Full wwPDB EM Validation Report

Dec 18, 2022 – 06:50 pm GMT

PDB ID	:	7AST
EMDB ID	:	EMD-11904
Title	:	Apo Human RNA Polymerase III
Authors	:	Ramsay, E.P.; Abascal-Palacios, G.; Daiss, J.L.; King, H.; Gouge, J.; Pilsl, M.; Beuron, F.; Morris, E.; Gunkel, P.; Engel, C.; Vannini, A.
Deposited on	:	2020-10-28
Resolution	:	4.00 Å(reported)

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

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

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

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

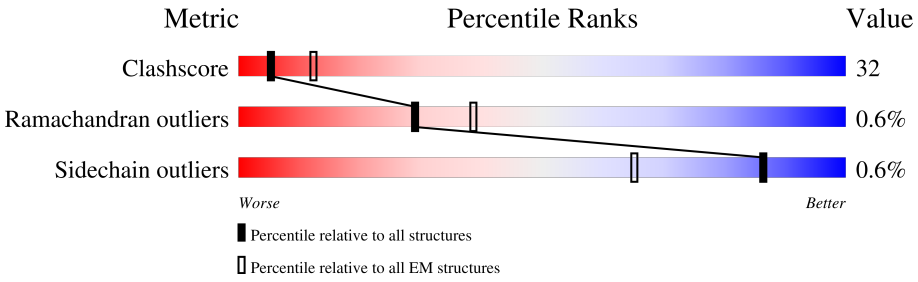
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.00 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	N	1390	5% 43% 44% 11%
2	A	108	19% 15% 66%
3	B	67	43% 52%
4	C	58	33% 41% 5% 21%
5	D	150	23% 53% 19%
6	E	127	6% 24% 39% 36%
7	F	210	47% 51%
8	G	133	40% 35% 25%

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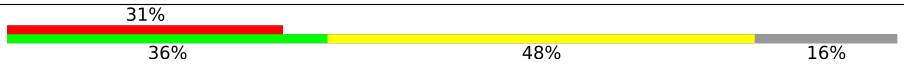
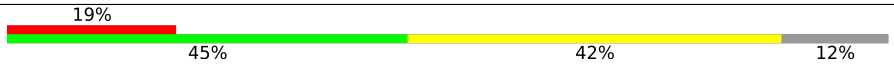
Mol	Chain	Length	Quality of chain
9	H	346	
10	I	148	
11	J	204	
12	K	708	
13	L	398	
14	M	1133	
15	Z	316	
16	X	534	
17	Y	36	

2 Entry composition

There are 17 unique types of molecules in this entry. The entry contains 34518 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 DNA-directed RNA polymerase III subunit RPC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	N	1238	9385	5928	1643	1746	68	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase III subunit RPC10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	A	37	288	179	55	49	5	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	B	64	507	328	86	87	6	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	C	46	388	241	75	66	6	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	D	121	972	627	160	179	6	0	0

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	E	81	649	414	111	119	5	0	0

- Molecule 7 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	F	209	Total	C	N	O	S	0	0
			1715	1083	300	324	8		

- Molecule 8 is a protein called DNA-directed RNA polymerases I and III subunit RPAC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	G	100	Total	C	N	O	S	0	0
			794	493	142	152	7		

- Molecule 9 is a protein called DNA-directed RNA polymerases I and III subunit RPAC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	H	329	Total	C	N	O	S	0	0
			2635	1663	472	489	11		

- Molecule 10 is a protein called DNA-directed RNA polymerase III subunit RPC9.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	I	125	Total	C	N	O	S	0	0
			1008	631	175	199	3		

- Molecule 11 is a protein called DNA-directed RNA polymerase III subunit RPC8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	J	179	Total	C	N	O	S	0	0
			1442	938	226	271	7		

- Molecule 12 is a protein called DNA-directed RNA polymerase III subunit RPC5.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	K	137	Total	C	N	O	S	0	0
			1119	718	192	204	5		

- Molecule 13 is a protein called DNA-directed RNA polymerase III subunit RPC4.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L	82	Total	C	N	O	S	0	0
			620	397	104	115	4		

- Molecule 14 is a protein called DNA-directed RNA polymerase III subunit RPC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	M	1114	Total	C	N	O	S	0	0
			8811	5581	1540	1621	69		

- Molecule 15 is a protein called DNA-directed RNA polymerase III subunit RPC6.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Z	63	Total	C	N	O	S	0	0
			518	337	78	99	4		

- Molecule 16 is a protein called DNA-directed RNA polymerase III subunit RPC3.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	X	440	Total	C	N	O	S	0	0
			3487	2193	607	665	22		

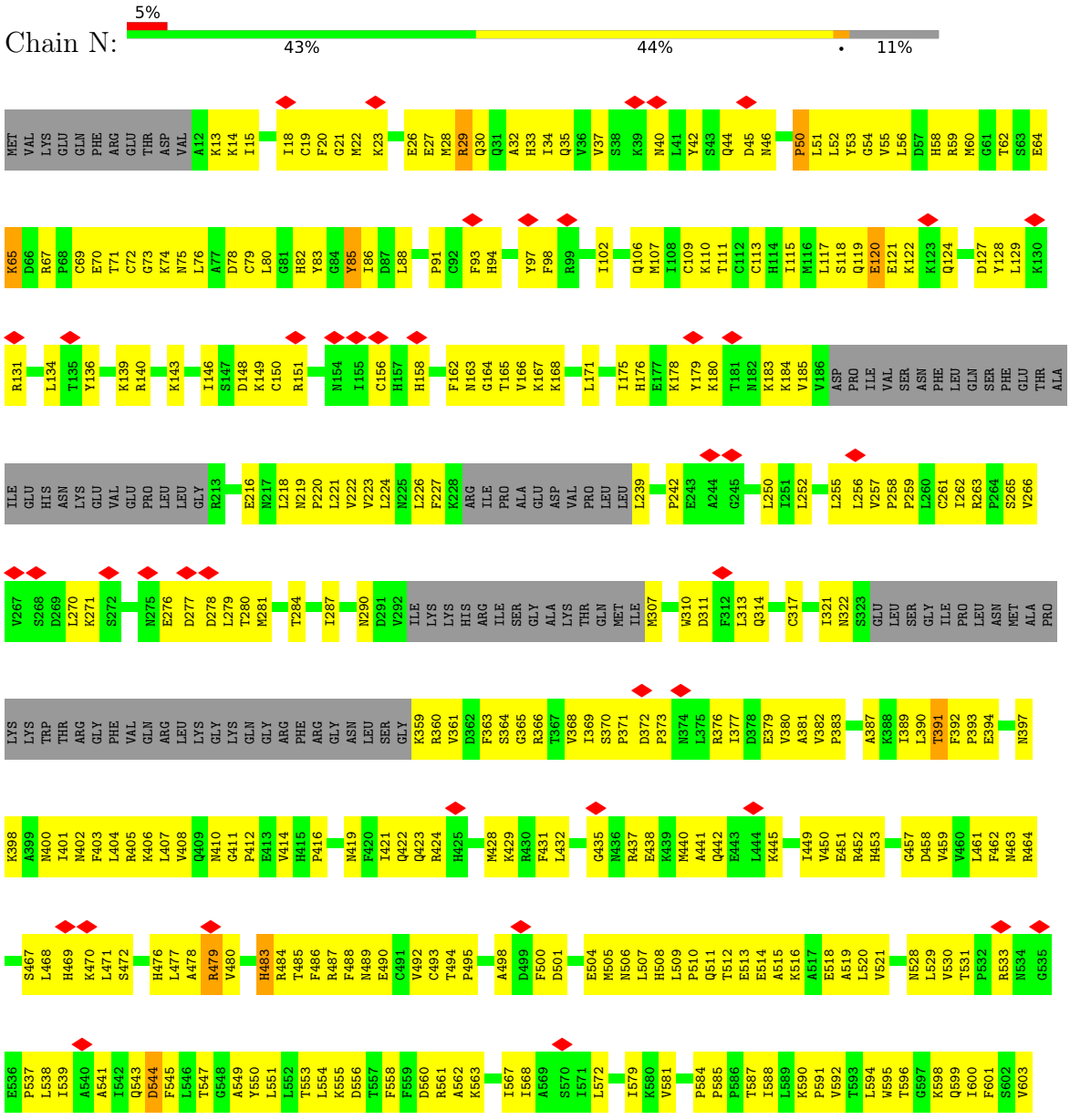
- Molecule 17 is a protein called DNA-directed RNA polymerase III subunit RPC7-beta.

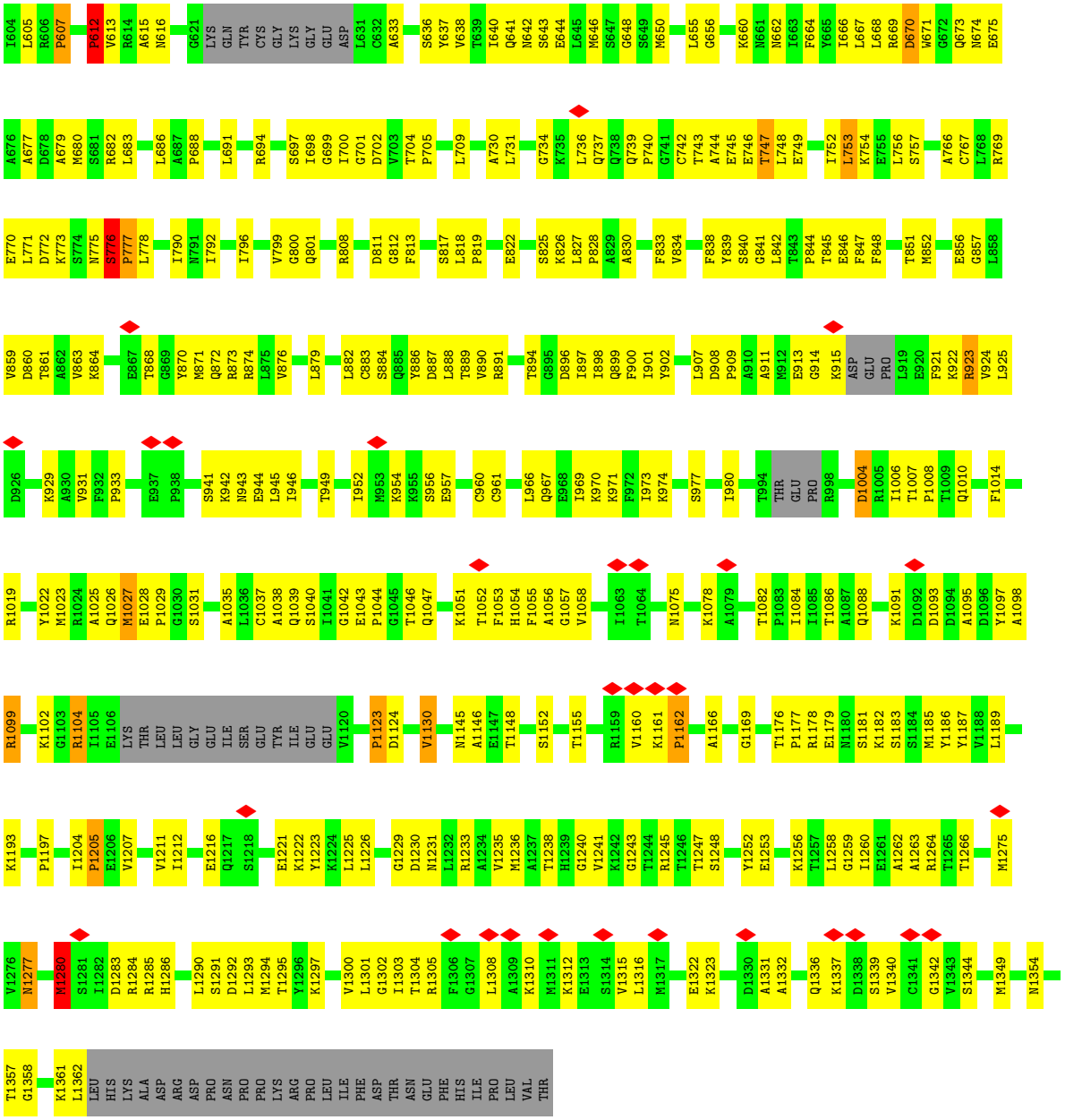
Mol	Chain	Residues	Atoms				AltConf	Trace
17	Y	36	Total	C	N	O	0	0
			180	108	36	36		

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.

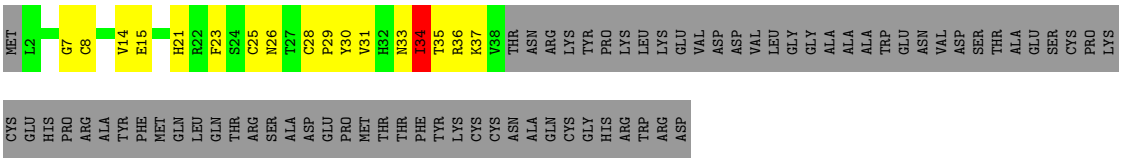
• Molecule 1: DNA-directed RNA polymerase III subunit RPC1





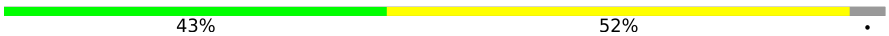
• Molecule 2: DNA-directed RNA polymerase III subunit RPC10

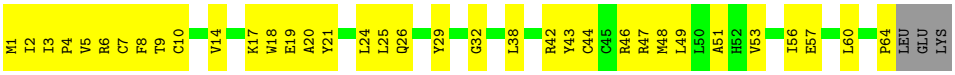
Chain A:



• Molecule 3: DNA-directed RNA polymerases I, II, and III subunit RPABC5

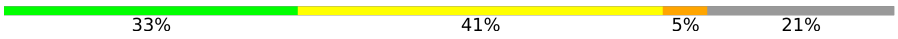
Chain B:

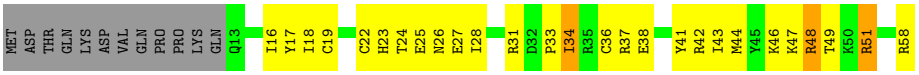




• Molecule 4: DNA-directed RNA polymerases I, II, and III subunit RPABC4

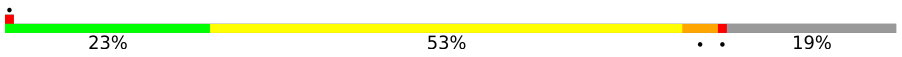
Chain C:

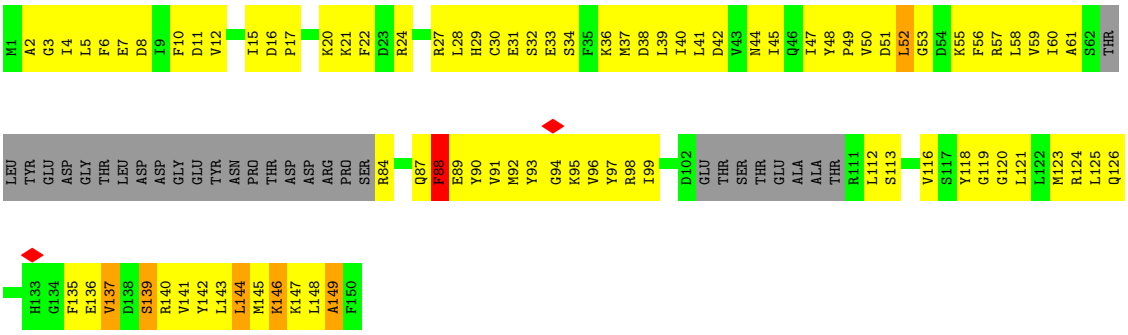




• Molecule 5: DNA-directed RNA polymerases I, II, and III subunit RPABC3

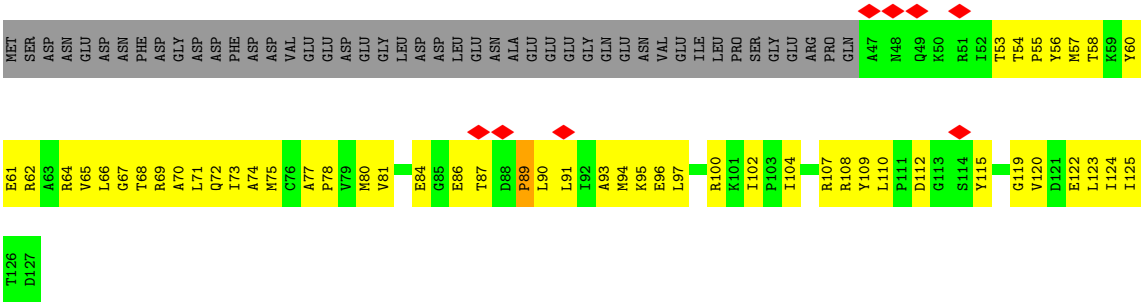
Chain D:





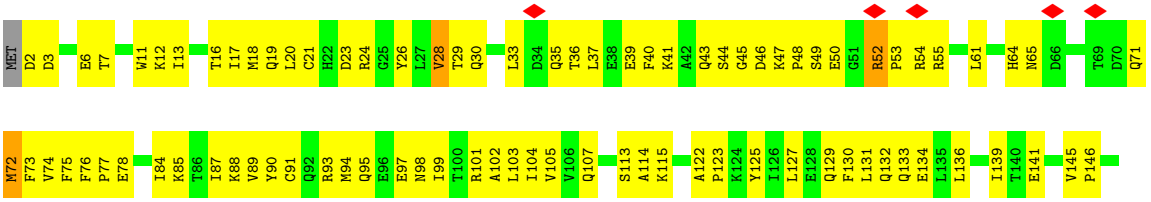
• Molecule 6: DNA-directed RNA polymerases I, II, and III subunit RPABC2

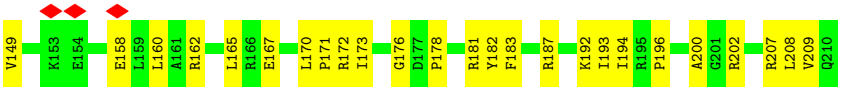
Chain E:



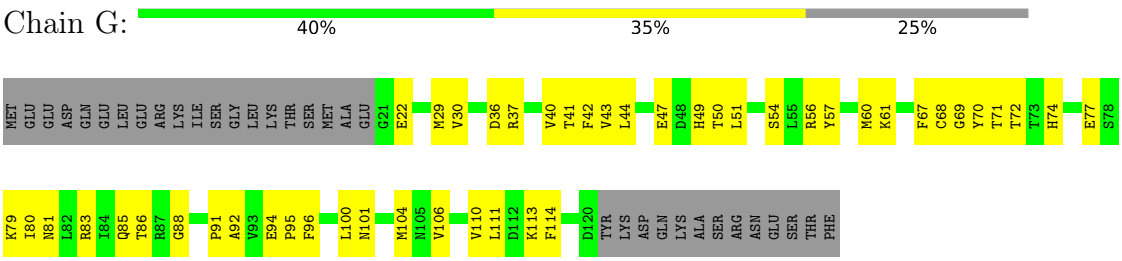
• Molecule 7: DNA-directed RNA polymerases I, II, and III subunit RPABC1

Chain F:

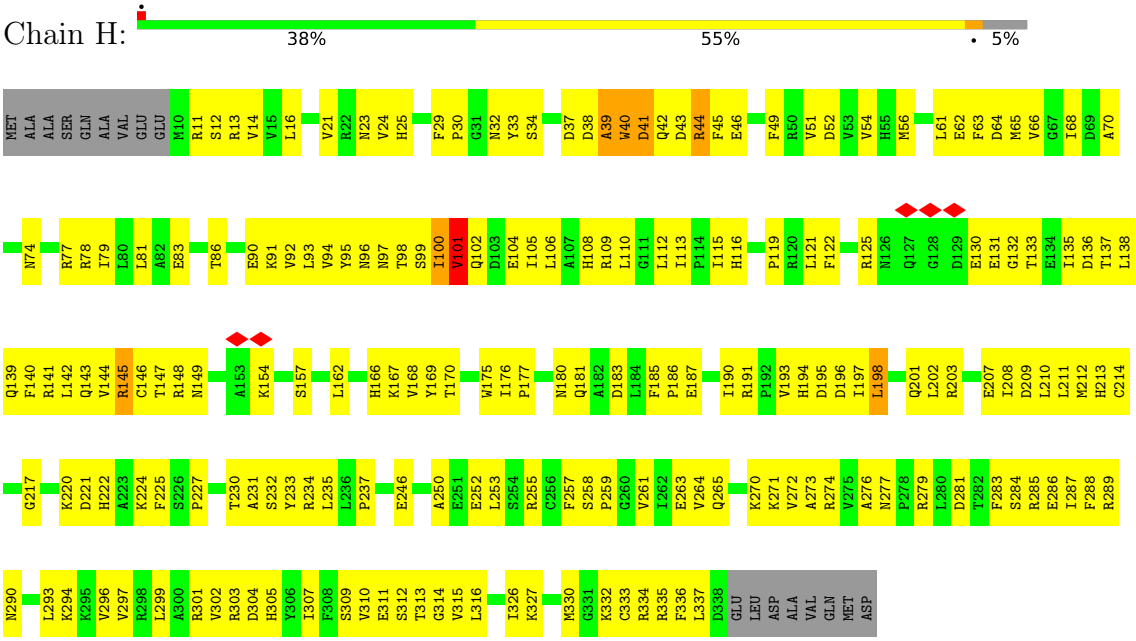




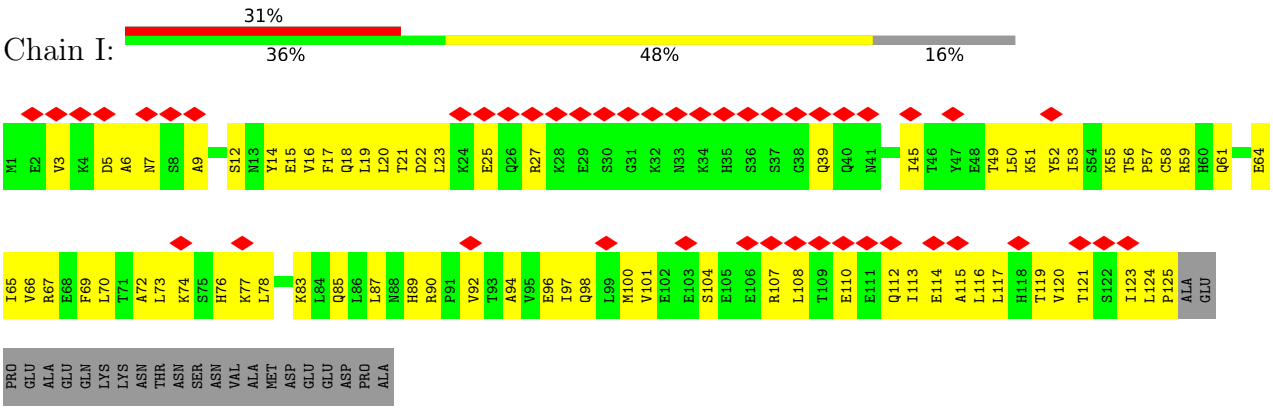
• Molecule 8: DNA-directed RNA polymerases I and III subunit RPAC2



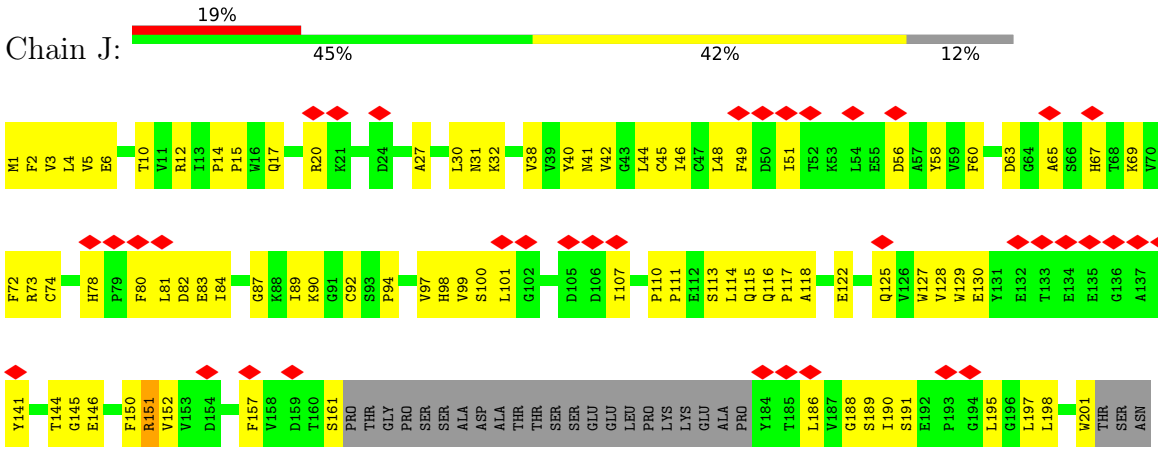
• Molecule 9: DNA-directed RNA polymerases I and III subunit RPAC1



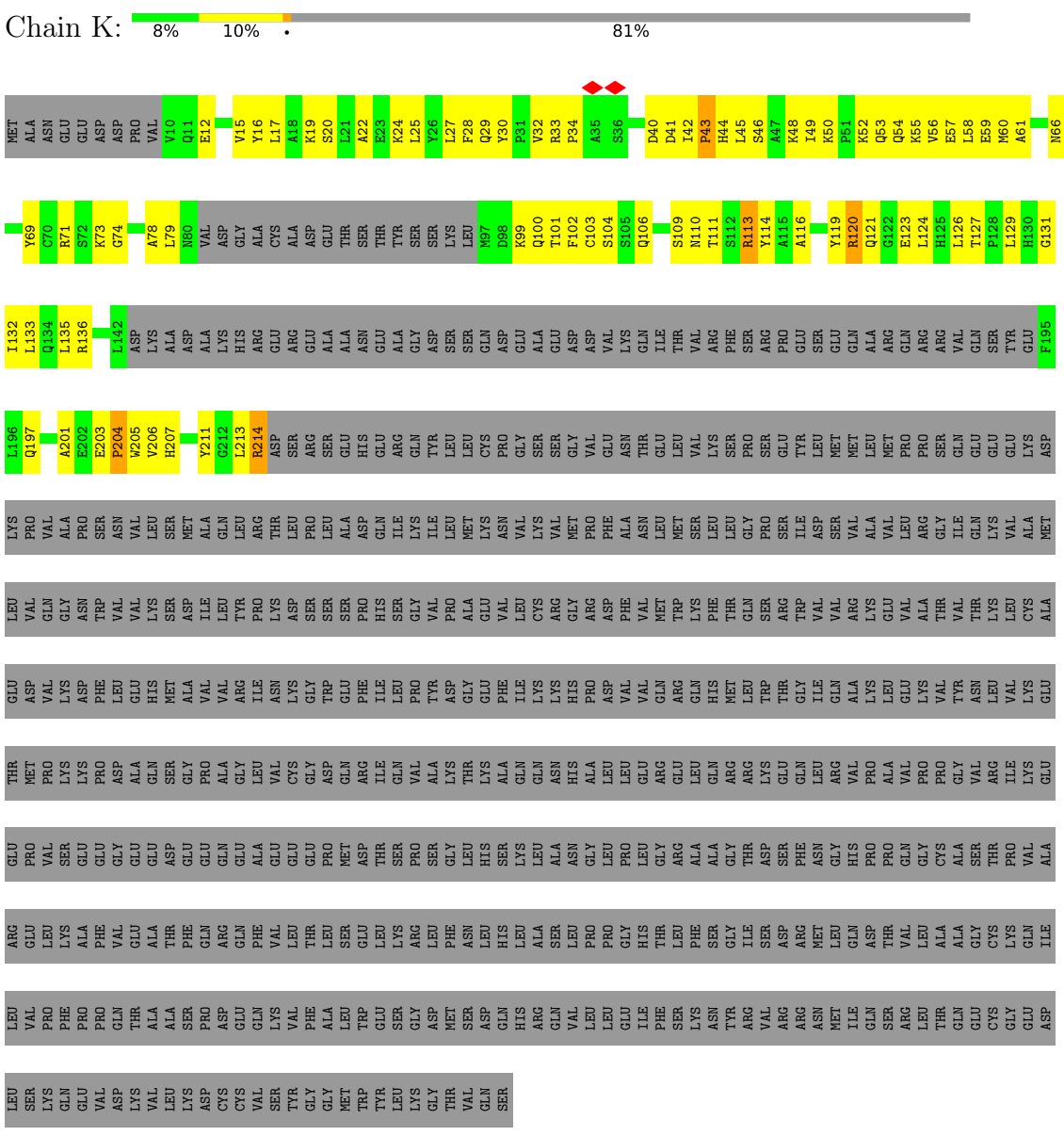
• Molecule 10: DNA-directed RNA polymerase III subunit RPC9



• Molecule 11: DNA-directed RNA polymerase III subunit RPC8

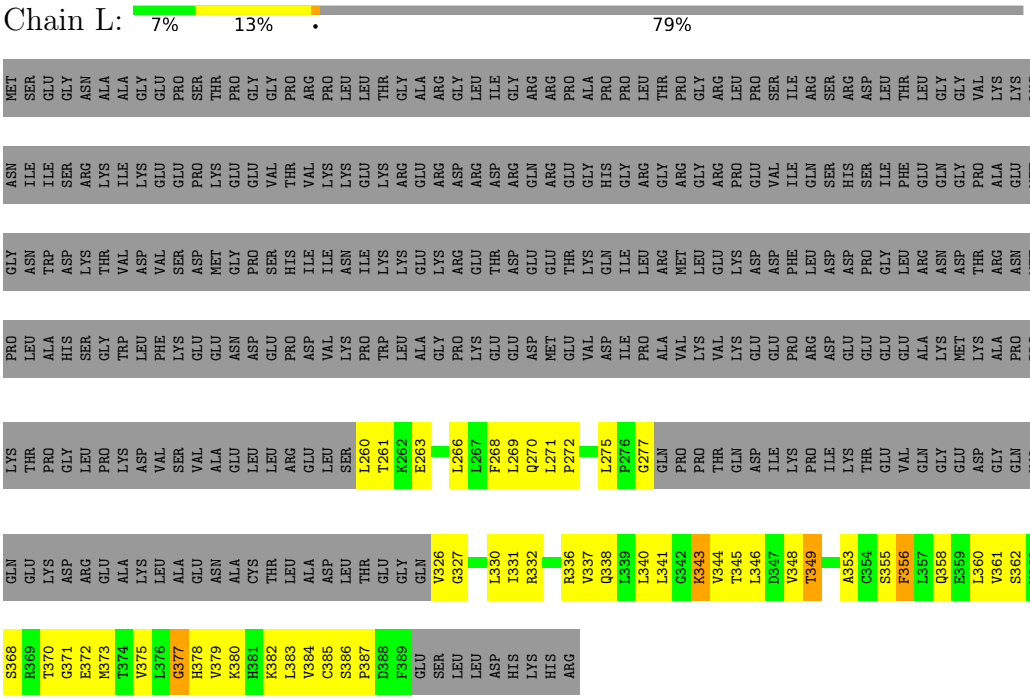


• Molecule 12: DNA-directed RNA polymerase III subunit RPC5



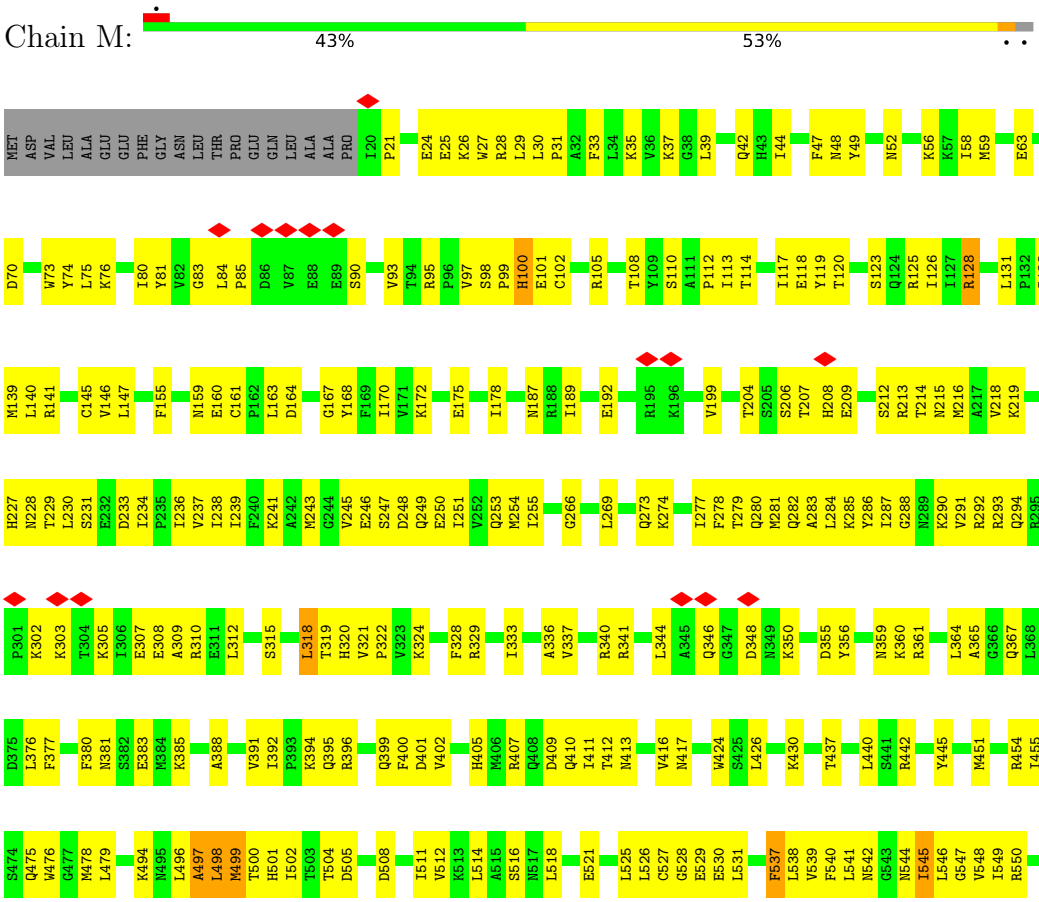
• Molecule 13: DNA-directed RNA polymerase III subunit RPC4

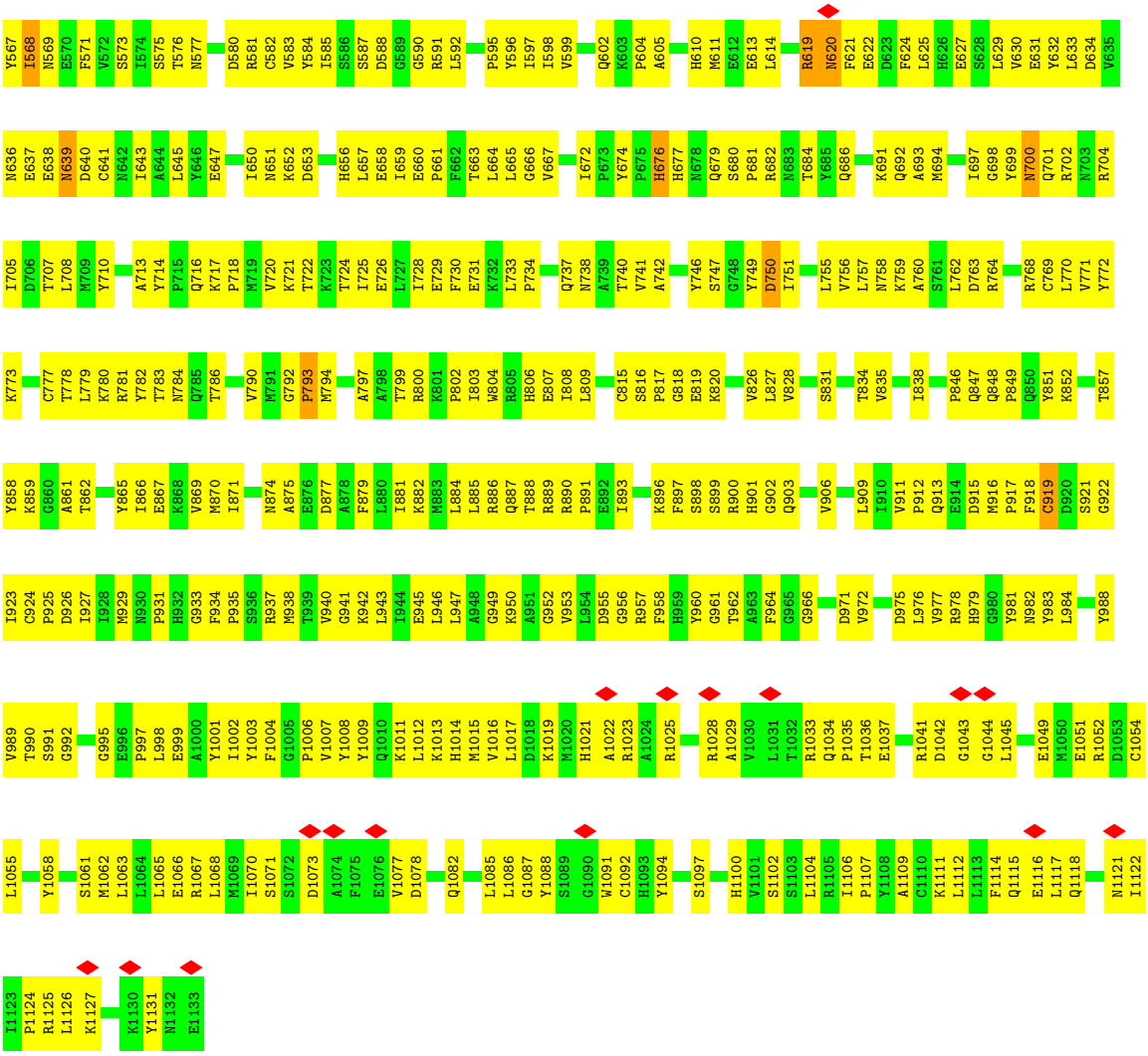
Chain L:



• Molecule 14: DNA-directed RNA polymerase III subunit RPC2

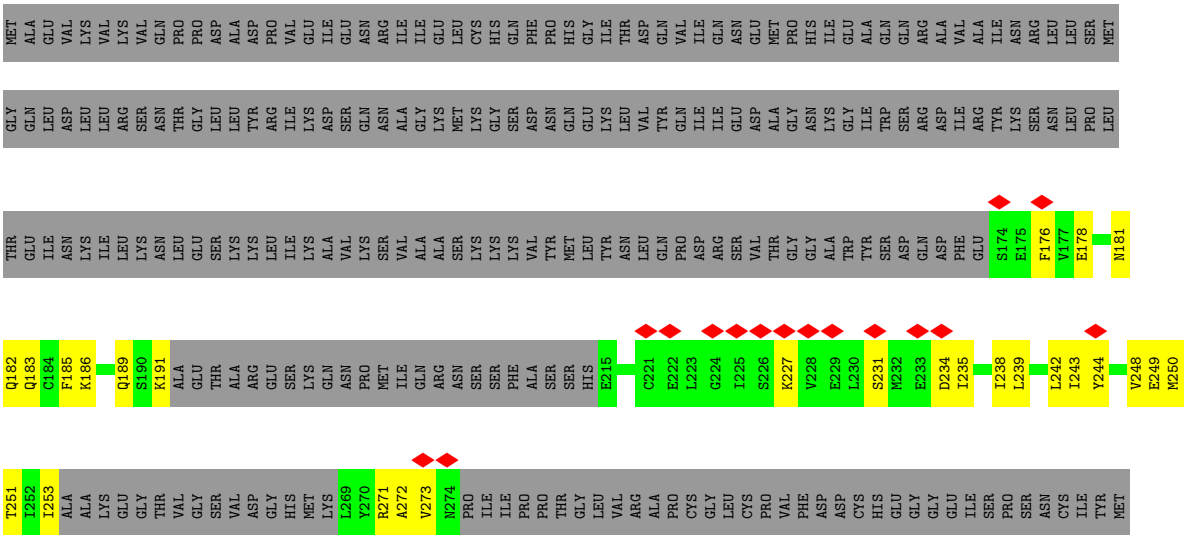
Chain M:





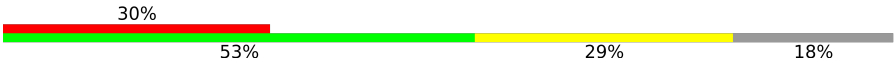
• Molecule 15: DNA-directed RNA polymerase III subunit RPC6

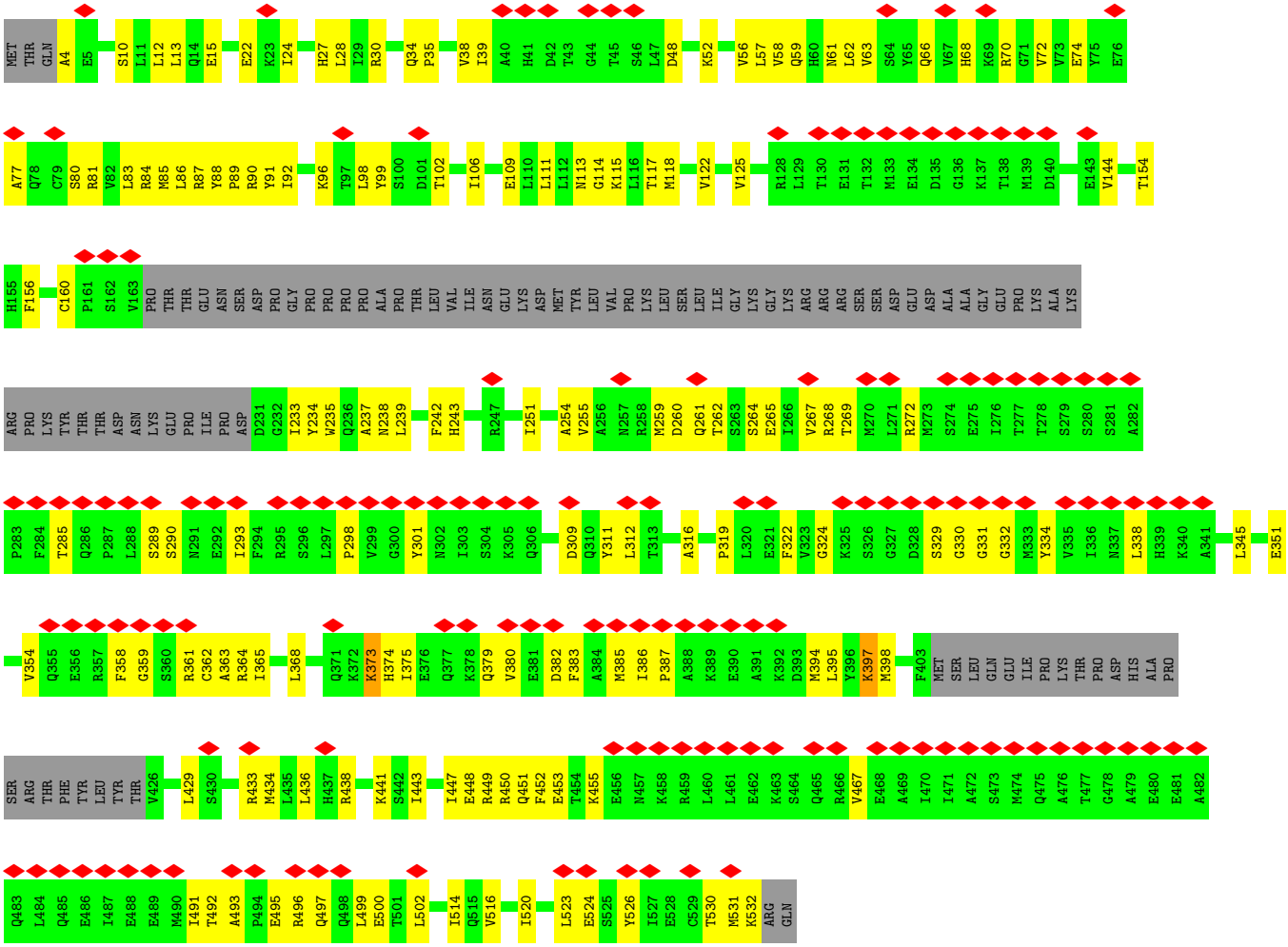
Chain Z:



• Molecule 16: DNA-directed RNA polymerase III subunit RPC3

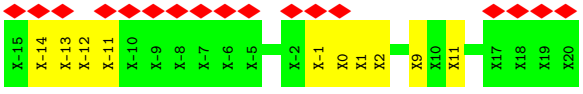
Chain X:





• Molecule 17: DNA-directed RNA polymerase III subunit RPC7-beta

Chain Y:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	25369	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 ($e^-/Å^2$)	40.8	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	75000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.365	Depositor
Minimum map value	-0.253	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.027	Depositor
Map size (Å)	383.40002, 383.40002, 383.40002	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.065, 1.065, 1.065	Depositor

5 Model quality

5.1 Standard geometry

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	N	1.06	8/9535 (0.1%)	0.63	11/12862 (0.1%)
2	A	0.33	0/294	0.71	0/396
3	B	0.45	0/516	0.67	0/696
4	C	0.31	0/394	0.69	0/524
5	D	2.96	7/988 (0.7%)	0.89	5/1323 (0.4%)
6	E	0.31	0/659	0.62	0/891
7	F	0.27	0/1745	0.55	2/2358 (0.1%)
8	G	0.39	0/808	0.54	0/1090
9	H	0.35	0/2689	0.62	1/3644 (0.0%)
10	I	0.24	0/1021	0.51	0/1377
11	J	0.28	0/1481	0.54	0/2013
12	K	0.27	0/1146	0.55	0/1549
13	L	0.26	0/626	0.62	0/842
14	M	0.36	0/8982	0.63	1/12118 (0.0%)
15	Z	0.25	0/523	0.53	0/701
16	X	0.24	0/3534	0.46	0/4766
All	All	0.79	15/34941 (0.0%)	0.61	20/47150 (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
1	N	0	16
2	A	0	1
3	B	0	1
4	C	0	1
5	D	0	5
6	E	0	1
7	F	0	2
9	H	0	7
12	K	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
13	L	0	4
14	M	0	16
16	X	0	1
All	All	0	58

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	29	ARG	CB-CG	64.17	3.25	1.52
5	D	146	LYS	CD-CE	63.43	3.09	1.51
1	N	85	TYR	CD2-CE2	39.90	1.99	1.39
1	N	85	TYR	CD1-CE1	38.31	1.96	1.39
5	D	88	PHE	CE1-CZ	30.63	1.95	1.37
5	D	88	PHE	CE2-CZ	30.47	1.95	1.37
5	D	88	PHE	CD1-CE1	30.07	1.99	1.39
5	D	88	PHE	CD2-CE2	29.98	1.99	1.39
1	N	85	TYR	CE1-CZ	28.67	1.75	1.38
1	N	85	TYR	CE2-CZ	28.36	1.75	1.38
1	N	85	TYR	CG-CD2	22.05	1.67	1.39
1	N	85	TYR	CG-CD1	21.41	1.67	1.39
5	D	88	PHE	CG-CD2	20.15	1.69	1.38
5	D	88	PHE	CG-CD1	20.10	1.69	1.38
1	N	391	THR	C-N	5.29	1.46	1.34

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	D	146	LYS	CG-CD-CE	9.84	141.41	111.90
1	N	29	ARG	CA-CB-CG	9.73	134.80	113.40
1	N	391	THR	C-N-CA	9.00	144.21	121.70
1	N	29	ARG	CB-CG-CD	8.77	134.41	111.60
5	D	146	LYS	CD-CE-NZ	8.33	130.87	111.70
1	N	612	PRO	N-CA-CB	7.17	111.90	103.30
7	F	72	MET	CA-CB-CG	7.14	125.43	113.30
1	N	1205	PRO	N-CA-CB	6.50	111.09	103.30
1	N	607	PRO	N-CA-CB	6.45	111.05	103.30
14	M	318	LEU	CA-CB-CG	5.93	128.93	115.30
1	N	1123	PRO	N-CA-CB	5.92	110.40	103.30
1	N	1197	PRO	N-CA-CB	5.68	110.12	103.30
1	N	753	LEU	CB-CG-CD2	-5.61	101.46	111.00
5	D	52	LEU	CA-CB-CG	5.59	128.17	115.30
5	D	144	LEU	CA-CB-CG	5.47	127.89	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	N	530	VAL	C-N-CA	5.25	134.82	121.70
5	D	88	PHE	CB-CG-CD2	-5.20	117.16	120.80
1	N	1162	PRO	N-CA-CB	5.09	109.41	103.30
9	H	198	LEU	CA-CB-CG	5.08	126.98	115.30
7	F	72	MET	CG-SD-CE	5.07	108.31	100.20

There are no chirality outliers.

All (58) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	A	34	ILE	Peptide
3	B	26	GLN	Peptide
4	C	34	ILE	Peptide
5	D	137	VAL	Peptide
5	D	139	SER	Peptide
5	D	149	ALA	Peptide
5	D	3	GLY	Peptide
5	D	88	PHE	Peptide
6	E	77	ALA	Peptide
7	F	28	VAL	Peptide
7	F	52	ARG	Peptide
9	H	100	ILE	Peptide
9	H	101	VAL	Peptide
9	H	37	ASP	Peptide
9	H	39	ALA	Peptide
9	H	40	TRP	Peptide
9	H	41	ASP	Peptide
9	H	56	MET	Peptide
12	K	113	ARG	Peptide
12	K	41	ASP	Peptide
12	K	43	PRO	Peptide
13	L	343	LYS	Peptide
13	L	349	THR	Peptide
13	L	356	PHE	Peptide
13	L	377	GLY	Peptide
14	M	100	HIS	Peptide
14	M	460	GLU	Peptide
14	M	497	ALA	Peptide
14	M	530	GLU	Peptide
14	M	537	PHE	Peptide
14	M	544	ASN	Peptide
14	M	568	ILE	Peptide

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Mol	Chain	Res	Type	Group
14	M	619	ARG	Peptide
14	M	620	ASN	Peptide
14	M	676	HIS	Peptide
14	M	700	ASN	Peptide
14	M	746	TYR	Peptide
14	M	750	ASP	Peptide
14	M	792	GLY	Peptide
14	M	857	THR	Peptide
14	M	95	ARG	Peptide
1	N	1004	ASP	Peptide
1	N	1027	MET	Peptide
1	N	1161	LYS	Peptide
1	N	120	GLU	Peptide
1	N	1277	ASN	Peptide
1	N	480	VAL	Peptide
1	N	483	HIS	Peptide
1	N	563	LYS	Peptide
1	N	572	LEU	Peptide
1	N	633	ALA	Peptide
1	N	670	ASP	Peptide
1	N	747	THR	Peptide
1	N	776	SER	Peptide
1	N	812	GLY	Peptide
1	N	840	SER	Peptide
1	N	960	CYS	Peptide
16	X	373	LYS	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	N	9385	0	9273	666	0
2	A	288	0	279	24	0
3	B	507	0	525	52	0
4	C	388	0	395	34	0
5	D	972	0	959	154	0
6	E	649	0	678	59	0
7	F	1715	0	1733	98	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	G	794	0	780	49	0
9	H	2635	0	2620	201	0
10	I	1008	0	1035	72	0
11	J	1442	0	1396	77	0
12	K	1119	0	1109	83	0
13	L	620	0	660	62	0
14	M	8811	0	8937	653	0
15	Z	518	0	525	25	0
16	X	3487	0	3523	134	0
17	Y	180	0	41	5	0
All	All	34518	0	34468	2177	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 32.

All (2177) 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:N:85:TYR:CZ	1:N:85:TYR:CE2	1.75	1.70
1:N:85:TYR:CZ	1:N:85:TYR:CE1	1.75	1.60
5:D:88:PHE:CE1	5:D:88:PHE:CZ	1.95	1.54
1:N:85:TYR:CE1	1:N:85:TYR:CD1	1.96	1.53
5:D:88:PHE:CZ	5:D:88:PHE:CE2	1.95	1.53
5:D:88:PHE:CE1	5:D:88:PHE:CD1	1.99	1.48
1:N:85:TYR:CE2	1:N:85:TYR:CD2	1.99	1.48
5:D:88:PHE:CE2	5:D:88:PHE:CD2	1.99	1.48
1:N:1275:MET:HB3	1:N:1280:MET:SD	1.61	1.40
1:N:1275:MET:CB	1:N:1280:MET:SD	2.27	1.17
5:D:88:PHE:CD1	5:D:146:LYS:CD	2.35	1.10
5:D:88:PHE:CE1	5:D:146:LYS:CD	2.35	1.10
5:D:88:PHE:CD1	5:D:146:LYS:HD3	1.88	1.09
1:N:29:ARG:CB	1:N:85:TYR:CE2	2.36	1.08
1:N:29:ARG:CB	1:N:85:TYR:CZ	2.36	1.08
5:D:88:PHE:CD2	5:D:146:LYS:CE	2.39	1.05
5:D:88:PHE:CE2	5:D:146:LYS:CE	2.38	1.05
1:N:29:ARG:CG	1:N:85:TYR:CD2	2.39	1.05
1:N:29:ARG:CG	1:N:85:TYR:CD1	2.40	1.04
1:N:29:ARG:CG	1:N:85:TYR:CE2	2.40	1.04
1:N:1275:MET:HA	1:N:1280:MET:SD	1.98	1.03
1:N:29:ARG:CB	1:N:85:TYR:CE1	2.42	1.02
5:D:88:PHE:CZ	5:D:146:LYS:CD	2.43	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:349:THR:HG21	13:L:386:SER:H	1.23	1.02
1:N:29:ARG:CG	1:N:85:TYR:CE1	2.44	1.01
5:D:88:PHE:CZ	5:D:146:LYS:CE	2.43	1.01
1:N:29:ARG:CB	1:N:85:TYR:CD2	2.43	1.01
5:D:88:PHE:CG	5:D:146:LYS:CE	2.44	1.00
1:N:29:ARG:CG	1:N:85:TYR:CZ	2.44	1.00
5:D:88:PHE:CE2	5:D:146:LYS:HE3	1.95	1.00
5:D:88:PHE:CE1	5:D:146:LYS:CE	2.46	0.99
1:N:29:ARG:CG	1:N:85:TYR:CG	2.45	0.99
1:N:29:ARG:HB2	1:N:85:TYR:CZ	1.97	0.98
1:N:1275:MET:CA	1:N:1280:MET:SD	2.51	0.98
5:D:88:PHE:CD1	5:D:146:LYS:CE	2.46	0.98
5:D:88:PHE:CE2	5:D:146:LYS:CD	2.48	0.97
5:D:88:PHE:CZ	5:D:146:LYS:HD2	2.00	0.96
5:D:88:PHE:CG	5:D:146:LYS:HE2	2.01	0.96
14:M:135:ARG:HB2	14:M:412:THR:HG22	1.47	0.96
5:D:88:PHE:CD2	5:D:146:LYS:CD	2.50	0.94
1:N:29:ARG:CB	1:N:85:TYR:CD1	2.51	0.93
5:D:88:PHE:CG	5:D:146:LYS:CD	2.52	0.93
14:M:497:ALA:HB1	14:M:666:GLY:HA3	1.51	0.92
1:N:29:ARG:HG3	1:N:85:TYR:CG	2.05	0.92
1:N:1052:THR:HB	1:N:1277:ASN:HB3	1.52	0.91
1:N:801:GLN:HE22	1:N:808:ARG:HD2	1.35	0.91
1:N:1053:PHE:CE1	1:N:1277:ASN:OD1	2.23	0.90
1:N:29:ARG:CB	1:N:85:TYR:CG	2.54	0.90
14:M:1049:GLU:HA	14:M:1052:ARG:HH12	1.31	0.90
5:D:96:VAL:HG22	5:D:141:VAL:HG23	1.55	0.89
12:K:110:ASN:HD22	13:L:270:GLN:HG2	1.38	0.89
14:M:213:ARG:HD2	14:M:320:HIS:HB2	1.54	0.89
9:H:232:SER:HB2	14:M:922:GLY:HA2	1.52	0.89
1:N:844:PRO:HG3	14:M:661:PRO:HB3	1.56	0.88
1:N:29:ARG:HB3	1:N:85:TYR:CD2	2.07	0.88
9:H:39:ALA:O	9:H:44:ARG:NH2	2.06	0.88
14:M:478:MET:HA	14:M:500:THR:HG21	1.55	0.88
14:M:521:GLU:HB2	14:M:549:ILE:HG13	1.55	0.87
1:N:1361:LYS:H	6:E:109:TYR:HE2	1.21	0.87
1:N:1095:ALA:O	1:N:1099:ARG:HB2	1.73	0.87
14:M:946:LEU:HD11	14:M:1007:VAL:HG22	1.54	0.87
13:L:266:LEU:H	13:L:380:LYS:HG3	1.40	0.86
11:J:58:TYR:HB2	11:J:67:HIS:HB2	1.56	0.86
5:D:4:ILE:HB	5:D:5:LEU:HA	1.57	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:36:THR:HG22	7:F:39:GLU:HG3	1.57	0.85
12:K:49:ILE:HG23	12:K:54:GLN:HG3	1.59	0.85
1:N:838:PHE:O	14:M:677:HIS:ND1	2.10	0.84
14:M:254:MET:HA	14:M:528:GLY:HA3	1.59	0.84
1:N:46:ASN:HD21	1:N:52:LEU:HD12	1.43	0.84
5:D:88:PHE:HB3	5:D:145:MET:O	1.78	0.84
3:B:9:THR:OG1	14:M:924:CYS:O	1.96	0.83
1:N:110:LYS:HG2	1:N:226:LEU:HD12	1.61	0.82
7:F:12:LYS:HD3	7:F:136:LEU:HD21	1.61	0.82
14:M:25:GLU:HG3	14:M:611:MET:HG2	1.60	0.82
1:N:656:GLY:O	1:N:662:ASN:ND2	2.10	0.82
1:N:874:ARG:HD3	1:N:1305:ARG:HD3	1.59	0.82
1:N:463:ASN:HB3	1:N:506:ASN:HB2	1.62	0.82
16:X:467:VAL:HG11	16:X:491:ILE:HD11	1.62	0.81
1:N:29:ARG:HG2	1:N:85:TYR:CE2	2.13	0.81
1:N:29:ARG:HG3	1:N:85:TYR:CD1	2.16	0.81
8:G:30:VAL:HG11	8:G:37:ARG:HE	1.43	0.81
5:D:32:SER:N	5:D:37:MET:O	2.13	0.81
3:B:10:CYS:SG	3:B:42:ARG:NH1	2.54	0.80
14:M:692:GLN:HG3	14:M:1013:LYS:HG2	1.62	0.80
14:M:307:GLU:H	14:M:310:ARG:HB2	1.46	0.80
1:N:1053:PHE:HE1	1:N:1277:ASN:OD1	1.63	0.80
1:N:544:ASP:HA	1:N:547:THR:HG22	1.62	0.80
7:F:49:SER:HB2	7:F:55:ARG:HB3	1.64	0.80
1:N:745:GLU:HG2	1:N:746:GLU:H	1.47	0.80
14:M:571:PHE:O	14:M:591:ARG:NH1	2.15	0.80
12:K:48:LYS:HB2	12:K:57:GLU:HB2	1.64	0.80
14:M:975:ASP:OD1	14:M:978:ARG:NH2	2.16	0.79
1:N:28:MET:HG2	1:N:256:LEU:HD13	1.63	0.79
1:N:369:ILE:HD11	1:N:488:PHE:HE1	1.48	0.79
1:N:561:ARG:NH2	9:H:30:PRO:O	2.16	0.79
14:M:76:LYS:HB3	14:M:118:GLU:HB3	1.63	0.79
5:D:88:PHE:CE1	5:D:146:LYS:HD2	2.15	0.78
9:H:86:THR:HG21	9:H:227:PRO:HB3	1.64	0.78
1:N:1216:GLU:HG2	1:N:1221:GLU:HG2	1.64	0.78
5:D:28:LEU:HD13	5:D:52:LEU:HD22	1.65	0.78
5:D:12:VAL:HB	5:D:52:LEU:HB2	1.65	0.78
1:N:776:SER:O	1:N:778:LEU:N	2.17	0.78
14:M:760:ALA:O	14:M:764:ARG:NH1	2.18	0.77
9:H:263:GLU:HG3	9:H:276:ALA:HB2	1.66	0.77
14:M:1023:ARG:NH1	14:M:1036:THR:O	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:151:ARG:NH1	11:J:189:SER:OG	2.16	0.77
1:N:1084:ILE:HD11	1:N:1226:LEU:HD12	1.65	0.77
1:N:884:SER:HB3	1:N:1028:GLU:HG2	1.67	0.77
10:I:18:GLN:OE1	10:I:59:ARG:NH2	2.17	0.77
1:N:664:PHE:O	1:N:668:LEU:N	2.17	0.76
1:N:261:CYS:HB3	14:M:1033:ARG:HE	1.50	0.76
9:H:16:LEU:O	9:H:285:ARG:NH2	2.17	0.76
5:D:88:PHE:CD2	5:D:146:LYS:HE2	2.16	0.76
14:M:508:ASP:HB3	14:M:541:LEU:HD21	1.66	0.76
7:F:61:LEU:HA	7:F:73:PHE:HB3	1.67	0.76
9:H:125:ARG:NH2	9:H:137:THR:OG1	2.18	0.76
2:A:25:CYS:O	12:K:73:LYS:NZ	2.18	0.76
14:M:714:TYR:O	14:M:737:GLN:NE2	2.17	0.76
14:M:682:ARG:HH21	14:M:937:ARG:HA	1.50	0.75
14:M:141:ARG:NH2	14:M:164:ASP:OD1	2.18	0.75
1:N:29:ARG:HG2	1:N:85:TYR:CD2	2.20	0.75
1:N:183:LYS:NZ	1:N:216:GLU:OE2	2.19	0.75
5:D:41:LEU:HD23	5:D:123:MET:HG3	1.68	0.75
5:D:24:ARG:HA	5:D:45:ILE:HG22	1.68	0.75
14:M:758:ASN:ND2	14:M:759:LYS:O	2.19	0.75
3:B:3:ILE:O	9:H:109:ARG:NH1	2.19	0.75
9:H:83:GLU:OE1	9:H:332:LYS:NZ	2.19	0.75
5:D:96:VAL:HG21	5:D:140:ARG:H	1.51	0.75
1:N:122:LYS:NZ	16:X:72:VAL:O	2.20	0.74
1:N:380:VAL:HG13	1:N:488:PHE:HB3	1.67	0.74
9:H:77:ARG:HE	9:H:233:TYR:HD2	1.34	0.74
11:J:115:GLN:HG3	11:J:198:LEU:HB2	1.69	0.74
10:I:61:GLN:NE2	10:I:123:ILE:O	2.20	0.74
14:M:955:ASP:OD1	14:M:979:HIS:ND1	2.20	0.74
9:H:201:GLN:OE1	9:H:203:ARG:NH2	2.20	0.74
9:H:74:ASN:ND2	14:M:992:GLY:O	2.20	0.74
14:M:454:ARG:HH22	14:M:691:LYS:HE2	1.53	0.74
1:N:884:SER:HB2	1:N:1031:SER:H	1.52	0.74
13:L:331:ILE:HG12	13:L:337:VAL:HG13	1.68	0.74
14:M:759:LYS:HG2	14:M:912:PRO:HA	1.69	0.74
1:N:59:ARG:NH1	1:N:69:CYS:SG	2.60	0.74
1:N:834:VAL:HG12	1:N:846:GLU:HB3	1.70	0.74
13:L:365:LEU:HA	13:L:373:MET:HG3	1.70	0.73
14:M:1049:GLU:HA	14:M:1052:ARG:NH1	2.02	0.73
4:C:34:ILE:HG21	4:C:42:ARG:HA	1.68	0.73
10:I:14:TYR:O	10:I:18:GLN:NE2	2.20	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:307:GLU:HB2	14:M:310:ARG:HH21	1.53	0.73
1:N:470:LYS:HG2	1:N:533:ARG:HH22	1.54	0.73
14:M:66:THR:HG22	14:M:385:LYS:HG3	1.70	0.73
6:E:72:GLN:HB3	6:E:78:PRO:HG3	1.68	0.73
7:F:64:HIS:HB2	7:F:72:MET:HG3	1.70	0.73
1:N:553:THR:O	1:N:598:LYS:NZ	2.21	0.73
3:B:53:VAL:HG12	14:M:717:LYS:HE3	1.71	0.73
1:N:848:PHE:HE2	14:M:473:PRO:HA	1.52	0.73
1:N:467:SER:HG	14:M:1054:CYS:HG	1.26	0.72
5:D:45:ILE:HD11	5:D:48:TYR:HB2	1.71	0.72
5:D:98:ARG:NH2	5:D:99:ILE:O	2.22	0.72
5:D:56:PHE:O	5:D:58:LEU:N	2.21	0.72
1:N:817:SER:OG	1:N:830:ALA:O	2.04	0.72
5:D:93:TYR:HD1	5:D:142:TYR:HD1	1.37	0.72
14:M:913:GLN:NE2	14:M:924:CYS:SG	2.57	0.72
14:M:67:SER:HB3	14:M:70:ASP:HB3	1.71	0.72
14:M:595:PRO:HG3	14:M:632:TYR:HE1	1.54	0.72
12:K:24:LYS:O	13:L:365:LEU:N	2.20	0.72
13:L:361:VAL:HA	13:L:378:HIS:HA	1.72	0.72
14:M:44:ILE:HA	14:M:139:MET:HE1	1.71	0.72
1:N:122:LYS:HE2	16:X:68:HIS:HB2	1.71	0.72
14:M:234:ILE:HG21	14:M:287:ILE:HD12	1.71	0.72
9:H:261:VAL:HG21	9:H:281:ASP:HB3	1.71	0.72
7:F:193:ILE:HD13	7:F:207:ARG:HH11	1.55	0.72
12:K:15:VAL:HA	12:K:124:LEU:HB2	1.71	0.72
1:N:14:LYS:H	14:M:1131:TYR:HE2	1.36	0.71
1:N:70:GLU:O	1:N:82:HIS:ND1	2.21	0.71
1:N:844:PRO:HG2	14:M:645:LEU:HD22	1.71	0.71
1:N:1263:ALA:HB3	1:N:1300:VAL:HG21	1.72	0.71
8:G:56:ARG:HG2	8:G:68:CYS:HB2	1.72	0.71
16:X:59:GLN:HG3	16:X:114:GLY:HA3	1.72	0.71
7:F:85:LYS:HA	7:F:88:LYS:HD2	1.72	0.71
10:I:65:ILE:HG21	10:I:124:LEU:HD21	1.72	0.71
14:M:445:TYR:HB3	14:M:730:PHE:CE2	2.26	0.71
1:N:615:ALA:H	1:N:637:TYR:HA	1.54	0.71
13:L:338:GLN:HG2	13:L:348:VAL:HG13	1.72	0.71
16:X:118:MET:SD	16:X:235:TRP:NE1	2.63	0.71
1:N:1262:ALA:HB2	7:F:145:VAL:HG22	1.72	0.71
16:X:362:CYS:SG	16:X:397:LYS:NZ	2.61	0.71
1:N:122:LYS:HE3	16:X:70:ARG:H	1.56	0.71
1:N:730:ALA:O	1:N:734:GLY:N	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:319:THR:HG22	14:M:321:VAL:H	1.56	0.71
14:M:396:ARG:O	14:M:399:GLN:NE2	2.23	0.70
1:N:1037:CYS:SG	1:N:1286:HIS:ND1	2.61	0.70
14:M:610:HIS:O	14:M:614:LEU:N	2.20	0.70
1:N:1315:VAL:HG22	1:N:1339:SER:HB2	1.71	0.70
14:M:175:GLU:OE2	14:M:442:ARG:NH1	2.24	0.70
14:M:679:GLN:HB2	14:M:682:ARG:HD3	1.73	0.70
1:N:75:ASN:HB3	1:N:76:LEU:HD22	1.73	0.70
8:G:49:HIS:ND1	8:G:70:TYR:OH	2.21	0.70
10:I:21:THR:HG22	10:I:50:LEU:HD11	1.74	0.70
14:M:478:MET:HB3	14:M:592:LEU:HD13	1.73	0.70
14:M:1033:ARG:HB2	14:M:1112:LEU:HD22	1.74	0.70
16:X:87:ARG:O	16:X:91:TYR:N	2.19	0.70
9:H:250:ALA:HB1	9:H:264:VAL:HG12	1.72	0.70
11:J:89:ILE:HD13	11:J:99:VAL:HG22	1.72	0.70
14:M:694:MET:HG2	14:M:710:TYR:HB3	1.73	0.70
16:X:443:ILE:HD12	16:X:520:ILE:HD12	1.73	0.70
5:D:24:ARG:O	5:D:44:ASN:HA	1.91	0.70
14:M:243:MET:HG3	14:M:328:PHE:HD1	1.56	0.70
1:N:242:PRO:HG3	16:X:30:ARG:HB3	1.72	0.69
1:N:879:LEU:HD23	1:N:1038:ALA:HB2	1.73	0.69
1:N:1297:LYS:HZ1	1:N:1312:LYS:HB2	1.57	0.69
14:M:296:MET:HG2	14:M:299:GLY:HA3	1.73	0.69
1:N:1035:ALA:O	1:N:1039:GLN:NE2	2.25	0.69
14:M:917:PRO:HB2	14:M:989:VAL:HG11	1.74	0.69
1:N:567:ILE:HD11	1:N:600:ILE:HG23	1.74	0.69
1:N:590:LYS:NZ	5:D:89:GLU:OE1	2.17	0.69
4:C:58:ARG:NH1	9:H:221:ASP:OD1	2.25	0.69
1:N:587:THR:O	1:N:588:ILE:HG13	1.93	0.69
14:M:602:GLN:HA	14:M:652:LYS:HD2	1.73	0.69
14:M:344:LEU:HD13	14:M:350:LYS:HB2	1.72	0.69
14:M:621:PHE:O	14:M:622:GLU:HG3	1.93	0.69
5:D:136:GLU:HB3	5:D:139:SER:HB3	1.75	0.69
14:M:781:ARG:HD3	14:M:877:ASP:HB3	1.73	0.69
16:X:493:ALA:O	16:X:497:GLN:NE2	2.24	0.69
5:D:10:PHE:HB2	5:D:56:PHE:HB2	1.75	0.69
10:I:94:ALA:HB1	10:I:117:LEU:HB3	1.74	0.69
11:J:190:ILE:HG22	11:J:191:SER:H	1.57	0.69
14:M:676:HIS:HB2	14:M:677:HIS:CD2	2.27	0.68
14:M:786:THR:O	14:M:848:GLN:NE2	2.26	0.68
11:J:4:LEU:HB3	11:J:73:ARG:HB2	1.73	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:366:ARG:HG2	14:M:1021:HIS:HB2	1.76	0.68
1:N:801:GLN:HG3	1:N:833:PHE:HA	1.76	0.68
1:N:1053:PHE:CD1	1:N:1277:ASN:OD1	2.45	0.68
1:N:1297:LYS:HG3	7:F:172:ARG:HD2	1.74	0.68
1:N:1301:LEU:HB3	1:N:1308:LEU:HD22	1.76	0.68
1:N:847:PHE:HE2	14:M:665:LEU:HD21	1.58	0.68
4:C:46:LYS:HD2	14:M:871:ILE:HD11	1.75	0.68
7:F:44:SER:HB3	7:F:48:PRO:HG3	1.74	0.68
9:H:105:ILE:HG13	9:H:106:LEU:H	1.56	0.68
15:Z:248:VAL:HA	15:Z:273:VAL:H	1.57	0.68
1:N:470:LYS:H	1:N:533:ARG:NH2	1.91	0.68
14:M:777:CYS:HB3	14:M:881:ILE:HB	1.73	0.68
1:N:562:ALA:O	8:G:56:ARG:NH2	2.26	0.68
6:E:107:ARG:HD3	6:E:115:TYR:HB3	1.75	0.68
8:G:72:THR:HG22	8:G:80:ILE:HG22	1.74	0.68
14:M:511:ILE:HG21	14:M:585:ILE:HG21	1.75	0.68
15:Z:176:PHE:HB2	16:X:382:ASP:HB3	1.75	0.68
13:L:271:LEU:HA	13:L:385:CYS:HB2	1.76	0.68
1:N:541:ALA:HB1	1:N:545:PHE:HB2	1.76	0.68
1:N:560:ASP:HB3	9:H:32:ASN:HD21	1.59	0.68
1:N:15:ILE:HG13	14:M:1104:LEU:HB3	1.76	0.67
1:N:122:LYS:HE3	16:X:70:ARG:N	2.08	0.67
7:F:130:PHE:HB3	7:F:132:GLN:HG2	1.75	0.67
11:J:151:ARG:NH1	11:J:189:SER:O	2.27	0.67
6:E:73:ILE:HA	6:E:78:PRO:HD2	1.77	0.67
14:M:750:ASP:OD1	14:M:756:VAL:HG23	1.94	0.67
14:M:943:LEU:O	14:M:1003:TYR:OH	2.11	0.67
1:N:371:PRO:HD3	1:N:500:PHE:CE1	2.29	0.67
1:N:432:LEU:O	1:N:435:GLY:N	2.28	0.67
1:N:698:ILE:HG21	14:M:934:PHE:HD2	1.59	0.67
14:M:1023:ARG:NH2	14:M:1045:LEU:O	2.28	0.67
1:N:150:CYS:SG	1:N:151:ARG:N	2.67	0.67
1:N:359:LYS:HA	14:M:1071:SER:HB2	1.77	0.67
1:N:801:GLN:HB2	1:N:833:PHE:HD1	1.58	0.67
10:I:96:GLU:HA	10:I:100:MET:HB3	1.76	0.67
16:X:365:ILE:HA	16:X:368:LEU:HD12	1.74	0.67
14:M:514:LEU:O	14:M:518:LEU:HB2	1.95	0.67
6:E:97:LEU:O	6:E:100:ARG:NH1	2.28	0.67
14:M:140:LEU:HD11	14:M:147:LEU:HD12	1.77	0.67
16:X:290:SER:HB2	16:X:334:TYR:HE2	1.59	0.67
5:D:91:VAL:HG22	5:D:144:LEU:HA	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:285:ARG:HD3	14:M:988:TYR:CE2	2.30	0.67
14:M:213:ARG:NH2	14:M:318:LEU:O	2.28	0.67
16:X:27:HIS:NE2	16:X:34:GLN:OE1	2.28	0.67
5:D:38:ASP:OD2	5:D:124:ARG:NH2	2.27	0.66
9:H:12:SER:HA	9:H:303:ARG:HD2	1.76	0.66
1:N:412:PRO:HB3	1:N:432:LEU:HA	1.75	0.66
1:N:504:GLU:HB3	14:M:1019:LYS:HD3	1.78	0.66
3:B:4:PRO:HA	9:H:109:ARG:HH22	1.60	0.66
1:N:848:PHE:CE2	14:M:473:PRO:HA	2.30	0.66
1:N:400:ASN:HB3	1:N:404:LEU:HD23	1.76	0.66
1:N:587:THR:HG21	1:N:599:GLN:HE22	1.59	0.66
1:N:641:GLN:NE2	5:D:96:VAL:O	2.28	0.66
14:M:901:HIS:CD2	14:M:942:LYS:HB2	2.31	0.66
1:N:612:PRO:HA	1:N:640:ILE:O	1.96	0.66
1:N:956:SER:OG	1:N:1019:ARG:NH2	2.29	0.66
14:M:273:GLN:HA	14:M:277:ILE:HG12	1.78	0.66
1:N:279:LEU:HD23	1:N:280:THR:H	1.60	0.66
1:N:407:LEU:HD12	1:N:452:ARG:HD2	1.77	0.66
5:D:44:ASN:H	5:D:90:TYR:HH	1.43	0.66
9:H:105:ILE:HG13	9:H:106:LEU:N	2.11	0.66
10:I:97:ILE:HD11	10:I:120:VAL:HG21	1.78	0.66
12:K:27:LEU:HB2	12:K:132:ILE:HG12	1.77	0.66
5:D:96:VAL:HG11	5:D:140:ARG:HB3	1.78	0.65
1:N:143:LYS:HA	1:N:146:ILE:HG22	1.76	0.65
1:N:179:TYR:N	1:N:180:LYS:HA	2.11	0.65
6:E:57:MET:O	6:E:62:ARG:NH1	2.29	0.65
6:E:110:LEU:HD23	6:E:112:ASP:H	1.60	0.65
13:L:332:ARG:HH22	13:L:340:LEU:HD11	1.61	0.65
1:N:380:VAL:HG11	1:N:462:PHE:CE1	2.31	0.65
1:N:1104:ARG:O	1:N:1104:ARG:NH1	2.27	0.65
7:F:77:PRO:HD2	7:F:105:VAL:HB	1.79	0.65
12:K:16:TYR:N	12:K:124:LEU:O	2.27	0.65
14:M:526:LEU:HD12	14:M:548:VAL:HG11	1.78	0.65
14:M:741:VAL:HG22	14:M:927:ILE:HB	1.78	0.65
1:N:365:GLY:HA2	14:M:1022:ALA:HA	1.77	0.65
1:N:1166:ALA:HB1	1:N:1178:ARG:HH12	1.61	0.65
3:B:42:ARG:NH2	9:H:230:THR:HG22	2.12	0.65
4:C:49:THR:OG1	14:M:819:GLU:OE2	2.15	0.65
9:H:170:THR:OG1	9:H:194:HIS:O	2.14	0.65
1:N:873:ARG:HD2	1:N:874:ARG:HG3	1.78	0.65
6:E:75:MET:HG3	11:J:15:PRO:HG2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:113:ARG:HB3	13:L:271:LEU:H	1.61	0.65
13:L:355:SER:OG	13:L:356:PHE:N	2.30	0.65
14:M:545:ILE:HG23	14:M:546:LEU:H	1.60	0.65
1:N:371:PRO:HD3	1:N:500:PHE:HE1	1.60	0.65
5:D:98:ARG:HH12	5:D:112:LEU:HB2	1.62	0.65
9:H:108:HIS:NE2	14:M:763:ASP:O	2.27	0.65
14:M:44:ILE:HG22	14:M:48:ASN:HD21	1.62	0.65
14:M:1111:LYS:HG2	14:M:1115:GLN:HE21	1.60	0.65
3:B:3:ILE:HG12	3:B:18:TRP:CD1	2.32	0.65
3:B:47:ARG:CZ	14:M:1006:PRO:HG3	2.26	0.65
14:M:705:ILE:HG21	14:M:882:LYS:HB3	1.79	0.65
1:N:437:ARG:HG3	1:N:438:GLU:H	1.61	0.65
1:N:543:GLN:HB2	14:M:751:ILE:HG22	1.78	0.65
13:L:330:LEU:HD12	13:L:340:LEU:HD12	1.77	0.65
14:M:229:THR:HG21	14:M:293:ARG:HB3	1.78	0.65
1:N:588:ILE:HD12	1:N:594:LEU:HB2	1.78	0.64
5:D:28:LEU:HB2	5:D:41:LEU:HB2	1.79	0.64
6:E:84:GLU:O	6:E:87:THR:OG1	2.15	0.64
10:I:6:ALA:O	11:J:78:HIS:HE1	1.79	0.64
11:J:27:ALA:HA	11:J:30:LEU:HD12	1.80	0.64
14:M:218:VAL:HG12	14:M:219:LYS:HG3	1.79	0.64
1:N:86:ILE:HD12	1:N:257:VAL:HG11	1.77	0.64
1:N:470:LYS:H	1:N:533:ARG:HH22	1.45	0.64
14:M:900:ARG:O	14:M:901:HIS:ND1	2.30	0.64
16:X:61:ASN:O	16:X:81:ARG:NE	2.29	0.64
1:N:363:PHE:HB3	1:N:509:LEU:HB2	1.80	0.64
10:I:98:GLN:NE2	10:I:110:GLU:OE2	2.31	0.64
14:M:395:GLN:HG3	14:M:396:ARG:HH11	1.63	0.64
12:K:29:GLN:NE2	13:L:358:GLN:OE1	2.31	0.64
15:Z:182:GLN:OE1	16:X:364:ARG:NH2	2.29	0.64
15:Z:189:GLN:O	15:Z:191:LYS:NZ	2.30	0.64
1:N:376:ARG:HH12	1:N:479:ARG:HH22	1.45	0.64
1:N:412:PRO:HA	1:N:419:ASN:HD21	1.61	0.64
11:J:107:ILE:HG12	11:J:186:LEU:HB2	1.80	0.64
14:M:478:MET:HA	14:M:500:THR:CG2	2.26	0.64
14:M:1125:ARG:HB3	14:M:1127:LYS:HZ1	1.62	0.64
1:N:501:ASP:O	14:M:896:LYS:HG2	1.98	0.64
14:M:496:LEU:HD11	14:M:502:ILE:HD11	1.78	0.64
14:M:797:ALA:H	14:M:802:PRO:HB3	1.63	0.64
1:N:397:ASN:ND2	6:E:74:ALA:O	2.28	0.64
7:F:24:ARG:NH1	7:F:182:TYR:O	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:1033:ARG:CZ	14:M:1115:GLN:HE22	2.11	0.64
1:N:514:GLU:HA	6:E:71:LEU:HD21	1.78	0.63
1:N:1253:GLU:OE1	1:N:1253:GLU:N	2.31	0.63
1:N:872:GLN:HE22	1:N:1042:GLY:HA3	1.61	0.63
14:M:305:LYS:HG2	14:M:310:ARG:HH11	1.63	0.63
1:N:29:ARG:HB2	1:N:85:TYR:CE2	2.31	0.63
1:N:380:VAL:HG11	1:N:462:PHE:HE1	1.63	0.63
14:M:741:VAL:HG21	14:M:1009:TYR:HE2	1.63	0.63
1:N:34:ILE:HG21	1:N:37:VAL:HB	1.80	0.63
1:N:394:GLU:HB3	6:E:90:LEU:HD11	1.80	0.63
1:N:478:ALA:O	1:N:479:ARG:HD3	1.99	0.63
9:H:12:SER:HB2	9:H:303:ARG:HB2	1.79	0.63
14:M:376:LEU:HD23	14:M:411:ILE:HG23	1.81	0.63
1:N:59:ARG:HB3	1:N:62:THR:H	1.63	0.63
1:N:64:GLU:HG3	1:N:65:LYS:H	1.64	0.63
12:K:116:ALA:H	13:L:269:LEU:H	1.45	0.63
14:M:901:HIS:HD2	14:M:942:LYS:HB2	1.64	0.63
1:N:29:ARG:HB3	1:N:85:TYR:CE2	2.33	0.63
1:N:1354:ASN:ND2	1:N:1358:GLY:O	2.31	0.63
6:E:61:GLU:OE1	6:E:108:ARG:NH2	2.32	0.63
10:I:64:GLU:OE2	10:I:67:ARG:NE	2.31	0.63
1:N:670:ASP:OD1	1:N:923:ARG:NH2	2.31	0.63
5:D:116:VAL:HG11	5:D:143:LEU:HD12	1.81	0.63
9:H:289:ARG:HH22	14:M:984:LEU:HG	1.64	0.63
14:M:1082:GLN:O	14:M:1100:HIS:ND1	2.31	0.63
1:N:26:GLU:HG2	1:N:27:GLU:H	1.64	0.63
1:N:888:LEU:HA	1:N:1028:GLU:HB2	1.81	0.63
8:G:41:THR:HG22	8:G:83:ARG:HG3	1.81	0.63
11:J:129:TRP:HB2	11:J:140:LEU:HB2	1.80	0.63
1:N:882:LEU:HD11	1:N:1293:LEU:HD21	1.81	0.62
8:G:80:ILE:O	8:G:80:ILE:HG13	1.99	0.62
14:M:756:VAL:HG22	14:M:909:LEU:HB2	1.81	0.62
9:H:93:LEU:HB2	9:H:211:LEU:HB2	1.80	0.62
14:M:59:MET:HB2	14:M:80:ILE:HG22	1.81	0.62
14:M:809:LEU:HD21	14:M:826:VAL:HG12	1.79	0.62
14:M:896:LYS:NZ	14:M:1014:HIS:HB3	2.14	0.62
14:M:896:LYS:HZ2	14:M:1014:HIS:HB3	1.63	0.62
1:N:1283:ASP:HB3	1:N:1286:HIS:CD2	2.35	0.62
9:H:77:ARG:HG2	9:H:233:TYR:HE2	1.64	0.62
9:H:284:SER:OG	9:H:286:GLU:OE2	2.16	0.62
5:D:4:ILE:HA	5:D:61:ALA:HA	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:708:LEU:HD22	14:M:710:TYR:HE2	1.64	0.62
1:N:543:GLN:HB2	14:M:751:ILE:CG2	2.29	0.62
1:N:828:PRO:O	1:N:833:PHE:HB3	1.99	0.62
1:N:1247:THR:HG22	1:N:1248:SER:H	1.64	0.62
8:G:83:ARG:NE	8:G:85:GLN:OE1	2.32	0.62
1:N:102:ILE:HG21	1:N:168:LYS:HD3	1.82	0.62
1:N:510:PRO:O	1:N:516:LYS:NZ	2.27	0.62
13:L:349:THR:HG1	13:L:385:CYS:HG	1.40	0.62
14:M:98:SER:OG	14:M:100:HIS:O	2.14	0.62
1:N:364:SER:OG	1:N:365:GLY:N	2.32	0.62
3:B:17:LYS:HB3	3:B:21:TYR:HE2	1.63	0.62
6:E:57:MET:HG3	6:E:108:ARG:HH22	1.64	0.62
7:F:41:LYS:HG2	7:F:46:ASP:HB2	1.80	0.62
1:N:379:GLU:HA	1:N:477:LEU:HB2	1.81	0.62
14:M:575:SER:HA	14:M:640:ASP:OD2	2.00	0.62
14:M:693:ALA:HB2	14:M:1012:LEU:HD23	1.82	0.62
14:M:726:GLU:OE2	14:M:960:TYR:OH	2.10	0.62
1:N:262:ILE:HD13	14:M:1116:GLU:HG2	1.82	0.62
5:D:91:VAL:HG11	5:D:93:TYR:CZ	2.34	0.62
14:M:145:CYS:SG	14:M:146:VAL:N	2.73	0.62
14:M:1015:MET:HG3	14:M:1017:LEU:H	1.65	0.62
9:H:283:PHE:HB3	14:M:988:TYR:CE2	2.35	0.61
12:K:22:ALA:HB2	12:K:127:THR:HB	1.81	0.61
14:M:901:HIS:NE2	14:M:941:GLY:O	2.32	0.61
1:N:59:ARG:H	1:N:60:MET:HA	1.65	0.61
1:N:739:GLN:N	1:N:740:PRO:O	2.33	0.61
5:D:32:SER:HB3	5:D:37:MET:N	2.15	0.61
5:D:116:VAL:HG12	5:D:118:TYR:HE1	1.65	0.61
7:F:21:CYS:HA	7:F:64:HIS:HE1	1.64	0.61
14:M:679:GLN:HB3	14:M:681:PRO:HD2	1.82	0.61
1:N:1093:ASP:HB3	1:N:1097:TYR:HB2	1.82	0.61
1:N:1221:GLU:OE1	1:N:1223:TYR:OH	2.18	0.61
7:F:48:PRO:HB2	7:F:55:ARG:HA	1.82	0.61
14:M:291:VAL:HG13	14:M:294:GLN:HB2	1.82	0.61
10:I:64:GLU:O	10:I:67:ARG:HG3	2.01	0.61
14:M:204:THR:HG21	14:M:321:VAL:HG12	1.81	0.61
14:M:800:ARG:HG3	14:M:804:TRP:CD1	2.36	0.61
16:X:272:ARG:HH22	16:X:298:PRO:HB3	1.65	0.61
1:N:380:VAL:HG12	1:N:381:ALA:H	1.65	0.61
1:N:731:LEU:HD23	1:N:748:LEU:HD23	1.83	0.61
1:N:736:LEU:HB2	1:N:737:GLN:HA	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:170:THR:HG23	9:H:197:ILE:HB	1.83	0.61
9:H:246:GLU:HA	9:H:272:VAL:H	1.65	0.61
9:H:284:SER:OG	14:M:981:TYR:O	2.17	0.61
14:M:1067:ARG:HH21	14:M:1071:SER:HA	1.64	0.61
7:F:173:ILE:N	7:F:208:LEU:O	2.34	0.61
9:H:105:ILE:O	9:H:109:ARG:N	2.23	0.61
14:M:74:TYR:N	14:M:120:THR:OG1	2.34	0.61
1:N:364:SER:HB2	14:M:1045:LEU:HD12	1.81	0.61
10:I:12:SER:HA	10:I:66:VAL:HG11	1.83	0.61
1:N:441:ALA:HB3	1:N:445:LYS:HG3	1.82	0.61
1:N:568:ILE:HD12	8:G:69:GLY:HA2	1.83	0.61
12:K:197:GLN:HA	12:K:201:ALA:HB3	1.83	0.61
1:N:80:LEU:HD23	14:M:1086:LEU:HB2	1.82	0.61
1:N:969:ILE:HG23	7:F:200:ALA:HB2	1.82	0.61
7:F:47:LYS:HG2	7:F:50:GLU:HB3	1.83	0.61
14:M:827:LEU:HD21	14:M:859:LYS:HE2	1.83	0.61
1:N:390:LEU:HD11	1:N:453:HIS:CE1	2.36	0.60
3:B:2:ILE:HG22	3:B:3:ILE:H	1.66	0.60
3:B:19:GLU:OE2	9:H:167:LYS:NZ	2.34	0.60
12:K:50:LYS:HE2	12:K:55:LYS:HE3	1.82	0.60
1:N:250:LEU:HD22	14:M:1121:ASN:HD22	1.64	0.60
1:N:370:SER:N	1:N:485:THR:OG1	2.33	0.60
3:B:60:LEU:HB3	9:H:203:ARG:HG3	1.84	0.60
9:H:246:GLU:HB3	9:H:270:LYS:HB2	1.83	0.60
9:H:330:MET:HB3	9:H:334:ARG:HH12	1.66	0.60
1:N:369:ILE:HD13	1:N:498:ALA:HB1	1.83	0.60
3:B:51:ALA:O	14:M:717:LYS:N	2.23	0.60
6:E:61:GLU:HG2	6:E:64:ARG:NH2	2.16	0.60
9:H:144:VAL:HG21	9:H:168:VAL:HG13	1.82	0.60
14:M:1023:ARG:NH2	14:M:1043:GLY:O	2.34	0.60
1:N:67:ARG:O	1:N:74:LYS:NZ	2.33	0.60
1:N:129:LEU:HD22	16:X:38:VAL:HG21	1.82	0.60
1:N:258:PRO:HG2	1:N:279:LEU:HD21	1.83	0.60
9:H:77:ARG:HG2	9:H:233:TYR:CE2	2.35	0.60
13:L:367:ASP:O	13:L:371:GLY:N	2.34	0.60
14:M:361:ARG:HB3	14:M:590:GLY:HA3	1.83	0.60
16:X:12:LEU:HD21	16:X:86:LEU:HD23	1.83	0.60
2:A:31:VAL:HG23	12:K:69:TYR:HA	1.84	0.60
14:M:580:ASP:OD2	14:M:581:ARG:N	2.34	0.60
16:X:265:GLU:HG2	16:X:301:TYR:CG	2.36	0.60
7:F:48:PRO:HG2	7:F:55:ARG:HB2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:491:ILE:O	16:X:496:ARG:NH2	2.30	0.60
1:N:1007:THR:N	1:N:1010:GLN:OE1	2.34	0.60
1:N:1145:ASN:O	1:N:1148:THR:OG1	2.12	0.60
5:D:88:PHE:CZ	5:D:146:LYS:HE3	2.36	0.60
7:F:87:ILE:HD12	7:F:114:ALA:HB1	1.83	0.60
8:G:104:MET:SD	9:H:334:ARG:HB3	2.42	0.60
1:N:933:PRO:HD2	1:N:1010:GLN:HE21	1.67	0.60
3:B:43:TYR:O	3:B:47:ARG:HD2	2.02	0.60
10:I:77:LYS:O	10:I:107:ARG:NH1	2.34	0.60
13:L:268:PHE:HB2	13:L:382:LYS:HG2	1.82	0.60
14:M:123:SER:OG	14:M:125:ARG:NH1	2.34	0.60
15:Z:178:GLU:HA	15:Z:181:ASN:ND2	2.16	0.60
7:F:71:GLN:NE2	7:F:97:GLU:O	2.34	0.59
9:H:141:ARG:HG3	9:H:143:GLN:OE1	2.02	0.59
11:J:122:GLU:OE2	11:J:125:GLN:NE2	2.35	0.59
14:M:722:THR:OG1	14:M:725:ILE:HG13	2.02	0.59
16:X:58:VAL:O	16:X:115:LYS:NZ	2.35	0.59
1:N:122:LYS:HE2	16:X:68:HIS:CB	2.32	0.59
1:N:176:HIS:CE1	1:N:185:VAL:HG22	2.38	0.59
1:N:223:VAL:HG12	1:N:227:PHE:CZ	2.36	0.59
1:N:468:LEU:HD13	1:N:1047:GLN:HE21	1.67	0.59
9:H:65:MET:SD	9:H:68:ILE:HD11	2.42	0.59
14:M:772:TYR:HD1	14:M:884:LEU:HD22	1.67	0.59
4:C:48:ARG:HA	14:M:817:PRO:HB2	1.84	0.59
14:M:44:ILE:HG22	14:M:48:ASN:ND2	2.18	0.59
16:X:109:GLU:O	16:X:114:GLY:N	2.35	0.59
1:N:381:ALA:HB3	1:N:487:ARG:HG3	1.83	0.59
1:N:471:LEU:HD13	1:N:538:LEU:HD11	1.84	0.59
9:H:193:VAL:HG11	9:H:314:GLY:HA3	1.85	0.59
13:L:343:LYS:O	13:L:345:THR:N	2.35	0.59
14:M:246:GLU:OE1	14:M:246:GLU:N	2.32	0.59
14:M:333:ILE:HD11	14:M:537:PHE:HZ	1.67	0.59
14:M:539:VAL:HB	14:M:547:GLY:H	1.68	0.59
1:N:278:ASP:HB2	1:N:279:LEU:HA	1.85	0.59
1:N:414:VAL:HG12	1:N:416:PRO:HD2	1.85	0.59
1:N:845:THR:HG23	14:M:645:LEU:HD21	1.83	0.59
5:D:4:ILE:HD13	5:D:59:VAL:HG12	1.84	0.59
14:M:772:TYR:O	14:M:773:LYS:HG3	2.03	0.59
1:N:753:LEU:HD13	1:N:1058:VAL:HB	1.84	0.59
1:N:1256:LYS:NZ	7:F:176:GLY:O	2.36	0.59
5:D:4:ILE:HG21	5:D:59:VAL:HG12	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:20:LYS:HG2	5:D:27:ARG:HH12	1.67	0.59
9:H:24:VAL:O	9:H:25:HIS:ND1	2.36	0.59
10:I:27:ARG:NH1	11:J:31:ASN:OD1	2.33	0.59
11:J:38:VAL:HG11	14:M:1091:TRP:HE1	1.68	0.59
15:Z:239:LEU:O	15:Z:243:ILE:HG13	2.02	0.59
1:N:1145:ASN:OD1	1:N:1146:ALA:N	2.36	0.59
5:D:90:TYR:HB2	5:D:145:MET:SD	2.42	0.59
7:F:97:GLU:HB2	7:F:99:ILE:HD11	1.84	0.59
12:K:60:MET:HB2	12:K:100:GLN:HB3	1.83	0.59
14:M:44:ILE:O	14:M:48:ASN:ND2	2.36	0.59
1:N:461:LEU:HB2	1:N:508:HIS:HB2	1.85	0.59
1:N:603:VAL:H	1:N:682:ARG:HH12	1.51	0.59
1:N:868:THR:HA	1:N:871:MET:HG2	1.85	0.59
3:B:43:TYR:HB3	3:B:47:ARG:HE	1.67	0.59
8:G:47:GLU:OE2	8:G:51:LEU:HB3	2.03	0.59
15:Z:251:THR:HG21	15:Z:271:ARG:HG2	1.85	0.59
1:N:476:HIS:NE2	1:N:528:ASN:OD1	2.31	0.59
2:A:35:THR:OG1	2:A:36:ARG:HG2	2.02	0.59
5:D:4:ILE:HG22	5:D:6:PHE:H	1.68	0.59
5:D:84:ARG:O	5:D:146:LYS:NZ	2.35	0.59
8:G:114:PHE:HD1	9:H:51:VAL:HG11	1.68	0.59
1:N:551:LEU:HD13	1:N:694:ARG:HD3	1.85	0.58
10:I:39:GLN:NE2	11:J:32:LYS:O	2.36	0.58
10:I:52:TYR:HA	10:I:55:LYS:HD2	1.84	0.58
14:M:1029:ALA:HB2	14:M:1041:ARG:HH22	1.68	0.58
16:X:92:ILE:O	16:X:96:LYS:HG3	2.03	0.58
1:N:401:ILE:HG22	1:N:405:ARG:HH12	1.67	0.58
9:H:42:GLN:O	9:H:46:GLU:N	2.24	0.58
14:M:762:LEU:O	14:M:890:ARG:NH1	2.35	0.58
1:N:94:HIS:HB2	1:N:97:TYR:HB2	1.84	0.58
1:N:113:CYS:HB2	1:N:226:LEU:HD13	1.84	0.58
1:N:492:VAL:HG23	1:N:539:ILE:HG12	1.85	0.58
1:N:966:LEU:HD22	1:N:1026:GLN:HG2	1.84	0.58
11:J:152:VAL:HA	11:J:188:GLY:HA2	1.83	0.58
14:M:710:TYR:CE2	14:M:771:VAL:HG13	2.38	0.58
1:N:140:ARG:HA	1:N:143:LYS:HG2	1.85	0.58
8:G:40:VAL:HG11	8:G:92:ALA:HB3	1.84	0.58
11:J:44:LEU:O	11:J:46:ILE:HG23	2.03	0.58
14:M:113:ILE:HB	14:M:133:ILE:HG22	1.85	0.58
14:M:216:MET:HB2	14:M:218:VAL:HG22	1.85	0.58
1:N:533:ARG:HG2	1:N:1040:SER:OG	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:263:GLU:OE1	9:H:265:GLN:NE2	2.36	0.58
14:M:582:CYS:HB3	14:M:584:TYR:CE2	2.38	0.58
1:N:1361:LYS:N	6:E:109:TYR:HE2	1.98	0.58
5:D:88:PHE:CE1	5:D:146:LYS:NZ	2.72	0.58
5:D:116:VAL:HG22	5:D:140:ARG:HG3	1.85	0.58
11:J:114:LEU:HD22	11:J:127:TRP:HE3	1.68	0.58
13:L:349:THR:HG21	13:L:386:SER:N	2.07	0.58
14:M:266:GLY:O	14:M:269:LEU:HG	2.03	0.58
14:M:597:ILE:HA	14:M:630:VAL:HG12	1.86	0.58
1:N:1207:VAL:HG23	1:N:1229:GLY:HA3	1.85	0.58
6:E:102:ILE:HG22	6:E:104:ILE:HG22	1.86	0.58
12:K:113:ARG:NH2	14:M:516:SER:O	2.37	0.58
14:M:537:PHE:CG	14:M:537:PHE:O	2.57	0.58
16:X:12:LEU:HD11	16:X:86:LEU:HG	1.85	0.58
9:H:234:ARG:NH1	9:H:279:ARG:O	2.37	0.58
1:N:766:ALA:HA	1:N:769:ARG:HH21	1.68	0.58
1:N:1152:SER:O	1:N:1155:THR:OG1	2.17	0.58
5:D:88:PHE:CE1	5:D:146:LYS:HD3	2.34	0.58
9:H:257:PHE:HZ	9:H:297:VAL:HG11	1.69	0.58
10:I:53:ILE:HG22	10:I:59:ARG:HD2	1.86	0.58
10:I:69:PHE:HZ	10:I:124:LEU:HD11	1.68	0.58
10:I:97:ILE:HD12	10:I:117:LEU:HD23	1.86	0.58
14:M:377:PHE:O	14:M:381:ASN:ND2	2.36	0.58
14:M:633:LEU:HD21	14:M:656:HIS:NE2	2.18	0.58
1:N:26:GLU:HG2	1:N:27:GLU:HG3	1.86	0.58
1:N:379:GLU:HG3	1:N:479:ARG:NH1	2.19	0.58
7:F:158:GLU:OE1	7:F:162:ARG:NH2	2.37	0.58
14:M:178:ILE:HG12	14:M:437:THR:HG22	1.85	0.58
14:M:779:LEU:HB3	14:M:879:PHE:HB2	1.86	0.58
1:N:641:GLN:O	1:N:643:SER:N	2.37	0.57
10:I:65:ILE:HD13	10:I:90:ARG:HH12	1.69	0.57
11:J:60:PHE:CG	11:J:63:ASP:HB2	2.38	0.57
14:M:160:GLU:HA	14:M:700:ASN:HD21	1.68	0.57
14:M:989:VAL:HG21	14:M:1004:PHE:HE2	1.69	0.57
1:N:46:ASN:ND2	1:N:52:LEU:HD12	2.18	0.57
1:N:59:ARG:HH12	1:N:75:ASN:HD21	1.50	0.57
1:N:80:LEU:HD21	14:M:1077:VAL:HB	1.85	0.57
1:N:438:GLU:HA	1:N:440:MET:HG2	1.86	0.57
1:N:894:THR:OG1	1:N:896:ASP:OD2	2.22	0.57
2:A:23:PHE:HE2	2:A:34:ILE:HB	1.69	0.57
5:D:58:LEU:HA	5:D:146:LYS:HB3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:250:ALA:HA	9:H:272:VAL:HG23	1.86	0.57
15:Z:244:TYR:HD1	16:X:319:PRO:HB3	1.69	0.57
1:N:923:ARG:O	1:N:923:ARG:NH1	2.33	0.57
1:N:1043:GLU:O	1:N:1046:THR:N	2.31	0.57
4:C:46:LYS:HE2	14:M:815:CYS:SG	2.44	0.57
7:F:76:PHE:CE1	7:F:105:VAL:HG21	2.39	0.57
9:H:54:VAL:HG21	9:H:279:ARG:HH22	1.69	0.57
9:H:286:GLU:OE2	14:M:977:VAL:HG13	2.05	0.57
14:M:159:ASN:O	14:M:700:ASN:ND2	2.37	0.57
14:M:527:CYS:O	14:M:529:GLU:N	2.35	0.57
14:M:725:ILE:HG22	14:M:731:GLU:HB2	1.87	0.57
14:M:742:ALA:HB2	14:M:925:PRO:HG3	1.86	0.57
1:N:508:HIS:CD2	14:M:1045:LEU:HD11	2.38	0.57
10:I:45:ILE:HG21	11:J:45:CYS:O	2.04	0.57
1:N:148:ASP:O	1:N:180:LYS:NZ	2.36	0.57
1:N:376:ARG:NH1	1:N:479:ARG:HH22	2.02	0.57
1:N:603:VAL:O	1:N:682:ARG:NH1	2.37	0.57
1:N:1362:LEU:HB2	11:J:58:TYR:HE1	1.68	0.57
6:E:124:ILE:HG22	6:E:125:ILE:H	1.70	0.57
13:L:266:LEU:N	13:L:380:LYS:HG3	2.16	0.57
14:M:636:ASN:O	14:M:639:ASN:N	2.38	0.57
15:Z:191:LYS:HG2	15:Z:271:ARG:HA	1.86	0.57
16:X:429:LEU:HD11	16:X:433:ARG:HH21	1.69	0.57
1:N:921:PHE:CZ	1:N:977:SER:HB2	2.40	0.57
9:H:231:ALA:HA	9:H:233:TYR:OH	2.05	0.57
14:M:140:LEU:HD23	14:M:168:TYR:CZ	2.40	0.57
15:Z:244:TYR:CD1	16:X:319:PRO:HB3	2.39	0.57
16:X:354:VAL:HA	16:X:358:PHE:HD1	1.70	0.57
1:N:45:ASP:OD2	1:N:53:TYR:OH	2.22	0.57
9:H:139:GLN:NE2	9:H:211:LEU:HD13	2.20	0.57
14:M:693:ALA:HA	14:M:1012:LEU:HA	1.86	0.57
1:N:117:LEU:HD12	1:N:120:GLU:HG3	1.87	0.57
5:D:48:TYR:CZ	5:D:147:LYS:HE2	2.40	0.57
14:M:405:HIS:ND1	14:M:405:HIS:O	2.38	0.57
3:B:43:TYR:HB3	3:B:47:ARG:NE	2.19	0.57
14:M:563:ARG:NH1	14:M:637:GLU:OE2	2.37	0.57
1:N:165:THR:HB	1:N:178:LYS:HD2	1.86	0.56
1:N:558:PHE:HB3	1:N:594:LEU:HD13	1.87	0.56
14:M:24:GLU:HG2	14:M:28:ARG:HD3	1.87	0.56
14:M:31:PRO:O	14:M:35:LYS:NZ	2.27	0.56
1:N:882:LEU:HD21	1:N:1293:LEU:HD11	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1331:ALA:HB1	1:N:1336:GLN:HB3	1.87	0.56
12:K:33:ARG:NH1	12:K:40:ASP:OD1	2.37	0.56
14:M:686:GLN:HB2	14:M:902:GLY:H	1.70	0.56
16:X:80:SER:HA	16:X:83:LEU:HD12	1.88	0.56
1:N:263:ARG:HH12	1:N:281:MET:HE1	1.68	0.56
1:N:590:LYS:HE3	5:D:44:ASN:HB3	1.87	0.56
1:N:777:PRO:HG3	14:M:935:PRO:HB3	1.86	0.56
1:N:889:THR:HG22	1:N:900:PHE:HA	1.88	0.56
5:D:24:ARG:HA	5:D:45:ILE:H	1.70	0.56
9:H:246:GLU:HG2	9:H:271:LYS:HA	1.87	0.56
13:L:353:ALA:HA	14:M:550:ARG:HH21	1.69	0.56
14:M:37:LYS:O	14:M:501:HIS:NE2	2.38	0.56
14:M:68:ASP:OD2	14:M:69:ALA:N	2.39	0.56
14:M:206:SER:O	14:M:207:THR:OG1	2.22	0.56
14:M:624:PHE:HB3	14:M:630:VAL:HG22	1.87	0.56
14:M:722:THR:HG22	14:M:961:GLY:O	2.06	0.56
14:M:848:GLN:HB3	14:M:851:TYR:OH	2.05	0.56
14:M:1088:TYR:HB2	14:M:1092:CYS:HA	1.87	0.56
15:Z:178:GLU:HB2	16:X:368:LEU:HD23	1.86	0.56
16:X:90:ARG:HD2	16:X:514:ILE:HG12	1.88	0.56
1:N:185:VAL:HG13	1:N:216:GLU:CD	2.25	0.56
1:N:579:ILE:O	8:G:83:ARG:NH2	2.38	0.56
1:N:773:LYS:HB2	5:D:21:LYS:HD2	1.87	0.56
2:A:29:PRO:HB2	12:K:71:ARG:HH21	1.71	0.56
5:D:2:ALA:HA	5:D:61:ALA:HB1	1.86	0.56
9:H:43:ASP:OD1	9:H:44:ARG:NH1	2.39	0.56
9:H:154:LYS:O	9:H:157:SER:OG	2.22	0.56
11:J:5:VAL:H	11:J:74:CYS:H	1.53	0.56
11:J:89:ILE:HB	11:J:145:GLY:H	1.71	0.56
14:M:75:LEU:HD21	14:M:400:PHE:HB3	1.88	0.56
14:M:990:THR:HA	14:M:997:PRO:HA	1.87	0.56
16:X:449:ARG:HA	16:X:452:PHE:CD2	2.40	0.56
1:N:549:ALA:O	1:N:553:THR:HG23	2.05	0.56
1:N:915:LYS:O	1:N:922:LYS:N	2.30	0.56
1:N:1264:ARG:HG3	1:N:1291:SER:HB2	1.86	0.56
9:H:97:ASN:HB3	9:H:102:GLN:NE2	2.20	0.56
14:M:285:LYS:N	14:M:308:GLU:OE1	2.39	0.56
14:M:919:CYS:HA	14:M:989:VAL:HG22	1.87	0.56
16:X:122:VAL:HG22	16:X:144:VAL:HG12	1.87	0.56
1:N:149:LYS:HE3	1:N:180:LYS:HD3	1.87	0.56
2:A:8:CYS:SG	2:A:30:TYR:OH	2.58	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:6:ARG:HD2	9:H:112:LEU:HD22	1.88	0.56
14:M:1065:LEU:HA	14:M:1068:LEU:HD12	1.88	0.56
1:N:18:ILE:HG23	14:M:1126:LEU:HD23	1.88	0.56
1:N:23:LYS:HB3	14:M:1118:GLN:HE21	1.70	0.56
1:N:411:GLY:O	1:N:419:ASN:ND2	2.38	0.56
1:N:698:ILE:HG22	14:M:931:PRO:HB3	1.86	0.56
1:N:822:GLU:OE1	1:N:822:GLU:N	2.38	0.56
1:N:899:GLN:NE2	1:N:1292:ASP:OD2	2.35	0.56
6:E:54:THR:O	6:E:56:TYR:N	2.35	0.56
7:F:18:MET:HE3	7:F:28:VAL:O	2.06	0.56
14:M:222:ARG:HB3	14:M:224:TYR:HE2	1.71	0.56
14:M:401:ASP:OD1	14:M:402:VAL:N	2.39	0.56
1:N:32:ALA:HB2	1:N:85:TYR:HB2	1.86	0.56
1:N:122:LYS:HZ2	16:X:72:VAL:H	1.53	0.56
7:F:176:GLY:HA2	7:F:181:ARG:HH21	1.71	0.56
8:G:106:VAL:HG13	9:H:45:PHE:CZ	2.41	0.56
10:I:94:ALA:HB2	10:I:121:THR:HG23	1.88	0.56
16:X:90:ARG:HD2	16:X:514:ILE:HG23	1.87	0.56
1:N:387:ALA:O	1:N:453:HIS:ND1	2.37	0.56
3:B:21:TYR:O	3:B:25:LEU:N	2.36	0.56
10:I:120:VAL:HG13	10:I:124:LEU:HD12	1.87	0.56
14:M:81:TYR:HB3	14:M:84:LEU:HG	1.88	0.56
14:M:721:LYS:O	14:M:960:TYR:HA	2.06	0.56
16:X:436:LEU:HA	16:X:523:LEU:HD13	1.86	0.56
8:G:111:LEU:HD12	9:H:326:ILE:HG23	1.88	0.56
9:H:106:LEU:HD21	9:H:210:LEU:HD11	1.88	0.56
9:H:283:PHE:HB3	14:M:988:TYR:HE2	1.71	0.56
16:X:261:GLN:OE1	16:X:264:SER:OG	2.23	0.56
1:N:270:LEU:HD21	14:M:852:LYS:HB3	1.89	0.55
1:N:391:THR:O	14:M:1025:ARG:NH1	2.40	0.55
3:B:9:THR:HG23	3:B:44:CYS:SG	2.46	0.55
1:N:23:LYS:HD2	1:N:256:LEU:HD12	1.88	0.55
1:N:33:HIS:NE2	1:N:70:GLU:OE2	2.34	0.55
1:N:83:TYR:HE2	14:M:1085:LEU:HD13	1.71	0.55
12:K:126:LEU:HD21	13:L:269:LEU:HD12	1.88	0.55
14:M:160:GLU:HA	14:M:700:ASN:ND2	2.20	0.55
14:M:537:PHE:CZ	14:M:546:LEU:HD22	2.41	0.55
1:N:163:ASN:O	1:N:178:LYS:N	2.38	0.55
7:F:21:CYS:HA	7:F:64:HIS:CE1	2.40	0.55
9:H:144:VAL:HG11	9:H:168:VAL:HG22	1.88	0.55
11:J:80:PHE:HB2	11:J:83:GLU:HG2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:47:PHE:HE1	14:M:369:LEU:HG	1.72	0.55
1:N:60:MET:O	1:N:82:HIS:HB2	2.06	0.55
1:N:391:THR:HA	1:N:451:GLU:OE1	2.06	0.55
7:F:146:PRO:HG3	7:F:196:PRO:HD3	1.88	0.55
10:I:6:ALA:HA	11:J:5:VAL:HG13	1.87	0.55
14:M:697:ILE:N	14:M:701:GLN:HE21	2.04	0.55
14:M:772:TYR:HE1	14:M:884:LEU:HD13	1.70	0.55
14:M:971:ASP:OD1	14:M:972:VAL:N	2.39	0.55
1:N:19:CYS:SG	1:N:20:PHE:N	2.79	0.55
1:N:677:ALA:HA	1:N:680:MET:HE2	1.88	0.55
1:N:1055:PHE:HA	1:N:1057:GLY:N	2.21	0.55
8:G:51:LEU:HD22	9:H:332:LYS:HB3	1.89	0.55
10:I:6:ALA:O	11:J:78:HIS:CE1	2.58	0.55
14:M:81:TYR:HB2	14:M:85:PRO:HD3	1.88	0.55
14:M:777:CYS:HB2	14:M:828:VAL:HG11	1.88	0.55
14:M:870:MET:HB2	14:M:882:LYS:HB2	1.88	0.55
1:N:94:HIS:HE1	1:N:224:LEU:HD21	1.72	0.55
9:H:232:SER:HB3	14:M:918:PHE:CD1	2.41	0.55
14:M:611:MET:HA	14:M:614:LEU:HB2	1.89	0.55
16:X:251:ILE:O	16:X:255:VAL:HG23	2.06	0.55
1:N:745:GLU:HG2	1:N:746:GLU:N	2.18	0.55
1:N:1187:TYR:HB2	1:N:1189:LEU:HB2	1.88	0.55
11:J:101:LEU:HD23	11:J:107:ILE:HD13	1.88	0.55
12:K:46:SER:HB2	12:K:59:GLU:HB2	1.88	0.55
14:M:947:LEU:HB3	14:M:972:VAL:HG11	1.89	0.55
16:X:394:MET:O	16:X:398:MET:HG2	2.07	0.55
5:D:44:ASN:N	5:D:90:TYR:OH	2.25	0.55
9:H:70:ALA:HB1	14:M:995:GLY:O	2.06	0.55
11:J:60:PHE:HE2	11:J:65:ALA:HB3	1.72	0.55
11:J:118:ALA:HA	11:J:130:GLU:HG2	1.88	0.55
14:M:102:CYS:HB3	14:M:170:ILE:HG21	1.88	0.55
14:M:542:ASN:OD1	14:M:587:SER:N	2.39	0.55
1:N:642:ASN:O	1:N:643:SER:OG	2.23	0.55
8:G:57:TYR:O	8:G:61:LYS:HG3	2.07	0.55
9:H:100:ILE:HG13	9:H:101:VAL:H	1.71	0.55
1:N:29:ARG:CD	1:N:85:TYR:CE1	2.90	0.55
1:N:709:LEU:HD13	1:N:769:ARG:HH22	1.72	0.55
7:F:131:LEU:HB3	7:F:134:GLU:HB2	1.89	0.55
7:F:171:PRO:O	7:F:208:LEU:N	2.25	0.55
9:H:23:ASN:O	9:H:303:ARG:NH1	2.35	0.55
9:H:78:ARG:NH1	14:M:915:ASP:OD2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:372:LEU:HD21	14:M:424:TRP:HB3	1.89	0.55
1:N:107:MET:O	1:N:143:LYS:NZ	2.28	0.54
1:N:494:THR:OG1	1:N:538:LEU:O	2.23	0.54
1:N:551:LEU:HD23	1:N:554:LEU:HD12	1.89	0.54
1:N:682:ARG:O	1:N:686:LEU:HB2	2.08	0.54
3:B:42:ARG:HH22	9:H:230:THR:HG22	1.72	0.54
9:H:285:ARG:NH2	14:M:1001:TYR:OH	2.39	0.54
1:N:528:ASN:HB2	1:N:529:LEU:HD12	1.90	0.54
1:N:766:ALA:HA	1:N:769:ARG:HE	1.72	0.54
6:E:86:GLU:HG2	6:E:86:GLU:O	2.07	0.54
14:M:759:LYS:N	14:M:911:VAL:O	2.38	0.54
1:N:185:VAL:HG13	1:N:216:GLU:OE1	2.06	0.54
1:N:185:VAL:CG1	1:N:216:GLU:CD	2.76	0.54
1:N:638:VAL:HG12	1:N:648:GLY:HA3	1.88	0.54
1:N:901:ILE:HG22	1:N:902:TYR:H	1.72	0.54
1:N:1297:LYS:HD3	1:N:1310:LYS:HG2	1.90	0.54
5:D:2:ALA:HB1	5:D:4:ILE:HD11	1.89	0.54
9:H:79:ILE:HA	9:H:83:GLU:HB2	1.90	0.54
13:L:269:LEU:HD23	13:L:383:LEU:HB2	1.90	0.54
14:M:117:ILE:HD12	14:M:131:LEU:HD12	1.87	0.54
14:M:708:LEU:HD22	14:M:710:TYR:CE2	2.42	0.54
14:M:1111:LYS:HG2	14:M:1115:GLN:NE2	2.23	0.54
1:N:109:CYS:SG	1:N:143:LYS:NZ	2.67	0.54
1:N:359:LYS:N	1:N:360:ARG:HH21	2.05	0.54
14:M:218:VAL:HG21	14:M:224:TYR:HD2	1.72	0.54
14:M:498:LEU:C	14:M:500:THR:H	2.11	0.54
14:M:769:CYS:O	14:M:770:LEU:HD23	2.06	0.54
14:M:800:ARG:HG3	14:M:804:TRP:HD1	1.71	0.54
5:D:31:GLU:HA	5:D:38:ASP:HA	1.90	0.54
16:X:448:GLU:HG2	16:X:452:PHE:CZ	2.43	0.54
1:N:429:LYS:HD3	1:N:437:ARG:HH12	1.73	0.54
1:N:1181:SER:O	1:N:1183:SER:N	2.40	0.54
14:M:133:ILE:HD11	14:M:380:PHE:CE1	2.43	0.54
14:M:770:LEU:O	14:M:772:TYR:HD2	1.91	0.54
14:M:831:SER:HB3	14:M:851:TYR:HB3	1.89	0.54
1:N:71:THR:HG22	14:M:1088:TYR:H	1.72	0.54
1:N:279:LEU:HD23	1:N:280:THR:N	2.21	0.54
3:B:5:VAL:HG23	9:H:109:ARG:NH1	2.22	0.54
7:F:26:TYR:HA	7:F:65:ASN:HB2	1.90	0.54
16:X:13:LEU:HD13	16:X:22:GLU:HA	1.89	0.54
1:N:175:ILE:HD13	1:N:218:LEU:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:483:HIS:O	1:N:485:THR:N	2.40	0.54
6:E:107:ARG:HG2	6:E:109:TYR:HE1	1.72	0.54
7:F:87:ILE:HG12	7:F:104:ILE:HD13	1.88	0.54
12:K:25:LEU:HA	13:L:364:GLY:HA2	1.90	0.54
12:K:52:LYS:HG3	12:K:53:GLN:OE1	2.08	0.54
14:M:236:ILE:O	14:M:239:ILE:N	2.41	0.54
16:X:28:LEU:HD21	16:X:39:ILE:HD11	1.88	0.54
1:N:366:ARG:HH21	1:N:504:GLU:HG3	1.73	0.54
1:N:1357:THR:HB	6:E:64:ARG:NH2	2.23	0.54
8:G:22:GLU:HG2	9:H:336:PHE:HA	1.90	0.54
11:J:60:PHE:HB3	11:J:63:ASP:H	1.73	0.54
14:M:1007:VAL:HG12	14:M:1008:TYR:H	1.73	0.54
1:N:29:ARG:CA	1:N:85:TYR:CD1	2.91	0.54
12:K:42:ILE:H	12:K:42:ILE:HD12	1.73	0.54
14:M:49:TYR:CD2	14:M:504:THR:HG21	2.43	0.54
14:M:246:GLU:H	14:M:246:GLU:CD	2.12	0.54
16:X:68:HIS:CE1	16:X:74:GLU:HB2	2.43	0.54
1:N:102:ILE:HA	1:N:166:VAL:HG11	1.90	0.53
1:N:469:HIS:CE1	1:N:533:ARG:HD2	2.43	0.53
4:C:36:CYS:HB2	4:C:41:TYR:HB2	1.90	0.53
4:C:51:ARG:NH2	14:M:819:GLU:OE2	2.41	0.53
5:D:15:ILE:HG13	5:D:51:ASP:O	2.08	0.53
9:H:138:LEU:HB2	9:H:214:CYS:HB2	1.90	0.53
12:K:206:VAL:HG13	13:L:373:MET:HE2	1.90	0.53
1:N:402:ASN:O	1:N:406:LYS:HG2	2.08	0.53
1:N:752:ILE:O	1:N:756:LEU:HG	2.08	0.53
1:N:801:GLN:HE21	1:N:833:PHE:HB2	1.72	0.53
12:K:49:ILE:HG12	12:K:56:VAL:HG23	1.89	0.53
14:M:394:LYS:O	14:M:399:GLN:NE2	2.38	0.53
4:C:26:ASN:HB3	4:C:28:ILE:HG13	1.91	0.53
14:M:595:PRO:HB2	14:M:659:ILE:HD11	1.89	0.53
14:M:1023:ARG:HD3	14:M:1042:ASP:HB3	1.90	0.53
1:N:120:GLU:HB2	1:N:121:GLU:O	2.09	0.53
9:H:90:GLU:OE1	9:H:224:LYS:NZ	2.30	0.53
10:I:20:LEU:HD21	10:I:49:THR:HB	1.90	0.53
14:M:498:LEU:O	14:M:500:THR:N	2.41	0.53
1:N:601:PHE:CE1	1:N:683:LEU:HD21	2.43	0.53
11:J:4:LEU:HD13	11:J:73:ARG:HD3	1.90	0.53
14:M:887:GLN:OE1	14:M:889:ARG:NH2	2.34	0.53
1:N:59:ARG:N	1:N:60:MET:HA	2.24	0.53
7:F:72:MET:SD	7:F:101:ARG:NH2	2.69	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:360:LEU:HB2	13:L:379:VAL:HB	1.90	0.53
16:X:24:ILE:HG23	16:X:57:LEU:HD11	1.91	0.53
1:N:122:LYS:NZ	16:X:72:VAL:H	2.06	0.53
1:N:790:ILE:HD11	1:N:1051:LYS:NZ	2.24	0.53
10:I:92:VAL:N	10:I:96:GLU:OE1	2.41	0.53
14:M:47:PHE:HB3	14:M:139:MET:CE	2.39	0.53
14:M:278:PHE:HB2	14:M:283:ALA:CB	2.39	0.53
14:M:815:CYS:HB2	14:M:817:PRO:HD3	1.90	0.53
14:M:921:SER:OG	14:M:923:ILE:HG12	2.09	0.53
14:M:946:LEU:CD1	14:M:1007:VAL:HG22	2.35	0.53
1:N:555:LYS:HB3	5:D:20:LYS:HD2	1.90	0.53
5:D:4:ILE:HG22	5:D:6:PHE:N	2.24	0.53
9:H:94:VAL:HG13	9:H:97:ASN:ND2	2.23	0.53
9:H:198:LEU:HD23	9:H:198:LEU:O	2.08	0.53
10:I:17:PHE:O	10:I:21:THR:HG23	2.08	0.53
14:M:1034:GLN:HB2	14:M:1037:GLU:OE1	2.08	0.53
1:N:59:ARG:NH1	1:N:67:ARG:O	2.42	0.53
11:J:97:VAL:HB	11:J:127:TRP:CE2	2.44	0.53
14:M:134:GLY:HA2	14:M:409:ASP:HA	1.91	0.53
15:Z:249:GLU:H	15:Z:272:ALA:HA	1.73	0.53
1:N:457:GLY:HA2	1:N:458:ASP:C	2.29	0.53
1:N:945:LEU:HD11	1:N:1008:PRO:HG3	1.90	0.53
5:D:96:VAL:HG12	5:D:97:TYR:N	2.24	0.53
1:N:19:CYS:HB3	14:M:1125:ARG:HB2	1.90	0.52
1:N:679:ALA:O	1:N:682:ARG:HG2	2.07	0.52
1:N:856:GLU:O	1:N:860:ASP:N	2.24	0.52
6:E:57:MET:SD	6:E:123:LEU:HB3	2.49	0.52
14:M:440:LEU:HA	14:M:451:MET:HG2	1.90	0.52
5:D:48:TYR:HB3	5:D:53:GLY:HA2	1.90	0.52
6:E:64:ARG:HB2	14:M:1062:MET:HE2	1.91	0.52
8:G:49:HIS:NE2	8:G:77:GLU:OE2	2.41	0.52
15:Z:185:PHE:HE2	15:Z:242:LEU:HD23	1.73	0.52
1:N:1303:ILE:HA	1:N:1308:LEU:HD11	1.91	0.52
9:H:166:HIS:CD2	9:H:167:LYS:HG3	2.44	0.52
10:I:12:SER:HB3	10:I:15:GLU:HB3	1.91	0.52
1:N:64:GLU:HB3	1:N:67:ARG:HH22	1.74	0.52
1:N:148:ASP:HB3	1:N:164:GLY:H	1.75	0.52
1:N:371:PRO:HA	1:N:487:ARG:HA	1.90	0.52
8:G:60:MET:HB2	8:G:68:CYS:HB3	1.92	0.52
9:H:125:ARG:HH21	9:H:136:ASP:HB2	1.74	0.52
11:J:111:PRO:HA	11:J:127:TRP:HZ3	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:338:GLN:HA	13:L:348:VAL:HA	1.91	0.52
5:D:4:ILE:CB	5:D:5:LEU:HA	2.34	0.52
5:D:29:HIS:H	5:D:52:LEU:CD1	2.23	0.52
5:D:141:VAL:O	5:D:143:LEU:N	2.43	0.52
7:F:139:ILE:H	7:F:182:TYR:HE2	1.56	0.52
8:G:74:HIS:CE1	8:G:79:LYS:HD2	2.45	0.52
14:M:63:GLU:OE1	14:M:66:THR:HG21	2.09	0.52
14:M:168:TYR:CG	14:M:440:LEU:HD11	2.45	0.52
14:M:402:VAL:HA	14:M:405:HIS:HB3	1.91	0.52
14:M:575:SER:HB2	14:M:636:ASN:HB3	1.91	0.52
14:M:639:ASN:ND2	14:M:639:ASN:O	2.42	0.52
14:M:760:ALA:N	14:M:763:ASP:OD2	2.33	0.52
14:M:820:LYS:HB3	14:M:865:TYR:CE1	2.44	0.52
16:X:102:THR:O	16:X:106:ILE:HG12	2.09	0.52
16:X:260:ASP:OD1	16:X:311:TYR:OH	2.23	0.52
16:X:265:GLU:OE2	16:X:272:ARG:NH2	2.42	0.52
1:N:555:LYS:NZ	5:D:42:ASP:OD2	2.34	0.52
1:N:1258:LEU:HD12	7:F:139:ILE:HG12	1.92	0.52
5:D:10:PHE:CB	5:D:56:PHE:HB2	2.39	0.52
5:D:135:PHE:HB2	5:D:140:ARG:NH2	2.25	0.52
10:I:73:LEU:HD12	10:I:83:LYS:HB3	1.92	0.52
14:M:222:ARG:HB3	14:M:224:TYR:CE2	2.44	0.52
1:N:94:HIS:O	1:N:98:PHE:N	2.39	0.52
3:B:44:CYS:O	3:B:48:MET:HG2	2.09	0.52
9:H:104:GLU:OE1	14:M:886:ARG:NH2	2.41	0.52
14:M:67:SER:H	14:M:74:TYR:HE1	1.57	0.52
14:M:645:LEU:HA	14:M:658:GLU:CD	2.30	0.52
5:D:147:LYS:HG2	5:D:148:LEU:H	1.75	0.52
7:F:187:ARG:HA	7:F:209:VAL:HG11	1.92	0.52
12:K:59:GLU:O	12:K:61:ALA:N	2.40	0.52
14:M:163:LEU:HD11	14:M:733:LEU:HD11	1.91	0.52
14:M:577:ASN:HB2	14:M:582:CYS:HB2	1.91	0.52
1:N:1316:LEU:HB2	1:N:1342:GLY:HA3	1.92	0.52
9:H:125:ARG:HD2	9:H:132:GLY:HA3	1.92	0.52
9:H:327:LYS:HD2	9:H:330:MET:HG3	1.92	0.52
1:N:598:LYS:HE2	5:D:120:GLY:HA2	1.92	0.52
1:N:697:SER:HB2	14:M:1003:TYR:H	1.75	0.52
1:N:859:VAL:O	1:N:863:VAL:HG22	2.10	0.52
1:N:861:THR:HA	1:N:864:LYS:HD2	1.91	0.52
5:D:140:ARG:CD	5:D:143:LEU:HD11	2.39	0.52
9:H:12:SER:O	9:H:13:ARG:HD2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:169:TYR:HA	9:H:197:ILE:O	2.09	0.52
2:A:26:ASN:OD1	14:M:273:GLN:NE2	2.43	0.51
3:B:44:CYS:SG	14:M:923:ILE:HD12	2.50	0.51
5:D:120:GLY:O	5:D:121:LEU:HD23	2.10	0.51
8:G:36:ASP:O	8:G:37:ARG:HD2	2.10	0.51
10:I:39:GLN:HG3	11:J:32:LYS:HA	1.91	0.51
14:M:619:ARG:NH1	14:M:627:GLU:OE1	2.43	0.51
14:M:982:ASN:ND2	14:M:988:TYR:OH	2.43	0.51
1:N:422:GLN:HA	1:N:428:MET:HB3	1.92	0.51
1:N:704:THR:HG22	1:N:839:TYR:CZ	2.44	0.51
7:F:130:PHE:HZ	7:F:181:ARG:HB3	1.75	0.51
9:H:285:ARG:HE	9:H:288:PHE:HE2	1.56	0.51
10:I:70:LEU:HD23	10:I:83:LYS:HD3	1.92	0.51
14:M:933:GLY:HA2	14:M:937:ARG:NH1	2.24	0.51
17:Y:-12:UNK:N	17:Y:-11:UNK:HA	2.25	0.51
1:N:277:ASP:OD1	1:N:278:ASP:HA	2.11	0.51
1:N:380:VAL:HG12	1:N:381:ALA:N	2.26	0.51
9:H:96:ASN:OD1	9:H:98:THR:OG1	2.28	0.51
9:H:109:ARG:NE	14:M:714:TYR:OH	2.44	0.51
12:K:58:LEU:H	12:K:101:THR:HG22	1.74	0.51
14:M:588:ASP:O	14:M:591:ARG:NE	2.41	0.51
14:M:638:GLU:HA	14:M:641:CYS:SG	2.51	0.51
1:N:110:LYS:HD2	1:N:222:VAL:HG13	1.92	0.51
1:N:857:GLY:O	1:N:861:THR:OG1	2.28	0.51
1:N:971:LYS:HA	1:N:974:LYS:HD2	1.92	0.51
1:N:1182:LYS:HE3	1:N:1185:MET:HA	1.92	0.51
1:N:1312:LYS:NZ	7:F:170:LEU:O	2.39	0.51
5:D:4:ILE:HD13	5:D:59:VAL:CG1	2.40	0.51
8:G:40:VAL:HG12	8:G:42:PHE:CE1	2.45	0.51
8:G:49:HIS:CG	8:G:70:TYR:HH	2.24	0.51
9:H:143:GLN:OE1	9:H:143:GLN:N	2.44	0.51
11:J:1:MET:SD	11:J:2:PHE:N	2.84	0.51
11:J:56:ASP:HB3	11:J:58:TYR:CE1	2.45	0.51
14:M:455:ILE:O	14:M:494:LYS:N	2.35	0.51
14:M:755:LEU:N	14:M:906:VAL:O	2.39	0.51
14:M:889:ARG:HD3	14:M:1017:LEU:HD13	1.92	0.51
1:N:127:ASP:OD1	1:N:131:ARG:NE	2.43	0.51
4:C:22:CYS:HB2	4:C:41:TYR:CD1	2.44	0.51
7:F:129:GLN:OE1	7:F:129:GLN:N	2.43	0.51
12:K:32:VAL:HG23	12:K:33:ARG:HG2	1.93	0.51
1:N:115:ILE:O	1:N:158:HIS:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:219:ASN:O	1:N:222:VAL:HG12	2.10	0.51
1:N:1145:ASN:HB3	1:N:1148:THR:HG23	1.91	0.51
1:N:1235:VAL:HA	1:N:1238:THR:HG23	1.92	0.51
5:D:12:VAL:HG12	5:D:30:CYS:HB3	1.92	0.51
7:F:73:PHE:CD2	7:F:99:ILE:HD12	2.45	0.51
9:H:49:PHE:HE2	9:H:68:ILE:HG12	1.75	0.51
10:I:19:LEU:HB3	11:J:49:PHE:CE1	2.45	0.51
12:K:43:PRO:HA	12:K:44:HIS:C	2.31	0.51
14:M:831:SER:HB3	14:M:851:TYR:CG	2.46	0.51
1:N:585:PRO:HG2	5:D:93:TYR:HB2	1.92	0.51
4:C:18:ILE:HD11	4:C:47:LYS:HG2	1.92	0.51
9:H:130:GLU:O	9:H:131:GLU:HB3	2.09	0.51
10:I:90:ARG:HG2	10:I:124:LEU:HD13	1.93	0.51
1:N:120:GLU:OE1	1:N:156:CYS:HA	2.10	0.51
1:N:705:PRO:HB3	1:N:796:ILE:HG23	1.93	0.51
1:N:901:ILE:HG22	1:N:902:TYR:N	2.26	0.51
1:N:911:ALA:HB3	1:N:1025:ALA:HB2	1.92	0.51
1:N:1297:LYS:NZ	1:N:1310:LYS:HB3	2.26	0.51
3:B:47:ARG:NH1	14:M:740:THR:OG1	2.44	0.51
6:E:94:MET:HA	6:E:97:LEU:HD12	1.92	0.51
9:H:108:HIS:HB3	14:M:768:ARG:HH22	1.76	0.51
14:M:633:LEU:HD21	14:M:656:HIS:CD2	2.46	0.51
14:M:898:SER:OG	14:M:899:SER:N	2.44	0.51
1:N:942:LYS:O	1:N:946:ILE:N	2.36	0.51
4:C:31:ARG:HH11	4:C:31:ARG:HG3	1.76	0.51
7:F:61:LEU:HD23	7:F:73:PHE:HB3	1.92	0.51
9:H:38:ASP:O	9:H:40:TRP:CD1	2.64	0.51
11:J:89:ILE:HG13	11:J:146:GLU:HB2	1.92	0.51
14:M:380:PHE:O	14:M:383:GLU:HG3	2.11	0.51
14:M:679:GLN:HE21	14:M:938:MET:CE	2.24	0.51
14:M:701:GLN:O	14:M:704:ARG:HG2	2.10	0.51
14:M:722:THR:H	14:M:725:ILE:HD12	1.76	0.51
1:N:307:MET:HA	1:N:310:TRP:CD1	2.46	0.51
1:N:360:ARG:HH22	14:M:1052:ARG:HD2	1.75	0.51
3:B:56:ILE:HG13	3:B:57:GLU:N	2.26	0.51
7:F:50:GLU:OE1	7:F:50:GLU:N	2.26	0.51
8:G:94:GLU:HB2	8:G:95:PRO:HD3	1.92	0.51
10:I:85:GLN:NE2	11:J:81:LEU:O	2.44	0.51
12:K:136:ARG:NH2	14:M:250:GLU:OE2	2.44	0.51
14:M:539:VAL:O	14:M:546:LEU:HA	2.11	0.51
14:M:1078:ASP:OD2	14:M:1102:SER:N	2.36	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:72:CYS:HB2	1:N:82:HIS:HE1	1.74	0.50
1:N:567:ILE:CD1	1:N:600:ILE:HG23	2.40	0.50
4:C:19:CYS:HB2	4:C:22:CYS:O	2.11	0.50
5:D:15:ILE:HG12	5:D:52:LEU:HD23	1.93	0.50
8:G:50:THR:HG22	9:H:78:ARG:HE	1.77	0.50
9:H:99:SER:OG	9:H:100:ILE:N	2.44	0.50
10:I:9:ALA:HB2	11:J:4:LEU:H	1.76	0.50
10:I:66:VAL:HG22	10:I:87:LEU:HD22	1.91	0.50
12:K:49:ILE:N	12:K:206:VAL:HG21	2.26	0.50
14:M:224:TYR:CG	14:M:233:ASP:HB3	2.45	0.50
14:M:651:ASN:O	14:M:653:ASP:N	2.39	0.50
14:M:1106:ILE:HD12	14:M:1107:PRO:HD2	1.92	0.50
1:N:550:TYR:CZ	1:N:554:LEU:HD21	2.46	0.50
1:N:883:CYS:SG	1:N:884:SER:N	2.84	0.50
7:F:160:LEU:HD22	7:F:165:LEU:HB3	1.93	0.50
14:M:321:VAL:HB	14:M:322:PRO:HD2	1.92	0.50
14:M:575:SER:O	14:M:583:VAL:HA	2.11	0.50
14:M:597:ILE:HB	14:M:657:LEU:HB3	1.93	0.50
16:X:237:ALA:HB1	16:X:242:PHE:HE2	1.76	0.50
17:Y:9:UNK:C	17:Y:11:UNK:H	2.24	0.50
1:N:479:ARG:O	1:N:479:ARG:HG2	2.11	0.50
1:N:699:GLY:O	14:M:943:LEU:HD13	2.11	0.50
6:E:65:VAL:HA	6:E:68:THR:HG22	1.92	0.50
7:F:87:ILE:HA	7:F:90:TYR:CD2	2.46	0.50
11:J:17:GLN:HB3	11:J:20:ARG:HB2	1.93	0.50
14:M:215:ASN:OD1	14:M:216:MET:N	2.44	0.50
14:M:538:LEU:HD22	14:M:582:CYS:HA	1.92	0.50
14:M:620:ASN:O	14:M:621:PHE:CD2	2.63	0.50
16:X:239:LEU:O	16:X:243:HIS:ND1	2.27	0.50
1:N:870:TYR:O	1:N:873:ARG:HG3	2.11	0.50
1:N:945:LEU:HD21	1:N:1008:PRO:HG3	1.94	0.50
7:F:41:LYS:O	7:F:45:GLY:N	2.40	0.50
7:F:94:MET:O	7:F:99:ILE:HG12	2.12	0.50
9:H:217:GLY:HA3	9:H:225:PHE:CE2	2.46	0.50
11:J:195:LEU:HD13	11:J:201:TRP:NE1	2.26	0.50
1:N:363:PHE:CZ	14:M:1025:ARG:HG2	2.46	0.50
1:N:421:ILE:HG23	1:N:450:VAL:HA	1.93	0.50
2:A:14:VAL:H	2:A:23:PHE:HE1	1.58	0.50
10:I:76:HIS:O	10:I:78:LEU:HD12	2.11	0.50
12:K:48:LYS:N	12:K:57:GLU:O	2.44	0.50
14:M:307:GLU:CB	14:M:310:ARG:HH21	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:337:VAL:HG22	14:M:341:ARG:HH12	1.75	0.50
14:M:756:VAL:HG12	14:M:916:MET:HE1	1.94	0.50
1:N:380:VAL:HG23	1:N:476:HIS:HB3	1.93	0.50
12:K:50:LYS:HD2	12:K:204:PRO:HG3	1.93	0.50
14:M:225:LEU:HB3	14:M:227:HIS:CD2	2.47	0.50
14:M:790:VAL:HG11	14:M:831:SER:HB2	1.93	0.50
1:N:553:THR:HG21	1:N:650:MET:HG2	1.92	0.50
1:N:660:LYS:HE2	1:N:922:LYS:NZ	2.27	0.50
1:N:884:SER:HB2	1:N:1031:SER:N	2.25	0.50
6:E:62:ARG:NH2	6:E:124:ILE:O	2.37	0.50
16:X:354:VAL:O	16:X:359:GLY:N	2.44	0.50
5:D:93:TYR:CD1	5:D:142:TYR:HD1	2.24	0.50
10:I:119:THR:O	10:I:123:ILE:HG22	2.12	0.50
12:K:50:LYS:HD3	12:K:55:LYS:HB2	1.92	0.50
14:M:126:ILE:O	14:M:128:ARG:NE	2.44	0.50
14:M:284:LEU:O	14:M:288:GLY:N	2.44	0.50
14:M:308:GLU:HG3	14:M:309:ALA:N	2.27	0.50
14:M:356:TYR:HB3	14:M:359:ASN:ND2	2.26	0.50
14:M:912:PRO:HD2	14:M:915:ASP:OD1	2.11	0.50
1:N:393:PRO:HD2	1:N:511:GLN:HB2	1.94	0.50
1:N:587:THR:HA	5:D:91:VAL:O	2.12	0.50
1:N:822:GLU:HG2	1:N:825:SER:HB3	1.94	0.50
10:I:96:GLU:O	10:I:101:VAL:N	2.44	0.50
10:I:97:ILE:O	10:I:104:SER:OG	2.30	0.50
11:J:92:CYS:HG	11:J:144:THR:HG1	1.60	0.50
14:M:407:ARG:HG2	14:M:410:GLN:HB2	1.93	0.50
1:N:29:ARG:HD3	1:N:256:LEU:HD21	1.93	0.49
1:N:185:VAL:CG2	1:N:216:GLU:HB2	2.41	0.49
5:D:98:ARG:HG2	5:D:135:PHE:CZ	2.47	0.49
7:F:35:GLN:CD	7:F:43:GLN:HE21	2.15	0.49
10:I:73:LEU:HB2	10:I:83:LYS:HE3	1.92	0.49
14:M:26:LYS:HG3	14:M:27:TRP:HD1	1.77	0.49
14:M:98:SER:HB2	14:M:99:PRO:HD2	1.93	0.49
14:M:108:THR:HG22	14:M:172:LYS:H	1.76	0.49
16:X:285:THR:HG23	16:X:338:LEU:HD11	1.94	0.49
16:X:330:GLY:HA2	16:X:332:GLY:H	1.77	0.49
4:C:17:TYR:HE1	4:C:46:LYS:HE3	1.78	0.49
7:F:49:SER:OG	7:F:52:ARG:HA	2.11	0.49
9:H:108:HIS:HB3	14:M:768:ARG:NH2	2.27	0.49
12:K:66:ASN:HB2	12:K:69:TYR:CE2	2.47	0.49
14:M:807:GLU:HG2	14:M:808:ILE:HG12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:924:VAL:HG23	1:N:1014:PHE:HE1	1.77	0.49
1:N:1169:GLY:HA2	1:N:1178:ARG:HE	1.77	0.49
4:C:16:ILE:O	4:C:16:ILE:HG22	2.12	0.49
5:D:116:VAL:HG12	5:D:118:TYR:CE1	2.45	0.49
9:H:145:ARG:HA	9:H:207:GLU:HG3	1.95	0.49
11:J:110:PRO:O	11:J:113:SER:OG	2.27	0.49
14:M:278:PHE:HB2	14:M:283:ALA:HB2	1.94	0.49
14:M:545:ILE:O	14:M:546:LEU:HD12	2.11	0.49
14:M:846:PRO:O	14:M:848:GLN:N	2.40	0.49
15:Z:191:LYS:HD2	15:Z:271:ARG:HH11	1.77	0.49
16:X:394:MET:O	16:X:397:LYS:HG3	2.13	0.49
1:N:111:THR:H	1:N:162:PHE:HD2	1.59	0.49
1:N:514:GLU:HA	6:E:71:LEU:CD2	2.42	0.49
1:N:568:ILE:HD11	8:G:67:PHE:CD2	2.47	0.49
1:N:1189:LEU:HB3	1:N:1193:LYS:NZ	2.26	0.49
14:M:475:GLN:HG3	14:M:479:LEU:HB2	1.94	0.49
1:N:640:ILE:HG23	1:N:644:GLU:O	2.11	0.49
9:H:106:LEU:HD11	9:H:208:ILE:HD13	1.94	0.49
14:M:29:LEU:HD22	14:M:33:PHE:HE1	1.77	0.49
14:M:291:VAL:CG2	14:M:293:ARG:HG2	2.42	0.49
14:M:803:ILE:O	14:M:807:GLU:N	2.46	0.49
14:M:950:LYS:N	14:M:1006:PRO:HD2	2.27	0.49
1:N:88:LEU:HB2	1:N:255:LEU:HD21	1.93	0.49
1:N:545:PHE:HD1	1:N:688:PRO:HD3	1.76	0.49
7:F:13:ILE:O	7:F:17:ILE:HG12	2.11	0.49
11:J:82:ASP:HB3	11:J:151:ARG:HG2	1.95	0.49
12:K:55:LYS:HA	12:K:103:CYS:HA	1.95	0.49
14:M:37:LYS:HE3	14:M:501:HIS:HB3	1.94	0.49
14:M:307:GLU:O	14:M:310:ARG:N	2.35	0.49
14:M:1028:ARG:NH1	14:M:1109:ALA:HB2	2.27	0.49
1:N:373:PRO:HD3	14:M:749:TYR:CE1	2.48	0.49
1:N:468:LEU:HA	1:N:1043:GLU:HG2	1.94	0.49
1:N:669:ARG:NH2	1:N:911:ALA:HA	2.28	0.49
1:N:883:CYS:O	1:N:890:VAL:HG13	2.12	0.49
1:N:1241:VAL:HB	1:N:1243:GLY:H	1.77	0.49
6:E:89:PRO:O	6:E:91:LEU:N	2.43	0.49
7:F:76:PHE:CD1	7:F:105:VAL:HG21	2.48	0.49
7:F:102:ALA:HB3	7:F:127:LEU:HD21	1.94	0.49
12:K:113:ARG:CB	13:L:271:LEU:H	2.26	0.49
14:M:30:LEU:HD11	14:M:660:GLU:OE1	2.12	0.49
14:M:230:LEU:HD13	14:M:287:ILE:HD11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:538:LEU:HB2	14:M:582:CYS:HA	1.93	0.49
14:M:762:LEU:HD22	14:M:891:PRO:HD2	1.95	0.49
1:N:51:LEU:HB3	1:N:58:HIS:HE1	1.78	0.49
1:N:1264:ARG:NH1	1:N:1292:ASP:OD1	2.46	0.49
12:K:43:PRO:HB3	12:K:45:LEU:HG	1.94	0.49
12:K:203:GLU:O	12:K:205:TRP:N	2.43	0.49
14:M:455:ILE:N	14:M:494:LYS:O	2.24	0.49
14:M:674:TYR:HB3	14:M:677:HIS:HD2	1.78	0.49
1:N:13:LYS:HA	14:M:1131:TYR:HD2	1.76	0.49
1:N:495:PRO:HB3	1:N:538:LEU:HD13	1.94	0.49
1:N:595:TRP:HD1	1:N:600:ILE:HD11	1.77	0.49
2:A:34:ILE:O	2:A:35:THR:HB	2.13	0.49
3:B:42:ARG:O	3:B:46:ARG:HG3	2.12	0.49
9:H:115:ILE:O	9:H:315:VAL:HG22	2.13	0.49
9:H:196:ASP:N	9:H:196:ASP:OD1	2.46	0.49
11:J:90:LYS:HE3	11:J:100:SER:HB3	1.95	0.49
14:M:596:TYR:CE1	14:M:643:ILE:HD13	2.47	0.49
14:M:676:HIS:CE1	14:M:964:PHE:H	2.30	0.49
14:M:1055:LEU:HD12	14:M:1067:ARG:HG2	1.94	0.49
1:N:767:CYS:SG	1:N:796:ILE:HB	2.53	0.49
5:D:93:TYR:HD1	5:D:142:TYR:CD1	2.24	0.49
7:F:105:VAL:HG13	7:F:132:GLN:HB2	1.95	0.49
10:I:58:CYS:HA	10:I:90:ARG:HE	1.78	0.49
14:M:139:MET:SD	14:M:167:GLY:HA2	2.53	0.49
14:M:527:CYS:SG	14:M:528:GLY:N	2.84	0.49
14:M:539:VAL:HB	14:M:547:GLY:N	2.27	0.49
1:N:93:PHE:HB2	1:N:98:PHE:CE2	2.47	0.48
1:N:450:VAL:HG22	1:N:451:GLU:H	1.78	0.48
1:N:1301:LEU:HB2	1:N:1310:LYS:HD2	1.95	0.48
2:A:30:TYR:HA	12:K:69:TYR:HD1	1.77	0.48
9:H:104:GLU:HG2	14:M:888:THR:HG21	1.94	0.48
12:K:54:GLN:HB3	12:K:104:SER:HB3	1.94	0.48
1:N:29:ARG:HB2	1:N:85:TYR:CE1	2.45	0.48
1:N:88:LEU:HD21	1:N:284:THR:HG22	1.95	0.48
8:G:44:LEU:HD12	8:G:80:ILE:HD11	1.95	0.48
14:M:307:GLU:HG3	14:M:308:GLU:H	1.77	0.48
14:M:772:TYR:CD1	14:M:884:LEU:HD22	2.47	0.48
1:N:136:TYR:HB3	1:N:239:LEU:HA	1.95	0.48
1:N:581:VAL:HA	1:N:605:LEU:CB	2.43	0.48
1:N:1238:THR:O	1:N:1240:GLY:N	2.45	0.48
3:B:20:ALA:O	3:B:24:LEU:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:48:ARG:HH21	9:H:96:ASN:CG	2.16	0.48
6:E:119:GLY:O	6:E:122:GLU:HG2	2.12	0.48
9:H:81:LEU:CD2	9:H:231:ALA:HB3	2.43	0.48
9:H:95:TYR:O	9:H:209:ASP:HB2	2.13	0.48
12:K:56:VAL:HG13	12:K:102:PHE:HD2	1.79	0.48
16:X:86:LEU:O	16:X:90:ARG:NH2	2.47	0.48
1:N:119:GLN:H	1:N:120:GLU:HA	1.78	0.48
1:N:219:ASN:ND2	1:N:221:LEU:HD13	2.27	0.48
1:N:902:TYR:CE2	1:N:1028:GLU:HG3	2.48	0.48
6:E:86:GLU:HG2	6:E:95:LYS:HD3	1.95	0.48
14:M:70:ASP:OD1	14:M:73:TRP:N	2.42	0.48
14:M:337:VAL:HG23	14:M:581:ARG:HH22	1.77	0.48
14:M:672:ILE:H	14:M:672:ILE:HD12	1.79	0.48
16:X:351:GLU:HG2	16:X:363:ALA:HB1	1.95	0.48
16:X:380:VAL:HG21	16:X:395:LEU:HD12	1.95	0.48
5:D:6:PHE:HB2	5:D:60:ILE:H	1.78	0.48
7:F:94:MET:SD	7:F:99:ILE:HG13	2.53	0.48
8:G:54:SER:O	8:G:57:TYR:HB3	2.13	0.48
13:L:368:SER:HA	13:L:371:GLY:C	2.34	0.48
14:M:47:PHE:HB3	14:M:139:MET:HE2	1.94	0.48
14:M:312:LEU:O	14:M:315:SER:OG	2.21	0.48
14:M:355:ASP:OD1	14:M:360:LYS:HD2	2.13	0.48
14:M:818:GLY:N	14:M:866:ILE:O	2.47	0.48
15:Z:186:LYS:HA	15:Z:189:GLN:OE1	2.13	0.48
16:X:434:MET:O	16:X:438:ARG:HG3	2.13	0.48
1:N:34:ILE:HD13	1:N:54:GLY:HA3	1.95	0.48
1:N:512:THR:HB	1:N:514:GLU:OE1	2.13	0.48
5:D:15:ILE:HG22	5:D:17:PRO:HD3	1.95	0.48
6:E:61:GLU:HG2	6:E:64:ARG:CZ	2.44	0.48
7:F:73:PHE:CE2	7:F:99:ILE:HD12	2.49	0.48
14:M:81:TYR:CD2	14:M:84:LEU:HD12	2.48	0.48
14:M:504:THR:HG23	14:M:505:ASP:H	1.77	0.48
14:M:1007:VAL:HG12	14:M:1008:TYR:N	2.29	0.48
1:N:261:CYS:HB3	14:M:1033:ARG:NE	2.24	0.48
1:N:400:ASN:HB3	1:N:404:LEU:CD2	2.44	0.48
1:N:1123:PRO:HA	1:N:1130:VAL:HA	1.95	0.48
12:K:136:ARG:NE	14:M:250:GLU:OE1	2.47	0.48
14:M:192:GLU:HG2	14:M:199:VAL:HB	1.95	0.48
14:M:243:MET:HG3	14:M:328:PHE:CD1	2.43	0.48
14:M:786:THR:OG1	14:M:848:GLN:NE2	2.47	0.48
14:M:802:PRO:HD2	14:M:806:HIS:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:86:LEU:HB2	16:X:87:ARG:HD2	1.96	0.48
1:N:27:GLU:HB3	14:M:1094:TYR:CD1	2.48	0.48
1:N:799:VAL:HG13	1:N:834:VAL:CG2	2.44	0.48
3:B:1:MET:O	3:B:56:ILE:HG23	2.13	0.48
9:H:289:ARG:CZ	14:M:983:TYR:HB2	2.43	0.48
14:M:39:LEU:HD23	14:M:39:LEU:H	1.78	0.48
14:M:707:THR:HG22	14:M:708:LEU:HG	1.96	0.48
1:N:410:ASN:ND2	1:N:416:PRO:O	2.47	0.48
1:N:519:ALA:HB2	14:M:1063:LEU:HD13	1.95	0.48
1:N:556:ASP:OD2	5:D:21:LYS:HE2	2.14	0.48
5:D:88:PHE:CE1	5:D:149:ALA:HB2	2.49	0.48
5:D:135:PHE:CG	5:D:136:GLU:N	2.82	0.48
6:E:69:ARG:HH21	6:E:104:ILE:HB	1.78	0.48
7:F:20:LEU:O	7:F:23:ASP:HB3	2.14	0.48
9:H:121:LEU:HD22	9:H:185:PHE:CZ	2.48	0.48
10:I:12:SER:O	10:I:16:VAL:HG23	2.13	0.48
10:I:76:HIS:NE2	10:I:112:GLN:OE1	2.46	0.48
12:K:66:ASN:HB2	12:K:69:TYR:CZ	2.48	0.48
14:M:870:MET:O	14:M:881:ILE:HA	2.14	0.48
1:N:852:MET:HE1	14:M:473:PRO:HD3	1.95	0.48
3:B:8:PHE:HD2	3:B:48:MET:SD	2.36	0.48
4:C:34:ILE:CG2	4:C:42:ARG:HA	2.41	0.48
5:D:94:GLY:H	5:D:141:VAL:CG1	2.27	0.48
9:H:108:HIS:CB	14:M:768:ARG:HH22	2.27	0.48
9:H:211:LEU:HA	9:H:211:LEU:HD23	1.74	0.48
12:K:53:GLN:NE2	12:K:106:GLN:OE1	2.47	0.48
12:K:206:VAL:HA	13:L:368:SER:HB2	1.96	0.48
14:M:93:VAL:HG11	14:M:112:PRO:HD3	1.94	0.48
14:M:223:PHE:HB3	14:M:236:ILE:HG13	1.96	0.48
14:M:251:ILE:O	14:M:255:ILE:HG12	2.13	0.48
14:M:647:GLU:HA	14:M:650:ILE:HG13	1.96	0.48
14:M:1102:SER:HB3	14:M:1104:LEU:HD21	1.96	0.48
1:N:27:GLU:HA	1:N:30:GLN:OE1	2.14	0.47
1:N:368:VAL:H	14:M:1016:VAL:HG23	1.78	0.47
1:N:404:LEU:CD1	1:N:450:VAL:HG11	2.43	0.47
1:N:1053:PHE:HE1	1:N:1277:ASN:CG	2.17	0.47
1:N:1283:ASP:OD2	1:N:1285:ARG:HB2	2.14	0.47
1:N:1340:VAL:O	1:N:1340:VAL:HG12	2.13	0.47
3:B:43:TYR:CE1	14:M:950:LYS:HD3	2.49	0.47
4:C:26:ASN:HD21	4:C:37:ARG:H	1.62	0.47
5:D:22:PHE:HE1	5:D:24:ARG:HH21	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:206:VAL:HG13	13:L:373:MET:CE	2.44	0.47
14:M:991:SER:HB3	14:M:998:LEU:HD22	1.95	0.47
15:Z:185:PHE:CE2	15:Z:242:LEU:HB2	2.48	0.47
16:X:316:ALA:HA	16:X:324:GLY:HA2	1.95	0.47
1:N:360:ARG:HH22	14:M:1052:ARG:CD	2.28	0.47
1:N:404:LEU:O	1:N:408:VAL:HG23	2.14	0.47
1:N:682:ARG:O	1:N:686:LEU:CB	2.62	0.47
1:N:961:CYS:SG	1:N:967:GLN:NE2	2.87	0.47
1:N:1189:LEU:HB3	1:N:1193:LYS:HZ2	1.79	0.47
1:N:1258:LEU:HG	1:N:1259:GLY:H	1.79	0.47
1:N:1297:LYS:N	1:N:1297:LYS:HD2	2.29	0.47
3:B:9:THR:HB	14:M:926:ASP:OD1	2.14	0.47
7:F:35:GLN:HB3	7:F:39:GLU:HB2	1.96	0.47
9:H:43:ASP:OD1	9:H:43:ASP:N	2.46	0.47
9:H:122:PHE:HD1	9:H:136:ASP:HA	1.79	0.47
12:K:56:VAL:HG12	12:K:135:LEU:HD22	1.95	0.47
14:M:161:CYS:SG	14:M:699:TYR:HB2	2.54	0.47
14:M:247:SER:O	14:M:250:GLU:N	2.40	0.47
14:M:790:VAL:CG1	14:M:831:SER:HB2	2.44	0.47
1:N:129:LEU:HD13	16:X:38:VAL:HG11	1.96	0.47
1:N:175:ILE:HB	1:N:218:LEU:HB2	1.95	0.47
3:B:1:MET:N	14:M:713:ALA:O	2.43	0.47
7:F:12:LYS:O	7:F:16:THR:HG23	2.14	0.47
10:I:51:LYS:HG3	10:I:55:LYS:HZ2	1.80	0.47
10:I:113:ILE:O	10:I:117:LEU:HG	2.14	0.47
14:M:721:LYS:HD2	14:M:958:PHE:CE2	2.48	0.47
14:M:859:LYS:HZ3	14:M:885:LEU:HD22	1.79	0.47
16:X:491:ILE:HG23	16:X:495:GLU:OE1	2.14	0.47
1:N:180:LYS:N	1:N:180:LYS:HD2	2.30	0.47
5:D:20:LYS:HE2	5:D:20:LYS:HA	1.97	0.47
6:E:66:LEU:HD13	6:E:97:LEU:HD23	1.96	0.47
7:F:107:GLN:O	7:F:133:GLN:NE2	2.47	0.47
9:H:91:LYS:HB3	9:H:213:HIS:HB2	1.95	0.47
14:M:755:LEU:HD13	14:M:897:PHE:HD2	1.80	0.47
14:M:1052:ARG:HA	14:M:1055:LEU:HB2	1.96	0.47
16:X:329:SER:OG	16:X:330:GLY:N	2.46	0.47
16:X:362:CYS:HA	16:X:365:ILE:HG22	1.96	0.47
1:N:404:LEU:HD11	6:E:90:LEU:HD12	1.96	0.47
1:N:531:THR:HG22	1:N:533:ARG:H	1.79	0.47
1:N:773:LYS:CB	5:D:21:LYS:HD2	2.45	0.47
1:N:1322:GLU:N	1:N:1323:LYS:HA	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:11:ASP:HB2	5:D:33:GLU:OE2	2.14	0.47
12:K:52:LYS:HE3	12:K:106:GLN:HE22	1.78	0.47
14:M:942:LYS:HZ1	14:M:1007:VAL:HG11	1.79	0.47
14:M:1028:ARG:CZ	14:M:1035:PRO:HD3	2.44	0.47
1:N:122:LYS:HG2	16:X:70:ARG:H	1.78	0.47
1:N:772:ASP:O	1:N:775:ASN:HB2	2.14	0.47
5:D:12:VAL:HG21	5:D:52:LEU:C	2.35	0.47
5:D:146:LYS:HD3	5:D:147:LYS:H	1.80	0.47
14:M:134:GLY:HA3	14:M:411:ILE:HB	1.96	0.47
14:M:204:THR:OG1	14:M:320:HIS:O	2.30	0.47
14:M:496:LEU:HD23	14:M:496:LEU:O	2.14	0.47
14:M:686:GLN:OE1	14:M:900:ARG:HA	2.15	0.47
14:M:755:LEU:HD21	14:M:929:MET:HE2	1.97	0.47
15:Z:235:ILE:HD13	15:Z:238:ILE:HD12	1.96	0.47
16:X:80:SER:O	16:X:84:ARG:NH1	2.47	0.47
1:N:13:LYS:HA	14:M:1131:TYR:CD2	2.49	0.47
1:N:97:TYR:HE2	1:N:250:LEU:HD12	1.80	0.47
1:N:360:ARG:HG3	14:M:1037:GLU:HG2	1.97	0.47
1:N:533:ARG:HE	1:N:1039:GLN:CB	2.28	0.47
3:B:3:ILE:H	3:B:3:ILE:HD12	1.79	0.47
5:D:32:SER:HG	5:D:34:SER:HG	1.53	0.47
7:F:3:ASP:HA	7:F:6:GLU:HB2	1.97	0.47
9:H:231:ALA:O	9:H:232:SER:OG	2.29	0.47
9:H:315:VAL:HG12	9:H:316:LEU:HG	1.95	0.47
14:M:218:VAL:HG13	14:M:226:ARG:HH22	1.79	0.47
14:M:312:LEU:HA	14:M:315:SER:HB3	1.96	0.47
14:M:413:ASN:O	14:M:417:ASN:ND2	2.38	0.47
14:M:797:ALA:H	14:M:802:PRO:CB	2.28	0.47
15:Z:176:PHE:O	15:Z:227:LYS:NZ	2.43	0.47
1:N:1241:VAL:HB	1:N:1243:GLY:N	2.30	0.47
6:E:55:PRO:HA	6:E:123:LEU:HD11	1.96	0.47
12:K:42:ILE:HB	12:K:43:PRO:HD3	1.97	0.47
12:K:42:ILE:HG12	13:L:375:VAL:HG11	1.97	0.47
12:K:50:LYS:O	12:K:54:GLN:HA	2.15	0.47
14:M:231:SER:HA	14:M:292:ARG:HD3	1.97	0.47
14:M:333:ILE:HD11	14:M:537:PHE:CZ	2.50	0.47
14:M:573:SER:OG	14:M:637:GLU:HB2	2.15	0.47
14:M:778:THR:O	14:M:780:LYS:HD2	2.14	0.47
14:M:982:ASN:HB3	14:M:984:LEU:H	1.80	0.47
1:N:176:HIS:CE1	1:N:185:VAL:H	2.32	0.47
1:N:1091:LYS:NZ	1:N:1222:LYS:HE2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:41:ASP:HB3	9:H:42:GLN:H	1.55	0.47
10:I:67:ARG:HA	10:I:70:LEU:HD12	1.97	0.47
14:M:48:ASN:O	14:M:52:ASN:HB2	2.14	0.47
14:M:168:TYR:CE2	14:M:175:GLU:HG2	2.50	0.47
14:M:231:SER:OG	14:M:290:LYS:O	2.18	0.47
14:M:364:LEU:O	14:M:367:GLN:N	2.48	0.47
14:M:782:TYR:CZ	14:M:835:VAL:HG22	2.49	0.47
1:N:364:SER:HG	1:N:365:GLY:H	1.63	0.47
1:N:377:ILE:HG23	1:N:489:ASN:ND2	2.30	0.47
1:N:913:GLU:CD	1:N:914:GLY:H	2.18	0.47
5:D:45:ILE:CD1	5:D:48:TYR:HB2	2.43	0.47
10:I:73:LEU:HB3	10:I:78:LEU:HD22	1.96	0.47
12:K:29:GLN:HA	13:L:360:LEU:HG	1.97	0.47
14:M:30:LEU:N	14:M:30:LEU:HD12	2.29	0.47
14:M:897:PHE:HE1	14:M:1011:LYS:NZ	2.13	0.47
1:N:94:HIS:CB	1:N:97:TYR:HB2	2.45	0.46
1:N:405:ARG:NH1	1:N:442:GLN:O	2.48	0.46
1:N:931:VAL:O	1:N:933:PRO:HD3	2.15	0.46
2:A:23:PHE:CE2	2:A:34:ILE:HB	2.49	0.46
3:B:3:ILE:HD13	9:H:198:LEU:HD13	1.97	0.46
5:D:28:LEU:HD13	5:D:52:LEU:HB3	1.97	0.46
8:G:44:LEU:HD22	9:H:336:PHE:CD1	2.49	0.46
10:I:22:ASP:O	10:I:25:GLU:HG3	2.15	0.46
11:J:115:GLN:CG	11:J:198:LEU:HB2	2.44	0.46
14:M:917:PRO:HB2	14:M:989:VAL:CG1	2.42	0.46
1:N:407:LEU:HG	1:N:452:ARG:HH11	1.80	0.46
1:N:601:PHE:HE1	1:N:683:LEU:HD21	1.79	0.46
2:A:8:CYS:HG	2:A:30:TYR:HH	1.50	0.46
6:E:53:THR:HG21	6:E:108:ARG:NH1	2.29	0.46
7:F:54:ARG:HA	7:F:78:GLU:OE1	2.15	0.46
7:F:61:LEU:HD21	7:F:75:PHE:CE1	2.50	0.46
8:G:57:TYR:CD1	8:G:61:LYS:HD2	2.50	0.46
11:J:48:LEU:HD22	11:J:72:PHE:CD1	2.50	0.46
14:M:308:GLU:HG3	14:M:309:ALA:H	1.80	0.46
14:M:1117:LEU:HD13	14:M:1122:ILE:HG21	1.95	0.46
16:X:312:LEU:HD13	16:X:334:TYR:CD2	2.49	0.46
1:N:514:GLU:HG3	6:E:71:LEU:HD21	1.96	0.46
1:N:591:PRO:HA	9:H:34:SER:OG	2.16	0.46
2:A:28:CYS:SG	2:A:28:CYS:O	2.72	0.46
7:F:91:CYS:O	7:F:95:GLN:HG3	2.14	0.46
9:H:287:ILE:HD12	9:H:290:ASN:HD22	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:42:ILE:O	12:K:44:HIS:HB2	2.16	0.46
14:M:209:GLU:HB3	14:M:430:LYS:HD2	1.96	0.46
14:M:597:ILE:HG12	14:M:630:VAL:HG12	1.98	0.46
14:M:645:LEU:HD23	14:M:658:GLU:OE2	2.15	0.46
14:M:1033:ARG:HD3	14:M:1112:LEU:HB2	1.97	0.46
1:N:40:ASN:ND2	1:N:44:GLN:OE1	2.48	0.46
1:N:311:ASP:HA	1:N:314:GLN:HG2	1.97	0.46
1:N:709:LEU:HD12	1:N:770:GLU:OE2	2.16	0.46
1:N:1054:HIS:C	1:N:1056:ALA:HB3	2.36	0.46
3:B:4:PRO:HA	9:H:109:ARG:HH12	1.79	0.46
3:B:56:ILE:HD12	9:H:201:GLN:NE2	2.30	0.46
9:H:16:LEU:HB2	9:H:299:LEU:HB2	1.97	0.46
9:H:94:VAL:HG13	9:H:97:ASN:CG	2.35	0.46
14:M:1033:ARG:HH22	14:M:1111:LYS:HD2	1.80	0.46
16:X:434:MET:HE2	16:X:438:ARG:HE	1.79	0.46
1:N:50:PRO:O	1:N:51:LEU:HG	2.15	0.46
1:N:588:ILE:HG22	1:N:590:LYS:H	1.80	0.46
1:N:592:VAL:HG12	9:H:33:TYR:CE1	2.50	0.46
4:C:17:TYR:O	4:C:25:GLU:HA	2.15	0.46
6:E:53:THR:HG21	6:E:108:ARG:HH11	1.81	0.46
6:E:62:ARG:O	6:E:66:LEU:HG	2.16	0.46
8:G:49:HIS:CE1	8:G:70:TYR:HH	2.25	0.46
9:H:21:VAL:O	14:M:999:GLU:HG3	2.15	0.46
9:H:222:HIS:O	9:H:224:LYS:N	2.49	0.46
10:I:70:LEU:O	10:I:74:LYS:HG2	2.15	0.46
12:K:30:TYR:O	13:L:358:GLN:HA	2.14	0.46
12:K:106:GLN:HG3	12:K:133:LEU:HG	1.97	0.46
13:L:338:GLN:HB3	13:L:348:VAL:HG22	1.97	0.46
14:M:686:GLN:O	14:M:686:GLN:NE2	2.49	0.46
16:X:526:TYR:O	16:X:530:THR:N	2.41	0.46
1:N:163:ASN:HA	1:N:180:LYS:NZ	2.31	0.46
1:N:470:LYS:CG	1:N:533:ARG:HH22	2.26	0.46
1:N:486:PHE:CD2	1:N:505:MET:HB3	2.51	0.46
9:H:54:VAL:HB	9:H:62:GLU:HG2	1.96	0.46
9:H:92:VAL:CG1	9:H:210:LEU:HD13	2.45	0.46
9:H:237:PRO:HA	9:H:301:ARG:HA	1.97	0.46
14:M:394:LYS:HG3	14:M:396:ARG:NH2	2.30	0.46
14:M:580:ASP:HB3	14:M:582:CYS:SG	2.56	0.46
14:M:950:LYS:HG2	14:M:976:LEU:HD22	1.98	0.46
16:X:62:LEU:HD21	16:X:85:MET:CE	2.45	0.46
1:N:71:THR:HG22	1:N:71:THR:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:890:VAL:HG12	1:N:898:ILE:HD12	1.98	0.46
4:C:48:ARG:HB2	14:M:817:PRO:O	2.15	0.46
9:H:135:ILE:HD13	9:H:180:ASN:HD21	1.81	0.46
9:H:330:MET:HB3	9:H:334:ARG:NH1	2.30	0.46
11:J:90:LYS:N	11:J:98:HIS:O	2.47	0.46
14:M:212:SER:O	14:M:214:THR:HG23	2.16	0.46
16:X:117:THR:HA	16:X:233:ILE:C	2.36	0.46
1:N:107:MET:SD	1:N:107:MET:N	2.88	0.46
1:N:183:LYS:H	1:N:184:LYS:HZ3	1.64	0.46
1:N:391:THR:HG22	14:M:1025:ARG:HH11	1.81	0.46
1:N:744:ALA:HA	1:N:747:THR:HB	1.97	0.46
5:D:88:PHE:HE1	5:D:149:ALA:HB2	1.81	0.46
5:D:96:VAL:HG12	5:D:97:TYR:H	1.80	0.46
9:H:233:TYR:HE1	9:H:309:SER:O	1.98	0.46
9:H:302:VAL:HG12	9:H:304:ASP:H	1.81	0.46
14:M:569:ASN:O	14:M:571:PHE:N	2.49	0.46
14:M:816:SER:O	14:M:818:GLY:N	2.48	0.46
14:M:1001:TYR:O	14:M:1002:ILE:HD13	2.16	0.46
1:N:747:THR:C	1:N:749:GLU:H	2.19	0.46
1:N:844:PRO:HB2	14:M:476:TRP:HZ2	1.81	0.46
1:N:1028:GLU:HA	1:N:1029:PRO:C	2.36	0.46
3:B:4:PRO:HA	9:H:109:ARG:NH2	2.29	0.46
9:H:41:ASP:H	9:H:44:ARG:NH2	2.14	0.46
14:M:372:LEU:HG	14:M:424:TRP:HE3	1.81	0.46
16:X:80:SER:HB2	16:X:84:ARG:HH12	1.81	0.46
1:N:977:SER:O	1:N:980:ILE:HG22	2.16	0.46
1:N:1044:PRO:HB2	1:N:1275:MET:HE3	1.98	0.46
5:D:87:GLN:C	5:D:88:PHE:HD1	2.19	0.46
5:D:98:ARG:NH2	5:D:113:SER:O	2.49	0.46
7:F:19:GLN:NE2	7:F:141:GLU:OE2	2.49	0.46
14:M:249:GLN:O	14:M:253:GLN:HG2	2.16	0.46
14:M:319:THR:O	14:M:321:VAL:HG22	2.15	0.46
14:M:778:THR:OG1	14:M:780:LYS:NZ	2.32	0.46
14:M:989:VAL:HG21	14:M:1004:PHE:CE2	2.50	0.46
1:N:321:ILE:HG13	1:N:322:ASN:N	2.31	0.45
1:N:558:PHE:CE1	1:N:596:THR:HG22	2.51	0.45
1:N:584:PRO:HA	1:N:585:PRO:HD3	1.79	0.45
1:N:1240:GLY:H	1:N:1241:VAL:HA	1.81	0.45
3:B:43:TYR:HD2	14:M:923:ILE:HG13	1.81	0.45
5:D:8:ASP:O	5:D:57:ARG:NH1	2.47	0.45
5:D:28:LEU:CB	5:D:41:LEU:HB2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:104:ILE:CD1	7:F:127:LEU:HD13	2.46	0.45
10:I:23:LEU:O	10:I:27:ARG:HG2	2.16	0.45
14:M:322:PRO:O	14:M:324:LYS:HG2	2.16	0.45
14:M:364:LEU:H	14:M:367:GLN:HB2	1.81	0.45
14:M:933:GLY:O	14:M:937:ARG:HB2	2.15	0.45
14:M:1055:LEU:HD13	14:M:1058:TYR:OH	2.15	0.45
16:X:156:PHE:O	16:X:238:ASN:N	2.48	0.45
1:N:53:TYR:O	1:N:55:VAL:N	2.49	0.45
1:N:941:SER:O	1:N:943:ASN:N	2.49	0.45
1:N:1078:LYS:HZ2	1:N:1252:TYR:HB3	1.81	0.45
1:N:1099:ARG:HA	1:N:1102:LYS:HD2	1.98	0.45
8:G:101:ASN:CG	9:H:337:LEU:HD21	2.37	0.45
9:H:304:ASP:HB2	9:H:305:HIS:HD2	1.81	0.45
14:M:847:GLN:C	14:M:849:PRO:HD3	2.36	0.45
14:M:1028:ARG:NH1	14:M:1035:PRO:HD3	2.32	0.45
1:N:35:GLN:HA	1:N:86:ILE:HA	1.96	0.45
1:N:558:PHE:HE1	1:N:596:THR:HG22	1.81	0.45
2:A:29:PRO:O	12:K:71:ARG:NH2	2.49	0.45
5:D:50:VAL:HB	5:D:53:GLY:O	2.16	0.45
7:F:90:TYR:HA	7:F:93:ARG:HD2	1.98	0.45
7:F:170:LEU:HB2	7:F:208:LEU:HG	1.98	0.45
9:H:140:PHE:HB2	9:H:212:MET:HB3	1.98	0.45
10:I:69:PHE:HD2	10:I:87:LEU:HD23	1.81	0.45
13:L:343:LYS:O	13:L:345:THR:HG22	2.16	0.45
14:M:540:PHE:HE1	14:M:546:LEU:HG	1.81	0.45
14:M:605:ALA:O	14:M:629:LEU:HD22	2.16	0.45
14:M:835:VAL:HG12	14:M:835:VAL:O	2.16	0.45
16:X:496:ARG:O	16:X:500:GLU:HG2	2.16	0.45
1:N:970:LYS:O	1:N:974:LYS:HG3	2.16	0.45
5:D:96:VAL:HG21	5:D:140:ARG:N	2.28	0.45
5:D:98:ARG:NH2	5:D:113:SER:H	2.15	0.45
7:F:88:LYS:HA	7:F:91:CYS:SG	2.57	0.45
11:J:99:VAL:HG21	11:J:150:PHE:CZ	2.52	0.45
13:L:275:LEU:O	13:L:277:GLY:N	2.48	0.45
14:M:97:VAL:HG13	14:M:101:GLU:HB3	1.99	0.45
14:M:563:ARG:HB2	14:M:568:ILE:O	2.16	0.45
14:M:676:HIS:HE1	14:M:964:PHE:HA	1.82	0.45
16:X:52:LYS:O	16:X:56:VAL:HG23	2.15	0.45
1:N:72:CYS:SG	14:M:1087:GLY:HA2	2.57	0.45
1:N:1264:ARG:NH2	1:N:1292:ASP:HA	2.31	0.45
4:C:41:TYR:C	4:C:43:ILE:HD12	2.37	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:61:ALA:O	5:D:143:LEU:HA	2.17	0.45
6:E:67:GLY:O	6:E:70:ALA:HB3	2.17	0.45
7:F:85:LYS:O	7:F:89:VAL:HG23	2.17	0.45
9:H:309:SER:O	9:H:309:SER:OG	2.31	0.45
12:K:32:VAL:C	12:K:34:PRO:HD3	2.37	0.45
12:K:113:ARG:O	12:K:114:TYR:CD1	2.69	0.45
14:M:946:LEU:HD23	14:M:1004:PHE:O	2.16	0.45
16:X:4:ALA:HB2	16:X:441:LYS:HE3	1.98	0.45
1:N:134:LEU:HD23	1:N:1337:LYS:HE3	1.98	0.45
1:N:841:GLY:HA3	14:M:676:HIS:HB3	1.98	0.45
1:N:908:ASP:OD2	1:N:1027:MET:HG3	2.16	0.45
1:N:1233:ARG:O	1:N:1236:MET:HG3	2.16	0.45
6:E:64:ARG:HB2	14:M:1062:MET:CE	2.47	0.45
9:H:252:GLU:HA	9:H:255:ARG:NH2	2.32	0.45
9:H:335:ARG:HG3	9:H:335:ARG:O	2.17	0.45
12:K:120:ARG:NH2	12:K:123:GLU:OE1	2.50	0.45
14:M:49:TYR:HD2	14:M:504:THR:HG21	1.82	0.45
14:M:234:ILE:HG23	14:M:290:LYS:HZ1	1.81	0.45
14:M:305:LYS:HG2	14:M:310:ARG:HG2	1.98	0.45
1:N:23:LYS:HB3	14:M:1118:GLN:NE2	2.32	0.45
1:N:23:LYS:HD3	1:N:256:LEU:HB2	1.99	0.45
1:N:106:GLN:NE2	1:N:110:LYS:O	2.50	0.45
1:N:393:PRO:O	1:N:449:ILE:HG23	2.16	0.45
1:N:753:LEU:HD21	1:N:808:ARG:CG	2.46	0.45
7:F:194:ILE:HG21	7:F:202:ARG:HG2	1.98	0.45
9:H:263:GLU:HG3	9:H:276:ALA:CB	2.40	0.45
14:M:498:LEU:HD12	14:M:663:THR:HA	1.98	0.45
14:M:556:VAL:HG21	14:M:576:THR:HG22	1.99	0.45
14:M:672:ILE:HG13	14:M:686:GLN:HG2	1.97	0.45
14:M:896:LYS:HD2	14:M:1014:HIS:O	2.16	0.45
16:X:106:ILE:HD11	16:X:125:VAL:HG21	1.99	0.45
16:X:290:SER:HA	16:X:293:ILE:HD12	1.99	0.45
1:N:219:ASN:OD1	1:N:220:PRO:HD2	2.16	0.45
1:N:464:ARG:HB2	1:N:472:SER:OG	2.17	0.45
1:N:468:LEU:HD22	1:N:1047:GLN:NE2	2.32	0.45
1:N:513:GLU:HG3	1:N:516:LYS:HD2	1.99	0.45
1:N:1055:PHE:HA	1:N:1057:GLY:H	1.81	0.45
11:J:87:GLY:HA3	11:J:150:PHE:HB2	1.98	0.45
13:L:272:PRO:HG2	13:L:387:PRO:HD3	1.99	0.45
13:L:327:GLY:HA2	13:L:341:LEU:HD22	1.98	0.45
14:M:760:ALA:HB3	14:M:913:GLN:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:289:SER:O	16:X:293:ILE:HG13	2.16	0.45
1:N:27:GLU:HB3	14:M:1094:TYR:HD1	1.81	0.45
1:N:33:HIS:HE2	1:N:70:GLU:CD	2.17	0.45
1:N:949:THR:HA	1:N:952:ILE:HG22	1.99	0.45
1:N:1130:VAL:H	1:N:1177:PRO:HD2	1.81	0.45
4:C:17:TYR:CD2	4:C:27:GLU:HA	2.52	0.45
8:G:111:LEU:HD13	9:H:327:LYS:HD3	1.98	0.45
11:J:197:LEU:HB2	11:J:201:TRP:CE3	2.51	0.45
14:M:155:PHE:HB3	14:M:160:GLU:O	2.17	0.45
14:M:318:LEU:HA	14:M:320:HIS:ND1	2.32	0.45
14:M:598:ILE:HD11	14:M:631:GLU:HB2	1.99	0.45
14:M:815:CYS:HB3	14:M:869:VAL:HG11	1.98	0.45
14:M:834:THR:HG22	14:M:835:VAL:HG23	1.97	0.45
15:Z:178:GLU:CB	16:X:368:LEU:HD23	2.47	0.45
16:X:80:SER:O	16:X:84:ARG:HG2	2.17	0.45
1:N:369:ILE:HD11	1:N:488:PHE:CE1	2.39	0.45
1:N:412:PRO:HA	1:N:419:ASN:ND2	2.31	0.45
1:N:533:ARG:HE	1:N:1039:GLN:HB2	1.81	0.45
1:N:551:LEU:HD23	1:N:551:LEU:HA	1.86	0.45
1:N:886:TYR:OH	6:E:61:GLU:OE2	2.11	0.45
1:N:1055:PHE:N	1:N:1056:ALA:HB3	2.32	0.45
3:B:47:ARG:NH2	14:M:1006:PRO:HG3	2.31	0.45
4:C:22:CYS:O	4:C:24:THR:N	2.49	0.45
7:F:105:VAL:HG22	7:F:132:GLN:HB2	1.99	0.45
7:F:167:GLU:OE1	7:F:167:GLU:N	2.49	0.45
8:G:29:MET:SD	8:G:41:THR:OG1	2.74	0.45
14:M:281:MET:HB2	14:M:282:GLN:NE2	2.32	0.45
14:M:677:HIS:HB3	14:M:940:VAL:HB	1.98	0.45
16:X:312:LEU:HB3	16:X:334:TYR:CE1	2.52	0.45
1:N:372:ASP:OD2	1:N:487:ARG:NH1	2.49	0.44
1:N:421:ILE:HA	1:N:451:GLU:HG2	1.99	0.44
1:N:688:PRO:O	14:M:747:SER:HA	2.16	0.44
1:N:742:CYS:N	1:N:743:THR:O	2.49	0.44
1:N:1023:MET:SD	1:N:1026:GLN:NE2	2.90	0.44
3:B:14:VAL:HG13	3:B:49:LEU:HD11	1.98	0.44
7:F:37:LEU:O	7:F:41:LYS:HG3	2.17	0.44
7:F:178:PRO:HA	7:F:181:ARG:HG3	1.98	0.44
10:I:14:TYR:CD2	10:I:66:VAL:HG23	2.52	0.44
10:I:108:LEU:HD13	10:I:113:ILE:HD13	1.98	0.44
14:M:254:MET:SD	14:M:329:ARG:NH2	2.77	0.44
14:M:412:THR:O	14:M:416:VAL:HG23	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:83:TYR:HE1	1:N:259:PRO:HD3	1.82	0.44
1:N:377:ILE:HG21	1:N:680:MET:HE3	1.98	0.44
1:N:872:GLN:O	1:N:876:VAL:HG23	2.17	0.44
3:B:7:CYS:O	3:B:9:THR:N	2.50	0.44
9:H:38:ASP:O	9:H:40:TRP:N	2.51	0.44
10:I:57:PRO:O	10:I:90:ARG:HD2	2.17	0.44
10:I:90:ARG:HD3	10:I:124:LEU:HD22	1.99	0.44
10:I:114:GLU:HA	10:I:117:LEU:HD12	1.99	0.44
14:M:241:LYS:NZ	14:M:246:GLU:O	2.50	0.44
14:M:521:GLU:HB3	14:M:548:VAL:HB	1.99	0.44
14:M:758:ASN:HB3	14:M:916:MET:CE	2.47	0.44
16:X:88:TYR:CD1	16:X:111:LEU:HD13	2.52	0.44
1:N:69:CYS:H	1:N:74:LYS:NZ	2.15	0.44
1:N:91:PRO:HB2	1:N:313:LEU:HD13	1.98	0.44
1:N:185:VAL:HG21	1:N:216:GLU:HB2	1.99	0.44
1:N:483:HIS:CG	14:M:893:ILE:HD13	2.52	0.44
5:D:113:SER:HB3	5:D:126:GLN:HG2	2.00	0.44
5:D:140:ARG:HD3	5:D:143:LEU:HD11	1.99	0.44
9:H:65:MET:O	9:H:305:HIS:HA	2.18	0.44
9:H:222:HIS:ND1	9:H:224:LYS:HG2	2.33	0.44
9:H:258:SER:HB3	9:H:259:PRO:HD2	2.00	0.44
10:I:7:ASN:HA	11:J:3:VAL:HG13	1.98	0.44
11:J:116:GLN:H	11:J:116:GLN:CD	2.20	0.44
14:M:110:SER:HB3	14:M:135:ARG:HG2	1.98	0.44
14:M:224:TYR:HA	14:M:234:ILE:O	2.17	0.44
14:M:498:LEU:HG	14:M:666:GLY:HA2	1.99	0.44
1:N:106:GLN:HG3	1:N:110:LYS:HZ3	1.83	0.44
1:N:363:PHE:O	1:N:509:LEU:N	2.50	0.44
1:N:528:ASN:HB3	1:N:539:ILE:HD11	1.98	0.44
1:N:673:GLN:CD	1:N:674:ASN:H	2.16	0.44
1:N:792:ILE:O	1:N:792:ILE:HG22	2.17	0.44
1:N:1179:GLU:HG2	1:N:1179:GLU:O	2.17	0.44
1:N:1290:LEU:O	1:N:1294:MET:HG2	2.18	0.44
1:N:1332:ALA:HB1	14:M:1121:ASN:O	2.17	0.44
5:D:4:ILE:HG12	5:D:61:ALA:HB2	2.00	0.44
9:H:186:PRO:HB3	9:H:190:ILE:HD13	1.98	0.44
10:I:61:GLN:HE22	10:I:125:PRO:HD3	1.83	0.44
10:I:66:VAL:HA	10:I:87:LEU:HD21	2.00	0.44
12:K:74:GLY:O	12:K:78:ALA:N	2.50	0.44
13:L:332:ARG:HG3	13:L:338:GLN:NE2	2.31	0.44
14:M:344:LEU:HB3	14:M:350:LYS:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:1066:GLU:O	14:M:1070:ILE:HG12	2.18	0.44
16:X:35:PRO:HA	16:X:74:GLU:HA	1.98	0.44
1:N:398:LYS:HE2	1:N:401:ILE:HD11	1.99	0.44
1:N:515:ALA:HB1	1:N:518:GLU:OE1	2.17	0.44
1:N:811:ASP:HB2	1:N:813:PHE:O	2.18	0.44
1:N:942:LYS:O	1:N:946:ILE:HG13	2.16	0.44
1:N:1297:LYS:HA	7:F:172:ARG:HB2	1.99	0.44
13:L:268:PHE:HZ	13:L:362:SER:HB2	1.82	0.44
14:M:228:ASN:HD21	14:M:320:HIS:CE1	2.35	0.44
14:M:676:HIS:HE1	14:M:964:PHE:CA	2.30	0.44
14:M:682:ARG:HD2	14:M:682:ARG:N	2.32	0.44
16:X:449:ARG:O	16:X:453:GLU:HG2	2.16	0.44
1:N:72:CYS:HB2	1:N:79:CYS:HA	1.99	0.44
1:N:560:ASP:HB3	9:H:32:ASN:ND2	2.30	0.44
1:N:646:MET:HE1	5:D:97:TYR:HB3	1.99	0.44
1:N:1075:ASN:HA	1:N:1304:THR:HG23	1.99	0.44
2:A:14:VAL:HG22	2:A:15:GLU:H	1.83	0.44
6:E:124:ILE:HG22	6:E:125:ILE:N	2.33	0.44
8:G:69:GLY:O	8:G:71:THR:HG23	2.17	0.44
9:H:235:LEU:O	9:H:307:ILE:HG22	2.18	0.44
9:H:253:LEU:HD21	9:H:293:LEU:HD13	2.00	0.44
9:H:288:PHE:O	9:H:294:LYS:NZ	2.25	0.44
11:J:89:ILE:HB	11:J:146:GLU:H	1.83	0.44
14:M:58:ILE:HG21	14:M:374:GLU:HA	1.98	0.44
14:M:768:ARG:HG2	14:M:890:ARG:HE	1.83	0.44
14:M:816:SER:N	14:M:817:PRO:HD3	2.32	0.44
14:M:1051:GLU:O	14:M:1055:LEU:HD23	2.17	0.44
16:X:66:GLN:O	16:X:68:HIS:ND1	2.48	0.44
16:X:290:SER:OG	16:X:309:ASP:OD1	2.20	0.44
1:N:392:PHE:O	1:N:451:GLU:HB3	2.18	0.44
1:N:925:LEU:O	1:N:929:LYS:HG3	2.18	0.44
3:B:4:PRO:CA	9:H:109:ARG:HH12	2.31	0.44
5:D:55:LYS:HB2	5:D:148:LEU:CD2	2.48	0.44
5:D:140:ARG:HD2	5:D:143:LEU:HD11	1.99	0.44
9:H:91:LYS:HE3	9:H:91:LYS:HB2	1.66	0.44
14:M:309:ALA:HB3	14:M:310:ARG:HD3	1.99	0.44
14:M:478:MET:O	14:M:479:LEU:HD23	2.18	0.44
14:M:529:GLU:O	14:M:531:LEU:N	2.48	0.44
14:M:897:PHE:CE1	14:M:1011:LYS:HG2	2.53	0.44
16:X:255:VAL:HG22	16:X:322:PHE:CD2	2.53	0.44
1:N:167:LYS:HG3	1:N:178:LYS:HZ3	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:265:SER:HB2	1:N:276:GLU:OE2	2.18	0.44
1:N:944:GLU:OE1	1:N:944:GLU:N	2.48	0.44
2:A:21:HIS:ND1	2:A:33:ASN:HB3	2.32	0.44
3:B:53:VAL:O	3:B:53:VAL:HG23	2.18	0.44
7:F:171:PRO:HB2	7:F:207:ARG:HG2	2.00	0.44
9:H:11:ARG:HD2	9:H:33:TYR:CE2	2.53	0.44
9:H:263:GLU:C	9:H:273:ALA:HB3	2.39	0.44
10:I:89:HIS:HB2	11:J:84:ILE:HG23	1.98	0.44
11:J:51:ILE:HG22	11:J:72:PHE:CE1	2.53	0.44
13:L:270:GLN:HB2	13:L:384:VAL:HA	2.00	0.44
14:M:187:ASN:ND2	14:M:322:PRO:HB3	2.32	0.44
14:M:1028:ARG:N	14:M:1073:ASP:OD2	2.39	0.44
14:M:1086:LEU:HD12	14:M:1111:LYS:HD3	2.00	0.44
1:N:555:LYS:HE2	5:D:120:GLY:O	2.17	0.44
1:N:699:GLY:N	1:N:702:ASP:OD2	2.48	0.44
1:N:1035:ALA:HB1	1:N:1039:GLN:HE22	1.81	0.44
2:A:28:CYS:HB2	2:A:30:TYR:CE2	2.53	0.44
7:F:172:ARG:HA	7:F:208:LEU:N	2.33	0.44
8:G:37:ARG:CB	8:G:91:PRO:HA	2.48	0.44
10:I:5:ASP:H	11:J:6:GLU:HB3	1.82	0.44
11:J:5:VAL:HB	11:J:74:CYS:HB3	2.00	0.44
14:M:392:ILE:H	14:M:392:ILE:HD12	1.83	0.44
14:M:625:LEU:HD23	14:M:630:VAL:O	2.17	0.44
16:X:81:ARG:NH1	16:X:84:ARG:HB2	2.33	0.44
1:N:369:ILE:HG13	1:N:486:PHE:O	2.17	0.43
1:N:521:VAL:O	1:N:521:VAL:HG12	2.17	0.43
2:A:35:THR:OG1	2:A:36:ARG:NH1	2.50	0.43
2:A:36:ARG:NE	2:A:36:ARG:HA	2.33	0.43
5:D:98:ARG:HH22	5:D:113:SER:H	1.64	0.43
11:J:10:THR:HG22	11:J:69:LYS:HZ3	1.83	0.43
14:M:163:LEU:HD12	14:M:163:LEU:O	2.18	0.43
14:M:302:LYS:HG2	14:M:303:LYS:H	1.82	0.43
1:N:106:GLN:NE2	1:N:110:LYS:HB2	2.33	0.43
1:N:421:ILE:HD13	1:N:450:VAL:HG23	2.00	0.43
1:N:700:ILE:HB	14:M:984:LEU:HD22	1.99	0.43
1:N:974:LYS:HE3	1:N:1022:TYR:CE2	2.53	0.43
1:N:974:LYS:O	1:N:977:SER:OG	2.26	0.43
7:F:7:THR:O	7:F:11:TRP:HD1	2.00	0.43
9:H:147:THR:OG1	9:H:148:ARG:N	2.51	0.43
13:L:272:PRO:CG	13:L:387:PRO:HD3	2.48	0.43
14:M:30:LEU:HD11	14:M:660:GLU:CD	2.38	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Z:250:MET:H	16:X:259:MET:HE1	1.82	0.43
1:N:377:ILE:HG21	1:N:680:MET:CE	2.48	0.43
5:D:4:ILE:H	5:D:5:LEU:HD23	1.82	0.43
5:D:135:PHE:HB2	5:D:140:ARG:HH21	1.82	0.43
14:M:99:PRO:HG3	14:M:160:GLU:OE1	2.19	0.43
14:M:504:THR:HG23	14:M:505:ASP:N	2.34	0.43
14:M:595:PRO:HG3	14:M:632:TYR:CE1	2.44	0.43
14:M:893:ILE:H	14:M:893:ILE:HD12	1.83	0.43
14:M:1016:VAL:HG22	14:M:1016:VAL:O	2.19	0.43
16:X:160:CYS:HB2	16:X:234:TYR:CD2	2.54	0.43
16:X:255:VAL:HG21	16:X:267:VAL:HG21	1.99	0.43
16:X:373:LYS:HE2	16:X:379:GLN:HB2	1.99	0.43
1:N:598:LYS:HE2	5:D:120:GLY:CA	2.48	0.43
5:D:87:GLN:HB2	5:D:88:PHE:CD1	2.53	0.43
8:G:56:ARG:HG2	8:G:68:CYS:CB	2.46	0.43
9:H:139:GLN:HG2	9:H:211:LEU:HD22	2.01	0.43
12:K:17:LEU:O	12:K:19:LYS:HD3	2.17	0.43
12:K:207:HIS:HB2	13:L:372:GLU:HG2	2.00	0.43
13:L:270:GLN:HE22	14:M:521:GLU:HG3	1.83	0.43
1:N:691:LEU:HD23	1:N:691:LEU:HA	1.81	0.43
1:N:771:LEU:HD22	1:N:775:ASN:ND2	2.32	0.43
1:N:907:LEU:O	1:N:1285:ARG:NE	2.45	0.43
1:N:970:LYS:O	1:N:973:ILE:HG22	2.18	0.43
7:F:71:GLN:NE2	7:F:98:ASN:O	2.52	0.43
9:H:45:PHE:O	9:H:49:PHE:HB2	2.19	0.43
9:H:119:PRO:HD2	9:H:316:LEU:HD11	2.00	0.43
10:I:72:ALA:HB3	10:I:116:LEU:HD12	1.99	0.43
12:K:50:LYS:HG3	12:K:201:ALA:HA	1.99	0.43
14:M:498:LEU:HB3	14:M:499:MET:H	1.44	0.43
14:M:758:ASN:HB3	14:M:916:MET:HE2	2.01	0.43
14:M:949:GLY:O	14:M:953:VAL:HG22	2.17	0.43
16:X:385:MET:O	16:X:385:MET:HG2	2.19	0.43
1:N:106:GLN:HG3	1:N:110:LYS:NZ	2.34	0.43
1:N:463:ASN:OD1	1:N:464:ARG:N	2.51	0.43
1:N:670:ASP:HA	1:N:671:TRP:HA	1.63	0.43
1:N:1054:HIS:O	1:N:1055:PHE:HD1	2.02	0.43
1:N:1166:ALA:CB	1:N:1178:ARG:HH22	2.32	0.43
1:N:1305:ARG:HB3	1:N:1322:GLU:OE2	2.18	0.43
5:D:47:ILE:O	5:D:49:PRO:HD3	2.18	0.43
6:E:64:ARG:HD2	14:M:1062:MET:HE1	1.99	0.43
9:H:146:CYS:SG	9:H:202:LEU:HB3	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:161:SER:O	11:J:161:SER:OG	2.33	0.43
12:K:20:SER:OG	12:K:214:ARG:NH1	2.52	0.43
12:K:25:LEU:HB3	12:K:129:LEU:HD22	2.00	0.43
12:K:74:GLY:HA3	12:K:79:LEU:HD12	2.01	0.43
13:L:346:LEU:HB3	13:L:348:VAL:HG23	2.01	0.43
14:M:21:PRO:HG2	14:M:24:GLU:H	1.82	0.43
14:M:105:ARG:HD3	14:M:874:ASN:HA	2.01	0.43
14:M:208:HIS:HB3	14:M:209:GLU:CD	2.38	0.43
14:M:279:THR:OG1	14:M:280:GLN:N	2.48	0.43
16:X:63:VAL:HG22	16:X:77:ALA:HB2	1.99	0.43
16:X:436:LEU:HB2	16:X:523:LEU:HB3	2.01	0.43
1:N:64:GLU:HB3	1:N:67:ARG:HH12	1.83	0.43
1:N:513:GLU:HA	1:N:516:LYS:HB3	2.01	0.43
5:D:92:MET:SD	5:D:119:GLY:N	2.91	0.43
11:J:129:TRP:HE1	11:J:146:GLU:HG2	1.84	0.43
14:M:697:ILE:H	14:M:701:GLN:HE21	1.66	0.43
14:M:728:ILE:O	14:M:729:GLU:HB2	2.19	0.43
14:M:816:SER:HB2	14:M:866:ILE:HD12	2.01	0.43
14:M:1085:LEU:HD23	14:M:1085:LEU:HA	1.90	0.43
1:N:94:HIS:HA	1:N:252:LEU:HD13	2.00	0.43
1:N:163:ASN:HA	1:N:180:LYS:HZ2	1.84	0.43
1:N:709:LEU:HD23	1:N:709:LEU:HA	1.90	0.43
6:E:61:GLU:HG2	6:E:64:ARG:HH22	1.84	0.43
7:F:30:GLN:OE1	7:F:33:LEU:HB3	2.18	0.43
11:J:197:LEU:HB2	11:J:201:TRP:CZ3	2.54	0.43
12:K:15:VAL:HG22	12:K:124:LEU:HD13	2.00	0.43
14:M:108:THR:HA	14:M:170:ILE:HG22	2.01	0.43
14:M:698:GLY:HA2	14:M:733:LEU:HD22	2.00	0.43
14:M:1033:ARG:HH12	14:M:1111:LYS:HB3	1.83	0.43
1:N:26:GLU:HG2	1:N:27:GLU:N	2.31	0.43
1:N:139:LYS:HE3	1:N:239:LEU:N	2.33	0.43
1:N:317:CYS:O	1:N:321:ILE:HG12	2.18	0.43
1:N:698:ILE:HG23	1:N:698:ILE:O	2.19	0.43
1:N:1078:LYS:NZ	1:N:1252:TYR:HB3	2.33	0.43
1:N:1176:THR:O	1:N:1176:THR:HG23	2.19	0.43
7:F:74:VAL:HG13	7:F:103:LEU:HD22	2.00	0.43
8:G:106:VAL:O	8:G:110:VAL:HG23	2.18	0.43
9:H:14:VAL:HB	9:H:301:ARG:O	2.19	0.43
12:K:71:ARG:NE	12:K:71:ARG:HA	2.34	0.43
14:M:108:THR:CG2	14:M:172:LYS:H	2.31	0.43
14:M:595:PRO:HB2	14:M:659:ILE:CD1	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:718:PRO:HD3	14:M:734:PRO:HB3	2.01	0.43
14:M:859:LYS:NZ	14:M:885:LEU:HD22	2.33	0.43
16:X:361:ARG:HD2	16:X:364:ARG:HH11	1.84	0.43
1:N:22:MET:HG2	14:M:1124:PRO:HB3	2.01	0.43
1:N:102:ILE:HA	1:N:166:VAL:CG1	2.48	0.43
1:N:897:ILE:HG13	7:F:165:LEU:HD22	2.00	0.43
5:D:6:PHE:O	5:D:7:GLU:HG3	2.19	0.43
5:D:113:SER:CB	5:D:126:GLN:HG2	2.49	0.43
9:H:142:LEU:HD23	9:H:144:VAL:HG23	2.01	0.43
10:I:100:MET:SD	11:J:201:TRP:HZ2	2.42	0.43
11:J:41:ASN:HA	11:J:42:VAL:HA	1.59	0.43
11:J:150:PHE:CD1	11:J:190:ILE:HD11	2.54	0.43
13:L:368:SER:HA	13:L:371:GLY:O	2.19	0.43
16:X:62:LEU:HD21	16:X:85:MET:HE3	2.00	0.43
1:N:423:GLN:HG2	1:N:424:ARG:H	1.84	0.42
1:N:701:GLY:H	14:M:984:LEU:HD22	1.84	0.42
2:A:7:GLY:HA3	2:A:30:TYR:CD2	2.54	0.42
4:C:22:CYS:HB2	4:C:41:TYR:HD1	1.82	0.42
5:D:28:LEU:O	5:D:40:ILE:HA	2.19	0.42
6:E:80:MET:HB3	6:E:81:VAL:H	1.71	0.42
7:F:149:VAL:O	7:F:192:LYS:N	2.36	0.42
8:G:57:TYR:CE1	8:G:61:LYS:HD2	2.54	0.42
14:M:39:LEU:HD12	14:M:667:VAL:HG11	2.01	0.42
14:M:100:HIS:HD2	14:M:159:ASN:HB3	1.84	0.42
14:M:254:MET:HG2	14:M:336:ALA:HB1	2.01	0.42
14:M:391:VAL:HG22	14:M:394:LYS:HB2	2.01	0.42
14:M:757:LEU:HD12	14:M:897:PHE:CE2	2.54	0.42
14:M:783:THR:OG1	14:M:784:ASN:N	2.52	0.42
16:X:15:GLU:OE1	16:X:450:ARG:NH2	2.52	0.42
16:X:361:ARG:HD2	16:X:364:ARG:NH1	2.34	0.42
17:Y:1:UNK:HA	17:Y:2:UNK:HA	1.64	0.42
1:N:32:ALA:CB	1:N:85:TYR:HB2	2.49	0.42
1:N:595:TRP:CD1	1:N:600:ILE:HD11	2.54	0.42
1:N:596:THR:OG1	1:N:599:GLN:OE1	2.37	0.42
1:N:1088:GLN:NE2	1:N:1245:ARG:HD2	2.34	0.42
3:B:6:ARG:CD	9:H:112:LEU:HD22	2.49	0.42
5:D:98:ARG:NH1	5:D:112:LEU:HD12	2.35	0.42
7:F:55:ARG:N	7:F:78:GLU:OE2	2.51	0.42
9:H:170:THR:O	9:H:195:ASP:HA	2.19	0.42
9:H:196:ASP:O	9:H:197:ILE:HG13	2.19	0.42
11:J:42:VAL:HG13	11:J:157:PHE:CZ	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:224:TYR:CB	14:M:233:ASP:HB3	2.49	0.42
14:M:861:ALA:O	14:M:862:THR:OG1	2.34	0.42
1:N:371:PRO:HG2	1:N:490:GLU:CD	2.40	0.42
1:N:391:THR:CG2	14:M:1025:ARG:HD2	2.50	0.42
1:N:421:ILE:HG13	1:N:431:PHE:HE2	1.83	0.42
1:N:486:PHE:CE1	1:N:507:LEU:HB3	2.54	0.42
1:N:698:ILE:HA	1:N:702:ASP:OD2	2.19	0.42
4:C:26:ASN:HD21	4:C:37:ARG:N	2.18	0.42
5:D:135:PHE:CZ	5:D:137:VAL:HG13	2.55	0.42
5:D:139:SER:CB	5:D:142:TYR:HD2	2.32	0.42
14:M:100:HIS:O	14:M:101:GLU:HB2	2.18	0.42
14:M:199:VAL:HG22	14:M:216:MET:SD	2.59	0.42
14:M:760:ALA:CB	14:M:913:GLN:HB2	2.49	0.42
14:M:793:PRO:O	14:M:794:MET:HB2	2.19	0.42
14:M:947:LEU:HD23	14:M:947:LEU:HA	1.81	0.42
16:X:81:ARG:NH1	16:X:81:ARG:O	2.52	0.42
1:N:71:THR:HG21	14:M:1094:TYR:CD2	2.55	0.42
1:N:390:LEU:CD1	1:N:419:ASN:HB2	2.49	0.42
1:N:801:GLN:HB2	1:N:833:PHE:CD1	2.46	0.42
1:N:957:GLU:HB3	1:N:1019:ARG:HE	1.84	0.42
5:D:88:PHE:CD1	5:D:88:PHE:N	2.87	0.42
6:E:102:ILE:HB	6:E:120:VAL:HG11	2.00	0.42
9:H:62:GLU:HA	9:H:309:SER:HA	2.01	0.42
14:M:285:LYS:HA	14:M:308:GLU:HB3	2.01	0.42
14:M:991:SER:HB3	14:M:998:LEU:CD2	2.49	0.42
1:N:42:TYR:CE1	1:N:56:LEU:HD13	2.55	0.42
1:N:459:VAL:HB	1:N:520:LEU:HD12	2.01	0.42
1:N:748:LEU:HD12	1:N:748:LEU:HA	1.72	0.42
1:N:800:GLY:HA2	1:N:801:GLN:HA	1.70	0.42
1:N:908:ASP:HB3	1:N:909:PRO:HD2	2.00	0.42
1:N:1362:LEU:HD23	6:E:107:ARG:HD2	2.00	0.42
4:C:37:ARG:HG2	4:C:38:GLU:CD	2.39	0.42
6:E:86:GLU:OE1	6:E:95:LYS:HB3	2.19	0.42
7:F:49:SER:C	7:F:53:PRO:HD2	2.40	0.42
8:G:43:VAL:HG13	8:G:81:ASN:OD1	2.19	0.42
10:I:115:ALA:O	10:I:119:THR:HG23	2.20	0.42
11:J:191:SER:OG	11:J:198:LEU:HD21	2.19	0.42
13:L:336:ARG:CZ	13:L:348:VAL:HG11	2.49	0.42
14:M:58:ILE:HG13	14:M:374:GLU:HG2	2.01	0.42
14:M:508:ASP:O	14:M:512:VAL:HG23	2.20	0.42
16:X:10:SER:O	16:X:22:GLU:HG3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:X:451:GLN:O	16:X:455:LYS:HB2	2.19	0.42
17:Y:-14:UNK:HA	17:Y:-13:UNK:HA	1.58	0.42
1:N:171:LEU:HB3	1:N:314:GLN:NE2	2.35	0.42
1:N:429:LYS:HD3	1:N:437:ARG:NH1	2.34	0.42
1:N:562:ALA:HB1	8:G:56:ARG:HH22	1.84	0.42
1:N:746:GLU:N	1:N:746:GLU:OE1	2.52	0.42
2:A:23:PHE:O	2:A:31:VAL:HG22	2.19	0.42
5:D:15:ILE:HG22	5:D:16:ASP:N	2.34	0.42
9:H:64:ASP:OD1	9:H:305:HIS:HB3	2.19	0.42
9:H:176:ILE:HD12	9:H:211:LEU:HD21	2.02	0.42
9:H:283:PHE:HB3	14:M:988:TYR:CD2	2.54	0.42
11:J:44:LEU:O	11:J:44:LEU:HG	2.19	0.42
12:K:12:GLU:HB3	13:L:330:LEU:HD22	2.00	0.42
13:L:367:ASP:O	13:L:370:THR:N	2.41	0.42
14:M:56:LYS:HD3	14:M:81:TYR:CE1	2.55	0.42
14:M:858:TYR:O	14:M:859:LYS:HG3	2.19	0.42
14:M:903:GLN:OE1	14:M:934:PHE:HE1	2.00	0.42
16:X:86:LEU:O	16:X:89:PRO:HD2	2.20	0.42
1:N:263:ARG:HH12	1:N:281:MET:CE	2.33	0.42
1:N:543:GLN:O	1:N:545:PHE:N	2.52	0.42
1:N:887:ASP:O	1:N:889:THR:HG23	2.19	0.42
1:N:1230:ASP:OD1	1:N:1230:ASP:N	2.53	0.42
9:H:175:TRP:CZ3	9:H:177:PRO:HA	2.54	0.42
11:J:12:ARG:O	11:J:14:PRO:HD3	2.20	0.42
13:L:266:LEU:HD12	13:L:377:GLY:HA2	2.01	0.42
14:M:591:ARG:HD2	14:M:634:ASP:OD2	2.19	0.42
14:M:867:GLU:OE1	14:M:886:ARG:HD3	2.19	0.42
14:M:899:SER:HB3	14:M:903:GLN:HB3	2.00	0.42
16:X:84:ARG:NH2	16:X:524:GLU:OE1	2.52	0.42
3:B:38:LEU:HD23	3:B:38:LEU:HA	1.93	0.42
4:C:16:ILE:H	4:C:27:GLU:HG3	1.84	0.42
4:C:42:ARG:HH12	14:M:875:ALA:HA	1.85	0.42
8:G:86:THR:HG23	8:G:88:GLY:H	1.85	0.42
9:H:141:ARG:HB2	9:H:176:ILE:HG13	2.01	0.42
12:K:28:PHE:HZ	13:L:365:LEU:HD21	1.85	0.42
13:L:272:PRO:HD3	13:L:385:CYS:CB	2.50	0.42
13:L:349:THR:OG1	13:L:385:CYS:SG	2.57	0.42
14:M:237:VAL:HG21	14:M:269:LEU:HA	2.00	0.42
14:M:537:PHE:CD1	14:M:548:VAL:HA	2.55	0.42
14:M:716:GLN:OE1	14:M:738:ASN:HB3	2.20	0.42
14:M:900:ARG:HA	14:M:900:ARG:HD3	1.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Z:231:SER:H	15:Z:234:ASP:HB2	1.85	0.42
16:X:262:THR:HA	16:X:301:TYR:CE2	2.55	0.42
16:X:312:LEU:HB3	16:X:334:TYR:CD1	2.54	0.42
1:N:966:LEU:HB2	1:N:1026:GLN:HE21	1.85	0.42
1:N:1186:TYR:HA	14:M:274:LYS:HE3	2.02	0.42
4:C:25:GLU:HG2	4:C:47:LYS:HE3	2.00	0.42
5:D:88:PHE:CD2	5:D:146:LYS:CG	3.03	0.42
8:G:113:LYS:HE2	9:H:49:PHE:O	2.20	0.42
10:I:3:VAL:HG11	11:J:40:TYR:CE2	2.55	0.42
14:M:426:LEU:HD23	14:M:426:LEU:HA	1.85	0.42
14:M:602:GLN:O	14:M:652:LYS:NZ	2.26	0.42
1:N:106:GLN:NE2	1:N:148:ASP:OD1	2.53	0.42
1:N:490:GLU:HG3	1:N:493:CYS:SG	2.59	0.42
3:B:64:PRO:HB2	4:C:23:HIS:NE2	2.35	0.42
5:D:12:VAL:HG23	5:D:51:ASP:OD2	2.20	0.42
5:D:30:CYS:SG	5:D:39:LEU:HB2	2.60	0.42
5:D:92:MET:HG2	5:D:93:TYR:N	2.34	0.42
9:H:233:TYR:OH	9:H:310:VAL:HG22	2.20	0.42
12:K:111:THR:HG21	12:K:131:GLY:HA2	2.01	0.42
14:M:445:TYR:HB3	14:M:730:PHE:CD2	2.55	0.42
14:M:498:LEU:HA	14:M:498:LEU:HD23	1.63	0.42
14:M:680:SER:O	14:M:684:THR:HG23	2.19	0.42
15:Z:178:GLU:H	16:X:383:PHE:HE1	1.66	0.42
16:X:92:ILE:HG22	16:X:96:LYS:NZ	2.35	0.42
16:X:98:LEU:HD12	16:X:99:TYR:CG	2.55	0.42
1:N:29:ARG:CD	1:N:85:TYR:CZ	3.03	0.41
1:N:390:LEU:HD13	1:N:419:ASN:HB2	2.02	0.41
1:N:391:THR:HA	1:N:451:GLU:CD	2.40	0.41
1:N:404:LEU:HD12	1:N:450:VAL:HG11	2.02	0.41
1:N:655:LEU:HD23	1:N:655:LEU:O	2.20	0.41
1:N:790:ILE:HD11	1:N:1051:LYS:HZ1	1.85	0.41
1:N:902:TYR:HE2	1:N:1028:GLU:HG3	1.84	0.41
5:D:116:VAL:HG13	5:D:140:ARG:O	2.20	0.41
7:F:176:GLY:O	7:F:181:ARG:NE	2.52	0.41
9:H:169:TYR:CD1	9:H:196:ASP:HA	2.55	0.41
9:H:230:THR:HG23	9:H:311:GLU:CD	2.40	0.41
11:J:94:PRO:HD3	11:J:125:GLN:HE22	1.85	0.41
12:K:27:LEU:HD22	13:L:360:LEU:HD23	2.02	0.41
12:K:99:LYS:HB3	12:K:101:THR:HG23	2.02	0.41
12:K:211:TYR:OH	13:L:372:GLU:OE1	2.22	0.41
14:M:93:VAL:HG22	14:M:110:SER:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:245:VAL:O	14:M:247:SER:N	2.54	0.41
14:M:373:PHE:HB3	14:M:377:PHE:CE2	2.54	0.41
14:M:758:ASN:OD1	14:M:926:ASP:HA	2.20	0.41
14:M:952:GLY:O	14:M:957:ARG:N	2.53	0.41
16:X:265:GLU:OE1	16:X:268:ARG:NH1	2.53	0.41
16:X:499:LEU:O	16:X:502:LEU:HG	2.20	0.41
1:N:110:LYS:CD	1:N:223:VAL:HG22	2.50	0.41
1:N:492:VAL:O	1:N:495:PRO:HD2	2.20	0.41
1:N:554:LEU:HA	1:N:554:LEU:HD23	1.61	0.41
1:N:562:ALA:HB2	9:H:29:PHE:CD2	2.54	0.41
1:N:666:ILE:O	1:N:667:LEU:HD23	2.19	0.41
1:N:697:SER:OG	14:M:1001:TYR:O	2.13	0.41
1:N:766:ALA:CA	1:N:769:ARG:HH21	2.34	0.41
1:N:1225:LEU:HD23	1:N:1225:LEU:HA	1.93	0.41
3:B:47:ARG:HD2	3:B:47:ARG:H	1.85	0.41
4:C:42:ARG:NH1	14:M:875:ALA:HA	2.34	0.41
5:D:57:ARG:O	5:D:146:LYS:HG2	2.20	0.41
6:E:53:THR:HG22	6:E:54:THR:O	2.20	0.41
7:F:64:HIS:H	7:F:72:MET:HB2	1.85	0.41
7:F:84:ILE:HD11	7:F:113:SER:HB2	2.02	0.41
9:H:185:PHE:O	9:H:187:GLU:N	2.44	0.41
12:K:121:GLN:NE2	13:L:263:GLU:HA	2.35	0.41
14:M:652:LYS:HA	14:M:652:LYS:HD3	1.82	0.41
16:X:254:ALA:HB2	16:X:345:LEU:HD21	2.01	0.41
1:N:72:CYS:HB3	1:N:78:ASP:O	2.20	0.41
1:N:391:THR:HG21	14:M:1025:ARG:HD2	2.03	0.41
1:N:537:PRO:HB3	1:N:664:PHE:CD2	2.55	0.41
1:N:638:VAL:HA	1:N:648:GLY:HA3	2.02	0.41
1:N:1322:GLU:HA	1:N:1323:LYS:HG3	2.02	0.41
9:H:110:LEU:HA	9:H:113:ILE:CD1	2.50	0.41
9:H:181:GLN:O	9:H:183:ASP:N	2.53	0.41
10:I:9:ALA:CB	11:J:4:LEU:H	2.33	0.41
14:M:475:GLN:HG2	14:M:475:GLN:O	2.19	0.41
14:M:599:VAL:HA	14:M:604:PRO:HA	2.01	0.41
14:M:664:LEU:HD23	14:M:664:LEU:H	1.85	0.41
14:M:962:THR:H	14:M:966:GLY:HA2	1.85	0.41
14:M:1021:HIS:HB3	14:M:1044:GLY:H	1.84	0.41
16:X:260:ASP:OD1	16:X:260:ASP:N	2.53	0.41
16:X:433:ARG:HH22	16:X:531:MET:CE	2.33	0.41
16:X:447:ILE:O	16:X:451:GLN:HG2	2.19	0.41
3:B:42:ARG:HB3	14:M:923:ILE:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:44:MET:HB2	14:M:871:ILE:HD12	2.01	0.41
8:G:104:MET:HG2	9:H:333:CYS:SG	2.60	0.41
9:H:105:ILE:O	9:H:109:ARG:HG2	2.20	0.41
9:H:121:LEU:HD22	9:H:185:PHE:CE1	2.55	0.41
9:H:149:ASN:N	9:H:162:LEU:O	2.48	0.41
14:M:189:ILE:HG21	14:M:341:ARG:HH21	1.84	0.41
14:M:305:LYS:C	14:M:310:ARG:HG2	2.41	0.41
14:M:312:LEU:HA	14:M:312:LEU:HD23	1.90	0.41
14:M:407:ARG:HG2	14:M:407:ARG:O	2.21	0.41
14:M:720:VAL:HG21	14:M:945:GLU:O	2.21	0.41
14:M:799:THR:OG1	14:M:800:ARG:N	2.52	0.41
16:X:374:HIS:HB3	16:X:375:ILE:H	1.53	0.41
1:N:71:THR:CG2	14:M:1094:TYR:H	2.34	0.41
1:N:128:TYR:HB3	1:N:136:TYR:HE1	1.85	0.41
1:N:389:ILE:HG13	14:M:1022:ALA:CB	2.51	0.41
1:N:868:THR:HG21	1:N:1046:THR:HA	2.01	0.41
5:D:135:PHE:HZ	5:D:137:VAL:HG13	1.86	0.41
6:E:93:ALA:HA	6:E:96:GLU:OE2	2.21	0.41
12:K:50:LYS:HD3	12:K:54:GLN:O	2.20	0.41
13:L:270:GLN:O	13:L:385:CYS:N	2.54	0.41
14:M:1036:THR:HA	14:M:1041:ARG:HG3	2.03	0.41
14:M:1062:MET:HB3	14:M:1065:LEU:HB3	2.02	0.41
14:M:1111:LYS:HE2	14:M:1111:LYS:HB2	1.87	0.41
15:Z:253:ILE:HD12	15:Z:253:ILE:H	1.85	0.41
16:X:269:THR:HG23	16:X:272:ARG:NH1	2.35	0.41
4:C:43:ILE:HG22	4:C:43:ILE:O	2.20	0.41
5:D:39:LEU:HD21	5:D:125:LEU:HD12	2.02	0.41
6:E:71:LEU:O	6:E:75:MET:HG2	2.21	0.41
7:F:95:GLN:HA	7:F:125:TYR:OH	2.21	0.41
9:H:327:LYS:HD2	9:H:327:LYS:HA	1.73	0.41
10:I:52:TYR:O	10:I:56:THR:HG23	2.21	0.41
14:M:563:ARG:HH12	14:M:637:GLU:CD	2.23	0.41
14:M:749:TYR:CD2	14:M:909:LEU:HG	2.55	0.41
16:X:48:ASP:OD1	16:X:48:ASP:N	2.52	0.41
16:X:99:TYR:OH	16:X:154:THR:HG21	2.20	0.41
16:X:106:ILE:HD13	16:X:125:VAL:HG11	2.01	0.41
1:N:271:LYS:HD3	14:M:838:ILE:HD11	2.02	0.41
1:N:361:VAL:HG11	14:M:1023:ARG:CZ	2.51	0.41
1:N:641:GLN:OE1	5:D:95:LYS:HB3	2.20	0.41
1:N:842:LEU:CD1	1:N:847:PHE:HB2	2.51	0.41
3:B:8:PHE:CD2	3:B:48:MET:SD	3.13	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:32:GLY:CA	14:M:956:GLY:HA3	2.51	0.41
5:D:15:ILE:HA	5:D:52:LEU:HD21	2.03	0.41
6:E:58:THR:HG23	6:E:61:GLU:H	1.85	0.41
7:F:115:LYS:O	7:F:129:GLN:NE2	2.54	0.41
10:I:73:LEU:HD22	10:I:78:LEU:HD22	2.02	0.41
14:M:33:PHE:HB2	14:M:499:MET:CE	2.51	0.41
14:M:365:ALA:O	14:M:369:LEU:HD23	2.20	0.41
14:M:899:SER:O	14:M:900:ARG:HB2	2.21	0.41
1:N:110:LYS:HD3	1:N:223:VAL:HG22	2.02	0.41
1:N:818:LEU:HD22	1:N:819:PRO:HD2	2.02	0.41
1:N:954:LYS:HE2	1:N:954:LYS:HB2	1.85	0.41
1:N:1230:ASP:HA	1:N:1231:ASN:HA	1.63	0.41
3:B:24:LEU:HG	3:B:29:TYR:HE2	1.86	0.41
4:C:49:THR:HG1	4:C:51:ARG:HH21	1.68	0.41
7:F:23:ASP:OD2	7:F:183:PHE:HA	2.19	0.41
12:K:213:LEU:HB3	12:K:214:ARG:HH21	1.85	0.41
14:M:870:MET:CB	14:M:882:LYS:HB2	2.51	0.41
1:N:266:VAL:HG13	1:N:266:VAL:O	2.20	0.41
1:N:277:ASP:HA	1:N:278:ASP:HA	1.71	0.41
1:N:390:LEU:HB3	1:N:391:THR:H	1.64	0.41
1:N:464:ARG:HD2	1:N:464:ARG:HA	1.88	0.41
1:N:616:ASN:CB	1:N:636:SER:HA	2.51	0.41
1:N:671:TRP:HB2	1:N:675:GLU:OE1	2.21	0.41
1:N:754:LYS:HA	1:N:757:SER:HB3	2.02	0.41
1:N:891:ARG:CZ	6:E:110:LEU:HD21	2.51	0.41
1:N:1044:PRO:HA	1:N:1047:GLN:OE1	2.20	0.41
1:N:1124:ASP:O	2:A:37:LYS:NZ	2.40	0.41
5:D:48:TYR:HB3	5:D:53:GLY:CA	2.51	0.41
5:D:55:LYS:HB2	5:D:148:LEU:HD23	2.03	0.41
6:E:54:THR:OG1	6:E:55:PRO:HD2	2.20	0.41
6:E:107:ARG:HG2	6:E:109:TYR:CE1	2.55	0.41
7:F:2:ASP:N	7:F:6:GLU:OE1	2.54	0.41
8:G:22:GLU:CG	9:H:336:PHE:HA	2.50	0.41
9:H:293:LEU:O	9:H:296:VAL:N	2.54	0.41
12:K:17:LEU:HD22	13:L:326:VAL:N	2.36	0.41
12:K:119:TYR:HD2	12:K:124:LEU:HA	1.85	0.41
14:M:83:GLY:O	14:M:90:SER:HB3	2.21	0.41
14:M:225:LEU:HD13	14:M:227:HIS:NE2	2.35	0.41
14:M:730:PHE:N	14:M:730:PHE:CD1	2.88	0.41
14:M:751:ILE:HG21	14:M:751:ILE:HD13	1.81	0.41
14:M:831:SER:HB3	14:M:851:TYR:CB	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:881:ILE:HA	14:M:881:ILE:HD13	1.95	0.41
17:Y:-1:UNK:HA	17:Y:0:UNK:HA	1.49	0.41
1:N:18:ILE:HD13	14:M:1127:LYS:H	1.86	0.41
1:N:118:SER:N	1:N:120:GLU:OE2	2.47	0.41
1:N:382:VAL:HG23	1:N:383:PRO:O	2.21	0.41
1:N:1098:ALA:O	1:N:1102:LYS:HG3	2.21	0.41
7:F:122:ALA:N	7:F:123:PRO:HD2	2.36	0.41
9:H:220:LYS:HB3	9:H:220:LYS:HE3	1.86	0.41
12:K:109:SER:HB3	14:M:525:LEU:HD21	2.03	0.41
14:M:135:ARG:O	14:M:137:PRO:HD3	2.21	0.41
14:M:370:SER:HA	14:M:373:PHE:CD2	2.56	0.41
14:M:538:LEU:O	14:M:583:VAL:HB	2.21	0.41
14:M:708:LEU:O	14:M:710:TYR:N	2.54	0.41
14:M:1061:SER:OG	14:M:1062:MET:N	2.53	0.41
15:Z:183:GLN:HA	15:Z:186:LYS:NZ	2.36	0.41
16:X:88:TYR:CZ	16:X:111:LEU:HB3	2.56	0.41
16:X:330:GLY:HA3	16:X:331:GLY:HA2	1.81	0.41
16:X:354:VAL:CG1	16:X:362:CYS:HB3	2.51	0.41
1:N:42:TYR:CD1	1:N:56:LEU:HD13	2.56	0.40
1:N:403:PHE:O	1:N:452:ARG:NH1	2.54	0.40
1:N:1004:ASP:O	1:N:1006:ILE:N	2.53	0.40
1:N:1082:THR:O	1:N:1082:THR:HG23	2.21	0.40
1:N:1302:GLY:O	1:N:1308:LEU:HD21	2.21	0.40
7:F:40:PHE:O	7:F:43:GLN:HB2	2.21	0.40
8:G:42:PHE:CE2	8:G:96:PHE:HB2	2.57	0.40
9:H:61:LEU:HD23	9:H:62:GLU:N	2.35	0.40
9:H:133:THR:HG22	9:H:133:THR:O	2.21	0.40
9:H:231:ALA:HA	9:H:233:TYR:CZ	2.56	0.40
9:H:277:ASN:O	9:H:279:ARG:N	2.47	0.40
9:H:285:ARG:HD3	14:M:988:TYR:CZ	2.55	0.40
11:J:128:VAL:HG13	11:J:141:TYR:HA	2.03	0.40
14:M:56:LYS:O	14:M:59:MET:HB3	2.21	0.40
14:M:238:ILE:HD13	14:M:286:TYR:CE2	2.56	0.40
14:M:329:ARG:O	14:M:333:ILE:HG22	2.21	0.40
14:M:340:ARG:HE	14:M:531:LEU:HD12	1.86	0.40
14:M:1052:ARG:HG2	14:M:1052:ARG:HH11	1.86	0.40
1:N:73:GLY:HA2	1:N:74:LYS:HA	1.53	0.40
1:N:365:GLY:O	1:N:507:LEU:HG	2.21	0.40
1:N:826:LYS:O	1:N:827:LEU:HG	2.21	0.40
3:B:32:GLY:HA3	14:M:956:GLY:HA3	2.04	0.40
5:D:2:ALA:HB1	5:D:4:ILE:CG1	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:209:ASP:O	9:H:210:LEU:HD23	2.20	0.40
14:M:315:SER:HA	14:M:318:LEU:CB	2.52	0.40
14:M:318:LEU:O	14:M:318:LEU:HD23	2.22	0.40
14:M:346:GLN:O	14:M:348:ASP:N	2.47	0.40
14:M:567:TYR:HB3	14:M:568:ILE:H	1.72	0.40
14:M:1097:SER:HG	14:M:1100:HIS:CG	2.39	0.40
16:X:87:ARG:HD2	16:X:87:ARG:N	2.36	0.40
16:X:289:SER:HA	16:X:332:GLY:O	2.21	0.40
1:N:18:ILE:HB	1:N:1349:MET:CE	2.52	0.40
1:N:220:PRO:HA	1:N:223:VAL:HG23	2.03	0.40
1:N:1211:VAL:HG12	1:N:1212:ILE:N	2.36	0.40
9:H:49:PHE:HA	9:H:66:VAL:O	2.21	0.40
9:H:116:HIS:O	9:H:116:HIS:CG	2.74	0.40
14:M:388:ALA:O	14:M:391:VAL:HG12	2.21	0.40
14:M:596:TYR:N	14:M:631:GLU:O	2.54	0.40
14:M:610:HIS:HA	14:M:613:GLU:OE1	2.21	0.40
14:M:679:GLN:HB2	14:M:682:ARG:CD	2.46	0.40
14:M:757:LEU:HD23	14:M:758:ASN:O	2.21	0.40
14:M:901:HIS:HD2	14:M:942:LYS:CB	2.31	0.40
15:Z:185:PHE:HE1	15:Z:239:LEU:HA	1.86	0.40
16:X:443:ILE:HD11	16:X:516:VAL:C	2.41	0.40
1:N:851:THR:HG22	14:M:680:SER:OG	2.22	0.40
1:N:1262:ALA:O	1:N:1266:THR:HG23	2.22	0.40
1:N:1312:LYS:HB2	1:N:1312:LYS:HE3	1.82	0.40
2:A:7:GLY:HA3	2:A:30:TYR:CE2	2.57	0.40
6:E:60:TYR:O	6:E:64:ARG:HG2	2.21	0.40
6:E:62:ARG:O	6:E:65:VAL:HG12	2.21	0.40
7:F:84:ILE:HG12	7:F:114:ALA:HB2	2.04	0.40
8:G:100:LEU:HD23	8:G:100:LEU:HA	1.86	0.40
9:H:52:ASP:O	9:H:63:PHE:HB2	2.22	0.40
10:I:9:ALA:HB3	11:J:3:VAL:HA	2.02	0.40
11:J:117:PRO:HG2	11:J:130:GLU:O	2.22	0.40
13:L:260:LEU:HB3	13:L:261:THR:H	1.54	0.40
13:L:366:GLY:H	13:L:373:MET:HG3	1.86	0.40
14:M:42:GLN:NE2	14:M:496:LEU:HD22	2.36	0.40
14:M:75:LEU:HD22	14:M:119:TYR:CD1	2.57	0.40
14:M:396:ARG:HD3	14:M:396:ARG:N	2.36	0.40
14:M:897:PHE:HE2	14:M:927:ILE:HD12	1.87	0.40
16:X:237:ALA:HB1	16:X:242:PHE:CE2	2.55	0.40
16:X:492:THR:HG23	16:X:495:GLU:H	1.85	0.40
1:N:21:GLY:HA3	14:M:1114:PHE:CD1	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:58:HIS:H	1:N:67:ARG:HE	1.70	0.40
1:N:124:GLN:H	1:N:124:GLN:HG3	1.70	0.40
1:N:183:LYS:H	1:N:184:LYS:NZ	2.18	0.40
1:N:287:ILE:HA	1:N:290:ASN:HB2	2.04	0.40
1:N:494:THR:OG1	1:N:495:PRO:HD3	2.21	0.40
1:N:1086:THR:HG23	1:N:1247:THR:HB	2.02	0.40
1:N:1256:LYS:HD2	1:N:1256:LYS:HA	1.74	0.40
1:N:1260:ILE:HD13	7:F:173:ILE:HG12	2.04	0.40
1:N:1264:ARG:HH21	1:N:1295:THR:HG1	1.67	0.40
1:N:1316:LEU:HD21	1:N:1344:SER:HB3	2.04	0.40
2:A:28:CYS:O	2:A:30:TYR:N	2.55	0.40
7:F:21:CYS:SG	7:F:26:TYR:HB3	2.62	0.40
9:H:16:LEU:HD22	9:H:285:ARG:NH1	2.37	0.40
9:H:312:SER:OG	9:H:313:THR:N	2.55	0.40
12:K:49:ILE:HG23	12:K:54:GLN:CG	2.42	0.40
14:M:80:ILE:HG13	14:M:114:THR:O	2.22	0.40
14:M:213:ARG:HD3	14:M:321:VAL:HG13	2.03	0.40
14:M:241:LYS:NZ	14:M:248:ASP:OD1	2.52	0.40
14:M:702:ARG:HD2	14:M:702:ARG:HA	1.79	0.40
14:M:724:THR:O	14:M:728:ILE:HG13	2.21	0.40
14:M:1055:LEU:HA	14:M:1058:TYR:CZ	2.57	0.40
16:X:386:ILE:HB	16:X:387:PRO:HD2	2.03	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	N	1220/1390 (88%)	948 (78%)	258 (21%)	14 (1%)	14 51
2	A	35/108 (32%)	23 (66%)	11 (31%)	1 (3%)	4 32
3	B	62/67 (92%)	54 (87%)	8 (13%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
4	C	44/58 (76%)	32 (73%)	11 (25%)	1 (2%)	6 37
5	D	115/150 (77%)	77 (67%)	38 (33%)	0	100 100
6	E	79/127 (62%)	56 (71%)	22 (28%)	1 (1%)	12 48
7	F	207/210 (99%)	182 (88%)	24 (12%)	1 (0%)	29 67
8	G	98/133 (74%)	71 (72%)	27 (28%)	0	100 100
9	H	327/346 (94%)	246 (75%)	80 (24%)	1 (0%)	41 75
10	I	123/148 (83%)	113 (92%)	10 (8%)	0	100 100
11	J	175/204 (86%)	138 (79%)	37 (21%)	0	100 100
12	K	131/708 (18%)	92 (70%)	38 (29%)	1 (1%)	19 58
13	L	78/398 (20%)	60 (77%)	17 (22%)	1 (1%)	12 48
14	M	1112/1133 (98%)	831 (75%)	276 (25%)	5 (0%)	34 71
15	Z	57/316 (18%)	50 (88%)	7 (12%)	0	100 100
16	X	434/534 (81%)	405 (93%)	29 (7%)	0	100 100
All	All	4297/6030 (71%)	3378 (79%)	893 (21%)	26 (1%)	29 63

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	N	607	PRO
1	N	612	PRO
1	N	777	PRO
1	N	1162	PRO
1	N	1205	PRO
2	A	34	ILE
7	F	29	THR
14	M	498	LEU
14	M	499	MET
14	M	545	ILE
1	N	484	ARG
1	N	544	ASP
1	N	776	SER
1	N	1130	VAL
1	N	1160	VAL
13	L	344	VAL
1	N	1204	ILE
1	N	1280	MET
14	M	793	PRO

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Mol	Chain	Res	Type
14	M	919	CYS
1	N	50	PRO
4	C	33	PRO
1	N	613	VAL
9	H	101	VAL
6	E	89	PRO
12	K	204	PRO

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	N	983/1212 (81%)	976 (99%)	7 (1%)	84 90
2	A	33/94 (35%)	33 (100%)	0	100 100
3	B	53/56 (95%)	53 (100%)	0	100 100
4	C	43/55 (78%)	41 (95%)	2 (5%)	26 53
5	D	103/131 (79%)	102 (99%)	1 (1%)	76 86
6	E	70/111 (63%)	70 (100%)	0	100 100
7	F	191/192 (100%)	191 (100%)	0	100 100
8	G	89/119 (75%)	89 (100%)	0	100 100
9	H	289/302 (96%)	285 (99%)	4 (1%)	67 81
10	I	117/136 (86%)	117 (100%)	0	100 100
11	J	160/181 (88%)	158 (99%)	2 (1%)	69 82
12	K	122/622 (20%)	120 (98%)	2 (2%)	62 79
13	L	72/347 (21%)	72 (100%)	0	100 100
14	M	973/988 (98%)	971 (100%)	2 (0%)	93 96
15	Z	60/280 (21%)	60 (100%)	0	100 100
16	X	386/476 (81%)	383 (99%)	3 (1%)	81 89
All	All	3744/5302 (71%)	3721 (99%)	23 (1%)	86 92

All (23) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	N	65	LYS
1	N	479	ARG
1	N	923	ARG
1	N	1099	ARG
1	N	1104	ARG
1	N	1280	MET
1	N	1284	ARG
4	C	48	ARG
4	C	51	ARG
5	D	36	LYS
9	H	44	ARG
9	H	145	ARG
9	H	191	ARG
9	H	274	ARG
11	J	71	HIS
11	J	151	ARG
12	K	120	ARG
12	K	214	ARG
14	M	128	ARG
14	M	639	ASN
16	X	113	ASN
16	X	397	LYS
16	X	532	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
1	N	40	ASN
1	N	46	ASN
1	N	58	HIS
1	N	217	ASN
1	N	508	HIS
1	N	801	GLN
1	N	872	GLN
1	N	1039	GLN
1	N	1213	HIS
1	N	1277	ASN
7	F	43	GLN
9	H	32	ASN
9	H	180	ASN
9	H	305	HIS
10	I	39	GLN
10	I	85	GLN

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Mol	Chain	Res	Type
11	J	78	HIS
12	K	29	GLN
12	K	110	ASN
13	L	270	GLN
14	M	227	HIS
14	M	282	GLN
14	M	408	GLN
14	M	676	HIS
14	M	679	GLN
14	M	701	GLN
14	M	848	GLN
14	M	913	GLN
14	M	1034	GLN
14	M	1115	GLN
15	Z	183	GLN
16	X	437	HIS
16	X	497	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

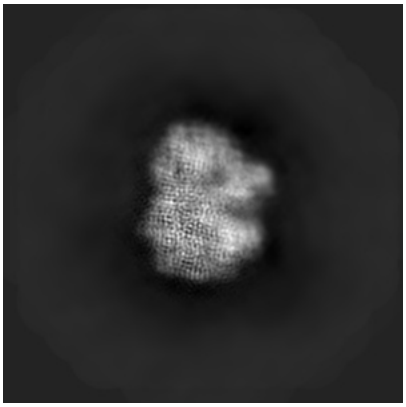
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11904. These allow visual inspection of the internal detail of the map and identification of artifacts.

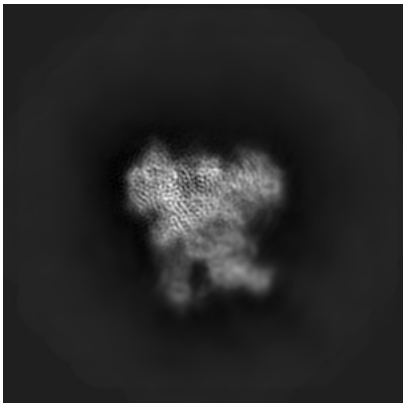
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

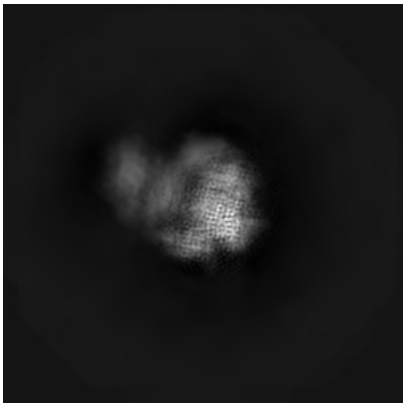
6.1.1 Primary map



X



Y

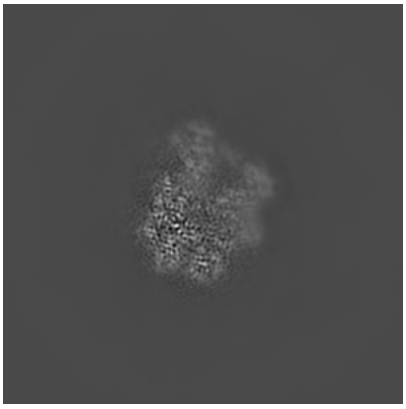


Z

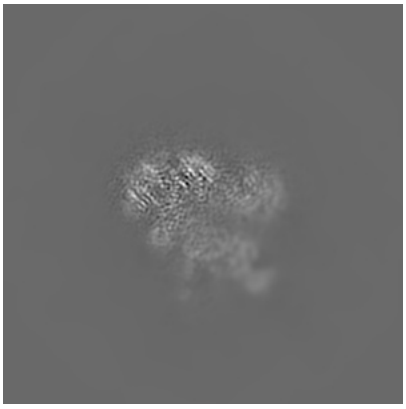
The images above show the map projected in three orthogonal directions.

6.2 Central slices

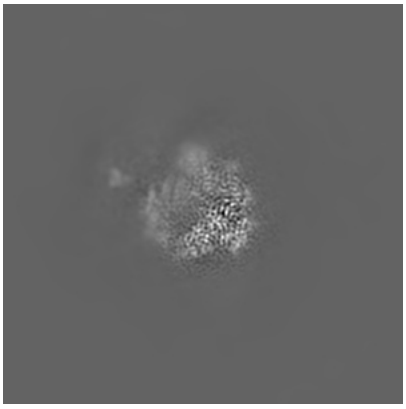
6.2.1 Primary map



X Index: 180



Y Index: 180



Z Index: 180

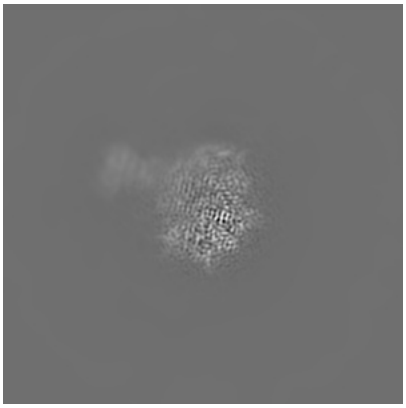
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 202

Y Index: 157

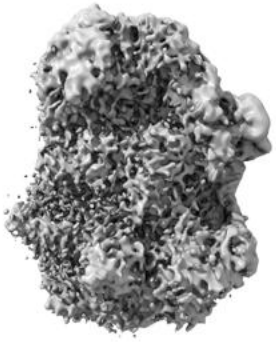


Z Index: 150

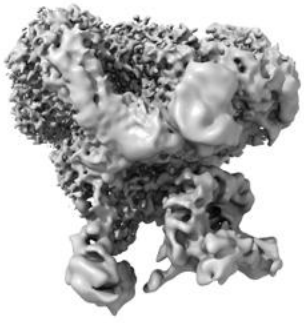
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

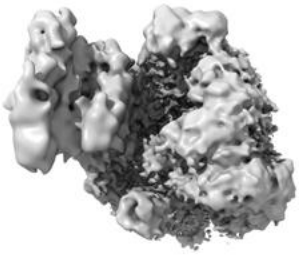
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.027. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

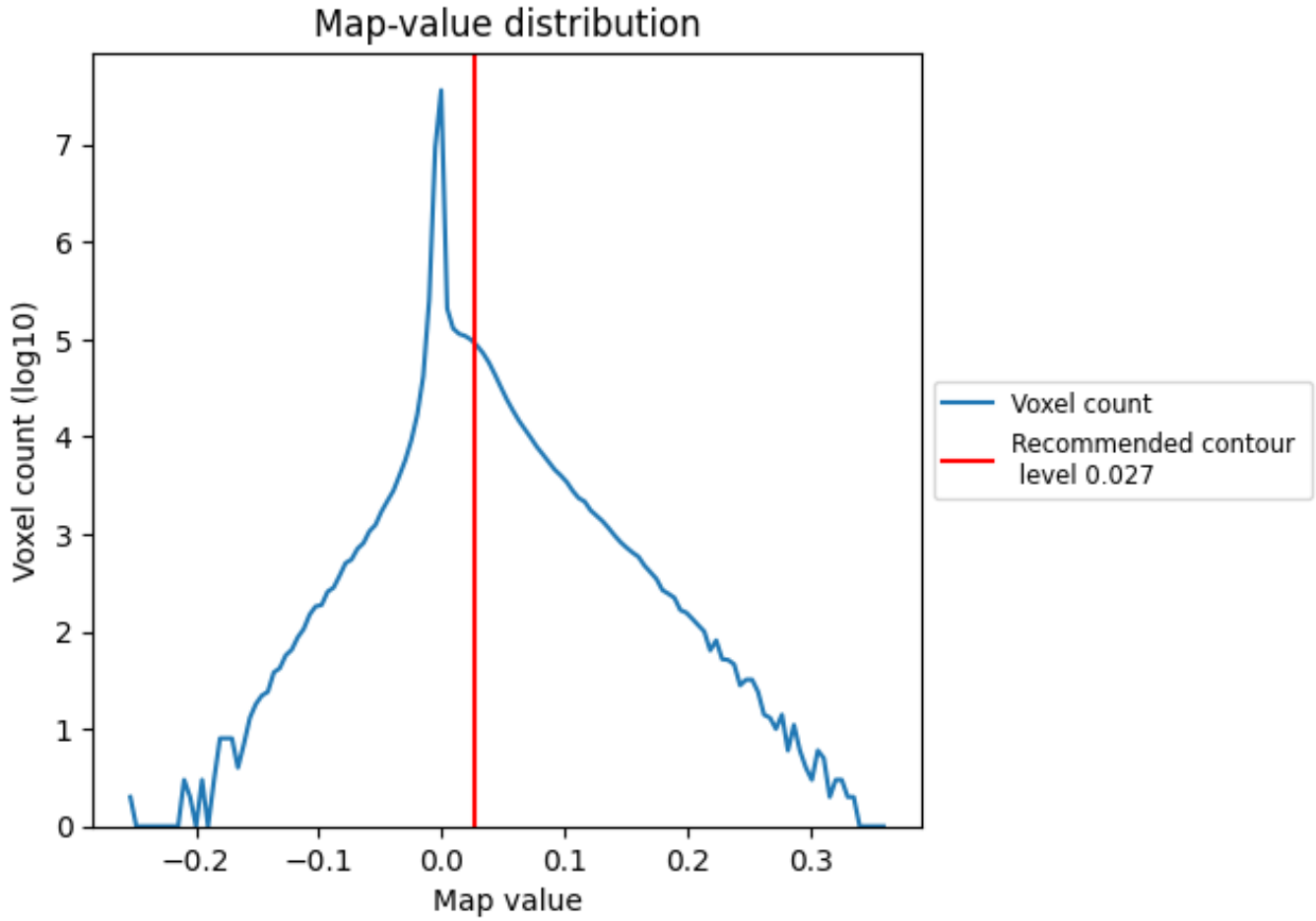
6.5 Mask visualisation (i)

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

7 Map analysis

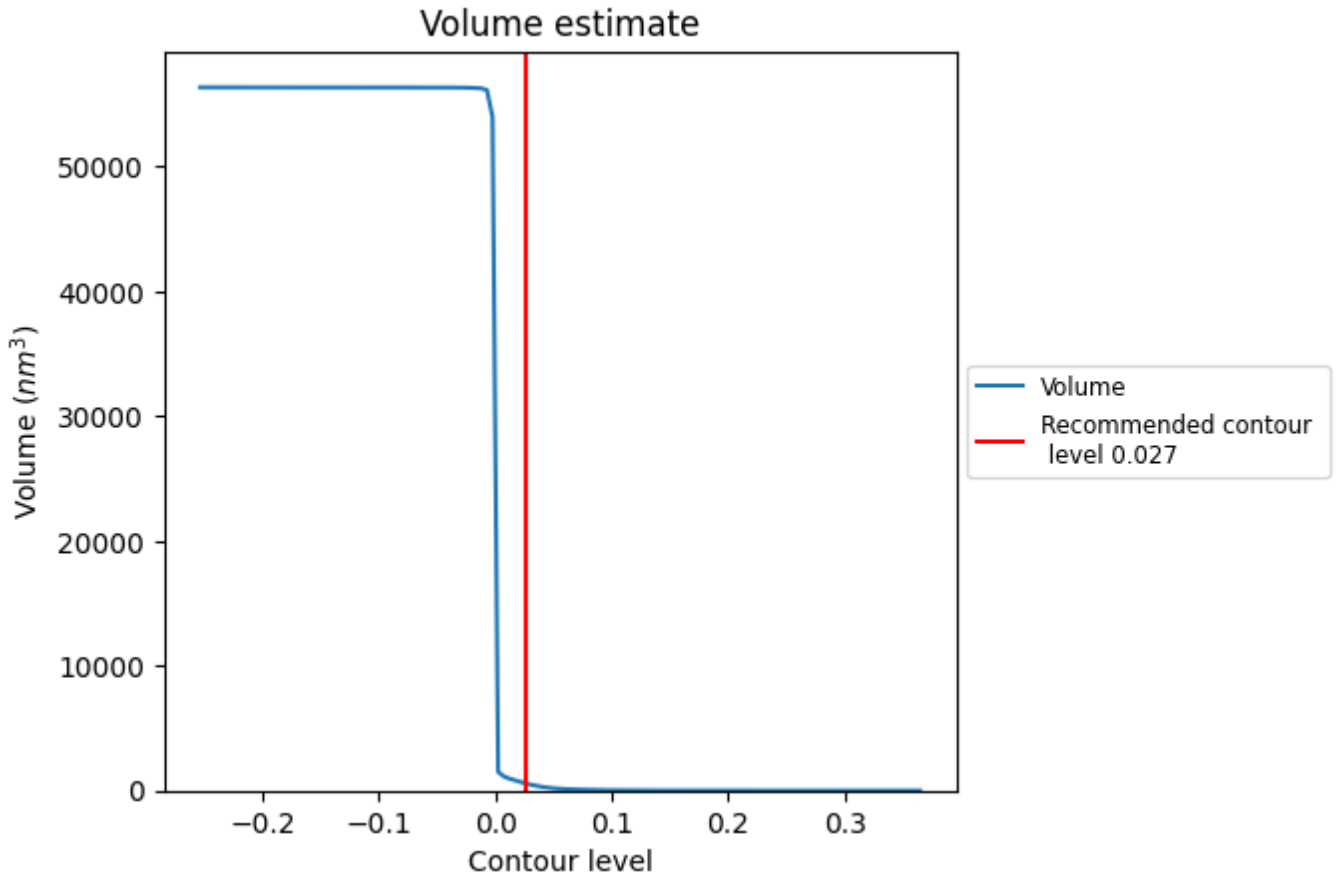
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

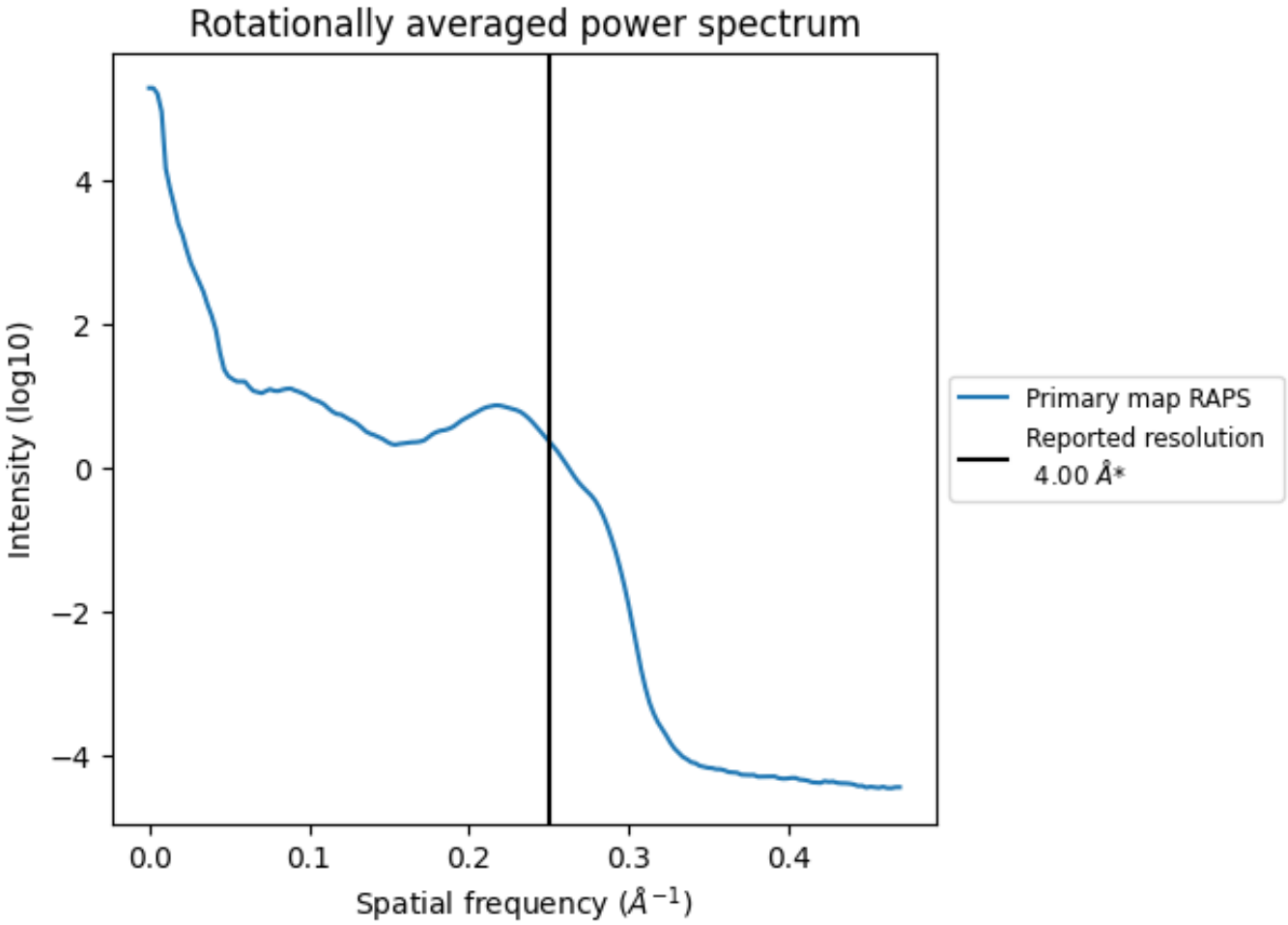
7.2 Volume estimate



The volume at the recommended contour level is 555 nm^3; this corresponds to an approximate mass of 501 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)

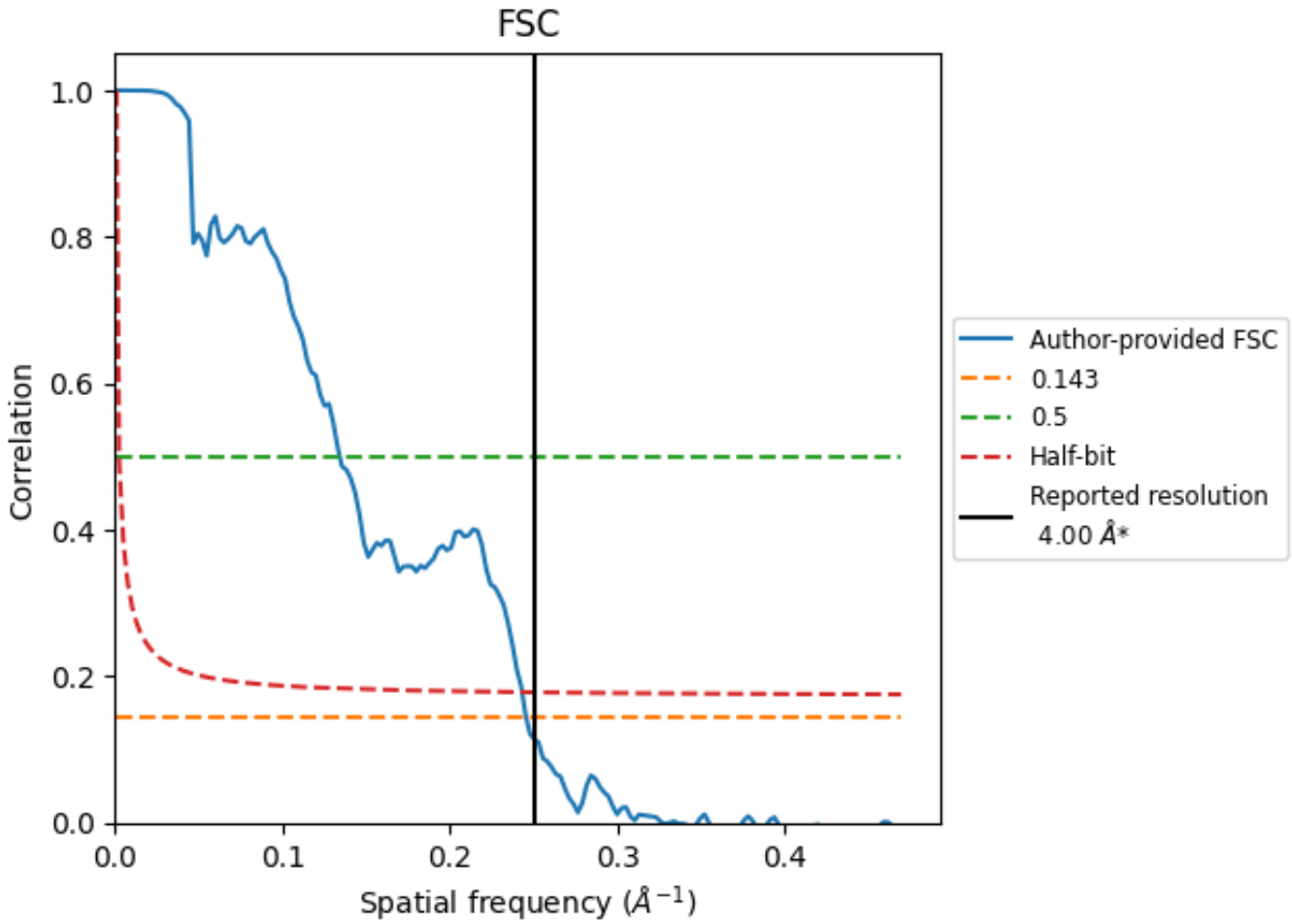


*Reported resolution corresponds to spatial frequency of 0.250 $Å^{-1}$

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.250 Å^{-1}

8.2 Resolution estimates (i)

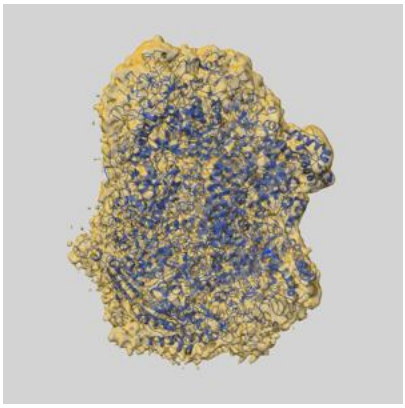
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.00	-	-
Author-provided FSC curve	4.07	7.45	4.11
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

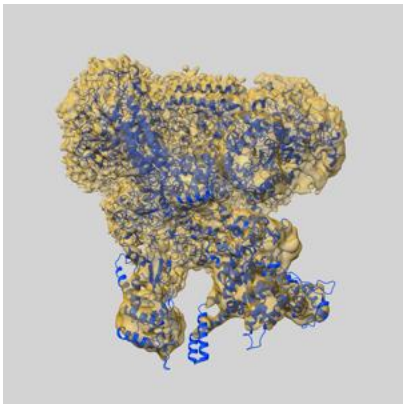
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-11904 and PDB model 7AST. Per-residue inclusion information can be found in section 3 on page 7.

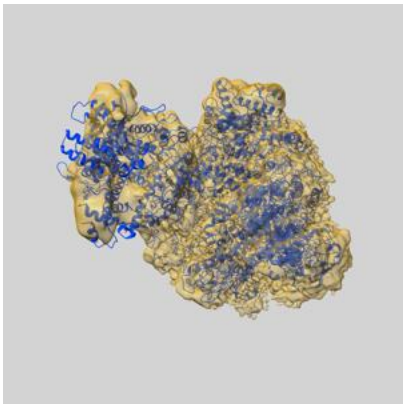
9.1 Map-model overlay



X



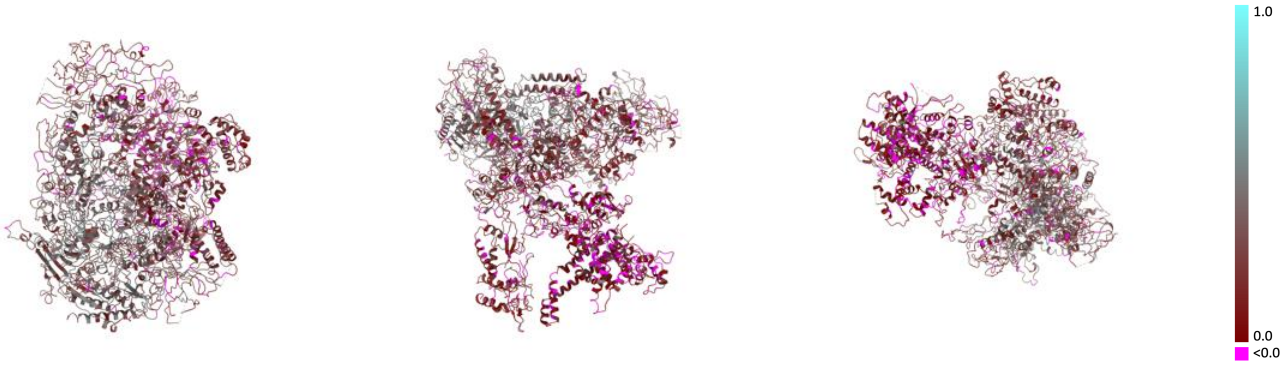
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.027 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

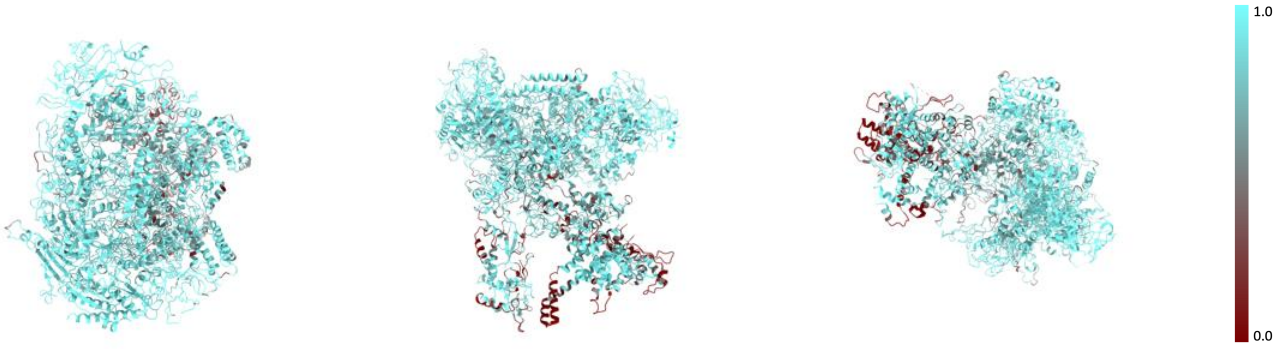
9.2 Q-score mapped to coordinate model



X Y Z

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

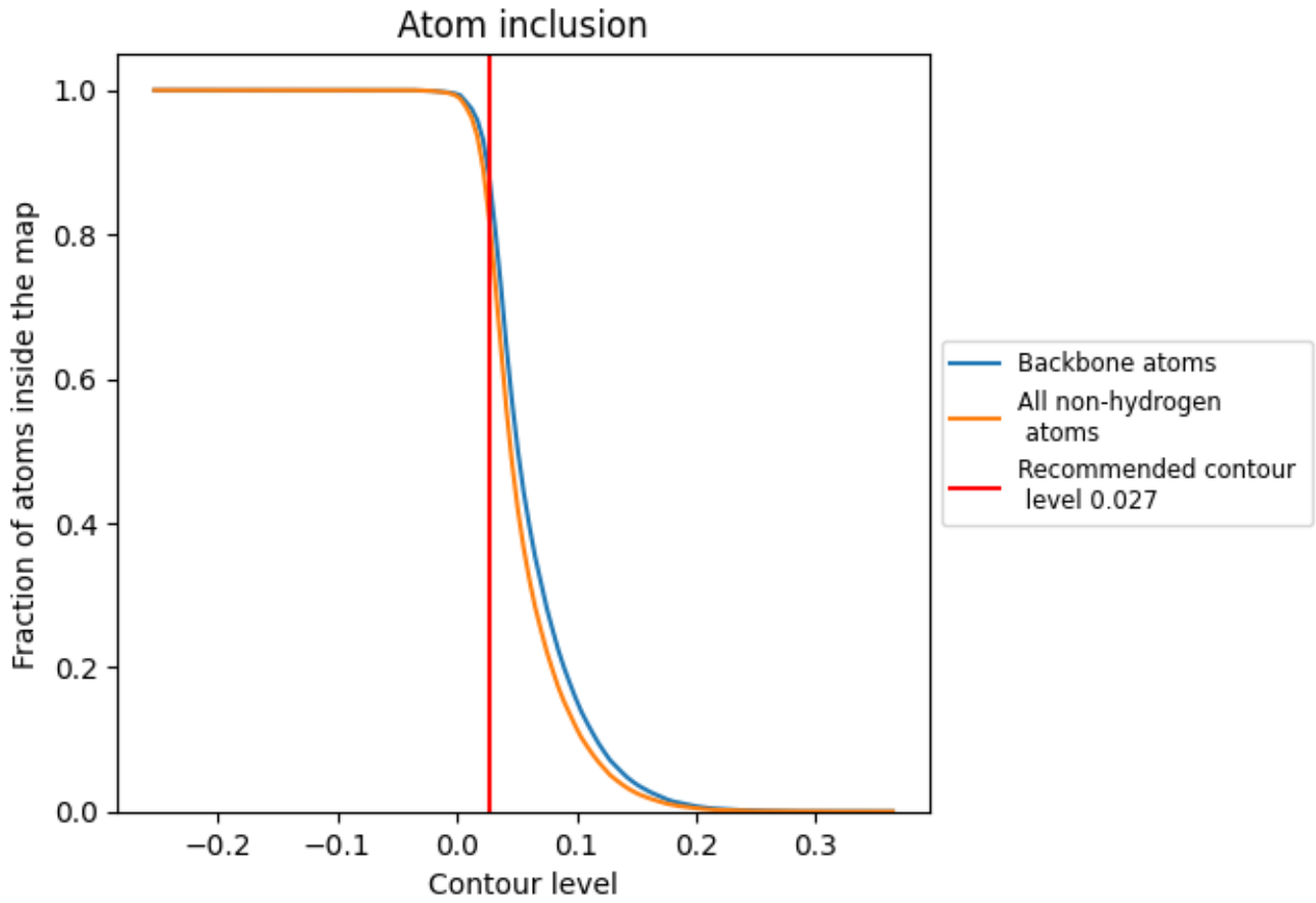
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.027).

9.4 Atom inclusion (i)



At the recommended contour level, 88% of all backbone atoms, 82% 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 (0.027) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8201	0.2400
A	0.9964	0.2280
B	0.9190	0.3890
C	0.9272	0.2890
D	0.8980	0.2860
E	0.8175	0.2110
F	0.8751	0.1970
G	0.9244	0.3620
H	0.9175	0.3520
I	0.5668	0.1330
J	0.6800	0.1370
K	0.9380	0.2130
L	0.9479	0.2860
M	0.8717	0.3090
N	0.8272	0.2280
X	0.5860	0.0820
Y	0.5278	0.0640
Z	0.7227	0.0750