Full wwPDB EM Validation Report

Jun 11, 2025 – 12:10 AM JST

PDB ID	:	7WBW / pdb_00007wbw
EMDB ID	:	EMD-32408
Title	:	RNA polymerase II elongation complex bound with Elf1 and Spt4/5, stalled at SHL(-3.5) of the nucleosome
Authors	:	Osumi, K.; Kujirai, T.; Ehara, H.; Sekine, S.; Takizawa, Y.; Kurumizaka, H.
Deposited on	:	2021-12-17
Resolution	:	7.10 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:

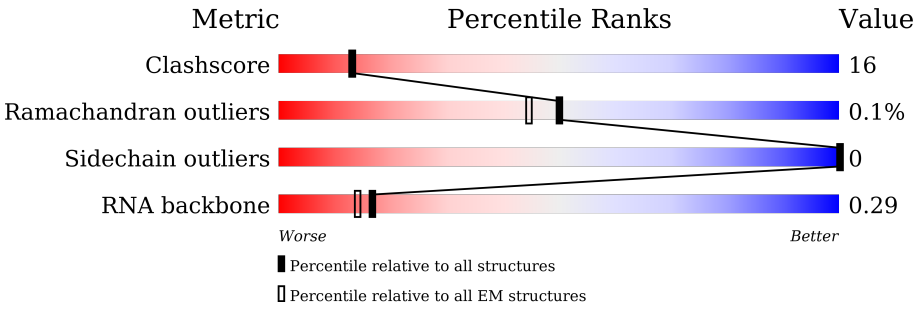
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance

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

The reported resolution of this entry is 7.10 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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	A	1743	49% 32% 19%
2	B	1227	56% 39% 6%
3	C	304	57% 30% 13%
4	D	186	11% 66% 25% 10%
5	E	214	57% 43%
6	F	155	30% 25% 46%
7	G	171	12% 63% 37%

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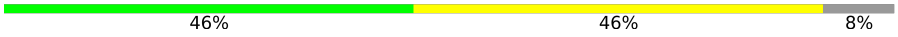
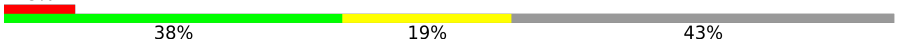
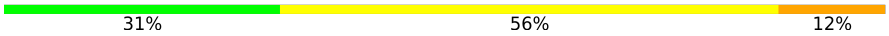
Mol	Chain	Length	Quality of chain
8	H	145	
9	I	115	
10	J	72	
11	K	118	
12	L	72	
13	M	113	
14	N	198	
15	P	16	
16	T	198	
17	V	108	
18	W	911	
19	a	139	
19	e	139	
20	b	106	
20	f	106	
21	c	133	
21	g	133	
22	d	129	
22	h	129	

2 Entry composition

There are 24 unique types of molecules in this entry. The entry contains 92017 atoms, of which 44709 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 subunit.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	A	1412	22281	7014	11158	1938	2101	70	0	0

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

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
2	B	1157	18472	5816	9244	1630	1724	58	0	0

- Molecule 3 is a protein called RNA polymerase II third largest subunit B44, part of central core.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
3	C	263	4161	1319	2063	354	413	12	0	0

- Molecule 4 is a protein called RNA polymerase II subunit B32.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
4	D	168	2631	812	1317	237	263	2	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC1.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
5	E	213	3495	1094	1755	312	324	10	0	0

- Molecule 6 is a protein called RNA polymerase subunit ABC23, common to RNA polymerases I, II, and III.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	F	84	Total	C	H	N	O	S	0	0
			1371	429	694	114	131	3		

- Molecule 7 is a protein called RNA polymerase II subunit.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	G	171	Total	C	H	N	O	S	0	0
			2666	858	1342	214	247	5		

- Molecule 8 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC3.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	H	133	Total	C	H	N	O	S	0	0
			2104	671	1052	169	208	4		

- Molecule 9 is a protein called DNA-directed RNA polymerase subunit.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	I	111	Total	C	H	N	O	S	0	0
			1790	565	873	161	180	11		

- Molecule 10 is a protein called RNA polymerase subunit ABC10-beta, common to RNA polymerases I, II, and III.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	J	66	Total	C	H	N	O	S	0	0
			1108	349	563	95	95	6		

- Molecule 11 is a protein called RNA polymerase II subunit B12.5.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	K	113	Total	C	H	N	O	S	0	0
			1876	599	944	160	169	4		

- Molecule 12 is a protein called RNA polymerase subunit ABC10-alpha.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	L	45	Total	C	H	N	O	S	0	0
			722	221	363	72	61	5		

- Molecule 13 is a protein called Transcription elongation factor 1 homolog.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	M	64	Total	C	H	N	O	S	0	0
			1005	318	500	82	99	6		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	-2	GLY	-	expression tag	UNP C4QZ45
M	-1	PRO	-	expression tag	UNP C4QZ45
M	0	GLY	-	expression tag	UNP C4QZ45

- Molecule 14 is a DNA chain called DNA (198-MER).

Mol	Chain	Residues	Atoms						AltConf	Trace
14	N	149	Total	C	H	N	O	P	0	0
			4747	1454	1682	547	915	149		

- Molecule 15 is a RNA chain called RNA (5'-R(P*GP*UP*UP*UP*UP*CP*GP*UP*UP*GP*UP*UP*UP*UP*U)-3').

Mol	Chain	Residues	Atoms						AltConf	Trace
15	P	16	Total	C	H	N	O	P	0	0
			493	147	164	42	124	16		

- Molecule 16 is a DNA chain called DNA (198-MER).

Mol	Chain	Residues	Atoms						AltConf	Trace
16	T	154	Total	C	H	N	O	P	0	0
			4860	1489	1716	605	897	153		

- Molecule 17 is a protein called Transcription elongation factor SPT4.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	V	102	Total	C	H	N	O	S	0	0
			1554	492	762	143	150	7		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
V	7	MET	-	initiating methionine	UNP C4R0E6

- Molecule 18 is a protein called Transcription elongation factor SPT5.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	W	275	Total	C	H	N	O	S	0	0
			4503	1425	2277	397	403	1		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
W	-2	GLY	-	expression tag	UNP C4R370
W	-1	PRO	-	expression tag	UNP C4R370
W	0	GLY	-	expression tag	UNP C4R370

- Molecule 19 is a protein called Histone H3.3.

Mol	Chain	Residues	Atoms						AltConf	Trace
19	a	97	Total	C	H	N	O	S	0	0
			1632	503	835	155	137	2		
19	e	97	Total	C	H	N	O	S	0	0
			1629	501	833	155	138	2		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a	-3	GLY	-	expression tag	UNP P84243
a	-2	SER	-	expression tag	UNP P84243
a	-1	HIS	-	expression tag	UNP P84243
e	-3	GLY	-	expression tag	UNP P84243
e	-2	SER	-	expression tag	UNP P84243
e	-1	HIS	-	expression tag	UNP P84243

- Molecule 20 is a protein called Histone H4.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	b	80	Total	C	H	N	O	S	0	0
			1315	401	677	125	111	1		
20	f	78	Total	C	H	N	O	S	0	0
			1279	391	660	120	107	1		

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
b	-3	GLY	-	expression tag	UNP P62805
b	-2	SER	-	expression tag	UNP P62805
b	-1	HIS	-	expression tag	UNP P62805

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Chain	Residue	Modelled	Actual	Comment	Reference
b	0	MET	-	expression tag	UNP P62805
f	-3	GLY	-	expression tag	UNP P62805
f	-2	SER	-	expression tag	UNP P62805
f	-1	HIS	-	expression tag	UNP P62805
f	0	MET	-	expression tag	UNP P62805

- Molecule 21 is a protein called Histone H2A type 1-B/E.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	c	103	Total	C	H	N	O	0	0
			1645	502	849	155	139		
21	g	105	Total	C	H	N	O	0	0
			1677	511	867	158	141		

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
c	-3	GLY	-	expression tag	UNP P04908
c	-2	SER	-	expression tag	UNP P04908
c	-1	HIS	-	expression tag	UNP P04908
c	0	MET	-	expression tag	UNP P04908
g	-3	GLY	-	expression tag	UNP P04908
g	-2	SER	-	expression tag	UNP P04908
g	-1	HIS	-	expression tag	UNP P04908
g	0	MET	-	expression tag	UNP P04908

- Molecule 22 is a protein called Histone H2B type 1-J.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	d	95	Total	C	H	N	O	S	0	0
			1518	468	772	136	140	2		
22	h	93	Total	C	H	N	O	S	0	0
			1472	456	747	130	137	2		

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
d	-6	GLY	-	expression tag	UNP P06899
d	-5	SER	-	expression tag	UNP P06899
d	-4	HIS	-	expression tag	UNP P06899
d	-3	MET	-	expression tag	UNP P06899
h	-6	GLY	-	expression tag	UNP P06899

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Chain	Residue	Modelled	Actual	Comment	Reference
h	-5	SER	-	expression tag	UNP P06899
h	-4	HIS	-	expression tag	UNP P06899
h	-3	MET	-	expression tag	UNP P06899

- Molecule 23 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
23	A	2	Total Zn 2 2	0
23	B	1	Total Zn 1 1	0
23	C	1	Total Zn 1 1	0
23	I	2	Total Zn 2 2	0
23	J	1	Total Zn 1 1	0
23	L	1	Total Zn 1 1	0
23	M	1	Total Zn 1 1	0
23	V	1	Total Zn 1 1	0

- Molecule 24 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

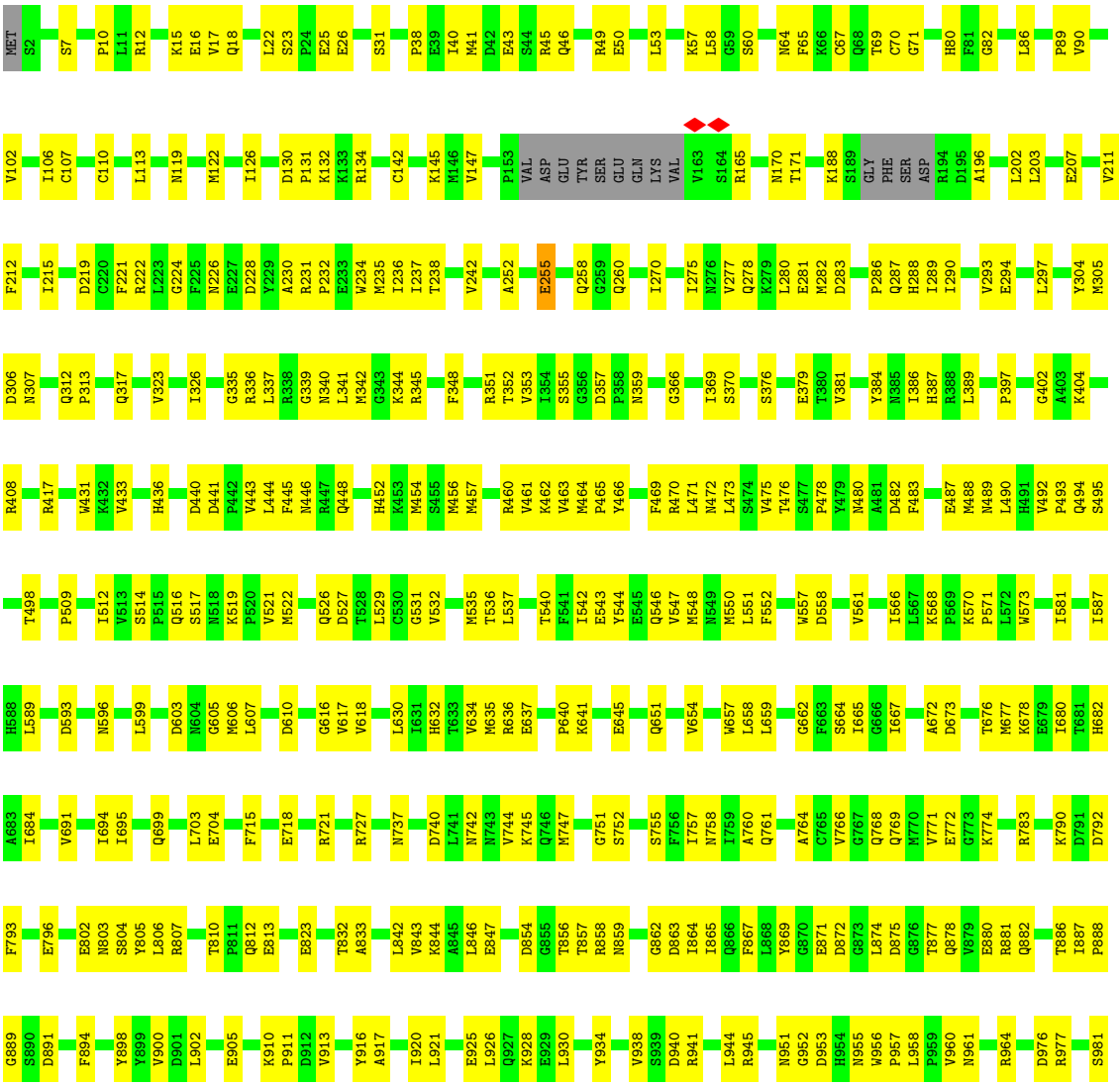
Mol	Chain	Residues	Atoms	AltConf
24	P	1	Total Mg 1 1	0

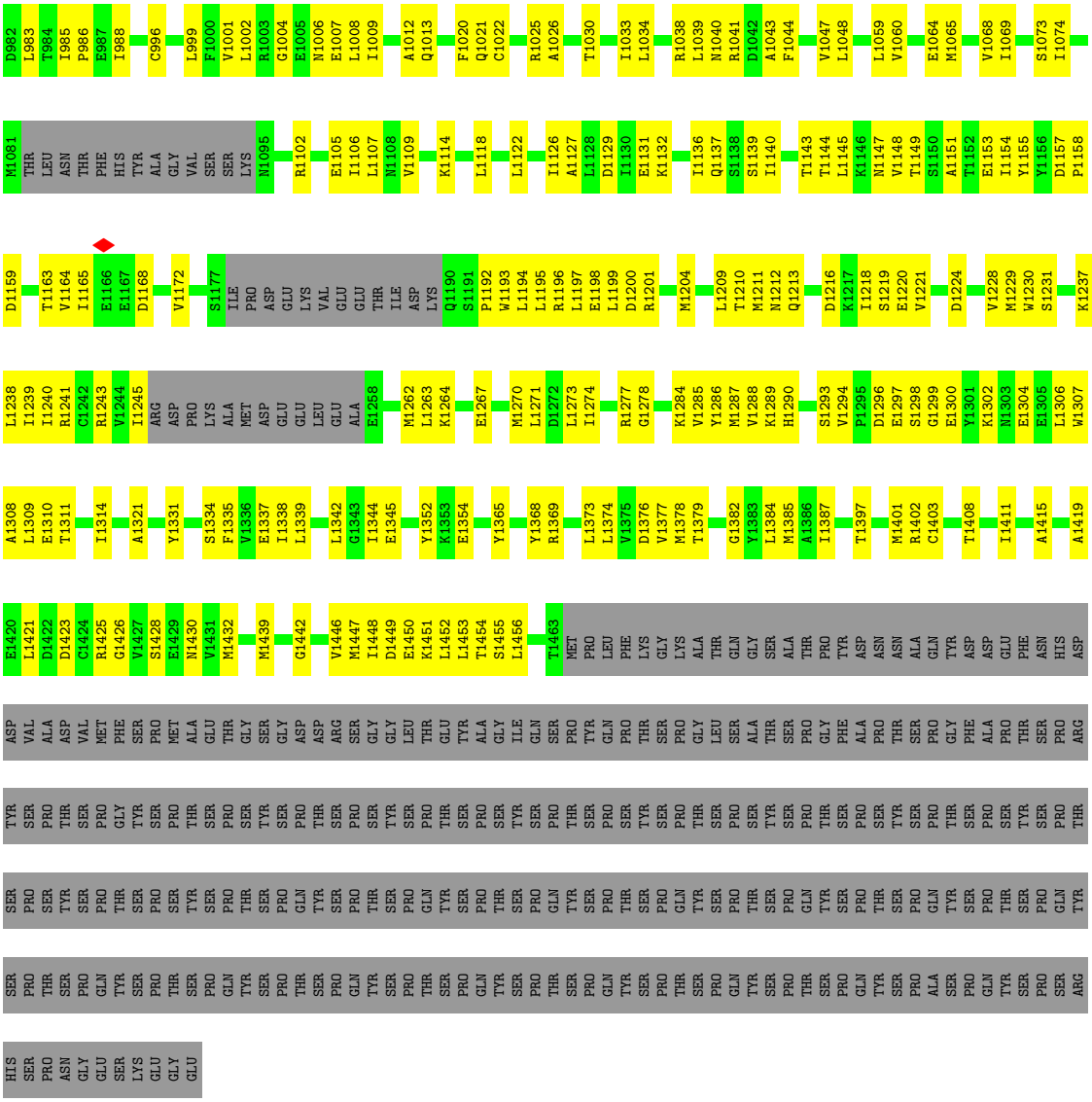
3 Residue-property plots (i)

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 subunit

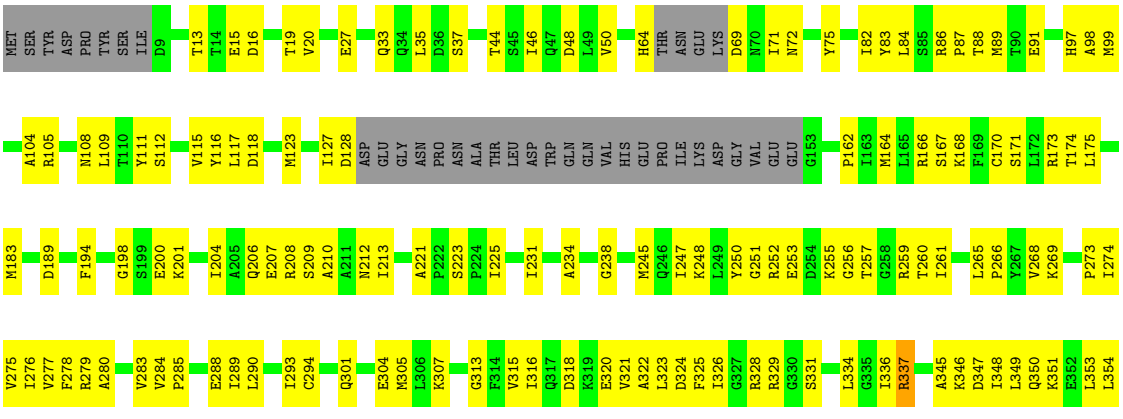
Chain A:

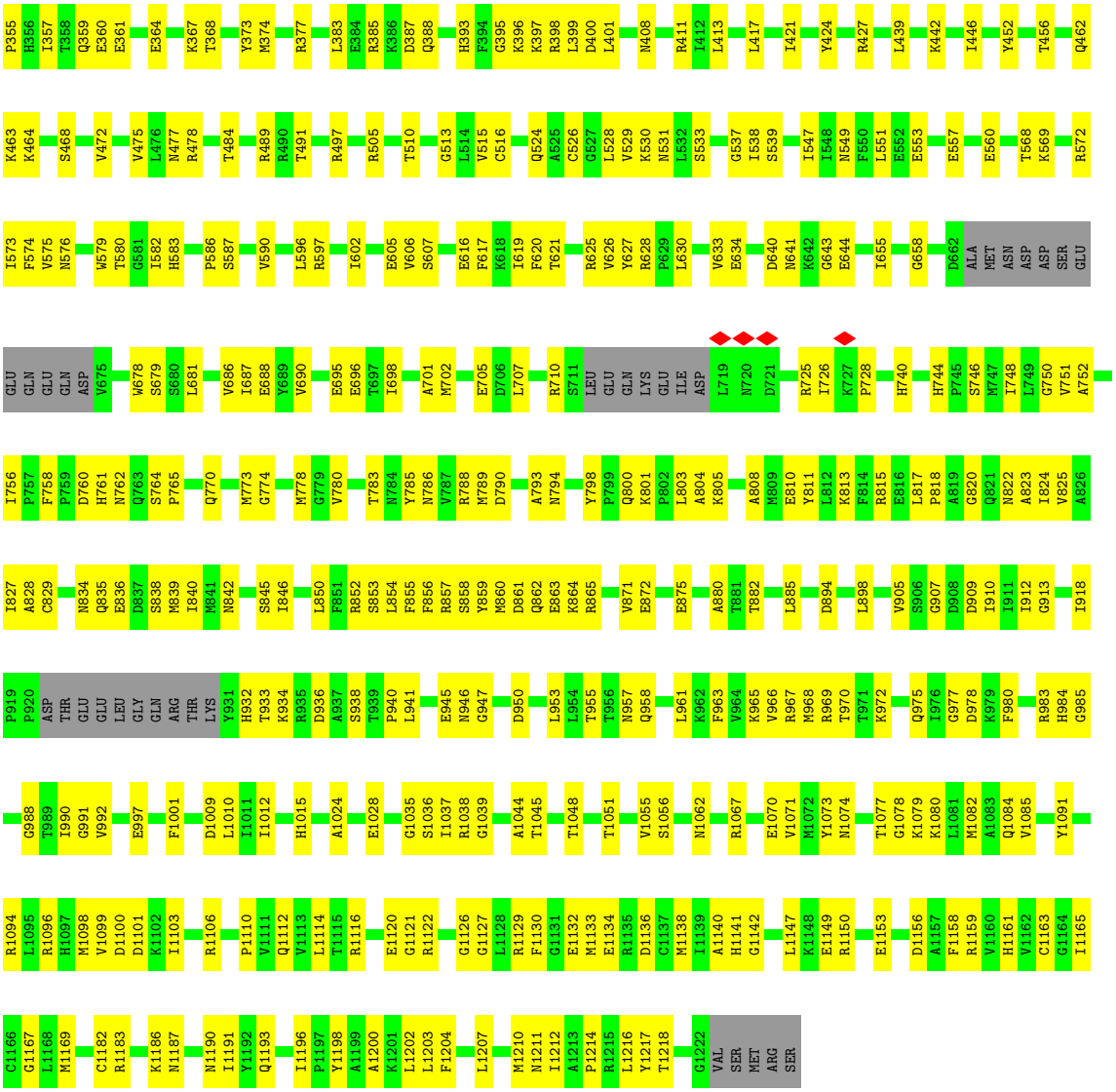




• Molecule 2: DNA-directed RNA polymerase subunit beta

Chain B:

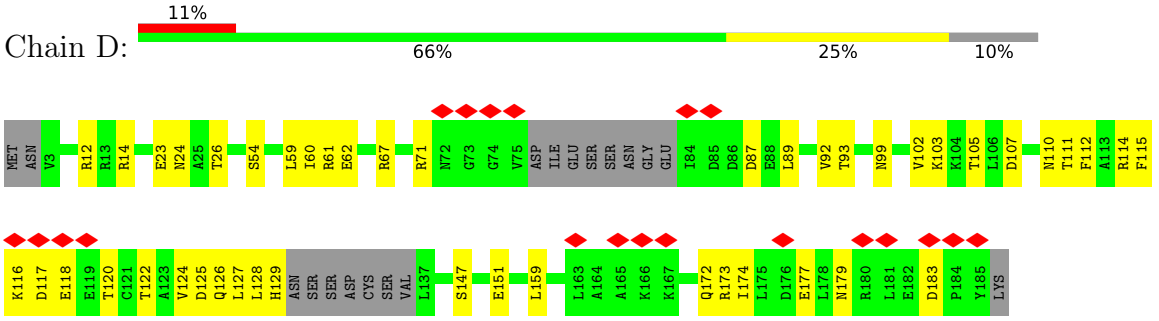




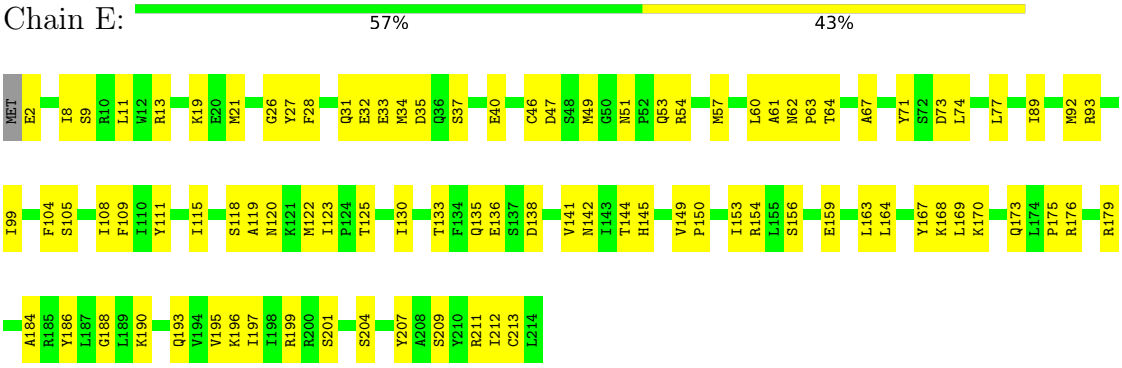
• Molecule 3: RNA polymerase II third largest subunit B44, part of central core

Chain C:

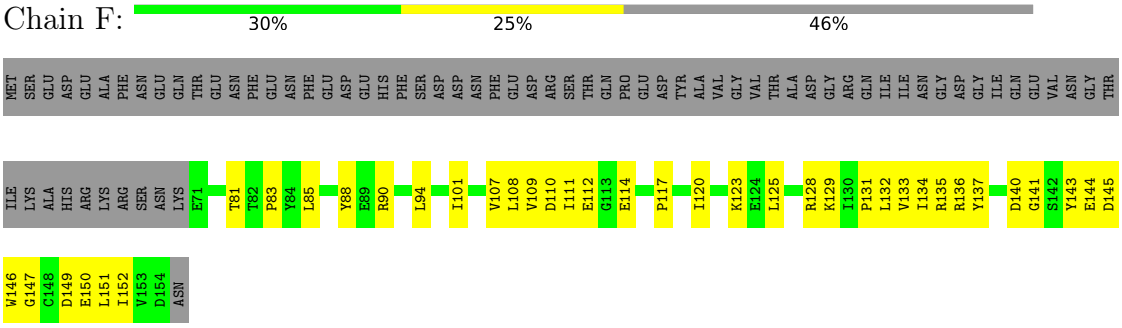
• Molecule 4: RNA polymerase II subunit B32



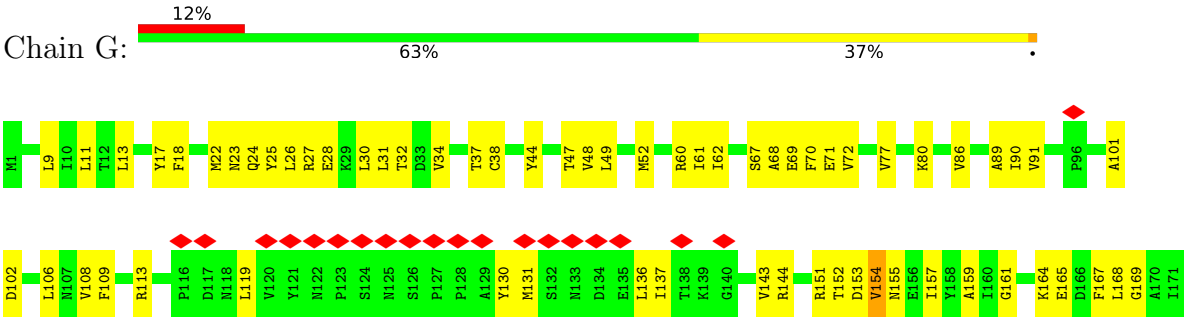
• Molecule 5: DNA-directed RNA polymerases I, II, and III subunit RPABC1



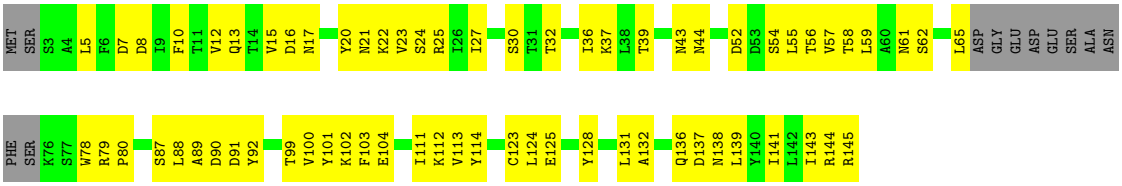
• Molecule 6: RNA polymerase subunit ABC23, common to RNA polymerases I, II, and III



• Molecule 7: RNA polymerase II subunit

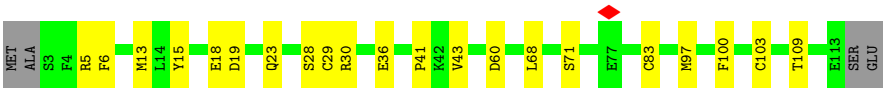


• Molecule 8: DNA-directed RNA polymerases I, II, and III subunit RPABC3



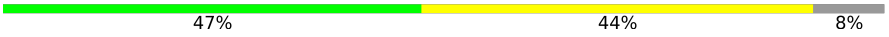
• Molecule 9: DNA-directed RNA polymerase subunit

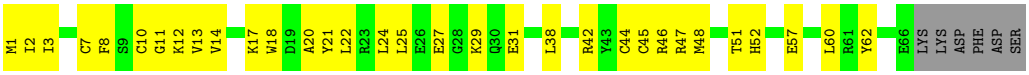
Chain I:



• Molecule 10: RNA polymerase subunit ABC10-beta, common to RNA polymerases I, II, and III

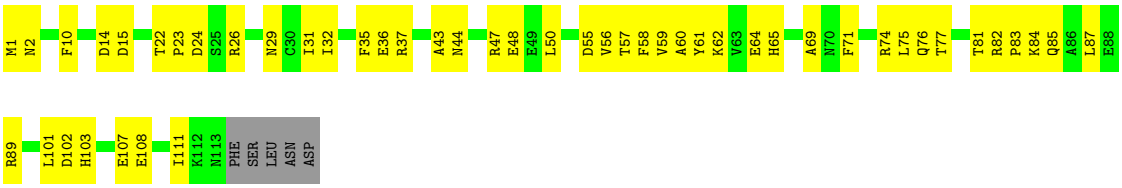
Chain J:





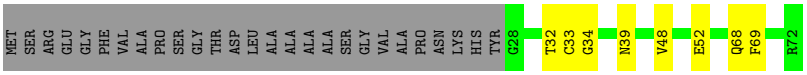
• Molecule 11: RNA polymerase II subunit B12.5

Chain K:



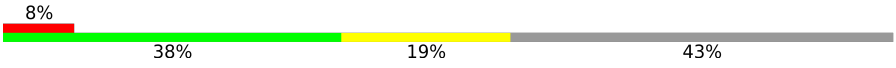
• Molecule 12: RNA polymerase subunit ABC10-alpha

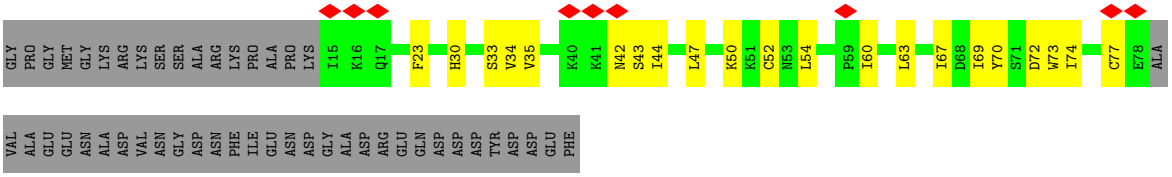
Chain L:



• Molecule 13: Transcription elongation factor 1 homolog

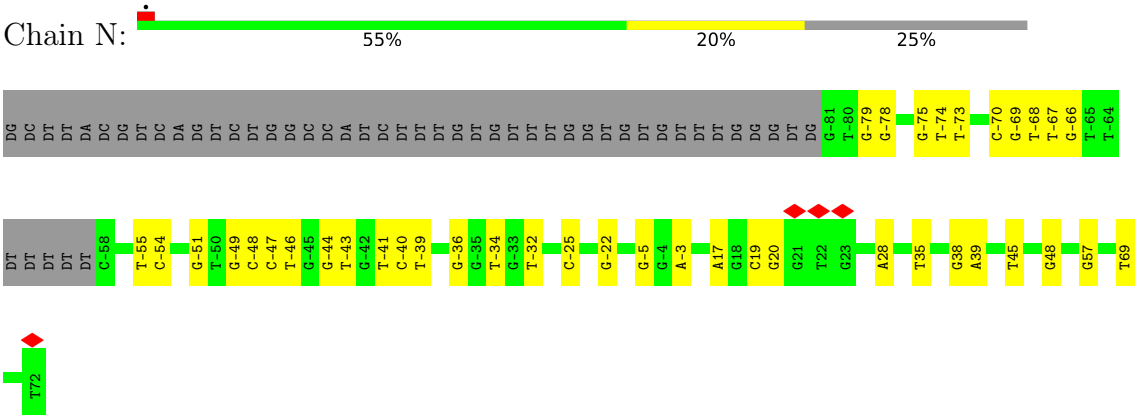
Chain M:





• Molecule 14: DNA (198-MER)

Chain N:

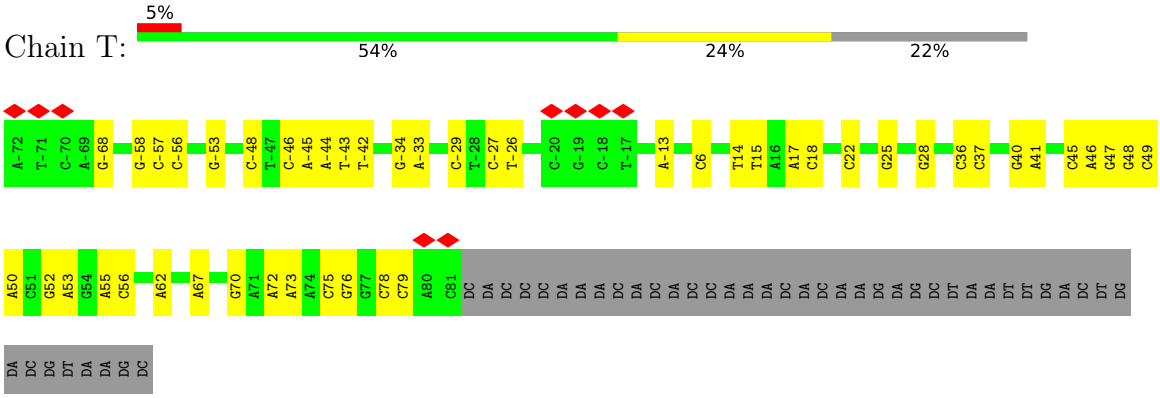


• Molecule 15: RNA (5'-R(P*GP*UP*UP*UP*UP*CP*GP*UP*UP*GP*UP*UP*UP*UP*UP*U)-3')

Chain P:

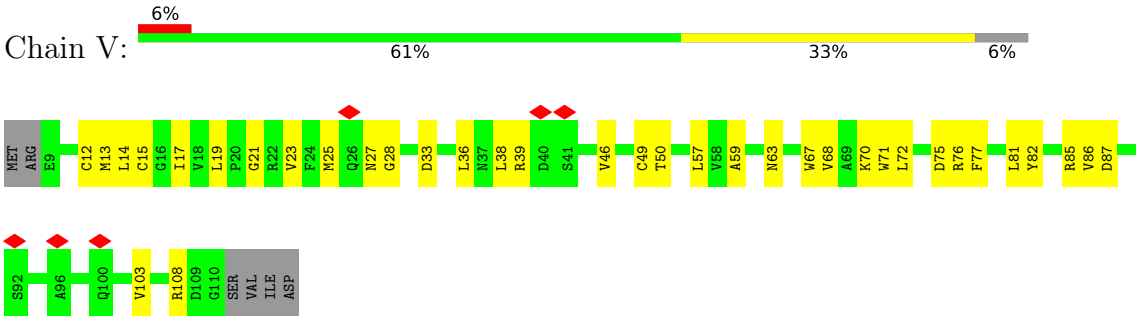
• Molecule 16: DNA (198-MER)

Chain T:



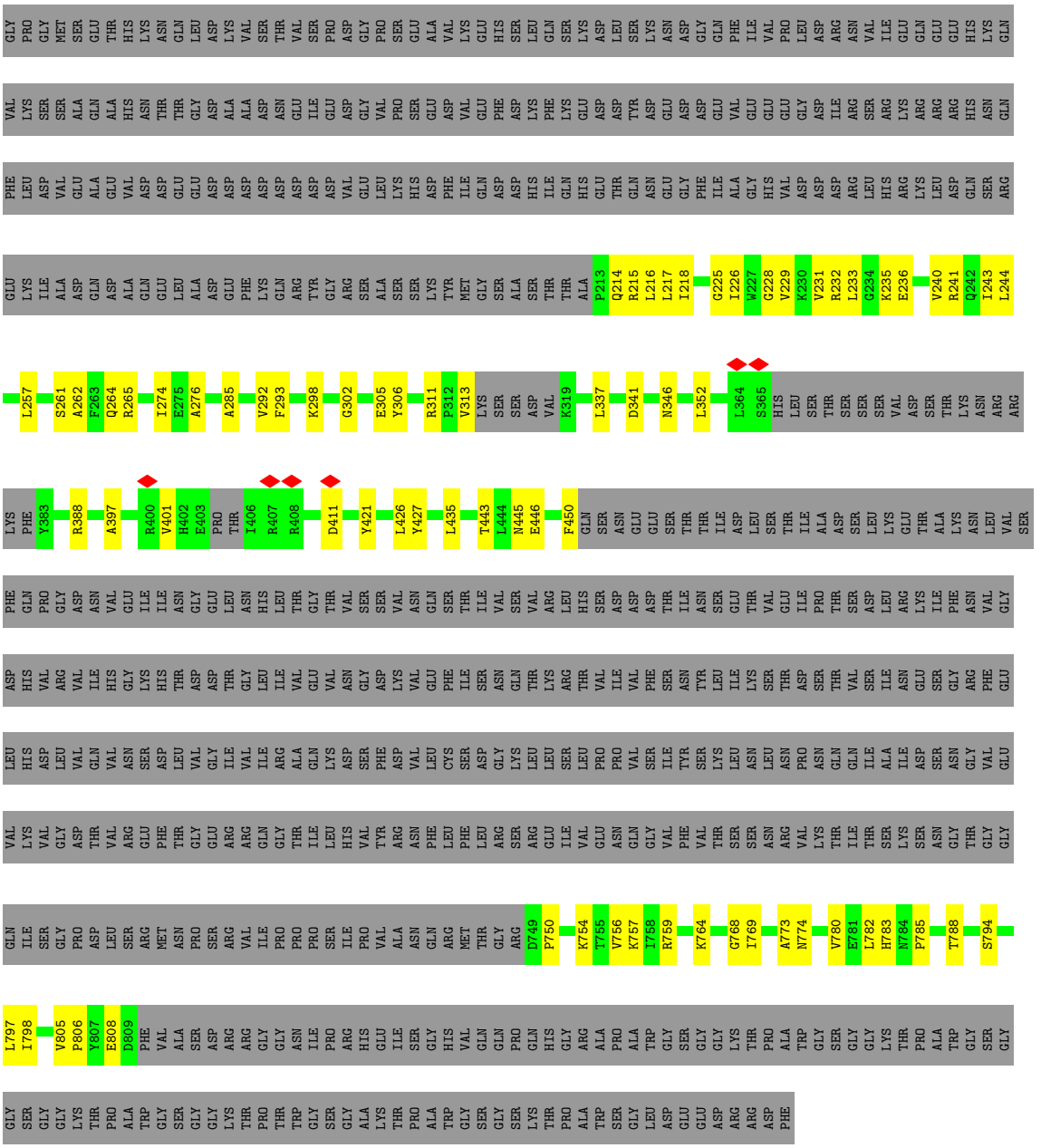
• Molecule 17: Transcription elongation factor SPT4

Chain V:



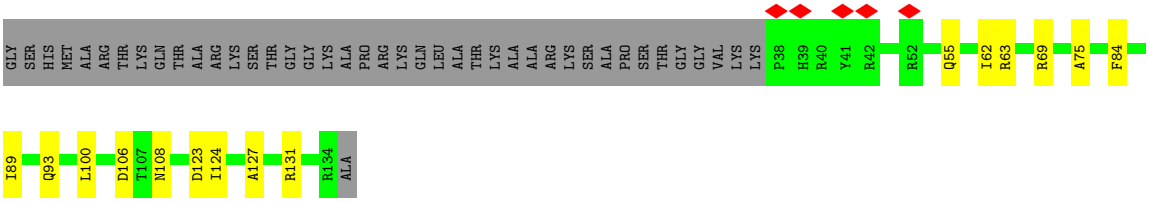
• Molecule 18: Transcription elongation factor SPT5

Chain W:



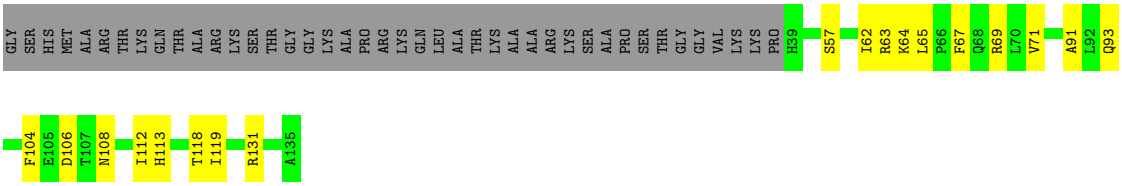
• Molecule 19: Histone H3.3

Chain a:



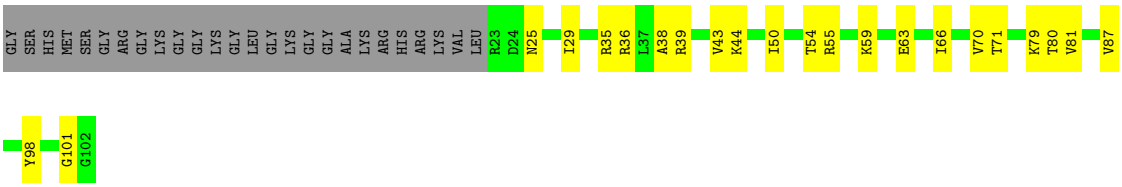
• Molecule 19: Histone H3.3

Chain e:



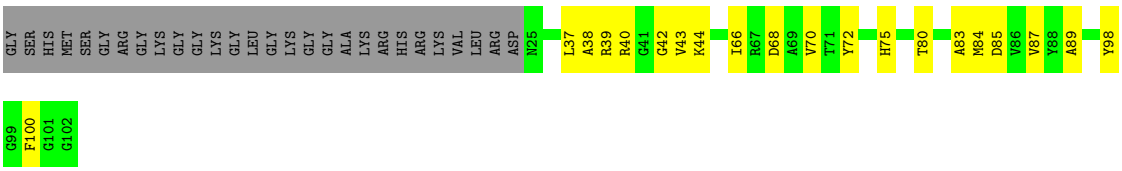
• Molecule 20: Histone H4

Chain b:



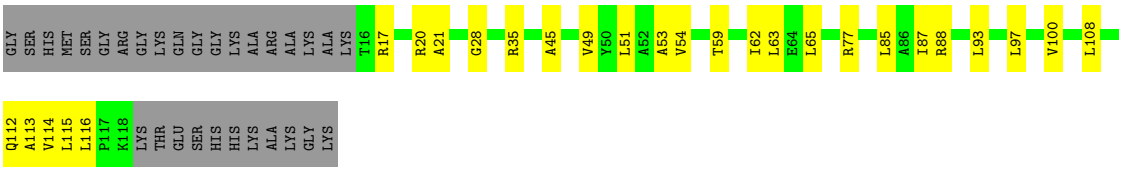
• Molecule 20: Histone H4

Chain f:



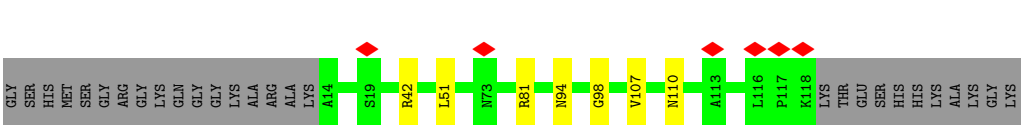
• Molecule 21: Histone H2A type 1-B/E

Chain c:



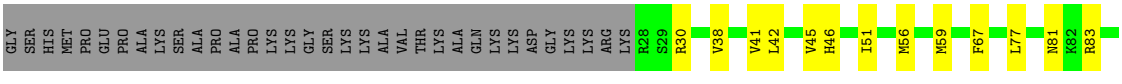
• Molecule 21: Histone H2A type 1-B/E

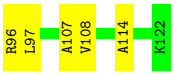
Chain g:



• Molecule 22: Histone H2B type 1-J

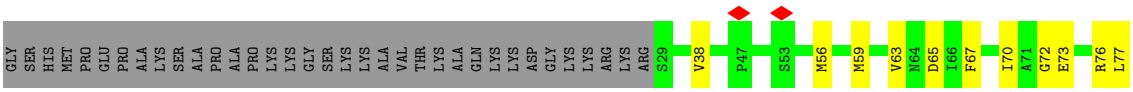
Chain d:

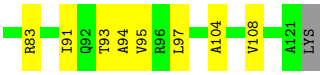




• Molecule 22: Histone H2B type 1-J

Chain h:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	10400	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 ($e^-/Å^2$)	56	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.035	Depositor
Minimum map value	-0.006	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.00756	Depositor
Map size (Å)	356.15997, 356.15997, 356.15997	wwPDB
Map dimensions	336, 336, 336	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.17	0/11329	0.38	0/15310
2	B	0.18	0/9407	0.40	0/12685
3	C	0.17	0/2139	0.40	0/2895
4	D	0.12	0/1326	0.28	0/1788
5	E	0.16	0/1772	0.35	0/2385
6	F	0.17	0/687	0.36	0/931
7	G	0.13	0/1353	0.33	0/1837
8	H	0.17	0/1069	0.35	0/1444
9	I	0.14	0/934	0.35	0/1257
10	J	0.16	0/554	0.38	0/742
11	K	0.17	0/953	0.35	0/1291
12	L	0.19	0/365	0.38	0/484
13	M	0.14	0/513	0.33	0/693
14	N	0.20	0/3432	0.43	0/5299
15	P	0.13	0/363	0.23	0/561
16	T	0.20	0/3533	0.42	0/5444
17	V	0.13	0/808	0.33	0/1097
18	W	0.12	0/2267	0.31	0/3048
19	a	0.11	0/809	0.28	0/1085
19	e	0.13	0/807	0.30	0/1081
20	b	0.14	0/645	0.37	0/862
20	f	0.15	0/626	0.28	0/837
21	c	0.13	0/806	0.33	0/1089
21	g	0.11	0/820	0.28	0/1107
22	d	0.14	0/757	0.29	0/1015
22	h	0.12	0/736	0.27	0/990
All	All	0.17	0/48810	0.37	0/67257

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	11123	11158	11145	454	0
2	B	9228	9244	9232	395	0
3	C	2098	2063	2057	76	0
4	D	1314	1317	1314	36	0
5	E	1740	1755	1754	71	0
6	F	677	694	693	36	0
7	G	1324	1342	1342	52	0
8	H	1052	1052	1050	51	0
9	I	917	873	866	21	0
10	J	545	563	560	34	0
11	K	932	944	944	45	0
12	L	359	363	358	6	0
13	M	505	500	495	17	0
14	N	3065	1682	1683	42	0
15	P	329	164	165	6	0
16	T	3144	1716	1717	52	0
17	V	792	762	757	31	0
18	W	2226	2277	2273	56	0
19	a	797	835	835	14	0
19	e	796	833	832	17	0
20	b	638	677	676	20	0
20	f	619	660	659	17	0
21	c	796	849	848	27	0
21	g	810	867	866	7	0
22	d	746	772	771	20	0
22	h	725	747	745	21	0
23	A	2	0	0	0	0
23	B	1	0	0	0	0
23	C	1	0	0	0	0
23	I	2	0	0	0	0
23	J	1	0	0	0	0
23	L	1	0	0	0	0
23	M	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	V	1	0	0	0	0
24	P	1	0	0	0	0
All	All	47308	44709	44637	1411	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 16.

All (1411) 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)
10:J:10:CYS:SG	10:J:42:ARG:NH2	2.39	0.95
2:B:328:ARG:NH2	13:M:72:ASP:OD1	2.02	0.93
1:A:7:SER:HG	2:B:1161:HIS:HE2	0.93	0.92
1:A:465:PRO:O	1:A:470:ARG:NH2	2.02	0.91
1:A:219:ASP:OD1	1:A:222:ARG:NH2	2.03	0.91
1:A:985:ILE:HG23	1:A:1030:THR:HG21	1.53	0.90
1:A:1064:GLU:OE1	6:F:88:TYR:OH	1.89	0.90
14:N:-70:DC:O2	16:T:70:DG:N2	2.05	0.90
2:B:576:ASN:N	2:B:619:ILE:O	2.05	0.89
1:A:1159:ASP:O	1:A:1243:ARG:NH2	2.06	0.89
2:B:1084:GLN:OE1	3:C:189:THR:OG1	1.92	0.88
4:D:122:THR:O	4:D:126:GLN:NE2	2.05	0.88
1:A:1452:LEU:O	1:A:1455:SER:OG	1.93	0.87
2:B:325:PHE:O	2:B:329:ARG:NH1	2.09	0.85
3:C:54:THR:OG1	3:C:152:GLU:N	2.09	0.85
5:E:71:TYR:OH	5:E:154:ARG:O	1.94	0.85
19:e:62:ILE:O	19:e:93:GLN:NE2	2.08	0.85
2:B:1038:ARG:NH1	2:B:1062:ASN:OD1	2.10	0.85
14:N:-22:DG:N2	16:T:22:DC:O2	2.10	0.84
2:B:783:THR:HG1	10:J:62:TYR:HH	0.96	0.84
22:h:77:LEU:HD13	22:h:93:THR:HG23	1.60	0.84
19:e:108:ASN:ND2	20:f:42:GLY:O	2.10	0.84
2:B:50:VAL:HG21	2:B:82:ILE:HD11	1.60	0.84
10:J:48:MET:O	10:J:52:HIS:N	2.11	0.84
2:B:1182:CYS:O	2:B:1186:LYS:N	2.11	0.83
18:W:798:ILE:N	18:W:805:VAL:O	2.11	0.83
2:B:1056:SER:OG	2:B:1067:ARG:NH1	2.10	0.83
1:A:891:ASP:N	1:A:1298:SER:O	2.11	0.83
1:A:568:LYS:NZ	8:H:92:TYR:O	2.12	0.82
15:P:2:U:O4	16:T:67:DA:N6	2.11	0.82
4:D:114:ARG:NH2	4:D:147:SER:O	2.12	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:156:SER:N	5:E:159:GLU:OE1	2.12	0.82
1:A:1288:VAL:O	1:A:1308:ALA:N	2.13	0.82
1:A:355:SER:N	1:A:469:PHE:O	2.12	0.81
14:N:-36:DG:N2	16:T:37:DC:O2	2.13	0.81
1:A:31:SER:O	2:B:1183:ARG:NH1	2.13	0.81
7:G:109:PHE:O	7:G:161:GLY:N	2.13	0.81
8:H:128:TYR:O	8:H:132:ALA:N	2.13	0.81
2:B:353:LEU:O	2:B:367:LYS:NZ	2.10	0.81
6:F:128:ARG:NH2	6:F:151:LEU:O	2.13	0.81
1:A:764:ALA:O	1:A:807:ARG:NH2	2.13	0.81
1:A:676:THR:OG1	1:A:737:ASN:ND2	2.14	0.81
19:a:62:ILE:O	19:a:93:GLN:NE2	2.13	0.81
1:A:810:THR:OG1	1:A:813:GLU:OE1	1.98	0.80
2:B:208:ARG:O	2:B:398:ARG:N	2.13	0.80
2:B:355:PRO:O	2:B:359:GLN:NE2	2.14	0.80
1:A:864:ILE:HD12	5:E:169:LEU:HD11	1.62	0.80
2:B:894:ASP:N	2:B:898:LEU:O	2.14	0.80
14:N:-5:DG:N2	16:T:6:DC:O2	2.14	0.80
18:W:341:ASP:OD2	18:W:427:TYR:OH	2.00	0.79
1:A:926:LEU:HD11	1:A:986:PRO:HD3	1.64	0.79
3:C:17:VAL:HG23	3:C:240:ALA:HB3	1.63	0.79
1:A:456:MET:O	1:A:457:MET:HE2	1.83	0.79
2:B:89:MET:N	2:B:99:MET:SD	2.55	0.79
5:E:9:SER:OG	5:E:13:ARG:NH1	2.16	0.79
1:A:603:ASP:OD2	8:H:20:TYR:OH	2.01	0.79
5:E:109:PHE:O	5:E:133:THR:OG1	2.01	0.78
1:A:636:ARG:NH1	1:A:878:GLN:OE1	2.16	0.78
2:B:208:ARG:NH2	2:B:400:ASP:OD1	2.16	0.78
2:B:770:GLN:NE2	2:B:773:MET:SD	2.57	0.78
1:A:805:TYR:O	2:B:761:HIS:ND1	2.16	0.78
1:A:812:GLN:NE2	2:B:702:MET:SD	2.57	0.78
8:H:91:ASP:O	8:H:144:ARG:NH1	2.16	0.78
14:N:38:DG:OP1	21:c:45:ALA:N	2.17	0.78
19:a:69:ARG:NH1	20:b:25:ASN:OD1	2.17	0.78
2:B:798:TYR:OH	3:C:65:ARG:NH1	2.16	0.78
1:A:842:LEU:HD21	1:A:1107:LEU:HD11	1.66	0.77
1:A:886:THR:O	1:A:941:ARG:NE	2.17	0.77
1:A:1339:LEU:HD22	1:A:1384:LEU:HD23	1.67	0.77
2:B:316:ILE:HG23	2:B:321:VAL:HG23	1.67	0.77
1:A:18:GLN:NE2	1:A:1419:ALA:O	2.16	0.77
2:B:997:GLU:OE1	2:B:997:GLU:N	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:975:GLN:N	2:B:978:ASP:OD2	2.17	0.77
1:A:796:GLU:N	1:A:796:GLU:OE1	2.18	0.77
4:D:110:ASN:O	4:D:116:LYS:NZ	2.17	0.77
18:W:311:ARG:NH2	18:W:313:VAL:O	2.17	0.77
1:A:1448:ILE:HB	7:G:61:ILE:HD11	1.66	0.76
20:b:98:TYR:OH	22:h:65:ASP:OD2	2.02	0.76
1:A:90:VAL:O	1:A:237:ILE:N	2.19	0.76
11:K:37:ARG:NH1	11:K:69:ALA:O	2.19	0.76
2:B:20:VAL:HG13	2:B:678:TRP:HZ3	1.51	0.76
2:B:840:ILE:O	2:B:1010:LEU:HD12	1.84	0.76
17:V:13:MET:HE1	17:V:86:VAL:HG11	1.66	0.76
2:B:105:ARG:O	2:B:965:LYS:NZ	2.19	0.76
1:A:49:ARG:NH1	1:A:50:GLU:O	2.19	0.76
1:A:1290:HIS:N	1:A:1306:LEU:O	2.19	0.76
12:L:32:THR:OG1	12:L:39:ASN:OD1	2.02	0.75
18:W:750:PRO:O	18:W:754:LYS:NZ	2.19	0.75
3:C:30:ASN:OD1	3:C:33:ARG:NH2	2.20	0.75
1:A:278:GLN:O	1:A:282:MET:HE1	1.85	0.75
1:A:755:SER:N	1:A:758:ASN:OD1	2.18	0.75
1:A:1033:ILE:O	1:A:1038:ARG:N	2.20	0.75
2:B:166:ARG:O	2:B:173:ARG:NE	2.19	0.75
8:H:79:ARG:HD2	11:K:57:THR:HG22	1.67	0.75
15:P:8:U:O4	16:T:62:DA:N6	2.18	0.75
1:A:589:LEU:O	1:A:607:LEU:HD12	1.87	0.75
3:C:173:CYS:SG	3:C:176:ILE:HD11	2.27	0.75
1:A:1403:CYS:O	1:A:1408:THR:OG1	2.03	0.74
18:W:759:ARG:NH2	18:W:794:SER:O	2.20	0.74
1:A:1284:LYS:NZ	1:A:1285:VAL:O	2.20	0.74
9:I:71:SER:N	9:I:83:CYS:O	2.21	0.74
16:T:-43:DT:OP1	21:c:17:ARG:N	2.20	0.74
1:A:673:ASP:OD1	1:A:676:THR:OG1	2.03	0.74
1:A:587:ILE:O	1:A:610:ASP:N	2.21	0.74
2:B:301:GLN:OE1	2:B:385:ARG:NH2	2.20	0.74
5:E:60:LEU:HD12	5:E:77:LEU:O	1.88	0.74
6:F:112:GLU:OE1	6:F:112:GLU:N	2.21	0.74
1:A:940:ASP:OD2	1:A:1025:ARG:NE	2.19	0.73
2:B:16:ASP:O	2:B:20:VAL:HG23	1.87	0.73
8:H:8:ASP:OD2	8:H:32:THR:OG1	2.05	0.73
2:B:793:ALA:HB3	2:B:856:PHE:HB2	1.68	0.73
2:B:842:ASN:ND2	2:B:845:SER:OG	2.21	0.73
1:A:1210:THR:OG1	1:A:1212:ASN:OD1	2.05	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:22:LYS:O	8:H:44:ASN:N	2.20	0.73
17:V:46:VAL:O	17:V:50:THR:OG1	2.04	0.73
1:A:637:GLU:OE2	1:A:964:ARG:NH1	2.21	0.73
2:B:354:LEU:HD13	2:B:357:ILE:HD12	1.69	0.73
3:C:37:LEU:HG	3:C:176:ILE:HD12	1.71	0.73
1:A:1158:PRO:O	9:I:23:GLN:NE2	2.21	0.73
3:C:17:VAL:HG23	3:C:240:ALA:CB	2.18	0.73
11:K:64:GLU:OE1	11:K:64:GLU:N	2.21	0.73
5:E:118:SER:OG	14:N:-43:DT:OP1	2.05	0.73
8:H:17:ASN:OD1	8:H:24:SER:OG	2.07	0.73
1:A:381:VAL:N	1:A:431:TRP:O	2.22	0.72
2:B:1133:MET:N	2:B:1133:MET:HE2	2.04	0.72
20:b:59:LYS:NZ	20:b:63:GLU:OE2	2.21	0.72
1:A:1065:MET:HE2	1:A:1068:VAL:HG23	1.71	0.72
1:A:337:LEU:HD23	1:A:342:MET:HE1	1.71	0.72
4:D:87:ASP:OD1	4:D:103:LYS:NZ	2.22	0.72
2:B:840:ILE:HD12	2:B:992:VAL:HG12	1.71	0.72
3:C:54:THR:OG1	3:C:152:GLU:O	2.05	0.72
2:B:477:ASN:O	2:B:484:THR:OG1	2.04	0.72
1:A:1137:GLN:NE2	1:A:1285:VAL:O	2.23	0.72
1:A:568:LYS:NZ	8:H:89:ALA:O	2.23	0.71
17:V:63:ASN:ND2	17:V:77:PHE:O	2.23	0.71
3:C:48:VAL:O	12:L:69:PHE:N	2.24	0.71
2:B:839:MET:O	2:B:991:GLY:N	2.23	0.71
18:W:352:LEU:HD11	18:W:435:LEU:HD11	1.72	0.71
3:C:93:GLU:N	3:C:93:GLU:OE1	2.23	0.71
1:A:82:GLY:O	1:A:242:VAL:N	2.24	0.70
1:A:476:THR:O	1:A:480:ASN:N	2.23	0.70
1:A:1149:THR:HA	1:A:1199:LEU:HD23	1.71	0.70
2:B:328:ARG:O	13:M:67:ILE:HD12	1.91	0.70
17:V:33:ASP:OD1	17:V:38:LEU:N	2.24	0.70
1:A:1148:VAL:O	1:A:1200:ASP:N	2.24	0.70
1:A:113:LEU:O	1:A:165:ARG:NH2	2.20	0.70
2:B:1100:ASP:O	2:B:1122:ARG:NH2	2.25	0.70
1:A:877:THR:OG1	1:A:878:GLN:NE2	2.24	0.70
6:F:81:THR:OG1	6:F:144:GLU:OE2	2.06	0.70
2:B:489:ARG:NH2	2:B:533:SER:O	2.24	0.70
19:e:57:SER:O	20:f:40:ARG:NH2	2.24	0.70
1:A:107:CYS:CB	1:A:110:CYS:SG	2.80	0.70
2:B:1112:GLN:O	2:B:1116:ARG:N	2.25	0.70
1:A:1131:GLU:N	1:A:1131:GLU:OE1	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:42:ARG:NH2	10:J:45:CYS:SG	2.65	0.70
5:E:170:LYS:N	5:E:173:GLN:OE1	2.24	0.70
14:N:-25:DC:O2	16:T:25:DG:N2	2.19	0.70
1:A:43:GLU:OE2	18:W:388:ARG:NH2	2.25	0.69
1:A:846:LEU:HD22	1:A:1377:VAL:HG11	1.73	0.69
2:B:20:VAL:HG13	2:B:678:TRP:CZ3	2.27	0.69
2:B:824:ILE:N	2:B:1009:ASP:OD2	2.24	0.69
4:D:151:GLU:OE1	4:D:179:ASN:ND2	2.24	0.69
2:B:1134:GLU:OE1	2:B:1134:GLU:N	2.26	0.69
3:C:75:ASP:OD2	3:C:128:ASN:N	2.24	0.69
2:B:33:GLN:N	2:B:33:GLN:OE1	2.25	0.69
2:B:907:GLY:N	2:B:946:ASN:OD1	2.25	0.69
3:C:57:LEU:HB2	3:C:62:ILE:HD11	1.73	0.69
1:A:517:SER:OG	1:A:1365:TYR:O	2.10	0.69
1:A:1006:ASN:OD1	1:A:1007:GLU:N	2.25	0.69
1:A:854:ASP:OD2	1:A:858:ARG:NH2	2.25	0.69
3:C:85:CYS:O	18:W:764:LYS:NZ	2.26	0.69
1:A:440:ASP:OD1	1:A:460:ARG:NH1	2.25	0.69
1:A:951:ASN:O	1:A:1293:SER:OG	2.05	0.69
16:T:49:DC:O2	16:T:50:DA:N6	2.26	0.69
1:A:337:LEU:CD2	1:A:342:MET:HE1	2.23	0.69
2:B:275:VAL:HG21	2:B:313:GLY:HA3	1.75	0.69
5:E:2:GLU:N	5:E:2:GLU:OE1	2.25	0.69
2:B:210:ALA:N	2:B:396:LYS:O	2.25	0.68
3:C:58:ALA:O	3:C:62:ILE:HD12	1.93	0.68
8:H:124:LEU:HD21	8:H:131:LEU:HD22	1.75	0.68
1:A:658:LEU:O	1:A:662:GLY:N	2.21	0.68
13:M:60:ILE:HG22	13:M:69:ILE:HD11	1.76	0.68
14:N:35:DT:O2	16:T:-34:DG:N2	2.26	0.68
1:A:570:LYS:NZ	3:C:221:TYR:O	2.24	0.68
20:f:39:ARG:NH1	20:f:44:LYS:O	2.26	0.68
1:A:7:SER:HG	2:B:1161:HIS:CE1	2.12	0.68
2:B:364:GLU:O	2:B:368:THR:HG23	1.93	0.68
1:A:761:GLN:NE2	1:A:766:VAL:O	2.27	0.68
1:A:684:ILE:HD13	1:A:802:GLU:HG3	1.75	0.67
1:A:1373:LEU:O	1:A:1377:VAL:HG23	1.95	0.67
2:B:166:ARG:NH2	2:B:189:ASP:O	2.27	0.67
22:d:42:LEU:O	22:d:46:HIS:N	2.27	0.67
2:B:773:MET:SD	2:B:774:GLY:N	2.67	0.67
7:G:49:LEU:HD11	7:G:77:VAL:HG23	1.76	0.67
1:A:472:ASN:O	1:A:475:VAL:HG22	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:634:GLU:O	2:B:643:GLY:N	2.26	0.67
7:G:137:ILE:HG23	7:G:143:VAL:HG11	1.77	0.67
8:H:5:LEU:N	8:H:59:LEU:O	2.27	0.67
1:A:844:LYS:NZ	1:A:847:GLU:OE1	2.20	0.67
11:K:22:THR:O	11:K:32:ILE:N	2.26	0.67
7:G:90:ILE:O	7:G:102:ASP:N	2.27	0.67
2:B:274:ILE:HG22	2:B:278:PHE:CE2	2.29	0.67
1:A:900:VAL:HG21	1:A:930:LEU:CD2	2.25	0.67
2:B:284:VAL:HG11	2:B:318:ASP:HA	1.77	0.67
2:B:628:ARG:NE	2:B:695:GLU:OE2	2.27	0.66
1:A:1451:LYS:O	1:A:1454:THR:OG1	2.13	0.66
2:B:72:ASN:ND2	2:B:128:ASP:O	2.29	0.66
2:B:955:THR:O	2:B:963:PHE:N	2.28	0.66
2:B:1187:ASN:ND2	2:B:1190:ASN:O	2.28	0.66
3:C:209:TRP:O	3:C:227:ARG:NH1	2.28	0.66
8:H:54:SER:O	8:H:145:ARG:NH2	2.27	0.66
1:A:945:ARG:NH1	1:A:1299:GLY:O	2.28	0.66
4:D:23:GLU:OE1	7:G:80:LYS:NZ	2.27	0.66
5:E:47:ASP:OD2	5:E:53:GLN:NE2	2.28	0.66
6:F:81:THR:OG1	6:F:136:ARG:NH1	2.27	0.66
1:A:887:ILE:O	1:A:945:ARG:NH2	2.29	0.66
2:B:105:ARG:NE	2:B:200:GLU:OE2	2.26	0.66
3:C:53:ASN:OD1	3:C:54:THR:N	2.29	0.66
2:B:248:LYS:O	2:B:261:ILE:HG23	1.96	0.66
1:A:1040:ASN:OD1	1:A:1043:ALA:N	2.28	0.66
6:F:134:ILE:N	6:F:146:TRP:O	2.26	0.66
8:H:87:SER:N	8:H:90:ASP:OD2	2.29	0.66
22:h:72:GLY:O	22:h:76:ARG:NE	2.26	0.66
1:A:345:ARG:NH1	2:B:1127:GLY:O	2.24	0.66
2:B:1138:MET:HE1	2:B:1147:LEU:HB2	1.77	0.66
10:J:21:TYR:CZ	10:J:25:LEU:HD11	2.31	0.66
2:B:786:ASN:OD1	2:B:967:ARG:NH2	2.29	0.65
2:B:839:MET:HE1	2:B:1012:ILE:HA	1.78	0.65
7:G:151:ARG:NH1	7:G:153:ASP:OD2	2.29	0.65
1:A:792:ASP:OD1	1:A:793:PHE:N	2.30	0.65
9:I:71:SER:OG	9:I:83:CYS:SG	2.55	0.65
1:A:1044:PHE:CE2	1:A:1048:LEU:HD11	2.31	0.65
2:B:596:LEU:HD23	2:B:602:ILE:HD11	1.79	0.65
1:A:1168:ASP:OD2	1:A:1239:ILE:HG21	1.96	0.65
14:N:-3:DA:OP1	19:e:118:THR:N	2.30	0.65
18:W:337:LEU:HD22	18:W:446:GLU:OE1	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:951:ASN:OD1	1:A:952:GLY:N	2.30	0.65
2:B:1101:ASP:O	2:B:1122:ARG:NH1	2.29	0.65
18:W:215:ARG:O	18:W:218:ILE:HG23	1.95	0.65
2:B:770:GLN:OE1	2:B:985:GLY:N	2.27	0.65
1:A:999:LEU:HD13	1:A:1020:PHE:HD2	1.62	0.64
3:C:113:VAL:N	3:C:145:CYS:O	2.30	0.64
10:J:44:CYS:O	10:J:47:ARG:NE	2.30	0.64
13:M:70:TYR:CE2	13:M:74:ILE:HD11	2.32	0.64
2:B:82:ILE:HD13	2:B:117:LEU:HD13	1.79	0.64
7:G:22:MET:O	7:G:26:LEU:HD23	1.97	0.64
10:J:12:LYS:O	10:J:14:VAL:HG23	1.98	0.64
1:A:307:ASN:ND2	1:A:323:VAL:O	2.31	0.64
5:E:115:ILE:HD12	5:E:120:ASN:ND2	2.11	0.64
1:A:228:ASP:OD2	4:D:14:ARG:NH1	2.30	0.64
1:A:444:LEU:HD11	1:A:456:MET:HE2	1.80	0.64
1:A:864:ILE:CD1	5:E:169:LEU:HD11	2.27	0.64
2:B:701:ALA:N	2:B:740:HIS:O	2.29	0.64
18:W:226:ILE:HD12	18:W:306:TYR:HD1	1.62	0.64
19:a:55:GLN:NE2	21:g:110:ASN:O	2.29	0.64
1:A:336:ARG:NH1	1:A:340:ASN:OD1	2.30	0.64
1:A:1210:THR:OG1	1:A:1213:GLN:OE1	2.15	0.64
20:f:75:HIS:CD2	22:h:93:THR:HG21	2.33	0.64
1:A:113:LEU:HD22	1:A:222:ARG:HE	1.62	0.64
2:B:345:ALA:O	2:B:349:LEU:HD23	1.98	0.64
5:E:28:PHE:HB2	5:E:64:THR:HG22	1.80	0.64
8:H:103:PHE:CD1	8:H:113:VAL:HG22	2.33	0.64
1:A:25:GLU:N	1:A:25:GLU:OE1	2.29	0.64
2:B:633:VAL:HG22	2:B:707:LEU:HD21	1.80	0.64
2:B:204:ILE:N	2:B:472:VAL:O	2.30	0.64
2:B:953:LEU:HD23	2:B:965:LYS:HB2	1.78	0.64
2:B:1036:SER:O	10:J:46:ARG:NE	2.23	0.64
18:W:257:LEU:HD21	18:W:285:ALA:HB2	1.79	0.64
1:A:951:ASN:ND2	1:A:953:ASP:OD2	2.31	0.63
1:A:1423:ASP:OD2	1:A:1425:ARG:NH2	2.30	0.63
18:W:798:ILE:O	18:W:805:VAL:N	2.31	0.63
1:A:678:LYS:O	1:A:682:HIS:ND1	2.30	0.63
2:B:1084:GLN:NE2	3:C:190:ASP:O	2.27	0.63
11:K:56:VAL:HG22	11:K:77:THR:HG22	1.79	0.63
21:c:62:ILE:HD11	21:c:93:LEU:HD22	1.80	0.63
5:E:115:ILE:HD12	5:E:120:ASN:HD21	1.63	0.62
5:E:175:PRO:O	5:E:212:ILE:N	2.26	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:807:ARG:O	2:B:725:ARG:N	2.32	0.62
1:A:1145:LEU:HD22	1:A:1274:ILE:HB	1.79	0.62
2:B:288:GLU:N	2:B:288:GLU:OE1	2.30	0.62
2:B:958:GLN:NE2	2:B:958:GLN:O	2.32	0.62
14:N:-47:DC:O2	16:T:48:DG:N1	2.32	0.62
18:W:757:LYS:O	18:W:797:LEU:N	2.30	0.62
1:A:12:ARG:NH1	2:B:1218:THR:OG1	2.33	0.62
1:A:1033:ILE:HD11	1:A:1039:LEU:HD12	1.79	0.62
2:B:256:GLY:O	2:B:257:THR:OG1	2.16	0.62
1:A:1148:VAL:HG23	1:A:1199:LEU:HD22	1.80	0.62
2:B:109:LEU:O	2:B:198:GLY:N	2.29	0.62
1:A:900:VAL:HG21	1:A:930:LEU:HD23	1.81	0.62
1:A:910:LYS:O	1:A:913:VAL:HG22	2.00	0.62
2:B:265:LEU:O	2:B:268:VAL:HG22	1.99	0.62
5:E:142:ASN:OD1	5:E:144:THR:N	2.32	0.62
1:A:871:GLU:OE1	5:E:201:SER:OG	2.17	0.62
1:A:1378:MET:SD	1:A:1379:THR:HG23	2.40	0.62
14:N:28:DA:OP1	20:b:79:LYS:N	2.33	0.62
6:F:112:GLU:OE2	6:F:123:LYS:NZ	2.32	0.62
10:J:18:TRP:CZ2	10:J:22:LEU:HD21	2.35	0.62
1:A:357:ASP:OD1	1:A:359:ASN:N	2.32	0.61
1:A:441:ASP:O	1:A:461:VAL:HG23	1.99	0.61
2:B:393:HIS:CE1	2:B:510:THR:HG21	2.35	0.61
17:V:59:ALA:N	18:W:262:ALA:O	2.27	0.61
2:B:839:MET:HB3	2:B:1010:LEU:HD11	1.82	0.61
17:V:59:ALA:HB1	18:W:244:LEU:HB2	1.82	0.61
1:A:874:LEU:HD23	1:A:1059:LEU:HD23	1.82	0.61
17:V:15:CYS:SG	17:V:17:ILE:HG22	2.40	0.61
1:A:1298:SER:OG	1:A:1300:GLU:OE1	2.17	0.61
2:B:813:LYS:O	2:B:817:LEU:N	2.33	0.61
6:F:85:LEU:HD21	6:F:90:ARG:HA	1.83	0.61
1:A:348:PHE:N	2:B:1106:ARG:O	2.34	0.61
1:A:379:GLU:O	1:A:433:VAL:N	2.31	0.61
1:A:944:LEU:HD11	1:A:1022:CYS:HB3	1.83	0.61
4:D:92:VAL:HG13	4:D:93:THR:HG23	1.83	0.61
5:E:142:ASN:CG	5:E:144:THR:HG1	2.08	0.61
1:A:1001:VAL:N	1:A:1013:GLN:OE1	2.27	0.61
1:A:865:ILE:HG21	1:A:1377:VAL:HG22	1.83	0.61
1:A:983:LEU:HD13	1:A:1041:ARG:HA	1.83	0.61
2:B:1165:ILE:HD12	2:B:1187:ASN:HB2	1.83	0.61
2:B:803:LEU:HD23	10:J:51:THR:HG21	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1121:GLY:O	2:B:1126:GLY:N	2.34	0.61
10:J:27:GLU:OE2	10:J:29:LYS:NZ	2.34	0.61
2:B:439:LEU:O	2:B:442:LYS:NZ	2.25	0.60
8:H:8:ASP:OD2	8:H:30:SER:OG	2.17	0.60
1:A:703:LEU:HD23	1:A:704:GLU:O	2.01	0.60
1:A:882:GLN:NE2	1:A:961:ASN:OD1	2.33	0.60
4:D:118:GLU:OE2	4:D:122:THR:OG1	2.19	0.60
1:A:1337:GLU:N	1:A:1337:GLU:OE1	2.32	0.60
3:C:163:ILE:HD11	11:K:10:PHE:CD1	2.37	0.60
13:M:34:VAL:HG13	13:M:47:LEU:HD21	1.83	0.60
7:G:152:THR:HA	7:G:157:ILE:HG22	1.84	0.60
10:J:57:GLU:OE1	10:J:57:GLU:N	2.34	0.60
5:E:154:ARG:HA	5:E:195:VAL:HG12	1.84	0.60
7:G:24:GLN:OE1	7:G:24:GLN:N	2.33	0.60
11:K:58:PHE:O	11:K:75:LEU:HD12	2.02	0.60
2:B:210:ALA:HB3	2:B:213:ILE:HD11	1.84	0.60
2:B:861:ASP:OD1	2:B:862:GLN:N	2.34	0.60
2:B:968:MET:SD	2:B:969:ARG:N	2.74	0.60
10:J:2:ILE:O	10:J:52:HIS:NE2	2.31	0.60
1:A:1064:GLU:OE2	1:A:1069:ILE:HD11	2.01	0.60
2:B:279:ARG:NH2	2:B:313:GLY:O	2.35	0.60
2:B:828:ALA:O	2:B:834:ASN:ND2	2.34	0.60
1:A:768:GLN:NE2	1:A:769:GLN:O	2.33	0.59
2:B:373:TYR:OH	2:B:616:GLU:OE2	2.18	0.59
2:B:630:LEU:N	2:B:688:GLU:O	2.34	0.59
22:h:77:LEU:HD13	22:h:93:THR:CG2	2.30	0.59
1:A:985:ILE:CG2	1:A:1030:THR:HG21	2.28	0.59
1:A:1127:ALA:O	1:A:1307:TRP:N	2.34	0.59
2:B:617:PHE:CE2	2:B:619:ILE:HD11	2.37	0.59
1:A:1193:TRP:HZ3	9:I:43:VAL:HG21	1.66	0.59
2:B:347:ASP:O	2:B:351:LYS:N	2.34	0.59
2:B:513:GLY:HA2	2:B:748:ILE:HG22	1.84	0.59
5:E:176:ARG:O	5:E:211:ARG:NH1	2.35	0.59
1:A:1154:ILE:HD12	1:A:1264:LYS:HE2	1.84	0.59
2:B:794:ASN:ND2	2:B:854:LEU:O	2.34	0.59
3:C:149:ASN:OD1	3:C:150:HIS:ND1	2.35	0.59
1:A:1339:LEU:HD22	1:A:1384:LEU:CD2	2.32	0.59
11:K:55:ASP:OD2	11:K:89:ARG:NH2	2.36	0.59
14:N:48:DG:N2	16:T:-48:DC:O2	2.35	0.59
1:A:1273:LEU:O	1:A:1274:ILE:HD13	2.02	0.59
5:E:201:SER:OG	5:E:204:SER:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1168:ASP:OD2	1:A:1196:ARG:NE	2.30	0.59
2:B:464:LYS:O	2:B:468:SER:OG	2.16	0.59
2:B:918:ILE:N	2:B:933:THR:O	2.34	0.59
8:H:8:ASP:O	8:H:57:VAL:N	2.33	0.59
8:H:103:PHE:HD1	8:H:113:VAL:HG22	1.66	0.59
17:V:13:MET:CE	17:V:86:VAL:HG11	2.33	0.59
8:H:99:THR:HG22	8:H:138:ASN:OD1	2.02	0.59
21:c:63:LEU:HD21	22:d:59:MET:SD	2.42	0.59
21:c:65:LEU:HD12	21:c:93:LEU:HD12	1.85	0.58
1:A:867:PHE:N	5:E:207:TYR:OH	2.36	0.58
1:A:1290:HIS:O	1:A:1306:LEU:N	2.35	0.58
22:h:77:LEU:HD11	22:h:97:LEU:CD1	2.33	0.58
1:A:543:GLU:O	1:A:547:VAL:HG23	2.03	0.58
2:B:364:GLU:N	2:B:364:GLU:OE1	2.36	0.58
2:B:840:ILE:C	2:B:1010:LEU:HD12	2.28	0.58
16:T:-33:DA:OP1	22:d:83:ARG:NH2	2.35	0.58
1:A:281:GLU:N	1:A:281:GLU:OE1	2.37	0.58
1:A:865:ILE:HG22	1:A:1376:ASP:CG	2.28	0.58
1:A:1344:ILE:HD13	1:A:1382:GLY:O	2.03	0.58
22:h:38:VAL:HG21	22:h:56:MET:HE1	1.84	0.58
10:J:18:TRP:NE1	10:J:22:LEU:HD11	2.18	0.58
16:T:-13:DA:OP1	20:b:36:ARG:NH2	2.35	0.58
2:B:210:ALA:HB3	2:B:213:ILE:CD1	2.33	0.58
1:A:286:PRO:O	1:A:288:HIS:N	2.37	0.58
1:A:444:LEU:HD11	1:A:456:MET:CE	2.34	0.58
3:C:7:VAL:HG23	11:K:101:LEU:HD11	1.86	0.58
1:A:355:SER:O	1:A:471:LEU:N	2.34	0.58
1:A:1006:ASN:OD1	1:A:1008:LEU:N	2.36	0.58
1:A:1195:LEU:HB2	1:A:1263:LEU:HD11	1.85	0.58
5:E:19:LYS:HB3	5:E:34:MET:HE1	1.85	0.58
1:A:516:GLN:OE1	1:A:1073:SER:HA	2.04	0.57
18:W:264:GLN:NE2	18:W:265:ARG:O	2.37	0.57
17:V:75:ASP:OD1	17:V:76:ARG:N	2.37	0.57
2:B:560:GLU:N	2:B:560:GLU:OE1	2.36	0.57
10:J:21:TYR:HB2	10:J:38:LEU:HD21	1.86	0.57
17:V:57:LEU:HD11	17:V:81:LEU:HD22	1.85	0.57
1:A:1415:ALA:O	1:A:1419:ALA:N	2.37	0.57
17:V:23:VAL:O	17:V:27:ASN:N	2.34	0.57
1:A:957:PRO:C	1:A:958:LEU:HD22	2.29	0.57
2:B:505:ARG:NH2	2:B:524:GLN:O	2.35	0.57
2:B:756:ILE:HD11	2:B:770:GLN:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:13:GLN:N	3:C:16:GLU:O	2.37	0.57
7:G:106:LEU:HD13	7:G:159:ALA:HB3	1.85	0.57
1:A:813:GLU:OE1	1:A:813:GLU:N	2.34	0.57
2:B:1098:MET:N	2:B:1101:ASP:OD2	2.37	0.57
5:E:28:PHE:N	5:E:62:ASN:O	2.37	0.57
6:F:135:ARG:NH2	6:F:145:ASP:OD2	2.38	0.57
7:G:34:VAL:HG11	7:G:48:VAL:HG21	1.86	0.57
21:c:54:VAL:HG13	22:d:107:ALA:HB1	1.87	0.57
1:A:456:MET:O	1:A:457:MET:CE	2.52	0.57
1:A:1219:SER:OG	1:A:1228:VAL:HG21	2.05	0.57
2:B:537:GLY:N	2:B:627:TYR:O	2.33	0.57
2:B:1106:ARG:NH2	2:B:1110:PRO:O	2.37	0.57
2:B:568:THR:HG23	2:B:569:LYS:HD2	1.87	0.57
16:T:-45:DA:OP1	22:d:30:ARG:NH2	2.37	0.57
16:T:17:DA:OP2	19:e:69:ARG:NH2	2.35	0.57
2:B:208:ARG:N	2:B:398:ARG:O	2.38	0.57
10:J:7:CYS:O	10:J:11:GLY:N	2.36	0.57
10:J:17:LYS:HB3	10:J:38:LEU:HD23	1.86	0.57
11:K:103:HIS:NE2	11:K:107:GLU:OE2	2.38	0.57
21:g:94:ASN:O	21:g:98:GLY:N	2.37	0.57
2:B:27:GLU:OE1	2:B:678:TRP:HB3	2.05	0.56
1:A:258:GLN:NE2	1:A:260:GLN:OE1	2.38	0.56
1:A:305:MET:HE2	1:A:305:MET:HA	1.86	0.56
1:A:1379:THR:O	5:E:211:ARG:NH2	2.38	0.56
11:K:24:ASP:OD2	11:K:74:ARG:NE	2.39	0.56
16:T:-42:DT:OP1	21:c:20:ARG:NH2	2.38	0.56
2:B:549:ASN:O	2:B:553:GLU:N	2.33	0.56
2:B:980:PHE:O	2:B:988:GLY:N	2.37	0.56
9:I:19:ASP:O	9:I:23:GLN:N	2.37	0.56
1:A:58:LEU:O	1:A:80:HIS:N	2.31	0.56
1:A:1105:GLU:OE2	1:A:1114:LYS:N	2.36	0.56
1:A:1446:VAL:HG13	6:F:132:LEU:HD23	1.86	0.56
2:B:606:VAL:HG13	2:B:621:THR:HG22	1.86	0.56
2:B:640:ASP:OD1	2:B:641:ASN:N	2.38	0.56
2:B:880:ALA:O	2:B:932:HIS:ND1	2.37	0.56
17:V:14:LEU:HD21	17:V:103:VAL:HG11	1.87	0.56
1:A:16:GLU:OE1	4:D:12:ARG:NH2	2.38	0.56
1:A:86:LEU:HD11	1:A:297:LEU:HD21	1.87	0.56
1:A:90:VAL:N	1:A:237:ILE:O	2.38	0.56
1:A:1004:GLY:HA3	1:A:1009:ILE:HD13	1.88	0.56
1:A:771:VAL:HG13	1:A:823:GLU:OE1	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:846:LEU:CD2	1:A:1377:VAL:HG11	2.36	0.56
5:E:184:ALA:O	5:E:188:GLY:N	2.39	0.56
13:M:60:ILE:CG2	13:M:69:ILE:HD11	2.35	0.56
1:A:985:ILE:HG23	1:A:1030:THR:CG2	2.32	0.56
2:B:1071:VAL:HG22	2:B:1084:GLN:HG3	1.86	0.56
7:G:153:ASP:O	7:G:154:VAL:HG22	2.06	0.56
2:B:88:THR:N	2:B:99:MET:HE1	2.21	0.56
3:C:148:ARG:N	3:C:151:GLN:OE1	2.32	0.56
7:G:28:GLU:O	7:G:32:THR:HG23	2.06	0.56
18:W:225:GLY:N	18:W:276:ALA:O	2.38	0.56
22:h:72:GLY:C	22:h:76:ARG:HE	2.14	0.56
1:A:1043:ALA:O	1:A:1047:VAL:HG23	2.05	0.55
1:A:1211:MET:HE1	1:A:1231:SER:N	2.20	0.55
7:G:106:LEU:HD11	7:G:108:VAL:HG23	1.87	0.55
7:G:153:ASP:O	7:G:155:ASN:N	2.38	0.55
1:A:1449:ASP:HB2	6:F:133:VAL:HG23	1.89	0.55
2:B:290:LEU:O	2:B:294:CYS:N	2.39	0.55
2:B:1167:GLY:O	2:B:1216:LEU:N	2.37	0.55
18:W:337:LEU:HD22	18:W:446:GLU:CD	2.31	0.55
2:B:50:VAL:HG21	2:B:82:ILE:CD1	2.33	0.55
2:B:117:LEU:HD12	2:B:118:ASP:H	1.71	0.55
4:D:159:LEU:HD11	7:G:167:PHE:CD2	2.42	0.55
17:V:68:VAL:HG21	18:W:261:SER:OG	2.07	0.55
1:A:472:ASN:OD1	1:A:651:GLN:NE2	2.39	0.55
2:B:497:ARG:HE	2:B:524:GLN:HB3	1.71	0.55
2:B:980:PHE:N	2:B:988:GLY:O	2.35	0.55
3:C:10:ILE:HD11	3:C:20:MET:SD	2.47	0.55
11:K:44:ASN:OD1	11:K:47:ARG:NH2	2.39	0.55
13:M:42:ASN:ND2	13:M:44:ILE:HD12	2.21	0.55
14:N:69:DT:O2	16:T:-68:DG:N2	2.40	0.55
17:V:19:LEU:HD13	17:V:23:VAL:HG11	1.87	0.55
18:W:446:GLU:O	18:W:450:PHE:N	2.34	0.55
21:c:63:LEU:HD22	22:d:42:LEU:HD13	1.87	0.55
2:B:710:ARG:NH2	2:B:728:PRO:O	2.40	0.55
4:D:71:ARG:HH22	4:D:92:VAL:HG23	1.70	0.55
5:E:111:TYR:O	5:E:136:GLU:N	2.33	0.55
1:A:898:TYR:OH	1:A:1026:ALA:O	2.21	0.55
2:B:1045:THR:O	2:B:1048:THR:OG1	2.13	0.55
2:B:86:ARG:NH2	2:B:168:LYS:O	2.39	0.55
5:E:26:GLY:O	5:E:64:THR:HG23	2.07	0.55
17:V:67:TRP:NE1	18:W:217:LEU:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:536:THR:OG1	1:A:617:VAL:HG13	2.07	0.55
1:A:999:LEU:HD13	1:A:1020:PHE:CD2	2.42	0.55
2:B:505:ARG:HG3	2:B:528:LEU:HD21	1.89	0.55
1:A:1193:TRP:CZ3	9:I:43:VAL:HG21	2.42	0.55
2:B:557:GLU:O	2:B:582:ILE:N	2.37	0.55
2:B:579:TRP:HZ2	2:B:582:ILE:HD11	1.71	0.55
2:B:885:LEU:HD23	2:B:936:ASP:HB2	1.89	0.55
2:B:1212:ILE:HG22	2:B:1214:PRO:HD3	1.88	0.55
3:C:124:PRO:O	3:C:127:LEU:HD13	2.06	0.55
1:A:317:GLN:NE2	1:A:323:VAL:HG22	2.22	0.55
1:A:1136:ILE:HG22	1:A:1140:ILE:HD12	1.89	0.55
1:A:1221:VAL:HG11	1:A:1274:ILE:HD12	1.89	0.55
2:B:1035:GLY:O	2:B:1039:GLY:N	2.39	0.55
2:B:1149:GLU:O	2:B:1153:GLU:N	2.33	0.55
4:D:127:LEU:HD21	4:D:177:GLU:CD	2.32	0.55
8:H:16:ASP:N	8:H:25:ARG:O	2.35	0.55
1:A:630:LEU:O	1:A:634:VAL:HG23	2.07	0.54
2:B:350:GLN:NE2	2:B:361:GLU:OE2	2.41	0.54
2:B:804:ALA:O	2:B:983:ARG:NH2	2.38	0.54
5:E:49:MET:SD	5:E:51:ASN:ND2	2.80	0.54
11:K:31:ILE:HG23	11:K:83:PRO:HG2	1.88	0.54
1:A:351:ARG:NE	1:A:487:GLU:OE1	2.34	0.54
1:A:452:HIS:CD2	1:A:454:MET:HE3	2.42	0.54
1:A:1151:ALA:O	1:A:1198:GLU:N	2.34	0.54
2:B:174:THR:O	2:B:175:LEU:HB2	2.07	0.54
2:B:586:PRO:O	2:B:590:VAL:HG13	2.07	0.54
20:b:39:ARG:NH1	20:b:44:LYS:O	2.40	0.54
1:A:999:LEU:O	1:A:1013:GLN:NE2	2.40	0.54
2:B:551:LEU:HD23	2:B:573:ILE:HG21	1.88	0.54
3:C:73:SER:O	3:C:238:LEU:HD21	2.08	0.54
4:D:24:ASN:OD1	4:D:26:THR:OG1	2.15	0.54
4:D:125:ASP:O	4:D:129:HIS:ND1	2.36	0.54
7:G:62:ILE:N	7:G:67:SER:O	2.37	0.54
1:A:548:MET:HE2	11:K:59:VAL:O	2.07	0.54
1:A:1129:ASP:OD1	1:A:1132:LYS:N	2.38	0.54
3:C:56:VAL:HG23	3:C:57:LEU:HD23	1.88	0.54
7:G:44:TYR:HE2	7:G:106:LEU:HD23	1.71	0.54
2:B:273:PRO:HD2	2:B:276:ILE:HD12	1.90	0.54
11:K:29:ASN:ND2	11:K:77:THR:O	2.39	0.54
18:W:768:GLY:O	18:W:769:ILE:HD13	2.08	0.54
2:B:857:ARG:NE	2:B:945:GLU:OE1	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1107:LEU:HD12	1:A:1387:ILE:HG21	1.88	0.54
2:B:27:GLU:OE2	2:B:679:SER:OG	2.22	0.54
8:H:16:ASP:O	8:H:25:ARG:N	2.39	0.54
9:I:5:ARG:NH2	9:I:36:GLU:OE2	2.39	0.54
18:W:302:GLY:N	18:W:305:GLU:OE2	2.36	0.54
1:A:335:GLY:O	1:A:339:GLY:N	2.36	0.54
3:C:7:VAL:HG23	11:K:101:LEU:CD1	2.38	0.54
20:b:29:ILE:O	20:b:55:ARG:NH2	2.40	0.54
5:E:67:ALA:O	5:E:71:TYR:N	2.36	0.54
17:V:85:ARG:NH2	17:V:87:ASP:OD1	2.38	0.54
1:A:142:CYS:SG	1:A:145:LYS:NZ	2.80	0.54
1:A:1352:TYR:HH	1:A:1368:TYR:HD1	1.54	0.54
2:B:82:ILE:CD1	2:B:117:LEU:HD13	2.37	0.54
2:B:491:THR:O	2:B:529:VAL:HG13	2.08	0.54
6:F:128:ARG:NH2	6:F:149:ASP:O	2.40	0.54
1:A:64:ASN:OD1	1:A:65:PHE:N	2.41	0.53
1:A:1193:TRP:NE1	9:I:18:GLU:OE1	2.40	0.53
1:A:1450:GLU:O	1:A:1454:THR:HG23	2.08	0.53
2:B:413:LEU:HD13	2:B:446:ILE:HD12	1.89	0.53
3:C:69:ILE:HD11	3:C:144:LEU:HD21	1.90	0.53
1:A:694:ILE:HD13	1:A:718:GLU:HG3	1.90	0.53
1:A:783:ARG:NH2	2:B:696:GLU:O	2.41	0.53
8:H:12:VAL:O	8:H:52:ASP:N	2.33	0.53
14:N:-34:DT:OP1	21:g:42:ARG:NH2	2.41	0.53
1:A:842:LEU:HD21	1:A:1107:LEU:CD1	2.37	0.53
1:A:1296:ASP:OD1	1:A:1297:GLU:N	2.42	0.53
2:B:800:GLN:OE1	2:B:822:ASN:N	2.34	0.53
2:B:274:ILE:HG22	2:B:278:PHE:HE2	1.72	0.53
2:B:1103:ILE:O	2:B:1122:ARG:NE	2.35	0.53
5:E:61:ALA:HB3	5:E:77:LEU:HD22	1.90	0.53
14:N:-78:DG:N2	16:T:79:DC:O2	2.42	0.53
1:A:930:LEU:HD11	1:A:985:ILE:HG21	1.90	0.53
2:B:318:ASP:OD1	2:B:321:VAL:HG22	2.09	0.53
7:G:23:ASN:O	7:G:27:ARG:HG3	2.09	0.53
7:G:69:GLU:OE1	7:G:69:GLU:N	2.39	0.53
1:A:336:ARG:HH22	2:B:1114:LEU:HD21	1.74	0.53
2:B:166:ARG:N	2:B:170:CYS:SG	2.74	0.53
2:B:289:ILE:HG22	2:B:293:ILE:HD12	1.90	0.53
2:B:1138:MET:O	2:B:1142:GLY:N	2.37	0.53
11:K:47:ARG:NH1	11:K:48:GLU:OE1	2.42	0.53
1:A:440:ASP:N	1:A:461:VAL:O	2.36	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1204:MET:HE2	1:A:1210:THR:C	2.33	0.53
2:B:839:MET:SD	2:B:1010:LEU:HD21	2.48	0.53
4:D:107:ASP:O	4:D:111:THR:HG23	2.09	0.53
5:E:89:ILE:HD11	5:E:118:SER:OG	2.08	0.53
6:F:112:GLU:N	6:F:114:GLU:OE1	2.38	0.53
6:F:147:GLY:O	6:F:150:GLU:HG2	2.08	0.53
21:c:62:ILE:HD12	21:c:87:ILE:CD1	2.38	0.53
1:A:326:ILE:HG21	2:B:1210:MET:SD	2.49	0.53
1:A:926:LEU:O	1:A:930:LEU:HD13	2.08	0.53
2:B:194:PHE:O	2:B:201:LYS:N	2.36	0.53
6:F:107:VAL:HG12	6:F:109:VAL:O	2.09	0.53
18:W:443:THR:OG1	18:W:445:ASN:OD1	2.21	0.53
1:A:546:GLN:HG2	1:A:550:MET:HE1	1.91	0.53
3:C:77:GLU:OE2	3:C:246:ARG:NE	2.42	0.53
2:B:839:MET:SD	2:B:1012:ILE:HG22	2.48	0.52
8:H:10:PHE:O	8:H:55:LEU:N	2.37	0.52
11:K:43:ALA:HB2	11:K:71:PHE:CZ	2.44	0.52
14:N:-68:DT:OP1	18:W:233:LEU:HD22	2.09	0.52
1:A:22:LEU:HD12	2:B:1211:ASN:HA	1.91	0.52
1:A:102:VAL:HG23	1:A:212:PHE:CZ	2.44	0.52
1:A:664:SER:OG	1:A:665:ILE:N	2.41	0.52
2:B:316:ILE:HG21	2:B:322:ALA:HB2	1.90	0.52
2:B:1163:CYS:SG	2:B:1187:ASN:ND2	2.76	0.52
9:I:29:CYS:SG	9:I:30:ARG:N	2.83	0.52
1:A:913:VAL:O	1:A:981:SER:N	2.38	0.52
2:B:516:CYS:SG	2:B:750:GLY:N	2.82	0.52
2:B:573:ILE:HD11	2:B:583:HIS:HB2	1.92	0.52
13:M:42:ASN:O	13:M:43:SER:OG	2.21	0.52
19:e:119:ILE:CD1	20:f:43:VAL:HG11	2.39	0.52
3:C:102:ALA:O	3:C:153:LEU:N	2.42	0.52
21:c:88:ARG:NH1	21:c:97:LEU:O	2.39	0.52
22:h:59:MET:O	22:h:63:VAL:HG23	2.10	0.52
1:A:1153:GLU:OE2	1:A:1196:ARG:NH1	2.42	0.52
2:B:596:LEU:HD23	2:B:602:ILE:CD1	2.40	0.52
2:B:1163:CYS:O	2:B:1167:GLY:N	2.42	0.52
11:K:75:LEU:HD12	11:K:76:GLN:H	1.75	0.52
17:V:21:GLY:O	17:V:25:MET:HG3	2.09	0.52
1:A:509:PRO:HB2	1:A:640:PRO:HB2	1.90	0.52
1:A:1163:THR:HG22	1:A:1172:VAL:HG21	1.91	0.52
1:A:1453:LEU:HD21	6:F:131:PRO:CG	2.40	0.52
2:B:1074:ASN:N	2:B:1079:LYS:O	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:-79:DG:N2	16:T:79:DC:N3	2.58	0.52
19:a:108:ASN:OD1	20:b:43:VAL:HG22	2.10	0.52
1:A:370:SER:OG	11:K:2:ASN:ND2	2.39	0.52
1:A:1447:MET:HE1	7:G:60:ARG:HG3	1.92	0.52
7:G:13:LEU:HD21	7:G:17:TYR:O	2.10	0.52
14:N:-75:DG:O6	16:T:75:DC:N4	2.41	0.52
1:A:944:LEU:HD11	1:A:1022:CYS:CB	2.40	0.52
1:A:1069:ILE:HG12	2:B:1140:ALA:HB1	1.92	0.52
2:B:276:ILE:HD11	13:M:63:LEU:HD22	1.91	0.52
21:c:113:ALA:HA	21:c:116:LEU:HD23	1.92	0.52
1:A:1030:THR:HA	1:A:1033:ILE:HG22	1.92	0.52
1:A:1345:GLU:OE2	5:E:211:ARG:NE	2.38	0.52
2:B:605:GLU:O	2:B:625:ARG:NH2	2.43	0.52
22:h:77:LEU:CD1	22:h:93:THR:HG23	2.35	0.52
1:A:445:PHE:HZ	1:A:471:LEU:HD21	1.75	0.52
1:A:902:LEU:HD22	1:A:920:ILE:CG2	2.40	0.52
1:A:953:ASP:O	1:A:956:TRP:NE1	2.42	0.52
2:B:778:MET:HE1	2:B:1094:ARG:HG2	1.92	0.52
3:C:9:ILE:HG21	3:C:12:ALA:HB2	1.92	0.52
1:A:369:ILE:HD12	1:A:463:VAL:HG11	1.92	0.51
2:B:212:ASN:OD1	2:B:234:ALA:N	2.43	0.51
2:B:71:ILE:HA	2:B:127:ILE:HA	1.92	0.51
2:B:835:GLN:O	2:B:838:SER:OG	2.24	0.51
2:B:950:ASP:OD2	2:B:967:ARG:NH2	2.42	0.51
2:B:1098:MET:SD	2:B:1100:ASP:N	2.82	0.51
5:E:164:LEU:O	5:E:168:LYS:N	2.43	0.51
1:A:1338:ILE:O	1:A:1342:LEU:N	2.41	0.51
1:A:1439:MET:O	1:A:1442:GLY:N	2.40	0.51
2:B:279:ARG:HB3	2:B:284:VAL:HG12	1.92	0.51
2:B:805:LYS:O	2:B:1044:ALA:N	2.43	0.51
20:f:66:ILE:O	20:f:70:VAL:HG23	2.09	0.51
17:V:12:CYS:HA	17:V:50:THR:HG22	1.92	0.51
1:A:492:VAL:O	2:B:1150:ARG:NH2	2.44	0.51
1:A:1428:SER:C	1:A:1432:MET:HE3	2.36	0.51
2:B:853:SER:OG	2:B:1094:ARG:NH1	2.43	0.51
2:B:910:ILE:HG23	2:B:938:SER:HB3	1.93	0.51
8:H:58:THR:C	8:H:59:LEU:HD12	2.36	0.51
1:A:803:ASN:OD1	2:B:726:ILE:N	2.44	0.51
1:A:1300:GLU:OE1	1:A:1300:GLU:N	2.35	0.51
1:A:1331:TYR:OH	1:A:1354:GLU:OE2	2.28	0.51
2:B:790:ASP:N	2:B:858:SER:OG	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:68:GLN:O	18:W:783:HIS:NE2	2.44	0.51
2:B:547:ILE:HD12	2:B:547:ILE:H	1.76	0.51
2:B:573:ILE:O	2:B:580:THR:N	2.38	0.51
2:B:905:VAL:HG21	2:B:968:MET:HG3	1.93	0.51
3:C:232:VAL:HG21	3:C:244:PHE:HD2	1.76	0.51
1:A:445:PHE:CZ	1:A:471:LEU:HD21	2.46	0.51
1:A:1122:LEU:CD2	1:A:1136:ILE:HG21	2.41	0.51
1:A:1378:MET:C	1:A:1385:MET:HE2	2.36	0.51
1:A:1378:MET:O	1:A:1385:MET:HE2	2.10	0.51
20:b:71:THR:HG21	22:d:97:LEU:HG	1.93	0.51
1:A:925:GLU:OE2	1:A:928:LYS:NZ	2.43	0.51
14:N:39:DA:OP2	21:c:35:ARG:NH2	2.44	0.51
21:c:51:LEU:HD21	22:d:67:PHE:CD1	2.46	0.51
2:B:87:PRO:O	2:B:98:ALA:HA	2.11	0.51
2:B:200:GLU:OE1	2:B:478:ARG:NE	2.38	0.51
2:B:655:ILE:O	2:B:658:GLY:N	2.44	0.51
14:N:-75:DG:N3	16:T:76:DG:N2	2.59	0.51
14:N:45:DT:H71	16:T:-46:DC:N4	2.27	0.51
1:A:478:PRO:HD3	1:A:522:MET:HG3	1.93	0.50
1:A:1145:LEU:O	1:A:1149:THR:N	2.37	0.50
2:B:705:GLU:OE1	2:B:705:GLU:N	2.38	0.50
6:F:146:TRP:HB3	6:F:151:LEU:HD21	1.93	0.50
8:H:79:ARG:HG2	8:H:80:PRO:HD2	1.93	0.50
1:A:596:ASN:HD21	1:A:605:GLY:HA3	1.76	0.50
2:B:537:GLY:O	2:B:627:TYR:N	2.43	0.50
17:V:14:LEU:O	17:V:108:ARG:NH2	2.44	0.50
1:A:89:PRO:HB3	1:A:238:THR:HG22	1.93	0.50
2:B:1037:ILE:O	10:J:46:ARG:NH2	2.45	0.50
1:A:694:ILE:HG22	1:A:715:PHE:CE1	2.47	0.50
1:A:1102:ARG:CZ	1:A:1106:ILE:HD11	2.42	0.50
2:B:201:LYS:NZ	2:B:475:VAL:HG22	2.26	0.50
2:B:247:ILE:HG13	2:B:374:MET:HE1	1.93	0.50
2:B:695:GLU:HA	2:B:698:ILE:HD11	1.94	0.50
2:B:1169:MET:O	2:B:1169:MET:SD	2.70	0.50
11:K:77:THR:OG1	11:K:81:THR:O	2.22	0.50
18:W:756:VAL:HG22	18:W:798:ILE:HG12	1.92	0.50
1:A:535:MET:HE3	1:A:654:VAL:HA	1.94	0.50
1:A:771:VAL:N	1:A:774:LYS:O	2.34	0.50
2:B:860:MET:SD	2:B:861:ASP:N	2.84	0.50
5:E:8:ILE:HD12	5:E:46:CYS:SG	2.52	0.50
6:F:101:ILE:HD12	6:F:107:VAL:HG22	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:52:CYS:SG	13:M:54:LEU:HD23	2.51	0.50
1:A:226:ASN:O	1:A:230:ALA:N	2.45	0.50
1:A:771:VAL:HG12	1:A:772:GLU:HG2	1.93	0.50
2:B:200:GLU:OE1	2:B:478:ARG:NH2	2.42	0.50
2:B:491:THR:OG1	2:B:530:LYS:N	2.41	0.50
10:J:21:TYR:CE1	10:J:25:LEU:HD21	2.47	0.50
1:A:294:GLU:OE1	1:A:297:LEU:HD23	2.11	0.50
1:A:526:GLN:HA	2:B:1015:HIS:NE2	2.26	0.50
2:B:238:GLY:O	2:B:411:ARG:NH2	2.45	0.50
2:B:820:GLY:N	2:B:1091:TYR:OH	2.44	0.50
2:B:882:THR:HG22	2:B:934:LYS:HB3	1.93	0.50
1:A:280:LEU:HD11	1:A:293:VAL:HB	1.94	0.50
1:A:1145:LEU:HD21	1:A:1271:LEU:O	2.11	0.50
2:B:305:MET:CE	2:B:383:LEU:HD21	2.42	0.50
2:B:861:ASP:HB2	2:B:912:ILE:HD13	1.94	0.50
7:G:52:MET:SD	7:G:52:MET:N	2.81	0.50
21:c:59:THR:HG23	22:d:41:VAL:HG11	1.94	0.50
1:A:691:VAL:HA	1:A:694:ILE:HD12	1.94	0.50
2:B:334:LEU:HD13	13:M:23:PHE:CD1	2.46	0.50
2:B:1200:ALA:HB1	2:B:1204:PHE:CZ	2.46	0.50
16:T:55:DA:N7	16:T:56:DC:N4	2.60	0.50
1:A:548:MET:CE	11:K:59:VAL:H	2.24	0.49
1:A:1446:VAL:CG1	6:F:132:LEU:HD23	2.42	0.49
2:B:274:ILE:O	2:B:277:VAL:HG22	2.12	0.49
3:C:148:ARG:NH1	10:J:60:LEU:O	2.44	0.49
2:B:373:TYR:OH	2:B:377:ARG:NH2	2.44	0.49
2:B:607:SER:N	2:B:620:PHE:O	2.39	0.49
2:B:725:ARG:NH2	2:B:760:ASP:OD2	2.45	0.49
4:D:127:LEU:HD21	4:D:177:GLU:OE1	2.12	0.49
9:I:100:PHE:HB3	9:I:109:THR:HG23	1.94	0.49
17:V:13:MET:HE2	17:V:13:MET:N	2.27	0.49
18:W:257:LEU:HD21	18:W:285:ALA:CB	2.42	0.49
20:b:38:ALA:HB1	20:b:43:VAL:HB	1.94	0.49
1:A:38:PRO:HG3	1:A:275:ILE:HD12	1.95	0.49
1:A:1165:ILE:HD11	9:I:41:PRO:HG2	1.94	0.49
2:B:857:ARG:NH2	2:B:945:GLU:OE2	2.44	0.49
1:A:718:GLU:OE1	1:A:721:ARG:NH2	2.43	0.49
1:A:1145:LEU:O	1:A:1149:THR:OG1	2.30	0.49
6:F:94:LEU:HD21	6:F:125:LEU:HD23	1.94	0.49
2:B:275:VAL:HG21	2:B:313:GLY:CA	2.39	0.49
3:C:242:GLN:OE1	3:C:246:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:262:LEU:HD21	11:K:87:LEU:HD23	1.94	0.49
5:E:190:LYS:N	5:E:193:GLN:OE1	2.44	0.49
16:T:52:DG:C6	16:T:53:DA:C6	3.01	0.49
17:V:72:LEU:HD21	17:V:82:TYR:HB3	1.93	0.49
21:c:100:VAL:HG11	20:f:98:TYR:CZ	2.47	0.49
20:f:75:HIS:CG	22:h:93:THR:HG21	2.47	0.49
2:B:846:ILE:O	2:B:852:ARG:NH2	2.42	0.49
3:C:8:ASN:O	3:C:20:MET:N	2.42	0.49
21:c:21:ALA:HB1	21:c:49:VAL:HG13	1.95	0.49
1:A:483:PHE:N	2:B:836:GLU:O	2.38	0.49
1:A:916:TYR:OH	1:A:983:LEU:O	2.21	0.49
1:A:1164:VAL:HG23	9:I:41:PRO:HG3	1.95	0.49
2:B:336:ILE:O	2:B:337:ARG:O	2.31	0.49
4:D:117:ASP:OD1	4:D:120:THR:HG22	2.13	0.49
5:E:11:LEU:HD21	5:E:57:MET:HE1	1.95	0.49
5:E:31:GLN:O	5:E:34:MET:HB2	2.13	0.49
6:F:110:ASP:OD1	6:F:123:LYS:NZ	2.22	0.49
11:K:29:ASN:ND2	11:K:81:THR:O	2.45	0.49
4:D:61:ARG:HH22	4:D:89:LEU:HD12	1.77	0.49
8:H:17:ASN:OD1	8:H:44:ASN:ND2	2.45	0.49
17:V:81:LEU:HD21	18:W:241:ARG:HG3	1.95	0.49
1:A:911:PRO:HA	1:A:917:ALA:HB2	1.95	0.49
2:B:318:ASP:OD1	2:B:321:VAL:HG13	2.13	0.49
4:D:54:SER:CB	4:D:115:PHE:HB2	2.43	0.49
8:H:112:LYS:HG2	8:H:125:GLU:HG2	1.95	0.49
13:M:60:ILE:HG13	13:M:60:ILE:O	2.13	0.49
1:A:379:GLU:N	1:A:433:VAL:O	2.45	0.49
1:A:905:GLU:OE1	1:A:921:LEU:HD11	2.13	0.49
2:B:225:ILE:HG23	2:B:248:LYS:HB2	1.95	0.49
2:B:575:VAL:HG23	2:B:580:THR:OG1	2.12	0.49
2:B:1106:ARG:NH1	2:B:1110:PRO:O	2.46	0.49
3:C:176:ILE:CG2	3:C:230:MET:HE1	2.43	0.49
22:h:104:ALA:O	22:h:108:VAL:HG23	2.13	0.49
1:A:337:LEU:HA	1:A:341:LEU:HD12	1.95	0.48
1:A:357:ASP:OD2	11:K:65:HIS:NE2	2.43	0.48
2:B:408:ASN:OD1	2:B:411:ARG:NH1	2.41	0.48
1:A:886:THR:HG22	1:A:894:PHE:HE2	1.77	0.48
2:B:1203:LEU:O	2:B:1207:LEU:HD23	2.13	0.48
1:A:605:GLY:C	1:A:606:MET:SD	2.96	0.48
1:A:740:ASP:OD1	1:A:745:LYS:NZ	2.44	0.48
2:B:46:ILE:O	2:B:50:VAL:HG23	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:572:ARG:HA	2:B:582:ILE:HD13	1.95	0.48
2:B:626:VAL:HG12	2:B:627:TYR:N	2.29	0.48
2:B:785:TYR:CG	2:B:786:ASN:N	2.82	0.48
5:E:93:ARG:HD2	5:E:122:MET:HE3	1.95	0.48
16:T:18:DC:OP1	19:e:64:LYS:N	2.34	0.48
18:W:346:ASN:O	18:W:346:ASN:ND2	2.44	0.48
1:A:280:LEU:HD13	1:A:290:ILE:HA	1.95	0.48
1:A:881:ARG:HE	1:A:955:ASN:C	2.22	0.48
1:A:1204:MET:HE3	1:A:1209:LEU:CB	2.43	0.48
2:B:823:ALA:O	2:B:825:VAL:HG23	2.14	0.48
6:F:140:ASP:OD1	6:F:141:GLY:N	2.45	0.48
7:G:9:LEU:HD23	7:G:11:LEU:HD21	1.96	0.48
8:H:124:LEU:HD21	8:H:131:LEU:CD2	2.44	0.48
22:d:45:VAL:O	22:d:46:HIS:ND1	2.46	0.48
3:C:230:MET:HE3	3:C:231:THR:H	1.78	0.48
7:G:153:ASP:C	7:G:155:ASN:H	2.19	0.48
19:e:67:PHE:O	19:e:71:VAL:HG23	2.13	0.48
1:A:804:SER:OG	1:A:807:ARG:NE	2.43	0.48
8:H:13:GLN:N	8:H:27:ILE:O	2.47	0.48
1:A:126:ILE:HD12	1:A:222:ARG:HG3	1.95	0.48
1:A:1224:ASP:O	1:A:1245:ILE:HD12	2.13	0.48
2:B:69:ASP:OD1	2:B:69:ASP:N	2.47	0.48
4:D:67:ARG:NH2	7:G:48:VAL:O	2.47	0.48
7:G:11:LEU:HD23	7:G:72:VAL:CG2	2.44	0.48
20:b:35:ARG:O	20:b:39:ARG:HG2	2.13	0.48
1:A:40:ILE:HG22	1:A:53:LEU:HB2	1.95	0.48
1:A:344:LYS:O	2:B:1130:PHE:N	2.46	0.48
1:A:381:VAL:HG23	1:A:431:TRP:O	2.13	0.48
1:A:727:ARG:NE	1:A:757:ILE:HD11	2.29	0.48
2:B:91:GLU:OE2	2:B:97:HIS:NE2	2.37	0.48
1:A:60:SER:OG	1:A:67:CYS:N	2.46	0.48
1:A:854:ASP:OD1	1:A:856:THR:N	2.41	0.48
2:B:909:ASP:O	2:B:941:LEU:N	2.42	0.48
5:E:149:VAL:HG12	5:E:150:PRO:O	2.14	0.48
5:E:199:ARG:N	5:E:207:TYR:O	2.40	0.48
7:G:101:ALA:HB3	7:G:108:VAL:HB	1.94	0.48
19:a:123:ASP:OD1	19:e:113:HIS:NE2	2.39	0.48
1:A:289:ILE:O	1:A:293:VAL:HG23	2.13	0.48
1:A:1002:LEU:HD12	1:A:1012:ALA:HB3	1.95	0.48
3:C:123:GLY:O	3:C:125:GLY:N	2.46	0.48
6:F:111:ILE:HD12	6:F:120:ILE:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:-68:DT:H4'	14:N:-67:DT:OP1	2.14	0.48
16:T:-27:DC:H2"	16:T:-26:DT:H71	1.95	0.48
1:A:345:ARG:HE	2:B:1120:GLU:HB2	1.79	0.47
1:A:863:ASP:OD2	5:E:176:ARG:NH2	2.47	0.47
1:A:1194:LEU:HD22	1:A:1241:ARG:NH1	2.29	0.47
2:B:250:TYR:N	2:B:260:THR:O	2.47	0.47
2:B:788:ARG:C	2:B:789:MET:HE2	2.39	0.47
2:B:801:LYS:O	10:J:51:THR:HB	2.13	0.47
2:B:882:THR:OG1	2:B:885:LEU:HD21	2.13	0.47
13:M:73:TRP:NE1	13:M:77:CYS:SG	2.87	0.47
1:A:887:ILE:HB	1:A:888:PRO:HD3	1.96	0.47
21:c:85:LEU:HD23	21:c:108:LEU:HD23	1.96	0.47
2:B:808:ALA:O	2:B:811:TYR:N	2.47	0.47
3:C:73:SER:C	3:C:238:LEU:HD21	2.38	0.47
17:V:57:LEU:HG	18:W:240:VAL:HG11	1.96	0.47
21:c:21:ALA:CB	21:c:49:VAL:HG13	2.44	0.47
2:B:266:PRO:O	2:B:348:ILE:HD11	2.14	0.47
2:B:1039:GLY:O	10:J:31:GLU:HB2	2.14	0.47
7:G:89:ALA:N	7:G:143:VAL:O	2.45	0.47
7:G:131:MET:SD	7:G:136:LEU:HD12	2.54	0.47
1:A:15:LYS:NZ	2:B:1218:THR:O	2.29	0.47
2:B:1001:PHE:CE1	3:C:178:PHE:HB3	2.48	0.47
3:C:100:LEU:HD12	3:C:118:LEU:HG	1.96	0.47
16:T:28:DG:OP1	20:f:80:THR:N	2.41	0.47
12:L:33:CYS:SG	12:L:34:GLY:N	2.87	0.47
18:W:805:VAL:HG12	18:W:806:PRO:O	2.15	0.47
1:A:536:THR:HG21	1:A:618:VAL:HG23	1.97	0.47
1:A:1286:TYR:N	1:A:1310:GLU:O	2.43	0.47
2:B:89:MET:HG3	2:B:99:MET:SD	2.55	0.47
3:C:232:VAL:HG21	3:C:244:PHE:CD2	2.49	0.47
5:E:32:GLU:O	5:E:35:ASP:N	2.47	0.47
5:E:163:LEU:HD11	5:E:167:TYR:HE2	1.80	0.47
7:G:9:LEU:O	7:G:72:VAL:N	2.47	0.47
8:H:24:SER:OG	8:H:44:ASN:OD1	2.24	0.47
8:H:101:TYR:CZ	8:H:114:TYR:HB3	2.50	0.47
11:K:84:LYS:H	11:K:84:LYS:HD2	1.80	0.47
1:A:130:ASP:OD1	1:A:132:LYS:N	2.47	0.47
1:A:988:ILE:HD11	1:A:1034:LEU:HD21	1.97	0.47
2:B:86:ARG:HB3	2:B:87:PRO:HD2	1.97	0.47
2:B:681:LEU:HB3	2:B:687:ILE:HD12	1.97	0.47
2:B:882:THR:HG22	2:B:934:LYS:CB	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:d:77:LEU:O	22:d:81:ASN:ND2	2.48	0.47
21:g:81:ARG:NH1	21:g:107:VAL:O	2.46	0.47
1:A:417:ARG:O	18:W:774:ASN:ND2	2.43	0.47
1:A:482:ASP:OD1	1:A:482:ASP:N	2.47	0.47
1:A:521:VAL:HG13	1:A:522:MET:SD	2.55	0.47
2:B:212:ASN:C	2:B:231:ILE:HD11	2.40	0.47
2:B:859:TYR:N	2:B:966:VAL:O	2.29	0.47
2:B:1074:ASN:O	2:B:1078:GLY:N	2.48	0.47
4:D:124:VAL:CG2	4:D:128:LEU:HD23	2.44	0.47
7:G:49:LEU:CD1	7:G:77:VAL:HG23	2.44	0.47
20:b:71:THR:HB	22:d:97:LEU:HD21	1.97	0.47
1:A:727:ARG:CZ	1:A:757:ILE:HD11	2.45	0.47
1:A:1262:MET:SD	1:A:1263:LEU:N	2.88	0.47
2:B:824:ILE:O	2:B:1009:ASP:N	2.48	0.47
2:B:861:ASP:CB	2:B:912:ILE:HD13	2.45	0.47
2:B:1158:PHE:O	2:B:1196:ILE:N	2.39	0.47
3:C:142:ILE:HD11	10:J:13:VAL:HG11	1.96	0.47
17:V:27:ASN:O	17:V:39:ARG:NH1	2.47	0.47
18:W:352:LEU:HD21	18:W:435:LEU:CD1	2.45	0.47
20:b:66:ILE:O	20:b:70:VAL:HG23	2.15	0.47
1:A:1193:TRP:HB3	1:A:1263:LEU:HD22	1.97	0.46
2:B:284:VAL:N	2:B:285:PRO:CD	2.78	0.46
2:B:1098:MET:HE1	2:B:1100:ASP:HB3	1.97	0.46
5:E:197:ILE:N	5:E:209:SER:O	2.44	0.46
7:G:91:VAL:HG13	7:G:143:VAL:HG21	1.97	0.46
1:A:880:GLU:N	1:A:958:LEU:O	2.39	0.46
2:B:576:ASN:OD1	2:B:621:THR:N	2.45	0.46
1:A:561:VAL:HG23	8:H:78:TRP:HB3	1.98	0.46
1:A:1334:SER:OG	1:A:1337:GLU:OE1	2.25	0.46
18:W:229:VAL:HG22	18:W:298:LYS:HB3	1.97	0.46
19:a:124:ILE:HD11	20:b:50:ILE:HG23	1.97	0.46
21:c:115:LEU:HD11	19:e:108:ASN:HD21	1.80	0.46
2:B:252:ARG:N	2:B:255:LYS:O	2.44	0.46
16:T:-44:DA:H3'	21:c:28:GLY:HA3	1.97	0.46
20:b:87:VAL:HG11	20:b:101:GLY:O	2.15	0.46
3:C:230:MET:HE3	3:C:230:MET:HA	1.98	0.46
5:E:77:LEU:C	5:E:77:LEU:HD23	2.40	0.46
18:W:782:LEU:HB3	18:W:785:PRO:HD2	1.98	0.46
1:A:102:VAL:HG23	1:A:212:PHE:HZ	1.81	0.46
1:A:747:MET:HE1	1:A:752:SER:OG	2.16	0.46
1:A:1267:GLU:HA	1:A:1270:MET:HE2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:751:VAL:HG13	2:B:752:ALA:N	2.30	0.46
1:A:67:CYS:SG	1:A:80:HIS:CD2	3.09	0.46
1:A:676:THR:O	1:A:680:ILE:HG12	2.16	0.46
1:A:1201:ARG:HB2	1:A:1238:LEU:HD11	1.97	0.46
1:A:1287:MET:HE1	1:A:1307:TRP:CZ3	2.50	0.46
1:A:1453:LEU:HD22	1:A:1456:LEU:HD11	1.96	0.46
8:H:104:GLU:O	8:H:111:ILE:HG23	2.16	0.46
11:K:57:THR:OG1	11:K:76:GLN:O	2.27	0.46
1:A:252:ALA:HB1	1:A:255:GLU:O	2.16	0.46
1:A:1033:ILE:HD11	1:A:1044:PHE:HD1	1.81	0.46
1:A:1118:LEU:CD2	1:A:1314:ILE:HG22	2.45	0.46
2:B:858:SER:HA	2:B:967:ARG:HA	1.98	0.46
11:K:36:GLU:OE1	11:K:37:ARG:NH1	2.49	0.46
18:W:233:LEU:O	18:W:235:LYS:NZ	2.39	0.46
1:A:832:THR:HG23	1:A:833:ALA:N	2.31	0.46
1:A:1155:TYR:HB2	1:A:1194:LEU:HD23	1.98	0.46
1:A:1237:LYS:HG2	1:A:1239:ILE:HD11	1.97	0.46
2:B:37:SER:HB2	2:B:401:LEU:HD13	1.98	0.46
2:B:744:HIS:ND1	2:B:746:SER:OG	2.47	0.46
4:D:183:ASP:N	4:D:183:ASP:OD1	2.48	0.46
8:H:23:VAL:HG22	8:H:43:ASN:HA	1.98	0.46
22:h:77:LEU:HD11	22:h:97:LEU:HD12	1.97	0.46
1:A:557:TRP:NE1	1:A:558:ASP:OD1	2.49	0.46
1:A:1294:VAL:HG21	1:A:1304:GLU:OE1	2.15	0.46
2:B:64:HIS:N	2:B:69:ASP:OD2	2.48	0.46
2:B:568:THR:HG23	2:B:569:LYS:CD	2.46	0.46
2:B:786:ASN:O	2:B:967:ARG:NH2	2.49	0.46
10:J:45:CYS:HA	10:J:48:MET:HE1	1.98	0.46
2:B:491:THR:N	2:B:530:LYS:O	2.44	0.45
3:C:45:ILE:HG21	3:C:66:LEU:HB3	1.97	0.45
4:D:60:ILE:HG13	7:G:47:THR:HG21	1.98	0.45
4:D:124:VAL:HG23	4:D:128:LEU:HD23	1.97	0.45
8:H:124:LEU:CD2	8:H:131:LEU:HD22	2.42	0.45
12:L:48:VAL:O	12:L:48:VAL:HG23	2.16	0.45
1:A:1064:GLU:HA	6:F:88:TYR:OH	2.15	0.45
1:A:1285:VAL:HG13	1:A:1311:THR:HG22	1.97	0.45
2:B:780:VAL:HG22	2:B:818:PRO:O	2.16	0.45
5:E:21:MET:HE3	5:E:186:TYR:HA	1.97	0.45
18:W:411:ASP:OD1	18:W:411:ASP:O	2.34	0.45
22:d:96:ARG:CG	22:d:108:VAL:HG21	2.47	0.45
1:A:514:SER:N	1:A:519:LYS:O	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:531:GLY:O	1:A:535:MET:HG2	2.16	0.45
1:A:593:ASP:OD2	1:A:605:GLY:N	2.46	0.45
1:A:1401:MET:HE2	1:A:1428:SER:H	1.81	0.45
2:B:315:VAL:HG21	13:M:63:LEU:HD13	1.98	0.45
3:C:11:ASN:O	3:C:18:GLU:N	2.38	0.45
5:E:19:LYS:HD2	5:E:33:GLU:HG2	1.98	0.45
7:G:30:LEU:O	7:G:34:VAL:HG12	2.17	0.45
1:A:283:ASP:OD1	1:A:283:ASP:N	2.49	0.45
1:A:843:VAL:HG21	2:B:1136:ASP:CG	2.42	0.45
1:A:1002:LEU:CD1	1:A:1012:ALA:HB3	2.46	0.45
1:A:1218:ILE:HA	1:A:1221:VAL:HG12	1.98	0.45
3:C:96:VAL:HG22	3:C:124:PRO:CD	2.46	0.45
5:E:27:TYR:CE2	5:E:74:LEU:HD11	2.51	0.45
11:K:58:PHE:CZ	11:K:60:ALA:HB3	2.51	0.45
16:T:-53:DG:OP1	22:d:51:ILE:N	2.50	0.45
18:W:231:VAL:HG21	18:W:236:GLU:HA	1.98	0.45
1:A:270:ILE:HD11	1:A:304:TYR:HB3	1.97	0.45
1:A:280:LEU:HD11	1:A:293:VAL:CB	2.47	0.45
1:A:658:LEU:HD21	2:B:829:CYS:HB2	1.99	0.45
1:A:755:SER:HG	1:A:758:ASN:CG	2.23	0.45
1:A:790:LYS:HD2	9:I:68:LEU:HD22	1.98	0.45
2:B:360:GLU:OE1	2:B:360:GLU:N	2.50	0.45
2:B:950:ASP:OD2	2:B:967:ARG:NE	2.46	0.45
10:J:7:CYS:N	10:J:12:LYS:O	2.49	0.45
18:W:397:ALA:O	18:W:401:VAL:HG22	2.16	0.45
21:c:88:ARG:HB2	21:c:108:LEU:HD21	1.99	0.45
1:A:857:THR:O	1:A:865:ILE:N	2.27	0.45
2:B:839:MET:O	2:B:840:ILE:HD13	2.17	0.45
8:H:12:VAL:HG11	8:H:15:VAL:CG2	2.46	0.45
18:W:756:VAL:O	18:W:768:GLY:N	2.50	0.45
19:a:84:PHE:CD2	19:a:89:ILE:HD11	2.52	0.45
1:A:57:LYS:O	1:A:69:THR:OG1	2.21	0.45
1:A:339:GLY:O	2:B:1129:ARG:NH2	2.47	0.45
1:A:529:LEU:O	1:A:532:VAL:HG12	2.17	0.45
1:A:1143:THR:N	1:A:1277:ARG:O	2.48	0.45
5:E:27:TYR:HA	5:E:63:PRO:HA	1.98	0.45
5:E:77:LEU:HD11	5:E:108:ILE:HD11	1.98	0.45
8:H:21:ASN:O	8:H:44:ASN:ND2	2.45	0.45
1:A:43:GLU:O	1:A:43:GLU:HG2	2.16	0.45
1:A:493:PRO:O	1:A:494:GLN:NE2	2.48	0.45
2:B:350:GLN:O	2:B:367:LYS:NZ	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:574:PHE:N	2:B:617:PHE:O	2.48	0.45
2:B:587:SER:O	2:B:590:VAL:HG22	2.17	0.45
2:B:984:HIS:NE2	2:B:1028:GLU:OE1	2.49	0.45
5:E:37:SER:N	5:E:40:GLU:OE2	2.43	0.45
7:G:165:GLU:HB2	7:G:168:LEU:HD12	1.99	0.45
10:J:18:TRP:CE2	10:J:22:LEU:HD11	2.52	0.45
1:A:107:CYS:HB3	1:A:110:CYS:SG	2.54	0.45
1:A:900:VAL:HG21	1:A:930:LEU:HB3	1.99	0.45
1:A:985:ILE:N	1:A:986:PRO:HD2	2.32	0.45
2:B:1132:GLU:C	2:B:1133:MET:HE2	2.42	0.45
11:K:75:LEU:HD12	11:K:76:GLN:N	2.31	0.45
13:M:35:VAL:HG21	13:M:50:LYS:HD3	1.99	0.45
17:V:36:LEU:HD22	17:V:49:CYS:SG	2.57	0.45
1:A:370:SER:OG	11:K:1:MET:HE1	2.16	0.45
1:A:397:PRO:O	1:A:436:HIS:NE2	2.50	0.45
1:A:448:GLN:OE1	1:A:448:GLN:N	2.50	0.45
1:A:872:ASP:OD2	1:A:1369:ARG:NH2	2.50	0.45
2:B:201:LYS:HZ2	2:B:475:VAL:HG22	1.82	0.45
2:B:265:LEU:HB2	2:B:268:VAL:HG11	1.99	0.45
2:B:304:GLU:OE2	2:B:305:MET:SD	2.75	0.45
2:B:456:THR:OG1	16:T:67:DA:O3'	2.34	0.45
6:F:101:ILE:CD1	6:F:120:ILE:HG21	2.46	0.45
7:G:9:LEU:CD2	7:G:30:LEU:HD13	2.47	0.45
17:V:17:ILE:HD12	17:V:81:LEU:O	2.17	0.45
18:W:773:ALA:O	18:W:774:ASN:C	2.59	0.45
1:A:106:ILE:HD13	1:A:215:ILE:HD11	1.99	0.44
1:A:352:THR:O	1:A:488:MET:N	2.51	0.44
1:A:886:THR:HG23	1:A:1026:ALA:CB	2.47	0.44
1:A:1426:GLY:O	1:A:1430:ASN:ND2	2.44	0.44
2:B:977:GLY:N	2:B:990:ILE:O	2.43	0.44
4:D:102:VAL:HA	4:D:105:THR:HG22	1.99	0.44
11:K:14:ASP:OD1	11:K:15:ASP:N	2.49	0.44
13:M:30:HIS:O	13:M:33:SER:OG	2.24	0.44
14:N:-32:DT:O4	22:h:83:ARG:NH2	2.49	0.44
1:A:544:TYR:O	1:A:548:MET:HG3	2.16	0.44
2:B:204:ILE:O	2:B:206:GLN:NE2	2.40	0.44
2:B:865:ARG:HA	2:B:871:VAL:HG12	1.98	0.44
2:B:1099:VAL:HG13	2:B:1100:ASP:N	2.32	0.44
14:N:-78:DG:N1	16:T:78:DC:O2	2.43	0.44
1:A:402:GLY:O	1:A:436:HIS:N	2.39	0.44
1:A:454:MET:HA	1:A:457:MET:HE3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:527:ASP:HB2	2:B:835:GLN:HE21	1.82	0.44
1:A:869:TYR:CD2	1:A:1060:VAL:HG21	2.52	0.44
1:A:1344:ILE:HG23	1:A:1345:GLU:N	2.32	0.44
2:B:1051:THR:O	2:B:1055:VAL:HG23	2.17	0.44
4:D:59:LEU:O	4:D:62:GLU:HG2	2.18	0.44
5:E:60:LEU:HD12	5:E:77:LEU:C	2.42	0.44
8:H:136:GLN:HG3	8:H:139:LEU:HD21	1.98	0.44
1:A:384:TYR:CE1	6:F:111:ILE:HD13	2.52	0.44
1:A:548:MET:HE3	11:K:58:PHE:CD1	2.52	0.44
1:A:742:ASN:OD1	1:A:744:VAL:N	2.45	0.44
2:B:678:TRP:CH2	2:B:687:ILE:HD13	2.53	0.44
2:B:1098:MET:SD	2:B:1099:VAL:N	2.90	0.44
5:E:122:MET:O	5:E:125:THR:OG1	2.21	0.44
12:L:52:GLU:N	12:L:52:GLU:OE1	2.51	0.44
14:N:-46:DT:O2	16:T:47:DG:N2	2.51	0.44
14:N:-39:DT:O2	16:T:40:DG:N1	2.50	0.44
1:A:537:LEU:O	1:A:540:THR:OG1	2.20	0.44
1:A:1153:GLU:O	1:A:1153:GLU:HG2	2.17	0.44
1:A:1450:GLU:N	1:A:1450:GLU:OE1	2.51	0.44
2:B:276:ILE:HD11	13:M:63:LEU:CD2	2.48	0.44
2:B:290:LEU:HD22	9:I:6:PHE:CZ	2.53	0.44
2:B:395:GLY:O	2:B:398:ARG:NH1	2.49	0.44
2:B:957:ASN:OD1	2:B:961:LEU:N	2.51	0.44
2:B:1138:MET:CE	2:B:1147:LEU:HB2	2.45	0.44
3:C:56:VAL:HG23	3:C:57:LEU:CD2	2.47	0.44
17:V:71:TRP:O	18:W:214:GLN:NE2	2.46	0.44
19:a:84:PHE:HE1	20:b:81:VAL:HG21	1.82	0.44
1:A:231:ARG:HB3	1:A:234:TRP:CD2	2.53	0.44
1:A:535:MET:HE1	1:A:657:TRP:HB3	2.00	0.44
1:A:566:ILE:O	1:A:571:PRO:HA	2.17	0.44
2:B:417:LEU:O	2:B:421:ILE:HG22	2.17	0.44
2:B:803:LEU:HD23	10:J:51:THR:CG2	2.46	0.44
2:B:1098:MET:O	2:B:1101:ASP:HB2	2.18	0.44
3:C:8:ASN:HB3	3:C:20:MET:HB2	1.99	0.44
3:C:176:ILE:HG23	3:C:230:MET:HE1	2.00	0.44
4:D:61:ARG:NH2	4:D:89:LEU:HD12	2.33	0.44
8:H:101:TYR:CE1	8:H:114:TYR:HB3	2.53	0.44
1:A:889:GLY:O	1:A:941:ARG:NH2	2.41	0.44
1:A:1002:LEU:HB3	1:A:1009:ILE:HG23	2.00	0.44
2:B:861:ASP:OD2	2:B:912:ILE:HG21	2.17	0.44
2:B:1158:PHE:N	2:B:1196:ILE:O	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:105:SER:O	5:E:130:ILE:HG22	2.18	0.44
9:I:60:ASP:N	9:I:60:ASP:OD1	2.50	0.44
14:N:28:DA:OP1	20:b:80:THR:N	2.51	0.44
18:W:231:VAL:HG12	18:W:292:VAL:HG22	2.00	0.44
18:W:445:ASN:OD1	18:W:446:GLU:N	2.51	0.44
1:A:202:LEU:HD12	1:A:203:LEU:N	2.32	0.44
1:A:552:PHE:O	11:K:62:LYS:NZ	2.41	0.44
2:B:183:MET:O	2:B:183:MET:HG3	2.17	0.44
2:B:320:GLU:N	2:B:320:GLU:OE1	2.51	0.44
5:E:54:ARG:HA	5:E:57:MET:HE3	2.00	0.44
5:E:153:ILE:O	5:E:196:LYS:N	2.36	0.44
14:N:28:DA:N6	16:T:-29:DC:H42	2.16	0.44
1:A:366:GLY:HA2	1:A:464:MET:HE1	2.00	0.44
1:A:512:ILE:HD12	1:A:635:MET:SD	2.58	0.44
2:B:1082:MET:HA	3:C:189:THR:HA	2.00	0.44
3:C:18:GLU:OE2	3:C:206:TYR:OH	2.35	0.44
14:N:-74:DT:H1'	14:N:-73:DT:O4'	2.18	0.44
22:d:56:MET:O	22:d:56:MET:HE3	2.18	0.44
1:A:548:MET:HE3	11:K:58:PHE:HD1	1.83	0.43
1:A:695:ILE:HA	1:A:715:PHE:CZ	2.53	0.43
1:A:1109:VAL:HG13	1:A:1335:PHE:CE1	2.53	0.43
2:B:253:GLU:OE2	2:B:259:ARG:NH1	2.48	0.43
15:P:9:U:C2	16:T:62:DA:C2	3.06	0.43
16:T:-58:DG:H4'	16:T:-57:DC:OP1	2.17	0.43
16:T:36:DC:H1'	16:T:37:DC:C2	2.53	0.43
22:d:51:ILE:HD11	22:d:59:MET:HE2	1.99	0.43
1:A:306:ASP:OD1	1:A:307:ASN:N	2.51	0.43
1:A:512:ILE:HG12	1:A:522:MET:HE1	2.00	0.43
1:A:1321:ALA:HB2	5:E:141:VAL:HG23	2.00	0.43
2:B:279:ARG:NH1	2:B:316:ILE:O	2.51	0.43
2:B:633:VAL:HG22	2:B:707:LEU:CD2	2.47	0.43
3:C:175:ALA:O	3:C:233:GLU:HB2	2.18	0.43
8:H:37:LYS:HB3	8:H:125:GLU:HB2	1.99	0.43
8:H:65:LEU:HD21	8:H:88:LEU:N	2.33	0.43
11:K:108:GLU:HA	11:K:111:ILE:HG22	1.99	0.43
19:a:106:ASP:OD2	19:a:131:ARG:NE	2.50	0.43
20:f:72:TYR:CD1	22:h:77:LEU:HD21	2.53	0.43
22:h:91:ILE:O	22:h:95:VAL:HG23	2.17	0.43
1:A:641:LYS:NZ	1:A:645:GLU:OE2	2.47	0.43
2:B:231:ILE:HG22	2:B:245:MET:SD	2.58	0.43
2:B:505:ARG:NH1	2:B:526:CYS:O	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:760:ASP:OD1	2:B:760:ASP:N	2.47	0.43
3:C:50:ILE:HG12	3:C:155:ILE:HG22	2.01	0.43
15:P:3:U:H2'	15:P:4:G:O4'	2.18	0.43
19:e:106:ASP:OD2	19:e:131:ARG:NH2	2.51	0.43
22:h:56:MET:HE3	22:h:56:MET:O	2.18	0.43
1:A:131:PRO:O	1:A:134:ARG:HG2	2.18	0.43
1:A:353:VAL:HA	1:A:487:GLU:HA	2.01	0.43
1:A:1273:LEU:C	1:A:1274:ILE:HD13	2.43	0.43
2:B:84:LEU:HD23	2:B:115:VAL:HG13	2.00	0.43
5:E:73:ASP:OD1	5:E:73:ASP:N	2.52	0.43
17:V:17:ILE:HD13	17:V:82:TYR:CZ	2.53	0.43
19:e:91:ALA:HB2	20:f:100:PHE:CE2	2.53	0.43
1:A:147:VAL:HG23	1:A:171:THR:HA	2.00	0.43
1:A:1287:MET:HE3	1:A:1287:MET:O	2.18	0.43
2:B:13:THR:N	2:B:16:ASP:OD2	2.50	0.43
2:B:597:ARG:NH1	2:B:606:VAL:O	2.50	0.43
2:B:1001:PHE:CE1	2:B:1073:TYR:HB2	2.53	0.43
3:C:37:LEU:CG	3:C:176:ILE:HD12	2.46	0.43
7:G:37:THR:HG22	7:G:38:CYS:N	2.34	0.43
20:f:68:ASP:HB2	20:f:89:ALA:HB1	2.00	0.43
1:A:386:ILE:HG23	1:A:387:HIS:N	2.33	0.43
1:A:1403:CYS:HB3	1:A:1411:ILE:HB	2.01	0.43
1:A:1453:LEU:HD21	6:F:131:PRO:HG3	2.00	0.43
2:B:111:TYR:HH	2:B:171:SER:H	1.64	0.43
2:B:574:PHE:O	2:B:619:ILE:N	2.51	0.43
2:B:788:ARG:O	2:B:967:ARG:NH1	2.51	0.43
3:C:41:PRO:CA	3:C:163:ILE:HG22	2.48	0.43
3:C:248:ILE:HG21	11:K:102:ASP:HB2	2.00	0.43
7:G:144:ARG:HG2	7:G:168:LEU:HD23	2.00	0.43
10:J:1:MET:SD	10:J:2:ILE:N	2.91	0.43
14:N:-49:DG:C5	14:N:-48:DC:N3	2.87	0.43
1:A:277:VAL:HA	1:A:280:LEU:HD12	2.00	0.43
1:A:408:ARG:HG3	1:A:431:TRP:CZ2	2.54	0.43
1:A:470:ARG:C	1:A:471:LEU:HD12	2.43	0.43
1:A:1212:ASN:OD1	1:A:1212:ASN:N	2.51	0.43
2:B:1159:ARG:NH1	2:B:1193:GLN:OE1	2.45	0.43
3:C:57:LEU:HD21	10:J:1:MET:HE1	1.99	0.43
5:E:135:GLN:HB3	5:E:138:ASP:HB2	2.01	0.43
5:E:201:SER:HB2	5:E:207:TYR:HB2	2.01	0.43
6:F:134:ILE:HG22	6:F:135:ARG:N	2.34	0.43
9:I:100:PHE:CG	9:I:109:THR:HG23	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:542:ILE:N	1:A:573:TRP:O	2.51	0.43
1:A:1401:MET:HE3	1:A:1426:GLY:HA3	2.00	0.43
2:B:863:GLU:O	2:B:961:LEU:HD13	2.19	0.43
5:E:120:ASN:HA	5:E:123:ILE:HD12	2.01	0.43
6:F:131:PRO:C	6:F:132:LEU:HD12	2.43	0.43
1:A:45:ARG:O	1:A:46:GLN:HB2	2.19	0.43
2:B:387:ASP:OD1	2:B:388:GLN:N	2.51	0.43
2:B:655:ILE:HD11	2:B:681:LEU:HG	2.01	0.43
2:B:778:MET:SD	2:B:1096:ARG:N	2.92	0.43
3:C:98:LEU:HG	3:C:120:LYS:HA	2.01	0.43
6:F:111:ILE:HG23	6:F:111:ILE:O	2.17	0.43
14:N:-47:DC:H1'	16:T:47:DG:H22	1.83	0.43
18:W:421:TYR:HE1	18:W:426:LEU:HD13	1.84	0.43
1:A:70:CYS:HB3	1:A:80:HIS:CE1	2.54	0.43
1:A:1102:ARG:O	1:A:1106:ILE:HG12	2.19	0.43
3:C:14:ASP:OD1	3:C:239:LYS:NZ	2.40	0.43
6:F:108:LEU:HD22	6:F:129:LYS:O	2.19	0.43
18:W:780:VAL:C	18:W:788:THR:HG23	2.43	0.43
1:A:446:ASN:O	1:A:488:MET:HE3	2.19	0.42
1:A:632:HIS:O	1:A:636:ARG:HG2	2.18	0.42
1:A:667:ILE:HD11	1:A:806:LEU:HD11	2.01	0.42
1:A:747:MET:O	1:A:751:GLY:N	2.46	0.42
1:A:1199:LEU:HD11	1:A:1240:ILE:HD12	2.00	0.42
2:B:44:THR:HG22	2:B:48:ASP:OD2	2.19	0.42
2:B:112:SER:HA	2:B:162:PRO:HA	2.01	0.42
2:B:538:ILE:HD13	2:B:626:VAL:HG13	2.01	0.42
3:C:145:CYS:SG	3:C:146:LYS:N	2.92	0.42
8:H:100:VAL:N	8:H:137:ASP:O	2.34	0.42
11:K:24:ASP:OD1	11:K:26:ARG:NH2	2.52	0.42
15:P:6:U:H2'	15:P:7:U:C6	2.54	0.42
18:W:226:ILE:HD12	18:W:306:TYR:CD1	2.48	0.42
22:d:38:VAL:CB	22:d:56:MET:HE1	2.49	0.42
21:g:51:LEU:HD21	22:h:67:PHE:CD1	2.54	0.42
22:h:73:GLU:HB3	22:h:94:ALA:HB1	2.01	0.42
1:A:67:CYS:O	1:A:71:GLY:N	2.51	0.42
1:A:232:PRO:O	1:A:235:MET:HB3	2.19	0.42
1:A:1204:MET:HE3	1:A:1209:LEU:HB2	2.00	0.42
2:B:35:LEU:CD2	2:B:164:MET:HE1	2.49	0.42
2:B:424:TYR:HA	2:B:427:ARG:HD3	2.01	0.42
14:N:17:DA:H4'	19:a:63:ARG:NE	2.33	0.42
1:A:1352:TYR:CD2	1:A:1352:TYR:C	2.97	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:83:TYR:N	2:B:116:TYR:O	2.40	0.42
2:B:630:LEU:HD12	2:B:690:VAL:HG11	2.02	0.42
3:C:103:ARG:NE	3:C:152:GLU:OE1	2.52	0.42
7:G:11:LEU:N	7:G:70:PHE:O	2.38	0.42
14:N:-69:DG:N2	16:T:70:DG:O4'	2.53	0.42
14:N:57:DG:O4'	21:c:77:ARG:NH2	2.53	0.42
17:V:70:LYS:HD2	18:W:217:LEU:HD22	2.01	0.42
1:A:17:VAL:O	1:A:1421:LEU:HD12	2.20	0.42
1:A:456:MET:SD	2:B:1141:HIS:CD2	3.13	0.42
2:B:247:ILE:HG22	2:B:248:LYS:N	2.34	0.42
2:B:324:ASP:OD2	2:B:328:ARG:CZ	2.67	0.42
2:B:324:ASP:OD2	2:B:328:ARG:NE	2.53	0.42
2:B:547:ILE:O	2:B:551:LEU:HD13	2.20	0.42
2:B:762:ASN:ND2	2:B:1024:ALA:HB3	2.34	0.42
2:B:865:ARG:HG3	2:B:871:VAL:HG12	2.01	0.42
2:B:280:ALA:CB	2:B:326:ILE:HD12	2.49	0.42
6:F:101:ILE:HG23	6:F:117:PRO:HB3	2.02	0.42
7:G:119:LEU:HD21	7:G:130:TYR:CE1	2.55	0.42
9:I:15:TYR:N	9:I:28:SER:O	2.45	0.42
1:A:547:VAL:HG12	1:A:551:LEU:HD12	2.02	0.42
1:A:1289:LYS:HA	1:A:1307:TRP:HA	2.01	0.42
1:A:1294:VAL:N	1:A:1302:LYS:O	2.48	0.42
2:B:20:VAL:CG1	2:B:678:TRP:CZ3	3.02	0.42
2:B:354:LEU:HD13	2:B:357:ILE:CD1	2.45	0.42
2:B:539:SER:OG	2:B:625:ARG:N	2.53	0.42
2:B:1079:LYS:HG2	2:B:1080:LYS:N	2.35	0.42
3:C:97:VAL:HG23	3:C:122:SER:OG	2.20	0.42
1:A:15:LYS:N	2:B:1217:TYR:O	2.47	0.42
1:A:547:VAL:HA	1:A:550:MET:HE2	2.01	0.42
1:A:1033:ILE:HD11	1:A:1044:PHE:CD1	2.54	0.42
1:A:1397:THR:O	1:A:1402:ARG:NH2	2.51	0.42
2:B:855:PHE:N	2:B:970:THR:O	2.53	0.42
3:C:41:PRO:HA	3:C:163:ILE:HG22	2.01	0.42
6:F:83:PRO:HB2	6:F:152:ILE:HG12	2.00	0.42
6:F:101:ILE:HD11	6:F:120:ILE:HD13	2.02	0.42
21:c:62:ILE:HD13	21:c:93:LEU:HD13	2.01	0.42
1:A:40:ILE:HG13	1:A:41:MET:N	2.35	0.42
2:B:764:SER:N	2:B:765:PRO:CD	2.83	0.42
3:C:4:GLU:HB3	3:C:5:PRO:HD3	2.02	0.42
6:F:133:VAL:HG12	6:F:134:ILE:O	2.20	0.42
8:H:113:VAL:HB	8:H:124:LEU:HD23	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:c:53:ALA:HB2	22:d:114:ALA:CB	2.49	0.42
1:A:10:PRO:HD2	2:B:1191:ILE:O	2.20	0.42
1:A:23:SER:OG	1:A:26:GLU:HB2	2.19	0.42
1:A:221:PHE:O	1:A:224:GLY:N	2.46	0.42
1:A:747:MET:HE1	2:B:1015:HIS:CD2	2.55	0.42
2:B:128:ASP:OD1	2:B:128:ASP:N	2.50	0.42
2:B:251:GLY:O	2:B:259:ARG:NE	2.53	0.42
2:B:686:VAL:HG23	2:B:687:ILE:HG13	2.02	0.42
4:D:122:THR:HG22	4:D:126:GLN:NE2	2.34	0.42
7:G:18:PHE:HZ	7:G:68:ALA:HB2	1.84	0.42
11:K:82:ARG:NH1	11:K:85:GLN:OE1	2.53	0.42
17:V:23:VAL:O	17:V:28:GLY:N	2.43	0.42
18:W:232:ARG:HA	18:W:293:PHE:CE1	2.54	0.42
1:A:170:ASN:OD1	1:A:171:THR:N	2.52	0.42
1:A:875:ASP:OD1	1:A:1060:VAL:HA	2.20	0.42
2:B:316:ILE:CG2	2:B:322:ALA:HB2	2.50	0.42
2:B:910:ILE:HA	2:B:940:PRO:HA	2.01	0.42
3:C:9:ILE:HA	3:C:19:LEU:HA	2.02	0.42
5:E:99:ILE:HD13	5:E:104:PHE:HD2	1.84	0.42
5:E:144:THR:HA	5:E:149:VAL:HG11	2.00	0.42
7:G:25:TYR:O	7:G:28:GLU:HG3	2.19	0.42
10:J:2:ILE:HG12	10:J:3:ILE:H	1.85	0.42
10:J:2:ILE:C	10:J:52:HIS:HE2	2.22	0.42
16:T:-34:DG:H3'	22:d:83:ARG:HE	1.85	0.42
17:V:59:ALA:HB3	18:W:262:ALA:HB3	2.02	0.42
1:A:207:GLU:O	1:A:211:VAL:HG23	2.20	0.41
1:A:605:GLY:O	1:A:616:GLY:HA3	2.20	0.41
1:A:1197:LEU:O	1:A:1239:ILE:HD13	2.20	0.41
2:B:117:LEU:HD12	2:B:118:ASP:N	2.35	0.41
2:B:336:ILE:O	2:B:337:ARG:HG2	2.20	0.41
2:B:456:THR:HG22	2:B:456:THR:O	2.21	0.41
5:E:92:MET:SD	5:E:119:ALA:HB1	2.60	0.41
8:H:102:LYS:HB3	8:H:114:TYR:HB2	2.02	0.41
11:K:35:PHE:N	11:K:71:PHE:O	2.41	0.41
20:f:84:MET:SD	20:f:85:ASP:N	2.93	0.41
1:A:252:ALA:O	15:P:1:G:H1'	2.20	0.41
1:A:312:GLN:HG3	1:A:313:PRO:HD2	2.01	0.41
2:B:15:GLU:OE2	2:B:19:THR:OG1	2.38	0.41
2:B:72:ASN:ND2	2:B:128:ASP:OD1	2.49	0.41
2:B:75:TYR:CD2	2:B:123:MET:HE1	2.55	0.41
11:K:43:ALA:HB1	11:K:61:TYR:CE2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:W:228:GLY:O	18:W:298:LYS:HA	2.19	0.41
1:A:996:CYS:O	1:A:1021:GLN:NE2	2.45	0.41
1:A:1139:SER:O	1:A:1278:GLY:HA2	2.20	0.41
1:A:1229:MET:SD	1:A:1230:TRP:N	2.94	0.41
2:B:283:VAL:HG23	2:B:283:VAL:O	2.20	0.41
2:B:875:GLU:N	2:B:913:GLY:O	2.53	0.41
16:T:18:DC:OP2	19:e:65:LEU:N	2.42	0.41
18:W:243:ILE:HD13	18:W:274:ILE:HD11	2.02	0.41
19:a:62:ILE:HD13	20:b:29:ILE:HD12	2.02	0.41
1:A:236:ILE:O	1:A:238:THR:HG23	2.21	0.41
1:A:443:VAL:HG21	1:A:490:LEU:HD11	2.00	0.41
1:A:529:LEU:HD23	1:A:752:SER:CB	2.51	0.41
2:B:758:PHE:O	2:B:1024:ALA:HB2	2.20	0.41
6:F:137:TYR:CD1	6:F:143:TYR:HB3	2.55	0.41
8:H:61:ASN:OD1	8:H:62:SER:N	2.53	0.41
14:N:-47:DC:O2	16:T:48:DG:N2	2.53	0.41
18:W:806:PRO:O	18:W:808:GLU:N	2.50	0.41
19:a:100:LEU:HD22	20:b:54:THR:HG23	2.01	0.41
1:A:902:LEU:HD22	1:A:920:ILE:HG22	2.02	0.41
1:A:1074:ILE:HD13	1:A:1374:LEU:HD22	2.03	0.41
1:A:1286:TYR:O	1:A:1309:LEU:HA	2.21	0.41
2:B:463:LYS:NZ	14:N:-66:DG:O6	2.53	0.41
2:B:515:VAL:HA	2:B:531:ASN:O	2.21	0.41
2:B:634:GLU:N	2:B:644:GLU:O	2.51	0.41
2:B:800:GLN:O	2:B:1091:TYR:CE1	2.74	0.41
2:B:810:GLU:OE1	2:B:815:ARG:NE	2.53	0.41
2:B:827:ILE:HG12	2:B:1012:ILE:HD11	2.01	0.41
2:B:1074:ASN:ND2	2:B:1077:THR:OG1	2.54	0.41
3:C:80:LYS:NZ	3:C:85:CYS:SG	2.90	0.41
3:C:97:VAL:HG22	3:C:158:ILE:CD1	2.50	0.41
5:E:19:LYS:HB3	5:E:34:MET:CE	2.50	0.41
7:G:71:GLU:N	7:G:71:GLU:OE1	2.54	0.41
8:H:36:ILE:HA	8:H:125:GLU:O	2.20	0.41
11:K:1:MET:HE1	11:K:2:ASN:ND2	2.35	0.41
11:K:50:LEU:HD21	11:K:87:LEU:HA	2.02	0.41
14:N:-47:DC:O2	14:N:-47:DC:O4'	2.38	0.41
14:N:-44:DG:N2	16:T:45:DC:N3	2.69	0.41
21:c:62:ILE:HD12	21:c:87:ILE:HD11	2.02	0.41
1:A:336:ARG:HH21	2:B:1202:LEU:HD21	1.84	0.41
1:A:495:SER:OG	1:A:498:THR:OG1	2.08	0.41
1:A:551:LEU:HD23	1:A:581:ILE:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1145:LEU:HD21	1:A:1271:LEU:C	2.46	0.41
1:A:1216:ASP:O	1:A:1220:GLU:OE1	2.38	0.41
2:B:104:ALA:O	2:B:108:ASN:N	2.54	0.41
2:B:323:LEU:HD22	2:B:346:LYS:N	2.36	0.41
3:C:20:MET:HE1	3:C:229:TYR:CE1	2.56	0.41
11:K:23:PRO:HA	11:K:31:ILE:HA	2.02	0.41
16:T:46:DA:H1'	16:T:47:DG:C8	2.55	0.41
20:f:83:ALA:O	20:f:87:VAL:HG23	2.20	0.41
1:A:1452:LEU:O	1:A:1455:SER:N	2.52	0.41
2:B:167:SER:O	2:B:173:ARG:HB2	2.21	0.41
2:B:905:VAL:HG22	2:B:947:GLY:C	2.46	0.41
2:B:1156:ASP:HB2	2:B:1198:TYR:HB3	2.03	0.41
4:D:159:LEU:HD22	7:G:86:VAL:HG11	2.01	0.41
4:D:174:ILE:O	4:D:177:GLU:HG2	2.20	0.41
5:E:109:PHE:O	5:E:133:THR:HA	2.21	0.41
5:E:179:ARG:HG2	5:E:213:CYS:SG	2.60	0.41
8:H:141:ILE:HG12	8:H:143:ILE:HD11	2.02	0.41
14:N:-51:DG:C4	16:T:52:DG:N2	2.89	0.41
1:A:381:VAL:HA	1:A:389:LEU:CD1	2.50	0.41
1:A:1109:VAL:O	1:A:1109:VAL:HG12	2.20	0.41
2:B:452:TYR:CE2	2:B:462:GLN:HA	2.56	0.41
4:D:67:ARG:NH1	7:G:31:LEU:HD22	2.36	0.41
5:E:142:ASN:HB3	5:E:145:HIS:ND1	2.36	0.41
7:G:164:LYS:O	7:G:164:LYS:HG3	2.21	0.41
14:N:19:DC:N4	14:N:20:DG:O6	2.54	0.41
16:T:14:DT:H2'	16:T:15:DT:H72	2.03	0.41
19:a:75:ALA:HA	20:b:66:ILE:HG21	2.02	0.41
21:c:114:VAL:HG21	19:e:112:ILE:HG21	2.02	0.41
1:A:352:THR:HG22	1:A:469:PHE:CZ	2.56	0.41
1:A:376:SER:HB3	1:A:404:LYS:HD3	2.03	0.41
1:A:462:LYS:HG2	1:A:464:MET:SD	2.60	0.41
1:A:465:PRO:O	1:A:466:TYR:HB2	2.21	0.41
1:A:599:LEU:HD21	8:H:39:THR:HG21	2.03	0.41
1:A:757:ILE:HD12	1:A:760:ALA:HB3	2.02	0.41
1:A:945:ARG:NH2	1:A:1299:GLY:O	2.54	0.41
1:A:1144:THR:N	1:A:1147:ASN:OD1	2.46	0.41
1:A:1157:ASP:O	1:A:1192:PRO:O	2.39	0.41
2:B:864:LYS:O	2:B:872:GLU:N	2.52	0.41
5:E:142:ASN:OD1	5:E:142:ASN:C	2.64	0.41
7:G:25:TYR:HA	7:G:28:GLU:HG3	2.03	0.41
7:G:113:ARG:O	7:G:164:LYS:NZ	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:65:LEU:HG	8:H:87:SER:HA	2.03	0.41
9:I:109:THR:O	9:I:109:THR:HG22	2.20	0.41
16:T:18:DC:OP1	19:e:63:ARG:HB2	2.20	0.41
16:T:48:DG:H1'	16:T:49:DC:H5'	2.02	0.41
16:T:72:DA:C6	16:T:73:DA:C6	3.09	0.41
21:g:51:LEU:CD1	22:h:70:ILE:HG21	2.51	0.41
1:A:17:VAL:O	1:A:17:VAL:HG13	2.21	0.41
1:A:188:LYS:HB2	1:A:196:ALA:HB3	2.03	0.41
1:A:252:ALA:HA	1:A:258:GLN:HA	2.03	0.41
1:A:672:ALA:O	1:A:677:MET:HE1	2.20	0.41
1:A:859:ASN:OD1	1:A:862:GLY:N	2.53	0.41
1:A:957:PRO:O	1:A:958:LEU:HD22	2.21	0.41
1:A:976:ASP:O	1:A:977:ARG:HB2	2.20	0.41
2:B:209:SER:HA	2:B:397:LYS:HA	2.02	0.41
2:B:269:LYS:HZ3	2:B:331:SER:HG	1.59	0.41
2:B:850:LEU:HD13	10:J:8:PHE:CD2	2.55	0.41
4:D:99:ASN:O	4:D:102:VAL:HG12	2.21	0.41
14:N:-55:DT:H2"	14:N:-54:DC:OP2	2.20	0.41
22:d:38:VAL:HB	22:d:56:MET:HE1	2.03	0.41
1:A:119:ASN:HB3	1:A:122:MET:HG3	2.02	0.40
1:A:599:LEU:HD13	8:H:123:CYS:HB2	2.03	0.40
1:A:1122:LEU:HD13	1:A:1126:ILE:HG22	2.03	0.40
2:B:83:TYR:HB2	2:B:116:TYR:HB2	2.03	0.40
2:B:89:MET:HE1	2:B:91:GLU:HA	2.03	0.40
2:B:835:GLN:N	2:B:838:SER:OG	2.53	0.40
2:B:839:MET:C	2:B:840:ILE:HD13	2.46	0.40
2:B:1070:GLU:N	2:B:1085:VAL:O	2.46	0.40
2:B:1073:TYR:HE2	3:C:179:GLU:HA	1.87	0.40
3:C:78:GLU:HB2	3:C:127:LEU:HD21	2.02	0.40
7:G:34:VAL:HG11	7:G:48:VAL:CG2	2.51	0.40
8:H:56:THR:HB	8:H:144:ARG:CB	2.51	0.40
14:N:-41:DT:N3	14:N:-40:DC:N3	2.69	0.40
16:T:-57:DC:H4'	16:T:-56:DC:OP1	2.20	0.40
16:T:40:DG:C2	16:T:41:DA:C4	3.09	0.40
21:c:112:GLN:HB2	21:c:115:LEU:HD12	2.02	0.40
1:A:473:LEU:HD13	2:B:835:GLN:OE1	2.22	0.40
2:B:307:LYS:NZ	9:I:13:MET:HE1	2.36	0.40
2:B:1182:CYS:HB3	2:B:1187:ASN:HB3	2.03	0.40
9:I:83:CYS:HB2	9:I:103:CYS:HA	2.02	0.40
10:J:20:ALA:O	10:J:24:LEU:HD13	2.22	0.40
18:W:216:LEU:HD12	18:W:217:LEU:HD23	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:a:106:ASP:HB3	19:a:127:ALA:HB1	2.03	0.40
1:A:351:ARG:HA	1:A:488:MET:O	2.21	0.40
2:B:221:ALA:O	2:B:223:SER:N	2.49	0.40
2:B:1210:MET:SD	2:B:1210:MET:N	2.94	0.40
4:D:112:PHE:O	4:D:114:ARG:NH1	2.55	0.40
4:D:172:GLN:HG2	4:D:173:ARG:N	2.36	0.40
5:E:67:ALA:HB1	5:E:74:LEU:HD22	2.03	0.40
8:H:7:ASP:OD1	8:H:8:ASP:N	2.54	0.40
1:A:532:VAL:HA	1:A:535:MET:CG	2.50	0.40
1:A:699:GLN:HB2	9:I:97:MET:HE1	2.03	0.40
1:A:934:TYR:O	1:A:938:VAL:HG23	2.21	0.40
2:B:1084:GLN:NE2	3:C:191:PHE:HA	2.37	0.40
4:D:92:VAL:HG13	4:D:93:THR:N	2.36	0.40
10:J:7:CYS:O	10:J:8:PHE:C	2.65	0.40
19:e:104:PHE:CD2	20:f:38:ALA:HA	2.57	0.40
20:f:38:ALA:HB1	20:f:43:VAL:HB	2.03	0.40
21:g:51:LEU:HD21	22:h:67:PHE:HD1	1.86	0.40
1:A:7:SER:OG	2:B:1161:HIS:NE2	2.16	0.40
1:A:488:MET:HG3	1:A:489:ASN:N	2.37	0.40
1:A:658:LEU:O	1:A:659:LEU:C	2.65	0.40
1:A:1285:VAL:HA	1:A:1311:THR:HA	2.04	0.40
2:B:207:GLU:HA	2:B:399:LEU:HA	2.03	0.40
2:B:252:ARG:HB2	2:B:255:LYS:HB3	2.04	0.40
2:B:972:LYS:O	2:B:1094:ARG:NH1	2.40	0.40
7:G:144:ARG:N	7:G:169:GLY:O	2.54	0.40
11:K:22:THR:N	11:K:32:ILE:O	2.55	0.40
19:e:62:ILE:HD11	20:f:37:LEU:HD11	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	A	1400/1743 (80%)	1324 (95%)	73 (5%)	3 (0%)	44 78
2	B	1145/1227 (93%)	1073 (94%)	71 (6%)	1 (0%)	48 83
3	C	261/304 (86%)	245 (94%)	16 (6%)	0	100 100
4	D	162/186 (87%)	153 (94%)	9 (6%)	0	100 100
5	E	211/214 (99%)	203 (96%)	8 (4%)	0	100 100
6	F	82/155 (53%)	77 (94%)	5 (6%)	0	100 100
7	G	169/171 (99%)	164 (97%)	4 (2%)	1 (1%)	22 60
8	H	129/145 (89%)	124 (96%)	5 (4%)	0	100 100
9	I	109/115 (95%)	104 (95%)	5 (5%)	0	100 100
10	J	64/72 (89%)	62 (97%)	2 (3%)	0	100 100
11	K	111/118 (94%)	105 (95%)	6 (5%)	0	100 100
12	L	43/72 (60%)	40 (93%)	3 (7%)	0	100 100
13	M	62/113 (55%)	60 (97%)	2 (3%)	0	100 100
17	V	100/108 (93%)	99 (99%)	1 (1%)	0	100 100
18	W	265/911 (29%)	253 (96%)	12 (4%)	0	100 100
19	a	95/139 (68%)	94 (99%)	1 (1%)	0	100 100
19	e	95/139 (68%)	94 (99%)	1 (1%)	0	100 100
20	b	78/106 (74%)	75 (96%)	3 (4%)	0	100 100
20	f	76/106 (72%)	76 (100%)	0	0	100 100
21	c	101/133 (76%)	99 (98%)	2 (2%)	0	100 100
21	g	103/133 (77%)	99 (96%)	4 (4%)	0	100 100
22	d	93/129 (72%)	92 (99%)	1 (1%)	0	100 100
22	h	91/129 (70%)	89 (98%)	2 (2%)	0	100 100
All	All	5045/6668 (76%)	4804 (95%)	236 (5%)	5 (0%)	50 83

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	337	ARG
7	G	154	VAL
1	A	255	GLU
1	A	287	GLN
1	A	960	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1225/1528 (80%)	1225 (100%)	0	100	100
2	B	1012/1077 (94%)	1012 (100%)	0	100	100
3	C	236/264 (89%)	236 (100%)	0	100	100
4	D	143/160 (89%)	143 (100%)	0	100	100
5	E	196/197 (100%)	196 (100%)	0	100	100
6	F	75/137 (55%)	75 (100%)	0	100	100
7	G	148/148 (100%)	148 (100%)	0	100	100
8	H	120/130 (92%)	120 (100%)	0	100	100
9	I	106/109 (97%)	106 (100%)	0	100	100
10	J	60/66 (91%)	60 (100%)	0	100	100
11	K	104/109 (95%)	104 (100%)	0	100	100
12	L	38/56 (68%)	38 (100%)	0	100	100
13	M	61/99 (62%)	61 (100%)	0	100	100
17	V	86/92 (94%)	86 (100%)	0	100	100
18	W	241/796 (30%)	241 (100%)	0	100	100
19	a	83/112 (74%)	83 (100%)	0	100	100
19	e	82/112 (73%)	82 (100%)	0	100	100
20	b	65/81 (80%)	65 (100%)	0	100	100
20	f	63/81 (78%)	63 (100%)	0	100	100
21	c	82/102 (80%)	82 (100%)	0	100	100
21	g	83/102 (81%)	83 (100%)	0	100	100
22	d	81/107 (76%)	81 (100%)	0	100	100
22	h	79/107 (74%)	79 (100%)	0	100	100
All	All	4469/5772 (77%)	4469 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (34)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	140	GLN
1	A	291	ASN
1	A	307	ASN
1	A	400	HIS
1	A	446	ASN
1	A	491	HIS
1	A	737	ASN
1	A	839	GLN
1	A	974	HIS
2	B	47	GLN
2	B	157	HIS
2	B	270	GLN
2	B	343	GLN
2	B	393	HIS
2	B	567	HIS
2	B	1097	HIS
3	C	11	ASN
4	D	126	GLN
5	E	165	GLN
9	I	46	HIS
9	I	64	GLN
13	M	29	ASN
13	M	65	GLN
17	V	100	GLN
18	W	346	ASN
18	W	434	ASN
21	c	24	GLN
22	d	81	ASN
19	e	85	GLN
19	e	108	ASN
20	f	25	ASN
21	g	31	HIS
22	h	60	ASN
22	h	81	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
15	P	15/16 (93%)	4 (26%)	1 (6%)

All (4) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
15	P	-4	U
15	P	-3	U
15	P	1	G
15	P	8	U

All (1) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
15	P	0	C

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 11 ligands modelled in this entry, 11 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

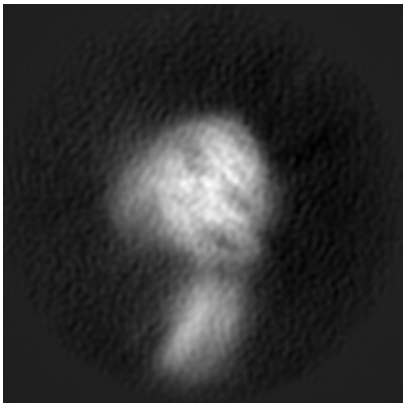
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-32408. These allow visual inspection of the internal detail of the map and identification of artifacts.

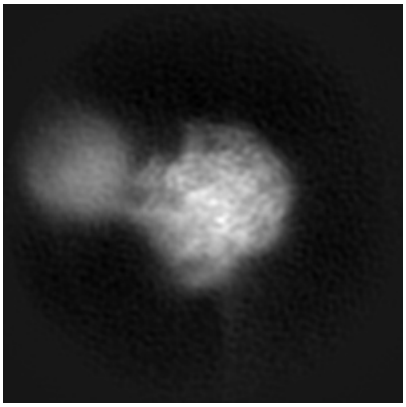
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

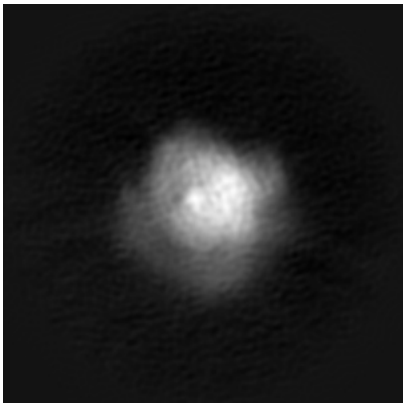
6.1.1 Primary map



X



Y

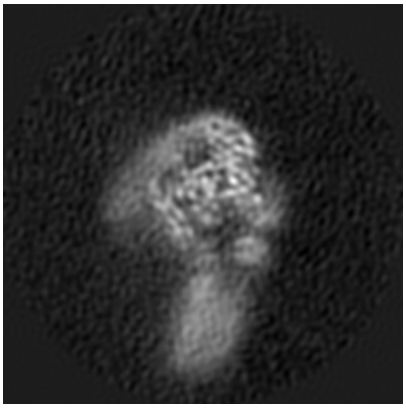


Z

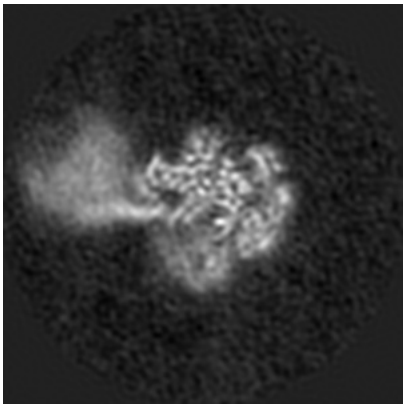
The images above show the map projected in three orthogonal directions.

6.2 Central slices

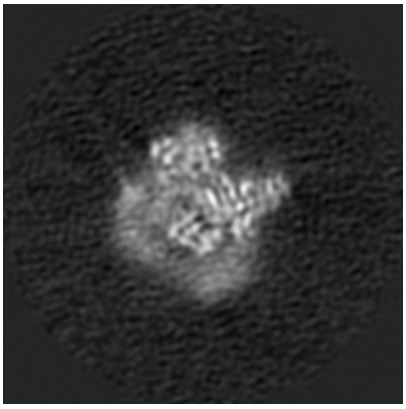
6.2.1 Primary map



X Index: 168



Y Index: 168

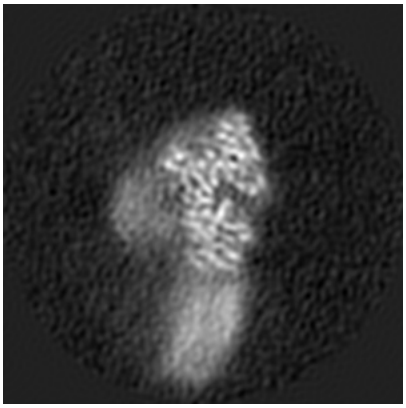


Z Index: 168

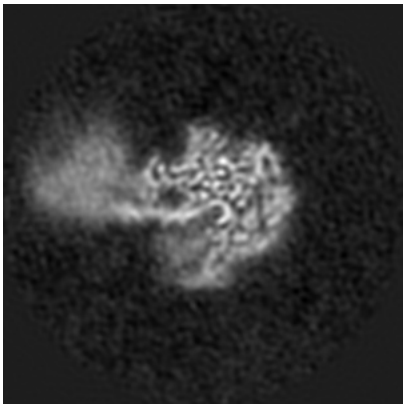
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

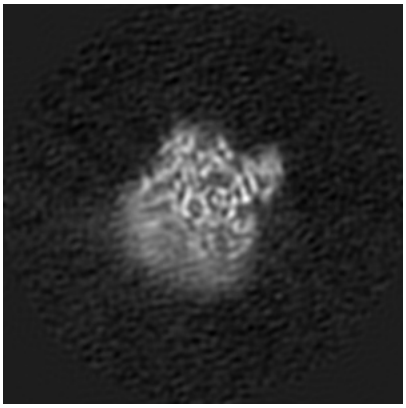
6.3.1 Primary map



X Index: 186



Y Index: 173

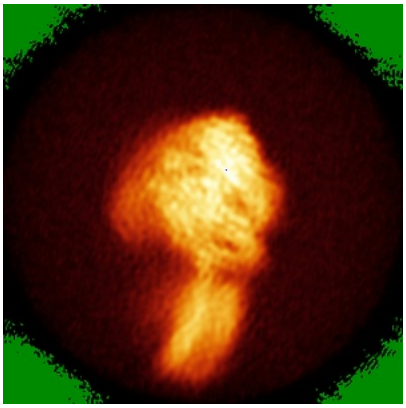


Z Index: 185

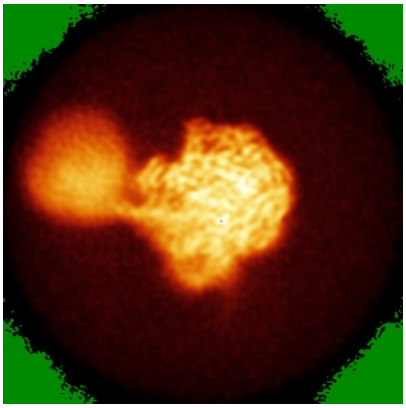
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

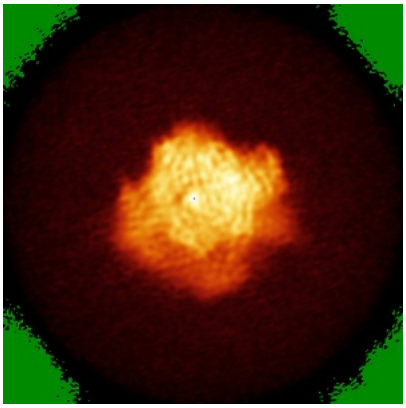
6.4.1 Primary map



X



Y

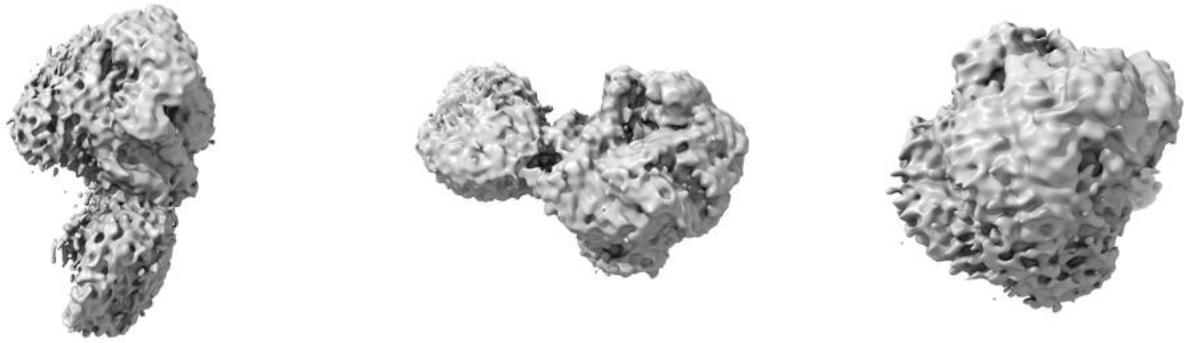


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.00756. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

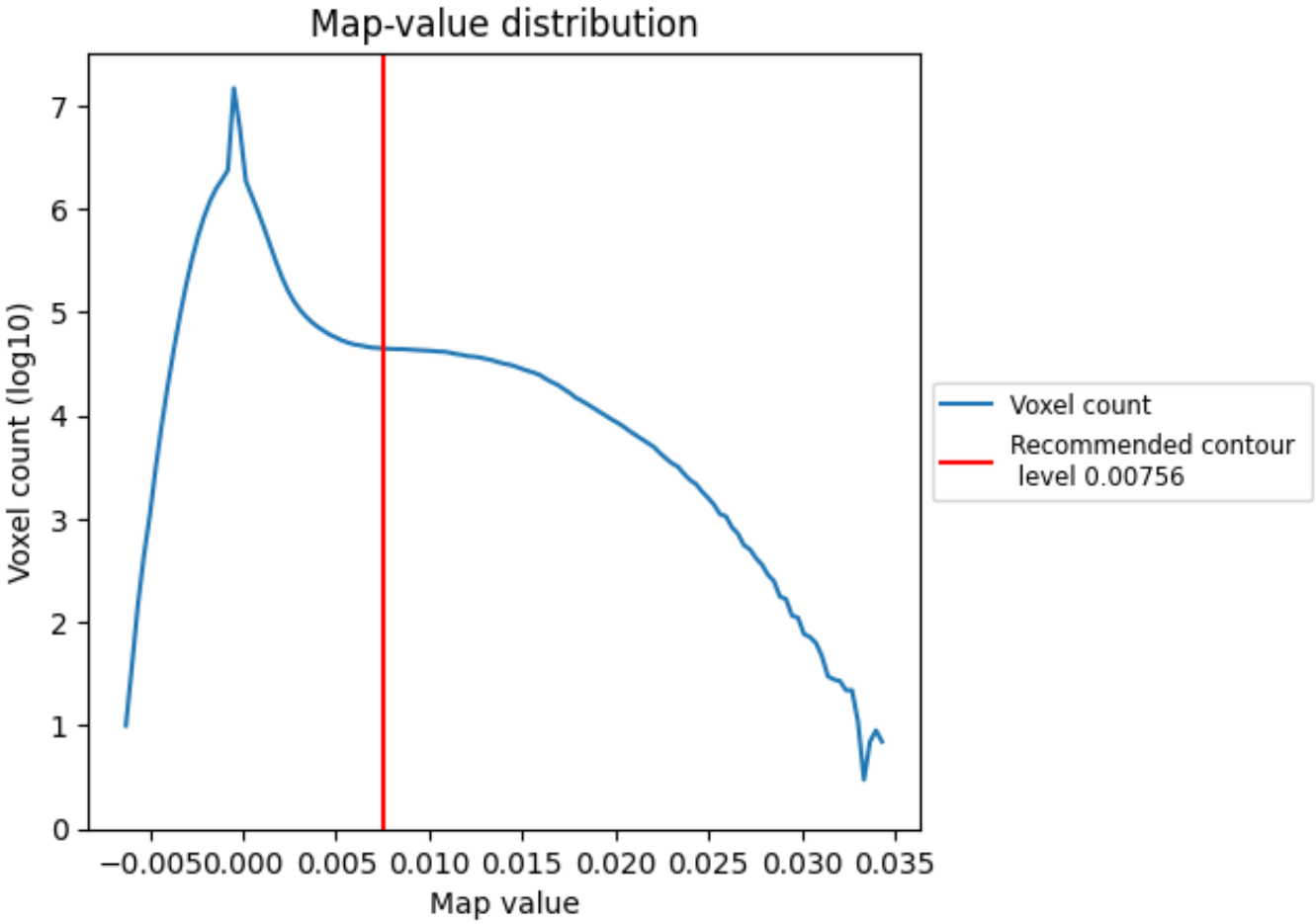
6.6 Mask visualisation (i)

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

7 Map analysis

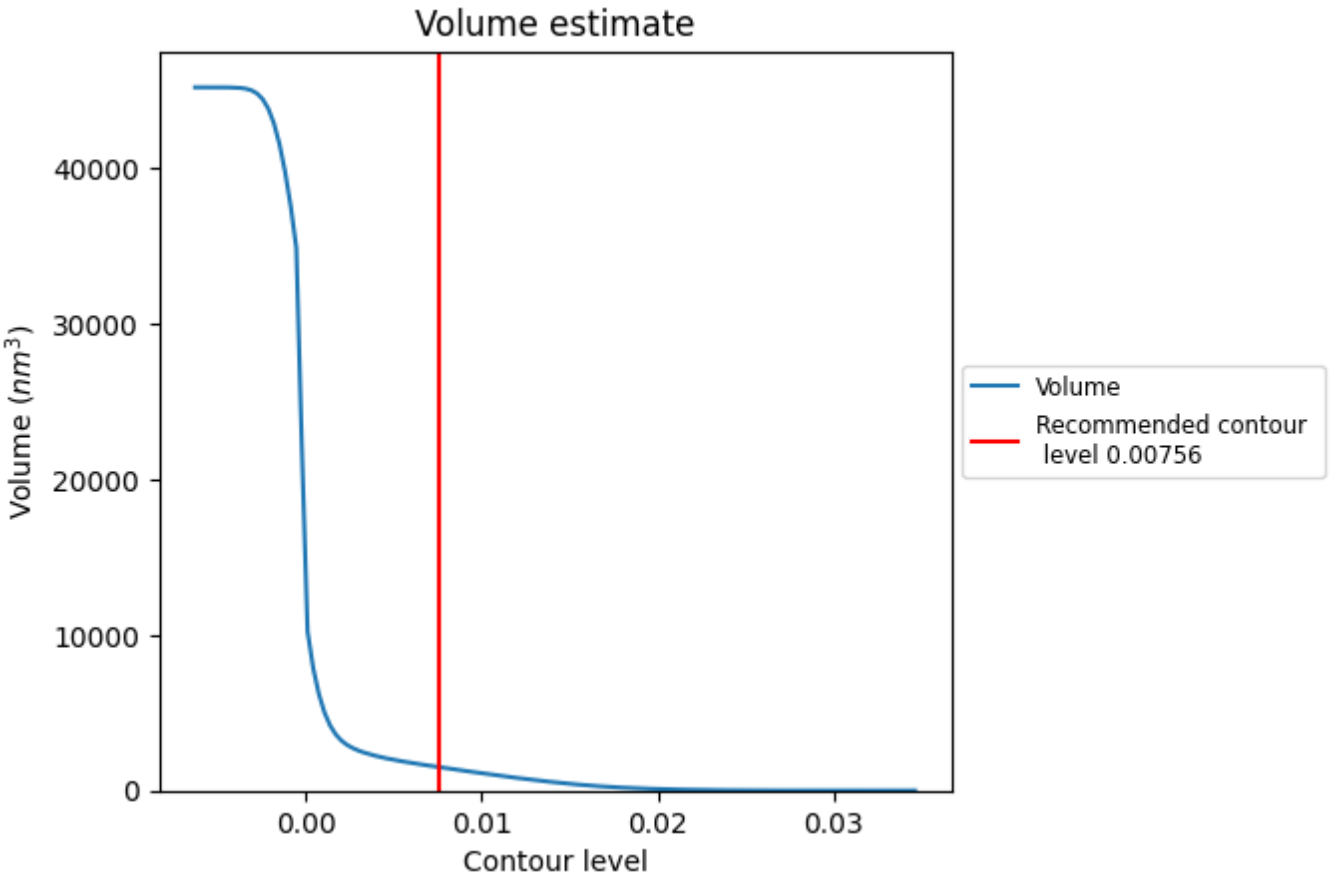
This section contains the results of statistical analysis of the map.

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.

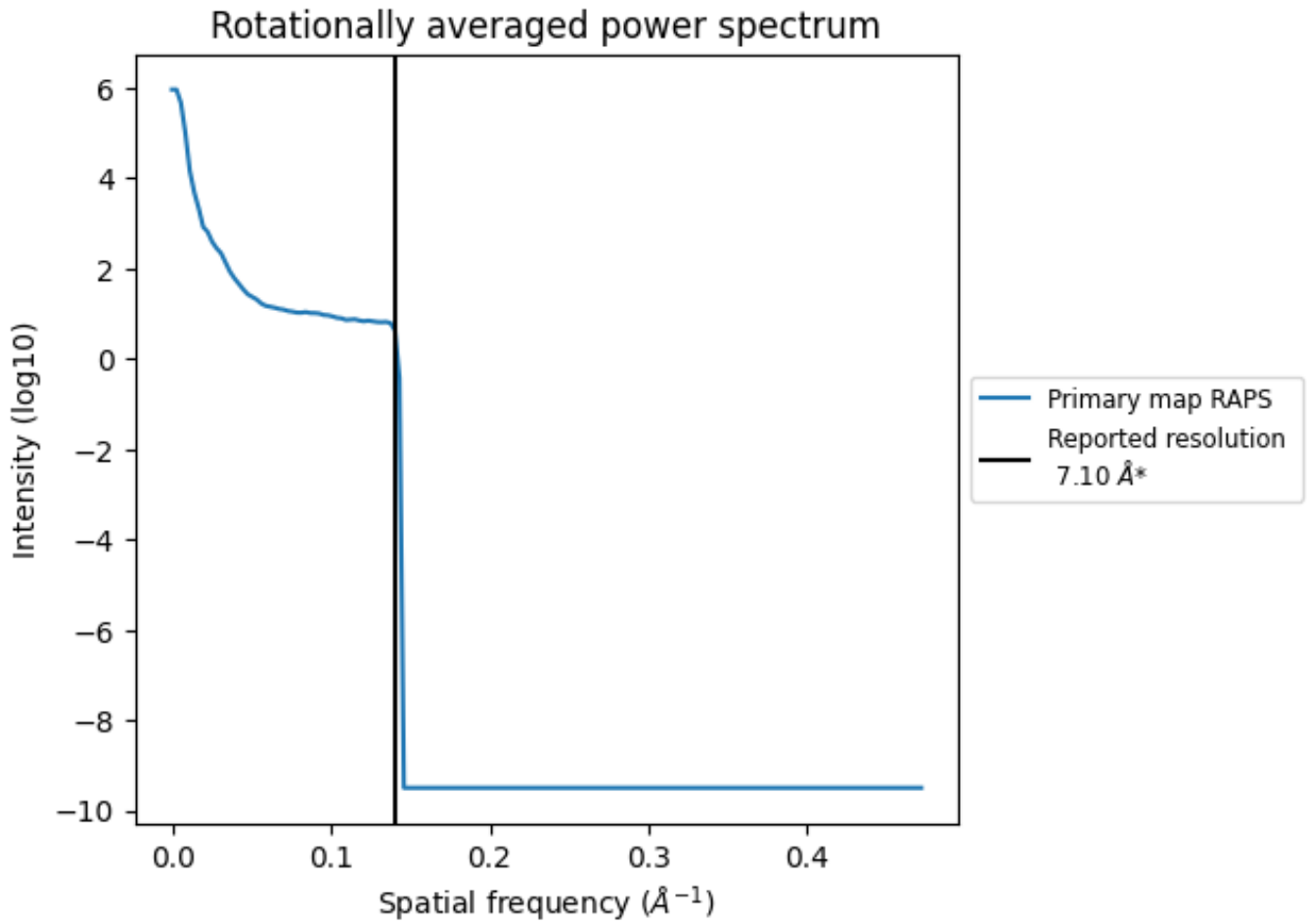
7.2 Volume estimate



The volume at the recommended contour level is 1509 nm^3; this corresponds to an approximate mass of 1364 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)

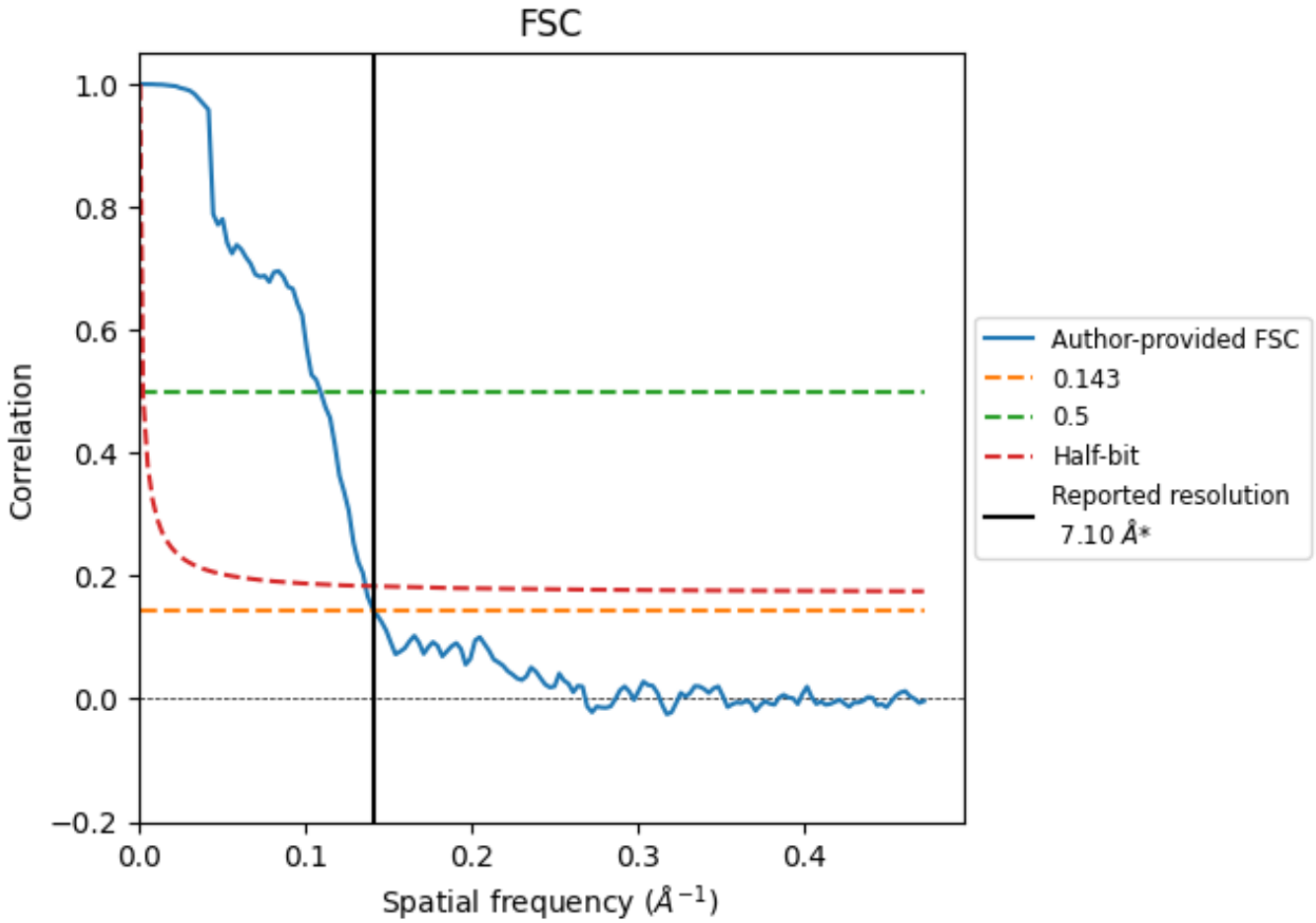


*Reported resolution corresponds to spatial frequency of 0.141 Å^{-1}

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 0.141 $Å^{-1}$

8.2 Resolution estimates (i)

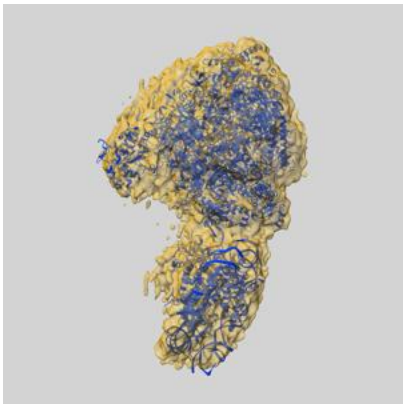
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	7.10	-	-
Author-provided FSC curve	7.06	9.15	7.33
Unmasked-calculated*	-	-	-

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

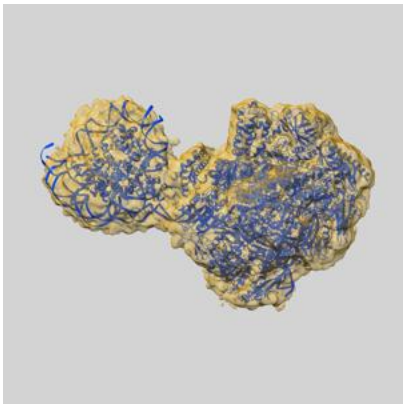
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-32408 and PDB model 7WBW. Per-residue inclusion information can be found in section 3 on page 10.

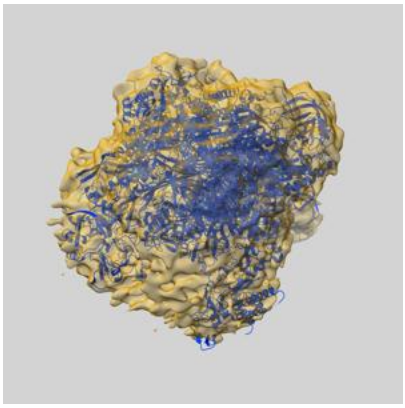
9.1 Map-model overlay



X



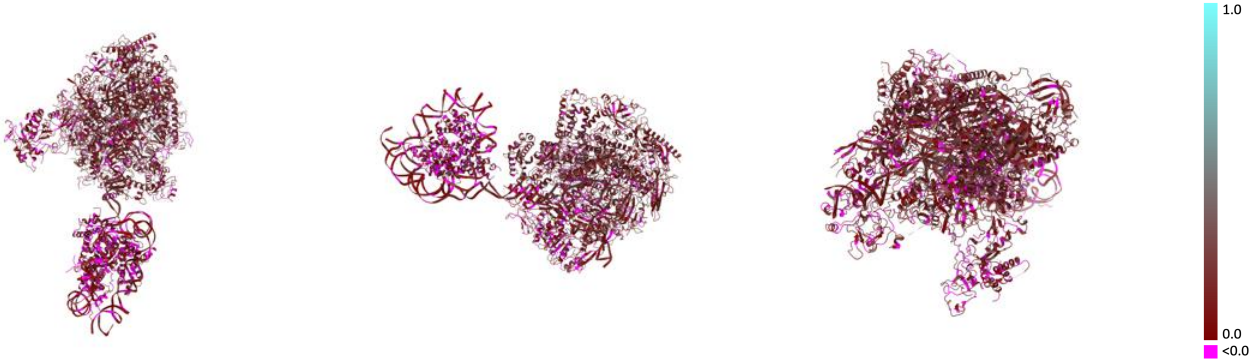
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.00756 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

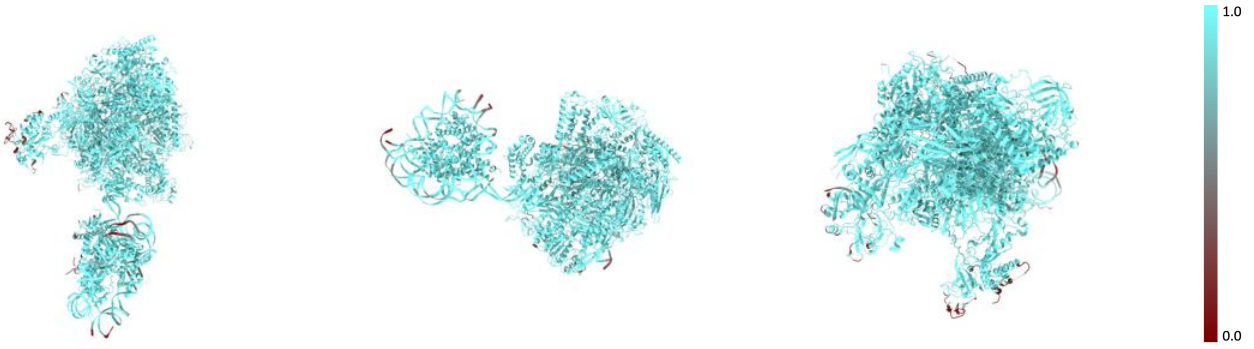
9.2 Q-score mapped to coordinate model (i)



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.

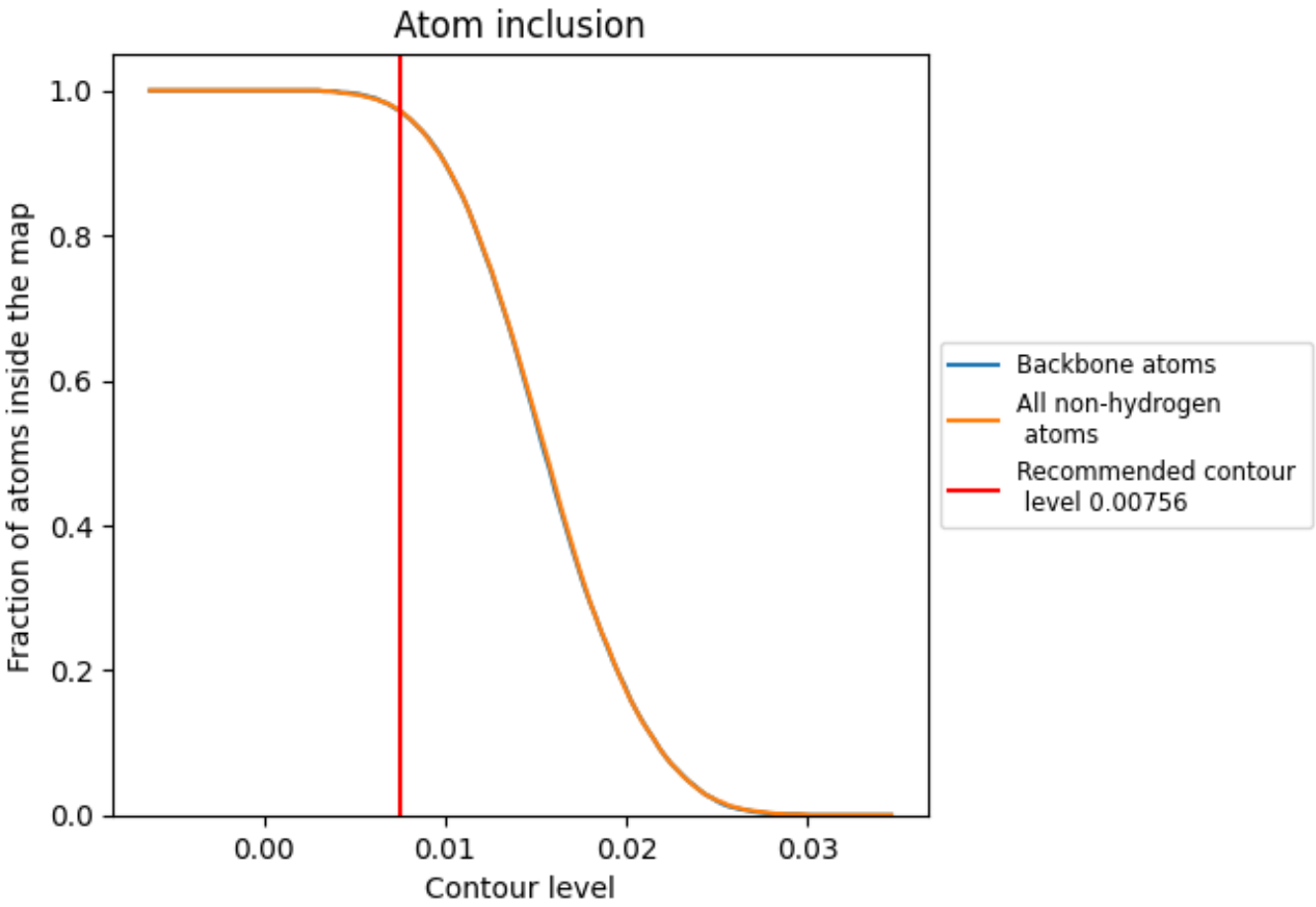
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.00756).

9.4 Atom inclusion (i)



At the recommended contour level, 97% of all backbone atoms, 97% 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 (0.00756) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9710	0.1370
A	0.9940	0.1720
B	0.9940	0.1620
C	0.9990	0.1720
D	0.8540	0.0820
E	1.0000	0.1870
F	0.9990	0.1780
G	0.8820	0.0890
H	0.9950	0.1850
I	0.9670	0.0670
J	1.0000	0.1730
K	0.9970	0.1690
L	1.0000	0.1630
M	0.8090	0.0470
N	0.9260	0.1120
P	1.0000	0.2050
T	0.9070	0.1200
V	0.9320	0.0760
W	0.9630	0.0990
a	0.9320	0.0530
b	0.9920	0.0750
c	0.9940	0.0680
d	0.9990	0.0610
e	1.0000	0.0880
f	1.0000	0.0550
g	0.9290	0.0470
h	0.9680	0.0580