



Full wwPDB EM Validation Report ⓘ

Apr 22, 2024 – 10:33 pm BST

PDB ID : 6ZXJ
EMDB ID : EMD-11522
Title : Fully-loaded anthrax lethal toxin in its heptameric pre-pore state, in which the third lethal factor is masked out (PA7LF3-masked)
Authors : Quentin, D.; Antoni, C.; Gatsogiannis, C.; Raunser, S.
Deposited on : 2020-07-29
Resolution : 3.50 Å (reported)
Based on initial models : 3HVD, 1J7N

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.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

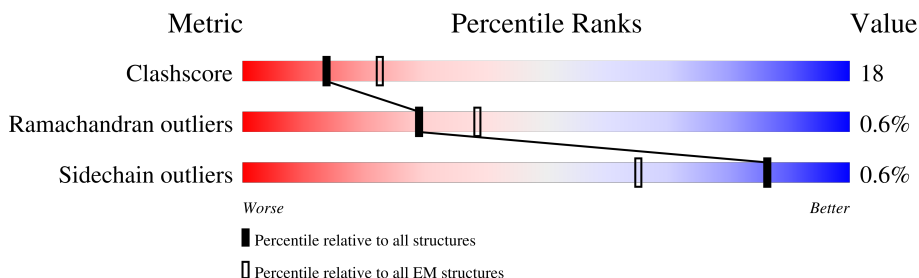
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 Å.

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




Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	A	759	
1	B	759	
1	C	759	
1	D	759	
1	E	759	
1	F	759	
1	G	759	
2	H	809	

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Mol	Chain	Length	Quality of chain
2	I	809	 <p>A horizontal bar chart representing the quality of chain. The bar is divided into four segments: a red segment (38%), a green segment (67%), a yellow segment (21%), and a grey segment (12%). The percentages are labeled above or below the corresponding segments.</p>

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 38244 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 Protective antigen.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	527	3963	2481	690	788	4	0	0
1	B	527	3966	2482	690	790	4	0	0
1	C	527	3962	2479	689	790	4	0	0
1	D	527	3962	2479	689	790	4	0	0
1	E	527	3966	2482	690	790	4	0	0
1	F	527	3962	2479	689	790	4	0	0
1	G	527	3966	2482	690	790	4	0	0

There are 161 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-23	MET	-	initiating methionine	UNP Q68GS1
A	-22	GLY	-	expression tag	UNP Q68GS1
A	-21	HIS	-	expression tag	UNP Q68GS1
A	-20	HIS	-	expression tag	UNP Q68GS1
A	-19	HIS	-	expression tag	UNP Q68GS1
A	-18	HIS	-	expression tag	UNP Q68GS1
A	-17	HIS	-	expression tag	UNP Q68GS1
A	-16	HIS	-	expression tag	UNP Q68GS1
A	-15	HIS	-	expression tag	UNP Q68GS1
A	-14	HIS	-	expression tag	UNP Q68GS1
A	-13	HIS	-	expression tag	UNP Q68GS1
A	-12	HIS	-	expression tag	UNP Q68GS1
A	-11	SER	-	expression tag	UNP Q68GS1
A	-10	SER	-	expression tag	UNP Q68GS1
A	-9	GLY	-	expression tag	UNP Q68GS1
A	-8	HIS	-	expression tag	UNP Q68GS1

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-7	ILE	-	expression tag	UNP Q68GS1
A	-6	ASP	-	expression tag	UNP Q68GS1
A	-5	ASP	-	expression tag	UNP Q68GS1
A	-4	ASP	-	expression tag	UNP Q68GS1
A	-3	ASP	-	expression tag	UNP Q68GS1
A	-2	LYS	-	expression tag	UNP Q68GS1
A	-1	HIS	-	expression tag	UNP Q68GS1
B	-23	MET	-	initiating methionine	UNP Q68GS1
B	-22	GLY	-	expression tag	UNP Q68GS1
B	-21	HIS	-	expression tag	UNP Q68GS1
B	-20	HIS	-	expression tag	UNP Q68GS1
B	-19	HIS	-	expression tag	UNP Q68GS1
B	-18	HIS	-	expression tag	UNP Q68GS1
B	-17	HIS	-	expression tag	UNP Q68GS1
B	-16	HIS	-	expression tag	UNP Q68GS1
B	-15	HIS	-	expression tag	UNP Q68GS1
B	-14	HIS	-	expression tag	UNP Q68GS1
B	-13	HIS	-	expression tag	UNP Q68GS1
B	-12	HIS	-	expression tag	UNP Q68GS1
B	-11	SER	-	expression tag	UNP Q68GS1
B	-10	SER	-	expression tag	UNP Q68GS1
B	-9	GLY	-	expression tag	UNP Q68GS1
B	-8	HIS	-	expression tag	UNP Q68GS1
B	-7	ILE	-	expression tag	UNP Q68GS1
B	-6	ASP	-	expression tag	UNP Q68GS1
B	-5	ASP	-	expression tag	UNP Q68GS1
B	-4	ASP	-	expression tag	UNP Q68GS1
B	-3	ASP	-	expression tag	UNP Q68GS1
B	-2	LYS	-	expression tag	UNP Q68GS1
B	-1	HIS	-	expression tag	UNP Q68GS1
C	-23	MET	-	initiating methionine	UNP Q68GS1
C	-22	GLY	-	expression tag	UNP Q68GS1
C	-21	HIS	-	expression tag	UNP Q68GS1
C	-20	HIS	-	expression tag	UNP Q68GS1
C	-19	HIS	-	expression tag	UNP Q68GS1
C	-18	HIS	-	expression tag	UNP Q68GS1
C	-17	HIS	-	expression tag	UNP Q68GS1
C	-16	HIS	-	expression tag	UNP Q68GS1
C	-15	HIS	-	expression tag	UNP Q68GS1
C	-14	HIS	-	expression tag	UNP Q68GS1
C	-13	HIS	-	expression tag	UNP Q68GS1
C	-12	HIS	-	expression tag	UNP Q68GS1

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-11	SER	-	expression tag	UNP Q68GS1
C	-10	SER	-	expression tag	UNP Q68GS1
C	-9	GLY	-	expression tag	UNP Q68GS1
C	-8	HIS	-	expression tag	UNP Q68GS1
C	-7	ILE	-	expression tag	UNP Q68GS1
C	-6	ASP	-	expression tag	UNP Q68GS1
C	-5	ASP	-	expression tag	UNP Q68GS1
C	-4	ASP	-	expression tag	UNP Q68GS1
C	-3	ASP	-	expression tag	UNP Q68GS1
C	-2	LYS	-	expression tag	UNP Q68GS1
C	-1	HIS	-	expression tag	UNP Q68GS1
D	-23	MET	-	initiating methionine	UNP Q68GS1
D	-22	GLY	-	expression tag	UNP Q68GS1
D	-21	HIS	-	expression tag	UNP Q68GS1
D	-20	HIS	-	expression tag	UNP Q68GS1
D	-19	HIS	-	expression tag	UNP Q68GS1
D	-18	HIS	-	expression tag	UNP Q68GS1
D	-17	HIS	-	expression tag	UNP Q68GS1
D	-16	HIS	-	expression tag	UNP Q68GS1
D	-15	HIS	-	expression tag	UNP Q68GS1
D	-14	HIS	-	expression tag	UNP Q68GS1
D	-13	HIS	-	expression tag	UNP Q68GS1
D	-12	HIS	-	expression tag	UNP Q68GS1
D	-11	SER	-	expression tag	UNP Q68GS1
D	-10	SER	-	expression tag	UNP Q68GS1
D	-9	GLY	-	expression tag	UNP Q68GS1
D	-8	HIS	-	expression tag	UNP Q68GS1
D	-7	ILE	-	expression tag	UNP Q68GS1
D	-6	ASP	-	expression tag	UNP Q68GS1
D	-5	ASP	-	expression tag	UNP Q68GS1
D	-4	ASP	-	expression tag	UNP Q68GS1
D	-3	ASP	-	expression tag	UNP Q68GS1
D	-2	LYS	-	expression tag	UNP Q68GS1
D	-1	HIS	-	expression tag	UNP Q68GS1
E	-23	MET	-	initiating methionine	UNP Q68GS1
E	-22	GLY	-	expression tag	UNP Q68GS1
E	-21	HIS	-	expression tag	UNP Q68GS1
E	-20	HIS	-	expression tag	UNP Q68GS1
E	-19	HIS	-	expression tag	UNP Q68GS1
E	-18	HIS	-	expression tag	UNP Q68GS1
E	-17	HIS	-	expression tag	UNP Q68GS1
E	-16	HIS	-	expression tag	UNP Q68GS1

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-15	HIS	-	expression tag	UNP Q68GS1
E	-14	HIS	-	expression tag	UNP Q68GS1
E	-13	HIS	-	expression tag	UNP Q68GS1
E	-12	HIS	-	expression tag	UNP Q68GS1
E	-11	SER	-	expression tag	UNP Q68GS1
E	-10	SER	-	expression tag	UNP Q68GS1
E	-9	GLY	-	expression tag	UNP Q68GS1
E	-8	HIS	-	expression tag	UNP Q68GS1
E	-7	ILE	-	expression tag	UNP Q68GS1
E	-6	ASP	-	expression tag	UNP Q68GS1
E	-5	ASP	-	expression tag	UNP Q68GS1
E	-4	ASP	-	expression tag	UNP Q68GS1
E	-3	ASP	-	expression tag	UNP Q68GS1
E	-2	LYS	-	expression tag	UNP Q68GS1
E	-1	HIS	-	expression tag	UNP Q68GS1
F	-23	MET	-	initiating methionine	UNP Q68GS1
F	-22	GLY	-	expression tag	UNP Q68GS1
F	-21	HIS	-	expression tag	UNP Q68GS1
F	-20	HIS	-	expression tag	UNP Q68GS1
F	-19	HIS	-	expression tag	UNP Q68GS1
F	-18	HIS	-	expression tag	UNP Q68GS1
F	-17	HIS	-	expression tag	UNP Q68GS1
F	-16	HIS	-	expression tag	UNP Q68GS1
F	-15	HIS	-	expression tag	UNP Q68GS1
F	-14	HIS	-	expression tag	UNP Q68GS1
F	-13	HIS	-	expression tag	UNP Q68GS1
F	-12	HIS	-	expression tag	UNP Q68GS1
F	-11	SER	-	expression tag	UNP Q68GS1
F	-10	SER	-	expression tag	UNP Q68GS1
F	-9	GLY	-	expression tag	UNP Q68GS1
F	-8	HIS	-	expression tag	UNP Q68GS1
F	-7	ILE	-	expression tag	UNP Q68GS1
F	-6	ASP	-	expression tag	UNP Q68GS1
F	-5	ASP	-	expression tag	UNP Q68GS1
F	-4	ASP	-	expression tag	UNP Q68GS1
F	-3	ASP	-	expression tag	UNP Q68GS1
F	-2	LYS	-	expression tag	UNP Q68GS1
F	-1	HIS	-	expression tag	UNP Q68GS1
G	-23	MET	-	initiating methionine	UNP Q68GS1
G	-22	GLY	-	expression tag	UNP Q68GS1
G	-21	HIS	-	expression tag	UNP Q68GS1
G	-20	HIS	-	expression tag	UNP Q68GS1

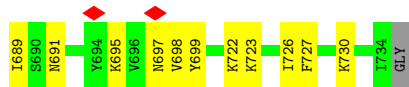
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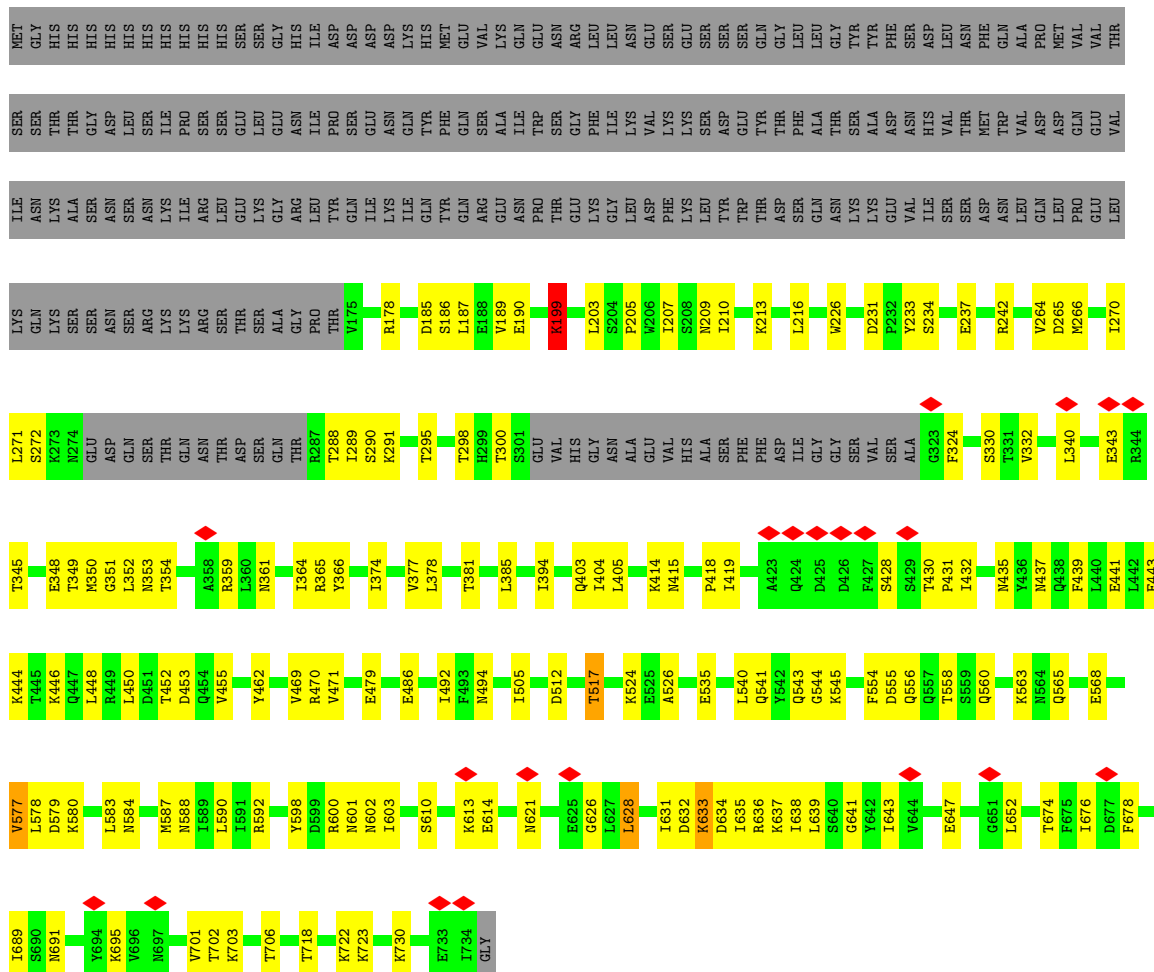
Chain	Residue	Modelled	Actual	Comment	Reference
G	-19	HIS	-	expression tag	UNP Q68GS1
G	-18	HIS	-	expression tag	UNP Q68GS1
G	-17	HIS	-	expression tag	UNP Q68GS1
G	-16	HIS	-	expression tag	UNP Q68GS1
G	-15	HIS	-	expression tag	UNP Q68GS1
G	-14	HIS	-	expression tag	UNP Q68GS1
G	-13	HIS	-	expression tag	UNP Q68GS1
G	-12	HIS	-	expression tag	UNP Q68GS1
G	-11	SER	-	expression tag	UNP Q68GS1
G	-10	SER	-	expression tag	UNP Q68GS1
G	-9	GLY	-	expression tag	UNP Q68GS1
G	-8	HIS	-	expression tag	UNP Q68GS1
G	-7	ILE	-	expression tag	UNP Q68GS1
G	-6	ASP	-	expression tag	UNP Q68GS1
G	-5	ASP	-	expression tag	UNP Q68GS1
G	-4	ASP	-	expression tag	UNP Q68GS1
G	-3	ASP	-	expression tag	UNP Q68GS1
G	-2	LYS	-	expression tag	UNP Q68GS1
G	-1	HIS	-	expression tag	UNP Q68GS1

- Molecule 2 is a protein called Lethal factor.

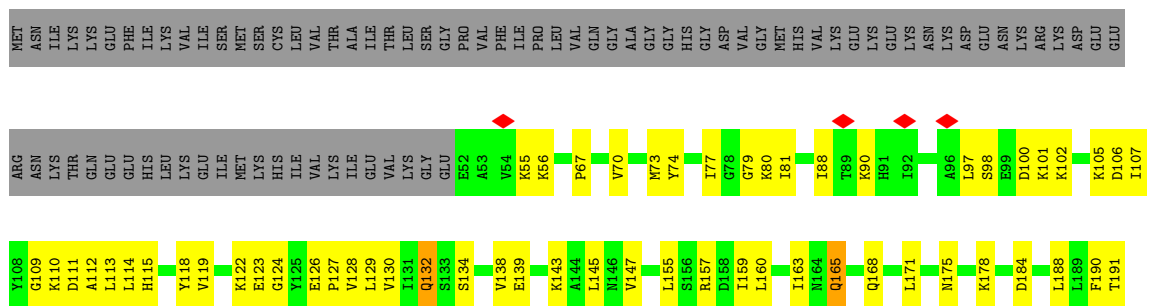
Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	700	Total	C	N	O	S	0	0
			5618	3572	943	1097	6		
2	I	710	Total	C	N	O	S	0	0
			4879	3081	865	929	4		

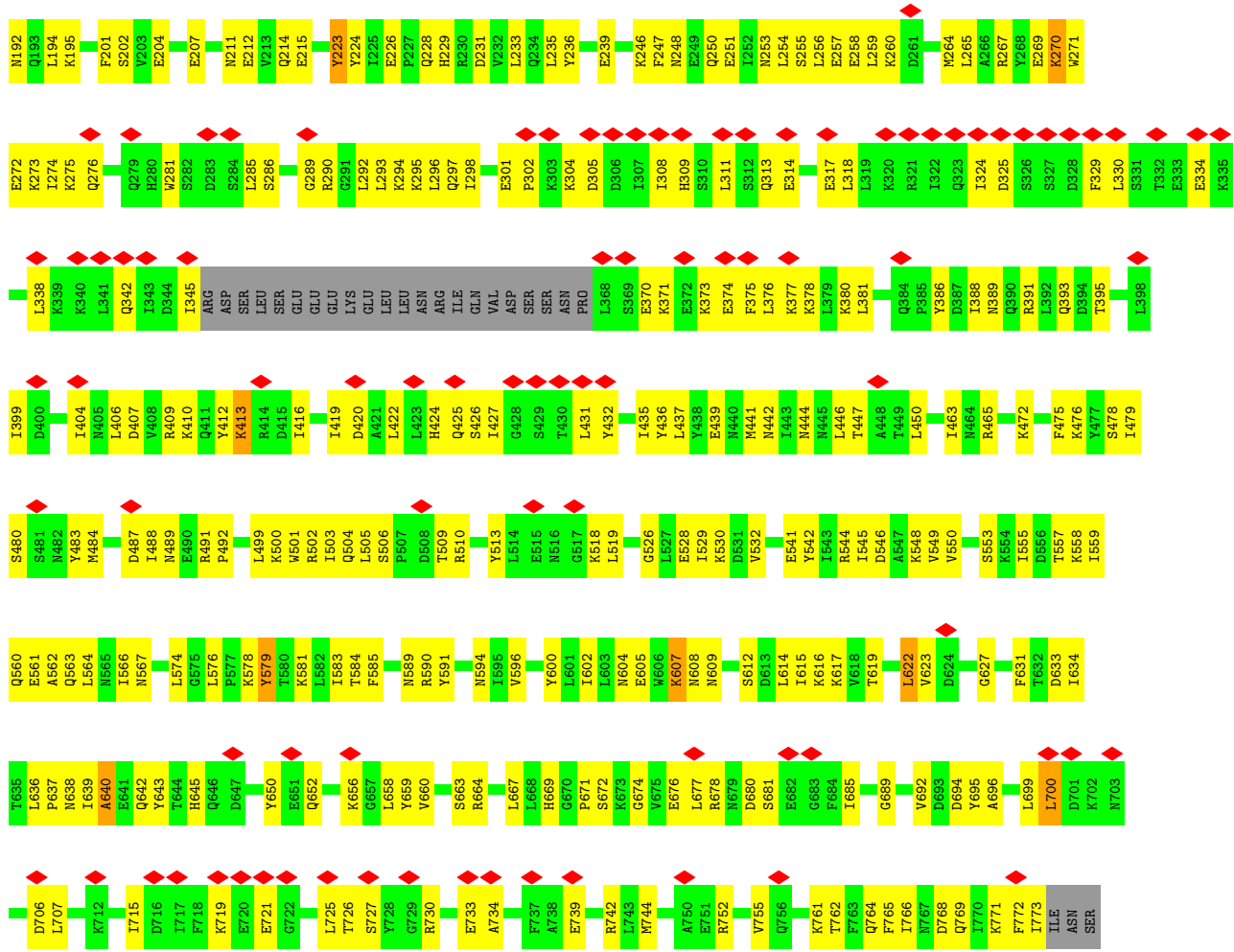


• Molecule 1: Protective antigen

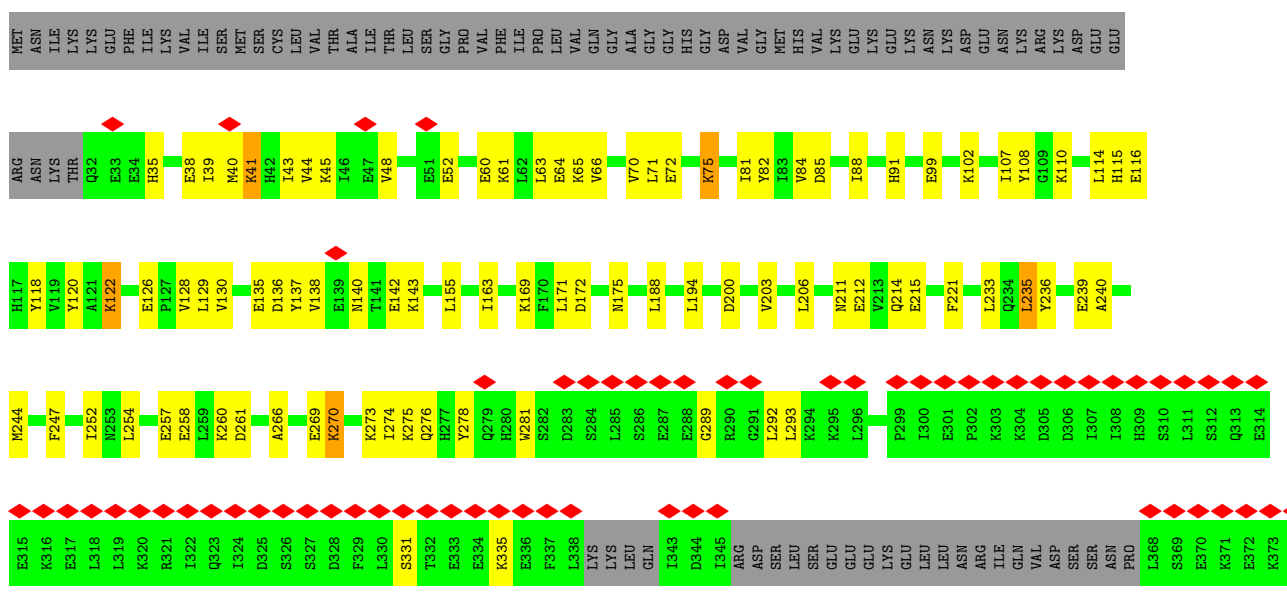
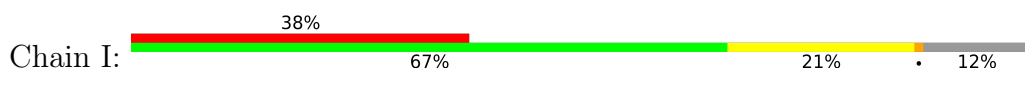


• Molecule 2: Lethal factor





• Molecule 2: Lethal factor



ILE	ASN	SER
F375		
L376		
K377		
K378		
L379		
K380		
L381		
D382		
I383		
Q384		
D387		
I388		
N389		
Q390		
D394		
T395		
G396		
G397		
LEU		
ILE		
ASP		
S401		
P402		
S403		
I404		
M405		
L406		
D407		
V408		
R409		
K410		
Q411		
Y412		
K413		
R414		
D415		
I416		
Q417		
M418		
I419		
D420		
A421		
L422		
L423		
H424		
Q425		
S426		
I427		
G428		
S429		
THR		
LEU		
TYR		
M433		
K434		
I435		
Y436		
L437		
Y438		
M442		
I443		
T447		
A448		
G451		
L454		
V455		
D456		
S457		
I463		
M464		
R465		
C466		
M469		
E470		
F471		
K472		
K473		
M474		
F475		
K476		
Y477		
S478		
I479		
S480		
S481		
M482		
Y483		
M484		
I485		
V486		
D487		
I488		
A493		
L494		
R498		
L499		
K500		
M501		
R502		
L505		
D508		
T509		
Y513		
L514		
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N516		
G517		
K518		
L519		
I525		
G526		
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E528		
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G627		
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F631		
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I634		
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P637		
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A640		
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E676		
L677		
R678		
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N732		
E733		
A734		
E735		
F736		
F737		
A738		
E739		
A740		
F741		
R742		
L743		
M744		
H745		
S746		
I747		
D748		
H749		
A750		
E751		
R752		
L753		
K754		
V755		
Q756		
K757		
N758		
A759		
P760		
K761		
T762		
F765		
I766		
N767		
D768		
I770		
K771		
F772		
I773		

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	210000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	74.4	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2600	Depositor
Magnification	130000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.927	Depositor
Minimum map value	-1.088	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.032	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	359.52002, 359.52002, 359.52002	wwPDB
Map dimensions	336, 336, 336	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	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	A	0.78	1/4030 (0.0%)	0.70	1/5490 (0.0%)
1	B	0.84	2/4033 (0.0%)	0.75	5/5494 (0.1%)
1	C	0.81	1/4029 (0.0%)	0.72	1/5490 (0.0%)
1	D	0.84	2/4029 (0.0%)	0.75	2/5490 (0.0%)
1	E	0.78	2/4033 (0.0%)	0.72	1/5494 (0.0%)
1	F	0.77	0/4029	0.70	3/5490 (0.1%)
1	G	0.79	0/4033	0.73	2/5494 (0.0%)
2	H	0.52	1/5719 (0.0%)	0.70	2/7729 (0.0%)
2	I	0.51	0/4950	0.65	3/6751 (0.0%)
All	All	0.73	9/38885 (0.0%)	0.71	20/52922 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	H	0	1

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	517	THR	C-N	-8.06	1.15	1.34
1	B	517	THR	C-N	-7.62	1.16	1.34
1	A	517	THR	C-N	-6.95	1.18	1.34
1	E	517	THR	C-N	-5.38	1.21	1.34
1	D	192	TYR	CE2-CZ	-5.33	1.31	1.38
1	E	192	TYR	CE2-CZ	-5.33	1.31	1.38
1	B	219	TYR	CD2-CE2	-5.26	1.31	1.39
1	D	517	THR	C-N	-5.19	1.22	1.34
2	H	223	TYR	CD2-CE2	-5.10	1.31	1.39

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	235	LEU	CA-CB-CG	-7.59	97.84	115.30
1	B	725	LEU	CA-CB-CG	7.32	132.14	115.30
1	B	628	LEU	CA-CB-CG	7.03	131.46	115.30
1	B	481	LEU	CA-CB-CG	-6.63	100.05	115.30
1	D	517	THR	C-N-CA	-6.37	105.77	121.70
2	H	622	LEU	CB-CG-CD1	-6.14	100.57	111.00
1	A	628	LEU	CA-CB-CG	5.83	128.71	115.30
1	B	210	ILE	CB-CA-C	-5.71	100.18	111.60
1	E	628	LEU	CA-CB-CG	5.68	128.35	115.30
1	G	628	LEU	CA-CB-CG	5.56	128.09	115.30
1	B	517	THR	C-N-CA	-5.56	107.81	121.70
1	F	517	THR	C-N-CA	-5.39	108.23	121.70
1	C	628	LEU	CA-CB-CG	5.36	127.62	115.30
1	D	628	LEU	CA-CB-CG	5.33	127.56	115.30
1	F	628	LEU	CA-CB-CG	5.32	127.53	115.30
2	I	519	LEU	CA-CB-CG	5.24	127.36	115.30
1	G	517	THR	C-N-CA	-5.23	108.61	121.70
2	I	172	ASP	CB-CG-OD2	5.20	122.98	118.30
2	H	145	LEU	CB-CG-CD1	-5.19	102.18	111.00
1	F	216	LEU	CA-CB-CG	-5.12	103.52	115.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	H	165	GLN	Peptide

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	A	3963	0	3753	137	0
1	B	3966	0	3755	139	0
1	C	3962	0	3744	137	0
1	D	3962	0	3744	152	0
1	E	3966	0	3755	140	0
1	F	3962	0	3744	115	0
1	G	3966	0	3755	122	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	H	5618	0	5483	289	0
2	I	4879	0	4045	134	0
All	All	38244	0	35778	1308	0

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

All (1308) 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)
1:F:584:ASN:H	1:F:587:MET:HE3	1.23	1.01
2:H:446:LEU:HD11	2:H:590:ARG:HB2	1.43	0.98
1:E:365:ARG:HH12	1:E:414:LYS:HA	1.31	0.96
2:H:563:GLN:HE22	2:H:584:THR:HA	1.33	0.93
1:A:643:ILE:HG13	1:A:723:LYS:HE2	1.52	0.91
1:B:428:SER:HB2	1:B:431:PRO:HG3	1.53	0.90
2:H:446:LEU:HD12	2:H:591:TYR:HB2	1.54	0.90
2:H:374:GLU:OE1	2:H:378:LYS:NZ	2.05	0.89
1:G:365:ARG:HE	1:G:418:PRO:HB3	1.38	0.89
2:H:639:ILE:HG13	2:H:640:ALA:H	1.37	0.89
2:I:221:PHE:HA	2:I:244:MET:HE1	1.54	0.88
2:H:297:GLN:HG2	2:H:298:ILE:HG13	1.58	0.86
2:I:499:LEU:HD23	2:I:501:TRP:HE1	1.41	0.85
1:A:365:ARG:HE	1:A:418:PRO:HB3	1.40	0.85
1:E:428:SER:HB2	1:E:431:PRO:HG3	1.57	0.85
1:D:428:SER:HB2	1:D:431:PRO:HG3	1.58	0.85
1:G:524:LYS:HG3	1:G:540:LEU:HD21	1.59	0.84
1:D:512:ASP:HB3	1:D:515:GLU:HB2	1.58	0.84
1:C:428:SER:HB2	1:C:431:PRO:HG3	1.58	0.84
2:I:768:ASP:HA	2:I:771:LYS:HD2	1.58	0.83
1:A:599:ASP:OD1	1:A:600:ARG:N	2.09	0.83
1:B:185:ASP:OD1	1:B:186:SER:N	2.12	0.83
1:F:209:ASN:O	1:F:213:LYS:NZ	2.11	0.83
2:H:251:GLU:O	2:H:254:LEU:HB2	1.78	0.83
2:H:81:ILE:HG22	2:H:129:LEU:HD21	1.61	0.83
1:E:185:ASP:OD1	1:E:186:SER:N	2.12	0.82
1:D:365:ARG:HH12	1:D:414:LYS:HA	1.45	0.82
1:B:365:ARG:HE	1:B:418:PRO:HB3	1.46	0.81
2:H:160:LEU:HD22	2:H:165:GLN:HG2	1.61	0.81
1:A:698:VAL:HB	1:A:727:PHE:HB3	1.63	0.81
2:H:424:HIS:O	2:H:510:ARG:NH2	2.12	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:428:SER:HB2	1:F:431:PRO:HG3	1.61	0.81
1:C:541:GLN:OE1	1:C:544:GLY:N	2.14	0.81
1:A:584:ASN:H	1:A:587:MET:HE3	1.43	0.80
1:G:428:SER:HB2	1:G:431:PRO:HG3	1.61	0.80
1:G:643:ILE:HG13	1:G:723:LYS:HE2	1.61	0.80
2:H:578:LYS:HD3	2:H:579:TYR:HE1	1.45	0.80
1:A:428:SER:HB2	1:A:431:PRO:HG3	1.63	0.80
1:G:592:ARG:NH1	1:G:602:ASN:OD1	2.15	0.80
1:C:197:LYS:HB2	1:C:202:PHE:HE1	1.47	0.79
1:B:698:VAL:HB	1:B:727:PHE:HB3	1.64	0.78
1:F:185:ASP:OD1	1:F:186:SER:N	2.16	0.78
1:D:584:ASN:H	1:D:587:MET:HE2	1.48	0.78
2:H:622:LEU:HD11	2:H:664:ARG:O	1.84	0.77
1:C:471:VAL:N	1:D:479:GLU:OE2	2.16	0.77
1:G:209:ASN:O	1:G:213:LYS:NZ	2.14	0.76
1:E:643:ILE:HG21	1:E:723:LYS:NZ	2.00	0.76
2:H:273:LYS:HZ3	2:H:432:TYR:HB3	1.50	0.76
2:I:169:LYS:HZ1	2:I:534:ILE:H	1.30	0.76
1:B:374:ILE:HD11	1:B:405:LEU:HD12	1.67	0.76
1:E:234:SER:OG	1:E:237:GLU:HG3	1.85	0.76
2:H:600:TYR:O	2:H:604:ASN:ND2	2.18	0.75
1:G:185:ASP:OD1	1:G:186:SER:N	2.19	0.75
2:I:762:THR:HA	2:I:765:PHE:CE1	2.22	0.75
1:D:698:VAL:HB	1:D:727:PHE:HB3	1.67	0.75
1:E:360:LEU:HB3	1:E:432:ILE:HG21	1.68	0.75
1:A:266:MET:H	1:A:295:THR:HG21	1.51	0.75
2:I:169:LYS:HZ3	2:I:533:GLN:HB2	1.51	0.75
1:C:558:THR:HG21	1:C:588:ASN:H	1.51	0.75
1:C:583:LEU:HA	1:C:587:MET:HE1	1.69	0.75
2:H:157:ARG:NH2	2:H:211:ASN:OD1	2.19	0.75
1:F:266:MET:H	1:F:295:THR:HG21	1.50	0.74
2:H:376:LEU:O	2:H:380:LYS:HG3	1.87	0.74
1:B:266:MET:H	1:B:295:THR:HG21	1.51	0.74
1:F:698:VAL:HB	1:F:727:PHE:HB3	1.68	0.74
1:B:470:ARG:HA	1:C:479:GLU:OE1	1.88	0.74
2:H:251:GLU:HA	2:H:254:LEU:HD13	1.69	0.74
2:I:451:GLY:HA2	2:I:454:LEU:HD23	1.70	0.74
1:F:595:ARG:HD2	1:F:611:VAL:HG11	1.68	0.74
1:A:541:GLN:OE1	1:A:544:GLY:N	2.20	0.73
1:D:185:ASP:OD1	1:D:186:SER:N	2.21	0.73
1:D:471:VAL:HG12	1:E:479:GLU:OE2	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:250:GLU:OE2	1:F:503:ARG:NH2	2.20	0.73
1:D:374:ILE:HD11	1:D:405:LEU:HD12	1.67	0.73
1:C:415:ASN:ND2	1:D:325:SER:OG	2.20	0.73
1:A:185:ASP:OD1	1:A:186:SER:N	2.21	0.73
1:F:584:ASN:H	1:F:587:MET:CE	2.01	0.73
2:H:491:ARG:HG2	2:H:492:PRO:HD2	1.71	0.73
1:D:496:LYS:NZ	1:D:497:ASP:OD2	2.22	0.73
1:G:366:TYR:CZ	1:G:378:LEU:HD21	2.24	0.73
1:E:197:LYS:HB2	1:E:202:PHE:HE1	1.54	0.72
1:F:260:PRO:O	1:F:261:ILE:HD13	1.89	0.72
2:H:645:HIS:NE2	2:H:663:SER:OG	2.22	0.72
1:F:486:GLU:OE2	1:F:586:LYS:NZ	2.23	0.72
1:E:213:LYS:HG3	1:E:214:LYS:HD2	1.71	0.72
1:E:266:MET:H	1:E:295:THR:HG21	1.54	0.72
1:F:365:ARG:HE	1:F:418:PRO:HB3	1.55	0.72
1:B:359:ARG:NH2	1:B:430:THR:OG1	2.22	0.72
1:G:541:GLN:OE1	1:G:544:GLY:N	2.22	0.72
1:D:189:VAL:HG13	1:D:190:GLU:HG3	1.72	0.72
1:G:234:SER:OG	1:G:237:GLU:HG2	1.89	0.72
1:A:389:GLN:HG2	1:A:438:GLN:HE22	1.53	0.72
1:F:471:VAL:HG12	1:G:479:GLU:OE2	1.90	0.72
1:D:266:MET:H	1:D:295:THR:HG21	1.54	0.71
1:G:583:LEU:HA	1:G:587:MET:HE1	1.71	0.71
1:A:643:ILE:HG21	1:A:723:LYS:NZ	2.05	0.71
1:D:583:LEU:HA	1:D:587:MET:HE1	1.71	0.71
1:C:631:ILE:O	1:C:636:ARG:NH2	2.24	0.71
1:F:631:ILE:HB	1:F:636:ARG:HH22	1.55	0.71
1:E:541:GLN:OE1	1:E:544:GLY:N	2.22	0.71
1:E:698:VAL:HB	1:E:727:PHE:HB3	1.71	0.71
1:E:592:ARG:NH1	1:E:602:ASN:OD1	2.24	0.71
1:G:187:LEU:HD11	1:G:205:PRO:HG3	1.73	0.71
1:E:643:ILE:HG13	1:E:723:LYS:HE2	1.73	0.70
1:F:187:LEU:HD11	1:F:205:PRO:HG3	1.73	0.70
2:H:159:ILE:HG23	2:H:259:LEU:HD21	1.73	0.70
1:C:443:GLU:O	1:C:446:LYS:NZ	2.15	0.70
1:A:471:VAL:HG12	1:B:479:GLU:OE1	1.91	0.70
2:H:768:ASP:HA	2:H:771:LYS:HD2	1.72	0.70
2:I:475:PHE:HE2	2:I:529:ILE:HG13	1.57	0.70
1:F:470:ARG:HA	1:G:479:GLU:OE1	1.91	0.70
1:F:555:ASP:OD1	1:F:556:GLN:N	2.25	0.70
1:G:643:ILE:HG21	1:G:723:LYS:NZ	2.07	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:246:LYS:HG2	2:H:250:GLN:NE2	2.07	0.69
2:H:171:LEU:O	2:H:175:ASN:ND2	2.25	0.69
1:A:197:LYS:HB2	1:A:202:PHE:HE1	1.58	0.69
2:H:190:PHE:HB2	2:H:194:LEU:HD12	1.75	0.69
1:D:523:LEU:HD22	1:D:578:LEU:HD11	1.75	0.69
2:H:98:SER:HA	2:H:102:LYS:HE2	1.73	0.69
2:H:504:GLN:NE2	2:H:505:LEU:O	2.25	0.69
2:H:226:GLU:OE1	2:H:229:HIS:ND1	2.24	0.68
1:F:178:ARG:NH2	1:F:224:GLU:OE2	2.25	0.68
1:F:435:ASN:N	1:F:438:GLN:OE1	2.27	0.68
2:I:502:ARG:HH22	2:I:544:ARG:HH11	1.40	0.68
1:C:185:ASP:OD1	1:C:186:SER:N	2.26	0.68
1:A:584:ASN:H	1:A:587:MET:CE	2.05	0.68
2:H:578:LYS:CD	2:H:579:TYR:HE1	2.06	0.68
2:H:727:SER:HA	2:H:730:ARG:HD3	1.75	0.68
1:A:577:VAL:HG22	1:A:580:LYS:HB2	1.75	0.68
1:D:497:ASP:OD1	1:D:499:ASN:ND2	2.25	0.68
1:F:190:GLU:O	1:F:220:LYS:NZ	2.26	0.68
1:B:584:ASN:H	1:B:587:MET:CE	2.07	0.68
2:I:463:ILE:O	2:I:465:ARG:NH1	2.27	0.68
1:D:470:ARG:HA	1:E:479:GLU:OE1	1.93	0.67
1:E:583:LEU:HA	1:E:587:MET:HE1	1.76	0.67
2:H:744:MET:SD	2:H:766:ILE:HG21	2.34	0.67
1:A:592:ARG:NH1	1:A:602:ASN:OD1	2.25	0.67
1:D:443:GLU:O	1:D:446:LYS:NZ	2.27	0.67
2:H:292:LEU:HB3	2:H:419:ILE:HD11	1.75	0.67
1:E:709:ASN:OD1	1:E:710:PRO:HD2	1.95	0.67
2:H:111:ASP:OD1	2:H:112:ALA:N	2.28	0.67
2:I:38:GLU:OE1	2:I:41:LYS:NZ	2.23	0.67
1:D:631:ILE:O	1:D:636:ARG:NH2	2.28	0.67
1:E:560:GLN:O	1:E:563:LYS:HG3	1.94	0.67
1:G:558:THR:HG21	1:G:588:ASN:H	1.58	0.67
1:G:610:SER:O	1:G:613:LYS:HG2	1.94	0.67
1:B:555:ASP:OD1	1:B:556:GLN:N	2.27	0.67
1:D:724:ILE:HG23	1:D:726:ILE:HD11	1.77	0.67
1:C:187:LEU:HD11	1:C:205:PRO:HG3	1.76	0.67
1:E:584:ASN:H	1:E:587:MET:CE	2.07	0.67
1:C:380:THR:HG22	1:C:396:ALA:HB2	1.77	0.66
1:A:479:GLU:OE2	1:G:471:VAL:HG12	1.95	0.66
1:B:195:ASP:OD2	2:H:236:TYR:OH	2.12	0.66
2:H:579:TYR:N	2:H:579:TYR:HD1	1.93	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:471:VAL:HG12	1:C:479:GLU:OE2	1.95	0.66
2:I:582:LEU:O	2:I:629:PHE:N	2.25	0.66
1:B:568:GLU:HG2	1:B:569:LEU:HD22	1.77	0.66
1:C:695:LYS:HA	1:C:730:LYS:HA	1.78	0.66
1:E:365:ARG:NH1	1:E:414:LYS:HA	2.09	0.66
1:B:583:LEU:HA	1:B:587:MET:HE1	1.78	0.65
2:H:391:ARG:NH2	2:H:399:ILE:O	2.29	0.65
1:C:365:ARG:NH2	1:C:413:SER:O	2.30	0.65
2:I:278:TYR:HB2	2:I:513:TYR:CE2	2.31	0.65
2:H:188:LEU:HD11	2:H:223:TYR:HE2	1.62	0.65
1:A:558:THR:HG21	1:A:588:ASN:H	1.62	0.65
1:G:577:VAL:HG22	1:G:580:LYS:HB2	1.78	0.64
2:H:257:GLU:HA	2:H:260:LYS:NZ	2.11	0.64
1:F:631:ILE:HB	1:F:636:ARG:NH2	2.11	0.64
1:F:568:GLU:HG2	1:F:569:LEU:HD22	1.80	0.64
2:H:550:VAL:HG23	2:H:555:ILE:HD11	1.79	0.64
1:C:444:LYS:O	1:C:709:ASN:ND2	2.29	0.64
1:D:359:ARG:NH2	1:D:429:SER:O	2.31	0.64
1:D:627:LEU:H	1:D:676:ILE:HG12	1.62	0.64
1:D:634:ASP:OD2	1:D:635:ILE:N	2.31	0.64
1:B:524:LYS:HE3	1:B:579:ASP:HB3	1.78	0.64
2:H:406:LEU:HG	2:H:410:LYS:HE2	1.80	0.64
1:E:468:ARG:NH1	1:F:475:SER:OG	2.31	0.64
2:H:715:ILE:HG22	2:H:719:LYS:HE2	1.78	0.64
1:B:385:LEU:HD11	1:B:442:LEU:HB2	1.80	0.64
1:E:301:SER:H	1:E:600:ARG:HH12	1.46	0.64
2:H:563:GLN:NE2	2:H:584:THR:HA	2.10	0.64
2:H:566:ILE:HG12	2:H:600:TYR:CE1	2.33	0.64
1:E:293:THR:HG22	1:E:334:ILE:HA	1.80	0.64
1:E:626:GLY:HA2	1:E:678:PHE:CE2	2.33	0.64
2:H:168:GLN:HG2	2:H:465:ARG:HH12	1.61	0.63
1:C:698:VAL:HB	1:C:727:PHE:HB3	1.80	0.63
1:D:555:ASP:OD1	1:D:556:GLN:N	2.30	0.63
2:H:188:LEU:HD11	2:H:223:TYR:CE2	2.33	0.63
1:A:555:ASP:OD1	1:A:556:GLN:N	2.30	0.63
1:C:184:PRO:CD	2:I:44:VAL:HG21	2.29	0.63
2:H:273:LYS:NZ	2:H:431:LEU:O	2.23	0.63
1:C:555:ASP:OD2	1:C:557:GLN:NE2	2.32	0.63
2:H:579:TYR:N	2:H:579:TYR:CD1	2.67	0.63
1:C:184:PRO:HD3	2:I:44:VAL:HG21	1.80	0.62
1:E:584:ASN:H	1:E:587:MET:HE2	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:271:LEU:HB2	1:F:289:ILE:HG23	1.81	0.62
2:H:129:LEU:HD23	2:H:129:LEU:H	1.63	0.62
1:D:441:GLU:O	1:D:444:LYS:HG3	2.00	0.62
1:A:359:ARG:NH2	1:A:430:THR:OG1	2.32	0.62
1:B:638:ILE:HG13	1:B:639:LEU:HD12	1.81	0.62
1:D:592:ARG:NH1	1:D:602:ASN:OD1	2.32	0.62
1:E:197:LYS:HD2	1:E:198:ASN:OD1	1.98	0.62
1:B:197:LYS:NZ	2:H:184:ASP:OD2	2.32	0.62
1:B:212:GLU:OE2	1:B:213:LYS:HE3	1.99	0.62
2:H:118:TYR:CZ	2:H:143:LYS:HG3	2.35	0.62
1:C:584:ASN:H	1:C:587:MET:CE	2.13	0.62
1:F:381:THR:HG23	1:F:394:ILE:HD13	1.82	0.62
2:H:285:LEU:O	2:H:290:ARG:NH2	2.33	0.62
2:H:301:GLU:HG2	2:H:302:PRO:HD2	1.82	0.62
1:E:558:THR:HG21	1:E:588:ASN:H	1.63	0.62
2:H:202:SER:OG	2:H:204:GLU:HG3	2.00	0.62
2:I:169:LYS:NZ	2:I:533:GLN:HB2	2.14	0.62
1:C:270:ILE:HG12	1:C:361:ASN:O	2.00	0.61
2:H:122:LYS:HB3	2:H:127:PRO:HA	1.82	0.61
1:B:353:ASN:OD1	1:B:354:THR:N	2.33	0.61
1:A:470:ARG:HA	1:B:479:GLU:OE2	2.01	0.61
2:H:290:ARG:O	2:H:294:LYS:HG3	2.00	0.61
1:A:643:ILE:HG21	1:A:723:LYS:HZ2	1.63	0.61
1:D:568:GLU:HG2	1:D:569:LEU:HD22	1.83	0.61
2:I:107:ILE:HG23	2:I:108:TYR:CD2	2.36	0.61
1:D:577:VAL:HG22	1:D:580:LYS:HB2	1.82	0.61
1:G:353:ASN:OD1	1:G:354:THR:N	2.34	0.61
2:H:765:PHE:O	2:H:769:GLN:NE2	2.34	0.61
1:F:234:SER:OG	1:F:237:GLU:HG3	2.01	0.61
2:H:55:LYS:HE2	2:H:134:SER:HA	1.82	0.61
2:I:221:PHE:HA	2:I:244:MET:CE	2.30	0.61
1:G:271:LEU:HB2	1:G:289:ILE:HG23	1.83	0.61
2:H:639:ILE:HG13	2:H:640:ALA:N	2.13	0.61
2:H:273:LYS:NZ	2:H:432:TYR:HB3	2.16	0.60
1:A:584:ASN:N	1:A:587:MET:HE3	2.16	0.60
1:C:438:GLN:HA	1:C:441:GLU:OE1	2.01	0.60
1:C:465:GLU:OE2	2:I:35:HIS:ND1	2.34	0.60
1:E:365:ARG:NH1	1:E:414:LYS:HD2	2.15	0.60
1:D:565:GLN:HA	1:D:568:GLU:OE1	2.01	0.60
1:C:200:ARG:HB3	1:D:178:ARG:HH22	1.66	0.60
1:D:353:ASN:OD1	1:D:354:THR:N	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:480:SER:HA	2:H:590:ARG:HH12	1.67	0.60
2:I:469:ASN:HA	2:I:472:LYS:HZ2	1.67	0.60
2:I:502:ARG:HH22	2:I:544:ARG:NH1	1.99	0.60
1:G:565:GLN:HA	1:G:568:GLU:OE1	2.02	0.60
1:G:626:GLY:HA2	1:G:678:PHE:CE2	2.36	0.60
2:I:142:GLU:OE2	2:I:142:GLU:N	2.32	0.60
1:B:633:LYS:HA	1:B:636:ARG:NH2	2.16	0.60
2:H:478:SER:OG	2:H:590:ARG:NH2	2.35	0.60
1:B:210:ILE:HD11	2:H:188:LEU:HB2	1.83	0.60
1:F:353:ASN:OD1	1:F:354:THR:N	2.35	0.60
2:I:273:LYS:O	2:I:276:GLN:HG3	2.02	0.60
1:F:633:LYS:HA	1:F:636:ARG:NH1	2.16	0.60
1:G:638:ILE:HG13	1:G:639:LEU:HD12	1.83	0.60
2:H:253:ASN:O	2:H:256:LEU:HG	2.02	0.60
1:E:353:ASN:OD1	1:E:354:THR:N	2.34	0.59
1:B:200:ARG:HD3	1:C:178:ARG:HH22	1.67	0.59
1:G:365:ARG:HH21	1:G:418:PRO:HD3	1.66	0.59
2:H:190:PHE:O	2:H:195:LYS:NZ	2.36	0.59
1:F:584:ASN:N	1:F:587:MET:HE3	2.06	0.59
2:H:739:GLU:OE2	2:H:742:ARG:NH1	2.35	0.59
1:A:443:GLU:OE1	1:A:446:LYS:NZ	2.35	0.59
1:A:479:GLU:OE1	1:G:470:ARG:HA	2.02	0.59
2:I:64:GLU:OE1	2:I:65:LYS:HD2	2.03	0.59
2:I:81:ILE:HG22	2:I:129:LEU:HB3	1.84	0.59
1:A:374:ILE:HD11	1:A:405:LEU:HD22	1.85	0.59
1:C:266:MET:H	1:C:295:THR:HG21	1.66	0.59
2:H:124:GLY:N	2:H:127:PRO:HG3	2.18	0.59
2:I:718:PHE:HA	2:I:722:GLY:HA3	1.84	0.59
1:C:353:ASN:OD1	1:C:354:THR:N	2.35	0.59
1:D:365:ARG:NH1	1:D:414:LYS:HA	2.17	0.59
1:G:600:ARG:HH12	1:G:601:ASN:HB3	1.68	0.59
1:A:267:GLU:OE1	1:A:267:GLU:N	2.36	0.59
1:D:449:ARG:NH2	1:D:451:ASP:OD2	2.35	0.59
1:E:524:LYS:HE2	1:E:540:LEU:HD11	1.85	0.59
2:H:270:LYS:NZ	2:H:488:ILE:O	2.35	0.59
1:D:487:THR:OG1	1:D:515:GLU:OE2	2.20	0.58
2:I:500:LYS:HE3	2:I:542:TYR:CG	2.38	0.58
1:E:643:ILE:HG21	1:E:723:LYS:HZ3	1.65	0.58
1:E:659:ARG:HA	1:E:716:THR:O	2.04	0.58
1:G:643:ILE:HG21	1:G:723:LYS:HZ3	1.67	0.58
2:H:212:GLU:O	2:H:215:GLU:HG2	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:394:ILE:HG12	1:A:421:LEU:HD11	1.85	0.58
1:D:600:ARG:HH22	1:D:601:ASN:HB3	1.67	0.58
2:H:612:SER:O	2:H:616:LYS:HD3	2.01	0.58
1:B:360:LEU:HB3	1:B:432:ILE:HG21	1.84	0.58
1:B:584:ASN:H	1:B:587:MET:HE2	1.68	0.58
1:D:627:LEU:HD23	1:D:676:ILE:HD11	1.84	0.58
1:D:293:THR:HG22	1:D:334:ILE:HA	1.85	0.58
2:H:226:GLU:OE1	2:H:229:HIS:N	2.35	0.58
2:H:658:LEU:HD22	2:H:667:LEU:HD12	1.85	0.58
2:I:281:TRP:HH2	2:I:423:LEU:HA	1.68	0.58
1:D:195:ASP:OD2	2:I:236:TYR:OH	2.20	0.58
1:E:187:LEU:HD11	1:E:205:PRO:HG3	1.86	0.58
2:H:118:TYR:HA	2:H:132:GLN:HE21	1.68	0.58
2:H:271:TRP:NE1	2:H:275:LYS:HE3	2.17	0.58
2:H:656:LYS:HG3	2:H:674:GLY:HA2	1.86	0.58
2:I:475:PHE:CE2	2:I:529:ILE:HG13	2.37	0.58
1:B:210:ILE:HD11	2:H:188:LEU:HD13	1.84	0.58
2:I:175:ASN:HD21	2:I:200:ASP:HB2	1.69	0.58
2:H:419:ILE:HD13	2:H:422:LEU:HD12	1.86	0.57
2:H:607:LYS:HD2	2:H:608:ASN:N	2.19	0.57
1:A:627:LEU:O	1:A:675:PHE:HA	2.04	0.57
1:E:274:ASN:HA	1:E:359:ARG:NH2	2.19	0.57
1:G:340:LEU:O	1:G:343:GLU:HG2	2.03	0.57
2:H:286:SER:O	2:H:290:ARG:HG3	2.03	0.57
1:A:638:ILE:HG13	1:A:639:LEU:HD12	1.86	0.57
1:D:438:GLN:HA	1:D:441:GLU:OE1	2.03	0.57
2:H:706:ASP:OD2	2:H:707:LEU:N	2.37	0.57
1:B:463:ASN:ND2	1:B:465:GLU:OE2	2.38	0.57
1:G:345:THR:O	1:G:348:GLU:HG3	2.03	0.57
2:H:257:GLU:HA	2:H:260:LYS:HZ3	1.69	0.57
2:I:261:ASP:OD1	2:I:438:TYR:OH	2.15	0.57
1:B:577:VAL:HG12	1:B:580:LYS:HB2	1.84	0.57
1:D:244:ASP:OD2	1:D:246:ASN:HB2	2.04	0.57
1:E:643:ILE:HG21	1:E:723:LYS:HZ1	1.68	0.57
1:G:189:VAL:HG13	1:G:190:GLU:HG3	1.87	0.57
2:I:171:LEU:HD22	2:I:206:LEU:HD23	1.85	0.57
1:A:633:LYS:HA	1:A:636:ARG:CZ	2.35	0.57
1:B:628:LEU:HA	1:B:674:THR:O	2.04	0.57
1:D:366:TYR:CD2	1:D:378:LEU:HD11	2.40	0.57
1:G:324:PHE:CZ	1:G:588:ASN:HB3	2.39	0.57
2:H:617:LYS:HD3	2:H:773:ILE:HD13	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:609:GLU:N	1:E:609:GLU:OE1	2.38	0.57
1:F:645:GLU:O	1:F:697:ASN:N	2.32	0.57
2:H:557:THR:HA	2:H:560:GLN:CD	2.24	0.57
1:D:599:ASP:OD1	1:D:600:ARG:N	2.34	0.57
2:H:410:LYS:O	2:H:413:LYS:HG3	2.04	0.57
2:H:676:GLU:HG2	2:H:677:LEU:N	2.20	0.56
2:I:137:TYR:HE1	2:I:143:LYS:HE3	1.70	0.56
1:G:381:THR:HG23	1:G:394:ILE:HD13	1.87	0.56
2:H:97:LEU:O	2:H:102:LYS:NZ	2.28	0.56
1:C:612:VAL:HG12	1:C:726:ILE:HD11	1.87	0.56
1:D:600:ARG:NH2	1:D:601:ASN:HB3	2.20	0.56
1:F:612:VAL:HG12	1:F:726:ILE:HD11	1.87	0.56
2:H:463:ILE:N	2:H:541:GLU:OE1	2.37	0.56
2:H:656:LYS:HD2	2:H:672:SER:OG	2.06	0.56
2:I:254:LEU:HA	2:I:257:GLU:HG3	1.87	0.56
2:I:274:ILE:HD12	2:I:488:ILE:HD13	1.87	0.56
1:A:365:ARG:NH1	1:A:414:LYS:HA	2.21	0.56
2:H:80:LYS:H	2:H:128:VAL:HG12	1.70	0.56
1:A:517:THR:HG23	1:G:199:LYS:O	2.05	0.56
1:G:381:THR:OG1	1:G:452:THR:HG22	2.05	0.56
1:A:353:ASN:OD1	1:A:354:THR:N	2.38	0.56
1:D:200:ARG:HD3	1:E:178:ARG:HH12	1.70	0.56
1:E:546:ASP:OD1	1:E:547:ILE:N	2.38	0.56
1:A:643:ILE:HG13	1:A:723:LYS:CE	2.29	0.56
1:B:558:THR:HG22	1:B:587:MET:HG2	1.85	0.56
1:F:200:ARG:HB3	1:G:178:ARG:HH12	1.69	0.56
1:F:577:VAL:HG22	1:F:580:LYS:HB2	1.88	0.56
1:G:365:ARG:NH1	1:G:414:LYS:HA	2.21	0.56
1:B:365:ARG:HH12	1:B:414:LYS:HA	1.71	0.56
1:C:202:PHE:HB2	2:I:45:LYS:HE3	1.88	0.56
1:C:634:ASP:OD1	1:C:635:ILE:N	2.39	0.56
1:G:272:SER:HB3	1:G:288:THR:HG22	1.87	0.56
2:H:614:LEU:HD23	2:H:773:ILE:HD11	1.87	0.56
2:H:678:ARG:HD2	2:H:678:ARG:N	2.21	0.56
1:A:200:ARG:HD2	2:H:139:GLU:OE1	2.06	0.56
1:C:326:ASN:HD22	1:C:485:GLN:CD	2.09	0.56
1:E:599:ASP:CG	1:E:600:ARG:H	2.09	0.56
1:F:259:TYR:CE1	1:F:261:ILE:HD11	2.41	0.56
2:I:437:LEU:HD21	2:I:486:VAL:CB	2.36	0.56
1:D:584:ASN:N	1:D:587:MET:HE2	2.21	0.56
2:I:281:TRP:CH2	2:I:423:LEU:HD23	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:443:GLU:HA	1:B:446:LYS:HE3	1.87	0.55
1:D:610:SER:O	1:D:614:GLU:OE1	2.24	0.55
1:A:345:THR:O	1:A:348:GLU:HG3	2.06	0.55
1:B:699:TYR:CE1	1:B:725:LEU:HD13	2.41	0.55
2:H:472:LYS:HD2	2:H:532:VAL:HB	1.87	0.55
2:I:589:ASN:OD1	2:I:590:ARG:N	2.33	0.55
1:A:554:PHE:HB3	1:A:558:THR:OG1	2.06	0.55
1:G:266:MET:H	1:G:295:THR:HG21	1.70	0.55
1:G:584:ASN:O	1:G:587:MET:HE2	2.07	0.55
2:H:105:LYS:HD2	2:H:109:GLY:O	2.06	0.55
2:H:114:LEU:HD12	2:H:115:HIS:N	2.22	0.55
2:H:502:ARG:CZ	2:H:544:ARG:HH21	2.20	0.55
2:I:212:GLU:HA	2:I:215:GLU:OE2	2.07	0.55
1:E:508:VAL:HG23	1:E:516:THR:HA	1.87	0.55
2:H:178:LYS:HD2	2:H:201:PHE:CE1	2.42	0.55
2:H:532:VAL:HG13	2:H:545:ILE:HD11	1.89	0.55
1:D:633:LYS:HA	1:D:636:ARG:CZ	2.36	0.55
1:F:722:LYS:NZ	1:F:723:LYS:O	2.40	0.55
2:H:585:PHE:CE2	2:H:596:VAL:HG12	2.41	0.55
2:H:659:TYR:HE2	2:H:694:ASP:OD2	1.89	0.55
1:A:300:THR:O	1:A:324:PHE:HB3	2.07	0.55
1:D:340:LEU:O	1:D:343:GLU:HG2	2.06	0.55
1:E:695:LYS:HA	1:E:730:LYS:HA	1.88	0.55
2:I:110:LYS:HD3	2:I:110:LYS:N	2.21	0.55
1:D:584:ASN:H	1:D:587:MET:CE	2.17	0.55
1:E:638:ILE:HG13	1:E:639:LEU:HD12	1.88	0.55
1:F:610:SER:O	1:F:613:LYS:HG2	2.07	0.55
2:H:506:SER:O	2:H:509:THR:HG22	2.07	0.55
1:A:340:LEU:O	1:A:343:GLU:HG2	2.07	0.55
1:D:202:PHE:CE1	2:I:235:LEU:HD23	2.42	0.55
1:D:358:ALA:HB3	1:D:434:MET:SD	2.47	0.55
1:E:524:LYS:HE3	1:E:579:ASP:HB3	1.87	0.55
1:F:459:ILE:HD12	1:F:475:SER:HB3	1.89	0.55
1:G:634:ASP:OD1	1:G:635:ILE:N	2.40	0.55
1:C:626:GLY:HA2	1:C:678:PHE:CE2	2.42	0.55
1:C:627:LEU:H	1:C:676:ILE:HG22	1.72	0.55
2:H:204:GLU:O	2:H:207:GLU:HG3	2.07	0.55
2:H:501:TRP:HB3	2:H:503:ILE:HD11	1.89	0.55
2:H:566:ILE:HG12	2:H:600:TYR:CZ	2.41	0.55
2:I:544:ARG:HH11	2:I:544:ARG:HG2	1.71	0.55
1:B:554:PHE:HB3	1:B:558:THR:OG1	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:626:GLY:HA2	1:B:678:PHE:CE2	2.42	0.54
2:H:314:GLU:O	2:H:318:LEU:HG	2.07	0.54
2:I:469:ASN:HA	2:I:472:LYS:NZ	2.22	0.54
1:D:184:PRO:HD2	1:D:187:LEU:HD12	1.89	0.54
1:F:374:ILE:HD11	1:F:405:LEU:HD22	1.89	0.54
1:C:577:VAL:HG22	1:C:580:LYS:HB2	1.87	0.54
1:C:590:LEU:CD2	1:C:592:ARG:HD3	2.37	0.54
1:G:264:VAL:HG21	1:G:381:THR:HG21	1.90	0.54
1:F:638:ILE:HG13	1:F:639:LEU:HD12	1.88	0.54
1:B:332:VAL:CG1	1:B:448:LEU:HB2	2.37	0.54
1:B:383:LEU:HD11	1:B:448:LEU:HD23	1.90	0.54
1:D:199:LYS:O	1:E:517:THR:HG23	2.08	0.54
1:D:345:THR:O	1:D:348:GLU:HG3	2.07	0.54
1:G:494:ASN:OD1	1:G:592:ARG:HA	2.08	0.54
2:H:267:ARG:CZ	2:H:489:ASN:HB3	2.38	0.54
1:A:634:ASP:OD1	1:A:635:ILE:N	2.41	0.54
1:E:577:VAL:HG22	1:E:580:LYS:HB2	1.90	0.54
2:H:578:LYS:HD3	2:H:579:TYR:CE1	2.35	0.54
2:H:74:TYR:CD1	2:H:79:GLY:HA3	2.43	0.54
1:B:200:ARG:HG2	1:C:178:ARG:NH2	2.23	0.54
1:B:621:ASN:OD1	1:B:628:LEU:HG	2.07	0.54
1:F:444:LYS:HG3	1:F:445:THR:HG23	1.88	0.54
2:H:97:LEU:HG	2:H:102:LYS:NZ	2.23	0.54
2:H:563:GLN:HE22	2:H:584:THR:CA	2.14	0.54
1:D:610:SER:HA	1:D:613:LYS:NZ	2.23	0.54
1:F:252:ARG:NH1	1:G:512:ASP:OD1	2.37	0.54
2:H:563:GLN:O	2:H:567:ASN:ND2	2.40	0.54
1:A:595:ARG:HD2	1:A:611:VAL:HG11	1.90	0.54
1:F:240:THR:HG21	1:F:242:ARG:NH1	2.23	0.54
1:B:324:PHE:CZ	1:B:588:ASN:HB3	2.42	0.53
1:D:378:LEU:HD12	1:D:379:PRO:CD	2.38	0.53
1:D:599:ASP:CG	1:D:600:ARG:H	2.10	0.53
2:H:478:SER:OG	2:H:590:ARG:HA	2.08	0.53
1:A:350:MET:O	1:A:352:LEU:N	2.41	0.53
1:A:609:GLU:OE1	1:A:609:GLU:N	2.38	0.53
1:A:628:LEU:HD12	1:A:628:LEU:O	2.08	0.53
1:B:384:VAL:CG1	1:B:449:ARG:HB2	2.38	0.53
1:B:384:VAL:HG13	1:B:449:ARG:HB2	1.90	0.53
2:I:99:GLU:O	2:I:102:LYS:HG3	2.09	0.53
1:B:358:ALA:HB3	1:B:434:MET:HE3	1.90	0.53
1:C:272:SER:HB3	1:C:288:THR:HG22	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:634:ASP:OD1	1:E:635:ILE:N	2.42	0.53
1:F:634:ASP:OD1	1:F:635:ILE:N	2.42	0.53
1:G:621:ASN:HB3	1:G:628:LEU:HG	1.89	0.53
2:I:65:LYS:HE3	2:I:65:LYS:HA	1.90	0.53
1:A:360:LEU:HB3	1:A:432:ILE:HG21	1.91	0.53
1:B:626:GLY:HA2	1:B:678:PHE:HE2	1.73	0.53
1:E:324:PHE:CZ	1:E:588:ASN:HB3	2.43	0.53
1:G:365:ARG:HH12	1:G:414:LYS:HA	1.74	0.53
1:B:584:ASN:H	1:B:587:MET:HE1	1.72	0.53
1:F:535:GLU:OE2	1:F:540:LEU:HD12	2.09	0.53
2:H:329:PHE:HB3	2:H:380:LYS:NZ	2.23	0.53
1:A:494:ASN:OD1	1:A:592:ARG:HA	2.07	0.53
1:B:269:ILE:HG22	1:B:362:ALA:HB2	1.91	0.53
1:D:628:LEU:HD12	1:D:628:LEU:O	2.09	0.53
1:F:271:LEU:HB2	1:F:289:ILE:CG2	2.38	0.53
1:G:374:ILE:HD11	1:G:405:LEU:HD22	1.91	0.53
2:H:640:ALA:HA	2:H:643:TYR:CE1	2.43	0.53
1:B:365:ARG:NH1	1:B:414:LYS:HA	2.23	0.53
1:C:584:ASN:H	1:C:587:MET:HE2	1.74	0.53
1:D:187:LEU:HD21	1:D:205:PRO:HG3	1.90	0.53
1:G:271:LEU:HB2	1:G:289:ILE:CG2	2.39	0.53
1:G:453:ASP:OD2	1:G:455:VAL:HG12	2.08	0.53
2:H:119:VAL:HG11	2:H:147:VAL:HG22	1.91	0.53
1:A:535:GLU:OE2	1:A:540:LEU:HD12	2.09	0.53
1:C:627:LEU:H	1:C:676:ILE:CG2	2.22	0.53
1:D:200:ARG:CG	1:E:178:ARG:HH12	2.22	0.53
1:G:231:ASP:N	1:G:231:ASP:OD1	2.35	0.53
1:A:508:VAL:HG23	1:A:516:THR:HA	1.91	0.52
1:A:610:SER:O	1:A:613:LYS:HG2	2.08	0.52
2:H:420:ASP:OD1	2:H:483:TYR:OH	2.28	0.52
2:I:63:LEU:O	2:I:66:VAL:HG12	2.10	0.52
2:I:247:PHE:CE2	2:I:252:ILE:HD11	2.44	0.52
2:I:435:ILE:O	2:I:505:LEU:HD22	2.10	0.52
1:G:350:MET:O	1:G:352:LEU:N	2.41	0.52
1:A:695:LYS:HA	1:A:730:LYS:HA	1.91	0.52
1:B:494:ASN:OD1	1:B:592:ARG:HA	2.09	0.52
2:I:114:LEU:HD11	2:I:120:TYR:HB2	1.92	0.52
2:I:401:SER:N	2:I:409:ARG:HH22	2.07	0.52
1:D:558:THR:HG21	1:D:588:ASN:H	1.75	0.52
2:H:77:ILE:O	2:H:126:GLU:HG2	2.10	0.52
2:H:479:ILE:C	2:H:590:ARG:HH22	2.11	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:270:ILE:HG12	1:B:361:ASN:O	2.10	0.52
1:F:505:ILE:HD12	1:F:526:ALA:HB1	1.91	0.52
2:H:250:GLN:N	2:H:250:GLN:OE1	2.42	0.52
1:A:621:ASN:HB3	1:A:628:LEU:HG	1.92	0.52
1:A:637:LYS:O	1:A:637:LYS:HG2	2.08	0.52
1:C:609:GLU:OE1	1:C:609:GLU:N	2.42	0.52
1:D:324:PHE:CZ	1:D:588:ASN:HB3	2.45	0.52
2:H:634:ILE:HD12	2:H:638:ASN:HD22	1.74	0.52
1:A:438:GLN:HA	1:A:441:GLU:OE1	2.10	0.52
1:C:332:VAL:CG1	1:C:448:LEU:HB2	2.40	0.52
2:H:502:ARG:NH1	2:H:544:ARG:HE	2.08	0.52
2:H:765:PHE:C	2:H:769:GLN:HE22	2.12	0.52
1:C:197:LYS:HB2	1:C:202:PHE:CE1	2.36	0.52
1:C:324:PHE:CZ	1:C:588:ASN:HB3	2.44	0.52
1:C:494:ASN:OD1	1:C:592:ARG:HA	2.10	0.52
1:E:291:LYS:NZ	1:E:337:SER:O	2.33	0.52
1:E:381:THR:HG23	1:E:394:ILE:HD13	1.92	0.52
1:E:592:ARG:HD2	1:E:598:TYR:CE2	2.45	0.52
1:B:187:LEU:HD21	2:H:228:GLN:HE21	1.75	0.52
1:G:289:ILE:HD11	1:G:291:LYS:HD3	1.91	0.52
2:I:576:LEU:HD21	2:I:619:THR:HB	1.92	0.52
1:A:271:LEU:O	1:A:288:THR:HA	2.09	0.51
1:A:454:GLN:OE1	1:A:454:GLN:N	2.43	0.51
1:B:394:ILE:CD1	1:B:421:LEU:HD11	2.39	0.51
1:B:634:ASP:OD1	1:B:635:ILE:N	2.43	0.51
1:C:471:VAL:HG12	1:D:479:GLU:OE2	2.09	0.51
1:D:626:GLY:HA2	1:D:678:PHE:CE2	2.45	0.51
1:B:699:TYR:CZ	1:B:725:LEU:HD13	2.45	0.51
1:D:548:THR:O	1:D:594:LYS:NZ	2.41	0.51
1:E:524:LYS:CE	1:E:579:ASP:HB3	2.40	0.51
2:H:491:ARG:HG2	2:H:492:PRO:CD	2.39	0.51
1:D:535:GLU:OE1	1:D:540:LEU:HD13	2.10	0.51
2:H:305:ASP:HA	2:H:308:ILE:HG12	1.92	0.51
2:I:82:TYR:OH	2:I:91:HIS:CE1	2.64	0.51
1:E:394:ILE:HG12	1:E:421:LEU:HD11	1.92	0.51
2:H:583:ILE:HG22	2:H:583:ILE:O	2.11	0.51
2:H:602:ILE:HD11	2:H:680:ASP:CG	2.30	0.51
1:B:689:ILE:HG22	1:B:691:ASN:H	1.75	0.51
1:F:270:ILE:CG1	1:F:361:ASN:HB3	2.40	0.51
1:G:226:TRP:CZ2	1:G:234:SER:HB3	2.46	0.51
1:G:722:LYS:NZ	1:G:723:LYS:O	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:373:LYS:O	2:H:377:LYS:HG3	2.10	0.51
2:I:530:LYS:HE3	2:I:548:LYS:HE3	1.91	0.51
2:I:553:SER:O	2:I:557:THR:HG23	2.10	0.51
1:A:569:LEU:HD13	1:A:577:VAL:HG21	1.92	0.51
1:G:637:LYS:C	1:G:703:LYS:HZ3	2.13	0.51
1:B:340:LEU:O	1:B:343:GLU:HG2	2.11	0.51
1:B:350:MET:O	1:B:352:LEU:N	2.44	0.51
1:B:380:THR:HG22	1:B:396:ALA:HB2	1.92	0.51
1:F:599:ASP:CG	1:F:600:ARG:H	2.13	0.51
1:G:535:GLU:OE1	1:G:540:LEU:HD12	2.11	0.51
1:G:543:GLN:HG2	1:G:545:LYS:NZ	2.26	0.51
2:H:255:SER:O	2:H:258:GLU:HG3	2.11	0.51
1:B:533:PHE:HE1	1:B:547:ILE:HD13	1.75	0.51
1:C:340:LEU:O	1:C:343:GLU:HG2	2.10	0.51
1:F:628:LEU:HD12	1:F:628:LEU:O	2.11	0.51
1:F:643:ILE:HB	1:F:699:TYR:HB2	1.93	0.51
2:H:501:TRP:HA	2:H:545:ILE:O	2.11	0.51
2:H:558:LYS:O	2:H:561:GLU:HG3	2.11	0.51
1:A:187:LEU:HD11	1:A:205:PRO:HG3	1.92	0.51
1:A:358:ALA:O	1:A:434:MET:HG3	2.11	0.51
1:D:724:ILE:O	1:D:726:ILE:HD12	2.11	0.51
2:H:557:THR:HA	2:H:560:GLN:NE2	2.26	0.51
1:B:627:LEU:HB3	1:B:629:LEU:CD2	2.41	0.51
1:D:334:ILE:HD12	1:D:334:ILE:H	1.76	0.51
2:H:256:LEU:HD12	2:H:257:GLU:N	2.26	0.51
2:H:292:LEU:O	2:H:296:LEU:HD23	2.10	0.51
2:H:637:PRO:HB3	2:H:652:GLN:HG3	1.92	0.51
1:C:345:THR:O	1:C:348:GLU:HG3	2.11	0.50
1:C:599:ASP:OD2	1:C:600:ARG:HG2	2.11	0.50
1:D:592:ARG:HD2	1:D:598:TYR:CE2	2.46	0.50
1:E:186:SER:O	1:E:190:GLU:HG2	2.10	0.50
1:F:385:LEU:HD11	1:F:442:LEU:HB2	1.93	0.50
1:C:271:LEU:HB2	1:C:289:ILE:CG2	2.42	0.50
1:E:270:ILE:HA	1:E:289:ILE:O	2.11	0.50
2:H:555:ILE:HD12	2:H:555:ILE:H	1.76	0.50
1:A:546:ASP:OD1	1:A:547:ILE:N	2.44	0.50
1:E:626:GLY:HA2	1:E:678:PHE:HE2	1.75	0.50
1:C:633:LYS:HA	1:C:636:ARG:NH1	2.26	0.50
2:H:247:PHE:O	2:H:251:GLU:HG3	2.12	0.50
2:H:273:LYS:HG2	2:H:276:GLN:HE22	1.76	0.50
1:F:381:THR:OG1	1:F:452:THR:HG22	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:441:GLU:HA	1:G:444:LYS:NZ	2.26	0.50
2:H:105:LYS:NZ	2:H:110:LYS:O	2.44	0.50
1:B:200:ARG:CD	1:C:178:ARG:HH22	2.24	0.50
1:B:610:SER:O	1:B:614:GLU:OE1	2.29	0.50
1:G:628:LEU:O	1:G:628:LEU:HD12	2.10	0.50
2:I:221:PHE:CA	2:I:244:MET:HE1	2.33	0.50
1:A:359:ARG:HB2	1:A:430:THR:HG23	1.94	0.50
1:E:627:LEU:O	1:E:675:PHE:HA	2.11	0.50
2:H:437:LEU:HD11	2:H:519:LEU:HD12	1.93	0.50
1:C:226:TRP:CZ2	1:C:234:SER:HB3	2.46	0.50
1:D:365:ARG:NH1	1:D:414:LYS:HD2	2.27	0.50
1:F:226:TRP:CZ2	1:F:234:SER:HB3	2.46	0.50
1:F:365:ARG:NH1	1:F:414:LYS:HA	2.27	0.50
1:G:555:ASP:OD1	1:G:556:GLN:N	2.44	0.50
1:G:631:ILE:O	1:G:636:ARG:NH1	2.44	0.50
2:H:70:VAL:HA	2:H:73:MET:CE	2.42	0.50
2:H:528:GLU:OE2	2:H:548:LYS:HB3	2.12	0.50
2:I:266:ALA:O	2:I:269:GLU:HG3	2.12	0.50
1:A:345:THR:O	1:A:349:THR:HG23	2.12	0.49
1:C:298:THR:OG1	1:C:601:ASN:HB2	2.12	0.49
1:C:521:MET:HA	1:C:525:GLU:OE1	2.11	0.49
1:C:628:LEU:HD12	1:C:628:LEU:O	2.11	0.49
1:C:330:SER:OG	1:C:331:THR:N	2.45	0.49
1:E:628:LEU:O	1:E:628:LEU:HD12	2.11	0.49
1:F:595:ARG:HE	1:F:596:PHE:HE1	1.60	0.49
1:G:702:THR:O	1:G:706:THR:HG23	2.12	0.49
1:A:403:GLN:O	1:A:404:ILE:HD13	2.12	0.49
1:C:385:LEU:HD11	1:C:442:LEU:HB2	1.93	0.49
1:C:660:TYR:N	1:C:716:THR:O	2.45	0.49
1:F:599:ASP:OD1	1:F:600:ARG:N	2.39	0.49
1:F:632:ASP:O	1:F:635:ILE:HG22	2.12	0.49
2:H:281:TRP:CZ2	2:H:285:LEU:HD21	2.47	0.49
2:H:739:GLU:OE2	2:H:742:ARG:NH2	2.45	0.49
2:I:477:TYR:HE2	2:I:559:ILE:HD11	1.77	0.49
1:C:490:ARG:NE	1:C:502:GLU:OE2	2.45	0.49
1:F:554:PHE:HB3	1:F:558:THR:OG1	2.12	0.49
1:G:632:ASP:O	1:G:635:ILE:HG22	2.13	0.49
1:B:293:THR:HG22	1:B:334:ILE:HA	1.94	0.49
1:B:441:GLU:CD	1:B:444:LYS:HZ3	2.15	0.49
1:C:554:PHE:HB3	1:C:558:THR:OG1	2.12	0.49
1:F:558:THR:HG21	1:F:588:ASN:H	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:492:ILE:HB	1:G:590:LEU:HD13	1.95	0.49
2:H:100:ASP:C	2:H:102:LYS:H	2.16	0.49
1:C:200:ARG:HB3	1:D:178:ARG:NH2	2.27	0.49
1:C:300:THR:O	1:C:324:PHE:HB3	2.12	0.49
1:G:718:THR:CB	1:G:723:LYS:NZ	2.75	0.49
2:H:330:LEU:CD2	2:H:380:LYS:HE2	2.42	0.49
2:H:562:ALA:O	2:H:566:ILE:HG13	2.12	0.49
1:A:524:LYS:CE	1:A:579:ASP:HB3	2.42	0.49
1:B:385:LEU:HD23	1:B:386:GLY:N	2.27	0.49
1:F:345:THR:O	1:F:348:GLU:HG3	2.13	0.49
1:F:695:LYS:HA	1:F:730:LYS:HA	1.94	0.49
1:G:403:GLN:O	1:G:404:ILE:HD13	2.12	0.49
2:H:113:LEU:HD22	2:H:115:HIS:HE1	1.78	0.49
2:H:578:LYS:HG2	2:H:579:TYR:CE1	2.48	0.49
2:I:466:GLY:O	2:I:470:GLU:HG2	2.13	0.49
2:I:557:THR:O	2:I:560:GLN:HG3	2.13	0.49
1:B:200:ARG:HG2	1:C:178:ARG:HH22	1.78	0.49
1:B:695:LYS:HA	1:B:730:LYS:HA	1.95	0.49
1:C:403:GLN:O	1:C:404:ILE:HD13	2.13	0.49
1:C:638:ILE:HG13	1:C:639:LEU:HD12	1.93	0.49
1:D:574:ILE:H	1:D:574:ILE:HD12	1.77	0.49
1:E:274:ASN:HA	1:E:359:ARG:CZ	2.43	0.49
1:E:454:GLN:N	1:E:454:GLN:OE1	2.45	0.49
1:E:584:ASN:H	1:E:587:MET:HE1	1.78	0.49
2:H:163:ILE:O	2:H:163:ILE:HG22	2.12	0.49
2:H:752:ARG:O	2:H:755:VAL:HG22	2.12	0.49
2:I:136:ASP:OD1	2:I:136:ASP:N	2.38	0.49
2:I:762:THR:HA	2:I:765:PHE:HE1	1.75	0.49
1:A:584:ASN:HB2	1:A:587:MET:HE2	1.95	0.49
1:D:350:MET:O	1:D:352:LEU:N	2.43	0.49
1:F:290:SER:O	1:F:291:LYS:HE2	2.13	0.49
1:G:583:LEU:CA	1:G:587:MET:HE1	2.40	0.49
2:I:281:TRP:HH2	2:I:423:LEU:HD23	1.78	0.49
1:A:616:HIS:ND1	1:A:726:ILE:HD12	2.28	0.49
1:C:584:ASN:O	1:C:587:MET:HE2	2.12	0.49
1:C:644:VAL:HG11	1:C:678:PHE:HE1	1.78	0.49
1:F:334:ILE:HD12	1:F:334:ILE:H	1.78	0.49
2:H:553:SER:O	2:H:557:THR:HG23	2.12	0.49
1:A:365:ARG:HH12	1:A:414:LYS:HA	1.77	0.48
1:B:634:ASP:O	1:B:637:LYS:HG2	2.13	0.48
2:H:270:LYS:NZ	2:H:488:ILE:HG12	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:270:LYS:HE3	2:H:489:ASN:OD1	2.13	0.48
2:I:72:GLU:O	2:I:75:LYS:HG3	2.12	0.48
1:A:324:PHE:CZ	1:A:588:ASN:HB3	2.49	0.48
1:C:470:ARG:HH22	1:D:474:GLY:HA3	1.79	0.48
1:D:359:ARG:NH2	1:D:430:THR:OG1	2.46	0.48
1:D:200:ARG:HG2	1:E:178:ARG:HH12	1.79	0.48
1:D:627:LEU:O	1:D:675:PHE:HA	2.13	0.48
1:E:374:ILE:HD11	1:E:405:LEU:HD22	1.96	0.48
1:E:549:GLU:C	1:E:594:LYS:HE3	2.33	0.48
1:F:365:ARG:HH12	1:F:414:LYS:HA	1.78	0.48
2:H:590:ARG:HG2	2:H:590:ARG:HH11	1.77	0.48
2:I:122:LYS:HE3	2:I:128:VAL:HB	1.95	0.48
1:D:191:GLY:HA2	1:D:219:TYR:O	2.12	0.48
1:D:535:GLU:OE2	1:D:540:LEU:HD22	2.14	0.48
2:H:81:ILE:HG13	2:H:81:ILE:O	2.14	0.48
1:C:389:GLN:HB3	1:C:438:GLN:HE22	1.78	0.48
1:D:406:ALA:O	1:D:409:ASN:HB2	2.13	0.48
1:D:508:VAL:HG23	1:D:516:THR:HA	1.95	0.48
1:D:524:LYS:HE3	1:D:579:ASP:CG	2.32	0.48
1:F:443:GLU:HA	1:F:446:LYS:NZ	2.27	0.48
1:G:524:LYS:HE3	1:G:579:ASP:HB3	1.95	0.48
2:H:585:PHE:HB3	2:H:631:PHE:HB2	1.95	0.48
2:H:669:HIS:CE1	2:H:671:PRO:HB2	2.49	0.48
2:H:721:GLU:OE1	2:H:761:LYS:HB2	2.13	0.48
1:A:265:ASP:OD1	1:A:295:THR:OG1	2.22	0.48
1:A:493:PHE:CE2	1:A:495:GLY:HA3	2.49	0.48
1:A:523:LEU:HD23	1:A:527:LEU:HD13	1.94	0.48
1:B:406:ALA:O	1:B:409:ASN:HB2	2.14	0.48
1:B:599:ASP:CG	1:B:600:ARG:H	2.17	0.48
1:F:508:VAL:HG23	1:F:516:THR:HA	1.95	0.48
2:I:686:HIS:O	2:I:738:ALA:HB1	2.14	0.48
1:A:445:THR:HG22	1:A:447:GLN:HB3	1.95	0.48
1:B:300:THR:HG22	1:B:601:ASN:HA	1.96	0.48
1:C:360:LEU:HB3	1:C:432:ILE:HG21	1.96	0.48
1:F:272:SER:HB3	1:F:288:THR:HG22	1.96	0.48
1:G:592:ARG:HD2	1:G:598:TYR:CE2	2.48	0.48
2:I:81:ILE:HG13	2:I:81:ILE:O	2.13	0.48
2:I:88:ILE:HD11	2:I:130:VAL:CG1	2.44	0.48
1:B:528:LYS:HE2	1:B:528:LYS:HB2	1.52	0.48
1:B:552:PHE:HB3	1:B:554:PHE:CZ	2.49	0.48
1:E:556:GLN:O	1:E:559:SER:OG	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:528:LYS:HB2	1:F:528:LYS:HE2	1.60	0.48
2:H:619:THR:O	2:H:623:VAL:HG13	2.14	0.48
1:C:358:ALA:HB3	1:C:434:MET:SD	2.53	0.48
1:D:345:THR:O	1:D:349:THR:HG23	2.13	0.48
1:G:633:LYS:HA	1:G:636:ARG:NH2	2.28	0.48
2:H:605:GLU:O	2:H:609:ASN:ND2	2.46	0.48
2:I:292:LEU:HB3	2:I:419:ILE:HD13	1.95	0.48
1:E:226:TRP:CZ2	1:E:234:SER:HB3	2.49	0.47
1:G:330:SER:OG	1:G:450:LEU:HB2	2.14	0.47
2:H:504:GLN:HG2	2:H:548:LYS:NZ	2.28	0.47
1:C:486:GLU:O	1:C:486:GLU:HG2	2.13	0.47
1:D:190:GLU:OE2	2:I:140:ASN:HB2	2.13	0.47
1:E:183:ILE:HG23	1:E:203:LEU:HD21	1.96	0.47
2:H:314:GLU:HA	2:H:317:GLU:CD	2.34	0.47
2:I:270:LYS:O	2:I:274:ILE:HG12	2.13	0.47
1:B:403:GLN:O	1:B:404:ILE:HD13	2.14	0.47
1:C:689:ILE:HG22	1:C:691:ASN:H	1.79	0.47
1:E:301:SER:OG	1:E:600:ARG:NH2	2.47	0.47
1:F:438:GLN:HA	1:F:441:GLU:OE1	2.14	0.47
1:G:207:ILE:HB	1:G:210:ILE:HG22	1.97	0.47
2:H:491:ARG:CG	2:H:492:PRO:HD2	2.44	0.47
1:A:334:ILE:HD12	1:A:334:ILE:H	1.80	0.47
1:C:702:THR:O	1:C:706:THR:HG23	2.15	0.47
1:G:265:ASP:OD1	1:G:295:THR:OG1	2.25	0.47
2:H:329:PHE:HD2	2:H:380:LYS:HZ2	1.62	0.47
1:A:250:GLU:CD	1:A:250:GLU:H	2.18	0.47
1:A:298:THR:OG1	1:A:601:ASN:HB2	2.15	0.47
1:A:583:LEU:HA	1:A:587:MET:HE3	1.96	0.47
1:B:270:ILE:C	1:B:271:LEU:HD22	2.35	0.47
1:C:377:VAL:HG12	1:C:378:LEU:N	2.30	0.47
1:D:435:ASN:ND2	1:D:438:GLN:HE22	2.12	0.47
1:F:199:LYS:O	1:G:517:THR:HG23	2.14	0.47
1:F:358:ALA:HB3	1:F:434:MET:SD	2.54	0.47
2:H:88:ILE:C	2:H:90:LYS:H	2.17	0.47
1:A:385:LEU:HD11	1:A:442:LEU:HB2	1.96	0.47
1:D:267:GLU:OE1	1:D:267:GLU:N	2.45	0.47
1:E:535:GLU:OE2	1:E:540:LEU:HD12	2.14	0.47
1:E:638:ILE:HA	1:E:703:LYS:HD3	1.96	0.47
2:H:555:ILE:O	2:H:559:ILE:HD12	2.14	0.47
2:H:680:ASP:N	2:H:680:ASP:OD1	2.47	0.47
2:I:274:ILE:HG13	2:I:275:LYS:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:530:LYS:HB3	2:I:548:LYS:NZ	2.29	0.47
1:B:610:SER:HA	1:B:613:LYS:NZ	2.30	0.47
1:C:468:ARG:HG2	1:C:468:ARG:HH11	1.79	0.47
1:D:403:GLN:O	1:D:404:ILE:HD13	2.14	0.47
1:E:200:ARG:HG3	1:E:200:ARG:HH11	1.80	0.47
1:E:340:LEU:O	1:E:343:GLU:HG2	2.13	0.47
1:E:377:VAL:HG12	1:E:378:LEU:N	2.29	0.47
1:F:689:ILE:HG22	1:F:691:ASN:H	1.80	0.47
2:H:544:ARG:O	2:H:545:ILE:HD13	2.14	0.47
2:H:696:ALA:O	2:H:699:LEU:HG	2.14	0.47
2:I:60:GLU:OE2	2:I:61:LYS:HE3	2.14	0.47
1:B:599:ASP:OD1	1:B:600:ARG:N	2.41	0.47
1:C:493:PHE:CZ	1:C:495:GLY:HA3	2.50	0.47
1:E:554:PHE:HB3	1:E:558:THR:OG1	2.14	0.47
2:H:275:LYS:HG2	2:H:513:TYR:OH	2.14	0.47
2:H:304:LYS:HE3	2:H:304:LYS:HB2	1.59	0.47
1:B:558:THR:HG21	1:B:588:ASN:H	1.80	0.47
1:C:455:VAL:O	1:C:455:VAL:HG13	2.15	0.47
1:E:689:ILE:HG22	1:E:691:ASN:H	1.80	0.47
2:H:308:ILE:HG13	2:H:309:HIS:N	2.30	0.47
2:H:502:ARG:CZ	2:H:544:ARG:HE	2.28	0.47
2:H:504:GLN:HB3	2:H:548:LYS:HD3	1.97	0.47
2:H:574:LEU:HD11	2:H:615:ILE:HG22	1.97	0.47
2:H:578:LYS:C	2:H:579:TYR:HD1	2.18	0.47
1:A:269:ILE:HG22	1:A:362:ALA:HB2	1.97	0.47
1:B:345:THR:O	1:B:348:GLU:HG3	2.14	0.47
1:E:269:ILE:HG22	1:E:362:ALA:HB2	1.97	0.47
1:G:626:GLY:HA2	1:G:678:PHE:HE2	1.78	0.47
2:H:376:LEU:HG	2:H:380:LYS:HE3	1.96	0.47
2:I:274:ILE:O	2:I:513:TYR:OH	2.24	0.47
1:G:455:VAL:HG13	1:G:455:VAL:O	2.15	0.46
2:H:110:LYS:HA	2:H:110:LYS:HD3	1.67	0.46
2:H:311:LEU:O	2:H:313:GLN:OE1	2.34	0.46
2:H:532:VAL:HG13	2:H:545:ILE:CD1	2.45	0.46
1:A:524:LYS:HG3	1:A:540:LEU:HD21	1.96	0.46
1:B:199:LYS:O	1:C:517:THR:HG23	2.15	0.46
1:B:289:ILE:HG23	1:B:291:LYS:NZ	2.31	0.46
1:B:481:LEU:HA	1:B:481:LEU:HD23	1.68	0.46
1:D:594:LYS:HE3	1:D:594:LYS:HB2	1.72	0.46
2:H:500:LYS:HE2	2:H:542:TYR:CG	2.51	0.46
1:A:197:LYS:HB2	1:A:202:PHE:CE1	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:632:ASP:C	1:B:636:ARG:HH12	2.18	0.46
1:D:216:LEU:HD23	1:D:216:LEU:HA	1.79	0.46
1:D:633:LYS:HA	1:D:636:ARG:NH1	2.30	0.46
1:G:332:VAL:CG1	1:G:448:LEU:HB2	2.45	0.46
1:B:568:GLU:HG2	1:B:569:LEU:CD2	2.46	0.46
1:E:609:GLU:HG2	1:E:613:LYS:NZ	2.30	0.46
1:F:340:LEU:O	1:F:343:GLU:HG2	2.15	0.46
2:H:257:GLU:OE1	2:H:436:TYR:HD2	1.98	0.46
1:A:643:ILE:HG21	1:A:723:LYS:HZ3	1.79	0.46
1:C:459:ILE:HD12	1:C:475:SER:HB3	1.97	0.46
1:C:633:LYS:HA	1:C:636:ARG:CZ	2.45	0.46
1:D:610:SER:O	1:D:613:LYS:HG2	2.15	0.46
1:F:338:LEU:HG	1:F:661:ASP:CB	2.46	0.46
1:F:350:MET:O	1:F:352:LEU:N	2.49	0.46
2:H:226:GLU:CD	2:H:229:HIS:HD1	2.16	0.46
2:H:426:SER:HA	2:H:510:ARG:HA	1.97	0.46
2:I:771:LYS:O	2:I:773:ILE:HG12	2.15	0.46
1:A:365:ARG:HH21	1:A:418:PRO:HD3	1.81	0.46
1:A:381:THR:HG23	1:A:394:ILE:HD13	1.97	0.46
1:B:330:SER:OG	1:B:450:LEU:HB2	2.15	0.46
1:D:360:LEU:HD23	1:D:432:ILE:HG21	1.98	0.46
1:E:209:ASN:OD1	1:E:210:ILE:HG12	2.15	0.46
1:G:439:PHE:O	1:G:443:GLU:HG2	2.15	0.46
1:G:560:GLN:HA	1:G:563:LYS:HE2	1.98	0.46
2:H:404:ILE:O	2:H:409:ARG:NH2	2.41	0.46
2:I:169:LYS:HZ1	2:I:534:ILE:HG22	1.80	0.46
2:I:278:TYR:HB2	2:I:513:TYR:CZ	2.49	0.46
1:C:610:SER:HA	1:C:613:LYS:NZ	2.30	0.46
1:D:332:VAL:CG1	1:D:448:LEU:HB2	2.46	0.46
1:G:435:ASN:OD1	1:G:437:ASN:ND2	2.49	0.46
1:G:689:ILE:HG22	1:G:691:ASN:H	1.80	0.46
2:H:265:LEU:O	2:H:269:GLU:HG3	2.16	0.46
2:H:561:GLU:O	2:H:564:LEU:HG	2.16	0.46
1:A:293:THR:HG22	1:A:334:ILE:HA	1.98	0.46
1:B:200:ARG:CG	1:C:178:ARG:HH22	2.29	0.46
1:C:265:ASP:OD1	1:C:295:THR:OG1	2.25	0.46
1:C:384:VAL:HG23	1:C:449:ARG:HB3	1.98	0.46
1:E:199:LYS:O	1:F:517:THR:HG23	2.16	0.46
1:F:324:PHE:CZ	1:F:588:ASN:HB3	2.51	0.46
1:F:324:PHE:HZ	1:F:588:ASN:HB3	1.81	0.46
2:H:163:ILE:HG13	2:H:258:GLU:OE2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:454:LEU:HD12	2:I:455:VAL:N	2.31	0.46
1:B:377:VAL:HG12	1:B:378:LEU:N	2.31	0.46
1:C:406:ALA:O	1:C:409:ASN:HB2	2.15	0.46
1:C:644:VAL:HG11	1:C:678:PHE:CE1	2.50	0.46
1:G:377:VAL:HG12	1:G:378:LEU:N	2.31	0.46
2:H:289:GLY:O	2:H:293:LEU:HG	2.16	0.46
2:I:39:ILE:O	2:I:43:ILE:HG12	2.14	0.46
1:B:366:TYR:CE2	1:B:378:LEU:HD12	2.50	0.46
1:B:394:ILE:HD12	1:B:421:LEU:HD11	1.98	0.46
1:F:722:LYS:HD2	1:F:722:LYS:HA	1.75	0.46
2:I:211:ASN:HA	2:I:214:GLN:HG2	1.98	0.46
1:B:187:LEU:HD11	1:B:205:PRO:HG3	1.97	0.45
1:C:505:ILE:N	1:C:505:ILE:HD12	2.31	0.45
1:D:264:VAL:HG22	1:D:366:TYR:CE1	2.51	0.45
2:H:224:TYR:HE2	2:H:248:ASN:HD21	1.63	0.45
2:I:257:GLU:HA	2:I:260:LYS:NZ	2.32	0.45
1:A:360:LEU:HD12	1:A:361:ASN:N	2.31	0.45
1:B:334:ILE:HD12	1:B:334:ILE:H	1.80	0.45
1:C:345:THR:O	1:C:349:THR:HG23	2.15	0.45
1:D:383:LEU:HD21	1:D:448:LEU:HD23	1.97	0.45
1:D:566:LEU:HD11	1:D:574:ILE:HG13	1.98	0.45
1:E:551:ASP:OD1	1:E:594:LYS:HB3	2.16	0.45
1:F:377:VAL:HG12	1:F:378:LEU:N	2.31	0.45
1:G:300:THR:O	1:G:324:PHE:HB3	2.16	0.45
2:H:113:LEU:HD13	2:H:115:HIS:CE1	2.51	0.45
2:H:526:GLY:HA3	2:H:555:ILE:HD13	1.97	0.45
1:C:350:MET:O	1:C:352:LEU:N	2.49	0.45
1:C:584:ASN:H	1:C:587:MET:HE1	1.79	0.45
1:E:558:THR:HG22	1:E:587:MET:HG2	1.97	0.45
1:G:385:LEU:HD13	1:G:448:LEU:HD23	1.99	0.45
1:G:554:PHE:HB3	1:G:558:THR:OG1	2.16	0.45
2:H:118:TYR:CB	2:H:132:GLN:HB3	2.46	0.45
2:H:395:THR:HA	2:H:638:ASN:ND2	2.31	0.45
1:A:552:PHE:HB3	1:A:554:PHE:CZ	2.52	0.45
1:E:274:ASN:HA	1:E:359:ARG:HH22	1.82	0.45
1:E:345:THR:O	1:E:349:THR:HG23	2.14	0.45
1:E:609:GLU:HG2	1:E:613:LYS:HZ1	1.80	0.45
1:E:610:SER:HA	1:E:613:LYS:NZ	2.31	0.45
1:G:242:ARG:HG2	1:G:462:TYR:CZ	2.51	0.45
1:G:295:THR:HG22	1:G:332:VAL:HG23	1.96	0.45
1:G:432:ILE:HD12	1:G:432:ILE:H	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:578:LYS:HG2	2:H:579:TYR:CD1	2.52	0.45
2:H:622:LEU:HD12	2:H:622:LEU:HA	1.51	0.45
2:H:627:GLY:HA3	2:H:664:ARG:O	2.16	0.45
1:A:209:ASN:OD1	1:A:210:ILE:HG12	2.15	0.45
1:C:328:ASN:OD1	1:C:452:THR:HB	2.16	0.45
1:D:550:PHE:O	1:D:575:TYR:OH	2.25	0.45
1:E:439:PHE:O	1:E:443:GLU:HG2	2.16	0.45
1:G:584:ASN:H	1:G:587:MET:CE	2.29	0.45
2:H:274:ILE:HD12	2:H:488:ILE:HD11	1.97	0.45
2:H:446:LEU:HA	2:H:446:LEU:HD13	1.66	0.45
2:H:656:LYS:HB3	2:H:656:LYS:HE3	1.70	0.45
1:D:554:PHE:HB3	1:D:558:THR:OG1	2.16	0.45
1:G:469:VAL:O	1:G:469:VAL:HG23	2.16	0.45
1:A:558:THR:HG22	1:A:587:MET:HA	1.98	0.45
1:B:454:GLN:N	1:B:454:GLN:OE1	2.50	0.45
1:C:535:GLU:OE2	1:C:540:LEU:HD22	2.17	0.45
1:C:621:ASN:HB3	1:C:628:LEU:HG	1.98	0.45
2:H:505:LEU:HA	2:H:549:VAL:CG2	2.46	0.45
2:H:689:GLY:HA2	2:H:692:VAL:HG12	1.97	0.45
1:A:443:GLU:O	1:A:446:LYS:HE2	2.17	0.45
1:D:422:ASN:HD21	1:D:432:ILE:HD12	1.82	0.45
1:E:471:VAL:HG13	1:E:471:VAL:O	2.17	0.45
1:F:260:PRO:C	1:F:261:ILE:HD13	2.36	0.45
2:H:178:LYS:HE3	2:H:178:LYS:HB2	1.77	0.45
1:A:324:PHE:HZ	1:A:588:ASN:HB3	1.82	0.45
1:A:535:GLU:HB3	1:A:538:GLY:HA2	1.99	0.45
1:A:583:LEU:HA	1:A:583:LEU:HD23	1.70	0.45
1:G:332:VAL:HG12	1:G:448:LEU:HB2	1.98	0.45
2:H:113:LEU:HB3	2:H:115:HIS:CE1	2.52	0.45
1:A:578:LEU:HD12	1:A:578:LEU:HA	1.55	0.45
1:A:689:ILE:HG22	1:A:691:ASN:H	1.82	0.45
1:B:542:TYR:O	1:B:545:LYS:HE2	2.16	0.45
1:B:627:LEU:O	1:B:675:PHE:HA	2.16	0.45
2:H:235:LEU:HA	2:H:235:LEU:HD13	1.76	0.45
2:I:239:GLU:OE1	2:I:239:GLU:N	2.46	0.45
1:B:387:LYS:HA	1:B:387:LYS:HE2	2.00	0.44
1:E:350:MET:O	1:E:352:LEU:N	2.49	0.44
1:E:579:ASP:OD2	1:E:580:LYS:HG2	2.17	0.44
2:H:224:TYR:CE2	2:H:248:ASN:ND2	2.85	0.44
2:H:334:GLU:O	2:H:338:LEU:HD23	2.17	0.44
2:H:407:ASP:HA	2:H:410:LYS:HE3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:447:THR:HG21	2:H:450:LEU:HD12	1.98	0.44
1:A:240:THR:HG21	1:A:242:ARG:NH1	2.32	0.44
1:A:439:PHE:O	1:A:443:GLU:HG2	2.16	0.44
1:C:470:ARG:HH22	1:D:474:GLY:CA	2.30	0.44
1:D:210:ILE:HD11	2:I:188:LEU:HA	1.98	0.44
1:E:534:ASN:OD1	1:E:541:GLN:NE2	2.50	0.44
1:E:692:PRO:O	1:E:732:TYR:HD2	2.00	0.44
1:F:359:ARG:HB2	1:F:430:THR:HG23	1.99	0.44
1:F:416:LEU:HD23	1:F:416:LEU:HA	1.60	0.44
1:F:626:GLY:HA2	1:F:678:PHE:CE1	2.53	0.44
1:G:641:GLY:O	1:G:701:VAL:HG12	2.18	0.44
2:H:479:ILE:O	2:H:590:ARG:NH1	2.49	0.44
2:I:465:ARG:HH11	2:I:465:ARG:HG2	1.81	0.44
1:A:272:SER:HB3	1:A:288:THR:HG22	1.99	0.44
1:C:195:ASP:O	1:C:195:ASP:OD1	2.35	0.44
1:C:209:ASN:OD1	1:C:210:ILE:HG12	2.18	0.44
1:D:610:SER:HA	1:D:613:LYS:HZ3	1.80	0.44
1:E:289:ILE:HD11	1:E:349:THR:OG1	2.17	0.44
1:E:345:THR:O	1:E:348:GLU:HG3	2.18	0.44
1:E:360:LEU:HB3	1:E:432:ILE:CG2	2.43	0.44
1:E:403:GLN:O	1:E:404:ILE:HD13	2.17	0.44
1:E:505:ILE:HD12	1:E:505:ILE:N	2.32	0.44
1:E:528:LYS:HB2	1:E:528:LYS:HE2	1.55	0.44
1:F:360:LEU:HB3	1:F:432:ILE:HG21	2.00	0.44
1:G:345:THR:O	1:G:349:THR:HG23	2.17	0.44
1:G:643:ILE:HG21	1:G:723:LYS:HZ1	1.83	0.44
2:H:119:VAL:CG1	2:H:147:VAL:HG22	2.47	0.44
2:H:165:GLN:OE1	2:H:165:GLN:N	2.49	0.44
2:H:239:GLU:CD	2:H:239:GLU:H	2.21	0.44
2:H:475:PHE:CE2	2:H:529:ILE:HG13	2.52	0.44
2:H:487:ASP:OD1	2:H:518:LYS:NZ	2.48	0.44
2:I:498:ARG:CZ	2:I:540:LYS:HE2	2.47	0.44
1:B:644:VAL:HG11	1:B:678:PHE:HE1	1.82	0.44
1:C:270:ILE:C	1:C:271:LEU:HD22	2.38	0.44
1:C:293:THR:HG22	1:C:334:ILE:HA	1.99	0.44
1:E:724:ILE:O	1:E:726:ILE:HG12	2.18	0.44
1:F:270:ILE:HD11	1:F:361:ASN:HD22	1.83	0.44
1:F:435:ASN:OD1	1:F:438:GLN:HG3	2.17	0.44
1:G:555:ASP:OD1	1:G:556:GLN:OE1	2.35	0.44
2:H:191:THR:OG1	2:H:192:ASN:N	2.49	0.44
2:H:502:ARG:NH2	2:H:544:ARG:HE	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:617:LYS:HE3	2:H:695:TYR:CE2	2.52	0.44
2:I:544:ARG:NH1	2:I:544:ARG:HG2	2.32	0.44
1:C:326:ASN:OD1	1:C:326:ASN:N	2.51	0.44
1:C:512:ASP:HB3	1:C:515:GLU:HB2	2.00	0.44
1:E:702:THR:O	1:E:706:THR:HG23	2.17	0.44
1:G:270:ILE:HG12	1:G:361:ASN:O	2.17	0.44
2:H:107:ILE:HD12	2:H:107:ILE:H	1.83	0.44
2:H:425:GLN:HA	2:H:510:ARG:HH21	1.83	0.44
2:I:233:LEU:HD12	2:I:233:LEU:HA	1.65	0.44
1:A:270:ILE:HG12	1:A:361:ASN:O	2.18	0.44
1:B:404:ILE:HD12	1:B:404:ILE:HG23	1.83	0.44
1:C:528:LYS:HE2	1:C:528:LYS:HB2	1.55	0.44
1:E:224:GLU:OE1	1:E:224:GLU:HA	2.17	0.44
2:H:314:GLU:HA	2:H:317:GLU:OE2	2.18	0.44
2:I:211:ASN:O	2:I:214:GLN:HG2	2.18	0.44
2:I:502:ARG:HH12	2:I:544:ARG:CZ	2.29	0.44
1:A:295:THR:HG22	1:A:332:VAL:HG23	1.99	0.44
1:B:364:ILE:O	1:B:419:ILE:HG22	2.17	0.44
1:F:403:GLN:O	1:F:404:ILE:HD13	2.18	0.44
1:G:578:LEU:HD12	1:G:578:LEU:HA	1.60	0.44
2:H:499:LEU:HD23	2:H:501:TRP:HE1	1.82	0.44
2:H:721:GLU:OE1	2:H:762:THR:HG23	2.16	0.44
1:A:267:GLU:OE2	1:A:363:ASN:HB3	2.17	0.44
1:B:527:LEU:HD23	1:B:533:PHE:CE1	2.52	0.44
1:C:240:THR:HG21	1:C:242:ARG:NH1	2.33	0.44
1:D:494:ASN:OD1	1:D:592:ARG:HA	2.18	0.44
1:D:506:ALA:HB1	1:D:518:LYS:HE3	1.98	0.44
1:E:449:ARG:O	1:E:450:LEU:HD23	2.18	0.44
1:F:360:LEU:HD12	1:F:361:ASN:H	1.82	0.44
1:G:695:LYS:HA	1:G:730:LYS:HA	2.00	0.44
2:H:581:LYS:HA	2:H:581:LYS:HD3	1.71	0.44
1:B:225:LYS:HE2	1:B:225:LYS:HB3	1.80	0.44
1:B:469:VAL:O	1:B:469:VAL:HG23	2.18	0.44
1:B:508:VAL:HG23	1:B:516:THR:HA	1.99	0.44
1:D:385:LEU:HD11	1:D:442:LEU:HB2	2.00	0.44
1:D:628:LEU:HA	1:D:674:THR:O	2.18	0.44
1:G:558:THR:HG22	1:G:587:MET:HA	2.00	0.44
2:H:292:LEU:HD23	2:H:295:LYS:HE2	2.00	0.44
2:H:503:ILE:N	2:H:503:ILE:HD12	2.33	0.44
1:A:558:THR:O	1:A:562:ILE:HG13	2.17	0.43
1:A:564:ASN:O	1:A:567:ALA:N	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:647:GLU:HA	1:A:652:LEU:O	2.18	0.43
1:B:450:LEU:HD23	1:B:450:LEU:HA	1.89	0.43
1:B:520:ASP:N	1:B:520:ASP:OD1	2.49	0.43
1:D:214:LYS:HE2	1:D:214:LYS:HB3	1.69	0.43
1:E:334:ILE:HD12	1:E:334:ILE:H	1.83	0.43
1:F:270:ILE:HG12	1:F:361:ASN:O	2.18	0.43
1:F:360:LEU:O	1:F:432:ILE:HD13	2.18	0.43
1:F:498:LEU:HB2	1:F:637:LYS:NZ	2.33	0.43
1:F:647:GLU:HA	1:F:652:LEU:O	2.18	0.43
2:H:475:PHE:O	2:H:476:LYS:HD3	2.18	0.43
2:H:591:TYR:CE2	2:H:594:ASN:HB3	2.53	0.43
1:A:522:THR:OG1	1:A:525:GLU:HG2	2.18	0.43
1:E:365:ARG:HE	1:E:418:PRO:HB3	1.84	0.43
2:H:271:TRP:CD1	2:H:275:LYS:HE3	2.52	0.43
2:H:427:ILE:O	2:H:432:TYR:OH	2.18	0.43
2:I:402:PRO:HG3	2:I:643:TYR:CB	2.48	0.43
1:B:198:ASN:O	1:B:199:LYS:HD2	2.19	0.43
1:B:213:LYS:HA	1:B:213:LYS:HE2	1.99	0.43
2:I:115:HIS:CE1	2:I:116:GLU:HG3	2.53	0.43
2:I:405:ASN:O	2:I:409:ARG:HG3	2.17	0.43
2:I:406:LEU:HA	2:I:409:ARG:HG3	2.00	0.43
1:C:384:VAL:CG2	1:C:449:ARG:HB3	2.48	0.43
1:D:638:ILE:HG13	1:D:639:LEU:HD12	1.99	0.43
1:E:497:ASP:HB2	1:E:633:LYS:NZ	2.33	0.43
1:G:441:GLU:HA	1:G:444:LYS:HZ3	1.81	0.43
2:I:534:ILE:HD11	2:I:541:GLU:HG3	1.99	0.43
2:I:554:LYS:O	2:I:557:THR:OG1	2.32	0.43
1:B:628:LEU:O	1:B:628:LEU:HD12	2.18	0.43
1:C:541:GLN:CD	1:C:544:GLY:H	2.22	0.43
1:C:599:ASP:CG	1:C:600:ARG:H	2.21	0.43
1:D:270:ILE:HG12	1:D:361:ASN:O	2.18	0.43
1:E:298:THR:OG1	1:E:601:ASN:HB2	2.18	0.43
1:G:359:ARG:NH2	1:G:430:THR:OG1	2.52	0.43
1:G:443:GLU:HA	1:G:446:LYS:NZ	2.33	0.43
2:H:371:LYS:HD2	2:H:374:GLU:HG2	1.99	0.43
1:B:612:VAL:HG12	1:B:726:ILE:HD11	2.00	0.43
1:E:245:LYS:HE2	1:E:245:LYS:HA	1.99	0.43
1:F:178:ARG:NE	1:F:224:GLU:OE2	2.51	0.43
1:A:599:ASP:OD1	1:A:600:ARG:HG2	2.18	0.43
1:B:405:LEU:HD23	1:B:405:LEU:HA	1.76	0.43
1:C:250:GLU:CD	1:C:250:GLU:H	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:590:LEU:C	1:C:590:LEU:HD23	2.39	0.43
1:D:200:ARG:CD	1:E:178:ARG:HH12	2.30	0.43
1:D:439:PHE:O	1:D:443:GLU:HG2	2.18	0.43
1:D:486:GLU:HG3	1:D:486:GLU:O	2.19	0.43
1:E:300:THR:O	1:E:324:PHE:HB3	2.19	0.43
1:E:578:LEU:HA	1:E:578:LEU:HD12	1.63	0.43
1:F:523:LEU:HD23	1:F:523:LEU:O	2.19	0.43
1:G:626:GLY:HA3	1:G:676:ILE:O	2.17	0.43
2:H:389:ASN:O	2:H:393:GLN:OE1	2.37	0.43
2:I:52:GLU:O	2:I:52:GLU:HG3	2.18	0.43
2:I:135:GLU:CD	2:I:135:GLU:H	2.22	0.43
2:I:239:GLU:HG2	2:I:240:ALA:N	2.33	0.43
1:A:364:ILE:O	1:A:419:ILE:HG22	2.18	0.43
1:B:388:ASN:H	1:B:389:GLN:NE2	2.16	0.43
1:E:250:GLU:H	1:E:250:GLU:CD	2.22	0.43
1:F:583:LEU:HA	1:F:587:MET:CE	2.49	0.43
2:H:74:TYR:CE1	2:H:79:GLY:HA3	2.53	0.43
2:H:123:GLU:H	2:H:127:PRO:HB3	1.84	0.43
2:H:157:ARG:HA	2:H:214:GLN:NE2	2.33	0.43
2:I:84:VAL:HG22	2:I:85:ASP:H	1.83	0.43
2:I:409:ARG:O	2:I:413:LYS:HG3	2.18	0.43
1:C:334:ILE:HD11	1:C:448:LEU:HD13	2.00	0.43
1:D:270:ILE:C	1:D:271:LEU:HD22	2.39	0.43
1:D:377:VAL:HG12	1:D:378:LEU:N	2.34	0.43
1:D:523:LEU:HD23	1:D:527:LEU:HD13	2.00	0.43
2:I:163:ILE:HG13	2:I:258:GLU:OE2	2.19	0.43
2:I:278:TYR:CE1	2:I:425:GLN:HG2	2.54	0.43
2:I:517:GLY:C	2:I:518:LYS:HD2	2.39	0.43
1:C:447:GLN:C	1:C:448:LEU:HD12	2.39	0.43
1:C:609:GLU:HG2	1:C:613:LYS:HZ1	1.83	0.43
1:D:187:LEU:HD23	1:D:187:LEU:HA	1.76	0.43
1:D:422:ASN:HD21	1:D:432:ILE:CD1	2.32	0.43
1:F:443:GLU:OE1	1:F:446:LYS:NZ	2.36	0.43
1:F:450:LEU:HD23	1:F:450:LEU:HA	1.84	0.43
2:H:530:LYS:HE2	2:H:546:ASP:OD2	2.19	0.43
1:A:198:ASN:OD1	1:A:198:ASN:N	2.52	0.42
1:A:200:ARG:HG2	1:B:178:ARG:HH21	1.83	0.42
1:A:200:ARG:HB3	1:B:178:ARG:HH22	1.84	0.42
1:B:199:LYS:HD2	1:B:199:LYS:HA	1.81	0.42
1:B:324:PHE:CE2	1:B:588:ASN:HB3	2.53	0.42
1:B:404:ILE:HD13	1:B:404:ILE:HA	1.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:632:ASP:O	1:D:635:ILE:HG22	2.19	0.42
1:E:447:GLN:C	1:E:448:LEU:HD12	2.39	0.42
2:H:122:LYS:CB	2:H:128:VAL:H	2.32	0.42
2:I:469:ASN:O	2:I:473:LYS:HG2	2.19	0.42
2:I:528:GLU:O	2:I:548:LYS:HG2	2.19	0.42
1:B:179:ASP:OD1	1:B:181:ASP:OD1	2.37	0.42
1:D:175:VAL:HA	1:D:176:PRO:HD3	1.89	0.42
1:D:267:GLU:OE2	1:D:363:ASN:HB3	2.19	0.42
1:E:270:ILE:HG12	1:E:361:ASN:O	2.19	0.42
1:E:455:VAL:HG13	1:E:455:VAL:O	2.18	0.42
1:F:270:ILE:C	1:F:271:LEU:HD22	2.40	0.42
2:H:324:ILE:HG23	2:H:325:ASP:N	2.34	0.42
2:H:617:LYS:HE3	2:H:695:TYR:CD2	2.54	0.42
1:C:508:VAL:HG23	1:C:516:THR:HA	2.02	0.42
1:C:535:GLU:OE1	1:C:540:LEU:HD13	2.19	0.42
1:D:455:VAL:HG13	1:D:455:VAL:O	2.19	0.42
1:E:274:ASN:HA	1:E:359:ARG:NH1	2.34	0.42
1:E:291:LYS:HE2	1:E:335:ASP:HB3	2.02	0.42
1:E:354:THR:HA	1:E:436:TYR:CD2	2.55	0.42
1:F:199:LYS:HD3	1:F:199:LYS:HA	1.95	0.42
1:G:505:ILE:CD1	1:G:526:ALA:HB1	2.49	0.42
2:H:233:LEU:HD12	2:H:233:LEU:HA	1.83	0.42
2:H:255:SER:O	2:H:259:LEU:HD13	2.19	0.42
2:H:660:VAL:O	2:H:664:ARG:N	2.52	0.42
2:I:194:LEU:HD23	2:I:194:LEU:HA	1.87	0.42
1:D:202:PHE:CE2	1:D:204:SER:HB3	2.54	0.42
1:D:270:ILE:CG1	1:D:361:ASN:HB3	2.50	0.42
1:E:295:THR:HG22	1:E:332:VAL:HG23	1.99	0.42
2:H:733:GLU:HG2	2:H:734:ALA:N	2.34	0.42
2:I:278:TYR:HE1	2:I:425:GLN:HG2	1.84	0.42
2:I:437:LEU:HD23	2:I:438:TYR:N	2.34	0.42
1:A:592:ARG:HD2	1:A:598:TYR:CE2	2.54	0.42
1:E:336:HIS:HA	1:E:446:LYS:HZ3	1.83	0.42
1:F:432:ILE:H	1:F:432:ILE:HD12	1.85	0.42
1:F:455:VAL:HG13	1:F:455:VAL:O	2.19	0.42
1:G:266:MET:HE3	1:G:450:LEU:HD11	2.02	0.42
1:G:298:THR:OG1	1:G:601:ASN:HB2	2.19	0.42
1:B:494:ASN:HD21	1:B:592:ARG:HB3	1.83	0.42
1:B:632:ASP:O	1:B:636:ARG:NH1	2.53	0.42
1:C:199:LYS:O	1:D:517:THR:HG23	2.19	0.42
1:C:459:ILE:HD13	1:C:459:ILE:HG21	1.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:330:SER:OG	1:D:331:THR:N	2.53	0.42
1:E:175:VAL:HA	1:E:176:PRO:HD3	1.88	0.42
1:E:195:ASP:OD1	1:E:195:ASP:O	2.37	0.42
1:E:365:ARG:HH12	1:E:414:LYS:HD2	1.82	0.42
1:F:583:LEU:HA	1:F:583:LEU:HD23	1.76	0.42
2:H:171:LEU:HD11	2:H:201:PHE:HB2	2.02	0.42
2:H:441:MET:SD	2:H:442:ASN:O	2.78	0.42
2:H:725:LEU:HB3	2:H:726:THR:H	1.67	0.42
2:I:235:LEU:HA	2:I:235:LEU:HD12	1.38	0.42
2:I:391:ARG:O	2:I:395:THR:OG1	2.26	0.42
1:A:435:ASN:O	1:A:438:GLN:HB2	2.20	0.42
1:A:471:VAL:O	1:A:471:VAL:HG13	2.20	0.42
1:C:238:LYS:HB3	1:C:252:ARG:O	2.20	0.42
1:D:578:LEU:HA	1:D:578:LEU:HD12	1.81	0.42
1:G:237:GLU:HB2	1:G:242:ARG:O	2.19	0.42
2:H:439:GLU:OE1	2:H:441:MET:HB2	2.20	0.42
2:H:676:GLU:OE1	2:H:676:GLU:N	2.53	0.42
2:H:744:MET:HE1	2:H:766:ILE:HG13	2.00	0.42
1:A:360:LEU:HD12	1:A:361:ASN:H	1.83	0.42
1:B:210:ILE:O	1:B:210:ILE:HG22	2.19	0.42
1:B:583:LEU:HD22	1:B:587:MET:HE3	2.02	0.42
1:B:641:GLY:O	1:B:701:VAL:HG12	2.19	0.42
1:E:179:ASP:OD1	1:E:181:ASP:OD1	2.37	0.42
2:H:106:ASP:OD1	2:H:109:GLY:N	2.53	0.42
2:H:407:ASP:OD1	2:H:407:ASP:N	2.52	0.42
2:H:656:LYS:HG3	2:H:674:GLY:CA	2.50	0.42
1:A:325:SER:OG	1:G:415:ASN:ND2	2.53	0.42
1:A:358:ALA:HB3	1:A:434:MET:SD	2.59	0.42
1:C:334:ILE:H	1:C:334:ILE:HD12	1.85	0.42
1:C:374:ILE:HD11	1:C:405:LEU:HD22	2.01	0.42
1:C:609:GLU:HG2	1:C:613:LYS:NZ	2.35	0.42
1:D:635:ILE:C	1:D:637:LYS:H	2.23	0.42
1:E:441:GLU:HA	1:E:444:LYS:NZ	2.35	0.42
1:F:471:VAL:HG13	1:F:471:VAL:O	2.20	0.42
2:H:375:PHE:HA	2:H:378:LYS:HE2	2.02	0.42
2:H:530:LYS:HB2	2:H:546:ASP:OD2	2.19	0.42
1:B:232:PRO:HG2	1:B:459:ILE:HD13	2.01	0.42
1:D:328:ASN:OD1	1:D:328:ASN:N	2.49	0.42
1:D:505:ILE:N	1:D:505:ILE:HD12	2.35	0.42
1:D:515:GLU:OE1	1:D:518:LYS:HD3	2.20	0.42
1:D:696:VAL:O	1:D:728:SER:HA	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:702:THR:O	1:D:706:THR:HG23	2.19	0.42
1:G:364:ILE:O	1:G:419:ILE:HG22	2.20	0.42
1:G:610:SER:O	1:G:614:GLU:OE1	2.38	0.42
2:H:578:LYS:CG	2:H:579:TYR:CE1	3.03	0.42
2:H:681:SER:O	2:H:685:ILE:HG12	2.19	0.42
2:H:761:LYS:HA	2:H:764:GLN:HE22	1.85	0.42
2:I:469:ASN:HA	2:I:472:LYS:HG2	2.01	0.42
2:I:498:ARG:NH2	2:I:540:LYS:HE2	2.34	0.42
1:B:471:VAL:O	1:B:471:VAL:HG13	2.20	0.41
1:C:200:ARG:HH22	1:D:189:VAL:HG11	1.85	0.41
1:C:590:LEU:HD21	1:C:592:ARG:HD3	2.02	0.41
1:D:199:LYS:NZ	1:E:516:THR:O	2.48	0.41
1:D:535:GLU:CD	1:D:540:LEU:HD22	2.39	0.41
1:E:225:LYS:HE2	1:E:225:LYS:HB3	1.86	0.41
1:F:627:LEU:O	1:F:675:PHE:HA	2.19	0.41
1:G:233:TYR:HA	1:G:237:GLU:OE2	2.20	0.41
2:H:576:LEU:HD22	2:H:623:VAL:HG11	2.02	0.41
2:I:555:ILE:HD12	2:I:555:ILE:HA	1.85	0.41
1:A:377:VAL:HG12	1:A:378:LEU:N	2.35	0.41
1:B:505:ILE:HD12	1:B:505:ILE:N	2.35	0.41
1:B:609:GLU:HG2	1:B:613:LYS:NZ	2.35	0.41
1:D:250:GLU:OE1	1:D:250:GLU:N	2.45	0.41
1:E:415:ASN:C	1:E:416:LEU:HD12	2.41	0.41
2:H:77:ILE:HG13	2:H:159:ILE:HD13	2.01	0.41
2:H:255:SER:O	2:H:259:LEU:CD1	2.67	0.41
2:H:442:ASN:ND2	2:H:444:ASN:HB2	2.35	0.41
2:H:484:MET:SD	2:H:484:MET:N	2.93	0.41
1:A:421:LEU:HD12	1:A:421:LEU:HA	1.86	0.41
1:B:360:LEU:HD12	1:B:361:ASN:H	1.85	0.41
1:B:609:GLU:OE1	1:B:609:GLU:N	2.47	0.41
1:C:524:LYS:CE	1:C:579:ASP:HB3	2.51	0.41
1:D:378:LEU:HD12	1:D:379:PRO:HD2	2.03	0.41
1:D:405:LEU:HD23	1:D:405:LEU:HA	1.86	0.41
1:E:494:ASN:OD1	1:E:592:ARG:HA	2.21	0.41
1:A:696:VAL:O	1:A:728:SER:HA	2.20	0.41
1:B:578:LEU:HA	1:B:578:LEU:HD12	1.66	0.41
1:B:603:ILE:HD12	1:B:603:ILE:HA	1.93	0.41
1:D:200:ARG:HD3	1:E:178:ARG:NH1	2.34	0.41
1:D:226:TRP:CZ2	1:D:234:SER:HB3	2.55	0.41
1:E:603:ILE:HD12	1:E:603:ILE:HA	1.95	0.41
1:G:603:ILE:HD12	1:G:603:ILE:HA	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:122:LYS:HB3	2:H:127:PRO:CA	2.48	0.41
2:H:700:LEU:HD13	2:H:700:LEU:HA	1.79	0.41
2:I:70:VAL:HG13	2:I:155:LEU:HD12	2.02	0.41
2:I:203:VAL:O	2:I:206:LEU:HG	2.20	0.41
1:A:406:ALA:O	1:A:409:ASN:HB2	2.19	0.41
1:B:512:ASP:HB3	1:B:515:GLU:HB2	2.02	0.41
1:D:366:TYR:CE2	1:D:378:LEU:HD21	2.55	0.41
1:E:237:GLU:HB3	1:E:242:ARG:O	2.21	0.41
1:F:198:ASN:HD22	1:F:198:ASN:HA	1.58	0.41
1:G:291:LYS:HE3	1:G:291:LYS:HA	2.02	0.41
2:H:231:ASP:O	2:H:235:LEU:HD23	2.20	0.41
2:I:71:LEU:HD13	2:I:71:LEU:HA	1.86	0.41
2:I:516:ASN:OD1	2:I:518:LYS:HD3	2.20	0.41
1:A:200:ARG:HG2	1:B:178:ARG:NH2	2.35	0.41
1:A:594:LYS:HB2	1:A:594:LYS:HE2	1.86	0.41
1:B:514:LEU:HA	1:B:514:LEU:HD12	1.78	0.41
1:C:255:LEU:HA	1:C:255:LEU:HD23	1.79	0.41
2:H:381:LEU:HD11	2:H:650:TYR:HA	2.02	0.41
2:I:274:ILE:CD1	2:I:488:ILE:HD13	2.50	0.41
1:A:270:ILE:C	1:A:271:LEU:HD22	2.41	0.41
1:A:359:ARG:HB2	1:A:430:THR:CG2	2.50	0.41
1:A:384:VAL:HG13	1:A:449:ARG:HB2	2.02	0.41
1:C:471:VAL:HG13	1:C:471:VAL:O	2.21	0.41
1:C:635:ILE:C	1:C:637:LYS:H	2.24	0.41
1:D:179:ASP:OD1	1:D:181:ASP:OD1	2.39	0.41
1:D:440:LEU:HD23	1:D:440:LEU:HA	1.86	0.41
1:E:446:LYS:O	1:E:446:LYS:HG2	2.21	0.41
1:F:621:ASN:HB3	1:F:628:LEU:HG	2.03	0.41
1:G:404:ILE:HD13	1:G:404:ILE:HA	1.80	0.41
1:G:486:GLU:O	1:G:486:GLU:HG3	2.21	0.41
2:H:386:TYR:CE1	2:H:412:TYR:CE1	3.09	0.41
1:A:626:GLY:HA2	1:A:678:PHE:CE1	2.55	0.41
1:C:524:LYS:HE2	1:C:540:LEU:HD21	2.03	0.41
1:E:270:ILE:C	1:E:271:LEU:HD22	2.41	0.41
1:E:291:LYS:HD2	1:E:291:LYS:HA	1.93	0.41
1:E:599:ASP:CG	1:E:600:ARG:N	2.74	0.41
1:G:290:SER:C	1:G:291:LYS:HD2	2.41	0.41
2:H:160:LEU:HB3	2:H:165:GLN:O	2.20	0.41
2:H:412:TYR:O	2:H:416:ILE:HD12	2.20	0.41
2:I:244:MET:HE3	2:I:244:MET:HB3	1.97	0.41
1:A:441:GLU:HA	1:A:444:LYS:NZ	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:183:ILE:HG23	1:B:203:LEU:HD21	2.02	0.41
1:D:195:ASP:O	1:D:195:ASP:OD1	2.39	0.41
1:E:332:VAL:O	1:E:447:GLN:OE1	2.39	0.41
1:E:364:ILE:O	1:E:419:ILE:HG22	2.20	0.41
1:E:722:LYS:HA	1:E:722:LYS:HD2	1.76	0.41
1:F:293:THR:HG22	1:F:334:ILE:HA	2.02	0.41
1:F:360:LEU:HD12	1:F:361:ASN:N	2.35	0.41
1:F:443:GLU:HA	1:F:446:LYS:HZ1	1.85	0.41
1:G:270:ILE:C	1:G:271:LEU:HD22	2.42	0.41
1:G:647:GLU:HA	1:G:652:LEU:O	2.20	0.41
2:H:388:ILE:HG23	2:H:416:ILE:HD11	2.01	0.41
2:H:432:TYR:HB2	2:H:435:ILE:HD11	2.03	0.41
2:H:441:MET:HE2	2:H:446:LEU:HD23	2.01	0.41
2:H:636:LEU:HA	2:H:636:LEU:HD23	1.73	0.41
2:I:48:VAL:HG13	2:I:48:VAL:O	2.21	0.41
2:I:281:TRP:CZ3	2:I:425:GLN:HB3	2.56	0.41
1:A:505:ILE:N	1:A:505:ILE:HD12	2.36	0.41
1:B:258:ALA:HA	1:B:371:THR:OG1	2.21	0.41
1:C:524:LYS:HE3	1:C:579:ASP:HB3	2.02	0.41
1:F:590:LEU:HA	1:F:590:LEU:HD12	1.82	0.41
2:H:157:ARG:NH1	2:H:214:GLN:HG3	2.36	0.41
2:H:254:LEU:O	2:H:256:LEU:N	2.54	0.41
2:H:272:GLU:HA	2:H:275:LYS:HD2	2.03	0.41
2:H:342:GLN:O	2:H:345:ILE:HG12	2.21	0.41
2:H:589:ASN:HB2	2:H:633:ASP:OD2	2.21	0.41
2:H:637:PRO:HA	2:H:642:GLN:OE1	2.20	0.41
2:I:555:ILE:O	2:I:559:ILE:HG12	2.21	0.41
2:I:615:ILE:O	2:I:619:THR:HG23	2.21	0.41
1:A:565:GLN:HA	1:A:568:GLU:OE2	2.20	0.40
1:B:226:TRP:CZ2	1:B:234:SER:HB3	2.56	0.40
1:C:377:VAL:CG1	1:C:378:LEU:N	2.85	0.40
1:C:578:LEU:HA	1:C:578:LEU:HD12	1.62	0.40
1:C:595:ARG:NH1	1:C:596:PHE:HE1	2.19	0.40
1:C:627:LEU:O	1:C:675:PHE:HA	2.20	0.40
1:C:632:ASP:O	1:C:635:ILE:HG22	2.21	0.40
1:D:255:LEU:HA	1:D:255:LEU:HD23	1.73	0.40
1:D:360:LEU:O	1:D:432:ILE:HD13	2.20	0.40
1:E:258:ALA:HA	1:E:371:THR:OG1	2.21	0.40
1:G:216:LEU:HD23	1:G:216:LEU:HA	1.86	0.40
2:H:97:LEU:HG	2:H:102:LYS:HZ1	1.86	0.40
2:H:532:VAL:HG22	2:H:545:ILE:HD12	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:578:LYS:HZ2	2:H:579:TYR:HE1	1.62	0.40
2:H:761:LYS:HA	2:H:764:GLN:NE2	2.36	0.40
1:A:641:GLY:O	1:A:701:VAL:HG12	2.21	0.40
1:B:517:THR:O	1:B:517:THR:HG22	2.21	0.40
1:D:517:THR:O	1:D:517:THR:HG22	2.21	0.40
1:D:609:GLU:HB2	1:D:724:ILE:HG12	2.03	0.40
1:E:434:MET:HG2	1:E:438:GLN:OE1	2.21	0.40
1:F:332:VAL:CG1	1:F:448:LEU:HB2	2.52	0.40
1:F:576:THR:C	1:F:578:LEU:H	2.23	0.40
2:I:126:GLU:O	2:I:128:VAL:HG23	2.21	0.40
2:I:289:GLY:O	2:I:293:LEU:HG	2.21	0.40
1:A:359:ARG:NH2	1:A:429:SER:O	2.54	0.40
1:A:459:ILE:HG21	1:A:459:ILE:HD13	1.84	0.40
1:B:533:PHE:CE2	1:B:542:TYR:HB2	2.56	0.40
1:C:559:SER:O	1:C:563:LYS:HG2	2.21	0.40
1:D:689:ILE:HG22	1:D:691:ASN:H	1.86	0.40
1:E:383:LEU:HD22	1:E:391:LEU:HB2	2.04	0.40
1:F:262:VAL:HG11	1:F:379:PRO:HG2	2.03	0.40
1:F:406:ALA:O	1:F:409:ASN:HB2	2.22	0.40
1:G:628:LEU:HA	1:G:674:THR:O	2.21	0.40
2:H:264:MET:HG2	2:H:265:LEU:N	2.37	0.40
2:H:410:LYS:HE3	2:H:410:LYS:HB2	1.83	0.40
2:I:331:SER:O	2:I:335:LYS:N	2.48	0.40
2:I:563:GLN:O	2:I:566:ILE:HG22	2.21	0.40
1:A:178:ARG:HD2	1:A:224:GLU:CD	2.42	0.40
1:A:455:VAL:HG13	1:A:455:VAL:O	2.21	0.40
1:A:474:GLY:C	1:G:470:ARG:HH12	2.25	0.40
1:B:506:ALA:HB1	1:B:518:LYS:HE3	2.03	0.40
1:C:199:LYS:HD2	1:C:199:LYS:HA	1.93	0.40
1:D:365:ARG:HE	1:D:418:PRO:HB3	1.86	0.40
1:D:621:ASN:HB3	1:D:628:LEU:HG	2.03	0.40
1:G:203:LEU:HD23	1:G:203:LEU:HA	1.84	0.40
2:H:155:LEU:O	2:H:159:ILE:HB	2.20	0.40
2:I:379:LEU:O	2:I:383:ILE:N	2.54	0.40
2:I:469:ASN:HB3	2:I:473:LYS:NZ	2.36	0.40
1:A:225:LYS:HE2	1:A:225:LYS:HB3	1.91	0.40
1:A:463:ASN:OD1	1:A:465:GLU:OE1	2.39	0.40
1:A:481:LEU:HD23	1:A:481:LEU:HA	1.83	0.40
1:C:214:LYS:HE2	1:C:214:LYS:HB3	1.76	0.40
1:D:626:GLY:HA2	1:D:678:PHE:HE2	1.83	0.40
2:H:171:LEU:HD11	2:H:201:PHE:CB	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:370:GLU:H	2:H:373:LYS:NZ	2.20	0.40
2:H:371:LYS:O	2:H:371:LYS:HG3	2.22	0.40
2:H:658:LEU:HD21	2:H:660:VAL:HG22	2.04	0.40
2:I:476:LYS:NZ	2:I:597:GLU:HG3	2.36	0.40
2:I:500:LYS:HE3	2:I:542:TYR:CD1	2.56	0.40
2:I:561:GLU:O	2:I:564:LEU:HG	2.20	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	521/759 (69%)	473 (91%)	45 (9%)	3 (1%)	25 64
1	B	521/759 (69%)	474 (91%)	44 (8%)	3 (1%)	25 64
1	C	521/759 (69%)	473 (91%)	45 (9%)	3 (1%)	25 64
1	D	521/759 (69%)	473 (91%)	45 (9%)	3 (1%)	25 64
1	E	521/759 (69%)	474 (91%)	44 (8%)	3 (1%)	25 64
1	F	521/759 (69%)	472 (91%)	44 (8%)	5 (1%)	15 54
1	G	521/759 (69%)	474 (91%)	43 (8%)	4 (1%)	19 58
2	H	696/809 (86%)	632 (91%)	59 (8%)	5 (1%)	22 61
2	I	700/809 (86%)	648 (93%)	51 (7%)	1 (0%)	51 84
All	All	5043/6931 (73%)	4593 (91%)	420 (8%)	30 (1%)	29 64

All (30) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	198	ASN
1	B	198	ASN

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Mol	Chain	Res	Type
1	C	198	ASN
1	D	198	ASN
1	E	198	ASN
1	F	199	LYS
2	H	67	PRO
1	G	199	LYS
2	H	101	LYS
2	H	640	ALA
1	F	198	ASN
2	I	772	PHE
1	F	633	LYS
1	G	633	LYS
2	H	772	PHE
1	A	351	GLY
1	G	351	GLY
2	H	132	GLN
1	B	351	GLY
1	C	351	GLY
1	D	351	GLY
1	E	351	GLY
1	F	351	GLY
1	A	577	VAL
1	B	577	VAL
1	C	577	VAL
1	D	577	VAL
1	G	577	VAL
1	E	577	VAL
1	F	577	VAL

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	A	413/683 (60%)	412 (100%)	1 (0%)	93	98
1	B	414/683 (61%)	414 (100%)	0	100	100
1	C	413/683 (60%)	413 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	413/683 (60%)	411 (100%)	2 (0%)	88	94
1	E	414/683 (61%)	411 (99%)	3 (1%)	84	93
1	F	413/683 (60%)	411 (100%)	2 (0%)	88	94
1	G	414/683 (61%)	413 (100%)	1 (0%)	93	98
2	H	607/739 (82%)	599 (99%)	8 (1%)	69	86
2	I	373/739 (50%)	366 (98%)	7 (2%)	57	80
All	All	3874/6259 (62%)	3850 (99%)	24 (1%)	86	94

All (24) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	213	LYS
1	D	213	LYS
1	D	444	LYS
1	E	563	LYS
1	E	633	LYS
1	E	636	ARG
1	F	196	VAL
1	F	636	ARG
1	G	199	LYS
2	H	56	LYS
2	H	130	VAL
2	H	138	VAL
2	H	270	LYS
2	H	413	LYS
2	H	579	TYR
2	H	607	LYS
2	H	700	LEU
2	I	40	MET
2	I	41	LYS
2	I	75	LYS
2	I	118	TYR
2	I	122	LYS
2	I	138	VAL
2	I	270	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	438	GLN
1	C	557	GLN
1	D	485	GLN
1	F	198	ASN
1	G	198	ASN
1	G	437	ASN
2	H	115	HIS
2	H	132	GLN
2	H	228	GLN
2	H	417	GLN
2	H	638	ASN
2	H	769	GLN
2	I	42	HIS
2	I	175	ASN
2	I	496	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	1
1	B	1
1	C	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	517:THR	C	518:LYS	N	1.18
1	B	517:THR	C	518:LYS	N	1.16
1	C	517:THR	C	518:LYS	N	1.15

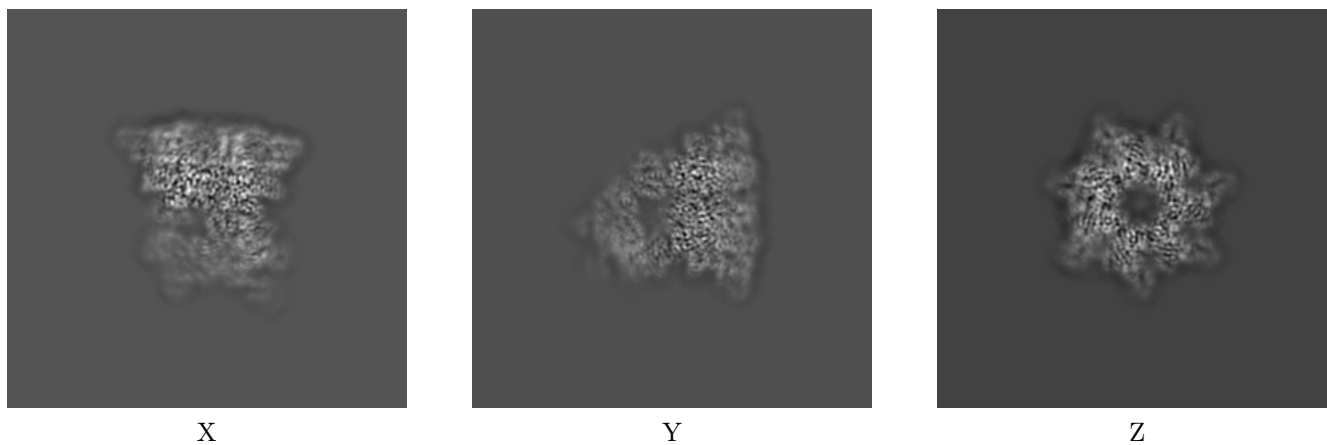
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-11522. 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](#)

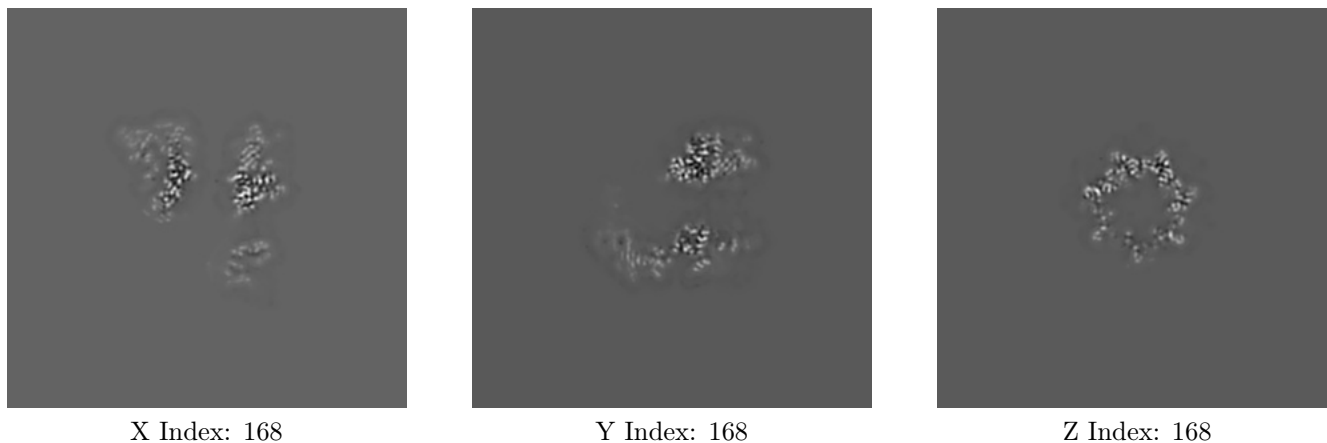
6.1.1 Primary map



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

6.2 Central slices [i](#)

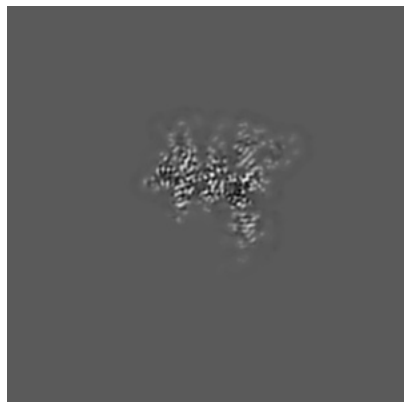
6.2.1 Primary map



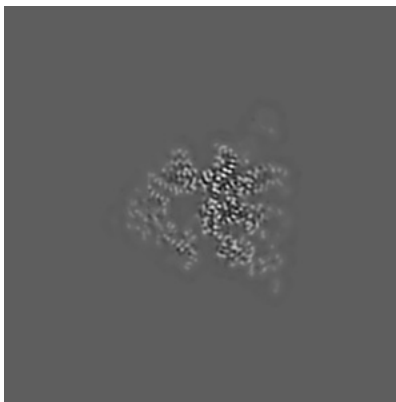
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

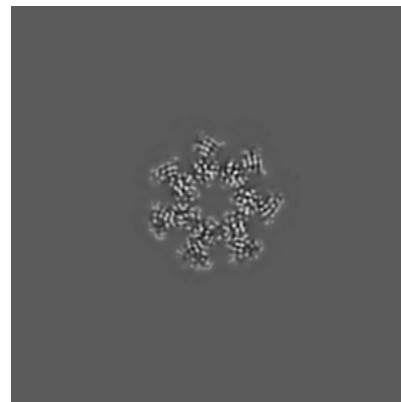
6.3.1 Primary map



X Index: 196



Y Index: 199

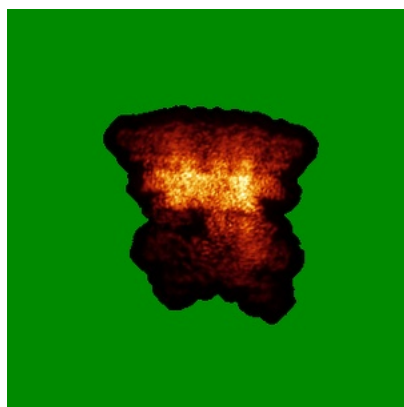


Z Index: 194

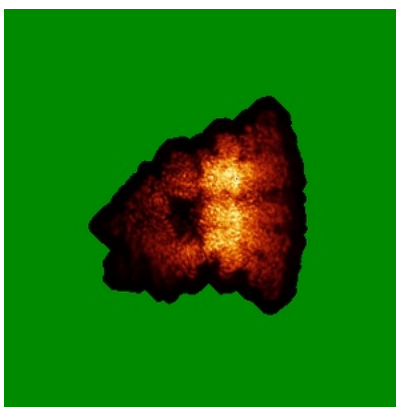
The images above show the largest variance slices of the map in three orthogonal directions.

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

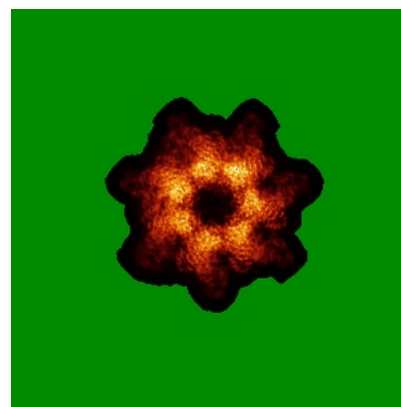
6.4.1 Primary map



X



Y

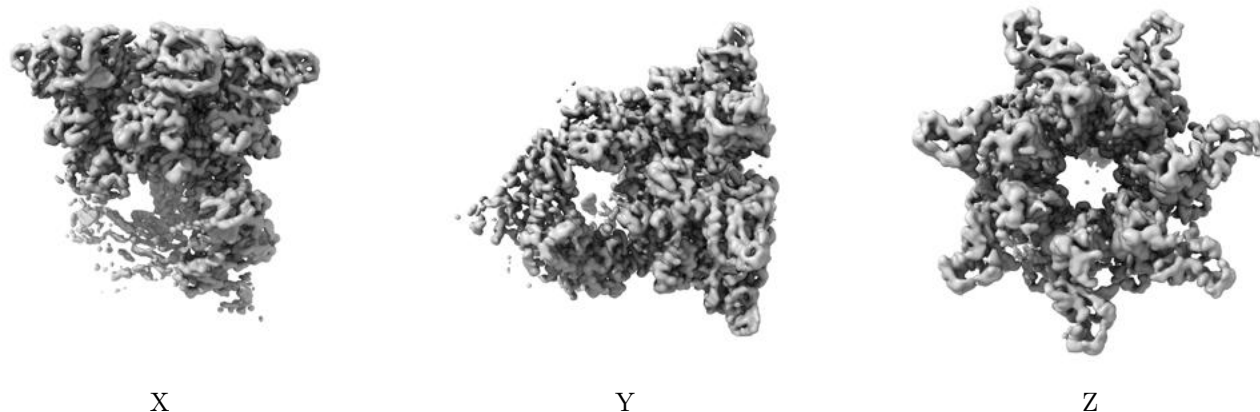


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

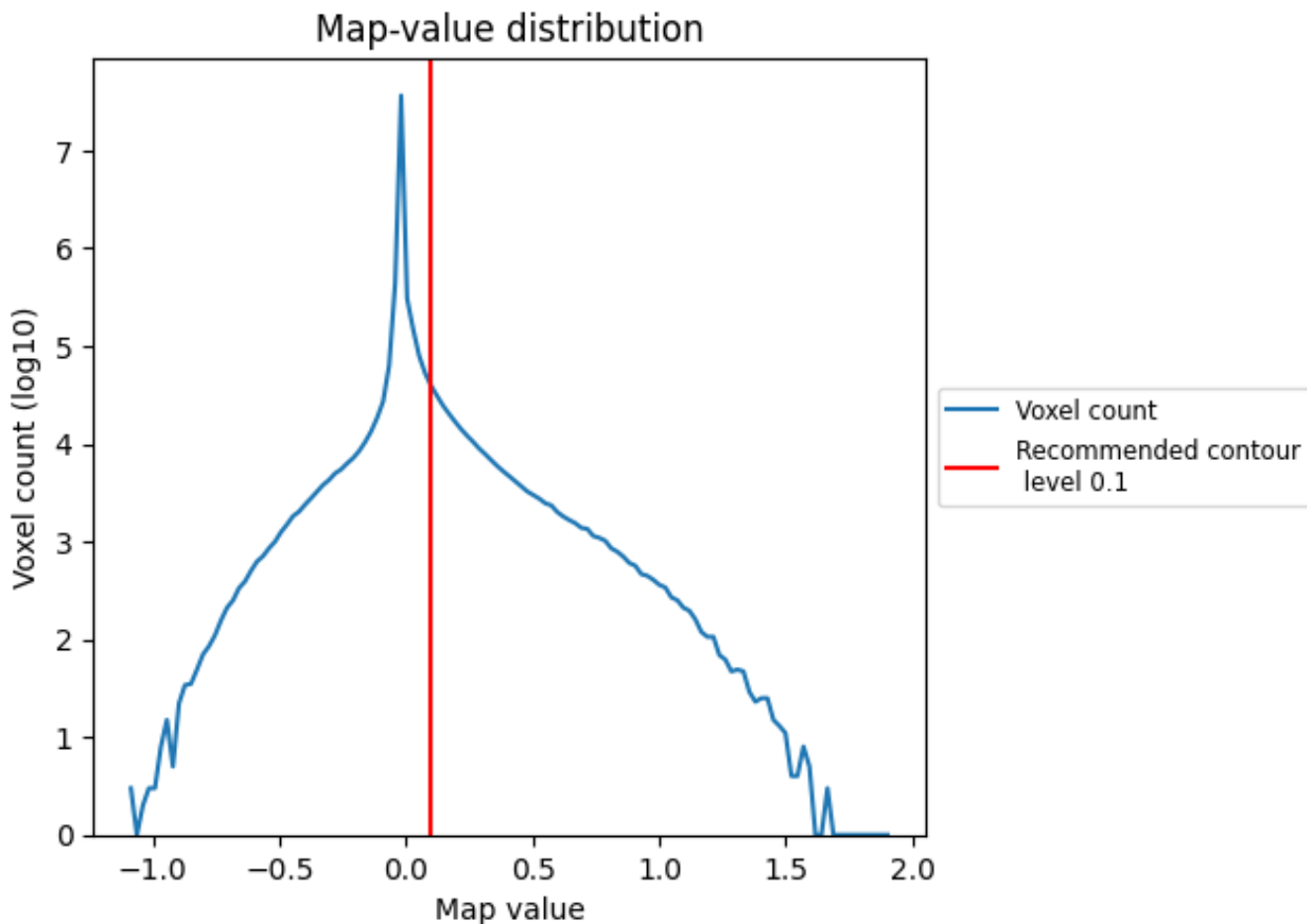
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

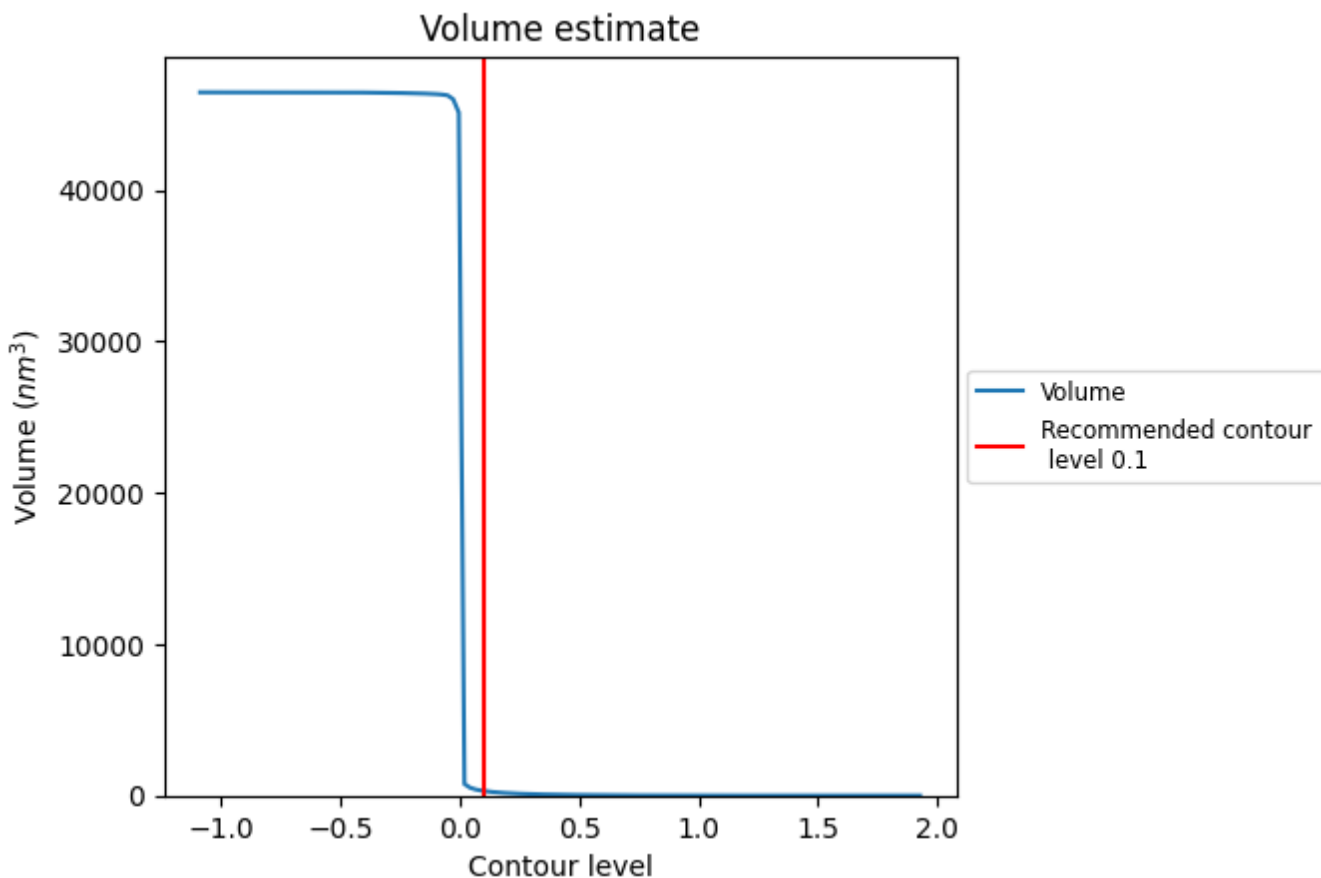
This section contains the results of statistical analysis of the map.

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.

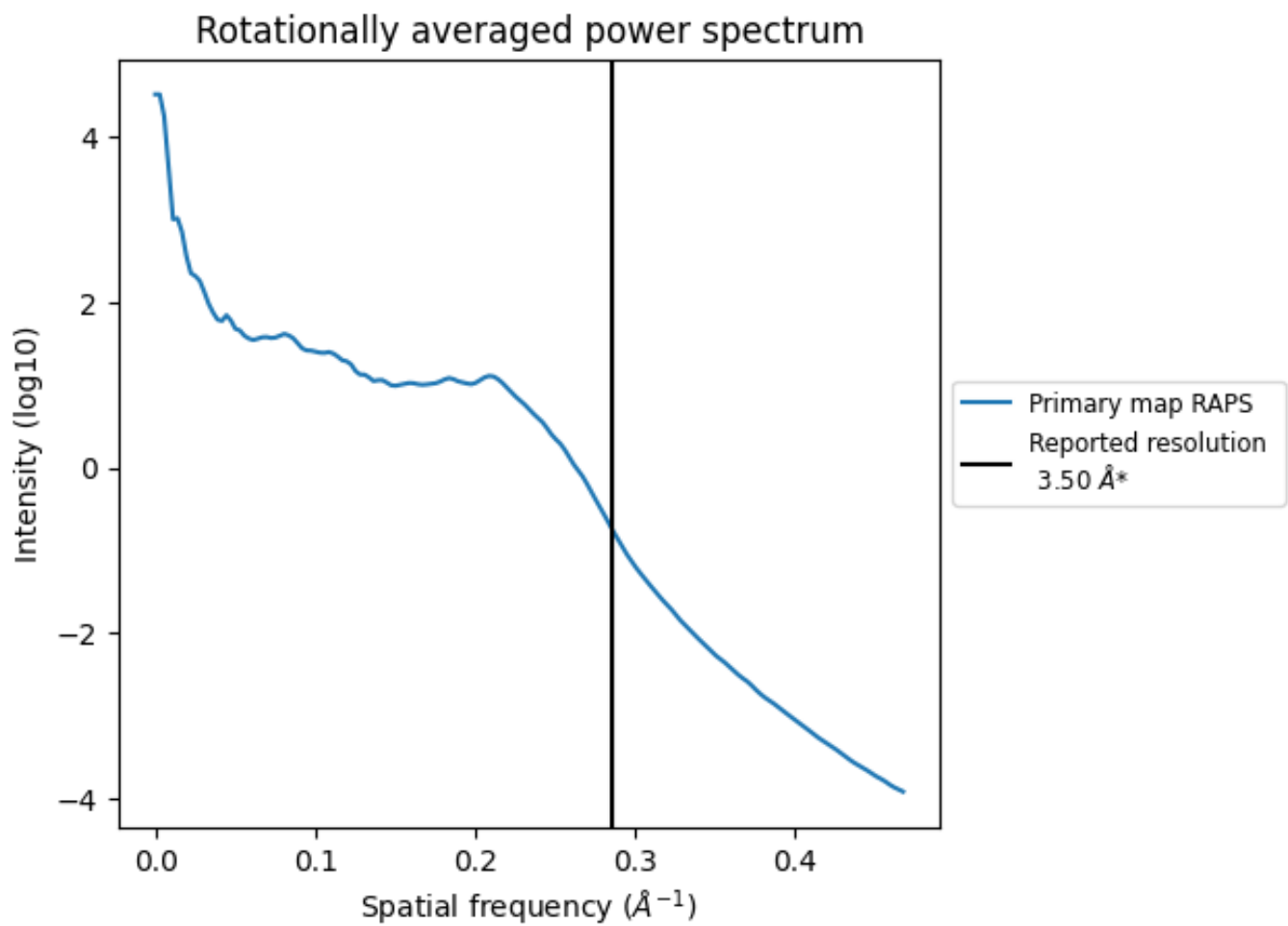
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 305 nm^3 ; this corresponds to an approximate mass of 276 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.286\AA^{-1}

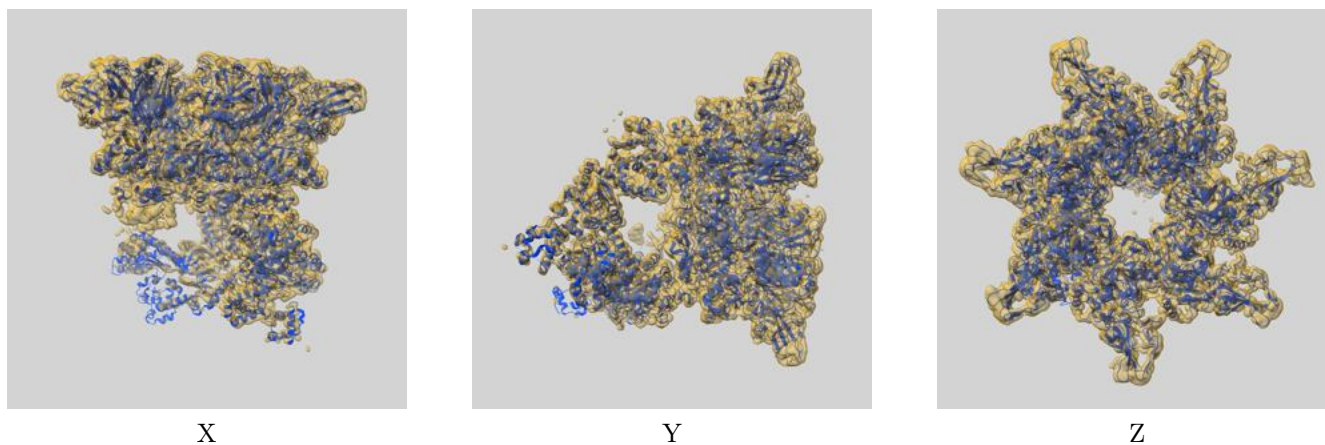
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

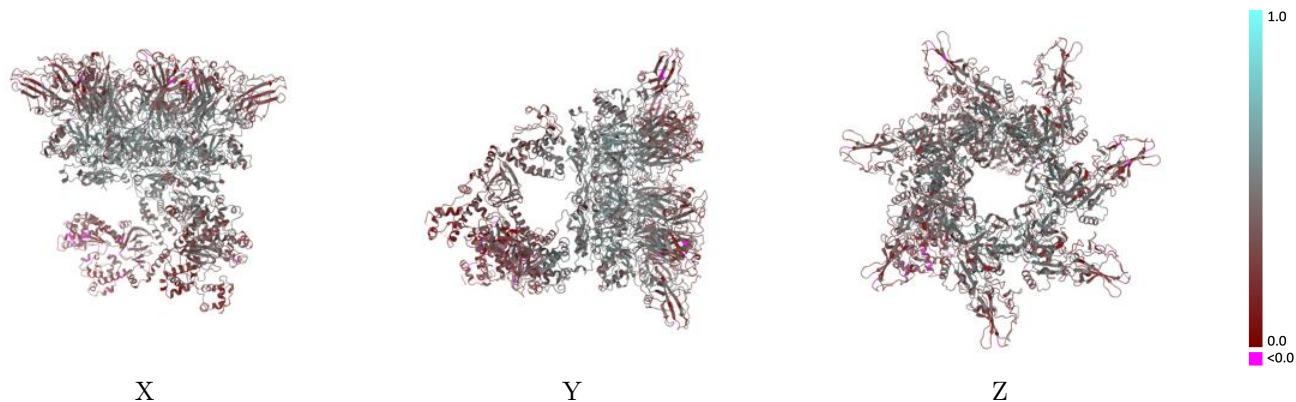
This section contains information regarding the fit between EMDB map EMD-11522 and PDB model 6ZXJ. Per-residue inclusion information can be found in section 3 on page 9.

9.1 Map-model overlay [i](#)



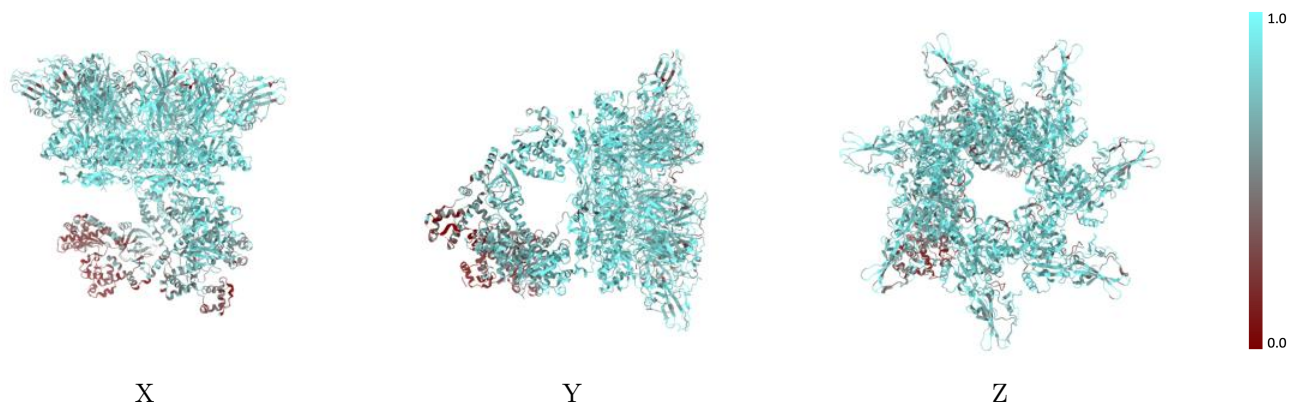
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



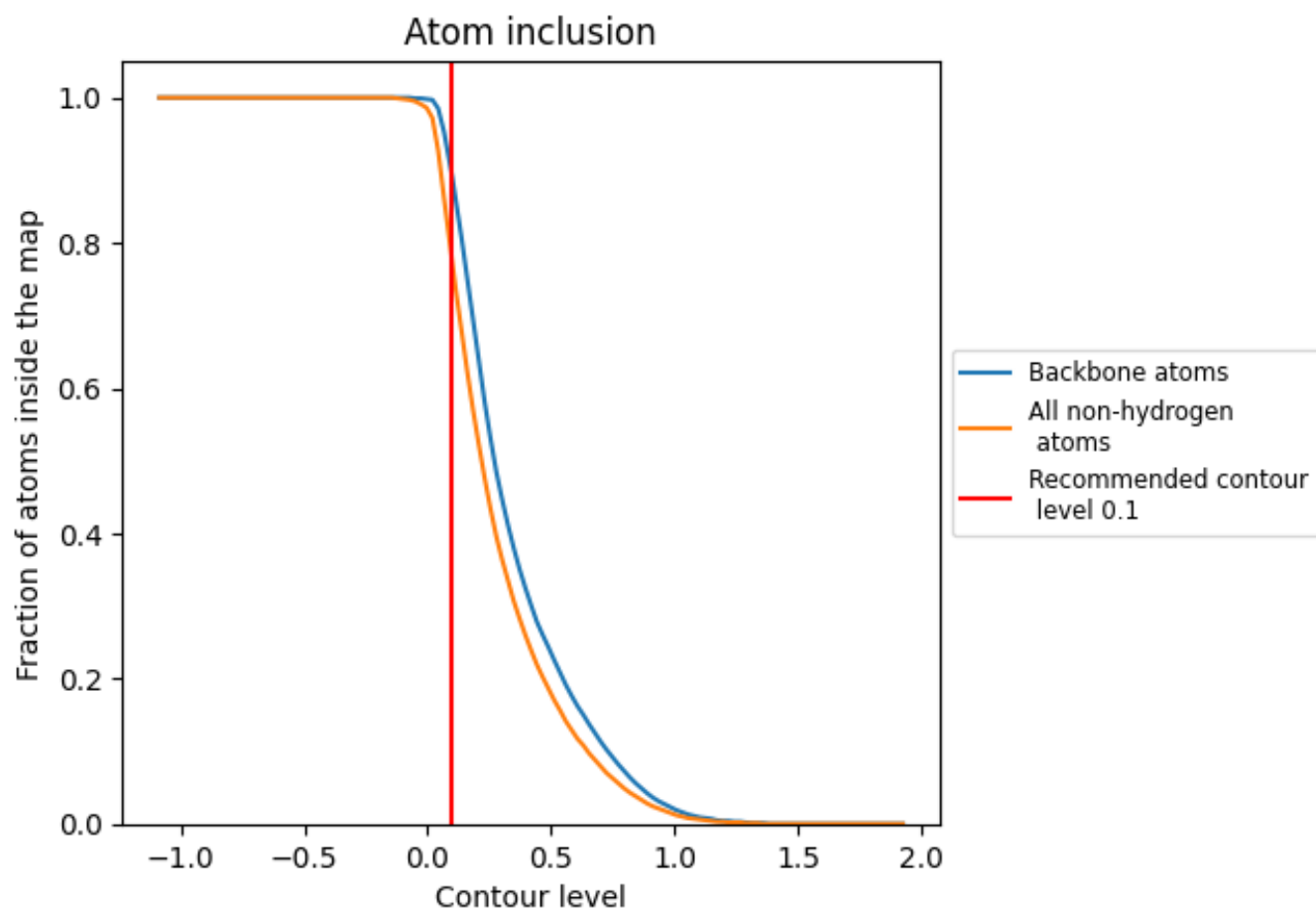
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.1).





















9.4 Atom inclusion [i](#)



At the recommended contour level, 89% of all backbone atoms, 77% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7730	 0.3960
A	 0.8360	 0.4270
B	 0.8440	 0.4340
C	 0.8440	 0.4310
D	 0.8490	 0.4340
E	 0.8290	 0.4230
F	 0.8220	 0.4200
G	 0.8260	 0.4200
H	 0.6820	 0.3330
I	 0.5190	 0.2900

