



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 02:00 PM UTC

PDB ID : 8JTI / pdb_00008jti
EMDB ID : EMD-36645
Title : Cryo-EM structure of human 26S RP (Eb state) bound to K11/K48-branched ubiquitin (Ub) chain composed of four Ub.
Authors : Hsu, S.T.D.; Draczkowski, P.; Wang, Y.S.
Deposited on : 2023-06-21
Resolution : 3.80 Å(reported)
Based on initial model : 6MSB

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

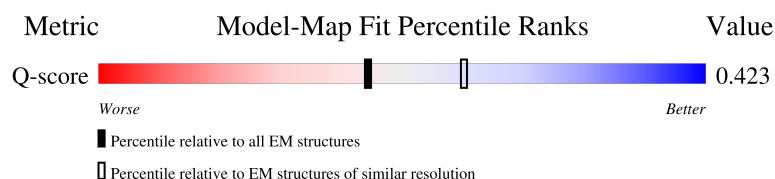
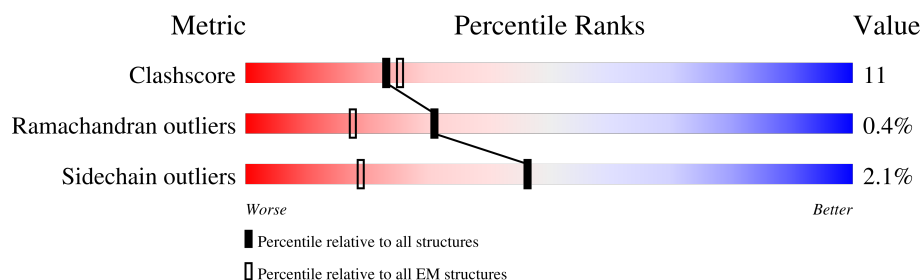
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 3.80 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	10198 (3.30 - 4.30)

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

Mol	Chain	Length	Quality of chain
1	A	433	 6% 66% 24% • 9%
2	B	440	 7% 60% 26% • 13%
3	C	406	 8% 62% 26% • 10%
4	D	418	 65% 24% • 9%

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Mol	Chain	Length	Quality of chain
5	E	389	
6	F	439	
7	G	246	
8	H	234	
9	I	261	
10	J	248	
11	K	241	
12	L	263	
13	M	255	
14	U	953	
15	V	534	
16	W	456	
17	X	422	
18	Y	389	
19	Z	324	
20	d	350	
21	e	70	
22	f	908	
23	a	376	
24	b	377	
25	c	310	
26	u	81	
26	v	81	
26	w	81	
26	x	81	

2 Entry composition

There are 29 unique types of molecules in this entry. The entry contains 67839 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 26S protease regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	394	Total	C	N	O	S	0	0
			3096	1951	543	584	18		

- Molecule 2 is a protein called 26S protease regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	384	Total	C	N	O	S	0	0
			3004	1895	515	580	14		

- Molecule 3 is a protein called 26S protease regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	365	Total	C	N	O	S	0	0
			2868	1811	515	526	16		

- Molecule 4 is a protein called 26S protease regulatory subunit 6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	380	Total	C	N	O	S	0	0
			3039	1923	524	579	13		

- Molecule 5 is a protein called 26S protease regulatory subunit 10B.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	375	Total	C	N	O	S	0	0
			2979	1875	529	559	16		

- Molecule 6 is a protein called 26S protease regulatory subunit 6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	395	Total	C	N	O	S	0	0
			3093	1943	535	598	17		

- Molecule 7 is a protein called Proteasome subunit alpha type-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	240	Total	C	N	O	S	0	0
			1826	1160	305	348	13		

- Molecule 8 is a protein called Proteasome subunit alpha type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	232	Total	C	N	O	S	0	0
			1708	1081	289	333	5		

- Molecule 9 is a protein called Proteasome subunit alpha type-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	250	Total	C	N	O	S	0	0
			1912	1204	329	371	8		

- Molecule 10 is a protein called Proteasome subunit alpha type-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	239	Total	C	N	O	S	0	0
			1713	1062	311	335	5		

- Molecule 11 is a protein called Proteasome subunit alpha type-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	234	Total	C	N	O	S	0	0
			1759	1102	290	356	11		

- Molecule 12 is a protein called Proteasome subunit alpha type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	238	Total	C	N	O	S	0	0
			1850	1159	334	346	11		

- Molecule 13 is a protein called Proteasome subunit alpha type-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	240	Total	C	N	O	S	0	0
			1856	1178	314	353	11		

- Molecule 14 is a protein called 26S proteasome non-ATPase regulatory subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	U	815	Total	C	N	O	S	0	0
			6361	4040	1083	1194	44		

- Molecule 15 is a protein called 26S proteasome non-ATPase regulatory subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	V	493	Total	C	N	O	S	0	0
			3315	2075	622	611	7		

- Molecule 16 is a protein called 26S proteasome non-ATPase regulatory subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	W	456	Total	C	N	O	S	0	0
			3292	2064	584	630	14		

- Molecule 17 is a protein called 26S proteasome non-ATPase regulatory subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	X	380	Total	C	N	O	S	0	0
			2793	1763	487	534	9		

- Molecule 18 is a protein called 26S proteasome non-ATPase regulatory subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Y	378	Total	C	N	O	S	0	0
			3115	1987	533	578	17		

- Molecule 19 is a protein called 26S proteasome non-ATPase regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Z	286	Total	C	N	O	S	0	0
			2281	1457	392	427	5		

- Molecule 20 is a protein called 26S proteasome non-ATPase regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	d	257	Total	C	N	O	S	0	0
			2053	1332	336	376	9		

- Molecule 21 is a protein called 26S proteasome complex subunit DSS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	e	49	Total	C	N	O	S	0	0
			280	171	52	56	1		

- Molecule 22 is a protein called 26S proteasome non-ATPase regulatory subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	f	880	Total	C	N	O		0	0
			4338	2578	880	880			

- Molecule 23 is a protein called 26S proteasome non-ATPase regulatory subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	a	373	Total	C	N	O	S	0	0
			2995	1911	510	559	15		

- Molecule 24 is a protein called 26S proteasome non-ATPase regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	b	191	Total	C	N	O	S	0	0
			1458	910	261	279	8		

- Molecule 25 is a protein called 26S proteasome non-ATPase regulatory subunit 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	c	287	Total	C	N	O	S	0	0
			2260	1430	389	422	19		

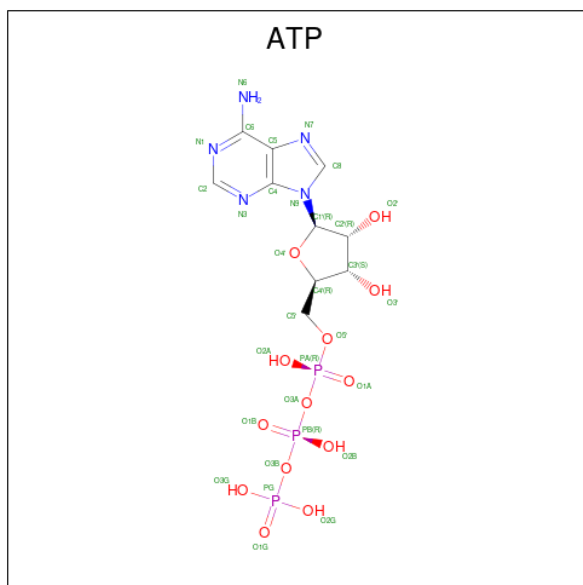
- Molecule 26 is a protein called Polyubiquitin-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	v	76	Total	C	N	O	S	0	0
			603	378	107	117	1		
26	u	76	Total	C	N	O	S	0	0
			603	378	107	117	1		
26	x	76	Total	C	N	O	S	0	0
			603	378	107	117	1		
26	w	76	Total	C	N	O	S	0	0
			603	378	107	117	1		

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
v	-4	GLY	-	linker	UNP P0CG47
v	-3	SER	-	linker	UNP P0CG47
v	-2	GLY	-	linker	UNP P0CG47
v	-1	GLY	-	linker	UNP P0CG47
v	0	SER	-	linker	UNP P0CG47
v	63	ARG	LYS	engineered mutation	UNP P0CG47
u	-4	GLY	-	linker	UNP P0CG47
u	-3	SER	-	linker	UNP P0CG47
u	-2	GLY	-	linker	UNP P0CG47
u	-1	GLY	-	linker	UNP P0CG47
u	0	SER	-	linker	UNP P0CG47
u	63	ARG	LYS	engineered mutation	UNP P0CG47
x	-4	GLY	-	linker	UNP P0CG47
x	-3	SER	-	linker	UNP P0CG47
x	-2	GLY	-	linker	UNP P0CG47
x	-1	GLY	-	linker	UNP P0CG47
x	0	SER	-	linker	UNP P0CG47
x	63	ARG	LYS	engineered mutation	UNP P0CG47
w	-4	GLY	-	linker	UNP P0CG47
w	-3	SER	-	linker	UNP P0CG47
w	-2	GLY	-	linker	UNP P0CG47
w	-1	GLY	-	linker	UNP P0CG47
w	0	SER	-	linker	UNP P0CG47
w	63	ARG	LYS	engineered mutation	UNP P0CG47

- Molecule 27 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).

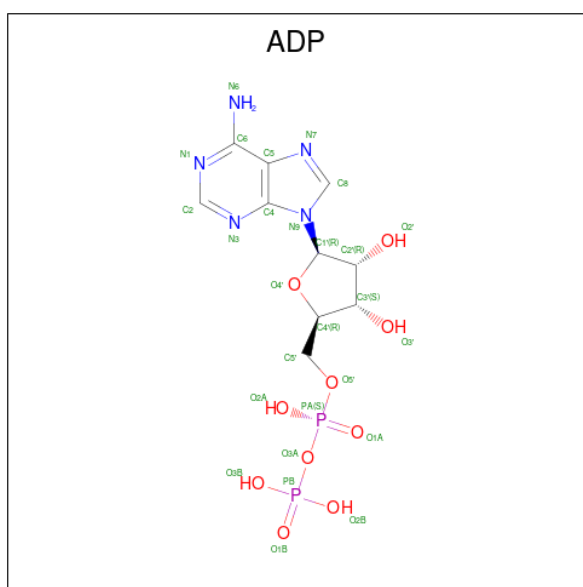


Mol	Chain	Residues	Atoms					AltConf
27	A	1	Total 31	C 10	N 5	O 13	P 3	0
27	B	1	Total 31	C 10	N 5	O 13	P 3	0
27	D	1	Total 31	C 10	N 5	O 13	P 3	0
27	E	1	Total 31	C 10	N 5	O 13	P 3	0

- Molecule 28 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
28	A	1	Total Mg 1 1	0
28	B	1	Total Mg 1 1	0
28	D	1	Total Mg 1 1	0
28	E	1	Total Mg 1 1	0
28	F	1	Total Mg 1 1	0

- Molecule 29 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



Mol	Chain	Residues	Atoms					AltConf
29	C	1	Total	C	N	O	P	0
			27	10	5	10	2	

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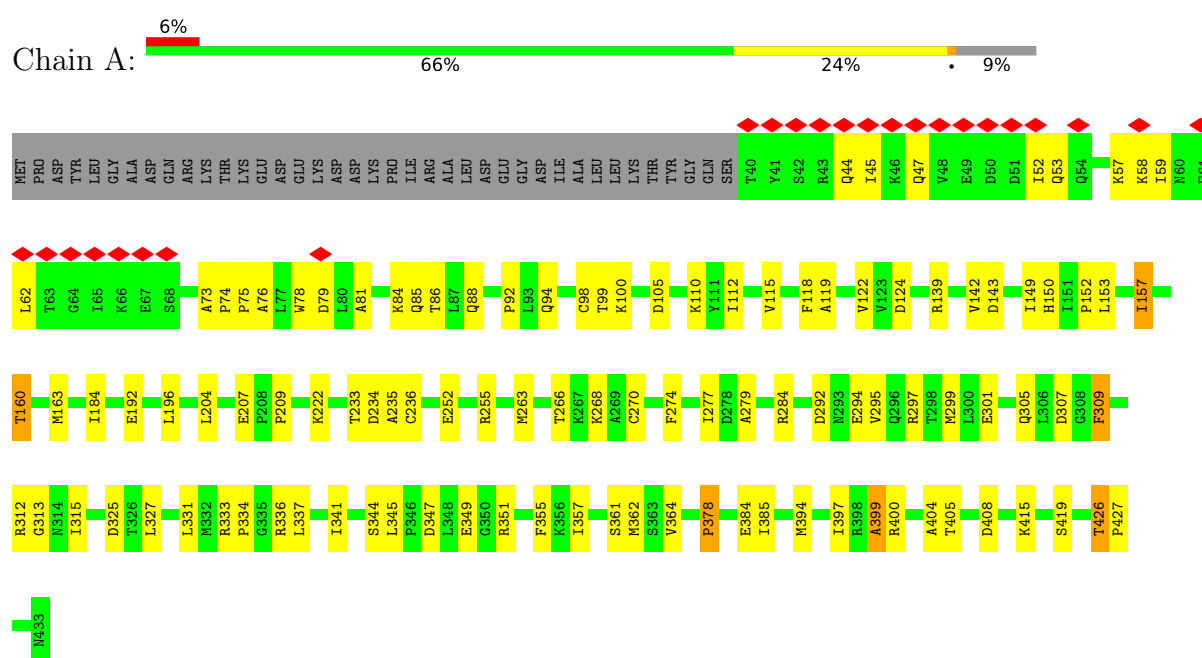
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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
29	F	1	27	10	5	10	2	0

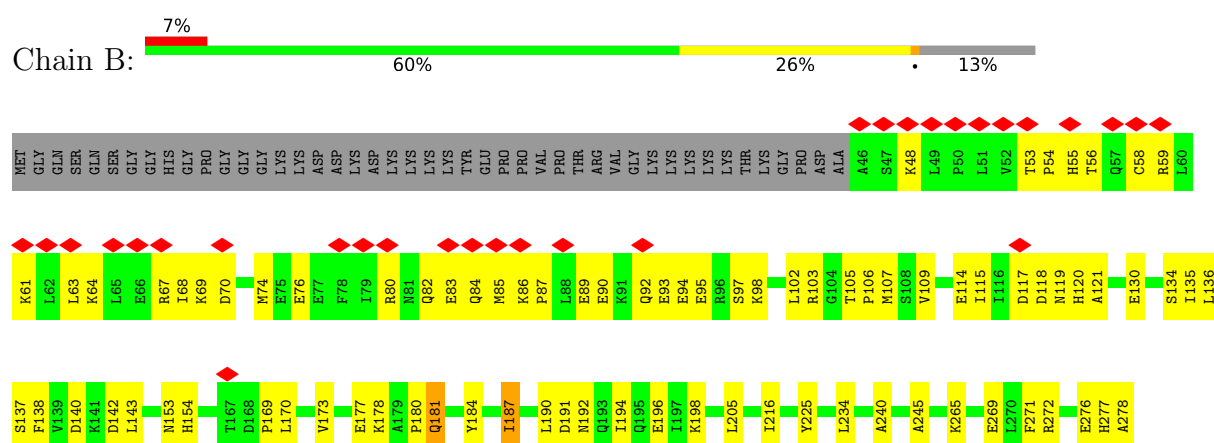
3 Residue-property plots

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.

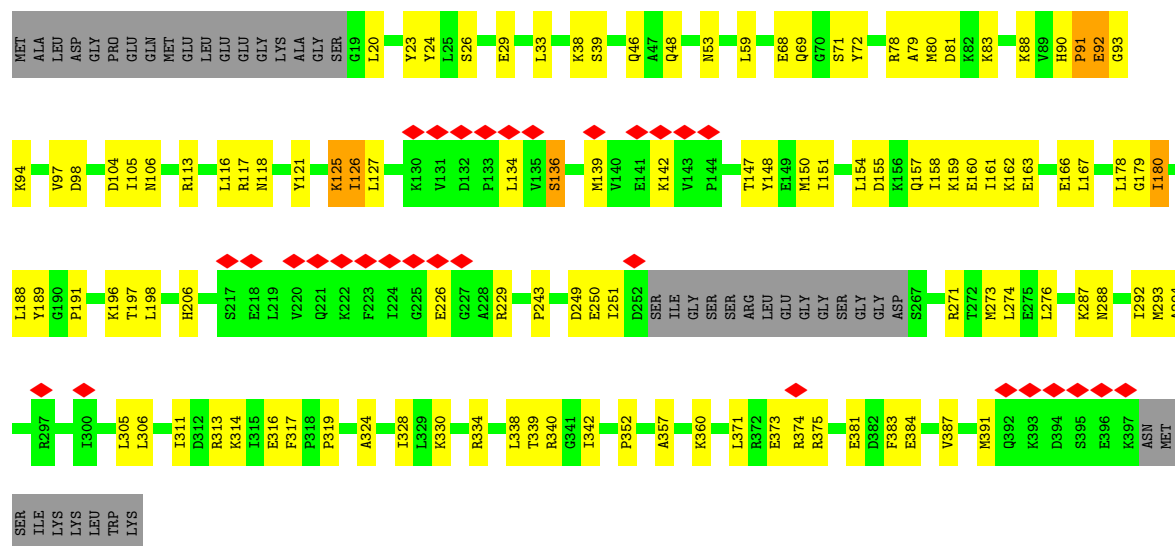
• Molecule 1: 26S protease regulatory subunit 7



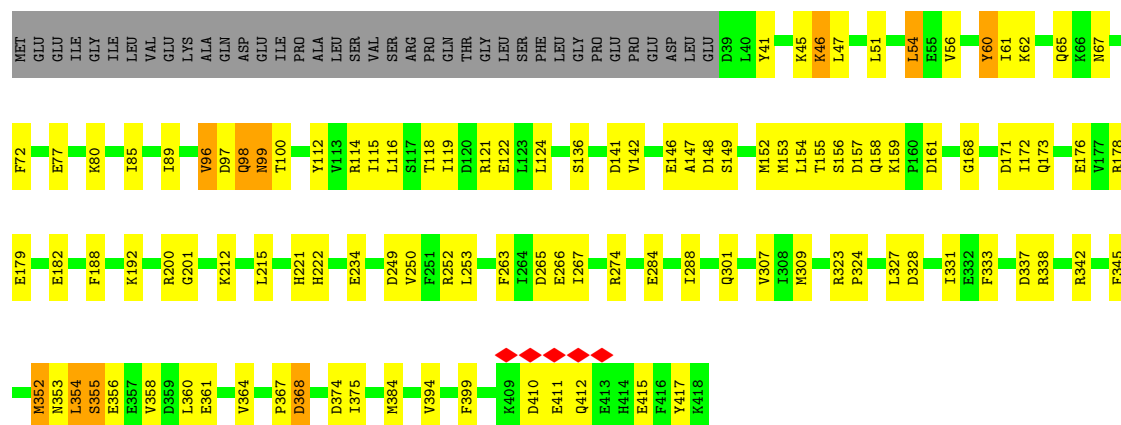
• Molecule 2: 26S protease regulatory subunit 4



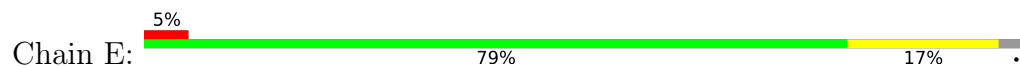
- Molecule 3: 26S protease regulatory subunit 8

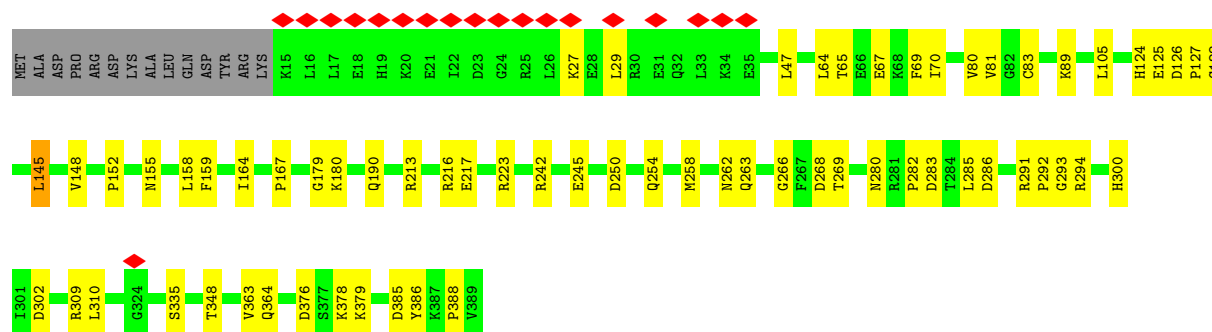


- Molecule 4: 26S protease regulatory subunit 6B

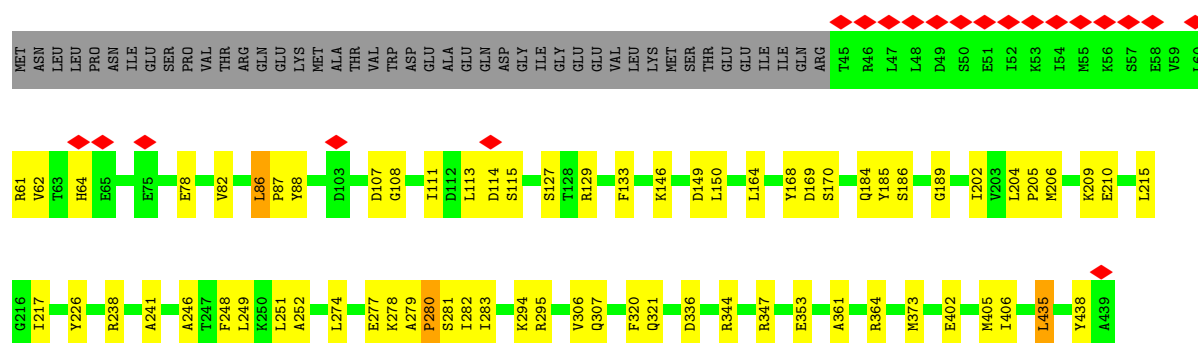
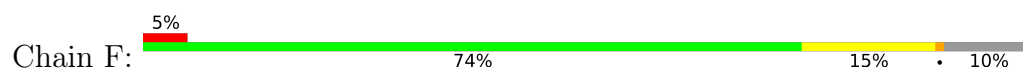


- Molecule 5: 26S protease regulatory subunit 10B

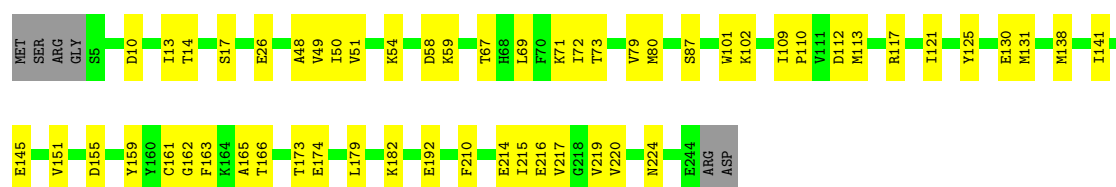




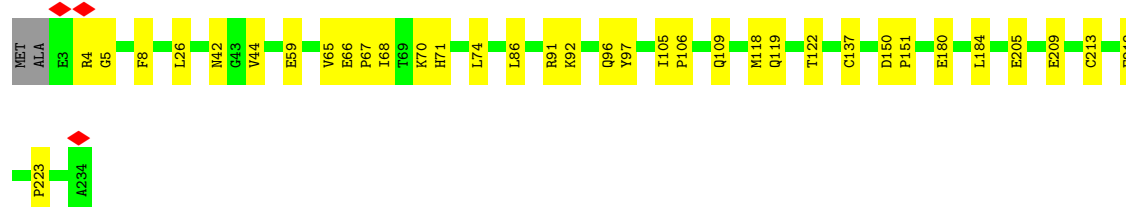
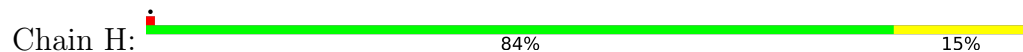
- Molecule 6: 26S protease regulatory subunit 6A



- Molecule 7: Proteasome subunit alpha type-6

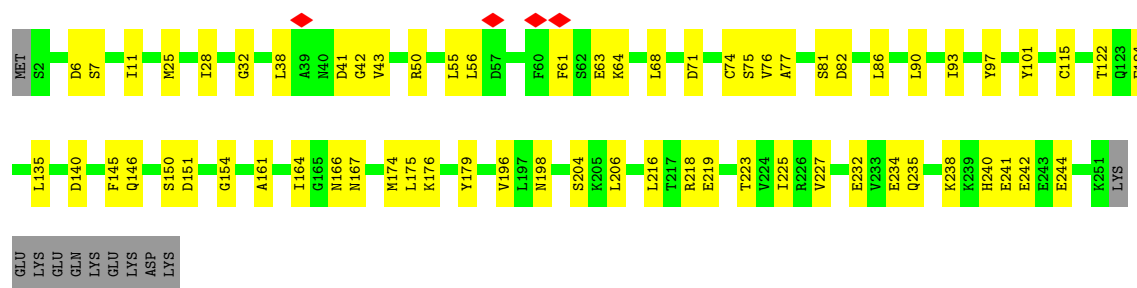


- Molecule 8: Proteasome subunit alpha type-2

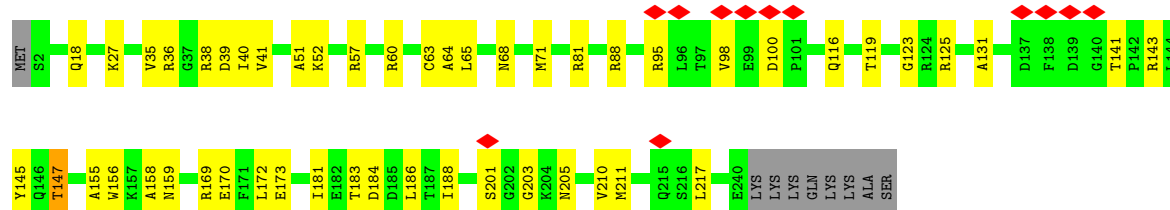
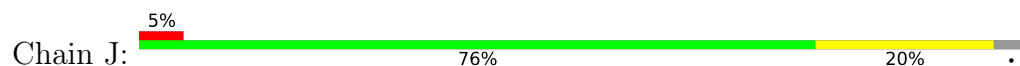


- Molecule 9: Proteasome subunit alpha type-4

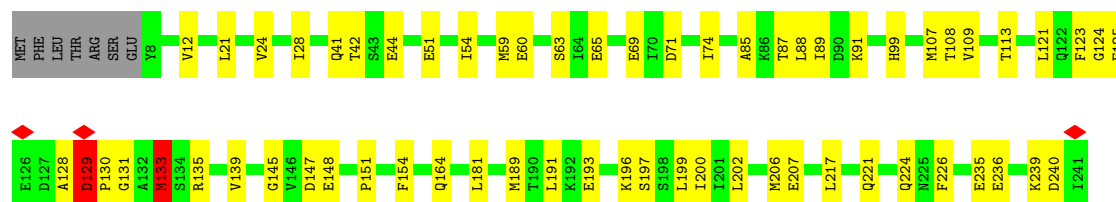




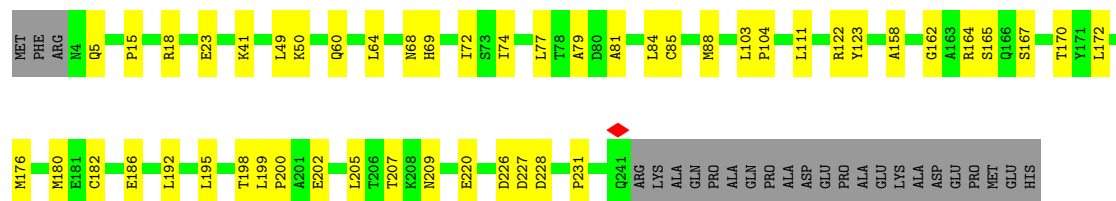
• Molecule 10: Proteasome subunit alpha type-7



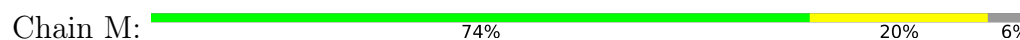
• Molecule 11: Proteasome subunit alpha type-5



• Molecule 12: Proteasome subunit alpha type-1

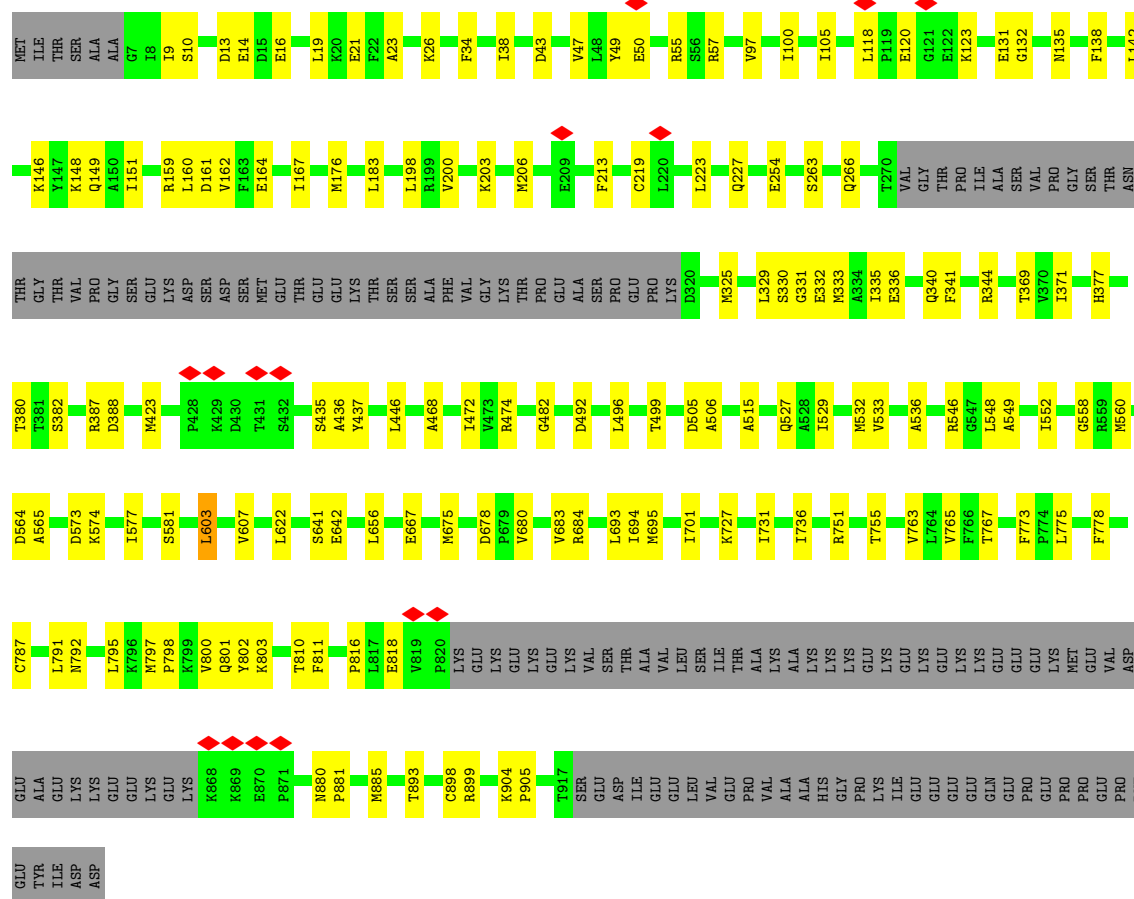


• Molecule 13: Proteasome subunit alpha type-3

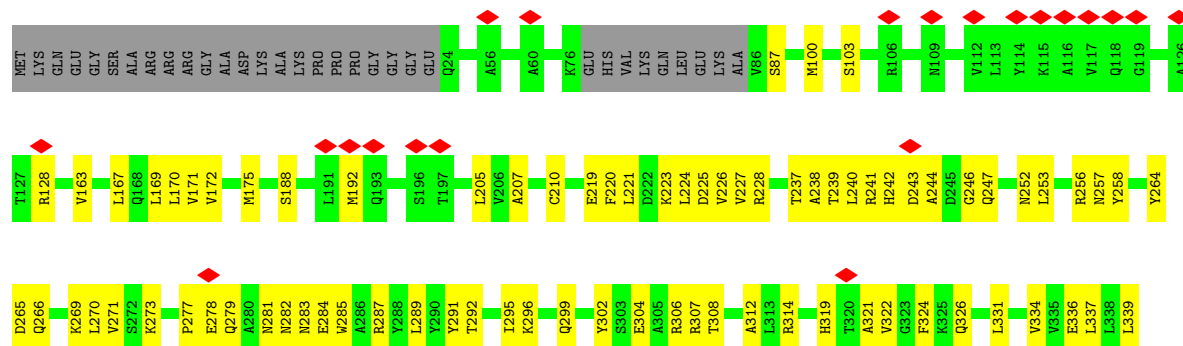


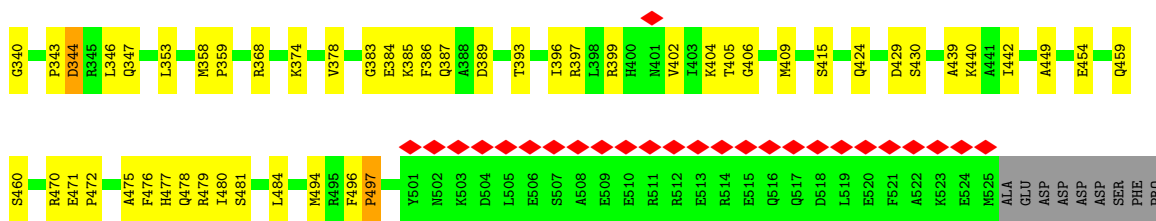


• Molecule 14: 26S proteasome non-ATPase regulatory subunit 1



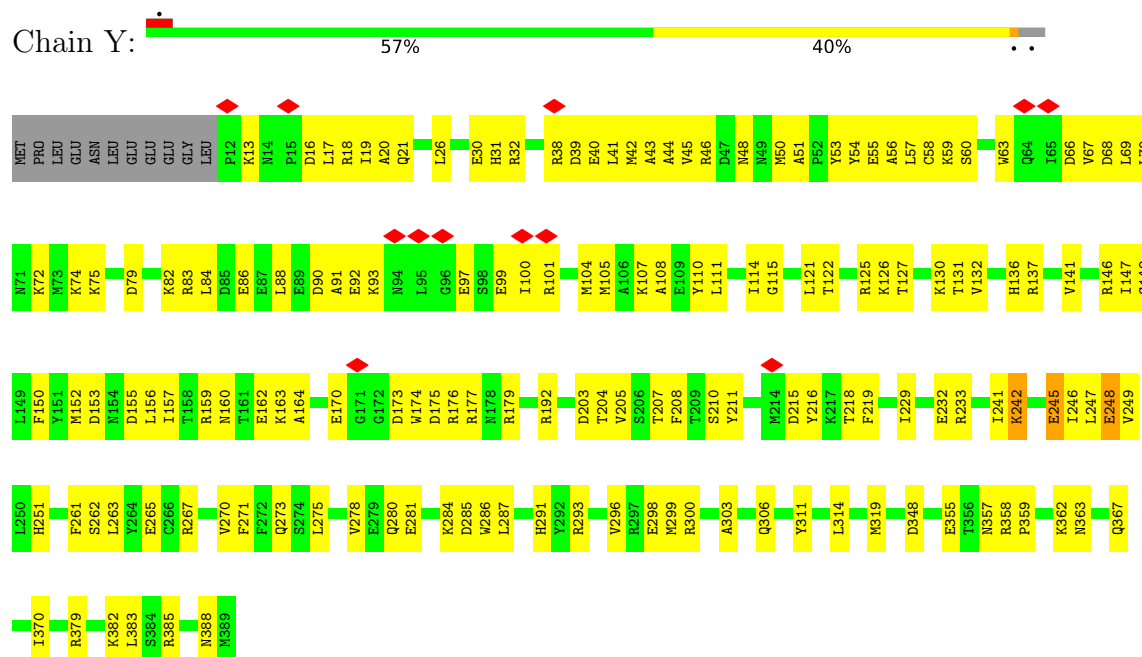
• Molecule 15: 26S proteasome non-ATPase regulatory subunit 3



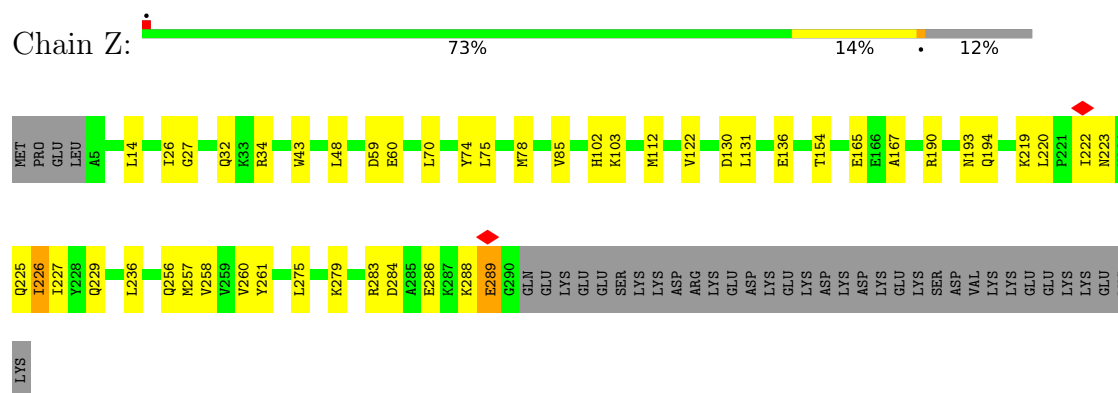




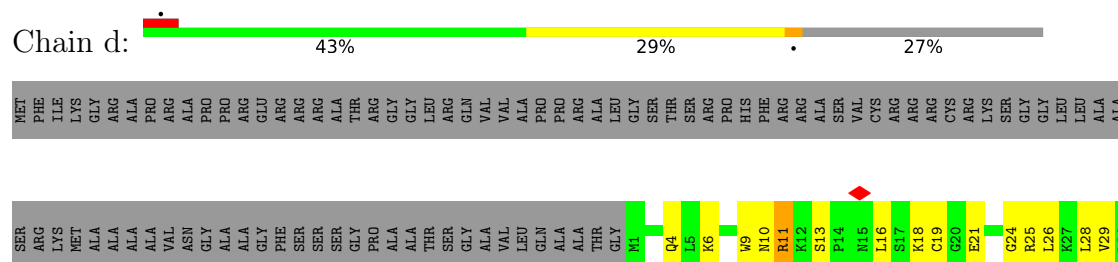
- Molecule 18: 26S proteasome non-ATPase regulatory subunit 6

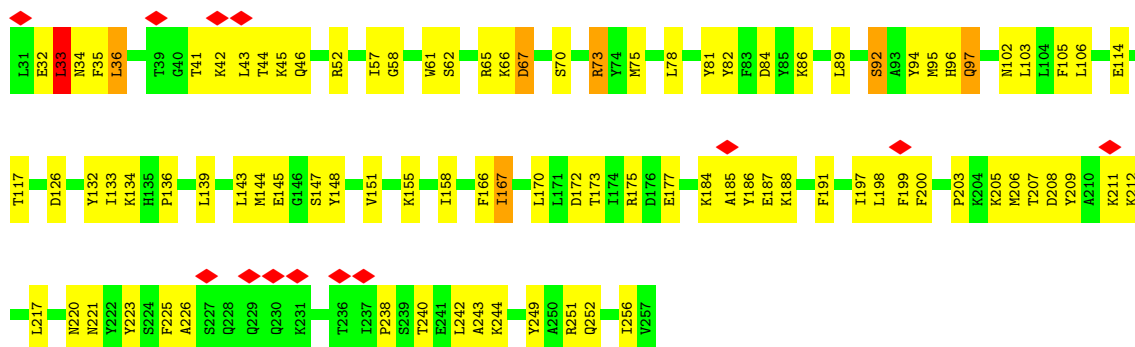


- Molecule 19: 26S proteasome non-ATPase regulatory subunit 7

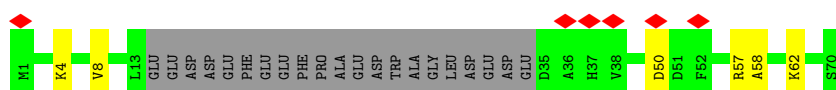


- Molecule 20: 26S proteasome non-ATPase regulatory subunit 8

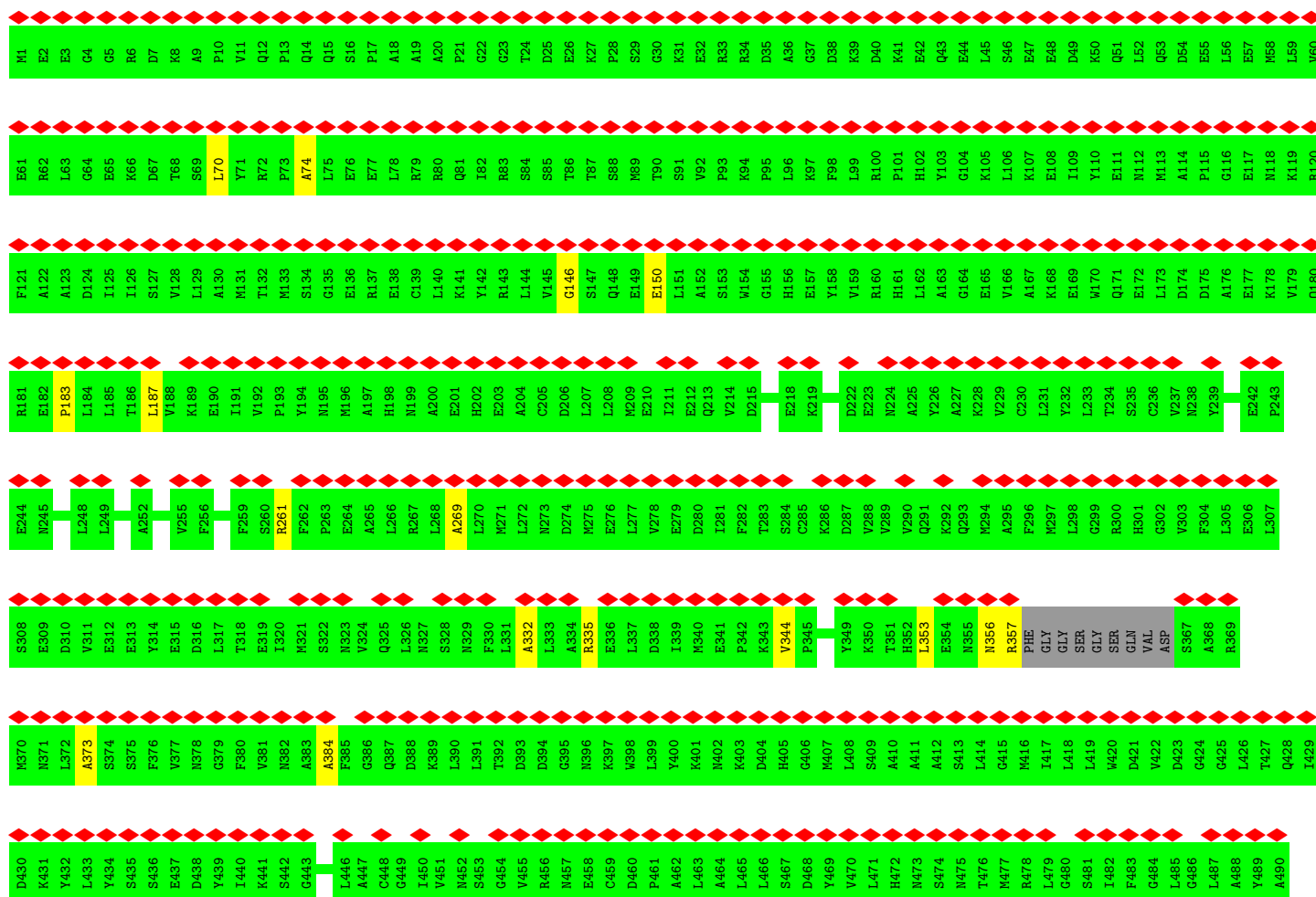
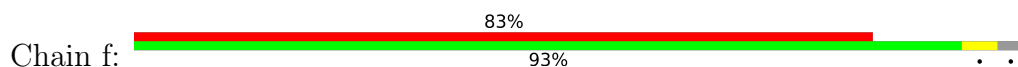


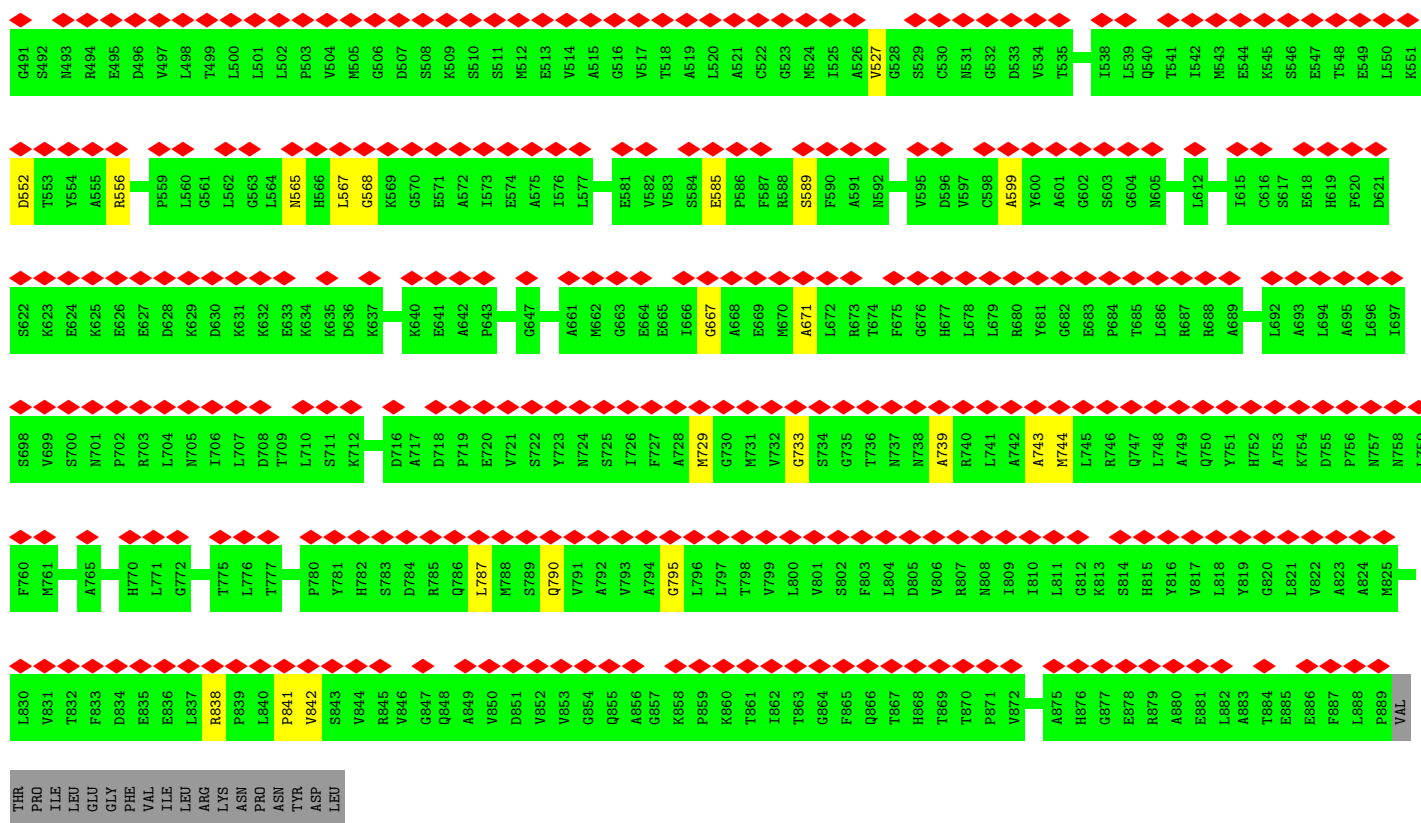


• Molecule 21: 26S proteasome complex subunit DSS1

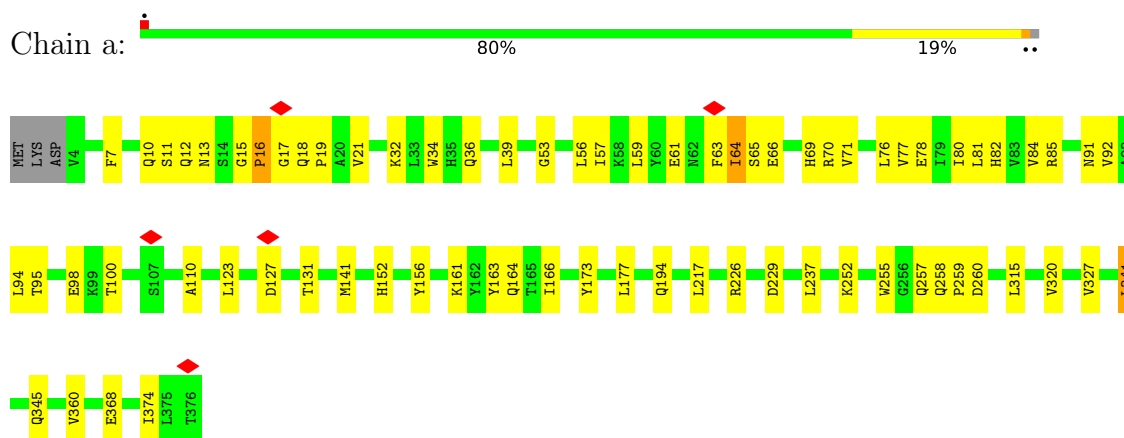


• Molecule 22: 26S proteasome non-ATPase regulatory subunit 2

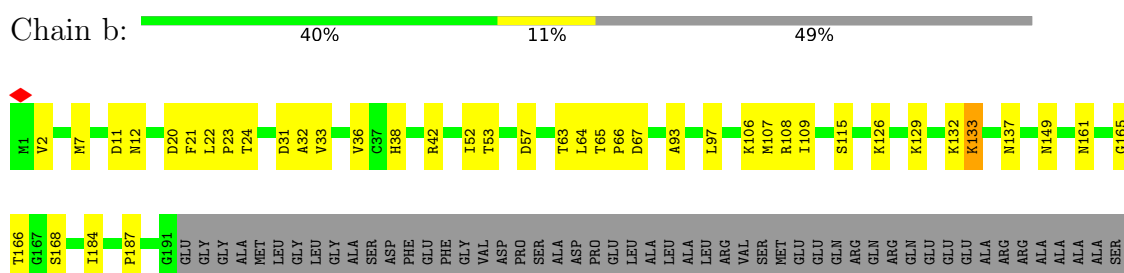


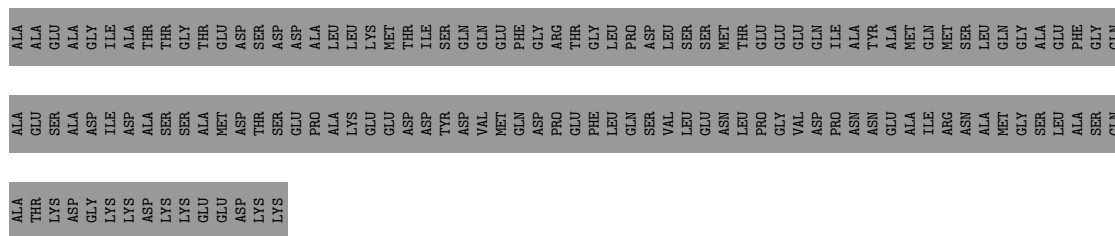


- Molecule 23: 26S proteasome non-ATPase regulatory subunit 13



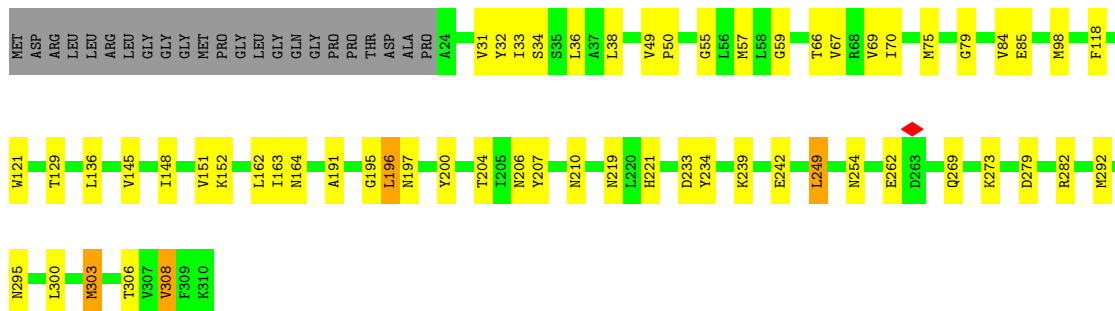
- Molecule 24: 26S proteasome non-ATPase regulatory subunit 4



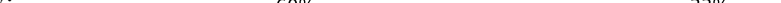


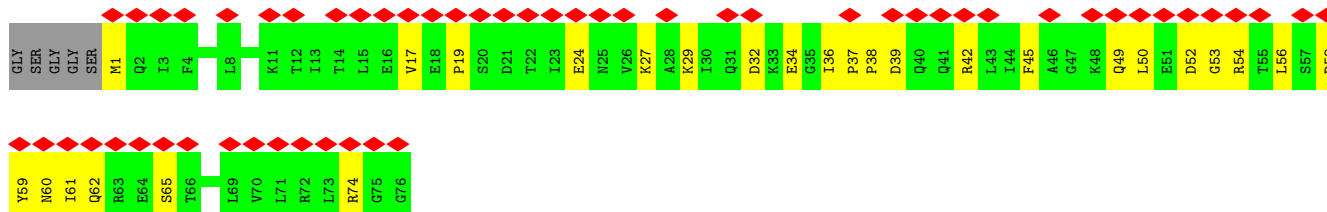
- Molecule 25: 26S proteasome non-ATPase regulatory subunit 14

Chain c:  74% 18% 7%



- Molecule 26: Polyubiquitin-B

Chain v:  69% 60% 33% 6%

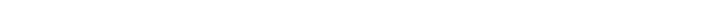


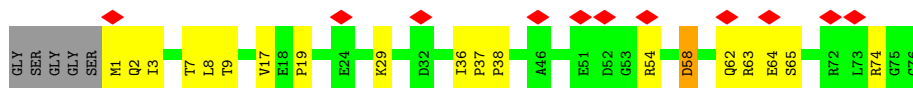
- Molecule 26: Polyubiquitin-B

Chain u: 69% 25% 6%

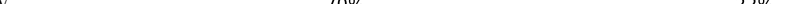


- Molecule 26: Polyubiquitin-B

Chain x:  14% 70% 22% 6%



- Molecule 26: Polyubiquitin-B

Chain w:  70% 22% 6%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	52216	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	49	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	70000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	50.794	Depositor
Minimum map value	-23.427	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	5	Depositor
Map size (Å)	560.0, 560.0, 560.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.4, 1.4, 1.4	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: ATP, MG, ADP

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	0.53	0/3148	0.61	0/4250
2	B	0.44	0/3047	0.57	0/4111
3	C	0.36	0/2905	0.54	0/3910
4	D	0.45	0/3089	0.54	1/4168 (0.0%)
5	E	0.52	0/3025	0.65	0/4073
6	F	0.52	0/3134	0.59	1/4225 (0.0%)
7	G	0.37	0/1859	0.45	0/2523
8	H	0.34	0/1743	0.39	0/2372
9	I	0.29	0/1942	0.42	0/2628
10	J	0.33	0/1737	0.45	0/2369
11	K	0.37	0/1786	0.50	0/2419
12	L	0.39	0/1885	0.47	0/2552
13	M	0.37	0/1891	0.47	0/2552
14	U	0.45	0/6476	0.57	0/8764
15	V	0.37	0/3360	0.60	0/4587
16	W	0.34	0/3332	0.51	0/4514
17	X	0.26	0/2831	0.46	0/3835
18	Y	0.37	0/3173	0.50	0/4273
19	Z	0.55	0/2324	0.63	0/3150
20	d	0.31	0/2096	0.56	0/2835
21	e	0.25	0/279	0.61	0/379
22	f	0.12	0/4336	0.36	0/6030
23	a	0.33	0/3053	0.53	0/4133
24	b	0.45	0/1478	0.68	0/2001
25	c	0.54	0/2302	0.63	0/3110
26	u	0.48	0/609	0.47	0/819
26	v	0.14	0/609	0.35	0/819
26	w	0.32	0/609	0.50	0/819
26	x	0.22	0/609	0.37	0/819
All	All	0.40	0/68667	0.53	2/93039 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	355	SER	CB-CA-C	-5.29	108.91	115.89
6	F	86	LEU	N-CA-C	5.16	121.22	109.81

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	3096	0	3138	83	0
2	B	3004	0	3063	93	0
3	C	2868	0	2964	88	0
4	D	3039	0	3075	84	0
5	E	2979	0	3052	49	0
6	F	3093	0	3165	50	0
7	G	1826	0	1796	40	0
8	H	1708	0	1594	25	0
9	I	1912	0	1851	52	0
10	J	1713	0	1537	40	0
11	K	1759	0	1707	45	0
12	L	1850	0	1822	33	0
13	M	1856	0	1814	35	0
14	U	6361	0	6397	97	0
15	V	3315	0	2757	97	0
16	W	3292	0	2975	110	0
17	X	2793	0	2662	86	0
18	Y	3115	0	3120	135	0
19	Z	2281	0	2312	50	0
20	d	2053	0	2029	84	0
21	e	280	0	190	8	0
22	f	4338	0	2026	16	0
23	a	2995	0	3012	61	0
24	b	1458	0	1505	29	0
25	c	2260	0	2276	46	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	u	603	0	629	13	0
26	v	603	0	629	17	0
26	w	603	0	629	14	0
26	x	603	0	629	20	0
27	A	31	0	12	0	0
27	B	31	0	12	0	0
27	D	31	0	12	1	0
27	E	31	0	12	2	0
28	A	1	0	0	0	0
28	B	1	0	0	0	0
28	D	1	0	0	0	0
28	E	1	0	0	0	0
28	F	1	0	0	0	0
29	C	27	0	12	3	0
29	F	27	0	12	1	0
All	All	67839	0	64427	1461	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 11.

All (1461) 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)
4:D:60:TYR:HB2	14:U:603:LEU:HD21	1.51	0.93
9:I:42:GLY:HA2	9:I:216:LEU:O	1.70	0.92
7:G:50:ILE:HG21	7:G:79:VAL:HG21	1.50	0.91
20:d:197:ILE:HG13	20:d:198:LEU:HD12	1.54	0.89
15:V:321:ALA:HB3	21:e:4:LYS:HD2	1.54	0.89
14:U:13:ASP:HB3	20:d:73:ARG:HH12	1.38	0.88
15:V:270:LEU:HD12	15:V:271:VAL:HG13	1.54	0.88
6:F:111:ILE:HG22	6:F:113:LEU:H	1.37	0.88
1:A:209:PRO:HD3	6:F:405:MET:HE1	1.55	0.87
15:V:324:PHE:HB3	21:e:8:VAL:HG21	1.60	0.84
1:A:204:LEU:HG	6:F:373:MET:HE1	1.63	0.81
19:Z:74:TYR:OH	25:c:98:MET:SD	2.39	0.79
3:C:20:LEU:HD13	14:U:149:GLN:HG2	1.63	0.78
3:C:352:PRO:HD3	3:C:391:MET:HE1	1.64	0.78
16:W:260:SER:HA	16:W:263:TRP:HB3	1.65	0.78
20:d:175:ARG:HD3	20:d:198:LEU:HD22	1.65	0.78
1:A:85:GLN:HE22	2:B:136:LEU:HD13	1.47	0.78
10:J:211:MET:HE1	10:J:217:LEU:HA	1.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:189:MET:HE3	11:K:193:GLU:HG3	1.66	0.78
20:d:203:PRO:HG2	20:d:205:LYS:HG2	1.65	0.78
4:D:384:MET:HE1	5:E:167:PRO:HD3	1.66	0.77
17:X:202:CYS:H	17:X:203:PRO:HD3	1.50	0.77
15:V:484:LEU:HD13	20:d:252:GLN:HE22	1.47	0.76
5:E:282:PRO:HB2	5:E:388:PRO:HB3	1.67	0.75
15:V:242:HIS:NE2	15:V:244:ALA:O	2.19	0.75
12:L:74:ILE:HD13	12:L:81:ALA:HB1	1.68	0.75
24:b:161:ASN:ND2	24:b:168:SER:O	2.20	0.75
26:v:45:PHE:HB3	26:v:50:LEU:HD21	1.68	0.74
2:B:105:THR:HG23	2:B:106:PRO:HD3	1.69	0.74
1:A:52:ILE:HD13	2:B:69:LYS:HD2	1.68	0.74
14:U:135:ASN:HA	14:U:138:PHE:HD2	1.53	0.73
15:V:266:GLN:OE1	15:V:299:GLN:NE2	2.20	0.73
3:C:125:LYS:NZ	3:C:126:ILE:O	2.18	0.73
1:A:309:PHE:H	6:F:238:ARG:HH21	1.36	0.73
10:J:63:CYS:SG	10:J:88:ARG:NH2	2.61	0.73
1:A:295:VAL:HG21	2:B:307:ARG:HH22	1.53	0.73
14:U:10:SER:O	20:d:73:ARG:NH1	2.22	0.73
4:D:141:ASP:OD1	4:D:142:VAL:N	2.22	0.72
8:H:68:ILE:HD11	8:H:74:LEU:HB2	1.70	0.72
16:W:216:GLU:HB3	16:W:223:LYS:HB2	1.69	0.72
20:d:251:ARG:HA	23:a:374:ILE:HD11	1.70	0.72
20:d:19:CYS:SG	20:d:65:ARG:NH1	2.62	0.72
3:C:287:LYS:HE3	3:C:288:ASN:H	1.53	0.72
5:E:27:LYS:NZ	26:v:34:GLU:OE2	2.23	0.72
3:C:371:LEU:O	3:C:374:ARG:NH1	2.23	0.72
2:B:80:ARG:HG2	2:B:84:GLN:HE22	1.56	0.71
5:E:64:LEU:HD23	5:E:65:THR:HG23	1.71	0.71
18:Y:101:ARG:NH2	18:Y:126:LYS:O	2.24	0.71
9:I:218:ARG:NH1	9:I:219:GLU:O	2.23	0.71
16:W:449:GLU:HB3	19:Z:222:ILE:HG12	1.73	0.71
13:M:141:SER:HB3	13:M:144:ASP:HB2	1.71	0.71
16:W:173:THR:O	16:W:182:ARG:NH1	2.23	0.71
13:M:215:TRP:HE3	13:M:227:VAL:HG12	1.55	0.71
18:Y:107:LYS:HZ1	18:Y:110:TYR:HD2	1.37	0.71
23:a:36:GLN:HA	23:a:39:LEU:HD12	1.70	0.70
19:Z:223:ASN:OD1	19:Z:225:GLN:N	2.23	0.70
4:D:274:ARG:NH1	5:E:245:GLU:OE2	2.25	0.70
18:Y:241:ILE:HD11	18:Y:261:PHE:HE1	1.56	0.70
14:U:468:ALA:O	14:U:474:ARG:NH2	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:269:GLU:OE2	2:B:272:ARG:NH2	2.25	0.70
15:V:319:HIS:HB3	21:e:4:LYS:HG3	1.73	0.70
16:W:451:MET:SD	19:Z:103:LYS:NZ	2.62	0.70
16:W:452:ILE:HA	19:Z:103:LYS:HZ3	1.57	0.70
18:Y:192:ARG:HD3	18:Y:291:HIS:CG	2.26	0.70
26:v:60:ASN:O	26:v:62:GLN:NE2	2.25	0.70
19:Z:78:MET:HE3	25:c:98:MET:HG3	1.73	0.69
1:A:351:ARG:NH1	1:A:378:PRO:O	2.25	0.69
2:B:364:ILE:HG22	2:B:395:ILE:HG21	1.75	0.69
26:v:24:GLU:HB3	26:v:52:ASP:HB2	1.74	0.69
11:K:124:GLY:H	11:K:133:MET:HG2	1.57	0.69
12:L:192:LEU:HD12	12:L:205:LEU:HD21	1.75	0.69
16:W:203:GLN:OE1	16:W:207:LYS:NZ	2.26	0.69
20:d:175:ARG:HH22	20:d:199:PHE:HB2	1.57	0.68
18:Y:121:LEU:HG	18:Y:125:ARG:HH12	1.58	0.68
1:A:84:LYS:O	1:A:88:GLN:NE2	2.26	0.68
13:M:34:SER:OG	13:M:65:ARG:NH1	2.25	0.68
18:Y:39:ASP:OD1	18:Y:40:GLU:N	2.26	0.68
23:a:226:ARG:NH2	23:a:229:ASP:OD2	2.26	0.68
10:J:131:ALA:H	10:J:147:THR:HG22	1.59	0.68
23:a:80:ILE:HG21	23:a:100:THR:HG21	1.76	0.68
13:M:201:HIS:O	13:M:201:HIS:ND1	2.26	0.68
3:C:53:ASN:ND2	14:U:642:GLU:O	2.28	0.67
18:Y:358:ARG:HD2	18:Y:359:PRO:HD2	1.74	0.67
23:a:32:LYS:HB3	23:a:34:TRP:CZ2	2.28	0.67
23:a:82:HIS:O	23:a:85:ARG:HG2	1.94	0.67
3:C:189:TYR:CE1	3:C:316:GLU:HG2	2.29	0.67
10:J:156:TRP:CD1	10:J:159:ASN:HD21	2.12	0.67
23:a:53:GLY:HA2	23:a:57:ILE:HB	1.76	0.67
11:K:221:GLN:OE1	11:K:224:GLN:NE2	2.27	0.67
4:D:67:ASN:ND2	14:U:607:VAL:O	2.27	0.67
4:D:85:ILE:HD12	25:c:148:ILE:HD11	1.77	0.67
20:d:209:TYR:HA	20:d:212:LYS:HE3	1.76	0.67
1:A:207:GLU:OE1	1:A:207:GLU:N	2.27	0.67
16:W:452:ILE:HA	19:Z:103:LYS:NZ	2.10	0.67
5:E:127:PRO:HD3	6:F:321:GLN:HG2	1.75	0.67
15:V:281:ASN:C	15:V:283:ASN:H	2.03	0.66
4:D:266:GLU:OE2	5:E:258:MET:HB2	1.95	0.66
13:M:65:ARG:NH2	13:M:77:VAL:O	2.24	0.66
16:W:338:THR:O	16:W:342:GLY:N	2.22	0.66
18:Y:130:LYS:NZ	18:Y:131:THR:OG1	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:89:GLU:HB2	2:B:94:GLU:HG2	1.78	0.66
8:H:105:ILE:HD11	8:H:109:GLN:HB2	1.78	0.66
15:V:440:LYS:NZ	20:d:144:MET:O	2.27	0.66
15:V:171:VAL:O	15:V:175:MET:N	2.24	0.66
8:H:213:CYS:HB2	8:H:218:PHE:HD1	1.60	0.66
16:W:169:LEU:HD11	16:W:189:GLN:HG3	1.77	0.66
4:D:374:ASP:OD1	5:E:292:PRO:HG2	1.96	0.66
15:V:399:ARG:O	15:V:402:VAL:HB	1.95	0.66
1:A:274:PHE:HB3	1:A:277:ILE:HD11	1.77	0.66
10:J:65:LEU:HB2	10:J:71:MET:HE1	1.77	0.66
16:W:272:LEU:HD21	16:W:340:VAL:HG21	1.77	0.66
17:X:218:HIS:NE2	17:X:227:THR:OG1	2.29	0.66
15:V:384:GLU:HA	15:V:387:GLN:HE21	1.62	0.65
4:D:173:GLN:HG2	4:D:333:PHE:CE1	2.31	0.65
17:X:397:TYR:HE1	19:Z:258:VAL:HG11	1.62	0.65
7:G:173:THR:OG1	7:G:174:GLU:OE1	2.15	0.65
14:U:120:GLU:HA	14:U:123:LYS:HE3	1.78	0.65
24:b:161:ASN:HB3	24:b:168:SER:HB2	1.78	0.65
16:W:189:GLN:HA	16:W:192:LEU:HD13	1.78	0.65
24:b:38:HIS:HB3	24:b:42:ARG:HH21	1.60	0.65
7:G:174:GLU:OE1	7:G:174:GLU:N	2.26	0.65
16:W:280:ASP:OD1	16:W:281:ASN:N	2.30	0.65
16:W:453:HIS:CD2	19:Z:219:LYS:HD2	2.31	0.65
17:X:282:ARG:NH1	17:X:312:GLU:OE1	2.30	0.65
1:A:86:THR:HB	2:B:102:LEU:HD11	1.79	0.65
10:J:40:ILE:HA	10:J:211:MET:O	1.96	0.65
15:V:477:HIS:ND1	20:d:249:TYR:OH	2.27	0.65
19:Z:219:LYS:HD3	19:Z:220:LEU:H	1.62	0.65
14:U:678:ASP:O	14:U:684:ARG:NH1	2.30	0.64
3:C:48:GLN:HB3	4:D:65:GLN:HE22	1.62	0.64
3:C:147:THR:OG1	3:C:206:HIS:NE2	2.30	0.64
24:b:97:LEU:HD23	24:b:107:MET:HG3	1.79	0.64
2:B:357:ASP:OD1	2:B:358:GLU:N	2.30	0.64
4:D:89:ILE:HD11	5:E:80:VAL:HG23	1.77	0.64
14:U:536:ALA:HB2	14:U:548:LEU:HD23	1.78	0.64
15:V:322:VAL:O	15:V:326:GLN:NE2	2.22	0.64
18:Y:53:TYR:HD2	18:Y:57:LEU:HD13	1.61	0.64
26:v:54:ARG:NH1	26:v:58:ASP:OD2	2.30	0.64
26:w:21:ASP:OD1	26:w:25:ASN:ND2	2.24	0.64
16:W:452:ILE:HG13	16:W:453:HIS:ND1	2.12	0.64
26:x:1:MET:N	26:x:17:VAL:O	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:f:261:ARG:HA	22:f:269:ALA:HB2	1.80	0.64
12:L:164:ARG:HH22	12:L:200:PRO:HD3	1.62	0.64
13:M:163:CYS:SG	13:M:164:ALA:N	2.71	0.63
14:U:13:ASP:HB3	20:d:73:ARG:NH1	2.10	0.63
15:V:289:LEU:HB3	15:V:312:ALA:HB2	1.80	0.63
26:x:3:ILE:HD11	26:x:65:SER:HB2	1.78	0.63
5:E:268:ASP:OD1	5:E:269:THR:N	2.30	0.63
20:d:9:TRP:H	20:d:9:TRP:CD1	2.14	0.63
2:B:371:ARG:NH2	3:C:178:LEU:O	2.29	0.63
4:D:234:GLU:OE2	5:E:216:ARG:NH1	2.31	0.63
18:Y:84:LEU:HD21	18:Y:107:LYS:HG2	1.78	0.63
17:X:256:LEU:HD22	17:X:319:ILE:HD11	1.79	0.63
22:f:790:GLN:O	22:f:795:GLY:N	2.31	0.63
3:C:38:LYS:HB3	4:D:54:LEU:HD22	1.79	0.63
3:C:197:THR:N	29:C:501:ADP:O2A	2.30	0.63
2:B:405:MET:SD	2:B:421:LYS:NZ	2.62	0.63
16:W:189:GLN:N	16:W:189:GLN:OE1	2.31	0.63
17:X:417:LYS:NZ	25:c:262:GLU:O	2.32	0.63
6:F:279:ALA:HB3	6:F:280:PRO:HD3	1.79	0.62
25:c:196:LEU:HD23	25:c:197:ASN:H	1.64	0.62
17:X:323:LEU:HD23	17:X:326:LEU:HD21	1.81	0.62
17:X:222:GLU:OE2	17:X:225:TRP:NE1	2.31	0.62
1:A:115:VAL:HG21	1:A:118:PHE:HB2	1.80	0.62
16:W:163:ALA:HA	16:W:166:LEU:HD13	1.82	0.62
1:A:100:LYS:HD3	1:A:139:ARG:HH12	1.65	0.62
9:I:90:LEU:HA	9:I:93:ILE:HD12	1.80	0.62
16:W:372:ARG:HD2	23:a:327:VAL:HG11	1.81	0.62
3:C:159:LYS:O	3:C:162:LYS:HG2	2.00	0.62
7:G:80:MET:HG2	7:G:87:SER:HB3	1.81	0.62
15:V:368:ARG:NH2	21:e:50:ASP:O	2.33	0.62
17:X:307:THR:HG23	17:X:310:ARG:HH22	1.64	0.62
1:A:307:ASP:OD2	1:A:333:ARG:NH2	2.33	0.62
14:U:14:GLU:OE1	20:d:73:ARG:NH1	2.32	0.62
15:V:494:MET:HB3	19:Z:275:LEU:HD11	1.79	0.62
18:Y:13:LYS:HG3	18:Y:146:ARG:HD2	1.82	0.62
5:E:262:ASN:ND2	5:E:266:GLY:HA3	2.15	0.61
14:U:880:ASN:HB3	14:U:881:PRO:HD3	1.81	0.61
16:W:176:SER:O	16:W:182:ARG:NH2	2.32	0.61
17:X:252:LYS:NZ	17:X:316:ASP:OD2	2.25	0.61
18:Y:13:LYS:HE2	18:Y:146:ARG:HB3	1.82	0.61
18:Y:208:PHE:O	18:Y:210:SER:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:w:22:THR:HG22	26:w:55:THR:HG22	1.82	0.61
16:W:260:SER:O	16:W:264:GLN:HG2	2.00	0.61
15:V:314:ARG:O	18:Y:382:LYS:NZ	2.34	0.61
20:d:191:PHE:CZ	20:d:220:ASN:HA	2.34	0.61
16:W:136:ILE:O	16:W:138:VAL:N	2.34	0.61
25:c:118:PHE:HB3	25:c:121:TRP:CH2	2.36	0.61
9:I:122:THR:O	10:J:125:ARG:NH2	2.32	0.61
11:K:107:MET:SD	11:K:107:MET:N	2.73	0.61
17:X:396:THR:HG23	25:c:242:GLU:HA	1.83	0.61
20:d:155:LYS:HD3	20:d:158:ILE:HD11	1.83	0.61
23:a:217:LEU:HD21	23:a:237:LEU:HB3	1.82	0.61
18:Y:281:GLU:OE1	18:Y:284:LYS:NZ	2.30	0.61
17:X:306:LEU:HD21	17:X:314:ARG:HH22	1.65	0.61
2:B:103:ARG:HB2	2:B:107:MET:HE1	1.83	0.60
6:F:107:ASP:OD1	6:F:108:GLY:N	2.33	0.60
6:F:209:LYS:H	6:F:209:LYS:HD3	1.65	0.60
15:V:242:HIS:CE1	15:V:244:ALA:HB3	2.37	0.60
1:A:44:GLN:O	1:A:47:GLN:HG2	2.02	0.60
11:K:44:GLU:OE1	11:K:191:LEU:N	2.35	0.60
18:Y:38:ARG:O	18:Y:41:LEU:HB3	2.01	0.60
24:b:115:SER:O	24:b:149:ASN:ND2	2.25	0.60
12:L:5:GLN:OE1	12:L:5:GLN:N	2.31	0.60
9:I:176:LYS:NZ	10:J:51:ALA:O	2.34	0.60
13:M:43:ASP:OD1	13:M:43:ASP:N	2.34	0.60
16:W:445:LEU:HD23	19:Z:226:ILE:HG13	1.84	0.60
4:D:146:GLU:O	4:D:252:ARG:NH2	2.35	0.59
22:f:373:ALA:HB2	22:f:744:MET:HA	1.84	0.59
17:X:237:GLU:HA	17:X:240:ASP:HB2	1.83	0.59
18:Y:53:TYR:CD2	18:Y:57:LEU:HD13	2.37	0.59
1:A:59:ILE:HA	1:A:62:LEU:HB2	1.83	0.59
4:D:147:ALA:HB3	4:D:253:LEU:HD12	1.84	0.59
14:U:492:ASP:OD1	14:U:492:ASP:N	2.35	0.59
16:W:187:LEU:HA	16:W:190:MET:HG3	1.83	0.59
20:d:200:PHE:HE2	20:d:206:MET:HB3	1.68	0.59
3:C:78:ARG:NH1	3:C:80:MET:HE1	2.17	0.59
4:D:173:GLN:HG2	4:D:333:PHE:HE1	1.68	0.59
12:L:158:ALA:HB1	12:L:172:LEU:HD23	1.83	0.59
14:U:693:LEU:HD23	14:U:736:ILE:HG21	1.84	0.59
15:V:264:TYR:HB2	15:V:266:GLN:NE2	2.18	0.59
18:Y:285:ASP:OD1	18:Y:286:TRP:N	2.36	0.59
23:a:69:HIS:HB2	23:a:71:VAL:HG22	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:67:GLU:OE2	5:E:89:LYS:NZ	2.35	0.59
17:X:422:THR:OG1	19:Z:279:LYS:NZ	2.32	0.59
10:J:63:CYS:HG	10:J:88:ARG:HH21	1.48	0.59
11:K:12:VAL:HG21	11:K:133:MET:HE1	1.85	0.59
16:W:265:GLN:OE1	16:W:265:GLN:N	2.31	0.59
14:U:333:MET:O	14:U:336:GLU:HG2	2.03	0.59
16:W:178:GLU:OE1	16:W:181:GLU:N	2.31	0.59
16:W:211:THR:HG23	16:W:212:LYS:HD3	1.85	0.59
17:X:368:MET:SD	17:X:373:LYS:HB3	2.43	0.59
20:d:114:GLU:HA	20:d:117:THR:HG22	1.84	0.59
25:c:34:SER:O	25:c:36:LEU:N	2.32	0.59
9:I:154:GLY:O	10:J:81:ARG:NH2	2.33	0.58
20:d:103:LEU:HD23	20:d:136:PRO:HB2	1.85	0.58
18:Y:53:TYR:HA	18:Y:56:ALA:HB3	1.84	0.58
14:U:564:ASP:OD1	14:U:565:ALA:N	2.37	0.58
7:G:49:VAL:HG22	7:G:219:VAL:HG12	1.85	0.58
16:W:226:TYR:CZ	16:W:230:MET:HE1	2.38	0.58
4:D:77:GLU:O	4:D:80:LYS:HG2	2.03	0.58
11:K:41:GLN:NE2	11:K:151:PRO:O	2.37	0.58
18:Y:101:ARG:HH21	18:Y:127:THR:HA	1.69	0.58
4:D:212:LYS:HG2	4:D:333:PHE:CD2	2.38	0.58
17:X:134:VAL:HB	17:X:149:LEU:HD23	1.85	0.58
10:J:39:ASP:OD1	10:J:39:ASP:N	2.34	0.58
18:Y:42:MET:HB2	18:Y:46:ARG:NH2	2.17	0.58
20:d:21:GLU:O	20:d:25:ARG:HG2	2.03	0.58
24:b:63:THR:HG22	24:b:64:LEU:H	1.69	0.58
18:Y:101:ARG:HA	18:Y:104:MET:HG3	1.85	0.58
8:H:66:GLU:OE2	8:H:91:ARG:NH2	2.37	0.57
14:U:529:ILE:HD11	26:x:9:THR:HA	1.86	0.57
20:d:185:ALA:HB2	20:d:226:ALA:HB3	1.86	0.57
2:B:415:THR:OG1	2:B:418:ASP:OD1	2.22	0.57
14:U:49:TYR:HD1	14:U:57:ARG:HG2	1.68	0.57
20:d:172:ASP:O	20:d:175:ARG:HB2	2.05	0.57
26:v:1:MET:N	26:v:17:VAL:O	2.33	0.57
26:v:27:LYS:HE2	26:v:38:PRO:HB2	1.87	0.57
1:A:143:ASP:OD1	1:A:143:ASP:N	2.38	0.57
23:a:69:HIS:CB	23:a:76:LEU:HD11	2.34	0.57
14:U:436:ALA:HB3	14:U:472:ILE:HD11	1.87	0.57
17:X:224:ASP:OD1	17:X:225:TRP:N	2.38	0.57
17:X:255:LEU:HD22	17:X:267:VAL:HG13	1.86	0.57
4:D:116:LEU:HD23	4:D:118:THR:H	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:241:GLU:O	9:I:244:GLU:HG2	2.05	0.57
2:B:80:ARG:O	2:B:84:GLN:NE2	2.37	0.57
3:C:88:LYS:HB3	3:C:94:LYS:HG3	1.86	0.57
15:V:306:ARG:NH2	15:V:336:GLU:OE2	2.36	0.57
1:A:142:VAL:HG12	1:A:149:ILE:HA	1.87	0.57
3:C:387:VAL:O	3:C:391:MET:HG2	2.05	0.57
4:D:345:PHE:CE2	4:D:375:ILE:HD12	2.39	0.57
11:K:99:HIS:ND1	11:K:107:MET:SD	2.78	0.57
16:W:169:LEU:HD22	16:W:186:ILE:HA	1.87	0.57
16:W:455:LEU:HD13	19:Z:103:LYS:HG2	1.87	0.57
9:I:32:GLY:H	9:I:50:ARG:HH21	1.51	0.57
10:J:156:TRP:CG	10:J:159:ASN:HD21	2.22	0.57
25:c:57:MET:HE3	25:c:69:VAL:HG11	1.86	0.57
10:J:35:VAL:HG23	10:J:158:ALA:HB2	1.86	0.56
15:V:393:THR:O	15:V:396:ILE:HG22	2.04	0.56
18:Y:13:LYS:HB2	18:Y:16:ASP:OD2	2.05	0.56
18:Y:20:ALA:HB2	18:Y:150:PHE:CE1	2.40	0.56
2:B:83:GLU:N	2:B:83:GLU:OE1	2.37	0.56
2:B:120:HIS:HA	2:B:135:ILE:HG13	1.86	0.56
7:G:67:THR:HG22	7:G:69:LEU:H	1.69	0.56
2:B:225:TYR:CZ	2:B:352:GLU:HB3	2.40	0.56
3:C:72:TYR:HE1	3:C:118:ASN:HA	1.70	0.56
9:I:234:GLU:OE1	9:I:234:GLU:N	2.29	0.56
14:U:811:PHE:HE1	14:U:885:MET:H	1.53	0.56
18:Y:293:ARG:HH22	21:e:57:ARG:HA	1.69	0.56
20:d:105:PHE:HB2	20:d:166:PHE:CE1	2.40	0.56
26:w:2:GLN:OE1	26:w:15:LEU:N	2.38	0.56
14:U:148:LYS:O	14:U:151:ILE:HG22	2.06	0.56
14:U:773:PHE:O	14:U:775:LEU:N	2.39	0.56
20:d:106:LEU:HD21	20:d:114:GLU:HG2	1.88	0.56
26:v:61:ILE:HG23	26:v:65:SER:HB2	1.87	0.56
3:C:198:LEU:HD23	29:C:501:ADP:H2'	1.88	0.56
18:Y:67:VAL:HA	18:Y:70:LEU:HD12	1.87	0.56
25:c:269:GLN:HB3	25:c:273:LYS:HE3	1.86	0.56
11:K:85:ALA:HB2	11:K:139:VAL:HG11	1.88	0.56
14:U:773:PHE:C	14:U:775:LEU:H	2.14	0.56
1:A:45:ILE:HD11	2:B:61:LYS:HB3	1.87	0.56
2:B:53:THR:O	2:B:55:HIS:ND1	2.38	0.56
2:B:184:TYR:CE2	2:B:198:LYS:HE2	2.40	0.56
3:C:69:GLN:OE1	3:C:69:GLN:N	2.34	0.56
4:D:178:ARG:O	4:D:182:GLU:HG2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:38:LEU:HD12	9:I:43:VAL:HB	1.87	0.56
16:W:152:ILE:O	16:W:156:ASN:N	2.39	0.56
13:M:33:SER:O	13:M:167:LYS:HG3	2.05	0.56
14:U:765:VAL:HG11	14:U:778:PHE:CD2	2.40	0.56
9:I:25:MET:O	9:I:28:ILE:HG22	2.05	0.55
23:a:32:LYS:HB3	23:a:34:TRP:CE2	2.41	0.55
14:U:167:ILE:HG23	14:U:176:MET:HE1	1.88	0.55
17:X:273:GLY:O	17:X:277:LEU:HG	2.06	0.55
18:Y:13:LYS:HE3	18:Y:147:ILE:HG13	1.88	0.55
23:a:7:PHE:O	23:a:10:GLN:HB2	2.06	0.55
16:W:282:GLU:HG2	16:W:283:GLN:N	2.20	0.55
26:v:19:PRO:HA	26:v:56:LEU:HB2	1.88	0.55
2:B:109:VAL:HG21	3:C:94:LYS:HE2	1.89	0.55
9:I:161:ALA:HB1	9:I:175:LEU:HD13	1.88	0.55
9:I:216:LEU:HD13	9:I:225:ILE:HG12	1.88	0.55
14:U:482:GLY:HA3	14:U:515:ALA:HB1	1.89	0.55
18:Y:97:GLU:HG3	18:Y:99:GLU:OE2	2.07	0.55
2:B:130:GLU:OE1	2:B:130:GLU:N	2.39	0.55
11:K:147:ASP:OD1	11:K:148:GLU:N	2.34	0.55
20:d:175:ARG:HD3	20:d:198:LEU:CD2	2.37	0.55
7:G:101:TRP:CD2	7:G:109:ILE:HD13	2.41	0.55
9:I:63:GLU:OE1	9:I:64:LYS:HG3	2.06	0.55
14:U:341:PHE:CE2	14:U:787:CYS:HB3	2.42	0.55
16:W:420:ASP:HB3	16:W:423:ASN:HB2	1.89	0.55
13:M:241:GLU:HA	13:M:244:LYS:HZ3	1.71	0.55
14:U:21:GLU:OE1	14:U:55:ARG:NH1	2.40	0.55
16:W:452:ILE:HG22	19:Z:103:LYS:HZ1	1.71	0.55
18:Y:16:ASP:HA	18:Y:19:ILE:HD12	1.89	0.55
18:Y:92:GLU:HB3	18:Y:100:ILE:HD11	1.87	0.55
18:Y:275:LEU:HD21	18:Y:296:VAL:HG22	1.89	0.55
9:I:140:ASP:OD2	9:I:146:GLN:NE2	2.39	0.55
15:V:383:GLY:O	15:V:387:GLN:HG3	2.07	0.55
15:V:384:GLU:OE1	15:V:384:GLU:N	2.32	0.55
17:X:333:GLN:O	17:X:336:ILE:HG22	2.07	0.55
19:Z:59:ASP:OD1	19:Z:60:GLU:N	2.40	0.55
6:F:86:LEU:O	6:F:88:TYR:N	2.38	0.55
15:V:270:LEU:CD1	15:V:271:VAL:HG13	2.31	0.55
18:Y:51:ALA:HA	18:Y:54:TYR:CE2	2.42	0.55
20:d:243:ALA:HB2	25:c:303:MET:HG2	1.89	0.55
5:E:179:GLY:N	27:E:401:ATP:O2B	2.33	0.55
15:V:478:GLN:O	15:V:481:SER:OG	2.23	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Y:26:LEU:HD13	18:Y:32:ARG:O	2.07	0.55
14:U:797:MET:SD	14:U:880:ASN:ND2	2.80	0.54
18:Y:281:GLU:HA	18:Y:284:LYS:HZ2	1.71	0.54
23:a:252:LYS:HA	23:a:255:TRP:CE2	2.42	0.54
26:x:63:ARG:NH1	26:x:64:GLU:H	2.06	0.54
4:D:154:LEU:HD11	4:D:157:ASP:OD1	2.06	0.54
24:b:2:VAL:HG21	24:b:106:LYS:HE2	1.89	0.54
4:D:155:THR:HG23	4:D:159:LYS:HE2	1.89	0.54
4:D:355:SER:HB3	4:D:394:VAL:O	2.07	0.54
15:V:223:LYS:HZ3	15:V:226:VAL:HB	1.72	0.54
3:C:158:ILE:HA	3:C:161:ILE:HG22	1.90	0.54
13:M:191:LYS:HB3	13:M:238:TYR:CE2	2.42	0.54
24:b:137:ASN:OD1	24:b:168:SER:OG	2.21	0.54
17:X:415:TYR:OH	18:Y:383:LEU:HD22	2.07	0.54
18:Y:270:VAL:HA	18:Y:273:GLN:HG2	1.88	0.54
1:A:399:ALA:O	1:A:400:ARG:HD2	2.08	0.54
2:B:48:LYS:HD3	2:B:68:ILE:HG21	1.90	0.54
8:H:86:LEU:HD21	8:H:118:MET:HE2	1.88	0.54
11:K:197:SER:HA	11:K:200:ILE:HD12	1.88	0.54
15:V:454:GLU:N	20:d:187:GLU:OE2	2.38	0.54
16:W:395:ASN:HA	16:W:398:VAL:HG22	1.89	0.54
17:X:243:ASP:OD1	17:X:245:PRO:HD2	2.07	0.54
19:Z:26:ILE:HD12	19:Z:27:GLY:N	2.23	0.54
20:d:155:LYS:HZ2	20:d:167:ILE:HD12	1.73	0.54
23:a:18:GLN:HG2	23:a:21:VAL:HG23	1.88	0.54
1:A:405:THR:N	1:A:408:ASP:OD2	2.31	0.54
18:Y:21:GLN:HE22	18:Y:286:TRP:H	1.56	0.54
4:D:212:LYS:HG2	4:D:333:PHE:HD2	1.72	0.54
4:D:411:GLU:HG2	4:D:412:GLN:N	2.21	0.54
5:E:348:THR:HA	6:F:217:ILE:HD11	1.89	0.54
16:W:334:GLU:OE1	16:W:334:GLU:N	2.40	0.54
23:a:7:PHE:CE2	23:a:59:LEU:HD11	2.42	0.54
24:b:20:ASP:OD1	24:b:21:PHE:N	2.37	0.54
1:A:73:ALA:HB3	1:A:78:TRP:HD1	1.72	0.54
3:C:113:ARG:HB2	3:C:127:LEU:HB2	1.89	0.54
18:Y:170:GLU:N	18:Y:170:GLU:OE1	2.40	0.54
23:a:34:TRP:CD1	23:a:65:SER:HG	2.25	0.54
2:B:64:LYS:HG3	2:B:67:ARG:HH21	1.72	0.53
2:B:407:LEU:HD12	3:C:178:LEU:HD12	1.90	0.53
5:E:376:ASP:O	5:E:379:LYS:NZ	2.38	0.53
11:K:109:VAL:O	11:K:113:THR:OG1	2.25	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Y:66:ASP:O	18:Y:70:LEU:N	2.27	0.53
18:Y:122:THR:HA	18:Y:125:ARG:HG2	1.89	0.53
23:a:36:GLN:H	23:a:36:GLN:CD	2.14	0.53
2:B:54:PRO:HB2	2:B:61:LYS:HG3	1.91	0.53
2:B:118:ASP:N	2:B:118:ASP:OD1	2.39	0.53
11:K:71:ASP:OD1	11:K:74:ILE:N	2.40	0.53
13:M:200:VAL:HG22	13:M:201:HIS:H	1.74	0.53
16:W:138:VAL:HA	16:W:141:GLU:OE2	2.08	0.53
5:E:300:HIS:NE2	5:E:302:ASP:OD1	2.40	0.53
15:V:282:ASN:HD22	18:Y:385:ARG:HG2	1.73	0.53
14:U:369:THR:HG22	14:U:731:ILE:HD11	1.91	0.53
15:V:266:GLN:O	15:V:269:LYS:HG2	2.09	0.53
18:Y:90:ASP:O	18:Y:93:LYS:HG2	2.09	0.53
23:a:53:GLY:CA	23:a:57:ILE:HB	2.38	0.53
25:c:32:TYR:CE1	25:c:66:THR:HG23	2.43	0.53
3:C:226:GLU:OE2	3:C:229:ARG:NH1	2.42	0.53
4:D:155:THR:HA	4:D:159:LYS:NZ	2.24	0.53
14:U:377:HIS:O	14:U:380:THR:HG22	2.08	0.53
16:W:15:LYS:O	16:W:19:ASP:N	2.38	0.53
17:X:163:LYS:HA	17:X:166:LEU:HD23	1.91	0.53
26:v:50:LEU:HA	26:v:59:TYR:CZ	2.44	0.53
5:E:262:ASN:ND2	5:E:262:ASN:O	2.41	0.53
9:I:41:ASP:N	9:I:41:ASP:OD1	2.41	0.53
17:X:157:LEU:HG	17:X:166:LEU:HD22	1.91	0.53
17:X:274:LYS:HA	17:X:277:LEU:HD12	1.90	0.53
19:Z:193:ASN:O	19:Z:194:GLN:NE2	2.42	0.53
2:B:85:MET:HG3	2:B:86:LYS:HD3	1.91	0.53
4:D:352:MET:HE1	5:E:164:ILE:HG22	1.89	0.53
6:F:204:LEU:C	6:F:206:MET:H	2.17	0.53
2:B:105:THR:CG2	2:B:106:PRO:HD3	2.38	0.53
11:K:236:GLU:OE1	11:K:236:GLU:N	2.42	0.53
14:U:532:MET:HE2	14:U:552:ILE:HD13	1.91	0.53
14:U:680:VAL:O	14:U:683:VAL:HG12	2.08	0.53
18:Y:46:ARG:C	18:Y:48:ASN:H	2.16	0.53
20:d:242:LEU:HB2	25:c:303:MET:SD	2.48	0.53
6:F:168:TYR:CD2	6:F:274:LEU:HD12	2.44	0.53
15:V:475:ALA:O	15:V:479:ARG:NH1	2.41	0.53
18:Y:39:ASP:O	18:Y:42:MET:HG3	2.09	0.53
1:A:192:GLU:OE2	1:A:196:LEU:HD12	2.09	0.53
2:B:295:TYR:CE2	3:C:271:ARG:HD2	2.44	0.53
4:D:188:PHE:CZ	4:D:192:LYS:HE2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:129:ASP:HB2	11:K:130:PRO:HD2	1.89	0.53
18:Y:204:THR:O	18:Y:216:TYR:OH	2.26	0.53
16:W:281:ASN:OD1	16:W:282:GLU:N	2.41	0.52
17:X:360:ASP:OD1	17:X:360:ASP:N	2.40	0.52
25:c:98:MET:SD	25:c:98:MET:C	2.92	0.52
9:I:71:ASP:HB3	9:I:223:THR:HG21	1.91	0.52
14:U:816:PRO:HB2	14:U:818:GLU:OE1	2.09	0.52
17:X:422:THR:OXT	19:Z:283:ARG:NH1	2.40	0.52
18:Y:303:ALA:O	18:Y:306:GLN:HB3	2.09	0.52
20:d:42:LYS:HD2	20:d:86:LYS:HE2	1.90	0.52
1:A:100:LYS:HD3	1:A:139:ARG:NH1	2.23	0.52
1:A:331:LEU:O	1:A:337:LEU:HD23	2.09	0.52
6:F:249:LEU:HB2	6:F:283:ILE:HG22	1.91	0.52
14:U:161:ASP:OD1	14:U:162:VAL:N	2.40	0.52
15:V:319:HIS:CB	21:e:4:LYS:HG3	2.40	0.52
25:c:151:VAL:HG22	25:c:152:LYS:H	1.74	0.52
1:A:361:SER:O	1:A:361:SER:OG	2.25	0.52
9:I:232:GLU:O	9:I:235:GLN:NE2	2.38	0.52
23:a:368:GLU:CD	26:x:54:ARG:HH22	2.18	0.52
25:c:59:GLY:HA2	25:c:70:ILE:HG22	1.91	0.52
3:C:160:GLU:HA	3:C:163:GLU:HG2	1.91	0.52
5:E:291:ARG:HH21	5:E:294:ARG:NH1	2.08	0.52
11:K:42:THR:HG23	11:K:189:MET:HB3	1.91	0.52
18:Y:105:MET:HE2	18:Y:127:THR:OG1	2.09	0.52
18:Y:215:ASP:O	18:Y:218:THR:OG1	2.26	0.52
4:D:263:PHE:CE2	4:D:265:ASP:HB2	2.45	0.52
15:V:439:ALA:HA	15:V:442:ILE:HD12	1.92	0.52
26:v:19:PRO:HA	26:v:56:LEU:HD12	1.92	0.52
4:D:176:GLU:OE2	4:D:331:ILE:HD13	2.09	0.52
12:L:84:LEU:O	12:L:88:MET:HG2	2.10	0.52
15:V:302:TYR:OH	15:V:397:ARG:NH1	2.40	0.52
18:Y:121:LEU:HG	18:Y:125:ARG:NH1	2.23	0.52
6:F:344:ARG:HH11	6:F:347:ARG:NH1	2.08	0.52
14:U:818:GLU:OE1	14:U:818:GLU:N	2.36	0.52
18:Y:111:LEU:O	18:Y:115:GLY:N	2.36	0.52
22:f:739:ALA:HB1	22:f:743:ALA:HB2	1.91	0.52
1:A:234:ASP:OD1	1:A:235:ALA:N	2.42	0.52
1:A:426:THR:HG22	1:A:427:PRO:HD3	1.91	0.52
3:C:249:ASP:OD1	3:C:249:ASP:N	2.43	0.52
8:H:180:GLU:N	8:H:180:GLU:OE1	2.41	0.52
10:J:57:ARG:HA	10:J:60:ARG:HE	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:W:186:ILE:O	16:W:189:GLN:NE2	2.38	0.52
20:d:62:SER:HB3	20:d:67:ASP:OD1	2.09	0.52
23:a:10:GLN:HG3	23:a:11:SER:H	1.75	0.52
2:B:337:LEU:HD23	2:B:337:LEU:H	1.73	0.52
9:I:82:ASP:O	9:I:86:LEU:HG	2.10	0.52
15:V:480:ILE:HD11	19:Z:261:TYR:HA	1.90	0.52
16:W:235:GLN:OE1	16:W:350:ARG:NH2	2.42	0.52
2:B:387:LYS:HB3	2:B:390:LEU:HB3	1.93	0.51
4:D:148:ASP:CG	4:D:149:SER:H	2.18	0.51
1:A:81:ALA:HA	1:A:85:GLN:HB3	1.91	0.51
8:H:59:GLU:H	8:H:59:GLU:CD	2.18	0.51
15:V:269:LYS:HD3	15:V:295:ILE:HD11	1.92	0.51
16:W:141:GLU:OE1	16:W:141:GLU:N	2.25	0.51
1:A:312:ARG:HG3	1:A:315:ILE:HB	1.91	0.51
9:I:115:CYS:HB3	10:J:81:ARG:HH22	1.75	0.51
16:W:448:LYS:HE3	19:Z:154:THR:CG2	2.40	0.51
16:W:453:HIS:HB3	19:Z:219:LYS:HZ2	1.75	0.51
17:X:195:THR:HA	17:X:198:ASN:HD21	1.75	0.51
17:X:348:GLU:OE1	17:X:348:GLU:N	2.41	0.51
15:V:415:SER:HB3	18:Y:348:ASP:OD1	2.11	0.51
16:W:169:LEU:O	16:W:173:THR:HG23	2.10	0.51
1:A:384:GLU:OE1	1:A:384:GLU:HA	2.10	0.51
2:B:87:PRO:C	2:B:89:GLU:H	2.18	0.51
2:B:114:GLU:O	2:B:121:ALA:HB1	2.10	0.51
4:D:156:SER:OG	4:D:157:ASP:N	2.41	0.51
5:E:242:ARG:NE	5:E:286:ASP:OD2	2.37	0.51
23:a:77:VAL:O	23:a:81:LEU:HG	2.09	0.51
26:x:74:ARG:HH12	26:w:46:ALA:HB3	1.75	0.51
10:J:210:VAL:O	10:J:211:MET:HE2	2.10	0.51
14:U:435:SER:O	14:U:437:TYR:N	2.44	0.51
20:d:208:ASP:O	20:d:212:LYS:CB	2.59	0.51
26:w:60:ASN:O	26:w:60:ASN:ND2	2.43	0.51
2:B:320:ASP:OD1	2:B:320:ASP:N	2.39	0.51
4:D:323:ARG:HE	4:D:324:PRO:HD2	1.75	0.51
4:D:417:TYR:OH	7:G:26:GLU:OE2	2.21	0.51
9:I:71:ASP:OD1	9:I:71:ASP:N	2.43	0.51
11:K:109:VAL:HG11	11:K:145:GLY:HA3	1.93	0.51
16:W:251:TYR:HE1	16:W:267:LEU:HD21	1.75	0.51
17:X:306:LEU:HD21	17:X:314:ARG:HH12	1.76	0.51
18:Y:40:GLU:O	18:Y:44:ALA:N	2.43	0.51
18:Y:379:ARG:O	18:Y:383:LEU:HG	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:120:HIS:HB3	2:B:134:SER:HA	1.93	0.51
18:Y:91:ALA:HB1	18:Y:99:GLU:HB2	1.93	0.51
19:Z:130:ASP:OD1	19:Z:131:LEU:N	2.44	0.51
25:c:163:ILE:H	25:c:200:TYR:HA	1.76	0.51
1:A:327:LEU:HD12	1:A:331:LEU:HD22	1.93	0.51
5:E:280:ASN:ND2	5:E:280:ASN:O	2.43	0.51
11:K:87:THR:HB	11:K:91:LYS:NZ	2.25	0.51
17:X:306:LEU:HD11	17:X:314:ARG:HH12	1.76	0.51
18:Y:60:SER:HB3	18:Y:63:TRP:HZ3	1.75	0.51
9:I:124:PHE:HB2	10:J:123:GLY:O	2.11	0.51
18:Y:131:THR:HG21	18:Y:136:HIS:HB2	1.93	0.51
26:u:4:PHE:O	26:u:66:THR:HA	2.10	0.51
3:C:196:LYS:N	29:C:501:ADP:O2A	2.44	0.50
3:C:352:PRO:CD	3:C:391:MET:HE1	2.40	0.50
6:F:61:ARG:NH2	26:u:58:ASP:OD2	2.39	0.50
12:L:228:ASP:O	12:L:231:PRO:HD2	2.11	0.50
15:V:353:LEU:HD12	15:V:353:LEU:O	2.11	0.50
17:X:415:TYR:HD1	17:X:418:ALA:HB3	1.76	0.50
18:Y:97:GLU:N	18:Y:99:GLU:OE2	2.44	0.50
22:f:585:GLU:O	22:f:589:SER:N	2.39	0.50
25:c:79:GLY:HA3	25:c:84:VAL:HG12	1.92	0.50
25:c:136:LEU:HD22	26:u:71:LEU:HD21	1.93	0.50
9:I:174:MET:SD	9:I:196:VAL:HG22	2.51	0.50
18:Y:68:ASP:OD1	18:Y:68:ASP:N	2.40	0.50
24:b:22:LEU:HB2	24:b:23:PRO:HD3	1.92	0.50
1:A:124:ASP:OD1	1:A:124:ASP:N	2.44	0.50
2:B:153:ASN:OD1	2:B:154:HIS:N	2.44	0.50
16:W:216:GLU:OE1	16:W:223:LYS:HE2	2.11	0.50
21:e:58:ALA:O	21:e:62:LYS:N	2.44	0.50
26:x:62:GLN:NE2	26:x:63:ARG:O	2.45	0.50
2:B:335:GLU:OE1	2:B:335:GLU:N	2.36	0.50
3:C:162:LYS:O	3:C:166:GLU:HG2	2.11	0.50
15:V:239:THR:H	15:V:247:GLN:HE21	1.58	0.50
15:V:281:ASN:HB2	15:V:284:GLU:OE1	2.11	0.50
3:C:20:LEU:O	3:C:24:TYR:HB3	2.11	0.50
4:D:361:GLU:HA	4:D:364:VAL:HG22	1.94	0.50
12:L:50:LYS:HG2	12:L:60:GLN:O	2.12	0.50
15:V:281:ASN:C	15:V:283:ASN:N	2.69	0.50
16:W:335:SER:OG	16:W:336:PRO:HD3	2.12	0.50
24:b:184:ILE:O	24:b:187:PRO:HD2	2.10	0.50
26:x:36:ILE:HD12	26:x:37:PRO:HD2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:178:LEU:HB3	3:C:180:ILE:HD13	1.94	0.50
15:V:264:TYR:HB2	15:V:266:GLN:HE22	1.75	0.50
15:V:358:MET:HE3	15:V:358:MET:O	2.11	0.50
18:Y:363:ASN:O	18:Y:367:GLN:HG2	2.12	0.50
19:Z:43:TRP:HB3	19:Z:48:LEU:HA	1.93	0.50
23:a:61:GLU:HA	23:a:64:ILE:HD12	1.93	0.50
2:B:388:ASP:N	2:B:388:ASP:OD1	2.43	0.50
3:C:381:GLU:HA	3:C:384:GLU:HG3	1.94	0.50
14:U:904:LYS:HE3	14:U:905:PRO:HD2	1.94	0.50
16:W:343:SER:HB2	16:W:346:GLU:HB3	1.93	0.50
18:Y:263:LEU:HB2	18:Y:271:PHE:CE1	2.47	0.50
18:Y:379:ARG:NH1	18:Y:383:LEU:HD21	2.27	0.50
19:Z:165:GLU:HG2	19:Z:167:ALA:H	1.77	0.50
24:b:93:ALA:O	24:b:97:LEU:HD13	2.12	0.50
9:I:75:SER:OG	9:I:76:VAL:N	2.45	0.50
16:W:268:LYS:HZ1	16:W:336:PRO:HB2	1.77	0.50
18:Y:42:MET:HA	18:Y:45:VAL:HG22	1.93	0.50
2:B:140:ASP:O	2:B:142:ASP:N	2.42	0.50
3:C:340:ARG:HD3	18:Y:207:THR:O	2.12	0.50
4:D:171:ASP:OD1	4:D:172:ILE:N	2.45	0.50
16:W:159:VAL:HG12	16:W:196:VAL:HG22	1.94	0.50
17:X:194:ARG:O	17:X:198:ASN:ND2	2.45	0.50
20:d:208:ASP:O	20:d:212:LYS:HB2	2.12	0.50
23:a:368:GLU:OE1	26:x:54:ARG:NH2	2.45	0.50
25:c:55:GLY:HA2	25:c:75:MET:HE2	1.94	0.50
25:c:163:ILE:N	25:c:200:TYR:HA	2.26	0.50
7:G:214:GLU:C	7:G:215:ILE:HD12	2.37	0.49
10:J:183:THR:H	10:J:186:LEU:HD12	1.76	0.49
6:F:114:ASP:CG	6:F:115:SER:H	2.20	0.49
7:G:163:PHE:HD2	7:G:166:THR:HG1	1.60	0.49
15:V:169:LEU:CB	15:V:221:LEU:HD11	2.42	0.49
15:V:205:LEU:O	15:V:207:ALA:N	2.41	0.49
17:X:239:TYR:CZ	17:X:246:LYS:HD2	2.47	0.49
18:Y:173:ASP:HB3	18:Y:176:ARG:HB2	1.94	0.49
18:Y:179:ARG:HG2	18:Y:208:PHE:CE1	2.47	0.49
20:d:148:TYR:OH	20:d:177:GLU:OE1	2.22	0.49
25:c:162:LEU:HA	25:c:200:TYR:HB3	1.93	0.49
2:B:90:GLU:HG3	2:B:92:GLN:HB2	1.94	0.49
6:F:246:ALA:HB1	6:F:280:PRO:O	2.12	0.49
13:M:53:VAL:HG23	13:M:209:PHE:HA	1.93	0.49
16:W:134:GLY:C	16:W:136:ILE:H	2.20	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:292:ASP:OD2	2:B:303:ARG:HD3	2.13	0.49
15:V:424:GLN:N	15:V:424:GLN:OE1	2.44	0.49
17:X:419:LYS:O	17:X:422:THR:HG22	2.11	0.49
3:C:20:LEU:O	3:C:24:TYR:CB	2.60	0.49
4:D:212:LYS:HA	4:D:333:PHE:HE2	1.78	0.49
9:I:68:LEU:HD22	9:I:90:LEU:HD11	1.93	0.49
9:I:115:CYS:HB3	10:J:81:ARG:NH2	2.27	0.49
11:K:123:PHE:HA	11:K:133:MET:HA	1.95	0.49
13:M:201:HIS:O	13:M:201:HIS:CG	2.64	0.49
14:U:164:GLU:OE2	14:U:203:LYS:NZ	2.28	0.49
18:Y:79:ASP:O	18:Y:82:LYS:HG2	2.12	0.49
20:d:41:THR:O	20:d:44:THR:OG1	2.21	0.49
20:d:46:GLN:CD	20:d:46:GLN:H	2.20	0.49
23:a:78:GLU:HA	23:a:81:LEU:HD12	1.93	0.49
26:v:36:ILE:HD12	26:v:37:PRO:HD2	1.94	0.49
3:C:23:TYR:CZ	14:U:105:ILE:HD11	2.47	0.49
7:G:210:PHE:CD1	7:G:215:ILE:HD13	2.48	0.49
12:L:122:ARG:HG3	12:L:123:TYR:H	1.77	0.49
14:U:332:GLU:OE1	14:U:332:GLU:N	2.41	0.49
17:X:299:LEU:HD21	17:X:331:LEU:HA	1.95	0.49
20:d:75:MET:HE2	20:d:102:ASN:HB2	1.93	0.49
1:A:347:ASP:OD1	1:A:347:ASP:N	2.31	0.49
2:B:63:LEU:HB3	2:B:67:ARG:NH1	2.28	0.49
3:C:90:HIS:HB3	3:C:91:PRO:HD3	1.95	0.49
5:E:262:ASN:HD22	5:E:266:GLY:HA3	1.77	0.49
7:G:109:ILE:HD12	7:G:110:PRO:HD2	1.94	0.49
9:I:11:ILE:HD11	10:J:18:GLN:CD	2.37	0.49
14:U:573:ASP:OD1	14:U:574:LYS:N	2.45	0.49
19:Z:286:GLU:HA	19:Z:289:GLU:OE2	2.13	0.49
5:E:152:PRO:HB3	5:E:159:PHE:CE2	2.47	0.49
7:G:51:VAL:HG22	7:G:217:VAL:HG22	1.95	0.49
15:V:346:LEU:O	15:V:347:GLN:HG2	2.13	0.49
17:X:253:TYR:CE1	17:X:318:ILE:HD11	2.47	0.49
20:d:94:TYR:O	20:d:95:MET:HB3	2.13	0.49
26:w:4:PHE:HE1	26:w:14:THR:HG22	1.78	0.49
1:A:268:LYS:HG3	22:f:357:ARG:C	2.37	0.49
3:C:148:TYR:H	3:C:206:HIS:HE2	1.59	0.49
18:Y:69:LEU:HA	18:Y:72:LYS:HE3	1.95	0.49
20:d:175:ARG:NH2	20:d:199:PHE:HB2	2.27	0.49
1:A:277:ILE:O	1:A:279:ALA:N	2.45	0.49
2:B:196:GLU:OE1	2:B:349:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:166:ASN:OD1	9:I:167:ASN:N	2.46	0.49
25:c:129:THR:HG21	26:u:74:ARG:O	2.13	0.49
25:c:254:ASN:C	25:c:254:ASN:HD22	2.17	0.49
1:A:160:THR:O	1:A:163:MET:HG2	2.14	0.48
1:A:336:ARG:C	1:A:337:LEU:HD22	2.37	0.48
2:B:93:GLU:O	2:B:97:SER:N	2.43	0.48
6:F:114:ASP:OD1	6:F:115:SER:N	2.45	0.48
9:I:74:CYS:HB2	9:I:135:LEU:O	2.13	0.48
14:U:132:GLY:HA2	14:U:135:ASN:HD21	1.78	0.48
16:W:277:ALA:O	16:W:283:GLN:NE2	2.45	0.48
20:d:133:ILE:O	20:d:136:PRO:HD2	2.13	0.48
24:b:31:ASP:OD1	24:b:31:ASP:N	2.45	0.48
26:v:56:LEU:O	26:v:60:ASN:N	2.46	0.48
3:C:330:LYS:O	3:C:334:ARG:NH1	2.40	0.48
5:E:363:VAL:HG22	5:E:364:GLN:H	1.78	0.48
9:I:235:GLN:HA	9:I:238:LYS:HG2	1.95	0.48
14:U:131:GLU:OE2	14:U:159:ARG:NH2	2.44	0.48
14:U:792:ASN:HD21	14:U:798:PRO:HB3	1.78	0.48
16:W:393:LEU:HA	16:W:396:LEU:HD12	1.95	0.48
17:X:218:HIS:NE2	17:X:224:ASP:HB3	2.28	0.48
18:Y:385:ARG:NH2	18:Y:388:ASN:O	2.46	0.48
26:v:29:LYS:O	26:v:32:ASP:HB3	2.13	0.48
8:H:119:GLN:O	8:H:122:THR:HG22	2.14	0.48
15:V:238:ALA:C	15:V:240:LEU:H	2.21	0.48
15:V:296:LYS:HG2	15:V:304:GLU:OE2	2.13	0.48
18:Y:107:LYS:NZ	18:Y:110:TYR:HD2	2.08	0.48
19:Z:283:ARG:HG3	19:Z:284:ASP:N	2.28	0.48
23:a:56:LEU:O	23:a:59:LEU:HG	2.13	0.48
24:b:97:LEU:HD23	24:b:107:MET:HB2	1.95	0.48
3:C:104:ASP:OD1	3:C:105:ILE:N	2.46	0.48
3:C:311:ILE:HG21	3:C:314:LYS:HE2	1.96	0.48
15:V:252:ASN:ND2	15:V:287:ARG:HG3	2.29	0.48
15:V:277:PRO:C	15:V:279:GLN:H	2.21	0.48
16:W:454:ASN:OD1	19:Z:219:LYS:HE3	2.13	0.48
17:X:365:LEU:O	17:X:369:ILE:HG22	2.14	0.48
18:Y:280:GLN:OE1	18:Y:280:GLN:HA	2.13	0.48
1:A:81:ALA:HB3	2:B:137:SER:HB2	1.95	0.48
4:D:98:GLN:H	4:D:98:GLN:HG2	1.48	0.48
6:F:61:ARG:O	6:F:64:HIS:ND1	2.47	0.48
6:F:226:TYR:CZ	6:F:353:GLU:HB3	2.48	0.48
11:K:51:GLU:OE2	11:K:202:LEU:HD22	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:V:277:PRO:O	15:V:278:GLU:HB2	2.13	0.48
17:X:258:LYS:HB3	17:X:267:VAL:HG22	1.95	0.48
23:a:173:TYR:CZ	23:a:177:LEU:HD11	2.49	0.48
5:E:385:ASP:OD1	5:E:386:TYR:N	2.43	0.48
6:F:402:GLU:O	6:F:406:ILE:HG12	2.13	0.48
7:G:112:ASP:OD1	7:G:113:MET:N	2.47	0.48
7:G:141:ILE:HG22	7:G:151:VAL:HG22	1.96	0.48
16:W:226:TYR:CE1	16:W:230:MET:HE1	2.48	0.48
20:d:26:LEU:HA	20:d:29:VAL:HG12	1.94	0.48
23:a:257:GLN:NE2	23:a:260:ASP:OD2	2.38	0.48
23:a:258:GLN:OE1	23:a:258:GLN:N	2.41	0.48
1:A:44:GLN:OE1	1:A:47:GLN:NE2	2.46	0.48
6:F:150:LEU:HD23	6:F:164:LEU:HD23	1.96	0.48
14:U:198:LEU:HG	14:U:219:CYS:SG	2.54	0.48
15:V:100:MET:H	15:V:103:SER:CB	2.27	0.48
20:d:223:TYR:OH	20:d:225:PHE:HA	2.14	0.48
2:B:190:LEU:O	2:B:191:ASP:HB2	2.13	0.48
4:D:249:ASP:OD1	4:D:250:VAL:N	2.46	0.48
11:K:60:GLU:OE1	11:K:63:SER:N	2.47	0.48
11:K:123:PHE:HB2	11:K:133:MET:HE2	1.96	0.48
14:U:546:ARG:HA	14:U:577:ILE:HD11	1.95	0.48
18:Y:51:ALA:HA	18:Y:54:TYR:CZ	2.49	0.48
19:Z:190:ARG:HH12	25:c:300:LEU:HD22	1.79	0.48
23:a:123:LEU:HD12	23:a:127:ASP:HB3	1.94	0.48
2:B:142:ASP:OD1	2:B:143:LEU:N	2.47	0.48
3:C:339:THR:H	3:C:342:ILE:HD11	1.78	0.48
13:M:40:ARG:HD2	13:M:146:ALA:HB3	1.96	0.48
15:V:87:SER:CB	15:V:128:ARG:H	2.27	0.48
16:W:334:GLU:O	16:W:338:THR:N	2.42	0.48
16:W:370:TYR:CD2	16:W:373:ILE:HD12	2.49	0.48
23:a:94:LEU:O	23:a:98:GLU:HG2	2.14	0.48
1:A:355:PHE:CE1	1:A:385:ILE:HD12	2.49	0.48
2:B:271:PHE:HD2	2:B:322:ARG:HH12	1.60	0.48
4:D:62:LYS:HD2	20:d:256:ILE:HG23	1.96	0.48
6:F:361:ALA:O	6:F:364:ARG:N	2.46	0.48
10:J:201:SER:OG	10:J:205:ASN:HB2	2.13	0.48
15:V:340:GLY:HA2	15:V:405:THR:OG1	2.14	0.48
15:V:386:PHE:HA	15:V:389:ASP:OD2	2.14	0.48
16:W:216:GLU:OE1	16:W:216:GLU:N	2.44	0.48
18:Y:55:GLU:HG3	18:Y:59:LYS:HG3	1.95	0.48
20:d:145:GLU:HG2	20:d:147:SER:H	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:c:49:VAL:HB	25:c:50:PRO:HD3	1.96	0.48
4:D:161:ASP:HA	4:D:221:HIS:ND1	2.29	0.47
4:D:221:HIS:HD2	4:D:222:HIS:CD2	2.31	0.47
5:E:213:ARG:NH1	5:E:217:GLU:OE2	2.47	0.47
7:G:10:ASP:OD2	7:G:17:SER:HA	2.14	0.47
17:X:167:VAL:HG11	17:X:206:LEU:HD13	1.95	0.47
18:Y:88:LEU:HD22	18:Y:100:ILE:HG23	1.96	0.47
4:D:267:ILE:HG13	4:D:267:ILE:O	2.13	0.47
14:U:529:ILE:O	14:U:533:VAL:HG13	2.14	0.47
18:Y:148:GLY:O	18:Y:152:MET:N	2.47	0.47
18:Y:281:GLU:HA	18:Y:284:LYS:NZ	2.28	0.47
23:a:360:VAL:HG22	25:c:308:VAL:HG22	1.96	0.47
24:b:97:LEU:HD23	24:b:107:MET:CG	2.44	0.47
1:A:105:ASP:OD1	1:A:105:ASP:N	2.45	0.47
2:B:90:GLU:C	2:B:92:GLN:H	2.21	0.47
3:C:338:LEU:HB2	3:C:342:ILE:HD11	1.96	0.47
4:D:342:ARG:HG2	4:D:364:VAL:HG11	1.96	0.47
13:M:34:SER:O	13:M:35:THR:OG1	2.20	0.47
13:M:81:LEU:HB3	13:M:85:ARG:NH1	2.29	0.47
17:X:143:TYR:HD1	17:X:180:LEU:HD22	1.79	0.47
17:X:202:CYS:N	17:X:203:PRO:HD3	2.22	0.47
19:Z:85:VAL:HG12	19:Z:85:VAL:O	2.14	0.47
25:c:303:MET:O	25:c:306:THR:HG22	2.14	0.47
1:A:349:GLU:OE1	1:A:349:GLU:N	2.46	0.47
2:B:115:ILE:HA	2:B:121:ALA:HB1	1.96	0.47
3:C:243:PRO:HB3	3:C:288:ASN:HD21	1.80	0.47
15:V:256:ARG:HD3	15:V:291:TYR:OH	2.15	0.47
15:V:374:LYS:O	15:V:378:VAL:HG23	2.14	0.47
23:a:341:LEU:HB2	23:a:345:GLN:OE1	2.15	0.47
24:b:65:THR:HG22	24:b:67:ASP:H	1.79	0.47
5:E:180:LYS:HZ3	27:E:401:ATP:PB	2.36	0.47
14:U:701:ILE:HG21	14:U:810:THR:HG22	1.95	0.47
17:X:258:LYS:HE3	17:X:270:LEU:HD13	1.97	0.47
18:Y:108:ALA:HA	18:Y:111:LEU:HD12	1.95	0.47
1:A:236:CYS:O	1:A:270:CYS:HB2	2.14	0.47
1:A:415:LYS:O	1:A:419:SER:HB3	2.14	0.47
3:C:72:TYR:CE1	3:C:118:ASN:HA	2.48	0.47
9:I:135:LEU:HD21	9:I:164:ILE:HD11	1.97	0.47
15:V:243:ASP:HA	15:V:247:GLN:NE2	2.28	0.47
15:V:476:PHE:HB3	19:Z:257:MET:HE1	1.95	0.47
17:X:357:SER:OG	17:X:358:LYS:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Y:31:HIS:H	18:Y:31:HIS:CD2	2.31	0.47
18:Y:153:ASP:O	18:Y:157:ILE:HG12	2.14	0.47
20:d:29:VAL:O	20:d:32:GLU:HG3	2.15	0.47
20:d:36:LEU:HD13	20:d:36:LEU:HA	1.70	0.47
20:d:52:ARG:NH2	20:d:92:SER:OG	2.47	0.47
26:v:52:ASP:OD1	26:v:53:GLY:N	2.48	0.47
26:w:4:PHE:CE1	26:w:14:THR:HG22	2.49	0.47
1:A:53:GLN:HG3	1:A:57:LYS:NZ	2.30	0.47
2:B:59:ARG:HH11	2:B:63:LEU:HD12	1.80	0.47
3:C:118:ASN:OD1	3:C:118:ASN:N	2.47	0.47
7:G:161:CYS:HB3	7:G:163:PHE:HE1	1.80	0.47
13:M:70:ASP:CG	13:M:71:ARG:H	2.21	0.47
13:M:98:PHE:CD2	13:M:106:ILE:HB	2.49	0.47
15:V:269:LYS:HG3	15:V:270:LEU:N	2.30	0.47
18:Y:101:ARG:HH21	18:Y:127:THR:CA	2.28	0.47
18:Y:265:GLU:HB2	18:Y:267:ARG:NE	2.29	0.47
18:Y:275:LEU:HA	18:Y:278:VAL:HG12	1.96	0.47
20:d:191:PHE:CE1	20:d:217:LEU:HB2	2.50	0.47
4:D:176:GLU:HA	4:D:179:GLU:HG2	1.95	0.47
5:E:155:ASN:HB3	5:E:158:LEU:HD13	1.97	0.47
7:G:165:ALA:HB1	7:G:179:LEU:HD13	1.97	0.47
12:L:64:LEU:HD13	12:L:74:ILE:HD12	1.95	0.47
15:V:284:GLU:OE1	15:V:284:GLU:N	2.46	0.47
17:X:184:PRO:HA	17:X:187:ARG:CZ	2.45	0.47
17:X:268:GLN:O	17:X:272:SER:OG	2.28	0.47
20:d:10:ASN:N	20:d:10:ASN:OD1	2.48	0.47
22:f:527:VAL:HA	22:f:565:ASN:HA	1.97	0.47
26:w:56:LEU:HD12	26:w:61:ILE:HD12	1.96	0.47
11:K:154:PHE:CE1	11:K:164:GLN:HB2	2.50	0.47
14:U:802:TYR:HE1	14:U:880:ASN:HA	1.80	0.47
17:X:142:ARG:HD3	17:X:145:GLU:OE2	2.14	0.47
18:Y:107:LYS:O	18:Y:111:LEU:HG	2.14	0.47
23:a:163:TYR:HA	23:a:166:ILE:HG22	1.96	0.47
23:a:194:GLN:OE1	23:a:226:ARG:NH2	2.48	0.47
1:A:99:THR:HG22	1:A:115:VAL:HG12	1.97	0.47
2:B:135:ILE:HG22	2:B:136:LEU:O	2.15	0.47
9:I:38:LEU:HD11	9:I:145:PHE:HB3	1.97	0.47
14:U:227:GLN:OE1	14:U:227:GLN:N	2.48	0.47
14:U:380:THR:HG23	14:U:382:SER:H	1.80	0.47
15:V:273:LYS:O	15:V:273:LYS:HG3	2.14	0.47
20:d:6:LYS:HA	20:d:9:TRP:CD1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:d:206:MET:SD	20:d:207:THR:N	2.87	0.47
22:f:332:ALA:HB1	22:f:384:ALA:HB1	1.96	0.47
23:a:12:GLN:OE1	23:a:19:PRO:HB3	2.15	0.47
25:c:249:LEU:HA	25:c:249:LEU:HD13	1.68	0.47
2:B:265:LYS:HE3	2:B:265:LYS:HB2	1.73	0.46
3:C:373:GLU:HG3	3:C:375:ARG:HG3	1.97	0.46
11:K:133:MET:O	11:K:135:ARG:N	2.47	0.46
12:L:72:ILE:HD11	12:L:85:CYS:SG	2.54	0.46
13:M:228:PRO:HD2	13:M:231:ILE:HD12	1.96	0.46
17:X:299:LEU:HD23	17:X:334:ASN:HD22	1.80	0.46
20:d:4:GLN:OE1	20:d:25:ARG:NH1	2.48	0.46
1:A:98:CYS:SG	2:B:130:GLU:HG2	2.55	0.46
3:C:24:TYR:OH	4:D:41:TYR:HD1	1.99	0.46
11:K:108:THR:HA	11:K:147:ASP:OD2	2.15	0.46
12:L:68:ASN:O	12:L:220:GLU:HG2	2.15	0.46
13:M:99:ARG:NH2	13:M:105:ASN:OD1	2.48	0.46
13:M:230:ASP:N	13:M:230:ASP:OD1	2.45	0.46
14:U:254:GLU:OE2	14:U:751:ARG:NH1	2.46	0.46
14:U:818:GLU:O	14:U:818:GLU:HG2	2.15	0.46
18:Y:60:SER:HB3	18:Y:63:TRP:CZ3	2.50	0.46
19:Z:34:ARG:HH21	19:Z:102:HIS:CE1	2.33	0.46
3:C:324:ALA:O	3:C:328:ILE:HG12	2.14	0.46
7:G:145:GLU:CD	7:G:145:GLU:H	2.23	0.46
14:U:9:ILE:HD12	14:U:9:ILE:H	1.81	0.46
14:U:135:ASN:HA	14:U:138:PHE:CD2	2.41	0.46
16:W:263:TRP:HZ2	16:W:295:LYS:HD3	1.79	0.46
16:W:406:VAL:O	17:X:342:PHE:HB2	2.15	0.46
17:X:162:ASP:OD1	17:X:164:ALA:N	2.49	0.46
18:Y:122:THR:HA	18:Y:125:ARG:HH11	1.80	0.46
20:d:18:LYS:O	20:d:21:GLU:N	2.47	0.46
23:a:91:ASN:OD1	23:a:92:VAL:N	2.45	0.46
1:A:394:MET:HA	1:A:397:ILE:HG22	1.98	0.46
2:B:302:GLU:OE1	2:B:302:GLU:N	2.48	0.46
4:D:124:LEU:HD12	4:D:124:LEU:O	2.16	0.46
4:D:263:PHE:HE2	4:D:265:ASP:HB2	1.80	0.46
6:F:146:LYS:N	6:F:149:ASP:OD2	2.39	0.46
6:F:241:ALA:HB2	6:F:248:PHE:CE2	2.50	0.46
10:J:41:VAL:CG2	10:J:211:MET:HB2	2.45	0.46
20:d:240:THR:O	20:d:244:LYS:HG2	2.16	0.46
24:b:57:ASP:OD1	24:b:57:ASP:N	2.47	0.46
25:c:233:ASP:OD1	25:c:234:TYR:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:82:GLN:O	2:B:86:LYS:N	2.42	0.46
2:B:245:ALA:HB1	2:B:279:PRO:O	2.14	0.46
3:C:142:LYS:HD2	4:D:323:ARG:HG2	1.97	0.46
3:C:357:ALA:O	3:C:360:LYS:HG2	2.16	0.46
11:K:24:VAL:O	11:K:28:ILE:HG12	2.16	0.46
14:U:331:GLY:O	14:U:335:ILE:HG12	2.15	0.46
15:V:281:ASN:O	15:V:283:ASN:N	2.48	0.46
18:Y:48:ASN:O	18:Y:114:ILE:HD12	2.16	0.46
3:C:150:MET:SD	3:C:150:MET:N	2.89	0.46
3:C:157:GLN:HG2	3:C:317:PHE:CE1	2.51	0.46
6:F:336:ASP:OD1	6:F:336:ASP:N	2.47	0.46
9:I:97:TYR:CZ	9:I:101:TYR:HD2	2.34	0.46
14:U:49:TYR:CE2	14:U:50:GLU:HG3	2.51	0.46
15:V:223:LYS:NZ	15:V:226:VAL:HB	2.30	0.46
16:W:384:LEU:HD13	16:W:388:GLU:HB3	1.98	0.46
16:W:428:TRP:O	16:W:432:LEU:HD23	2.15	0.46
23:a:18:GLN:N	23:a:18:GLN:OE1	2.49	0.46
3:C:79:ALA:C	3:C:80:MET:HE2	2.40	0.46
4:D:307:VAL:HG12	4:D:309:MET:HG3	1.98	0.46
7:G:58:ASP:OD1	7:G:59:LYS:N	2.47	0.46
15:V:449:ALA:HA	15:V:460:SER:HA	1.96	0.46
16:W:243:ILE:HD12	16:W:273:TYR:CE2	2.50	0.46
16:W:251:TYR:CE1	16:W:267:LEU:HD11	2.50	0.46
16:W:334:GLU:H	16:W:334:GLU:CD	2.24	0.46
20:d:212:LYS:HE3	20:d:212:LYS:HB3	1.72	0.46
2:B:332:ASN:OD1	2:B:332:ASN:N	2.48	0.46
4:D:46:LYS:HB3	4:D:46:LYS:HE2	1.36	0.46
4:D:384:MET:HB2	4:D:384:MET:HE3	1.47	0.46
8:H:65:VAL:N	8:H:209:GLU:OE2	2.27	0.46
18:Y:16:ASP:OD1	18:Y:17:LEU:HD12	2.16	0.46
18:Y:30:GLU:H	18:Y:30:GLU:CD	2.22	0.46
26:w:17:VAL:HG12	26:w:29:LYS:NZ	2.31	0.46
3:C:104:ASP:OD2	3:C:106:ASN:ND2	2.49	0.46
6:F:295:ARG:HA	6:F:307:GLN:NE2	2.31	0.46
11:K:125:GLU:HA	11:K:133:MET:SD	2.56	0.46
15:V:479:ARG:CZ	18:Y:370:ILE:HD11	2.46	0.46
17:X:282:ARG:HA	17:X:285:GLU:OE1	2.15	0.46
17:X:415:TYR:HA	17:X:418:ALA:HB3	1.97	0.46
19:Z:190:ARG:HB3	19:Z:190:ARG:CZ	2.45	0.46
1:A:92:PRO:O	1:A:94:GLN:NE2	2.40	0.46
22:f:183:PRO:HA	22:f:187:LEU:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:x:62:GLN:O	26:x:65:SER:OG	2.26	0.46
4:D:116:LEU:HB3	4:D:119:ILE:CD1	2.46	0.45
16:W:170:GLN:HA	16:W:173:THR:HG23	1.98	0.45
18:Y:132:VAL:HA	18:Y:137:ARG:NH2	2.31	0.45
20:d:58:GLY:O	20:d:62:SER:OG	2.27	0.45
22:f:667:GLY:HA2	22:f:671:ALA:HB2	1.98	0.45
26:x:1:MET:HB2	26:x:63:ARG:CZ	2.46	0.45
1:A:325:ASP:OD1	1:A:325:ASP:N	2.47	0.45
14:U:160:LEU:HD23	14:U:200:VAL:HG21	1.98	0.45
17:X:157:LEU:HD21	17:X:165:LEU:HB3	1.97	0.45
18:Y:156:LEU:O	18:Y:160:ASN:ND2	2.49	0.45
23:a:15:GLY:O	23:a:17:GLY:N	2.49	0.45
9:I:38:LEU:O	9:I:179:TYR:OH	2.35	0.45
11:K:181:LEU:HD12	11:K:181:LEU:HA	1.79	0.45
13:M:60:GLU:CD	13:M:60:GLU:H	2.24	0.45
14:U:97:VAL:HA	14:U:100:ILE:HG12	1.97	0.45
14:U:667:GLU:CD	14:U:667:GLU:H	2.24	0.45
15:V:163:VAL:O	15:V:167:LEU:CB	2.65	0.45
17:X:204:PRO:HA	17:X:207:GLN:HE22	1.80	0.45
26:x:1:MET:SD	26:x:17:VAL:HG23	2.57	0.45
26:w:38:PRO:HA	26:w:41:GLN:NE2	2.31	0.45
3:C:26:SER:HA	3:C:29:GLU:HG3	1.99	0.45
3:C:68:GLU:O	4:D:136:SER:OG	2.33	0.45
5:E:69:PHE:CE1	5:E:83:CYS:HB2	2.51	0.45
8:H:105:ILE:HD12	8:H:106:PRO:HD2	1.98	0.45
16:W:263:TRP:CZ2	16:W:295:LYS:HD3	2.52	0.45
19:Z:122:VAL:HA	19:Z:136:GLU:O	2.16	0.45
19:Z:257:MET:HE2	19:Z:257:MET:HB2	1.61	0.45
2:B:187:ILE:HD13	2:B:234:LEU:HD22	1.99	0.45
3:C:97:VAL:HG21	3:C:121:TYR:O	2.16	0.45
3:C:189:TYR:CZ	3:C:316:GLU:HG2	2.51	0.45
10:J:65:LEU:HD12	10:J:88:ARG:HG3	1.98	0.45
10:J:169:ARG:O	10:J:172:LEU:N	2.49	0.45
12:L:18:ARG:NH1	12:L:23:GLU:OE2	2.49	0.45
14:U:330:SER:OG	14:U:332:GLU:OE1	2.33	0.45
14:U:803:LYS:C	14:U:893:THR:HB	2.41	0.45
16:W:345:GLU:H	16:W:345:GLU:CD	2.23	0.45
17:X:170:GLN:HB3	17:X:193:ALA:HB2	1.99	0.45
18:Y:141:VAL:HG11	18:Y:164:ALA:HB2	1.97	0.45
23:a:7:PHE:CE1	23:a:56:LEU:HG	2.52	0.45
1:A:252:GLU:OE1	1:A:255:ARG:NH1	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:279:ALA:HB2	2:B:310:LEU:HD13	1.98	0.45
5:E:124:HIS:ND1	5:E:125:GLU:OE2	2.44	0.45
9:I:28:ILE:HD11	9:I:77:ALA:O	2.16	0.45
15:V:292:THR:HA	15:V:295:ILE:HG12	1.99	0.45
23:a:13:ASN:HB3	23:a:16:PRO:HG2	1.99	0.45
23:a:127:ASP:HA	23:a:131:THR:HB	1.98	0.45
7:G:71:LYS:HZ3	7:G:73:THR:C	2.25	0.45
10:J:201:SER:O	10:J:203:GLY:N	2.46	0.45
14:U:496:LEU:O	14:U:499:THR:HG22	2.16	0.45
18:Y:42:MET:SD	18:Y:43:ALA:N	2.89	0.45
20:d:184:LYS:HB2	20:d:186:TYR:CZ	2.51	0.45
24:b:7:MET:HG3	24:b:97:LEU:HD11	1.98	0.45
2:B:371:ARG:HE	2:B:371:ARG:HB2	1.56	0.45
2:B:380:LEU:HD23	2:B:380:LEU:H	1.82	0.45
4:D:155:THR:HA	4:D:159:LYS:HZ3	1.82	0.45
5:E:64:LEU:HD12	5:E:70:ILE:HD11	1.97	0.45
10:J:184:ASP:O	10:J:188:ILE:HG12	2.17	0.45
1:A:362:MET:SD	2:B:216:ILE:HD11	2.57	0.45
2:B:70:ASP:O	2:B:74:MET:HG2	2.16	0.45
4:D:323:ARG:HG3	4:D:324:PRO:HD2	1.98	0.45
5:E:283:ASP:OD1	5:E:283:ASP:N	2.49	0.45
6:F:86:LEU:HA	6:F:88:TYR:CE1	2.52	0.45
14:U:423:MET:HG2	14:U:446:LEU:HD11	1.99	0.45
15:V:406:GLY:O	15:V:409:MET:HG3	2.17	0.45
18:Y:175:ASP:OD1	18:Y:176:ARG:N	2.48	0.45
2:B:278:ALA:HB1	2:B:279:PRO:HD2	1.99	0.45
3:C:46:GLN:HA	4:D:61:ILE:HD11	1.99	0.45
3:C:188:LEU:HD11	3:C:292:ILE:HD11	1.99	0.45
4:D:354:LEU:HD21	4:D:399:PHE:CZ	2.51	0.45
6:F:127:SER:C	6:F:129:ARG:H	2.25	0.45
11:K:65:GLU:N	11:K:65:GLU:OE1	2.50	0.45
14:U:16:GLU:HG3	14:U:19:LEU:H	1.82	0.45
14:U:549:ALA:O	14:U:581:SER:OG	2.33	0.45
16:W:265:GLN:H	16:W:265:GLN:CD	2.19	0.45
16:W:316:ARG:HE	16:W:316:ARG:HB2	1.54	0.45
16:W:372:ARG:HH11	23:a:327:VAL:HG11	1.82	0.45
18:Y:130:LYS:HG3	18:Y:131:THR:N	2.32	0.45
18:Y:242:LYS:HD2	18:Y:242:LYS:HA	1.77	0.45
2:B:143:LEU:H	2:B:143:LEU:HD23	1.81	0.44
4:D:122:GLU:OE2	25:c:282:ARG:NH2	2.44	0.44
5:E:69:PHE:HE1	5:E:83:CYS:HB2	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:155:ASN:HB3	5:E:158:LEU:CD1	2.47	0.44
12:L:68:ASN:OD1	12:L:69:HIS:N	2.50	0.44
15:V:244:ALA:C	15:V:246:GLY:H	2.25	0.44
15:V:277:PRO:HB3	15:V:285:TRP:HH2	1.82	0.44
20:d:78:LEU:HD11	20:d:82:TYR:CZ	2.52	0.44
3:C:274:LEU:HD12	3:C:274:LEU:HA	1.83	0.44
4:D:96:VAL:HG23	4:D:97:ASP:H	1.82	0.44
5:E:126:ASP:OD1	5:E:128:GLY:N	2.49	0.44
7:G:162:GLY:C	7:G:163:PHE:HD1	2.25	0.44
16:W:409:LEU:HD23	17:X:344:ARG:HH21	1.82	0.44
18:Y:31:HIS:ND1	18:Y:32:ARG:HG2	2.32	0.44
19:Z:256:GLN:O	25:c:295:ASN:ND2	2.44	0.44
1:A:362:MET:HB3	1:A:364:VAL:HG13	1.98	0.44
2:B:117:ASP:O	2:B:119:ASN:N	2.46	0.44
16:W:248:ARG:HG3	16:W:270:VAL:HG21	1.99	0.44
22:f:568:GLY:H	22:f:599:ALA:HA	1.82	0.44
24:b:31:ASP:OD1	24:b:32:ALA:N	2.50	0.44
26:w:33:LYS:HG3	26:w:34:GLU:HG2	1.99	0.44
3:C:313:ARG:HD2	3:C:313:ARG:HA	1.80	0.44
10:J:38:ARG:NH2	10:J:181:ILE:O	2.50	0.44
14:U:138:PHE:O	14:U:142:LEU:HG	2.18	0.44
20:d:97:GLN:HG3	20:d:132:TYR:CE2	2.52	0.44
23:a:91:ASN:O	23:a:95:THR:HG23	2.16	0.44
1:A:75:PRO:HA	1:A:78:TRP:CE2	2.53	0.44
1:A:294:GLU:H	1:A:294:GLU:CD	2.25	0.44
4:D:99:ASN:O	4:D:114:ARG:HD3	2.16	0.44
7:G:155:ASP:OD1	7:G:159:TYR:N	2.47	0.44
13:M:240:LYS:HA	13:M:240:LYS:HD3	1.77	0.44
15:V:257:ASN:OD1	15:V:258:TYR:N	2.51	0.44
15:V:358:MET:HB3	15:V:359:PRO:HD3	2.00	0.44
16:W:419:LYS:HB3	16:W:419:LYS:HE3	1.51	0.44
16:W:453:HIS:HD2	19:Z:219:LYS:HD2	1.81	0.44
17:X:192:SER:O	17:X:195:THR:HB	2.18	0.44
17:X:359:ALA:HA	17:X:362:GLU:OE2	2.18	0.44
17:X:386:ILE:HD12	17:X:386:ILE:H	1.83	0.44
19:Z:260:VAL:HG13	25:c:292:MET:SD	2.58	0.44
2:B:276:GLU:OE1	2:B:277:HIS:ND1	2.50	0.44
4:D:51:LEU:HD12	4:D:51:LEU:HA	1.82	0.44
5:E:216:ARG:HG2	5:E:263:GLN:NE2	2.33	0.44
6:F:189:GLY:H	29:F:501:ADP:N6	2.15	0.44
6:F:438:TYR:CE1	12:L:77:LEU:HB3	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:235:GLU:OE1	11:K:235:GLU:N	2.29	0.44
14:U:325:MET:HE3	14:U:329:LEU:HD11	1.98	0.44
15:V:339:LEU:O	15:V:404:LYS:HD2	2.18	0.44
17:X:368:MET:HG3	17:X:374:PHE:HD2	1.82	0.44
18:Y:311:TYR:HD2	18:Y:314:LEU:HD22	1.82	0.44
6:F:438:TYR:HE1	12:L:77:LEU:HB3	1.82	0.44
7:G:161:CYS:HB3	7:G:163:PHE:CE1	2.53	0.44
9:I:198:ASN:HA	9:I:206:LEU:HD21	2.00	0.44
23:a:66:GLU:HB3	23:a:70:ARG:HD2	1.99	0.44
1:A:99:THR:CG2	1:A:115:VAL:HG12	2.48	0.44
4:D:41:TYR:CE2	14:U:183:LEU:HD11	2.53	0.44
4:D:152:MET:O	4:D:153:MET:HB3	2.17	0.44
7:G:13:ILE:HG22	7:G:14:THR:H	1.83	0.44
8:H:205:GLU:OE1	8:H:223:PRO:HB3	2.18	0.44
14:U:505:ASP:OD1	14:U:506:ALA:N	2.51	0.44
15:V:188:SER:O	15:V:192:MET:N	2.51	0.44
20:d:143:LEU:HD22	20:d:151:VAL:HG21	1.98	0.44
20:d:188:LYS:HG3	20:d:221:ASN:HA	1.99	0.44
24:b:126:LYS:HA	24:b:129:LYS:HG2	1.99	0.44
3:C:98:ASP:OD1	3:C:98:ASP:N	2.48	0.44
8:H:4:ARG:HD3	8:H:5:GLY:O	2.18	0.44
8:H:150:ASP:OD1	8:H:151:PRO:HD2	2.17	0.44
9:I:238:LYS:HA	9:I:241:GLU:OE1	2.18	0.44
11:K:124:GLY:N	11:K:133:MET:HE3	2.33	0.44
16:W:203:GLN:NE2	16:W:204:ILE:HG13	2.33	0.44
17:X:378:LEU:HD12	17:X:379:ASP:H	1.83	0.44
25:c:196:LEU:HD23	25:c:197:ASN:N	2.30	0.44
25:c:219:ASN:O	25:c:221:HIS:N	2.51	0.44
1:A:119:ALA:CB	6:F:127:SER:HB2	2.48	0.43
3:C:151:ILE:CG2	3:C:154:LEU:HB2	2.48	0.43
3:C:191:PRO:HG2	3:C:319:PRO:HG3	2.00	0.43
5:E:250:ASP:OD2	5:E:254:GLN:NE2	2.46	0.43
7:G:182:LYS:HE2	7:G:182:LYS:HB2	1.71	0.43
8:H:44:VAL:HG21	8:H:137:CYS:HB2	1.99	0.43
8:H:105:ILE:HG13	8:H:106:PRO:O	2.18	0.43
9:I:25:MET:HA	9:I:28:ILE:HG22	1.99	0.43
11:K:196:LYS:NZ	11:K:240:ASP:O	2.42	0.43
12:L:176:MET:HE1	13:M:56:LYS:O	2.17	0.43
12:L:182:CYS:HB2	12:L:186:GLU:CG	2.48	0.43
13:M:176:ILE:HD13	13:M:196:ILE:HD13	2.00	0.43
14:U:773:PHE:C	14:U:775:LEU:N	2.76	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:W:448:LYS:HE2	16:W:448:LYS:HB2	1.61	0.43
4:D:153:MET:SD	4:D:158:GLN:HB3	2.58	0.43
4:D:415:GLU:N	4:D:415:GLU:OE1	2.50	0.43
6:F:204:LEU:O	6:F:206:MET:N	2.52	0.43
9:I:6:ASP:OD1	9:I:7:SER:N	2.48	0.43
16:W:357:ARG:HA	16:W:357:ARG:HD3	1.77	0.43
18:Y:75:LYS:HE2	18:Y:79:ASP:OD1	2.18	0.43
20:d:133:ILE:C	20:d:136:PRO:HD2	2.43	0.43
20:d:208:ASP:HA	20:d:211:LYS:NZ	2.34	0.43
4:D:115:ILE:HD11	4:D:121:ARG:NH2	2.33	0.43
8:H:119:GLN:HG3	9:I:81:SER:HB2	2.00	0.43
15:V:219:GLU:HG2	15:V:224:LEU:HD21	1.99	0.43
18:Y:160:ASN:HA	18:Y:163:LYS:HG2	2.01	0.43
18:Y:248:GLU:O	18:Y:251:HIS:HB3	2.18	0.43
18:Y:314:LEU:HD21	18:Y:319:MET:SD	2.58	0.43
22:f:552:ASP:O	22:f:556:ARG:N	2.47	0.43
23:a:80:ILE:O	23:a:84:VAL:HG23	2.18	0.43
7:G:54:LYS:HD3	7:G:216:GLU:OE2	2.19	0.43
8:H:8:PHE:CE2	9:I:6:ASP:HA	2.53	0.43
12:L:15:PRO:HA	13:M:25:TYR:CD1	2.53	0.43
15:V:429:ASP:OD1	15:V:430:SER:N	2.51	0.43
16:W:252:ASP:HB3	16:W:253:THR:H	1.63	0.43
17:X:233:TYR:HD1	17:X:254:MET:HE1	1.83	0.43
18:Y:176:ARG:HA	18:Y:179:ARG:HD2	1.99	0.43
20:d:223:TYR:CZ	20:d:225:PHE:HA	2.53	0.43
22:f:146:GLY:HA2	22:f:150:GLU:HA	2.00	0.43
25:c:206:ASN:OD1	25:c:207:TYR:N	2.52	0.43
25:c:210:ASN:OD1	25:c:210:ASN:C	2.60	0.43
26:u:27:LYS:HB3	26:u:41:GLN:HE21	1.83	0.43
2:B:180:PRO:HG2	2:B:240:ALA:HB3	2.00	0.43
9:I:240:HIS:NE2	9:I:244:GLU:OE1	2.50	0.43
10:J:116:GLN:O	10:J:119:THR:OG1	2.35	0.43
11:K:131:GLY:C	11:K:133:MET:H	2.27	0.43
12:L:167:SER:O	12:L:170:THR:OG1	2.30	0.43
14:U:206:MET:HE1	14:U:213:PHE:CD1	2.54	0.43
14:U:898:CYS:SG	14:U:899:ARG:N	2.92	0.43
16:W:261:GLU:H	16:W:261:GLU:CD	2.26	0.43
16:W:423:ASN:O	16:W:426:ASN:HB2	2.18	0.43
16:W:449:GLU:CB	19:Z:222:ILE:HG12	2.46	0.43
17:X:140:THR:O	17:X:142:ARG:NH1	2.52	0.43
19:Z:74:TYR:CZ	25:c:98:MET:SD	3.11	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:f:567:LEU:HA	22:f:599:ALA:HA	2.00	0.43
22:f:729:MET:O	22:f:733:GLY:N	2.51	0.43
25:c:303:MET:HB2	25:c:303:MET:HE3	1.59	0.43
6:F:294:LYS:HB2	6:F:294:LYS:HE3	1.77	0.43
7:G:192:GLU:H	7:G:192:GLU:CD	2.27	0.43
10:J:141:THR:O	10:J:143:ARG:HG2	2.19	0.43
16:W:173:THR:HG21	16:W:208:LYS:CE	2.49	0.43
16:W:231:ILE:O	16:W:235:GLN:HB2	2.18	0.43
25:c:85:GLU:OE2	26:u:74:ARG:NH2	2.44	0.43
6:F:184:GLN:OE1	6:F:186:SER:N	2.41	0.43
10:J:145:TYR:CE1	10:J:155:ALA:HB2	2.54	0.43
12:L:84:LEU:HD23	12:L:84:LEU:HA	1.83	0.43
16:W:158:ASP:OD2	16:W:161:GLU:HG2	2.19	0.43
18:Y:146:ARG:HD3	18:Y:211:TYR:HE2	1.84	0.43
18:Y:174:TRP:HA	18:Y:177:ARG:HB3	2.01	0.43
20:d:13:SER:HB3	20:d:16:LEU:HB2	2.00	0.43
1:A:397:ILE:HD13	1:A:397:ILE:HG21	1.83	0.43
2:B:120:HIS:CB	2:B:134:SER:HA	2.49	0.43
4:D:161:ASP:OD1	4:D:221:HIS:ND1	2.50	0.43
7:G:102:LYS:HD2	7:G:102:LYS:HA	1.84	0.43
11:K:54:ILE:HG23	11:K:59:MET:HG3	2.01	0.43
14:U:641:SER:HB2	14:U:675:MET:CE	2.49	0.43
18:Y:355:GLU:OE1	18:Y:357:ASN:N	2.51	0.43
1:A:59:ILE:HG21	2:B:76:GLU:HB2	2.00	0.43
2:B:95:GLU:HA	2:B:98:LYS:NZ	2.34	0.43
2:B:292:THR:HG23	2:B:293:LYS:HG2	2.01	0.43
3:C:243:PRO:HB3	3:C:288:ASN:ND2	2.34	0.43
4:D:154:LEU:HG	4:D:158:GLN:HG2	2.01	0.43
14:U:694:ILE:HG23	14:U:695:MET:HG3	2.01	0.43
14:U:791:LEU:HG	14:U:795:LEU:HA	2.01	0.43
15:V:285:TRP:CD1	15:V:289:LEU:HD13	2.54	0.43
15:V:321:ALA:O	21:e:4:LYS:NZ	2.31	0.43
16:W:208:LYS:O	16:W:212:LYS:NZ	2.38	0.43
1:A:152:PRO:C	1:A:153:LEU:HD12	2.44	0.43
3:C:162:LYS:HB2	3:C:166:GLU:CD	2.44	0.43
6:F:226:TYR:CE1	6:F:353:GLU:HB3	2.54	0.43
8:H:92:LYS:O	8:H:96:GLN:HG2	2.18	0.43
12:L:228:ASP:C	12:L:231:PRO:HD2	2.43	0.43
13:M:229:LYS:HA	13:M:232:ARG:HE	1.83	0.43
17:X:306:LEU:HD11	17:X:314:ARG:NH1	2.34	0.43
17:X:334:ASN:O	17:X:338:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Y:175:ASP:OD1	18:Y:175:ASP:N	2.51	0.43
24:b:38:HIS:HB3	24:b:42:ARG:NH2	2.29	0.43
3:C:92:GLU:HB3	3:C:93:GLY:H	1.58	0.42
3:C:155:ASP:OD1	3:C:155:ASP:N	2.51	0.42
6:F:184:GLN:OE1	6:F:185:TYR:N	2.52	0.42
6:F:210:GLU:OE1	6:F:210:GLU:N	2.40	0.42
9:I:135:LEU:HD11	9:I:164:ILE:HD11	2.00	0.42
9:I:204:SER:C	9:I:206:LEU:H	2.27	0.42
14:U:146:LYS:HG3	14:U:149:GLN:OE1	2.18	0.42
16:W:186:ILE:C	16:W:189:GLN:HE22	2.27	0.42
18:Y:262:SER:HA	18:Y:267:ARG:HH21	1.84	0.42
19:Z:227:ILE:HG21	23:a:341:LEU:CD2	2.48	0.42
23:a:82:HIS:HA	23:a:85:ARG:HE	1.84	0.42
23:a:152:HIS:CD2	23:a:156:TYR:HE2	2.37	0.42
23:a:257:GLN:HE22	23:a:260:ASP:CG	2.26	0.42
24:b:12:ASN:ND2	24:b:53:THR:OG1	2.52	0.42
24:b:65:THR:HA	24:b:66:PRO:HD3	1.90	0.42
25:c:279:ASP:OD1	25:c:279:ASP:N	2.46	0.42
26:x:2:GLN:O	26:x:63:ARG:NH1	2.49	0.42
1:A:263:MET:O	1:A:266:THR:OG1	2.33	0.42
3:C:155:ASP:O	3:C:158:ILE:HG12	2.19	0.42
5:E:385:ASP:O	5:E:386:TYR:HB2	2.19	0.42
6:F:204:LEU:C	6:F:206:MET:N	2.76	0.42
11:K:51:GLU:OE1	11:K:51:GLU:N	2.51	0.42
14:U:656:LEU:HD12	14:U:656:LEU:HA	1.89	0.42
15:V:347:GLN:HG3	15:V:347:GLN:O	2.19	0.42
17:X:297:ARG:NH1	17:X:337:ARG:HB2	2.33	0.42
18:Y:152:MET:N	18:Y:152:MET:SD	2.93	0.42
20:d:18:LYS:O	20:d:21:GLU:HG2	2.18	0.42
1:A:341:ILE:HD12	1:A:341:ILE:HG23	1.82	0.42
5:E:29:LEU:HB3	6:F:62:VAL:HG11	2.01	0.42
8:H:26:LEU:HA	8:H:26:LEU:HD23	1.72	0.42
16:W:151:THR:HG23	16:W:161:GLU:HB3	2.01	0.42
17:X:151:SER:O	17:X:155:ARG:NH1	2.53	0.42
17:X:336:ILE:O	17:X:340:GLU:HB2	2.18	0.42
18:Y:55:GLU:OE2	18:Y:58:CYS:HB2	2.19	0.42
20:d:114:GLU:O	20:d:117:THR:HG22	2.18	0.42
20:d:139:LEU:HD11	20:d:151:VAL:HG13	2.00	0.42
1:A:88:GLN:O	1:A:92:PRO:HG2	2.19	0.42
2:B:384:ILE:HG22	2:B:385:MET:SD	2.59	0.42
3:C:276:LEU:HD23	3:C:276:LEU:HA	1.74	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:340:ARG:NH2	18:Y:216:TYR:OH	2.53	0.42
4:D:62:LYS:HE3	4:D:62:LYS:HB2	1.83	0.42
4:D:410:ASP:OD1	4:D:410:ASP:N	2.52	0.42
5:E:291:ARG:HG2	5:E:293:GLY:H	1.83	0.42
7:G:69:LEU:HD22	7:G:79:VAL:HG22	2.02	0.42
7:G:117:ARG:O	7:G:121:ILE:HG12	2.20	0.42
8:H:97:TYR:CG	8:H:105:ILE:HD13	2.54	0.42
10:J:156:TRP:CG	10:J:159:ASN:ND2	2.87	0.42
14:U:198:LEU:HD23	14:U:223:LEU:HD22	2.01	0.42
18:Y:104:MET:SD	18:Y:105:MET:N	2.92	0.42
19:Z:257:MET:C	19:Z:257:MET:SD	3.02	0.42
26:u:22:THR:OG1	26:u:24:GLU:OE2	2.36	0.42
1:A:333:ARG:HG2	1:A:334:PRO:O	2.19	0.42
2:B:109:VAL:HG21	3:C:94:LYS:HB2	2.02	0.42
4:D:157:ASP:OD1	4:D:157:ASP:N	2.38	0.42
8:H:70:LYS:HD2	8:H:71:HIS:HB3	2.01	0.42
9:I:55:LEU:O	9:I:56:LEU:HD22	2.20	0.42
17:X:330:LEU:HA	17:X:330:LEU:HD23	1.77	0.42
23:a:315:LEU:HD23	23:a:320:VAL:O	2.20	0.42
2:B:371:ARG:NE	3:C:179:GLY:HA3	2.35	0.42
3:C:178:LEU:HD23	3:C:178:LEU:HA	1.86	0.42
6:F:133:PHE:CD1	6:F:133:PHE:C	2.98	0.42
11:K:206:MET:HE3	11:K:207:GLU:N	2.35	0.42
14:U:148:LYS:HA	14:U:151:ILE:HG22	2.01	0.42
14:U:763:VAL:O	14:U:767:THR:HG23	2.19	0.42
15:V:253:LEU:O	15:V:256:ARG:HB3	2.20	0.42
16:W:352:LYS:HA	16:W:352:LYS:HD3	1.84	0.42
17:X:177:TYR:CB	17:X:186:ALA:HB2	2.49	0.42
17:X:185:LYS:HB2	17:X:185:LYS:HE2	1.58	0.42
17:X:395:LYS:HE3	17:X:395:LYS:HB2	1.35	0.42
18:Y:155:ASP:OD1	18:Y:156:LEU:N	2.50	0.42
18:Y:159:ARG:O	18:Y:162:GLU:HG3	2.20	0.42
18:Y:229:ILE:HD11	18:Y:298:GLU:HG2	2.01	0.42
20:d:126:ASP:O	20:d:134:LYS:HG2	2.20	0.42
23:a:69:HIS:HB2	23:a:76:LEU:HD11	2.00	0.42
1:A:277:ILE:HD13	1:A:277:ILE:HA	1.86	0.42
2:B:82:GLN:HA	2:B:85:MET:HG2	2.01	0.42
5:E:81:VAL:HG13	5:E:105:LEU:O	2.20	0.42
6:F:202:ILE:HD13	6:F:202:ILE:HA	1.86	0.42
8:H:65:VAL:HG23	8:H:209:GLU:HG2	2.02	0.42
13:M:10:SER:OG	13:M:11:ALA:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:87:LEU:HD23	13:M:87:LEU:HA	1.64	0.42
16:W:170:GLN:HA	16:W:173:THR:CG2	2.49	0.42
16:W:259:GLU:HB2	16:W:262:LYS:HE3	2.01	0.42
17:X:292:GLN:HA	17:X:295:LYS:NZ	2.35	0.42
17:X:409:LYS:HB3	17:X:409:LYS:HE3	1.50	0.42
18:Y:203:ASP:C	18:Y:205:VAL:N	2.76	0.42
18:Y:245:GLU:O	18:Y:249:VAL:HG23	2.20	0.42
19:Z:75:LEU:HD23	19:Z:75:LEU:C	2.44	0.42
26:u:31:GLN:OE1	26:u:38:PRO:HD3	2.18	0.42
1:A:364:VAL:HG12	1:A:404:ALA:HB3	2.02	0.42
2:B:63:LEU:HD13	2:B:67:ARG:HH12	1.84	0.42
6:F:169:ASP:OD1	6:F:170:SER:N	2.53	0.42
7:G:48:ALA:HB3	7:G:220:VAL:HG12	2.01	0.42
10:J:41:VAL:HG22	10:J:211:MET:HB2	2.02	0.42
10:J:65:LEU:N	10:J:71:MET:HE1	2.35	0.42
10:J:68:ASN:N	10:J:68:ASN:OD1	2.53	0.42
14:U:340:GLN:O	14:U:344:ARG:HG2	2.19	0.42
15:V:170:LEU:C	15:V:172:VAL:H	2.27	0.42
16:W:354:LEU:HA	16:W:354:LEU:HD12	1.80	0.42
16:W:370:TYR:CE2	16:W:373:ILE:HD12	2.54	0.42
16:W:435:LEU:HB2	19:Z:236:LEU:CD2	2.50	0.42
18:Y:68:ASP:O	18:Y:72:LYS:HG2	2.20	0.42
24:b:11:ASP:OD1	24:b:12:ASN:N	2.53	0.42
25:c:191:ALA:O	25:c:195:GLY:N	2.52	0.42
26:x:8:LEU:HD23	26:x:9:THR:H	1.84	0.42
26:x:37:PRO:HA	26:x:38:PRO:HD3	1.89	0.42
1:A:112:ILE:HD13	1:A:122:VAL:HG22	2.02	0.42
3:C:136:SER:HA	3:C:139:MET:HG3	2.02	0.42
4:D:201:GLY:HA3	4:D:327:LEU:HD13	2.02	0.42
7:G:72:ILE:HG22	7:G:73:THR:OG1	2.20	0.42
7:G:80:MET:HE1	7:G:138:MET:SD	2.59	0.42
11:K:87:THR:HB	11:K:91:LYS:HZ1	1.85	0.42
12:L:41:LYS:HD2	12:L:180:MET:HA	2.02	0.42
12:L:111:LEU:HA	12:L:111:LEU:HD23	1.76	0.42
12:L:192:LEU:HD13	12:L:192:LEU:HA	1.87	0.42
15:V:331:LEU:HA	15:V:334:VAL:HG12	2.02	0.42
18:Y:13:LYS:HB2	18:Y:16:ASP:CG	2.45	0.42
18:Y:367:GLN:O	18:Y:370:ILE:HG22	2.19	0.42
3:C:59:LEU:HD13	4:D:72:PHE:HE1	1.83	0.42
7:G:67:THR:HG22	7:G:69:LEU:N	2.35	0.42
9:I:61:PHE:CZ	9:I:227:VAL:HB	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:202:GLU:N	12:L:202:GLU:OE1	2.52	0.42
24:b:165:GLY:O	24:b:166:THR:OG1	2.32	0.42
3:C:306:LEU:HD23	3:C:306:LEU:HA	1.82	0.41
10:J:36:ARG:HA	10:J:41:VAL:HG12	2.01	0.41
11:K:69:GLU:HB3	11:K:226:PHE:CD2	2.55	0.41
11:K:224:GLN:OE1	11:K:224:GLN:N	2.51	0.41
12:L:49:LEU:HD21	12:L:199:LEU:HD21	2.02	0.41
12:L:103:LEU:HD12	12:L:104:PRO:HD2	2.01	0.41
14:U:558:GLY:C	14:U:560:MET:H	2.27	0.41
16:W:333:LEU:N	16:W:334:GLU:OE1	2.52	0.41
17:X:365:LEU:HG	17:X:385:LEU:HD21	2.02	0.41
18:Y:241:ILE:HD11	18:Y:261:PHE:CE1	2.47	0.41
18:Y:245:GLU:CD	18:Y:245:GLU:H	2.28	0.41
19:Z:32:GLN:H	19:Z:32:GLN:HG2	1.62	0.41
20:d:33:LEU:HD13	20:d:33:LEU:HA	1.89	0.41
20:d:86:LYS:HD2	20:d:86:LYS:HA	1.54	0.41
24:b:108:ARG:HG3	24:b:109:ILE:N	2.35	0.41
25:c:239:LYS:HE2	25:c:239:LYS:HB2	1.84	0.41
26:u:23:ILE:HB	26:u:52:ASP:OD1	2.20	0.41
26:w:25:ASN:O	26:w:29:LYS:HG3	2.20	0.41
26:w:36:ILE:HG23	26:w:41:GLN:NE2	2.35	0.41
1:A:312:ARG:HG2	1:A:313:GLY:N	2.34	0.41
2:B:371:ARG:CZ	3:C:179:GLY:HA3	2.49	0.41
8:H:42:ASN:HD21	8:H:184:LEU:H	1.68	0.41
16:W:282:GLU:HG2	16:W:283:GLN:H	1.84	0.41
18:Y:18:ARG:HD2	18:Y:18:ARG:HA	1.69	0.41
18:Y:286:TRP:CD1	18:Y:287:LEU:H	2.38	0.41
19:Z:14:LEU:HD12	19:Z:14:LEU:HA	1.86	0.41
20:d:35:PHE:O	20:d:81:TYR:OH	2.24	0.41
26:v:39:ASP:HB2	26:v:74:ARG:HB2	2.01	0.41
1:A:58:LYS:O	1:A:62:LEU:HD23	2.20	0.41
2:B:63:LEU:HD23	2:B:63:LEU:HA	1.88	0.41
5:E:378:LYS:HE3	5:E:378:LYS:HB2	1.92	0.41
7:G:130:GLU:OE1	7:G:130:GLU:N	2.53	0.41
7:G:155:ASP:OD2	7:G:159:TYR:HB3	2.20	0.41
9:I:55:LEU:C	9:I:56:LEU:HD22	2.45	0.41
9:I:176:LYS:HD3	10:J:52:LYS:HE3	2.02	0.41
11:K:88:LEU:HD23	11:K:88:LEU:HA	1.85	0.41
12:L:200:PRO:HB2	12:L:202:GLU:OE1	2.19	0.41
15:V:384:GLU:HG2	15:V:385:LYS:N	2.36	0.41
16:W:147:LYS:O	16:W:151:THR:HG22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:X:205:LYS:HB2	17:X:205:LYS:HE3	1.33	0.41
18:Y:84:LEU:O	18:Y:88:LEU:HG	2.20	0.41
20:d:217:LEU:HA	20:d:221:ASN:O	2.20	0.41
1:A:76:ALA:HA	1:A:79:ASP:OD2	2.21	0.41
2:B:405:MET:HE1	2:B:418:ASP:O	2.20	0.41
4:D:168:GLY:H	27:D:501:ATP:HN61	1.67	0.41
5:E:280:ASN:ND2	5:E:280:ASN:C	2.75	0.41
14:U:472:ILE:HD13	14:U:472:ILE:HG21	1.81	0.41
15:V:225:ASP:O	15:V:228:ARG:N	2.52	0.41
15:V:237:THR:O	15:V:241:ARG:NH2	2.53	0.41
15:V:496:PHE:N	15:V:497:PRO:CD	2.83	0.41
17:X:236:PHE:HB2	17:X:250:SER:OG	2.21	0.41
23:a:127:ASP:O	23:a:131:THR:HB	2.20	0.41
23:a:257:GLN:C	23:a:259:PRO:HD2	2.44	0.41
26:u:16:GLU:O	26:u:29:LYS:NZ	2.54	0.41
26:x:1:MET:HE1	26:x:19:PRO:CD	2.50	0.41
1:A:301:GLU:OE2	1:A:305:GLN:HG2	2.21	0.41
3:C:81:ASP:OD1	3:C:81:ASP:N	2.45	0.41
9:I:38:LEU:HB2	9:I:43:VAL:HG23	2.02	0.41
9:I:63:GLU:CD	9:I:64:LYS:HG3	2.46	0.41
9:I:238:LYS:O	9:I:242:GLU:HG2	2.21	0.41
13:M:210:GLU:HG2	13:M:211:LEU:H	1.84	0.41
14:U:667:GLU:CD	14:U:667:GLU:N	2.78	0.41
16:W:152:ILE:HG23	16:W:157:GLY:HA2	2.02	0.41
16:W:227:TYR:HD1	16:W:227:TYR:HA	1.78	0.41
16:W:456:GLN:OE1	16:W:456:GLN:N	2.53	0.41
17:X:157:LEU:HD21	17:X:165:LEU:C	2.45	0.41
23:a:229:ASP:OD1	23:a:229:ASP:N	2.54	0.41
26:v:42:ARG:NH2	26:v:49:GLN:HB2	2.35	0.41
1:A:284:ARG:HH11	1:A:299:MET:HE1	1.86	0.41
2:B:64:LYS:CG	2:B:67:ARG:HH21	2.33	0.41
4:D:200:ARG:HH22	4:D:301:GLN:H	1.66	0.41
14:U:800:VAL:HG22	14:U:801:GLN:N	2.35	0.41
16:W:251:TYR:CE1	16:W:267:LEU:HD21	2.54	0.41
16:W:316:ARG:O	16:W:317:TRP:HB3	2.20	0.41
17:X:202:CYS:N	17:X:203:PRO:CD	2.84	0.41
18:Y:286:TRP:O	18:Y:287:LEU:HG	2.21	0.41
18:Y:362:LYS:HD2	18:Y:362:LYS:HA	1.81	0.41
20:d:170:LEU:O	20:d:173:THR:HG22	2.21	0.41
20:d:184:LYS:HA	20:d:184:LYS:HD3	1.82	0.41
22:f:70:LEU:O	22:f:74:ALA:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:a:77:VAL:HG21	23:a:110:ALA:HB3	2.01	0.41
25:c:31:VAL:HG22	25:c:67:VAL:CG1	2.51	0.41
1:A:184:ILE:HD13	1:A:184:ILE:HA	1.74	0.41
1:A:297:ARG:HH12	6:F:306:VAL:HG21	1.86	0.41
2:B:102:LEU:HD13	2:B:102:LEU:HA	1.82	0.41
2:B:319:PHE:O	2:B:319:PHE:CG	2.73	0.41
3:C:163:GLU:HA	3:C:167:LEU:HD13	2.02	0.41
4:D:45:LYS:HA	4:D:45:LYS:HD2	1.63	0.41
7:G:125:TYR:HA	7:G:131:MET:HE2	2.01	0.41
13:M:70:ASP:OD2	13:M:71:ARG:N	2.51	0.41
15:V:224:LEU:O	15:V:227:VAL:HB	2.21	0.41
16:W:188:GLU:O	16:W:191:ARG:HG2	2.21	0.41
2:B:205:LEU:HD23	2:B:205:LEU:HA	1.88	0.41
3:C:188:LEU:O	3:C:294:ALA:HA	2.21	0.41
5:E:282:PRO:HA	5:E:285:LEU:HD23	2.02	0.41
9:I:150:SER:OG	9:I:151:ASP:N	2.54	0.41
11:K:191:LEU:HD12	11:K:191:LEU:HA	1.85	0.41
16:W:346:GLU:OE2	16:W:350:ARG:NE	2.53	0.41
17:X:122:ARG:HE	17:X:122:ARG:HB2	1.76	0.41
17:X:397:TYR:HD1	17:X:397:TYR:HA	1.72	0.41
18:Y:13:LYS:CE	18:Y:146:ARG:HB3	2.50	0.41
18:Y:83:ARG:HA	18:Y:86:GLU:OE1	2.20	0.41
23:a:161:LYS:O	23:a:164:GLN:HB3	2.21	0.41
24:b:133:LYS:HE3	24:b:133:LYS:HB3	1.61	0.41
26:x:17:VAL:HG12	26:x:29:LYS:NZ	2.35	0.41
2:B:56:THR:HG23	2:B:58:CYS:H	1.86	0.41
4:D:215:LEU:HA	4:D:215:LEU:HD23	1.86	0.41
4:D:337:ASP:OD1	4:D:338:ARG:N	2.46	0.41
5:E:145:LEU:O	5:E:148:VAL:HG12	2.20	0.41
5:E:376:ASP:OD1	5:E:376:ASP:C	2.63	0.41
6:F:78:GLU:O	6:F:82:VAL:HG13	2.21	0.41
10:J:63:CYS:SG	10:J:64:ALA:N	2.93	0.41
16:W:162:ALA:HA	16:W:192:LEU:HD23	2.01	0.41
16:W:366:MET:HE2	16:W:366:MET:HB3	1.93	0.41
16:W:438:LEU:HD12	16:W:438:LEU:HA	1.76	0.41
18:Y:45:VAL:HG23	18:Y:46:ARG:HD3	2.03	0.41
18:Y:241:ILE:HD12	18:Y:241:ILE:HA	1.95	0.41
18:Y:311:TYR:CD2	18:Y:314:LEU:HD22	2.56	0.41
20:d:16:LEU:O	20:d:18:LYS:N	2.48	0.41
20:d:57:ILE:HG13	20:d:61:TRP:NE1	2.36	0.41
23:a:141:MET:SD	23:a:141:MET:N	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:b:52:ILE:HG22	24:b:53:THR:N	2.36	0.41
26:x:58:ASP:OD1	26:x:58:ASP:N	2.54	0.41
2:B:80:ARG:CG	2:B:84:GLN:HE22	2.31	0.41
4:D:284:GLU:O	4:D:288:ILE:HG13	2.21	0.41
11:K:199:LEU:HD21	11:K:217:LEU:HD21	2.03	0.41
14:U:132:GLY:HA2	14:U:135:ASN:ND2	2.35	0.41
14:U:727:LYS:O	14:U:731:ILE:HG22	2.19	0.41
15:V:470:ARG:HH11	20:d:238:PRO:HG3	1.85	0.41
16:W:216:GLU:H	16:W:216:GLU:CD	2.27	0.41
20:d:24:GLY:O	20:d:28:LEU:HG	2.21	0.41
20:d:200:PHE:CG	20:d:205:LYS:HD2	2.56	0.41
24:b:33:VAL:HA	24:b:36:VAL:HG12	2.03	0.41
1:A:53:GLN:HG3	1:A:57:LYS:HZ1	1.86	0.40
1:A:78:TRP:CG	2:B:138:PHE:HB3	2.56	0.40
1:A:233:THR:OG1	1:A:234:ASP:N	2.54	0.40
4:D:156:SER:OG	4:D:157:ASP:OD1	2.38	0.40
4:D:355:SER:OG	4:D:356:GLU:N	2.52	0.40
5:E:309:ARG:NE	5:E:335:SER:O	2.54	0.40
6:F:373:MET:HE3	6:F:373:MET:HB3	1.80	0.40
6:F:435:LEU:HD22	6:F:435:LEU:HA	1.88	0.40
8:H:67:PRO:HB3	8:H:218:PHE:CE2	2.57	0.40
11:K:121:LEU:HD12	12:L:79:ALA:HB3	2.03	0.40
12:L:162:GLY:C	12:L:165:SER:HG	2.26	0.40
13:M:42:LYS:HE2	13:M:183:GLU:O	2.20	0.40
14:U:34:PHE:O	14:U:38:ILE:HG12	2.21	0.40
15:V:264:TYR:CD2	15:V:265:ASP:N	2.89	0.40
15:V:471:GLU:N	15:V:472:PRO:HD2	2.36	0.40
18:Y:299:MET:O	18:Y:300:ARG:C	2.64	0.40
19:Z:219:LYS:HD3	19:Z:220:LEU:N	2.33	0.40
20:d:43:LEU:HA	20:d:45:LYS:NZ	2.36	0.40
23:a:69:HIS:HB3	23:a:76:LEU:HD11	2.03	0.40
25:c:163:ILE:HG23	25:c:164:ASN:O	2.21	0.40
1:A:74:PRO:HA	1:A:75:PRO:HD3	1.96	0.40
1:A:344:SER:OG	1:A:345:LEU:N	2.53	0.40
2:B:216:ILE:HD13	2:B:216:ILE:HA	1.72	0.40
3:C:116:LEU:HD23	3:C:117:ARG:O	2.21	0.40
3:C:273:MET:HE2	3:C:293:MET:HE1	2.02	0.40
6:F:251:LEU:HD12	6:F:252:ALA:H	1.86	0.40
8:H:118:MET:HE3	8:H:118:MET:HB2	1.81	0.40
14:U:43:ASP:O	14:U:47:VAL:HG23	2.20	0.40
14:U:333:MET:HA	14:U:336:GLU:OE2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:V:307:ARG:HG3	15:V:308:THR:N	2.36	0.40
16:W:225:LYS:O	16:W:229:LEU:HG	2.21	0.40
17:X:137:TYR:O	17:X:140:THR:OG1	2.31	0.40
18:Y:204:THR:HG22	18:Y:219:PHE:HE2	1.85	0.40
20:d:200:PHE:CE2	20:d:206:MET:HB3	2.53	0.40
26:x:74:ARG:NH1	26:w:46:ALA:HB3	2.36	0.40
1:A:222:LYS:H	1:A:222:LYS:HG2	1.71	0.40
2:B:170:LEU:HD12	2:B:173:VAL:HG21	2.02	0.40
6:F:114:ASP:OD1	6:F:114:ASP:N	2.55	0.40
11:K:85:ALA:O	11:K:89:ILE:HG12	2.21	0.40
11:K:236:GLU:HA	11:K:239:LYS:NZ	2.36	0.40
13:M:120:HIS:O	13:M:123:THR:HG22	2.22	0.40
15:V:343:PRO:O	15:V:344:ASP:HB2	2.22	0.40
16:W:442:THR:HA	19:Z:229:GLN:OE1	2.21	0.40
17:X:132:ARG:HA	17:X:132:ARG:HE	1.86	0.40
18:Y:70:LEU:HB3	18:Y:74:LYS:NZ	2.35	0.40
26:u:37:PRO:HA	26:u:38:PRO:HD3	1.95	0.40
26:u:51:GLU:H	26:u:54:ARG:NH2	2.20	0.40
26:x:63:ARG:NH1	26:x:63:ARG:HA	2.36	0.40
3:C:83:LYS:HA	3:C:105:ILE:HD11	2.03	0.40
3:C:273:MET:HE3	3:C:305:LEU:HD11	2.03	0.40
7:G:216:GLU:N	7:G:216:GLU:OE1	2.54	0.40
12:L:49:LEU:HD12	12:L:209:ASN:O	2.21	0.40
13:M:241:GLU:O	13:M:244:LYS:HG2	2.20	0.40
14:U:23:ALA:O	14:U:26:LYS:HG2	2.22	0.40
14:U:131:GLU:CD	14:U:135:ASN:HD22	2.29	0.40
15:V:170:LEU:C	15:V:172:VAL:N	2.80	0.40
15:V:415:SER:O	15:V:459:GLN:HA	2.22	0.40
17:X:162:ASP:O	17:X:163:LYS:HD3	2.22	0.40
18:Y:155:ASP:OD1	18:Y:155:ASP:N	2.54	0.40
19:Z:112:MET:C	19:Z:112:MET:SD	3.05	0.40
23:a:18:GLN:HG2	23:a:18:GLN:O	2.20	0.40
23:a:258:GLN:N	23:a:259:PRO:HD2	2.37	0.40
26:u:43:LEU:HA	26:u:43:LEU:HD23	1.89	0.40
2:B:94:GLU:HG3	2:B:98:LYS:NZ	2.36	0.40
3:C:71:SER:OG	4:D:112:TYR:HD2	2.04	0.40
5:E:47:LEU:C	5:E:47:LEU:HD13	2.46	0.40
7:G:224:ASN:N	7:G:224:ASN:OD1	2.53	0.40
10:J:51:ALA:O	10:J:52:LYS:HG3	2.21	0.40
10:J:170:GLU:HA	10:J:173:GLU:OE2	2.21	0.40
10:J:183:THR:N	10:J:186:LEU:HD12	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:195:LEU:O	12:L:198:THR:HG22	2.22	0.40
13:M:175:GLU:N	13:M:175:GLU:OE1	2.55	0.40
14:U:263:SER:O	14:U:266:GLN:HG3	2.22	0.40
15:V:337:LEU:HA	15:V:337:LEU:HD13	1.89	0.40
17:X:132:ARG:HA	17:X:132:ARG:NE	2.37	0.40
19:Z:70:LEU:C	19:Z:70:LEU:HD13	2.47	0.40
20:d:11:ARG:NH1	20:d:11:ARG:HA	2.36	0.40
25:c:33:ILE:HD11	25:c:38:LEU:HD12	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	392/433 (90%)	337 (86%)	51 (13%)	4 (1%)	12	43
2	B	382/440 (87%)	337 (88%)	42 (11%)	3 (1%)	16	48
3	C	361/406 (89%)	328 (91%)	32 (9%)	1 (0%)	36	67
4	D	378/418 (90%)	335 (89%)	41 (11%)	2 (0%)	24	57
5	E	373/389 (96%)	342 (92%)	31 (8%)	0	100	100
6	F	393/439 (90%)	358 (91%)	32 (8%)	3 (1%)	16	48
7	G	238/246 (97%)	224 (94%)	14 (6%)	0	100	100
8	H	230/234 (98%)	216 (94%)	14 (6%)	0	100	100
9	I	248/261 (95%)	227 (92%)	21 (8%)	0	100	100
10	J	237/248 (96%)	217 (92%)	19 (8%)	1 (0%)	30	62
11	K	232/241 (96%)	210 (90%)	19 (8%)	3 (1%)	9	38
12	L	236/263 (90%)	214 (91%)	22 (9%)	0	100	100
13	M	238/255 (93%)	219 (92%)	19 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	U	809/953 (85%)	750 (93%)	59 (7%)	0	100	100
15	V	489/534 (92%)	423 (86%)	65 (13%)	1 (0%)	43	73
16	W	454/456 (100%)	412 (91%)	40 (9%)	2 (0%)	30	62
17	X	378/422 (90%)	342 (90%)	33 (9%)	3 (1%)	16	48
18	Y	376/389 (97%)	337 (90%)	39 (10%)	0	100	100
19	Z	284/324 (88%)	260 (92%)	24 (8%)	0	100	100
20	d	255/350 (73%)	208 (82%)	46 (18%)	1 (0%)	30	62
21	e	45/70 (64%)	32 (71%)	13 (29%)	0	100	100
22	f	876/908 (96%)	727 (83%)	141 (16%)	8 (1%)	14	45
23	a	371/376 (99%)	343 (92%)	27 (7%)	1 (0%)	36	67
24	b	189/377 (50%)	164 (87%)	24 (13%)	1 (0%)	24	57
25	c	285/310 (92%)	256 (90%)	29 (10%)	0	100	100
26	u	74/81 (91%)	73 (99%)	1 (1%)	0	100	100
26	v	74/81 (91%)	73 (99%)	1 (1%)	0	100	100
26	w	74/81 (91%)	70 (95%)	4 (5%)	0	100	100
26	x	74/81 (91%)	71 (96%)	3 (4%)	0	100	100
All	All	9045/10066 (90%)	8105 (90%)	906 (10%)	34 (0%)	31	62

All (34) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	K	128	ALA
15	V	344	ASP
20	d	33	LEU
22	f	344	VAL
22	f	353	LEU
22	f	356	ASN
22	f	787	LEU
22	f	838	ARG
22	f	842	VAL
24	b	24	THR
2	B	181	GLN
6	F	280	PRO
4	D	367	PRO
4	D	368	ASP
11	K	133	MET

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Mol	Chain	Res	Type
17	X	188	ALA
17	X	199	ALA
22	f	335	ARG
22	f	841	PRO
23	a	16	PRO
1	A	309	PHE
1	A	399	ALA
10	J	27	LYS
16	W	312	MET
17	X	202	CYS
2	B	370	SER
2	B	169	PRO
3	C	91	PRO
1	A	378	PRO
11	K	129	ASP
6	F	87	PRO
16	W	418	PRO
1	A	157	ILE
6	F	205	PRO

5.3.2 Protein sidechains ⓘ

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	337/372 (91%)	331 (98%)	6 (2%)	51	67
2	B	334/385 (87%)	324 (97%)	10 (3%)	36	57
3	C	311/352 (88%)	300 (96%)	11 (4%)	32	54
4	D	333/366 (91%)	317 (95%)	16 (5%)	23	47
5	E	329/341 (96%)	325 (99%)	4 (1%)	63	72
6	F	339/379 (89%)	332 (98%)	7 (2%)	47	64
7	G	193/210 (92%)	193 (100%)	0	100	100
8	H	164/191 (86%)	164 (100%)	0	100	100
9	I	193/221 (87%)	193 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	J	154/211 (73%)	150 (97%)	4 (3%)	40	60
11	K	189/203 (93%)	186 (98%)	3 (2%)	55	68
12	L	198/224 (88%)	195 (98%)	3 (2%)	57	69
13	M	192/212 (91%)	192 (100%)	0	100	100
14	U	695/816 (85%)	687 (99%)	8 (1%)	63	72
15	V	236/460 (51%)	233 (99%)	3 (1%)	61	71
16	W	291/416 (70%)	282 (97%)	9 (3%)	35	57
17	X	262/362 (72%)	246 (94%)	16 (6%)	17	43
18	Y	334/344 (97%)	326 (98%)	8 (2%)	43	62
19	Z	257/295 (87%)	254 (99%)	3 (1%)	63	72
20	d	212/294 (72%)	198 (93%)	14 (7%)	15	41
21	e	12/63 (19%)	12 (100%)	0	100	100
23	a	333/336 (99%)	330 (99%)	3 (1%)	70	74
24	b	167/312 (54%)	165 (99%)	2 (1%)	63	72
25	c	252/268 (94%)	246 (98%)	6 (2%)	43	62
26	u	68/70 (97%)	67 (98%)	1 (2%)	57	69
26	v	68/70 (97%)	68 (100%)	0	100	100
26	w	68/70 (97%)	67 (98%)	1 (2%)	57	69
26	x	68/70 (97%)	66 (97%)	2 (3%)	37	58
All	All	6589/7913 (83%)	6449 (98%)	140 (2%)	46	64

All (140) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	110	LYS
1	A	150	HIS
1	A	157	ILE
1	A	160	THR
1	A	357	ILE
1	A	426	THR
2	B	177	GLU
2	B	178	LYS
2	B	181	GLN
2	B	187	ILE
2	B	192	ASN

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Mol	Chain	Res	Type
2	B	194	ILE
2	B	314	ASN
2	B	315	GLN
2	B	317	ASP
2	B	371	ARG
3	C	33	LEU
3	C	39	SER
3	C	92	GLU
3	C	125	LYS
3	C	126	ILE
3	C	134	LEU
3	C	136	SER
3	C	180	ILE
3	C	250	GLU
3	C	251	ILE
3	C	383	PHE
4	D	46	LYS
4	D	47	LEU
4	D	54	LEU
4	D	56	VAL
4	D	60	TYR
4	D	96	VAL
4	D	98	GLN
4	D	99	ASN
4	D	100	THR
4	D	328	ASP
4	D	352	MET
4	D	353	ASN
4	D	354	LEU
4	D	358	VAL
4	D	360	LEU
4	D	368	ASP
5	E	145	LEU
5	E	190	GLN
5	E	223	ARG
5	E	310	LEU
6	F	215	LEU
6	F	277	GLU
6	F	278	LYS
6	F	281	SER
6	F	282	ILE
6	F	320	PHE

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Mol	Chain	Res	Type
6	F	435	LEU
10	J	95	ARG
10	J	98	VAL
10	J	100	ASP
10	J	147	THR
11	K	21	LEU
11	K	129	ASP
11	K	133	MET
12	L	207	THR
12	L	226	ASP
12	L	227	ASP
14	U	118	LEU
14	U	371	ILE
14	U	387	ARG
14	U	388	ASP
14	U	527	GLN
14	U	603	LEU
14	U	622	LEU
14	U	755	THR
15	V	210	CYS
15	V	220	PHE
15	V	497	PRO
16	W	313	GLU
16	W	314	LEU
16	W	315	MET
16	W	316	ARG
16	W	341	PHE
16	W	351	TRP
16	W	412	ILE
16	W	419	LYS
16	W	425	LEU
17	X	182	ASN
17	X	190	LEU
17	X	191	THR
17	X	192	SER
17	X	194	ARG
17	X	196	THR
17	X	200	ILE
17	X	205	LYS
17	X	374	PHE
17	X	390	GLU
17	X	395	LYS

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Mol	Chain	Res	Type
17	X	396	THR
17	X	397	TYR
17	X	398	GLU
17	X	408	SER
17	X	409	LYS
18	Y	50	MET
18	Y	232	GLU
18	Y	233	ARG
18	Y	242	LYS
18	Y	245	GLU
18	Y	246	ILE
18	Y	247	LEU
18	Y	248	GLU
19	Z	226	ILE
19	Z	288	LYS
19	Z	289	GLU
20	d	11	ARG
20	d	33	LEU
20	d	34	ASN
20	d	36	LEU
20	d	66	LYS
20	d	67	ASP
20	d	70	SER
20	d	73	ARG
20	d	84	ASP
20	d	89	LEU
20	d	92	SER
20	d	96	HIS
20	d	97	GLN
20	d	167	ILE
23	a	63	PHE
23	a	64	ILE
23	a	341	LEU
24	b	132	LYS
24	b	133	LYS
25	c	145	VAL
25	c	196	LEU
25	c	204	THR
25	c	249	LEU
25	c	303	MET
25	c	308	VAL
26	u	7	THR

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Mol	Chain	Res	Type
26	x	7	THR
26	x	58	ASP
26	w	4	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (65) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	47	GLN
1	A	85	GLN
1	A	88	GLN
2	B	84	GLN
2	B	207	HIS
2	B	306	GLN
3	C	90	HIS
3	C	221	GLN
3	C	288	ASN
3	C	332	HIS
4	D	65	GLN
4	D	137	ASN
4	D	187	HIS
4	D	222	HIS
4	D	237	GLN
5	E	271	HIS
5	E	359	HIS
6	F	243	GLN
6	F	307	GLN
7	G	33	ASN
7	G	68	HIS
7	G	172	GLN
7	G	238	HIS
8	H	21	GLN
9	I	30	HIS
9	I	123	GLN
12	L	143	HIS
14	U	215	ASN
14	U	421	GLN
14	U	677	ASN
14	U	697	GLN
14	U	718	ASN
14	U	888	GLN
15	V	282	ASN
15	V	318	GLN

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Mol	Chain	Res	Type
15	V	387	GLN
15	V	487	HIS
16	W	156	ASN
16	W	433	ASN
16	W	444	HIS
17	X	178	HIS
17	X	198	ASN
17	X	207	GLN
17	X	262	ASN
18	Y	273	GLN
18	Y	357	ASN
19	Z	32	GLN
19	Z	194	GLN
19	Z	202	ASN
19	Z	224	HIS
20	d	60	GLN
20	d	109	GLN
20	d	141	GLN
20	d	252	GLN
23	a	46	GLN
24	b	12	ASN
24	b	76	HIS
25	c	30	GLN
25	c	44	HIS
25	c	92	GLN
25	c	237	HIS
26	v	41	GLN
26	u	2	GLN
26	x	40	GLN
26	w	41	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 11 ligands modelled in this entry, 5 are monoatomic - leaving 6 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
27	ATP	B	501	28	32,33,33	1.35	2 (6%)	48,52,52	0.50	0
27	ATP	E	401	28	32,33,33	1.64	2 (6%)	48,52,52	0.64	0
27	ATP	A	501	28	32,33,33	1.24	2 (6%)	48,52,52	0.51	0
29	ADP	F	501	28	28,29,29	1.43	4 (14%)	43,45,45	1.90	11 (25%)
27	ATP	D	501	28	32,33,33	1.45	2 (6%)	48,52,52	0.55	0
29	ADP	C	501	-	28,29,29	1.38	6 (21%)	43,45,45	1.93	9 (20%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	ATP	B	501	28	-	4/22/38/38	0/3/3/3
27	ATP	E	401	28	-	9/22/38/38	0/3/3/3
27	ATP	A	501	28	-	6/22/38/38	0/3/3/3
29	ADP	F	501	28	-	5/16/32/32	0/3/3/3
27	ATP	D	501	28	-	5/22/38/38	0/3/3/3
29	ADP	C	501	-	-	2/16/32/32	0/3/3/3

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	E	401	ATP	PA-O3A	-8.26	1.50	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	B	501	ATP	PB-O3B	-6.30	1.52	1.59
27	D	501	ATP	PB-O3B	-6.04	1.53	1.59
27	D	501	ATP	PA-O3A	-4.68	1.54	1.59
27	A	501	ATP	PB-O3B	-4.58	1.54	1.59
29	C	501	ADP	C5-C4	4.35	1.46	1.39
27	A	501	ATP	PA-O3A	-4.30	1.54	1.59
29	F	501	ADP	C5-C4	3.94	1.46	1.39
27	B	501	ATP	PA-O3A	-3.45	1.55	1.59
29	F	501	ADP	C5-N7	-3.26	1.33	1.39
29	C	501	ADP	C5-N7	-2.76	1.34	1.39
27	E	401	ATP	PB-O3B	-2.72	1.56	1.59
29	F	501	ADP	C4-N9	-2.54	1.32	1.37
29	C	501	ADP	C5-C6	2.32	1.47	1.41
29	F	501	ADP	C8-N9	-2.18	1.33	1.37
29	C	501	ADP	C8-N9	-2.16	1.33	1.37
29	C	501	ADP	C8-N7	2.11	1.35	1.31
29	C	501	ADP	C4-N9	-2.09	1.33	1.37

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	C	501	ADP	C5-C4-N3	-6.40	117.91	126.72
29	F	501	ADP	C5-C4-N3	-5.73	118.82	126.72
29	C	501	ADP	N3-C4-N9	4.95	135.58	127.17
29	F	501	ADP	N3-C4-N9	4.61	135.01	127.17
29	C	501	ADP	C4-C5-N7	-3.80	106.23	110.58
29	C	501	ADP	C2-N3-C4	3.60	120.62	111.83
29	F	501	ADP	C2-N3-C4	3.54	120.47	111.83
29	F	501	ADP	N3-C2-N1	-3.24	123.67	128.58
29	C	501	ADP	C3'-C2'-C1'	2.90	106.95	101.46
29	C	501	ADP	N3-C2-N1	-2.82	124.32	128.58
29	F	501	ADP	O4'-C1'-N9	2.79	113.45	108.09
29	F	501	ADP	C4-C5-N7	-2.76	107.42	110.58
29	C	501	ADP	C5-N7-C8	2.73	107.75	103.45
29	F	501	ADP	O3B-PB-O2B	2.73	118.03	107.80
29	F	501	ADP	C2'-C1'-N9	-2.61	106.81	113.30
29	C	501	ADP	C4-N9-C8	2.60	108.46	105.74
29	F	501	ADP	O3'-C3'-C2'	-2.44	103.98	111.82
29	F	501	ADP	C4-N9-C8	2.19	108.04	105.74
29	F	501	ADP	O3A-PA-O1A	-2.09	104.42	110.70
29	C	501	ADP	N9-C8-N7	-2.04	111.05	113.94

There are no chirality outliers.

All (31) torsion outliers are listed below:

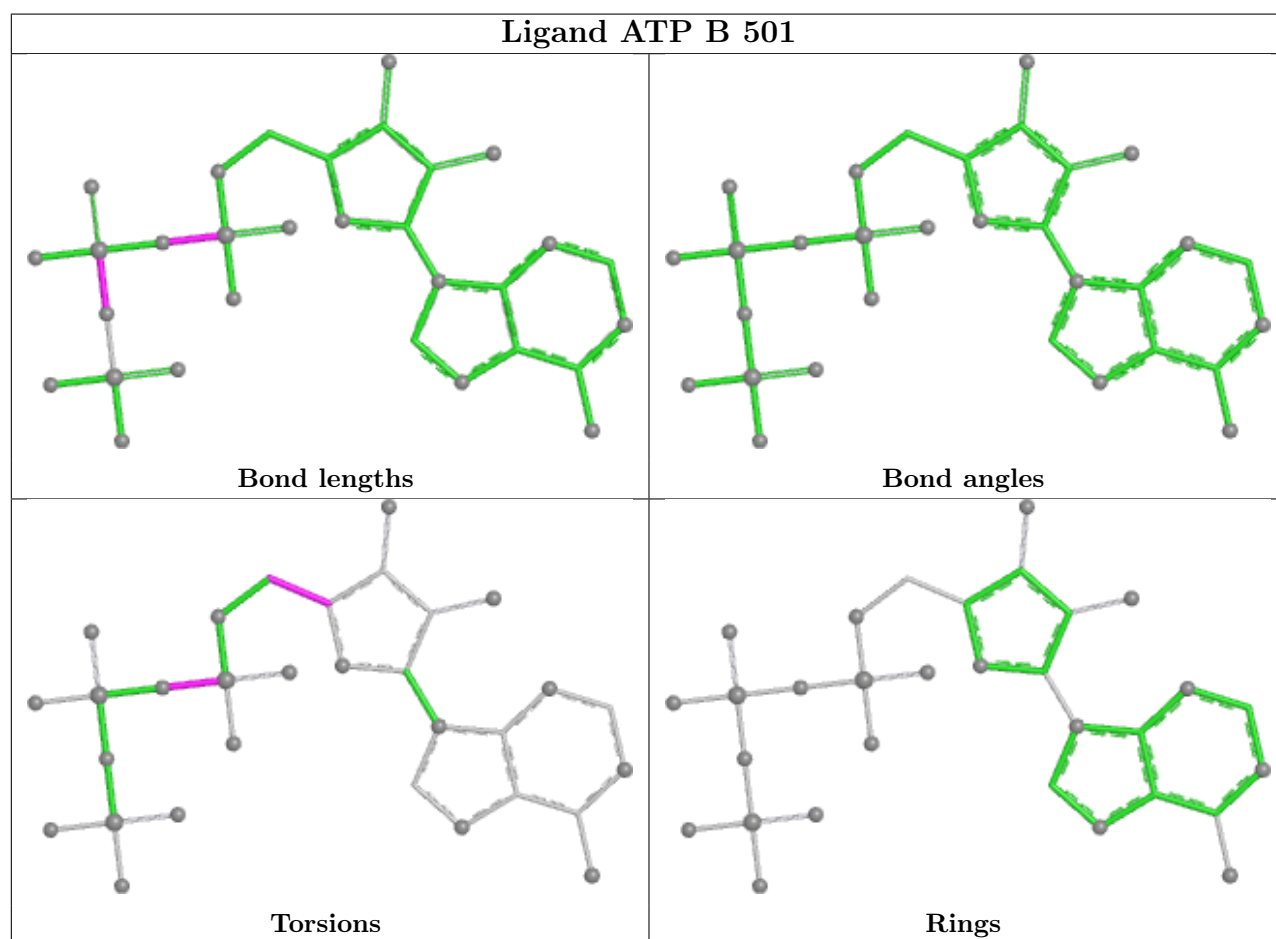
Mol	Chain	Res	Type	Atoms
27	A	501	ATP	C5'-O5'-PA-O1A
27	A	501	ATP	C5'-O5'-PA-O3A
27	E	401	ATP	PB-O3B-PG-O2G
27	E	401	ATP	C5'-O5'-PA-O1A
27	E	401	ATP	C5'-O5'-PA-O2A
27	E	401	ATP	C5'-O5'-PA-O3A
27	E	401	ATP	O4'-C4'-C5'-O5'
27	E	401	ATP	C3'-C4'-C5'-O5'
29	F	501	ADP	C5'-O5'-PA-O1A
29	F	501	ADP	O4'-C1'-N9-C8
29	F	501	ADP	O4'-C1'-N9-C4
29	F	501	ADP	O4'-C4'-C5'-O5'
29	F	501	ADP	C3'-C4'-C5'-O5'
27	D	501	ATP	O4'-C1'-N9-C8
27	D	501	ATP	O4'-C1'-N9-C4
27	A	501	ATP	O4'-C4'-C5'-O5'
27	B	501	ATP	PB-O3A-PA-O1A
29	C	501	ADP	PB-O3A-PA-O1A
27	A	501	ATP	C5'-O5'-PA-O2A
27	D	501	ATP	C5'-O5'-PA-O3A
29	C	501	ADP	C5'-O5'-PA-O1A
27	B	501	ATP	O4'-C4'-C5'-O5'
27	B	501	ATP	C3'-C4'-C5'-O5'
27	A	501	ATP	C3'-C4'-C5'-O5'
27	D	501	ATP	PG-O3B-PB-O1B
27	E	401	ATP	PB-O3B-PG-O3G
27	E	401	ATP	C2'-C1'-N9-C8
27	E	401	ATP	C2'-C1'-N9-C4
27	A	501	ATP	PG-O3B-PB-O2B
27	B	501	ATP	PB-O3A-PA-O2A
27	D	501	ATP	PG-O3B-PB-O2B

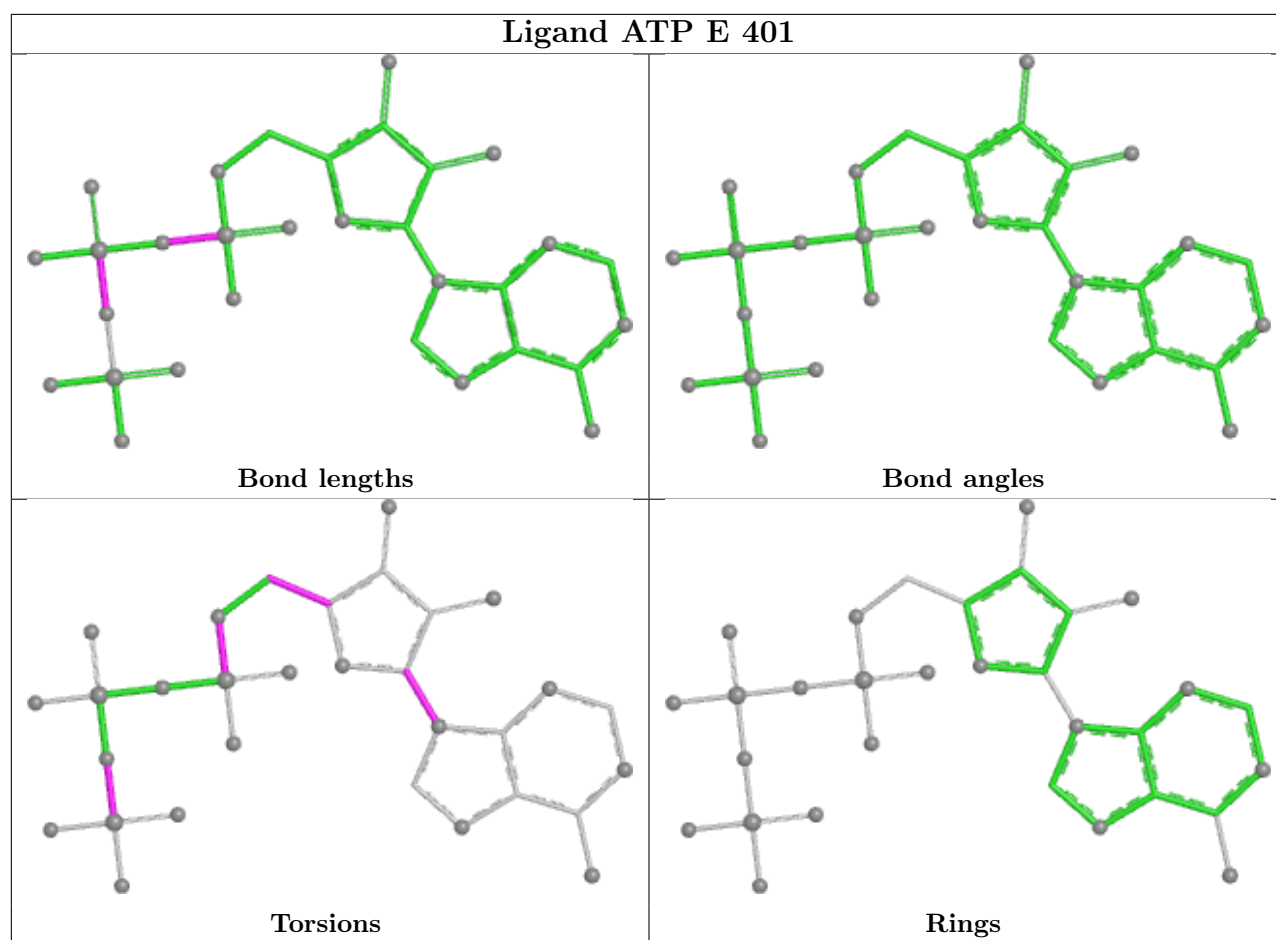
There are no ring outliers.

4 monomers are involved in 7 short contacts:

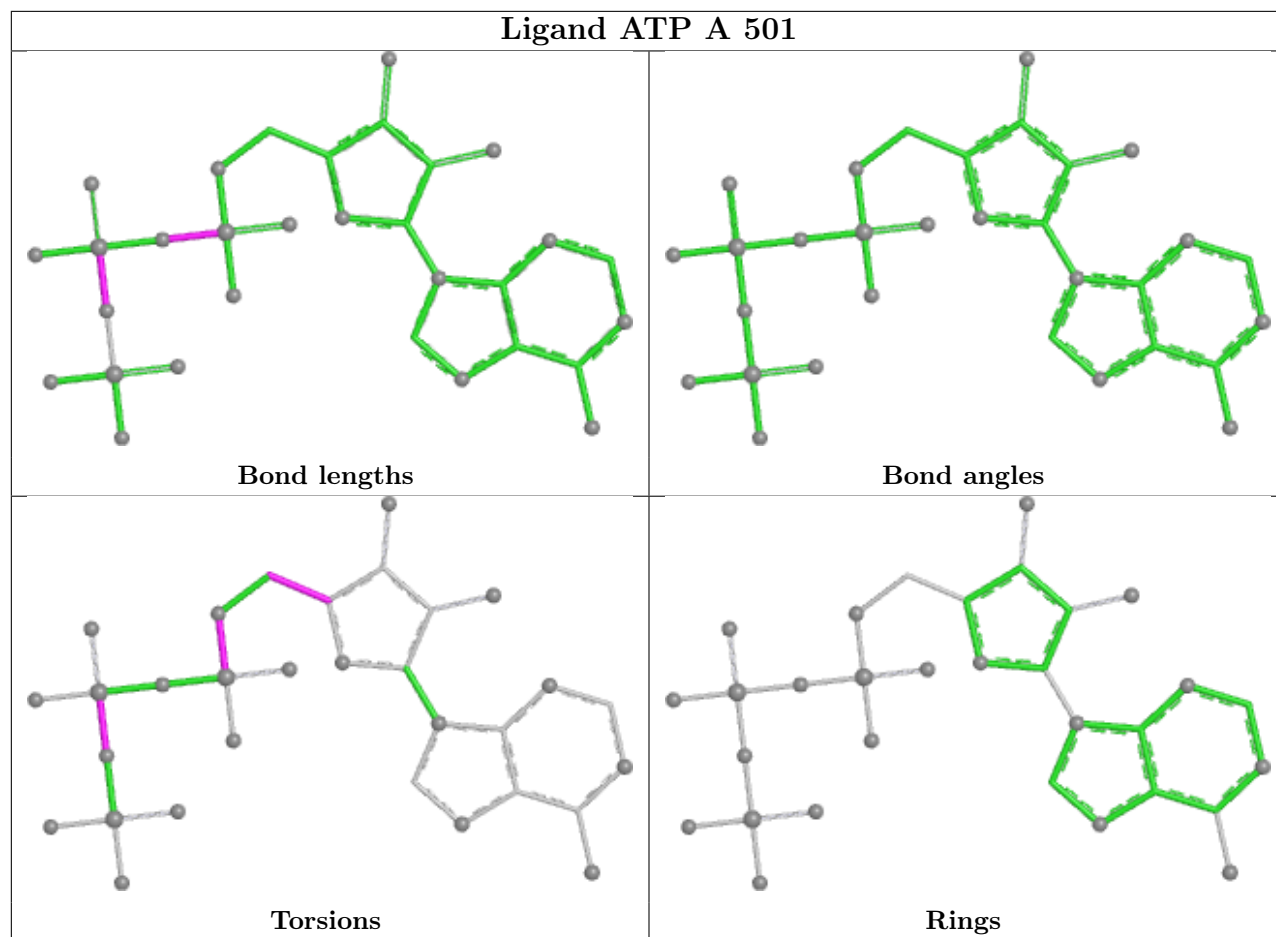
Mol	Chain	Res	Type	Clashes	Symm-Clashes
27	E	401	ATP	2	0
29	F	501	ADP	1	0
27	D	501	ATP	1	0
29	C	501	ADP	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

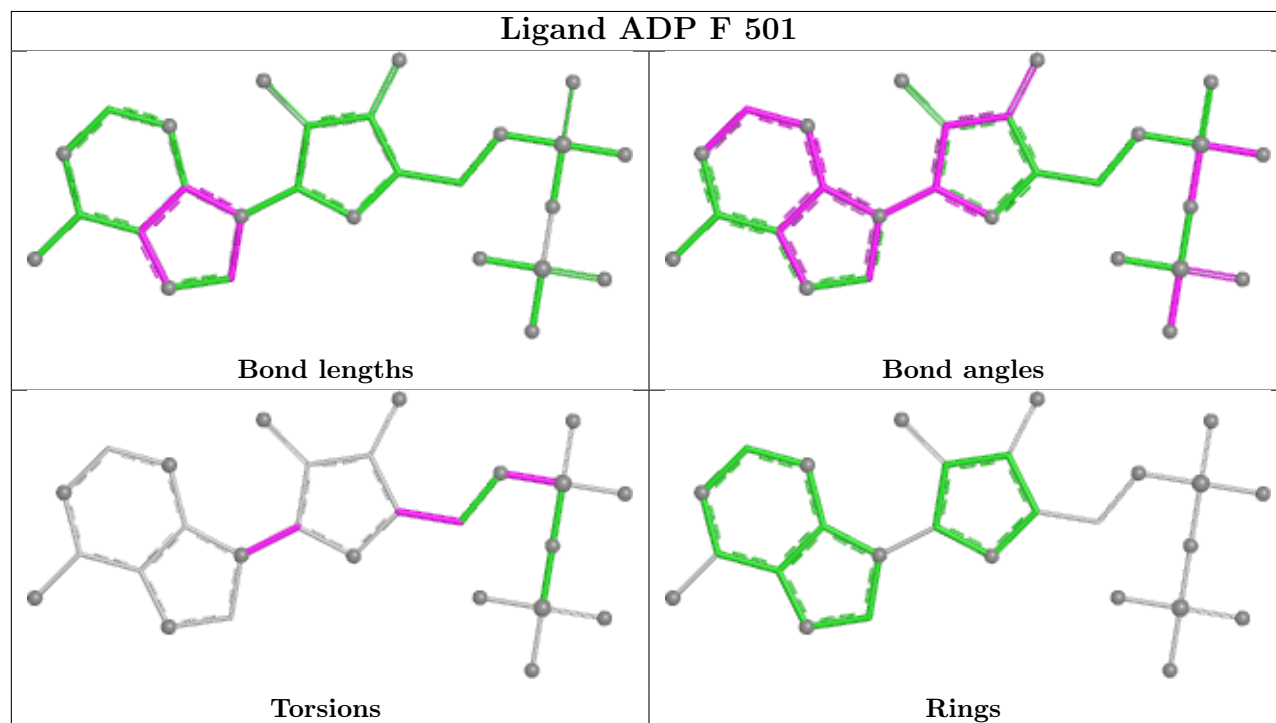




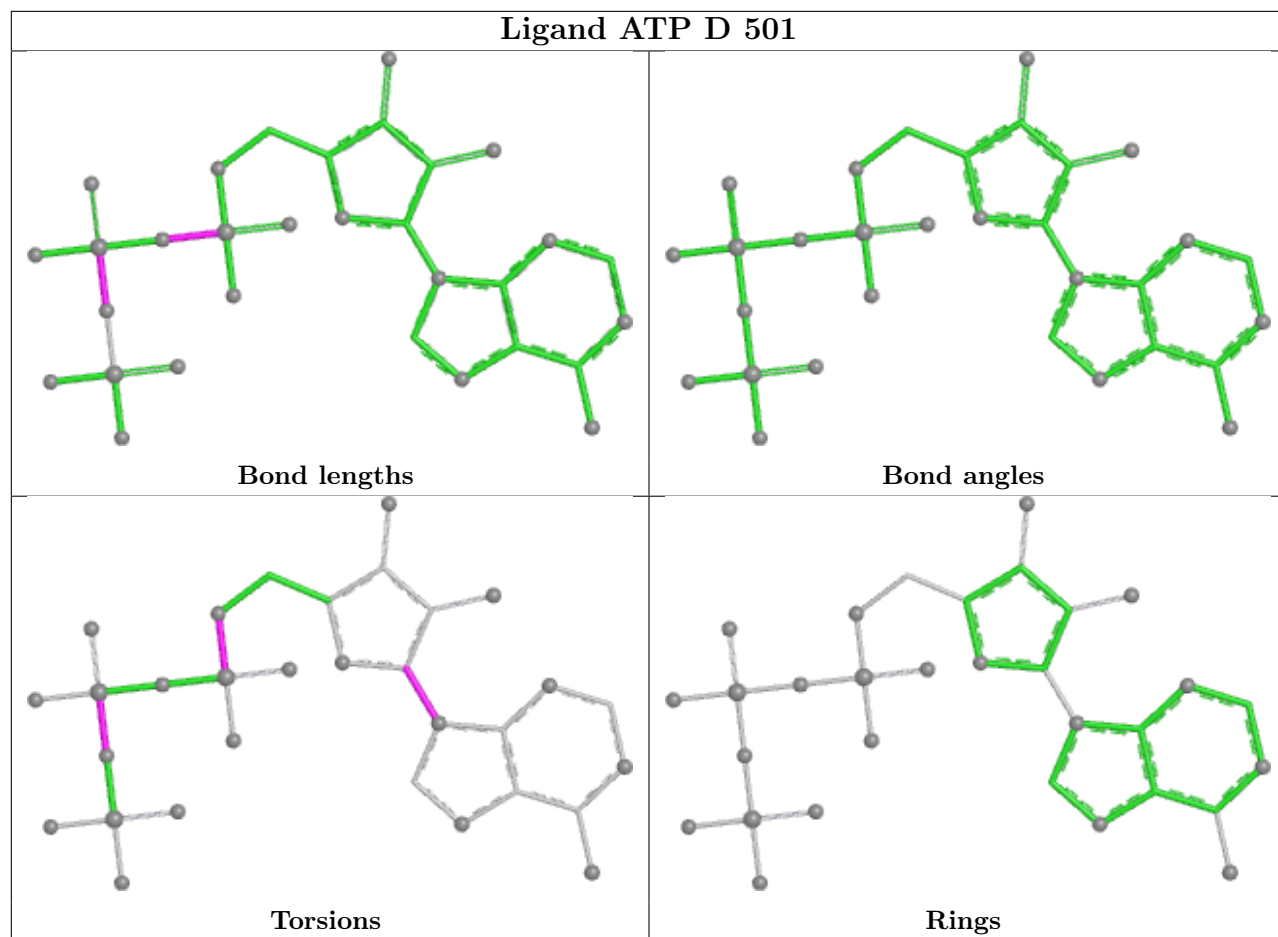
Ligand ATP A 501



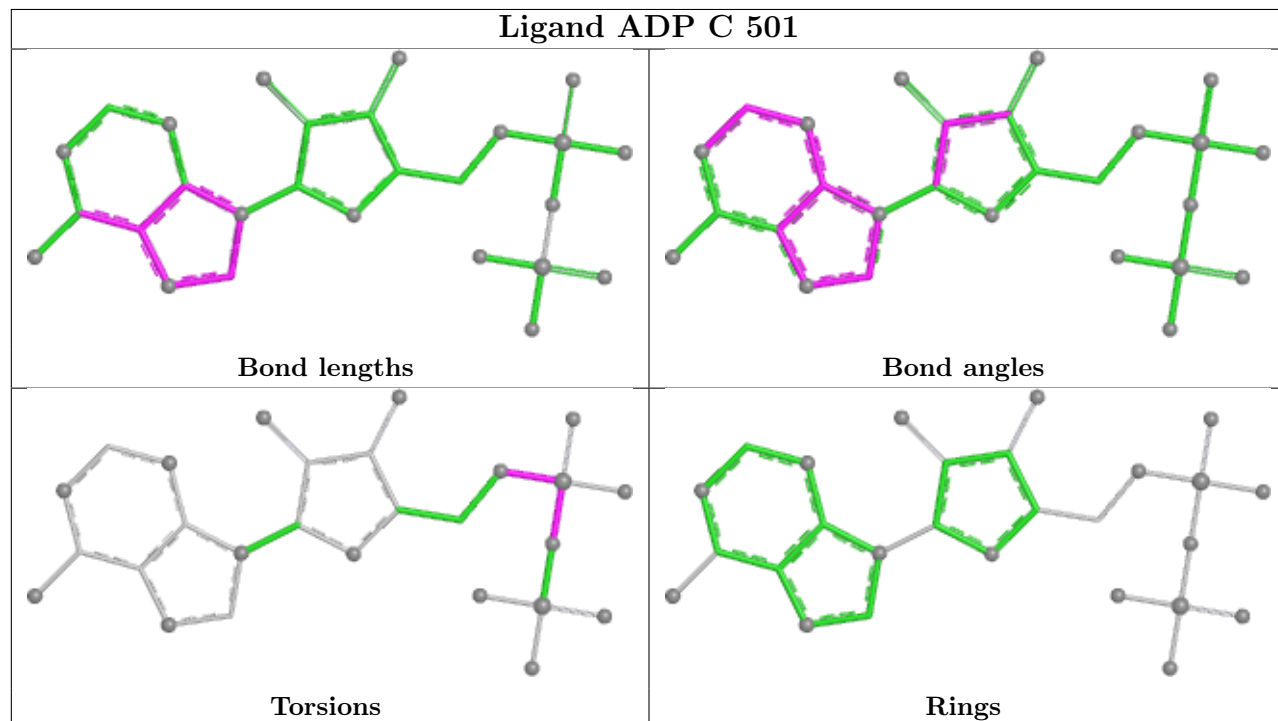
Ligand ADP F 501



Ligand ATP D 501



Ligand ADP C 501



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

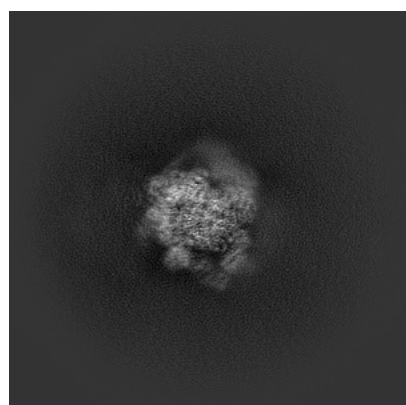
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36645. These allow visual inspection of the internal detail of the map and identification of artifacts.

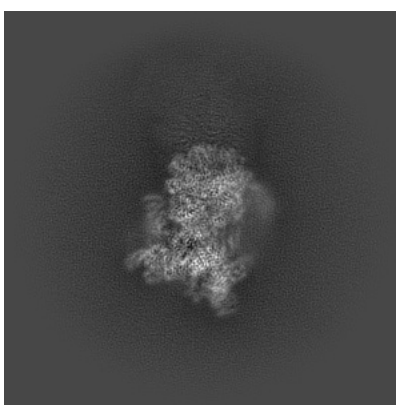
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

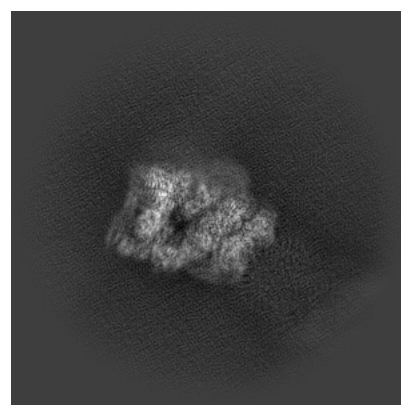
6.1.1 Primary map



X



Y

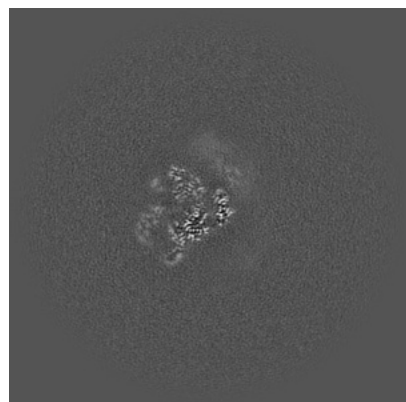


Z

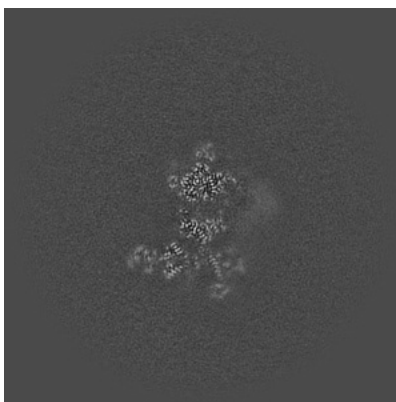
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

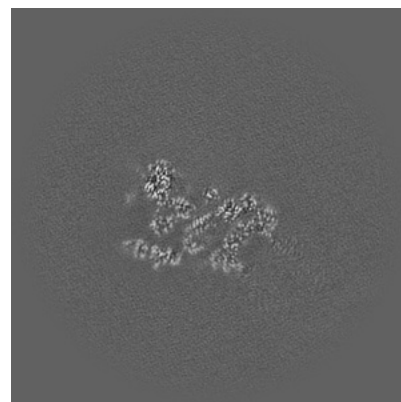
6.2.1 Primary map



X Index: 200



Y Index: 200

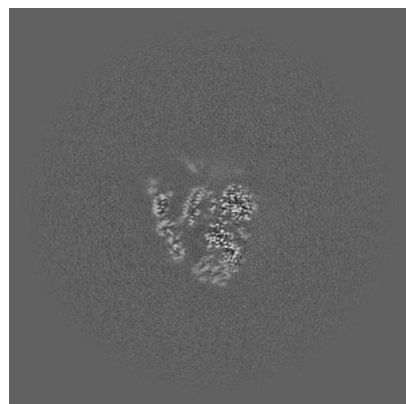


Z Index: 200

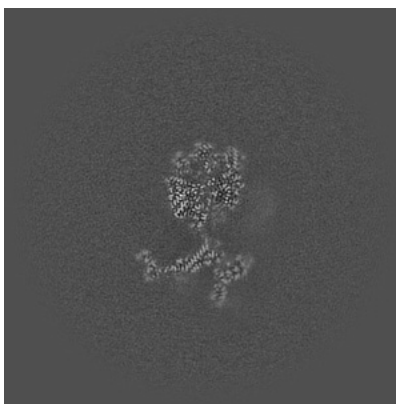
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

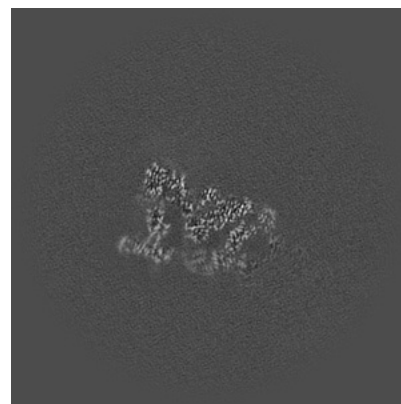
6.3.1 Primary map



X Index: 153



Y Index: 188

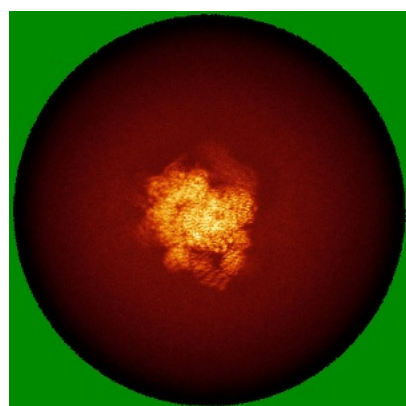


Z Index: 191

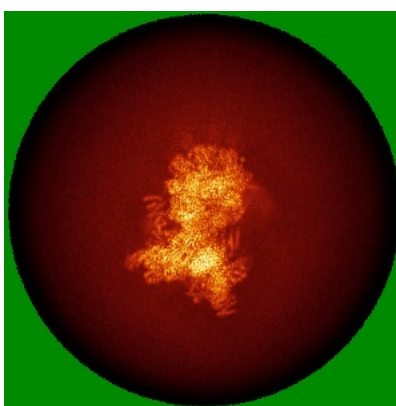
The images above show the largest variance slices of the map in three orthogonal directions.

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

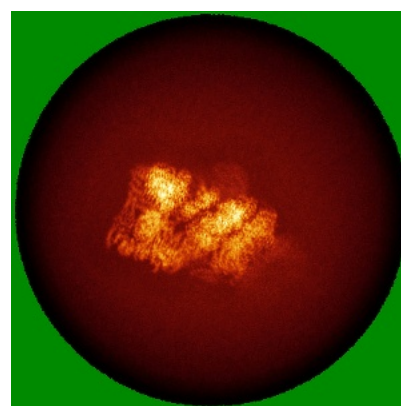
6.4.1 Primary map



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

This section was not generated.

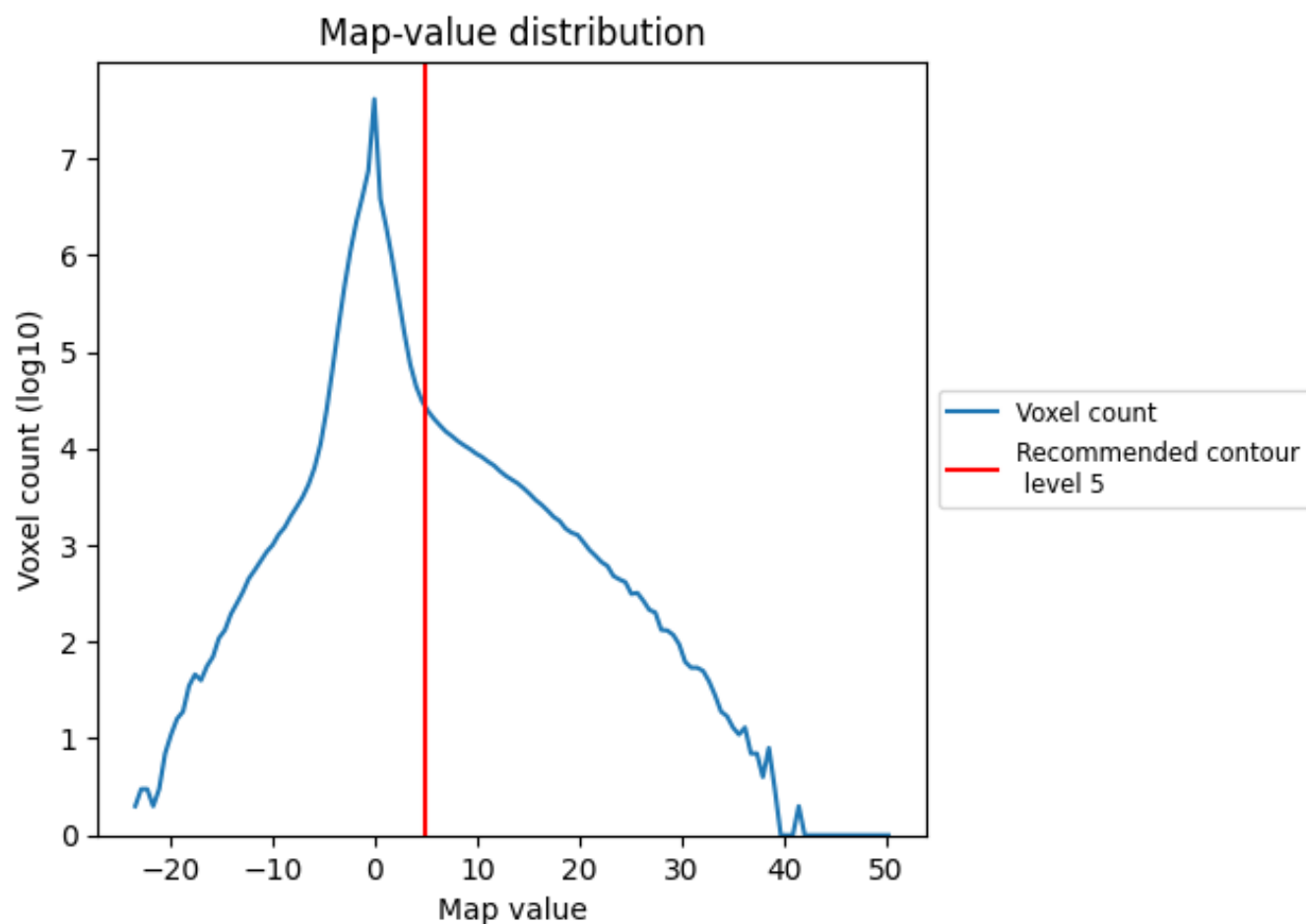
6.6 Mask visualisation

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

7 Map analysis [i](#)

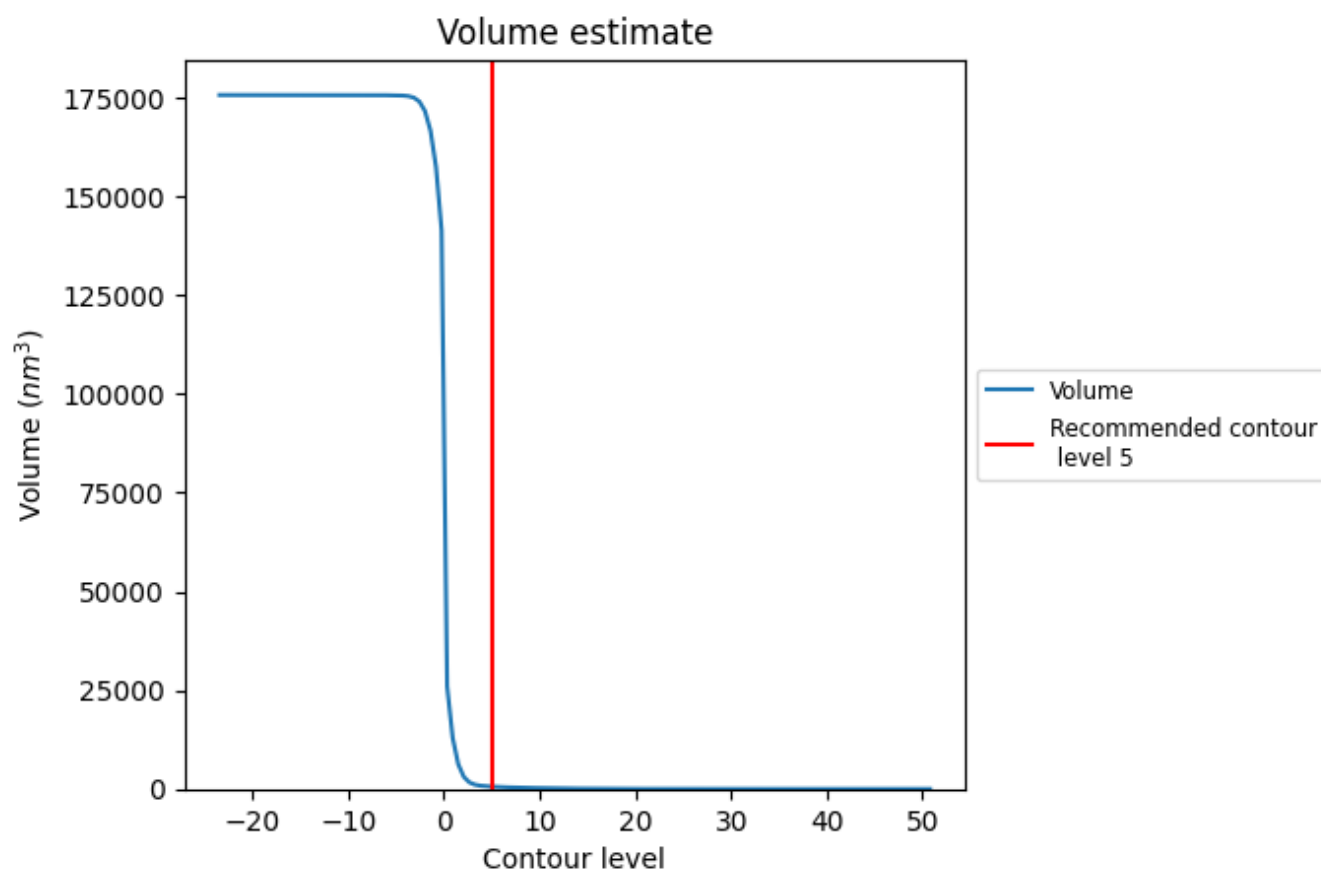
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

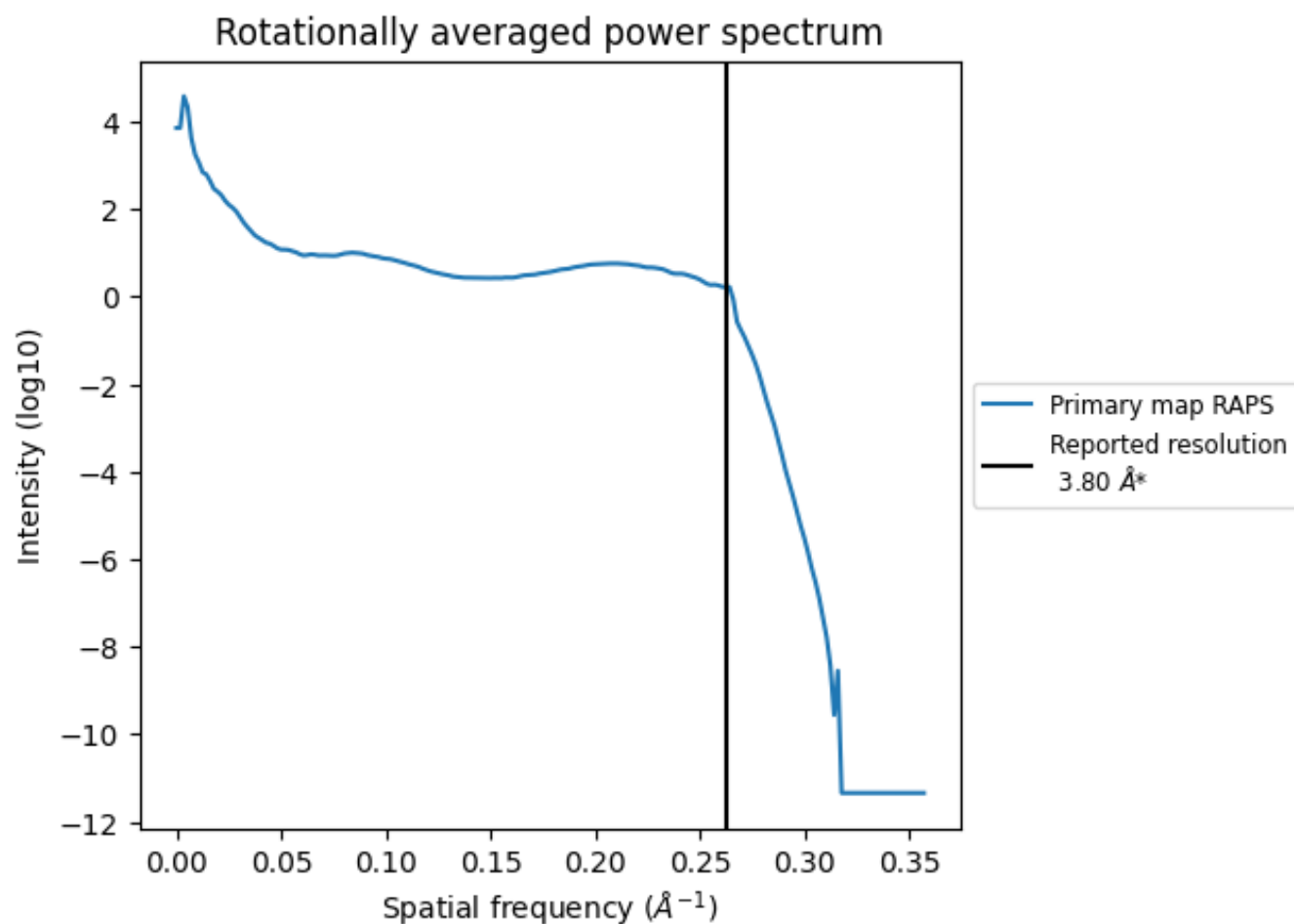
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 587 nm^3 ; this corresponds to an approximate mass of 530 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

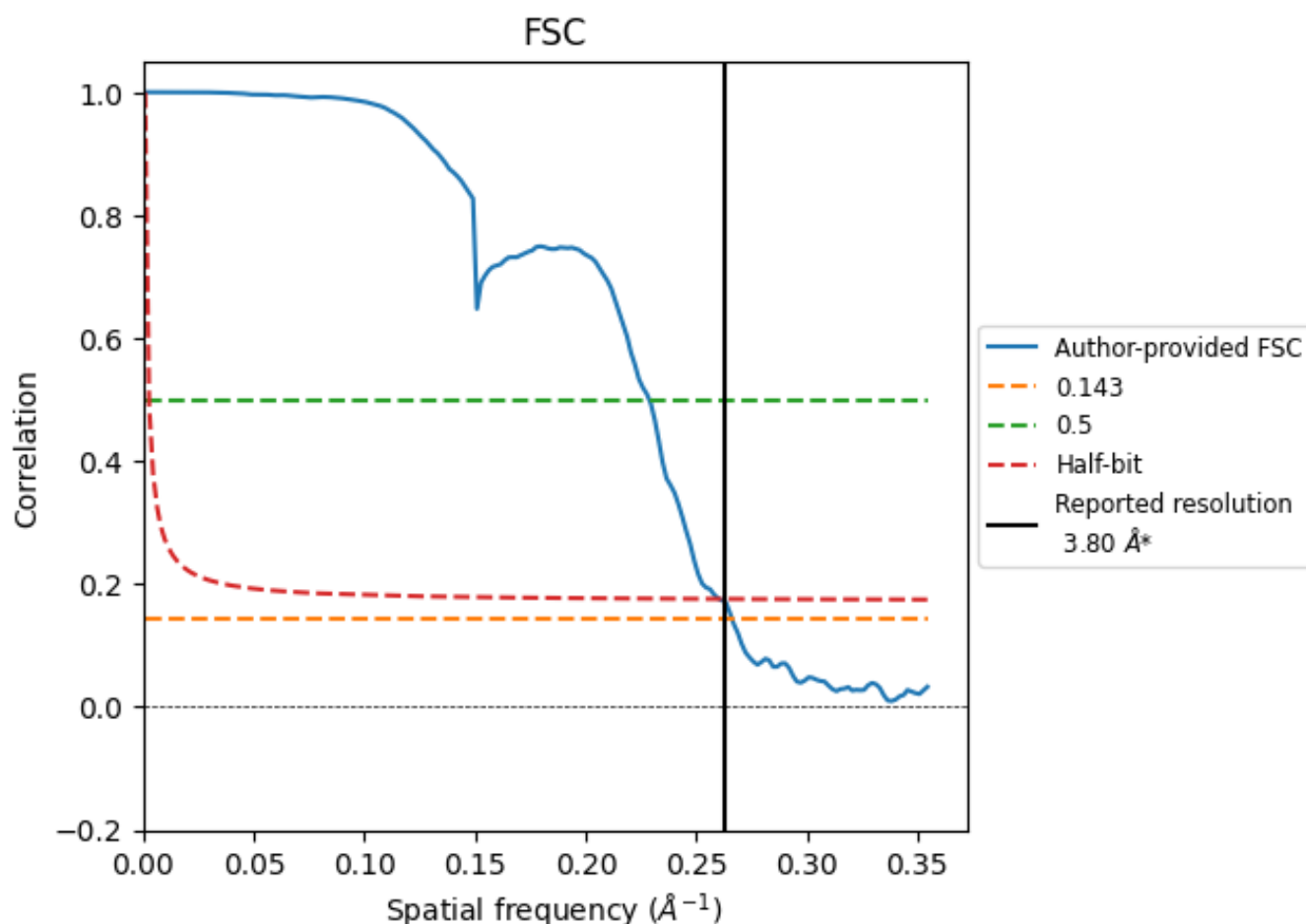


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

8.2 Resolution estimates [i](#)

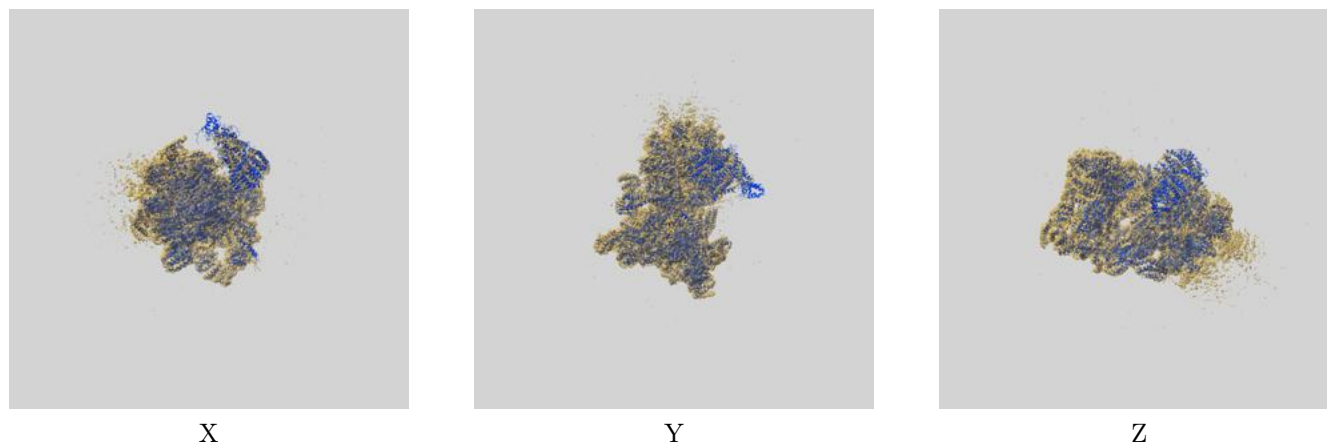
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.76	4.37	3.84
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

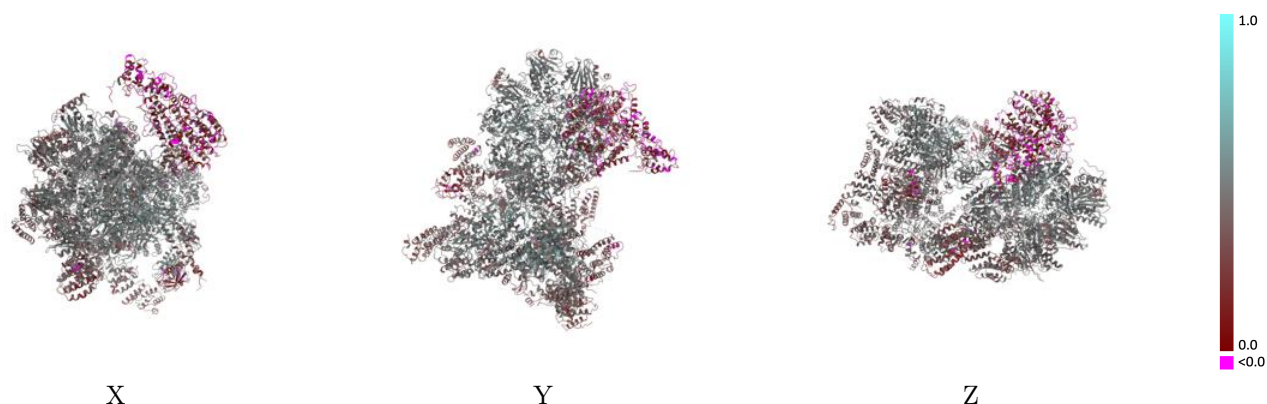
This section contains information regarding the fit between EMDB map EMD-36645 and PDB model 8JTI. Per-residue inclusion information can be found in section 3 on page 11.

9.1 Map-model overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 5.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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

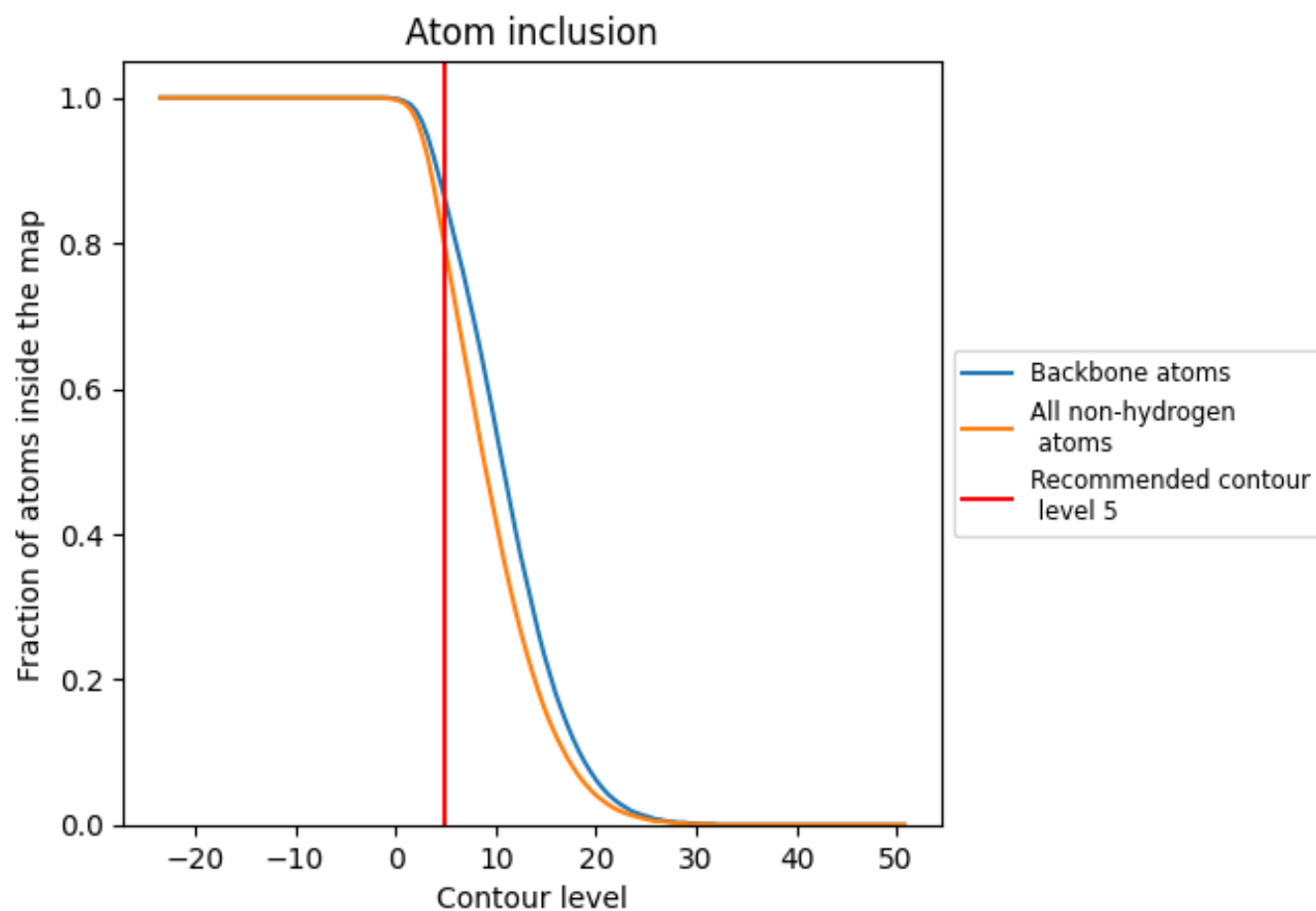


The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)

This section was not generated.

9.4 Atom inclusion [i](#)



At the recommended contour level, 86% of all backbone atoms, 79% 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 (5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7900	 0.4230
A	 0.8510	 0.4690
B	 0.7980	 0.4490
C	 0.7880	 0.4450
D	 0.8520	 0.4740
E	 0.8650	 0.4910
F	 0.8530	 0.4870
G	 0.8750	 0.4800
H	 0.8750	 0.4650
I	 0.8260	 0.4350
J	 0.8450	 0.4500
K	 0.8570	 0.4740
L	 0.8850	 0.4830
M	 0.8750	 0.4640
U	 0.8730	 0.4550
V	 0.8310	 0.3900
W	 0.8360	 0.3810
X	 0.6250	 0.3710
Y	 0.8330	 0.3710
Z	 0.8730	 0.4800
a	 0.8450	 0.4070
b	 0.8980	 0.4580
c	 0.8920	 0.5020
d	 0.8040	 0.3550
e	 0.7860	 0.3390
f	 0.1810	 0.1890
u	 0.9340	 0.4690
v	 0.2430	 0.2040
w	 0.8290	 0.4200
x	 0.5880	 0.3900

