:HD21	2.08	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:X:53:GLU:CD	1:X:54:VAL:H	1.91	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
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:111:MET:HE1	2:J:438:VAL:HB	1.65	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:M:386:GLU:HA	2:M:389:MET:HE2	1.69	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
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
3:a:147:TRP:HB2	3:a:152:ARG:HH21	1.51	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:F:164:GLU:HB3	2:F:168:LYS:HZ1	1.53	0.73
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:L:350:ARG:N	2:L:353:ILE:CD1	2.52	0.73
1:P:49:LEU:HD11	1:P:55:LYS:HZ2	1.54	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
3:a:143:ILE:HG13	3:a:152:ARG:HH22	1.54	0.73
2:E:193:MET:HB2	2:E:332:ILE:HB	1.69	0.72
2:L:263:VAL:HG12	2:L:267:MET:HE1	1.70	0.72
1:Z:39:GLU:HA	1:Z:64:ILE:HA	1.71	0.72
3:a:188:ASP:HB3	3:a:410:LEU:CD2	2.19	0.72
2:B:362:ARG:O	2:B:366:GLN:NE2	2.22	0.72
2:G:109:ALA:HB3	2:G:111:MET:HE1	1.70	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
3:a:111:ASN:HB3	3:a:113:GLN:HG2	1.69	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
3:a:93:ASN:ND2	3:a:98:LYS:O	2.22	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
3:a:33:LYS:HZ1	3:a:119:GLU:HG3	1.54	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:L:441:LYS:HZ3	2:L:445:ARG:HD2	1.55	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:E:263:VAL:HG12	2:E:267:MET:HE2	1.72	0.70
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:122:LYS:NZ	2:C:430:ARG:O	2.23	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: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
3:a:188:ASP:OD2	3:a:410:LEU:HD21	1.92	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
3:a:33:LYS:HZ2	3:a:119:GLU:HG3	1.56	0.69
2:A:155:ASP:OD2	2:A:395:ARG:NH1	2.26	0.69
2:F:284:ARG:HB2	3:a:9:ASN:HD22	1.58	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:189:PHE:HZ	3:a:285:HIS:HE2	1.41	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
3:a:173:PRO:HA	3:a:177:ALA:HB3	1.75	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
3:a:73:GLU:HG3	3:a:81:THR:HA	1.74	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:A:51:LYS:NZ	2:A:87:ASP:OD1	2.21	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:D:28:LYS:HZ3	2:D:93:THR:HG22	1.59	0.68
2:G:351:GLN:NE2	2:G:354:GLU:OE2	2.27	0.68
3:a:153:PRO:HB2	3:a:417:TRP:HZ3	1.58	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:H:263:VAL:HB	2:H:267:MET:HE1	1.76	0.67
1:Q:25:ILE:HG13	1:Q:26:VAL:HG23	1.76	0.67
1:Q:50:GLU:CD	1:Q:51:ASN:H	2.01	0.67
2:C:207:LYS:HG3	2:C:208:PRO:HD3	1.76	0.67
2:D:66:PHE:HA	2:D:69:MET:HE2	1.74	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
3:a:7:TYR:HD2	3:a:70:LEU:HD11	1.58	0.67
3:a:406:GLY:HA3	3:a:430:HIS:CE1	2.28	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:D:7:LYS:HZ3	2:D:15:LYS:HE2	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
3:a:188:ASP:OD2	3:a:410:LEU:HD11	1.96	0.66
3:a:216:ARG:HH21	3:a:230:ALA:HB3	1.59	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
2:B:194:GLN:O	2:B:371:LYS:NZ	2.29	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
3:a:112:ASN:ND2	3:a:304:THR:O	2.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:363:CYS:H	3:a:383:LEU:HD23	1.60	0.65
3:a:410:LEU:C	3:a:410:LEU:HD12	2.22	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
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:J:177:VAL:HG13	2:J:393:LYS:HZ3	1.62	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:L:238:GLU:HG3	2:L:242:LYS:HZ3	1.60	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:A:301:ILE:HA	2:A:307:MET:HE1	1.78	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:E:12:ALA:HB3	2:E:520:MET:HE3	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:383:LEU:O	3:a:423:VAL:HG13	1.95	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
3:a:394:GLY:HA2	3:a:397:PHE:HD2	1.62	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
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:M:225:LYS:NZ	2:M:226:LYS:O	2.26	0.64
2:C:238:GLU:OE1	2:C:242:LYS:NZ	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:L:349:ILE:C	2:L:353:ILE:CG1	2.70	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
3:a:421:VAL:O	3:a:424:LEU:HG	1.97	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: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
1:Q:86:MET:HE1	1:Q:91:ILE:HB	1.80	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
2:L:285:ARG:HA	2:L:288:MET:HE3	1.79	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
1:Z:6:LEU:C	1:Z:6:LEU:HD12	2.23	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
2:M:479:ASN:O	2:M:483:GLU:HA	1.97	0.63
2:G:419:LEU:HB3	2:G:447:MET:HE2	1.80	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:I:111:MET:HE1	2:I:435:ASP:HB3	1.81	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:B:281:PHE:HD1	3:a:404:VAL:HG21	1.62	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
2:B:246:PRO:HA	2:B:272:LYS:HB2	1.81	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:408:ARG:HB2	3:a:412:GLN:HB2	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:L:69:MET:HB3	2:L:73:MET:HE1	1.80	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
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
3:a:152:ARG:HH12	3:a:160:VAL:HG23	1.64	0.61
2:G:291:ASP:OD1	2:G:292:ILE:N	2.33	0.61
2:H:386:GLU:HA	2:H:389:MET:HE2	1.82	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
2:I:488:MET:HE3	2:I:493:ILE:HB	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:I:6:VAL:C	2:I:7:LYS:HD3	2.25	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:I:13:LYS:NZ	1:I: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:M:420:ILE:HA	2:M:447:MET:HE1	1.82	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:111:MET:HE2	2:C:116:LEU:HD21	1.83	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:a:29:ILE:HA	3:a:81:THR:HG21	1.83	0.60
2:B:220:ILE:N	2:B:318:GLY:O	2.30	0.60
2:B:423:ALA:HB2	2:B:447:MET:HE3	1.83	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
3:a:10:LEU:HB2	3:a:72:TYR:HB2	1.82	0.60
3:a:297:PRO:HA	3:a:300:LYS:HE3	1.82	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
2:I:73:MET:SD	2:I:514:MET:HE2	2.41	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
3:a:29:ILE:HD12	3:a:81:THR:HB	1.82	0.60
3:a:395:GLY:HA3	3:a:436:ALA:HA	1.82	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:I:386:GLU:HA	2:I:389:MET:HE2	1.83	0.59
2:I:468:THR:OG1	2:I:485:TYR:OH	2.21	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
2:B:222:LEU:HD23	2:B:250:ILE:HB	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:N:73:MET:HE1	2:N:514:MET:HB3	1.84	0.59
1:Y:34:LYS:NZ	1:Y:35:SER:O	2.35	0.59
3:a:408:ARG:HB3	3:a:411:ARG:HB3	1.84	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:M:434:GLU:HA	2:M:437:ASN:HB2	1.85	0.59
1:V:13:LYS:HB2	1:V:41:LEU:HD11	1.84	0.59
3:a:262:VAL:HG21	3:a:285:HIS:H	1.67	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
3:a:13:LYS:HD3	3:a:14:GLU:H	1.68	0.58
3:a:37:GLY:O	3:a:39:VAL:N	2.36	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:K:111:MET:HE3	2:K:438:VAL:HG11	1.86	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
1:2:68:ASN:HA	1:V:74:LYS:HZ2	1.68	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:305:ILE:HG22	2:C:306:GLY:N	2.19	0.58
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:B:42:LYS:HZ2	2:B:45:GLY:HA3	1.69	0.58
2:C:491:MET:HE1	2:C:493:ILE:HD12	1.85	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
2:B:416:GLY:HA3	2:B:451:LEU:HD21	1.84	0.58
2:H:37:ASN:HB3	2:H:49:ILE:HD11	1.86	0.58
2:H:233:MET:HA	2:H:233:MET:HE3	1.85	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
1:S:50:GLU:CD	1:S:51:ASN:H	2.12	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:M:16:MET:HE1	2:M:70:GLY:HA2	1.86	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
3:a:144:SER:OG	3:a:158:GLY:O	2.22	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:D:386:GLU:HA	2:D:389:MET:HE2	1.84	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:294:VAL:HA	3:a:300:LYS:HA	1.85	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
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
3:a:394:GLY:HA2	3:a:397:PHE:CD2	2.39	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
2:L:117:LYS:HZ2	2:L:512:GLY:HA3	1.69	0.57
1:X:68:ASN:N	1:X:90:ASP:O	2.34	0.57
3:a:371:MET:HE1	3:a:378:GLY:HA3	1.85	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:F:45:GLY:HA2	3:a:54:ASN:HA	1.85	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:36:ARG:HH22	2:N:117:LYS:HZ2	1.52	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:86:MET:HE2	1:Q:90:ASP:HB3	1.87	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:E:193:MET:HE2	2:E:295:LEU:HD13	1.87	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
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
2:L:510:VAL:HG22	2:L:514:MET:HE1	1.87	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:B:321:LYS:NZ	2:B:335:GLY:O	2.36	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
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:J:386:GLU:HA	2:J:389:MET:HE3	1.88	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
1:2:71:TYR:O	1:2:74:LYS:NZ	2.37	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: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:111:MET:HE3	2:D:112:ASN:HB3	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
1:1:76:GLU:CD	1:1:85:ILE:HG13	2.31	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:J:208:PRO:HB2	2:J:212:ALA:HB3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:N:513:LEU:O	2:N:516:THR:OG1	2.24	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:L:349:ILE:C	2:L:353:ILE:CD1	2.78	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
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:D:114:MET:HE1	2:E:36:ARG:HG2	1.88	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:L:101:THR:HG23	2:L:105:LYS:HZ1	1.71	0.56
2:N:226:LYS:HD3	2:N:255:GLU:OE2	2.05	0.56
3:a:243:ARG:HG2	3:a:248:LEU:HD12	1.87	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:111:MET:HE3	2:J:435:ASP:HA	1.89	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:406:GLY:HA3	3:a:430:HIS:HE1	1.71	0.55
2:C:122:LYS:HE2	2:C:429:LEU:HD11	1.89	0.55
2:E:166:MET:HE3	2:E:166:MET:O	2.05	0.55
2:E:233:MET:HE2	2:E:236:VAL:HB	1.87	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
3:a:153:PRO:HB2	3:a:417:TRP:CZ3	2.39	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:G:70:GLY:HA2	2:G:73:MET:HE2	1.88	0.55
2:G:226:LYS:HD3	3:a:351:PRO:HG3	1.88	0.55
2:H:362:ARG:HA	2:H:365:LEU:HD12	1.88	0.55
2:J:475:ASN:HA	2:J:488:MET:HE1	1.87	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:E:111:MET:HE1	2:E:435:ASP:HA	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:H:188:ASP:CG	2:H:380:LYS:HZ1	2.14	0.55
2:I:266:THR:HG22	2:I:273:VAL:H	1.71	0.55
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
3:a:32:PRO:HG3	3:a:41:THR:HG21	1.87	0.55
3:a:219:GLN:HB3	3:a:226:LYS:HG2	1.88	0.55
3:a:372:ASN:H	3:a:375:ARG:HH21	1.53	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:M:305:ILE:HG22	2:M:307:MET:HE3	1.88	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
2:B:65:LYS:NZ	2:B:523:ASP:O	2.38	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:A:417:VAL:HG11	2:A:488:MET:HE3	1.87	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:305:ILE:CG2	2:M:307:MET:HE3	2.36	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
3:a:178:GLU:O	3:a:182:ALA:N	2.38	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:207:LYS:NZ	2:L:214:GLU:H	2.05	0.55
2:N:288:MET:HE1	2:N:292:ILE:HD11	1.88	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
3:a:160:VAL:HG21	3:a:257:HIS:NE2	2.22	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
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
3:a:112:ASN:ND2	3:a:304:THR:OG1	2.40	0.54
2:E:193:MET:HE1	2:E:292:ILE:HA	1.88	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: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:H:128:VAL:HG12	2:H:132:LYS:HZ2	1.73	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:429:LEU:O	2:F:430:ARG:NH1	2.39	0.54
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: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:D:263:VAL:HG13	2:D:267:MET:HE2	1.89	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:C:100:ILE:HG12	2:C:514:MET:HE2	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
3:a:254:ASN:HB2	3:a:257:HIS:CG	2.43	0.54
1:2:14:ARG:HH22	1:2:17:VAL:HG13	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
1:Z:19:THR:O	1:Z:28:THR:OG1	2.21	0.54
3:a:357:TRP:CZ2	3:a:360:MET:HA	2.43	0.54
2:A:195:PHE:HE1	2:A:288:MET:HE1	1.72	0.53
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:195:PHE:C	2:L:329:THR:HG1	2.15	0.53
2:M:345:ARG:O	2:M:348:GLN:HG3	2.08	0.53
2:N:194:GLN:O	2:N:371:LYS:NZ	2.41	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
3:a:405:ALA:CB	3:a:408:ARG:HH21	2.21	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
3:a:90:PHE:HD2	3:a:104:PHE:HE1	1.55	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:G:360:TYR:CD2	3:a:333:GLU:HB3	2.43	0.53
2:H:297:GLY:HA3	2:H:336:VAL:HB	1.89	0.53
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: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:1:MET:HE1	1:T:79:ASP:HB2	1.90	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:59:THR:O	3:a:62:ASP:OD1	2.26	0.53
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: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:J:102:GLU:HB3	2:J:442:VAL:HG13	1.91	0.52
2:K:194:GLN:O	2:K:371:LYS:NZ	2.41	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:H:233:MET:HE1	2:H:309:LEU:O	2.09	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
1:U:57:LEU:HB3	1:U:59:VAL:HG22	1.91	0.52
3:a:145:ALA:HA	3:a:148:LYS:HB2	1.90	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:K:69:MET:HE3	2:K:520:MET:HE1	1.92	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
2:J:27:VAL:HG12	2:J:90:THR:HG23	1.92	0.52
2:J:68:ASN:CG	2:J:72:GLN:HE22	2.17	0.52
2:J:226:LYS:HA	2:J:253:ASP:O	2.10	0.52
3:a:7:TYR:CD2	3:a:70:LEU:HD11	2.41	0.52
3:a:168:LYS:HD2	3:a:169:LEU:HB2	1.91	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:69:MET:SD	2:M:520:MET:HE2	2.49	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:F:420:ILE:HG13	2:F:448:GLU:HG2	1.92	0.52
2:G:44:PHE:HE2	3:a:115:MET:HA	1.74	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
1:Y:48:ILE:C	1:Y:52:GLY:H	2.18	0.52
3:a:389:ILE:HD13	3:a:409:SER:O	2.10	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:405:ALA:HA	3:a:408:ARG:HE	1.75	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
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:N:417:VAL:C	2:N:420:ILE:HG12	2.36	0.51
3:a:372:ASN:OD1	3:a:373:ALA:N	2.43	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
1:T:1:MET:HA	1:T:1:MET:HE3	1.92	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:C:188:ASP:CG	2:C:380:LYS:HZ1	2.19	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:L:421:ARG:O	2:L:424:SER:OG	2.26	0.51
2:M:76:GLU:HG2	2:M:80:LYS:NZ	2.26	0.51
3:a:189:PHE:HZ	3:a:285:HIS:NE2	2.09	0.51
3:a:213:ASP:OD1	3:a:214:ALA:N	2.44	0.51
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:M:269:GLY:C	2:M:271:VAL:H	2.19	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:C:37:ASN:CG	2:C:49:ILE:HG13	2.36	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:G:409:GLU:CD	2:G:498:LYS:H	2.19	0.51
2:H:198:GLY:HA2	2:H:328:ASP:HA	1.93	0.51
2:J:73:MET:HE1	2:J:514:MET:HB2	1.92	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: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:72:GLN:HE22	2:N:75:LYS:HZ2	1.59	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:I:7:LYS:HZ2	2:I:522:THR:HG22	1.76	0.51
2:J:58:ARG:O	2:J:75:LYS:NZ	2.28	0.51
2:L:117:LYS:NZ	2:L:509:SER:O	2.40	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
2:M:12:ALA:HA	2:M:15:LYS:HZ3	1.77	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
3:a:105:LEU:HA	3:a:109:MET:HE1	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
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
3:a:424:LEU:O	3:a:428:ARG:N	2.45	0.50
1:1:49:LEU:HD12	1:1:50:GLU:O	2.11	0.50
2:C:279:PRO:HD2	2:C:288:MET:CE	2.34	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:403:THR:OG1	2:C:404:ARG:NH1	2.44	0.50
2:D:69:MET:HE1	2:D:522:THR:HB	1.92	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:I:231:ARG:HA	2:I:233:MET:HE1	1.92	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: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
3:a:126:PHE:HZ	3:a:307:VAL:HG13	1.77	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
2:M:430:ARG:NH1	2:M:431:GLY:O	2.44	0.50
2:N:419:LEU:C	2:N:421:ARG:N	2.69	0.50
3:a:216:ARG:HH22	3:a:258:VAL:HG13	1.76	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:F:488:MET:HE3	2:F:493:ILE:HB	1.94	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:S:95:VAL:HA	1:T:3:ILE:HG13	1.93	0.50
1:Z:12:VAL:HG23	1:Z:39:GLU:C	2.37	0.50
3:a:384:GLY:HA3	3:a:423:VAL:CG1	2.42	0.50
3:a:457:VAL:HG12	3:a:458:GLU:H	1.77	0.50
2:C:278:ALA:HB3	2:C:285:ARG:NH1	2.26	0.50
2:G:488:MET:HA	2:G:491:MET:HE3	1.94	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:N:65:LYS:HZ1	2:N:525:PRO:HD3	1.77	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:419:LEU:HB3	2:C:447:MET:HE1	1.94	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:C:152:ALA:C	2:C:395:ARG:HH11	2.20	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
3:a:172:ARG:O	3:a:175:PRO:HD2	2.11	0.49
2:A:288:MET:HE1	2:A:292:ILE:HD11	1.93	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: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: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
3:a:94:ILE:HG13	3:a:95:THR:N	2.27	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:J:267:MET:C	2:J:269:GLY:N	2.71	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
3:a:408:ARG:HD2	3:a:411:ARG:HD3	1.94	0.49
3:a:410:LEU:C	3:a:410:LEU:CD1	2.86	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:D:203:TYR:HB3	2:D:267:MET:HE3	1.93	0.49
2:E:73:MET:HE3	2:F:47:PRO:HD2	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

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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:N:149:THR:OG1	2:N:156:GLU:OE1	2.26	0.49
3:a:7:TYR:CG	3:a:65:ARG:HD3	2.48	0.49
3:a:246:TYR:CD2	3:a:247:VAL:HG23	2.48	0.49
3:a:372:ASN:N	3:a:375:ARG:HH21	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:214:GLU:HB2	2:E:322:ARG:HH22	1.78	0.48
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
3:a:364:THR:OG1	3:a:384:GLY:N	2.46	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: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:441:LYS:NZ	2:L:445:ARG:HD2	2.26	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
3:a:173:PRO:O	3:a:178:GLU:N	2.45	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:J:166:MET:HE3	2:J:171:LYS:HA	1.94	0.48
2:K:468:THR:OG1	2:K:485:TYR:OH	2.25	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:26:CYS:H	3:a:84:ALA:HA	1.77	0.48
2:C:270:ILE:HG22	2:C:271:VAL:HG23	1.95	0.48
2:C:447:MET:HE2	2:C:447:MET:HB2	1.76	0.48
2:E:113:PRO:HA	2:E:116:LEU:HD12	1.94	0.48
2:E:516:THR:C	2:F:49:ILE:HD11	2.38	0.48
2:G:69:MET:SD	2:G:73:MET:HE1	2.54	0.48
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:L:355:GLU:C	2:L:357:THR:H	2.22	0.48
2:N:228:SER:HB3	2:N:255:GLU:CD	2.38	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:421:ARG:O	2:K:424:SER:OG	2.23	0.48
2:K:429:LEU:O	2:K:430:ARG:NH1	2.38	0.48
2:L:511:ALA:HA	2:L:514:MET:HE2	1.95	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:F:491:MET:O	2:F:491:MET:HE3	2.14	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:386:GLU:HA	2:F:389:MET:HE3	1.96	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: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
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:W:86:MET:HE3	1:W:90:ASP:HB2	1.96	0.48
1:Y:48:ILE:HG22	1:Y:48:ILE:O	2.12	0.48
3:a:238:PHE:CD1	3:a:241:ILE:HD11	2.48	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:D:414:GLY:HA2	2:D:495:ASP:CG	2.39	0.48
2:E:178:GLU:OE1	2:E:380:LYS:NZ	2.38	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: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
3:a:143:ILE:O	3:a:152:ARG:NH2	2.46	0.48
2:A:220:ILE:HD11	2:A:250:ILE:HD11	1.94	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:J:194:GLN:HA	2:J:330:THR:O	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:67:VAL:O	3:a:107:LEU:HD22	2.14	0.48
3:a:152:ARG:NH1	3:a:160:VAL:HG23	2.29	0.48
3:a:329:LYS:O	3:a:330:MET:HE2	2.14	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:I:308:GLU:OE2	2:I:311:LYS:NZ	2.30	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
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:191:GLU:C	2:E:194:GLN:HE22	2.22	0.47
2:E:237:LEU:HG	2:E:271:VAL:HG11	1.96	0.47
2:H:291:ASP:CG	2:H:345:ARG:HH21	2.22	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
1:V:73:VAL:HG23	1:V:86:MET:HE3	1.96	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
1:Q:39:GLU:CD	1:Q:41:LEU:H	2.23	0.47
1:U:86:MET:HE2	1:U:90:ASP:HB3	1.96	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
2:D:16:MET:HE2	2:D:16:MET:HA	1.95	0.47
2:E:175:ILE:HD12	2:E:376:VAL:HG13	1.94	0.47
2:F:264:VAL:HG23	2:F:267:MET:HE3	1.96	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:H:129:GLU:CD	2:H:132:LYS:HZ1	2.22	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: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
3:a:229:SER:C	3:a:259:ALA:HB2	2.39	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
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:301:ILE:HG12	2:E:307:MET:HE1	1.96	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:60:ILE:HB	2:N:75:LYS:HZ3	1.79	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: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
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: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:A:305:ILE:HD11	2:A:307:MET:HE2	1.97	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:111:MET:HE2	2:J:116:LEU:HD21	1.97	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: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
3:a:194:GLU:O	3:a:196:GLN:N	2.44	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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:161:VAL:HG12	3:a:288:ARG:HH11	1.80	0.46
3:a:278:ARG:HD3	3:a:278:ARG:HA	1.65	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: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:K:514:MET:O	2:K:517:THR:OG1	2.25	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
2:F:246:PRO:HB3	2:F:272:LYS:HG3	1.98	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:C:107:VAL:C	2:C:110:GLY:H	2.22	0.46
2:C:178:GLU:CD	2:C:378:VAL:HA	2.40	0.46
2:D:282:GLY:C	2:D:284:ARG:H	2.24	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:74:VAL:HG12	2:I:514:MET:HE1	1.96	0.46
2:I:227:ILE:O	2:I:255:GLU:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:230:ILE:C	2:I:232:GLU:H	2.23	0.46
2:I:388:GLU:HG2	2:I:392:LYS:HZ2	1.80	0.46
2:J:64:ASP:OD1	2:J:65:LYS:N	2.48	0.46
2:J:117:LYS:HZ2	2:J:512:GLY:HA3	1.80	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:476:TYR:CZ	2:M:485:TYR:HB3	2.51	0.46
1:P:49:LEU:HD21	1:P:55:LYS:HZ1	1.80	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
3:a:371:MET:SD	3:a:379:PHE:HB2	2.56	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:D:291:ASP:O	2:D:294:THR:OG1	2.30	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: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
3:a:51:THR:OG1	3:a:106:THR:O	2.34	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:338:GLU:CD	2:E:340:ALA:H	2.24	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
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:I:437:ASN:C	2:I:441:LYS:HZ2	2.24	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:10:ASN:CG	2:D:13:ARG:HH21	2.23	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:G:238:GLU:HG3	2:G:242:LYS:HZ3	1.80	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: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: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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:420:ILE:HA	2:B:447:MET:HE1	1.97	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: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: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:193:MET:HE1	2:L:292:ILE:HA	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
3:a:141:VAL:HG13	3:a:145:ALA:HB3	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: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:267:MET:C	2:J:269:GLY:H	2.24	0.45
2:J:349:ILE:O	2:J:353:ILE:HG13	2.16	0.45
2:K:109:ALA:HB3	2:K:111:MET:HE1	1.97	0.45
2:M:238:GLU:O	2:M:242:LYS:HG3	2.17	0.45
2:N:176:THR:OG1	2:N:178:GLU:OE2	2.22	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
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:F:239:ALA:HB1	2:F:314:LEU:HG	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:383:ALA:HB3	2:F:389:MET:HG2	1.99	0.45
2:G:7:LYS:HZ3	2:G:66:PHE:HE2	1.63	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:129:GLU:HA	2:H:132:LYS:HZ3	1.81	0.45
2:H:285:ARG:HA	2:H:288:MET:HG3	1.98	0.45
2:I:301:ILE:HD13	2:I:307:MET:HE1	1.99	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:111:MET:HE3	2:N:438:VAL:HG11	1.98	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:A:232:GLU:O	2:A:233:MET:HE2	2.16	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:E:182:GLY:O	2:E:183:LEU:HB2	2.16	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:193:MET:HE2	2:M:292:ILE:HD13	1.98	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
3:a:144:SER:HB3	3:a:153:PRO:O	2.16	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:K:284:ARG:HG2	2:K:288:MET:HE3	1.97	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:7:LYS:HD3	2:F:11:ASP:CG	2.42	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
3:a:376:MET:HB3	3:a:377:PRO:HD3	1.99	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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: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:D:421:ARG:O	2:D:424:SER:OG	2.33	0.45
2:E:217:SER:HB3	2:E:245:LYS:HE2	1.98	0.45
2:G:228:SER:HB3	2:G:255:GLU:CD	2.42	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:D:196:ASP:OD1	2:D:329:THR:OG1	2.24	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:164:GLU:HB3	2:F:168:LYS:NZ	2.28	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
3:a:28:TYR:OH	3:a:112:ASN:N	2.50	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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:F:176:THR:OG1	2:F:377:ALA:O	2.27	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
3:a:59:THR:HG23	3:a:62:ASP:H	1.82	0.45
3:a:357:TRP:O	3:a:357:TRP:CD1	2.70	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:T:12:VAL:HG22	1:T:86:MET:HE1	1.99	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:68:ASN:CG	2:A:72:GLN:HE22	2.24	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:13:LYS:HD3	3:a:14:GLU:N	2.31	0.44
3:a:419:ASP:OD1	3:a:420:GLY:N	2.50	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:C:487:ASN:HB3	2:C:490:ASP:CG	2.42	0.44
2:D:27:VAL:O	2:D:30:THR:OG1	2.31	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
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:178:GLU:CD	2:N:378:VAL:HG13	2.43	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:V:5:PRO:C	1:V:44:GLY:HA2	2.43	0.44
1:Z:66:ILE:HG22	1:Z:92:LEU:HD12	1.99	0.44
3:a:161:VAL:HG12	3:a:288:ARG:NH1	2.32	0.44
3:a:365:PRO:HB2	3:a:379:PHE:HZ	1.82	0.44
2:A:110:GLY:C	2:A:111:MET:HE2	2.43	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:C:461:GLU:CD	2:C:463:SER:H	2.26	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:N:193:MET:HE2	2:N:292:ILE:HG12	1.99	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
3:a:291:HIS:ND1	3:a:291:HIS:O	2.51	0.44
3:a:338:ALA:HA	3:a:341:TYR:HB2	1.98	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
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:437:ASN:C	2:G:441:LYS:HZ2	2.26	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:J:475:ASN:HA	2:J:488:MET:CE	2.46	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
2:N:452:ARG:HH12	2:N:463:SER:HG	1.64	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:K:193:MET:HE3	2:K:332:ILE:HD12	1.99	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
3:a:159:LEU:HG	3:a:161:VAL:HG23	2.00	0.44
2:A:111:MET:HE2	2:A:111:MET:N	2.33	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:K:305:ILE:HG12	2:L:267:MET:HE1	1.99	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
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:C:434:GLU:CD	2:C:434:GLU:H	2.25	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:386:GLU:HA	2:L:389:MET:HE3	1.99	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:486:GLY:C	2:B:491:MET:HE2	2.43	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: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
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:I:7:LYS:HZ1	2:I:522:THR:HG22	1.83	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:P:7:HIS:HD2	1:P:9:ARG:HH12	1.65	0.43
3:a:217:ARG:O	3:a:217:ARG:HD3	2.18	0.43
3:a:444:ALA:HB1	3:a:448:TYR:HB3	2.00	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:C:364:LYS:HA	2:C:367:GLU:CD	2.43	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:I:233:MET:HE3	2:I:309:LEU:HD11	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:D:421:ARG:CZ	2:D:473:ASP:HA	2.48	0.43
2:E:193:MET:HE1	2:E:292:ILE:HG23	2.00	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:63:GLU:H	2:N:63:GLU:CD	2.27	0.43
2:N:451:LEU:HA	2:N:454:ILE:HD12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:168:LYS:HD2	3:a:169:LEU:N	2.34	0.43
3:a:405:ALA:HA	3:a:408:ARG:NE	2.33	0.43
3:a:443:ASP:OD1	3:a:444:ALA:N	2.51	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: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: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
1:Z:10:VAL:C	1:Z:85:ILE:HD12	2.44	0.43
3:a:457:VAL:HG12	3:a:458:GLU:N	2.33	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:D:230:ILE:C	2:D:232:GLU:H	2.27	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:E:357:THR:HA	3:a:63:PHE:CE2	2.54	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:G:307:MET:HE3	2:G:312:ALA:HA	2.01	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:13:LYS:HB2	1:U:41:LEU:HD11	1.99	0.43
1:U:34:LYS:HZ3	1:U:67:PHE:HE2	1.66	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:238:GLU:HB3	2:D:242:LYS:HZ1	1.84	0.43
2:D:292:ILE:HD12	2:D:295:LEU:HB3	2.01	0.43
2:E:80:LYS:HZ1	2:F:386:GLU:H	1.67	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:166:MET:HE3	2:G:171:LYS:HA	2.01	0.43
2:G:186:GLU:CD	2:G:380:LYS:HB3	2.43	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:I:219:PHE:O	2:I:247:LEU:HD12	2.19	0.43
2:I:288:MET:HE1	2:I:292:ILE:HD11	2.00	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:194:GLN:HA	2:L:331:THR:HA	2.00	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
2:N:478:TYR:HB2	2:N:485:TYR:CD1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:C:520:MET:HE3	2:C:521:VAL:O	2.18	0.43
2:E:321:LYS:HZ3	2:E:335:GLY:C	2.26	0.43
2:L:88:GLY:O	2:L:91:THR:OG1	2.23	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
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:5:ASP:C	2:I:7:LYS:HZ3	2.22	0.43
2:I:55:SER:HA	2:I:58:ARG:CZ	2.48	0.43
2:J:66:PHE:CE1	2:J:520:MET:HE2	2.54	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:M:76:GLU:C	2:M:80:LYS:HZ2	2.27	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
3:a:30:MET:CE	3:a:71:VAL:HG11	2.49	0.43
1:2:12:VAL:HG22	1:2:40:VAL:HA	2.01	0.43
2:A:40:LEU:O	2:A:47:PRO:CA	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:232:GLU:C	2:I:234:LEU:H	2.27	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: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:B:475:ASN:HB3	2:B:487:ASN:CG	2.44	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:G:425:LYS:C	2:G:427:ALA:H	2.26	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: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
2:M:77:VAL:HA	2:M:80:LYS:HG2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:S:39:GLU:H	1:S:39:GLU:CD	2.26	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
3:a:71:VAL:HG12	3:a:83:ILE:HD13	2.01	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:284:ARG:HB2	3:a:9:ASN:ND2	2.31	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:S:10:VAL:O	1:S:85:ILE:HD12	2.19	0.42
1:X:95:VAL:HG21	1:Y:1:MET:HE1	2.00	0.42
1:Y:35:SER:HB3	1:Y:67:PHE:CZ	2.55	0.42
3:a:147:TRP:HB2	3:a:152:ARG:NH2	2.27	0.42
3:a:162:GLY:HA3	3:a:189:PHE:O	2.19	0.42
1:1:50:GLU:O	1:1:51:ASN:CG	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:L:479:ASN:HB2	2:L:488:MET:HE1	2.00	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: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
3:a:310:LYS:C	3:a:311:MET:HE2	2.44	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: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:84:LEU:HB3	1:O:86:MET:HE1	2.00	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
3:a:116:GLY:C	3:a:118:VAL:H	2.27	0.42
3:a:188:ASP:OD2	3:a:410:LEU:CD1	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:M:338:GLU:H	2:M:338:GLU:CD	2.28	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:F:283:ASP:HB2	3:a:11:ALA:HB2	2.01	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:100:ILE:HG12	2:N:514:MET:HE3	2.01	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:351:GLN:CD	2:N:210:THR:HG22	2.44	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:X:15:LYS:HZ2	1:X:39:GLU:HB2	1.84	0.42
1:I: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:E:76:GLU:OE2	2:E:80:LYS:NZ	2.53	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:311:MET:HE2	3:a:311:MET:N	2.35	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:38:VAL:C	2:E:49:ILE:HD12	2.44	0.42
2:E:282:GLY:C	2:E:286:LYS:HZ2	2.27	0.42
2:E:465:VAL:HA	2:E:485:TYR:OH	2.19	0.42
2:F:419:LEU:O	2:F:447:MET:HE2	2.19	0.42
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: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: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
3:a:188:ASP:OD2	3:a:410:LEU:CD2	2.64	0.42
3:a:422:PRO:HB2	3:a:424:LEU:HD23	2.00	0.42
1:1:1:MET:N	1:1:79:ASP:OD2	2.43	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:C:111:MET:HE3	2:C:435:ASP:HA	2.01	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:16:MET:HE3	2:I:20:VAL:CG2	2.50	0.42
2:I:142:LYS:HE3	2:I:146:GLN:HE21	1.84	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: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
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
3:a:20:GLY:HA3	3:a:23:HIS:CD2	2.55	0.42
3:a:33:LYS:HZ2	3:a:119:GLU:CG	2.26	0.42
3:a:371:MET:CE	3:a:378:GLY:HA3	2.50	0.42
1:l: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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:a:421:VAL:HA	3:a:422:PRO:HD2	1.81	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: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: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:245:LYS:HD3	2:F:245:LYS:HA	1.86	0.41
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: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: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
2:N:308:GLU:CD	2:N:311:LYS:HB2	2.45	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
3:a:421:VAL:HG23	3:a:421:VAL:O	2.20	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:388:GLU:HG2	2:C:392:LYS:HZ3	1.85	0.41
2:C:419:LEU:C	2:C:447:MET:HE1	2.45	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:109:ALA:HB3	2:F:111:MET:HE1	2.02	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
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
1:1:12:VAL:HG22	1:1:86:MET:HE1	2.01	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:111:MET:CE	2:C:116:LEU:HD21	2.50	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:E:281:PHE:HB2	3:a:94:ILE:HA	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:X:12:VAL:HB	1:X:86:MET:HE1	2.01	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: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:F:285:ARG:HA	2:F:288:MET:HE3	2.01	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:A:386:GLU:HA	2:A:389:MET:HE3	2.02	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:G:364:LYS:HA	2:G:367:GLU:CD	2.46	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
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:M:210:THR:O	2:M:327:LYS:NZ	2.50	0.41
2:M:231:ARG:O	2:M:233:MET:HE2	2.21	0.41
2:M:354:GLU:CD	2:M:354:GLU:H	2.29	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
3:a:172:ARG:HA	3:a:173:PRO:HD3	1.96	0.41
1:1:20:LYS:HZ2	1:1:25:ILE:HD12	1.86	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:E:166:MET:HE1	2:E:171:LYS:HG2	2.02	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
2:N:400:LEU:O	2:N:403:THR:OG1	2.34	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
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
3:a:132:TYR:O	3:a:136:PHE:HB2	2.20	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:305:ILE:C	2:I:307:MET:H	2.29	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:321:LYS:NZ	2:J:335:GLY:O	2.54	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
1:O:5:PRO:HG2	1:O:43:VAL:C	2.45	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:12:VAL:HG12	1:Z:86:MET:HE1	2.04	0.41
1:Z:88:GLU:HA	1:Z:91:ILE:HG12	2.02	0.41
3:a:269:ALA:O	3:a:272:ILE:HG12	2.21	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:89:SER:O	1:W:9:ARG:NH1	2.51	0.40
1:W:26:VAL:C	1:W:28:THR:H	2.28	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:98:ALA:O	2:D:101:THR:OG1	2.34	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: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:K:326:ASN:CG	2:K:329:THR:H	2.28	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
3:a:17:LEU:HD21	3:a:25:LEU:HD11	2.03	0.40
2:A:349:ILE:HG21	2:A:369:VAL:CG2	2.46	0.40
2:C:169:VAL:O	2:C:173:GLY:HA3	2.21	0.40
2:C:265:ASN:HA	2:C:268:ARG:NE	2.37	0.40
2:D:307:MET:HG3	2:D:308:GLU:H	1.85	0.40
2:D:326:ASN:CG	2:D:329:THR:H	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:W:51:ASN:OD1	1:W:51:ASN:C	2.65	0.40
1:X:25:ILE:O	1:X:25:ILE:HG22	2.20	0.40
3:a:421:VAL:O	3:a:424:LEU:CG	2.67	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: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:193:MET:HE3	2:L:295:LEU:HD13	2.02	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
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
3:a:148:LYS:HE2	3:a:148:LYS:HB3	1.88	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:X:12:VAL:HG13	1:X:39:GLU:C	2.47	0.40
1:X:48:ILE:C	1:X:49:LEU:HD12	2.46	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](#)

There are no protein backbone outliers to report in this entry.

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	68/80 (85%)	68 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	2	80/80 (100%)	79 (99%)	1 (1%)	61	74
1	O	78/80 (98%)	76 (97%)	2 (3%)	40	62
1	P	80/80 (100%)	80 (100%)	0	100	100
1	Q	79/80 (99%)	77 (98%)	2 (2%)	42	63
1	R	80/80 (100%)	80 (100%)	0	100	100
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%)	80 (100%)	0	100	100
1	W	80/80 (100%)	79 (99%)	1 (1%)	61	74
1	X	80/80 (100%)	80 (100%)	0	100	100
1	Y	80/80 (100%)	80 (100%)	0	100	100
1	Z	79/80 (99%)	79 (100%)	0	100	100
2	A	404/415 (97%)	404 (100%)	0	100	100
2	B	404/415 (97%)	404 (100%)	0	100	100
2	C	404/415 (97%)	404 (100%)	0	100	100
2	D	404/415 (97%)	404 (100%)	0	100	100
2	E	404/415 (97%)	404 (100%)	0	100	100
2	F	404/415 (97%)	402 (100%)	2 (0%)	81	83
2	G	404/415 (97%)	403 (100%)	1 (0%)	87	87
2	H	404/415 (97%)	404 (100%)	0	100	100
2	I	404/415 (97%)	404 (100%)	0	100	100
2	J	404/415 (97%)	404 (100%)	0	100	100
2	K	404/415 (97%)	404 (100%)	0	100	100
2	L	404/415 (97%)	403 (100%)	1 (0%)	87	87
2	M	404/415 (97%)	403 (100%)	1 (0%)	87	87
2	N	404/415 (97%)	403 (100%)	1 (0%)	87	87
3	a	348/354 (98%)	347 (100%)	1 (0%)	86	86
All	All	7107/7284 (98%)	7094 (100%)	13 (0%)	85	87

All (13) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	2	61	VAL
2	F	219	PHE
2	F	468	THR
2	G	305	ILE
2	L	366	GLN
2	M	469	VAL
2	N	91	THR
1	O	8	ASP
1	O	16	GLU
1	Q	36	THR
1	Q	51	ASN
1	W	25	ILE
3	a	424	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (62) such sidechains are listed below:

Mol	Chain	Res	Type
1	1	7	HIS
1	2	7	HIS
1	2	68	ASN
2	A	10	ASN
2	A	72	GLN
2	A	343	GLN
2	B	290	GLN
2	B	366	GLN
2	C	68	ASN
2	C	97	GLN
2	C	352	GLN
2	C	401	HIS
2	C	453	GLN
2	C	457	ASN
2	D	72	GLN
2	D	146	GLN
2	D	194	GLN
2	D	265	ASN
2	D	351	GLN
2	D	453	GLN
2	D	467	ASN
2	D	505	GLN
2	E	82	ASN
2	E	194	GLN
2	E	351	GLN
2	F	326	ASN

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Mol	Chain	Res	Type
2	F	351	GLN
2	G	21	ASN
2	G	82	ASN
2	G	505	GLN
2	H	68	ASN
2	H	343	GLN
2	I	82	ASN
2	I	348	GLN
2	J	72	GLN
2	J	194	GLN
2	J	319	GLN
2	J	453	GLN
2	K	68	ASN
2	K	112	ASN
2	K	206	ASN
2	K	453	GLN
2	K	457	ASN
2	L	97	GLN
2	L	153	ASN
2	L	194	GLN
2	L	352	GLN
2	M	21	ASN
2	M	97	GLN
2	N	352	GLN
1	O	7	HIS
1	P	7	HIS
1	W	7	HIS
1	W	45	ASN
1	Y	51	ASN
1	Z	7	HIS
3	a	9	ASN
3	a	257	HIS
3	a	321	HIS
3	a	345	GLN
3	a	382	ASN
3	a	399	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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.

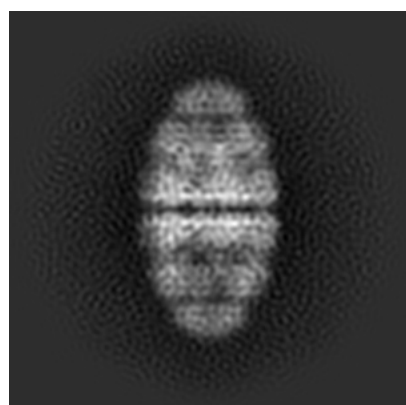
6 Map visualisation [i](#)

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.

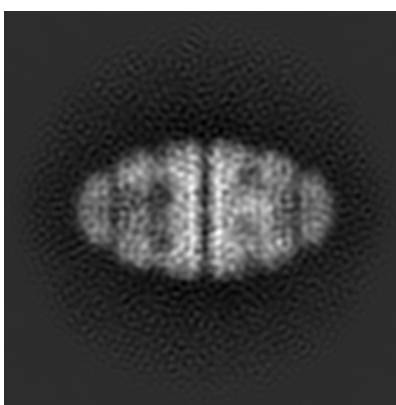
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

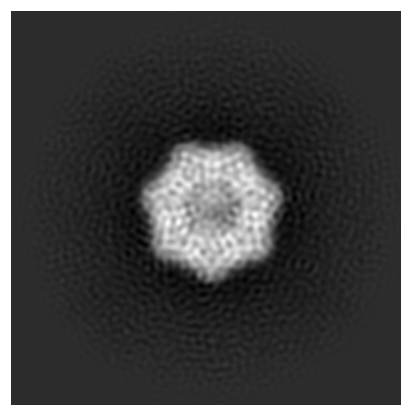
6.1.1 Primary map



X



Y

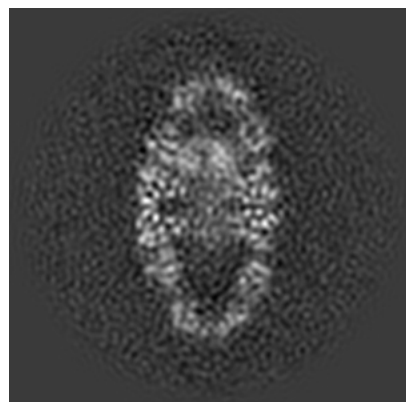


Z

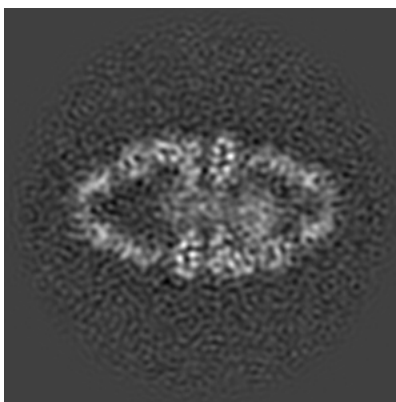
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

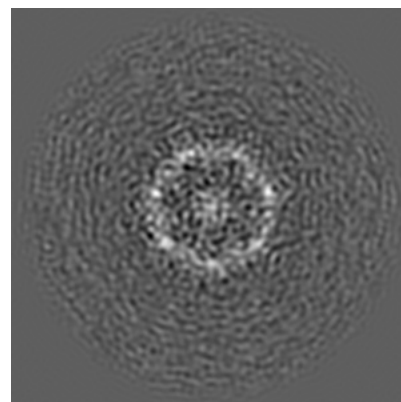
6.2.1 Primary map



X Index: 100



Y Index: 100

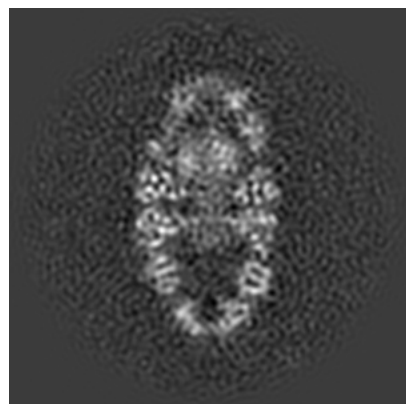


Z Index: 100

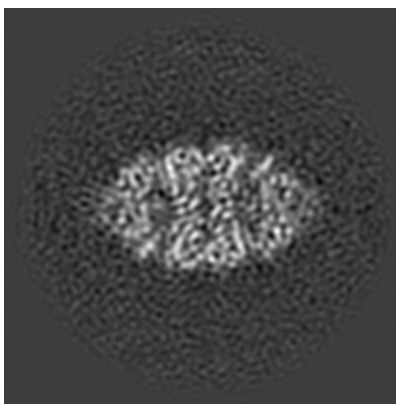
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

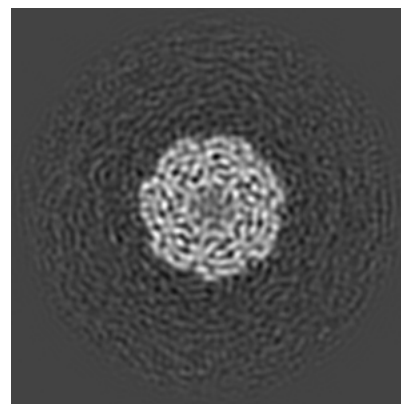
6.3.1 Primary map



X Index: 98



Y Index: 81

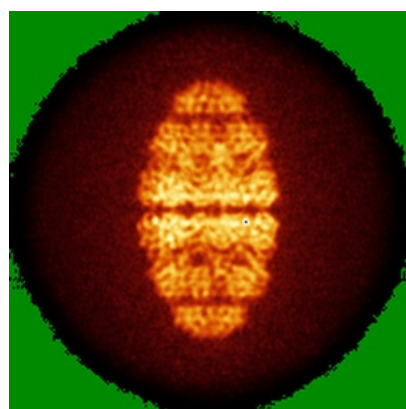


Z Index: 93

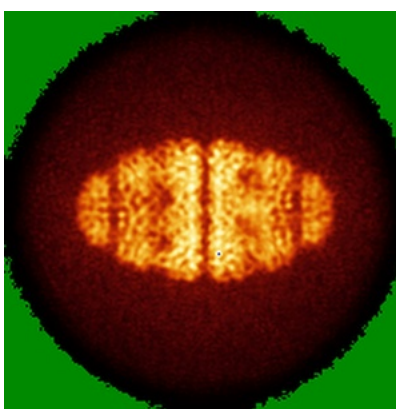
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

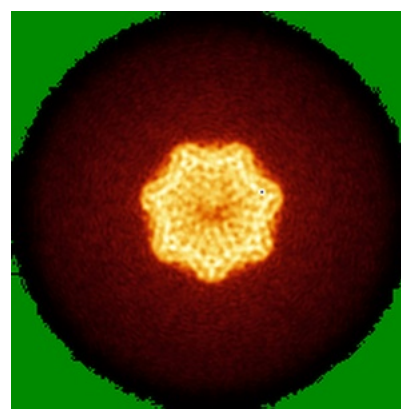
6.4.1 Primary map



X



Y



Z

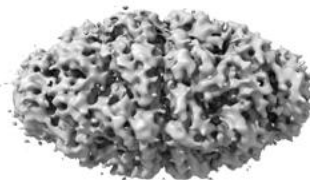
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

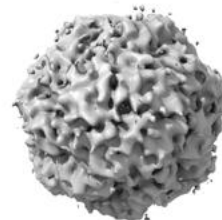
6.5.1 Primary map



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.

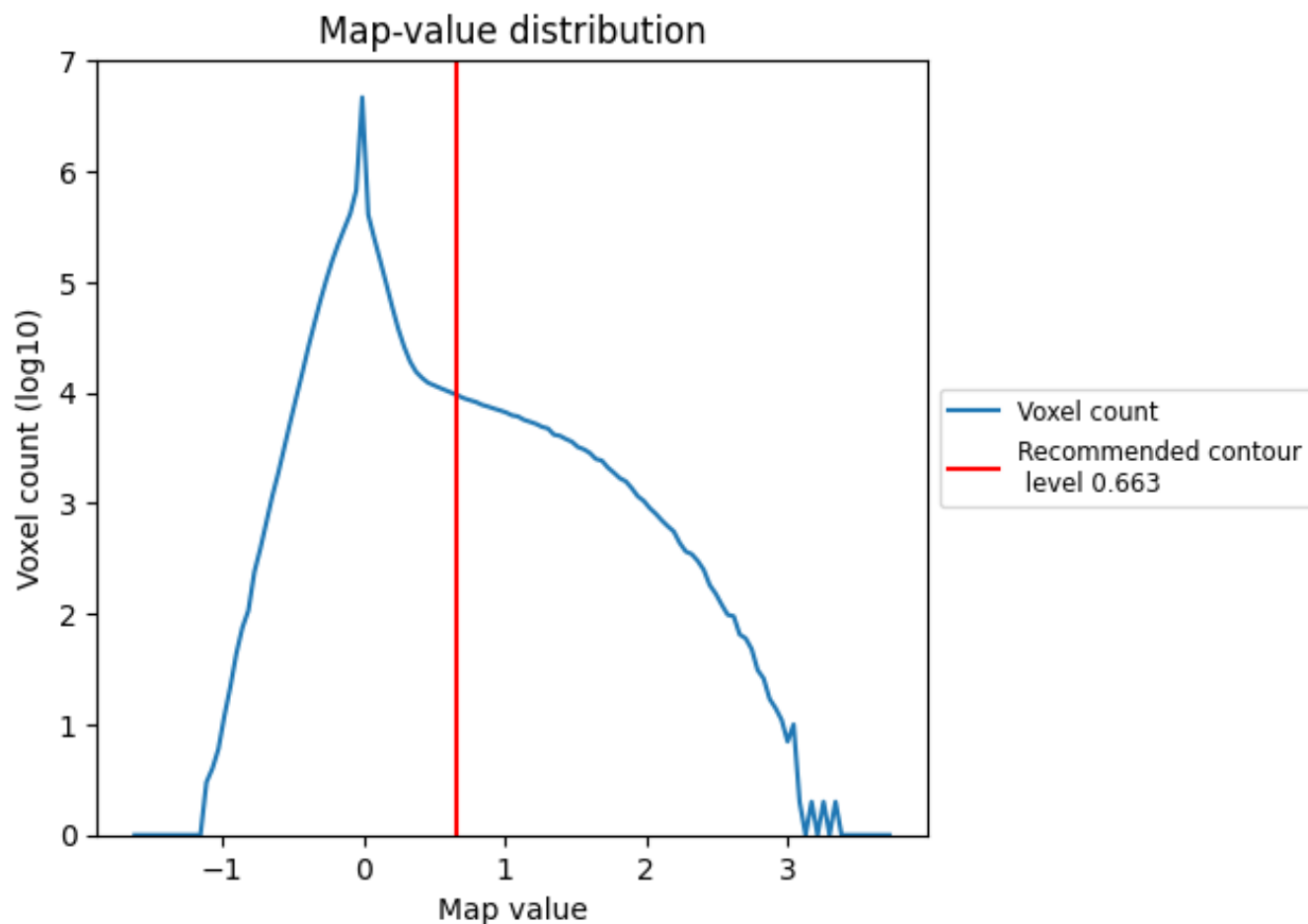
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

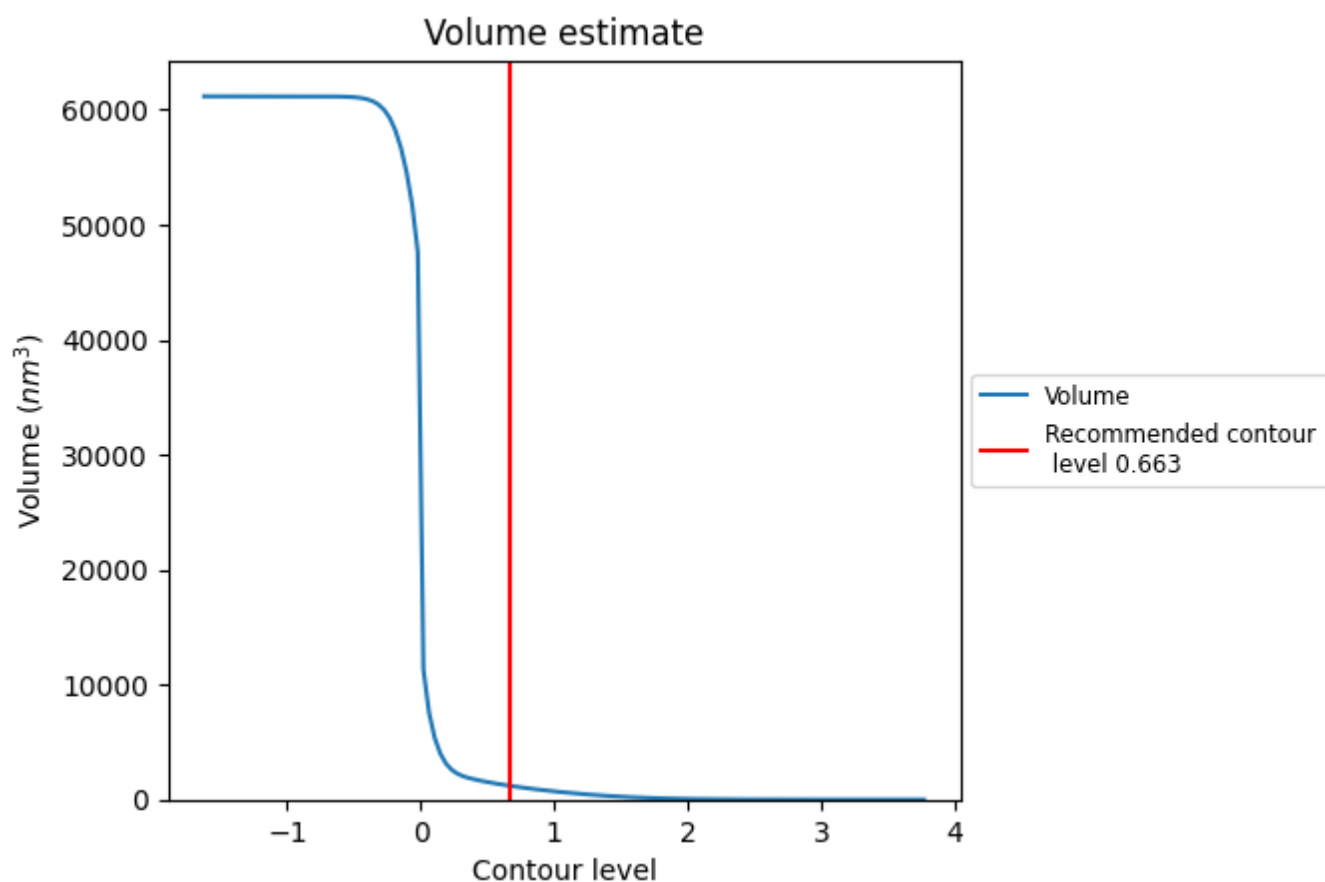
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

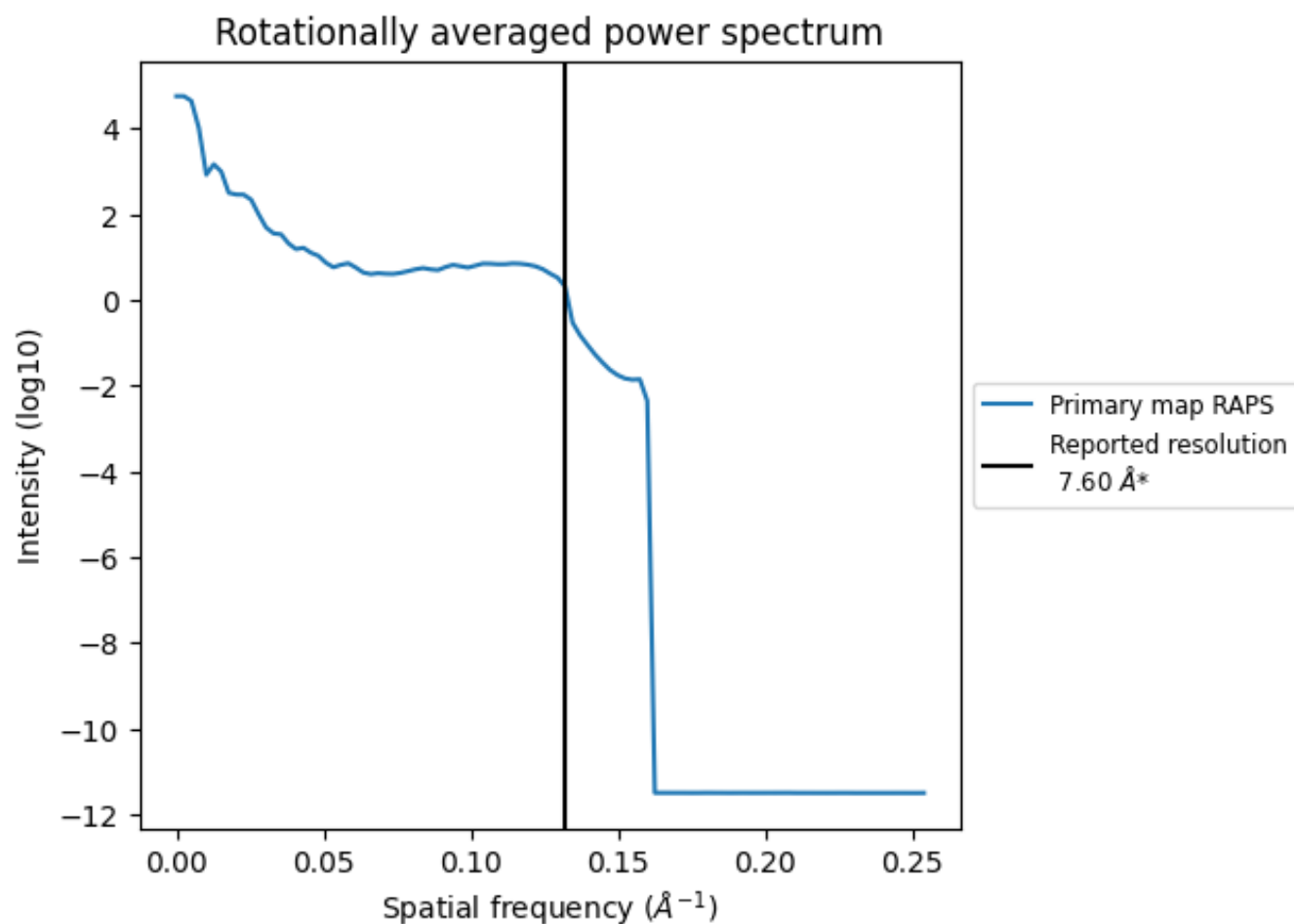
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1203 nm³; 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 ⓘ

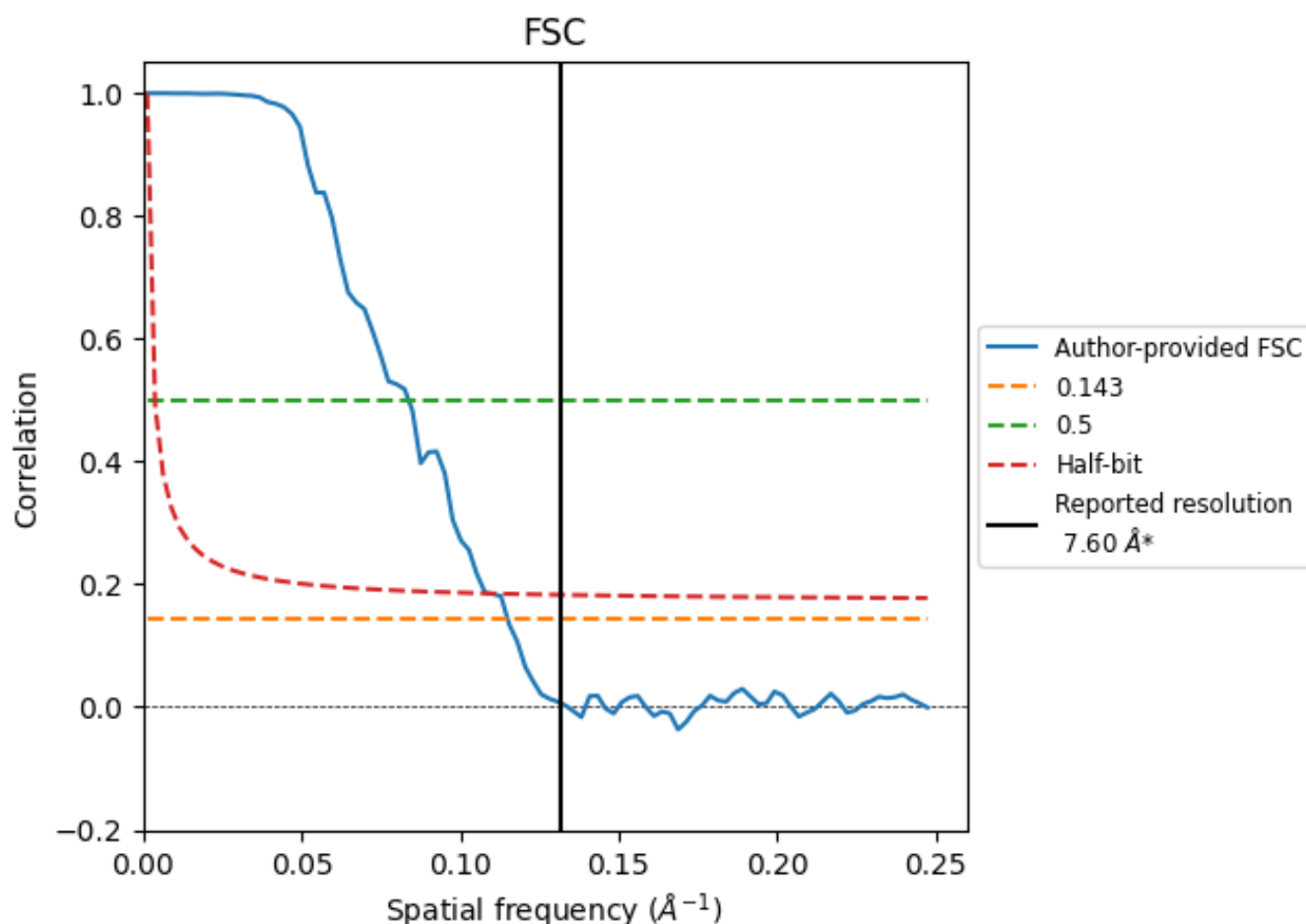


*Reported resolution corresponds to spatial frequency of 0.132 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.132 Å⁻¹

8.2 Resolution estimates [i](#)

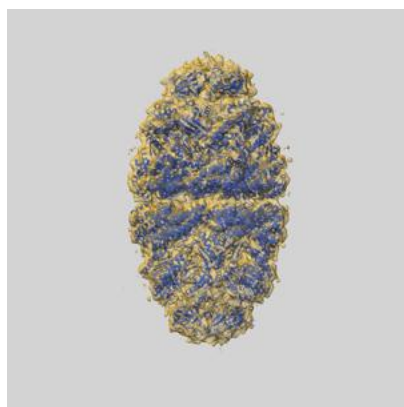
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	7.60	-	-
Author-provided FSC curve	8.70	11.93	9.14
Unmasked-calculated*	-	-	-

*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 %

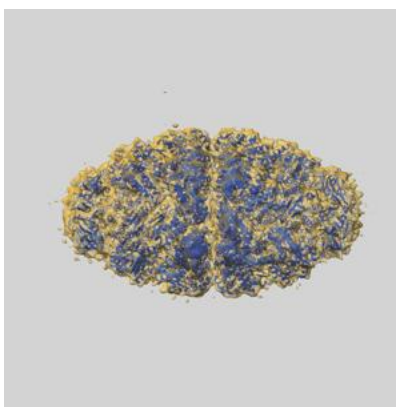
9 Map-model fit [i](#)

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](#).

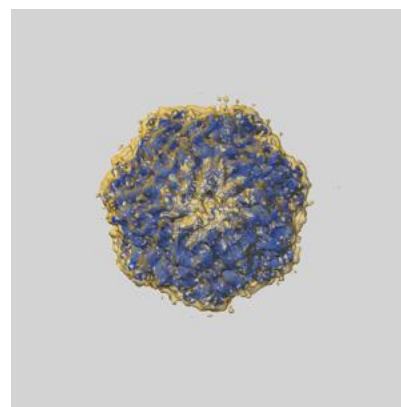
9.1 Map-model overlay [i](#)



X



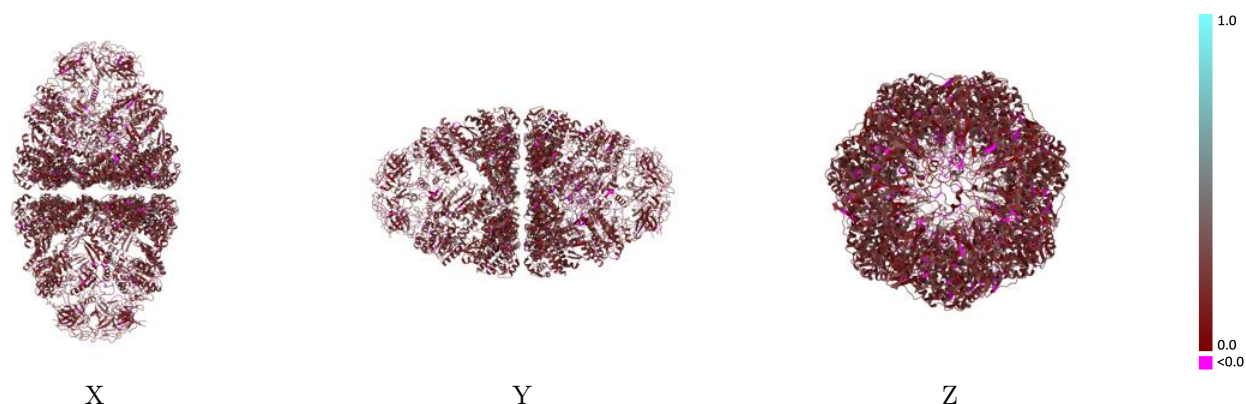
Y



Z

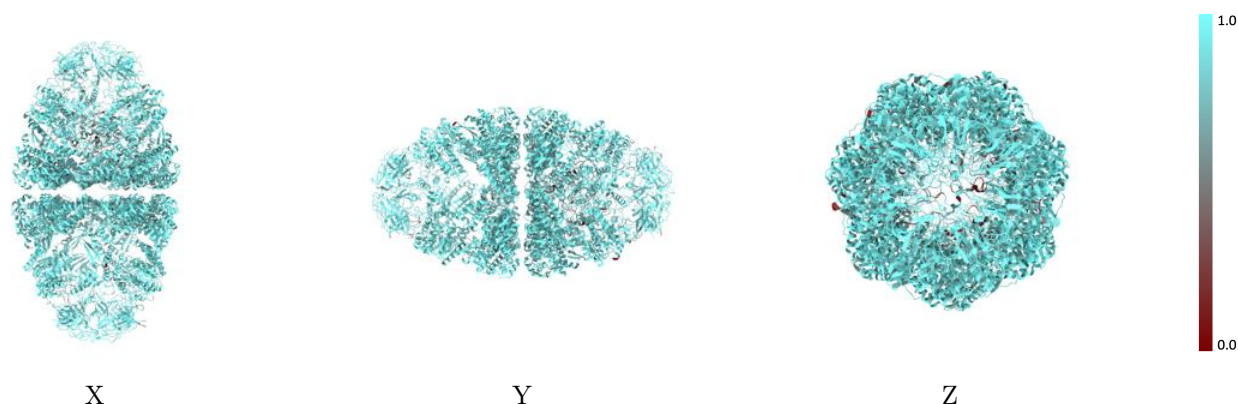
The images above show the 3D surface view of the map at the recommended contour level 0.663 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



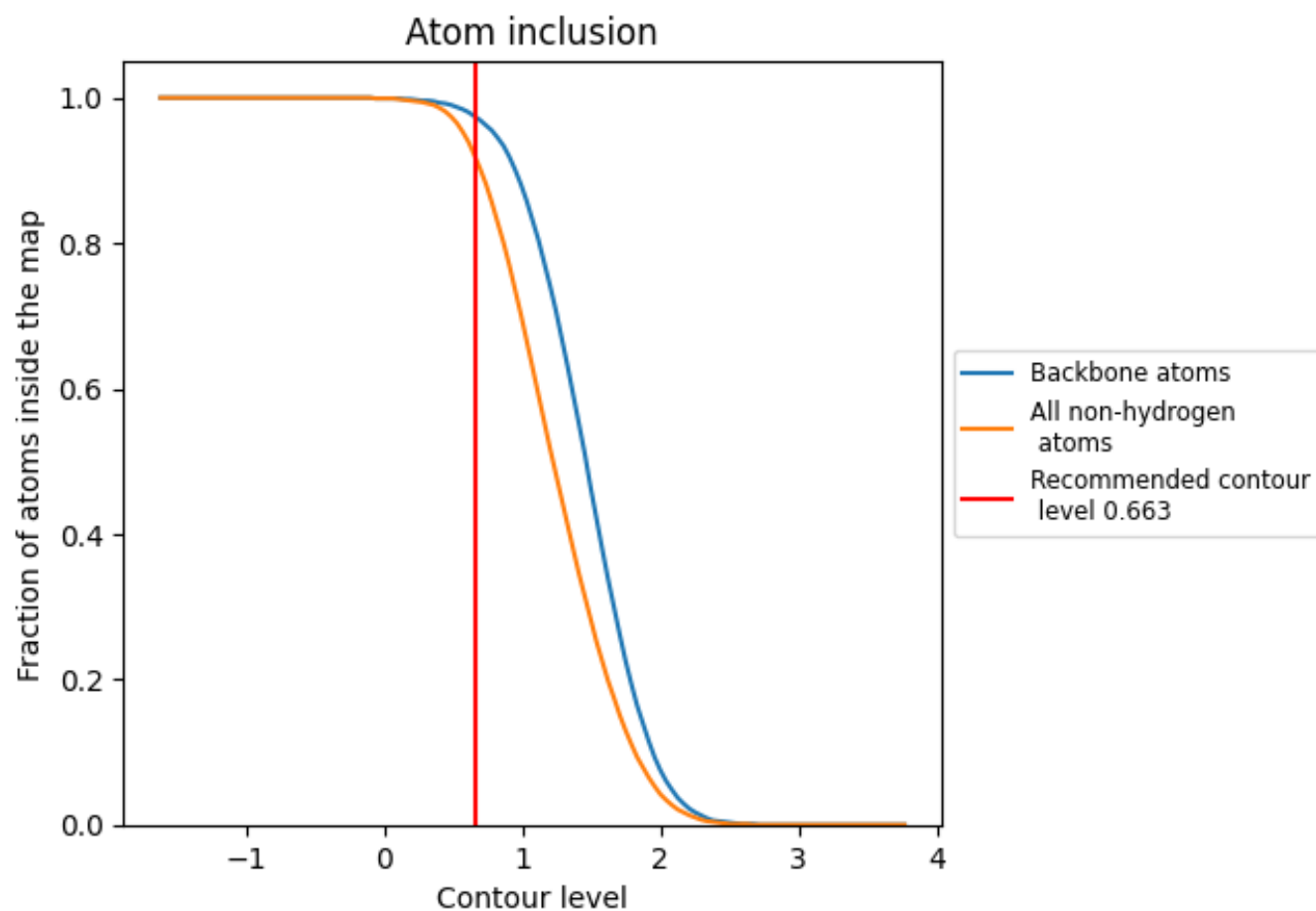
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 [i](#)



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	 0.9160	 0.1900
1	 0.9540	 0.1950
2	 0.9080	 0.1890
A	 0.9140	 0.1950
B	 0.9120	 0.1900
C	 0.9270	 0.1960
D	 0.9300	 0.1940
E	 0.9260	 0.1910
F	 0.9170	 0.1930
G	 0.9260	 0.1950
H	 0.9320	 0.1960
I	 0.9290	 0.1950
J	 0.9330	 0.2000
K	 0.9320	 0.1990
L	 0.9380	 0.1840
M	 0.9390	 0.2010
N	 0.9370	 0.1980
O	 0.9240	 0.1930
P	 0.9060	 0.1970
Q	 0.9290	 0.1910
R	 0.9190	 0.1680
S	 0.8940	 0.2010
T	 0.9010	 0.1880
U	 0.9270	 0.1850
V	 0.9250	 0.1960
W	 0.9360	 0.2150
X	 0.9110	 0.1870
Y	 0.9240	 0.1980
Z	 0.9340	 0.1930
a	 0.7180	 0.1200

