



Full wwPDB EM Validation Report ⓘ

Jun 26, 2025 – 01:13 AM JST

PDB ID : 5WVI / pdb_00005wvi
EMDB ID : EMD-6693
Title : The resting state of yeast proteasome
Authors : Ding, Z.; Cong, Y.
Deposited on : 2016-12-25
Resolution : 6.30 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev118
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

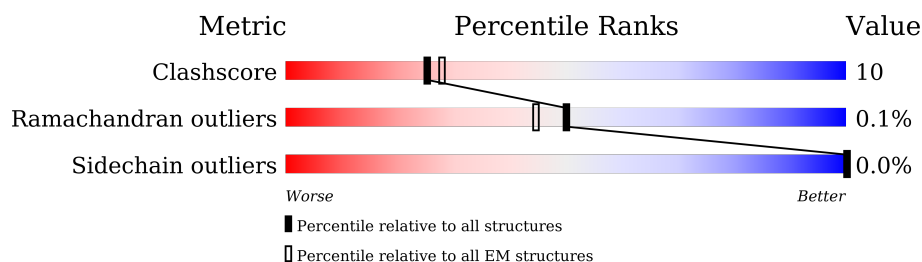
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 6.30 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	I	437	24% 58% 24% 17%
2	K	428	23% 60% 29% 11%
3	2	261	6% 65% 20% 15%
3	i	261	6% 67% 18% 15%
4	A	252	13% 70% 26% .
4	c	252	9% 71% 25% .
5	3	205	14% 69% 31%
5	h	205	10% 60% 39%

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Mol	Chain	Length	Quality of chain
6	G	288	
6	k	288	
7	F	234	
7	l	234	
8	E	260	
8	m	260	
9	D	254	
9	n	254	
10	Y	89	
11	N	945	
12	S	523	
13	T	274	
14	R	429	
15	Q	434	
16	J	405	
17	L	437	
18	M	434	
19	U	338	
20	W	268	
21	O	393	
22	P	445	
23	H	467	
24	C	258	
24	d	258	
25	B	250	

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Mol	Chain	Length	Quality of chain
25	j	250	
26	1	215	
26	b	215	
27	4	198	
27	g	198	
28	5	287	
28	f	287	
29	6	241	
29	e	241	
30	7	266	
30	a	266	
31	X	156	
32	Z	993	
33	V	306	

2 Entry composition [i](#)

There are 33 unique types of molecules in this entry. The entry contains 105787 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 4 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	I	362	Total	C	N	O	S	0	0
			2822	1773	471	563	15		

- Molecule 2 is a protein called 26S protease regulatory subunit 6B homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	K	381	Total	C	N	O	S	0	0
			3019	1898	530	581	10		

- Molecule 3 is a protein called Proteasome subunit beta type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	i	222	Total	C	N	O	S	0	0
			1684	1061	293	323	7		
3	2	222	Total	C	N	O	S	0	0
			1684	1061	293	323	7		

- Molecule 4 is a protein called Proteasome subunit alpha type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	c	243	Total	C	N	O	S	0	0
			1921	1221	322	370	8		
4	A	243	Total	C	N	O	S	0	0
			1921	1221	322	370	8		

- Molecule 5 is a protein called Proteasome subunit beta type-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	h	204	Total	C	N	O	S	0	0
			1581	1010	258	305	8		
5	3	204	Total	C	N	O	S	0	0
			1581	1010	258	305	8		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
6	k	245	Total	C	N	O	S	0	0
			1900	1207	331	358	4		
6	G	245	Total	C	N	O	S	0	0
			1900	1207	331	358	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	l	233	Total	C	N	O	S	0	0
			1795	1129	312	350	4		
7	F	233	Total	C	N	O	S	0	0
			1795	1129	312	350	4		

- Molecule 8 is a protein called Proteasome subunit alpha type-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	m	243	Total	C	N	O	S	0	0
			1867	1165	315	380	7		
8	E	243	Total	C	N	O	S	0	0
			1867	1165	315	380	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
9	n	242	Total	C	N	O	S	0	0
			1899	1186	333	376	4		
9	D	242	Total	C	N	O	S	0	0
			1899	1186	333	376	4		

- Molecule 10 is a protein called 26S proteasome complex subunit SEM1.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	Y	27	Total	C	N	O	0	0
			236	143	39	54		

- Molecule 11 is a protein called 26S proteasome regulatory subunit RPN2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	N	849	Total	C	N	O	S	0	0
			6562	4174	1099	1261	28		

- Molecule 12 is a protein called 26S proteasome regulatory subunit RPN3.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	S	353	Total	C	N	O	S	0	0
			2893	1857	482	541	13		

- Molecule 13 is a protein called 26S proteasome regulatory subunit RPN12.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	T	272	Total	C	N	O	S	0	0
			2235	1432	355	441	7		

- Molecule 14 is a protein called 26S proteasome regulatory subunit RPN7.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	R	400	Total	C	N	O	S	0	0
			3218	2051	527	630	10		

- Molecule 15 is a protein called 26S proteasome regulatory subunit RPN6.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Q	431	Total	C	N	O	S	0	0
			3471	2205	574	676	16		

- Molecule 16 is a protein called 26S protease regulatory subunit 8 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	J	373	Total	C	N	O	S	0	0
			2928	1837	527	547	17		

- Molecule 17 is a protein called 26S protease subunit RPT4.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	L	361	Total	C	N	O	S	0	0
			2853	1798	507	536	12		

- Molecule 18 is a protein called 26S protease regulatory subunit 6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	M	367	Total	C	N	O	S	0	0
			2866	1799	503	553	11		

- Molecule 19 is a protein called 26S proteasome regulatory subunit RPN8.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	U	282	Total	C	N	O	S	0	0
			2257	1429	387	435	6		

- Molecule 20 is a protein called 26S proteasome regulatory subunit RPN10.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	W	197	Total	C	N	O	S	0	0
			1534	962	269	300	3		

- Molecule 21 is a protein called 26S proteasome regulatory subunit RPN9.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	O	387	Total	C	N	O	S	0	0
			3182	2047	520	606	9		

- Molecule 22 is a protein called 26S proteasome regulatory subunit RPN5.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	P	432	Total	C	N	O	S	0	0
			3545	2260	592	684	9		

- Molecule 23 is a protein called 26S protease regulatory subunit 7 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	H	370	Total	C	N	O	S	0	0
			2889	1815	515	543	16		

- Molecule 24 is a protein called Proteasome subunit alpha type-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	C	245	Total	C	N	O	S	0	0
			1913	1207	323	380	3		
24	d	245	Total	C	N	O	S	0	0
			1913	1207	323	380	3		

- Molecule 25 is a protein called Proteasome subunit alpha type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	B	250	Total	C	N	O	S	0	0
			1915	1219	315	377	4		
25	j	250	Total	C	N	O	S	0	0
			1915	1219	315	377	4		

- Molecule 26 is a protein called Proteasome subunit beta type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	1	205	Total	C	N	O	S	0	0
			1576	996	261	312	7		
26	b	205	Total	C	N	O	S	0	0
			1574	995	261	311	7		

- Molecule 27 is a protein called Proteasome subunit beta type-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	4	198	Total	C	N	O	S	0	0
			1585	1005	269	305	6		
27	g	198	Total	C	N	O	S	0	0
			1585	1005	269	305	6		

- Molecule 28 is a protein called Proteasome subunit beta type-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	5	212	Total	C	N	O	S	0	0
			1644	1045	280	312	7		
28	f	212	Total	C	N	O	S	0	0
			1644	1045	280	312	7		

- Molecule 29 is a protein called Proteasome subunit beta type-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	6	222	Total	C	N	O	S	0	0
			1757	1115	303	335	4		
29	e	222	Total	C	N	O	S	0	0
			1757	1115	303	335	4		

- Molecule 30 is a protein called Proteasome subunit beta type-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	7	233	Total	C	N	O	S	0	0
			1824	1154	312	351	7		
30	a	233	Total	C	N	O	S	0	0
			1824	1154	312	351	7		

- Molecule 31 is a protein called 26S proteasome regulatory subunit RPN13.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	X	127	Total	C	N	O	S	0	0
			1032	664	169	195	4		

- Molecule 32 is a protein called 26S proteasome regulatory subunit RPN1.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Z	813	Total	C	N	O	S	0	0
			6289	3995	1029	1236	29		

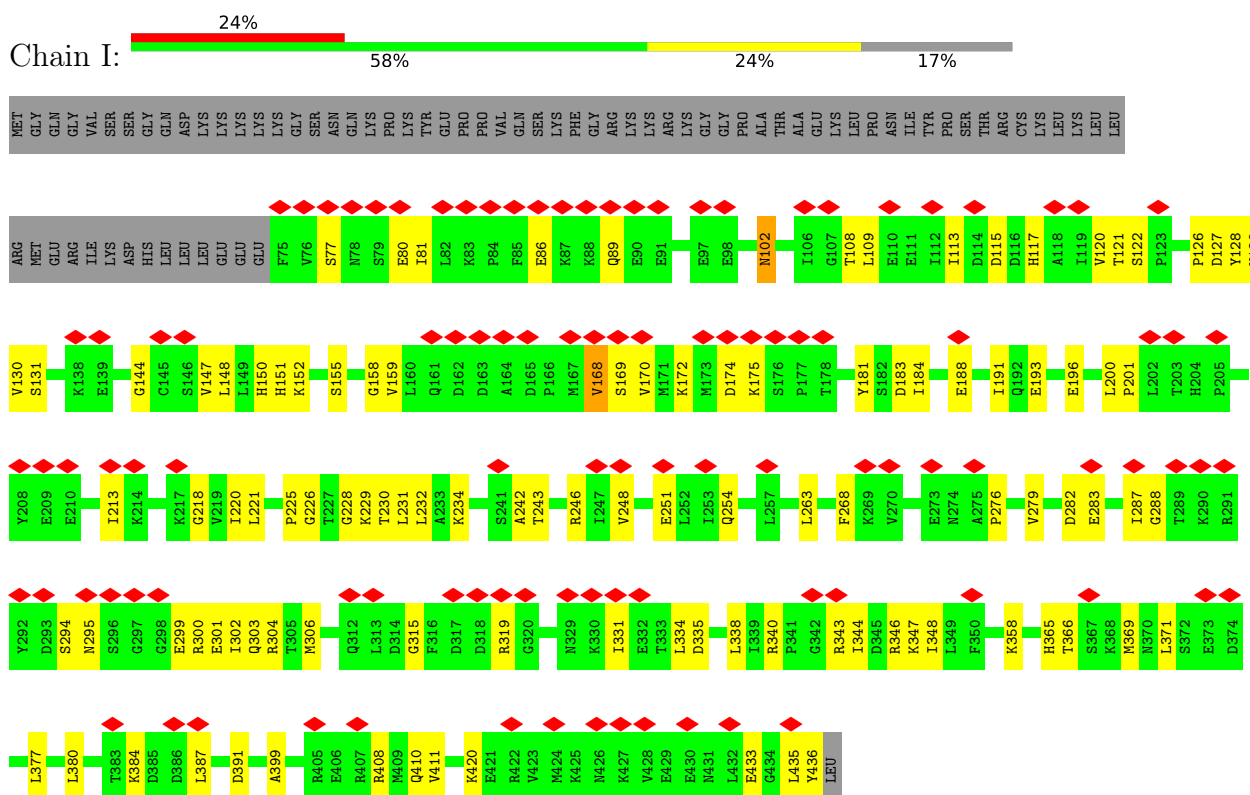
- Molecule 33 is a protein called Ubiquitin carboxyl-terminal hydrolase RPN11.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	V	284	Total	C	N	O	S	0	0
			2236	1405	381	436	14		

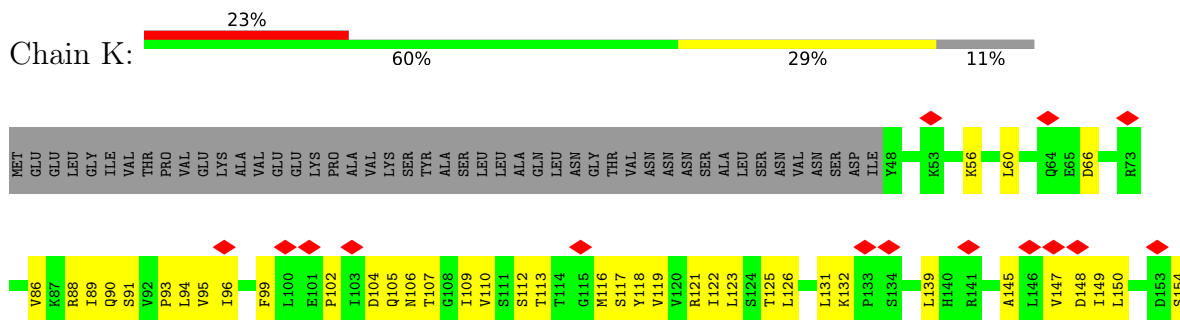
3 Residue-property plots

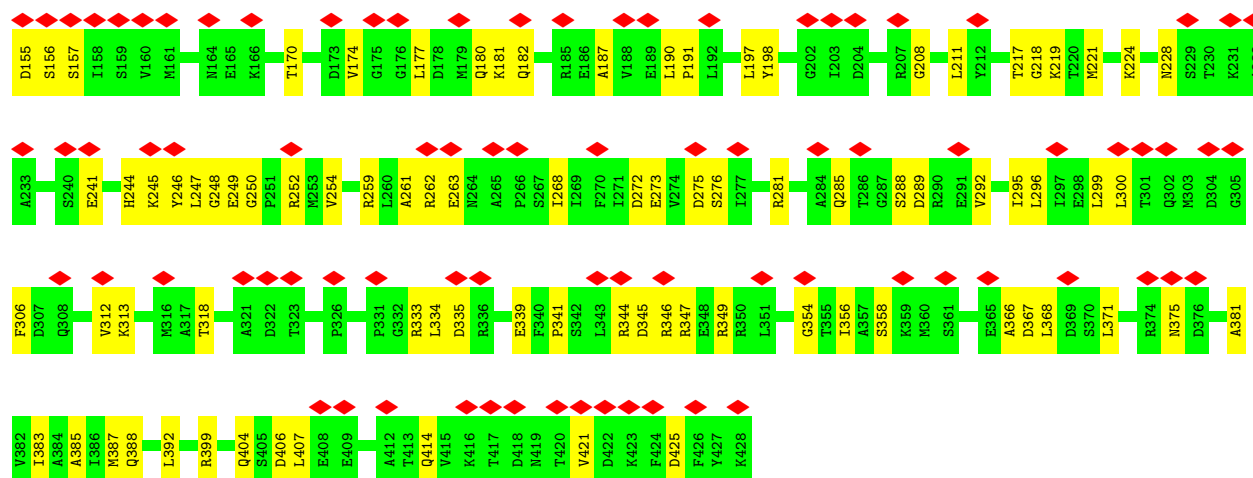
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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 4 homolog

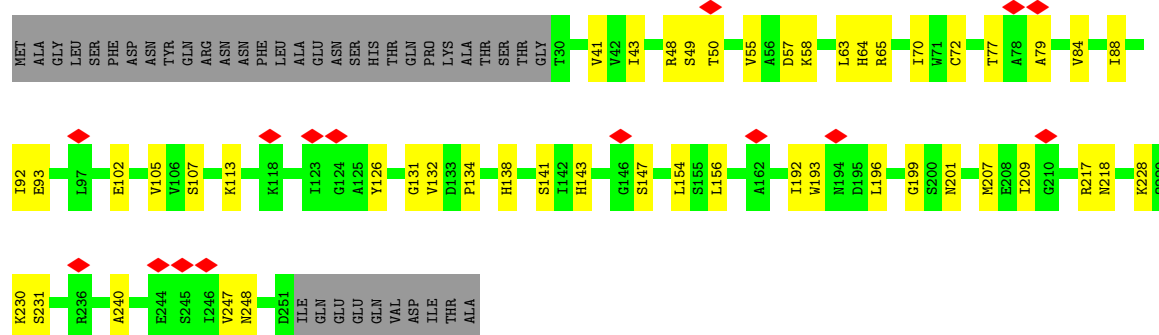


- Molecule 2: 26S protease regulatory subunit 6B homolog

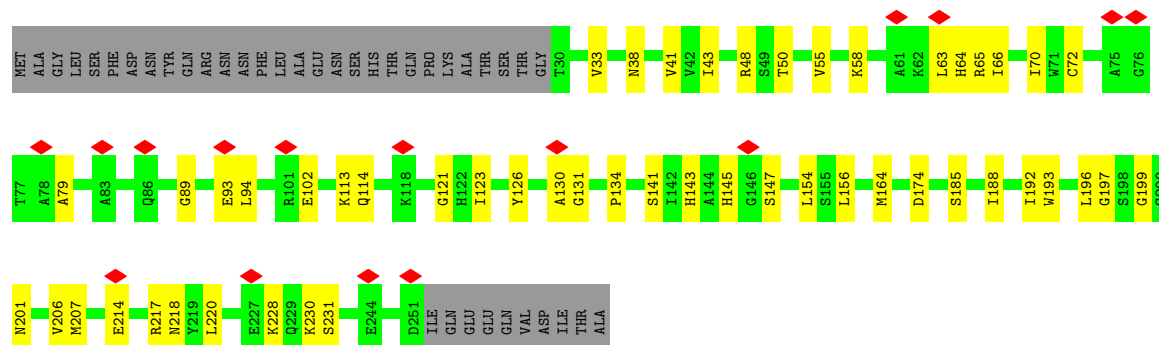




• Molecule 3: Proteasome subunit beta type-2

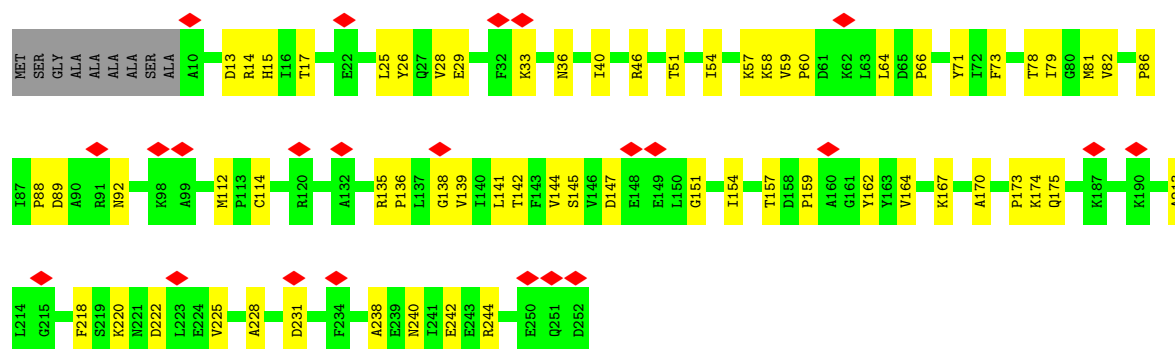


• Molecule 3: Proteasome subunit beta type-2

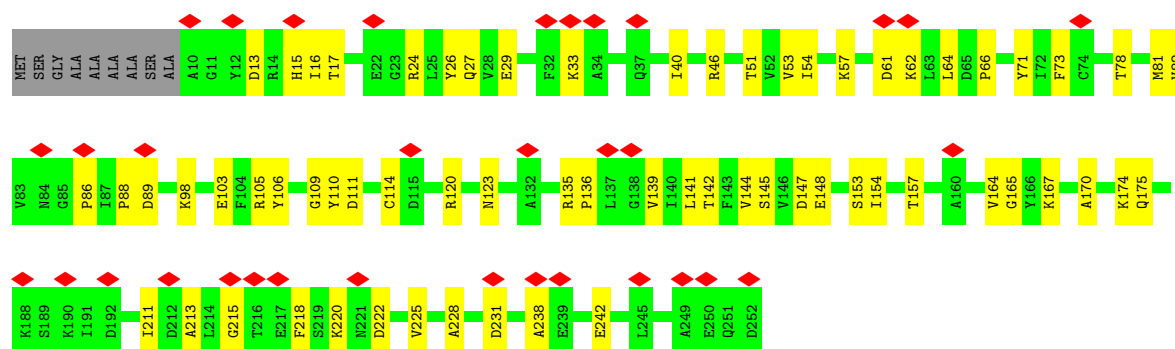


• Molecule 4: Proteasome subunit alpha type-1

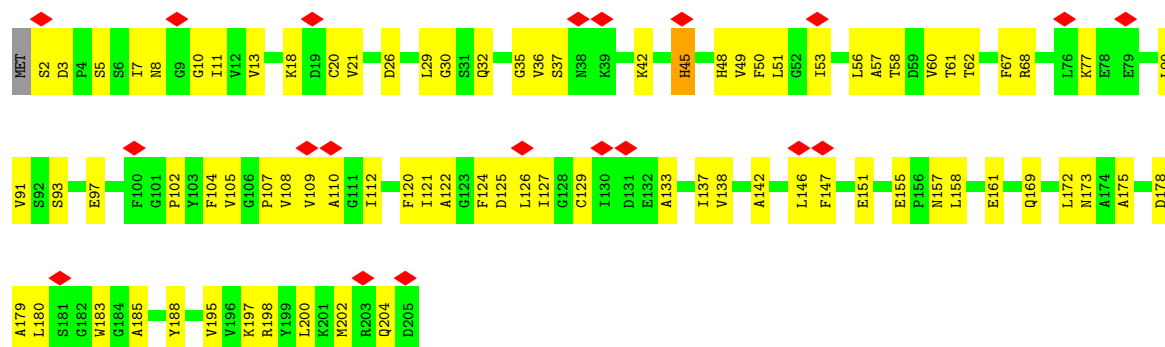




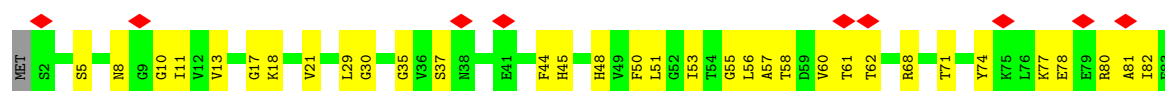
• Molecule 4: Proteasome subunit alpha type-1

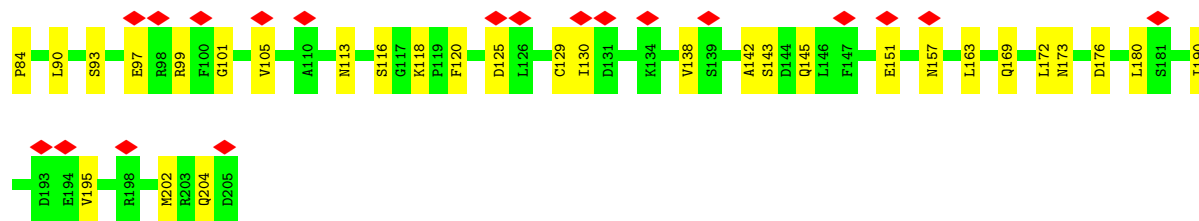


• Molecule 5: Proteasome subunit beta type-3

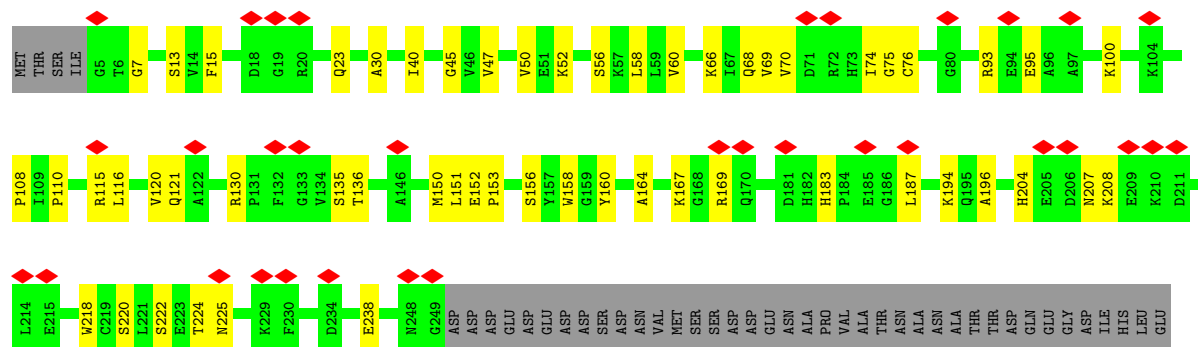


• Molecule 5: Proteasome subunit beta type-3

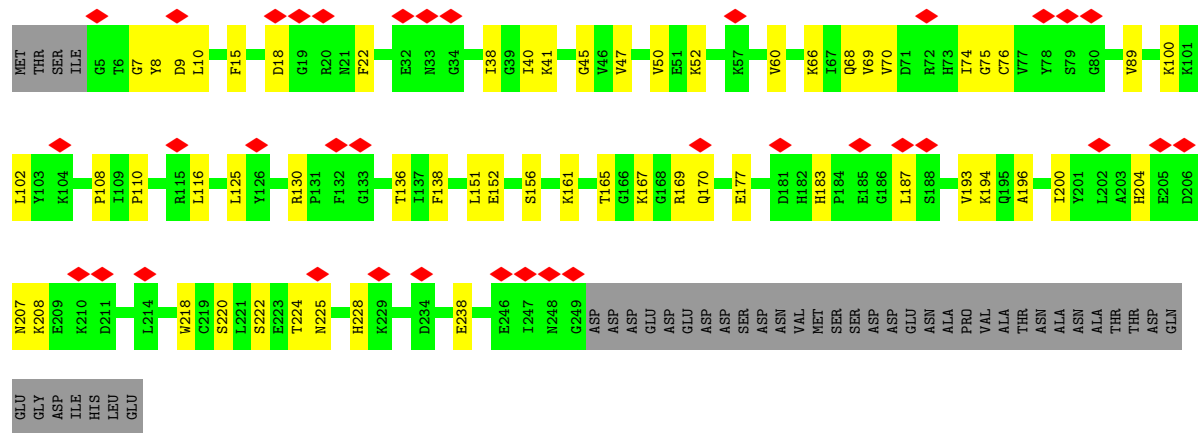




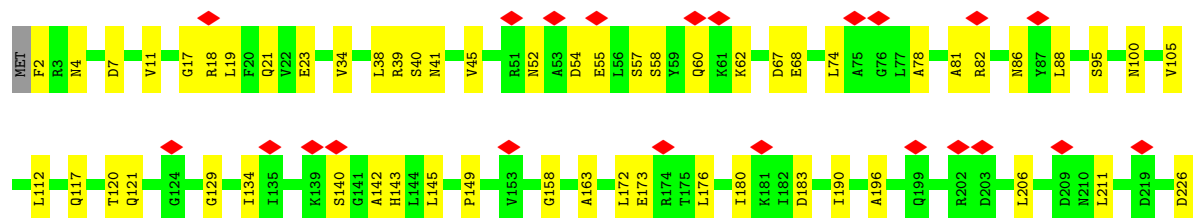
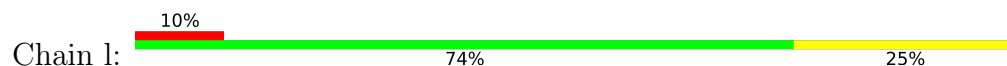
• Molecule 6: Probable proteasome subunit alpha type-7

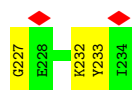


• Molecule 6: Probable proteasome subunit alpha type-7

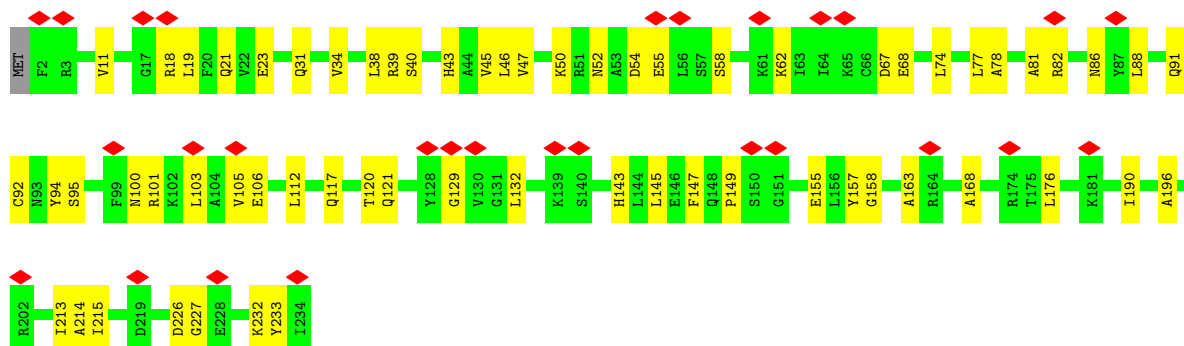
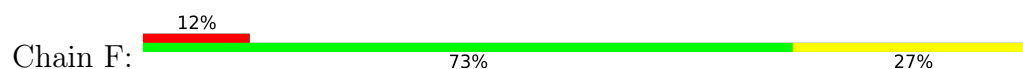


• Molecule 7: Proteasome subunit alpha type-6

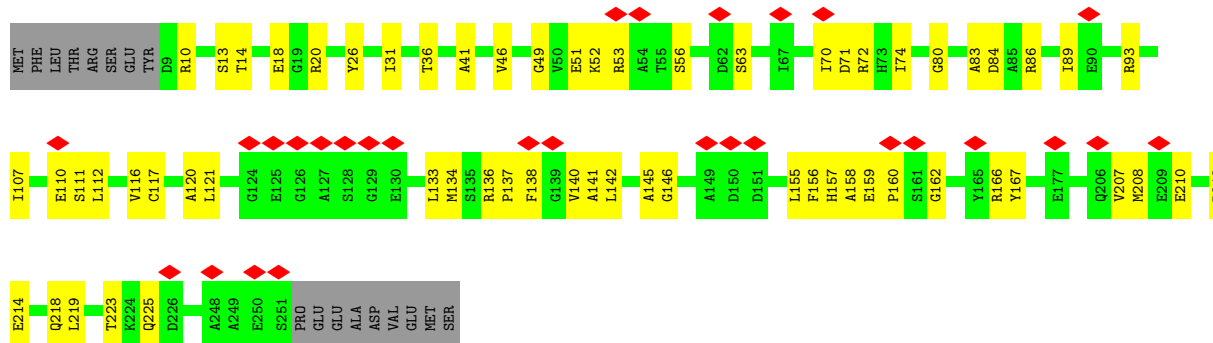




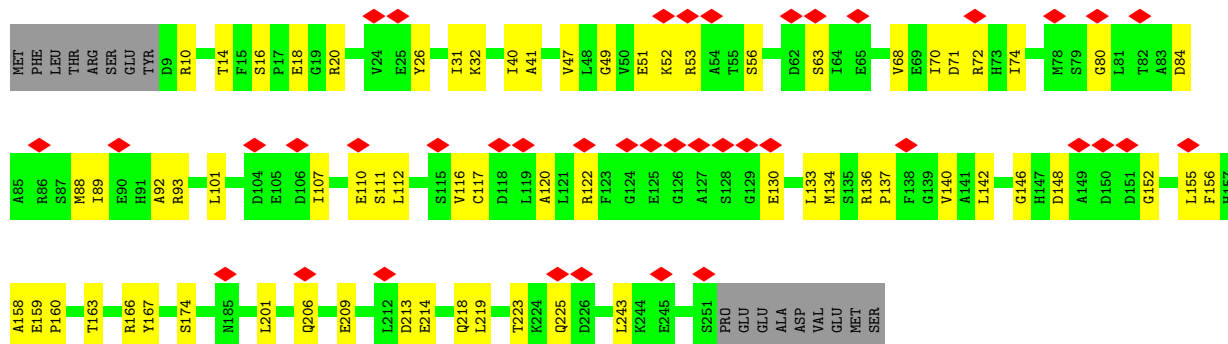
• Molecule 7: Proteasome subunit alpha type-6



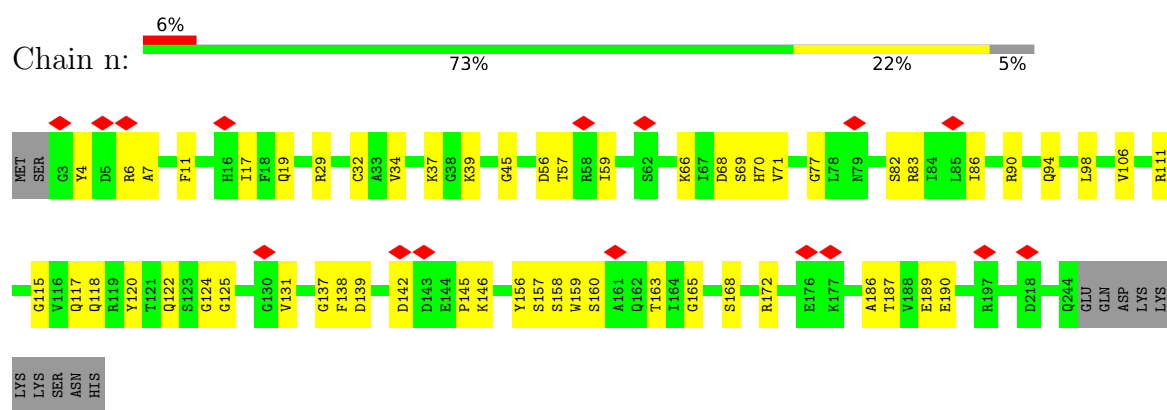
• Molecule 8: Proteasome subunit alpha type-5



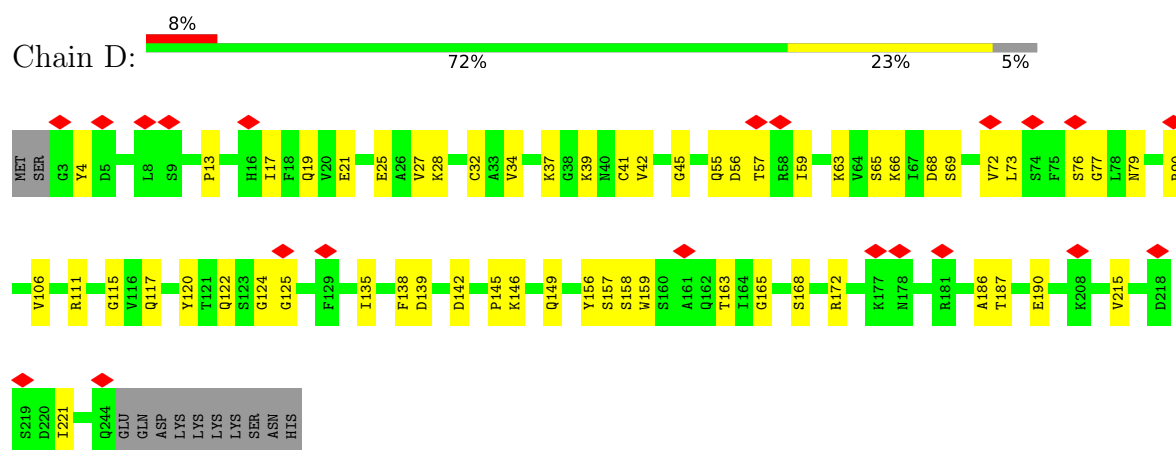
• Molecule 8: Proteasome subunit alpha type-5



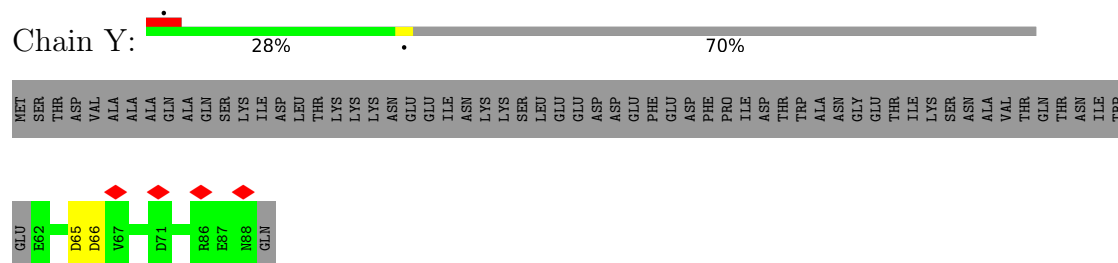
• Molecule 9: Proteasome subunit alpha type-4



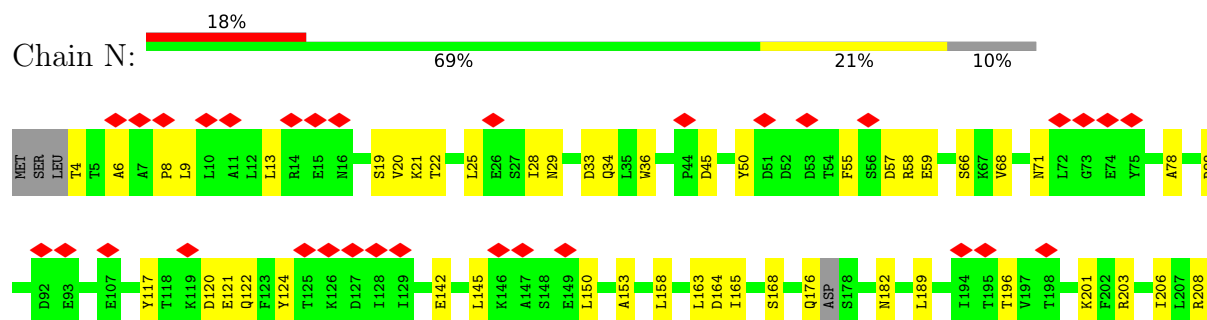
• Molecule 9: Proteasome subunit alpha type-4

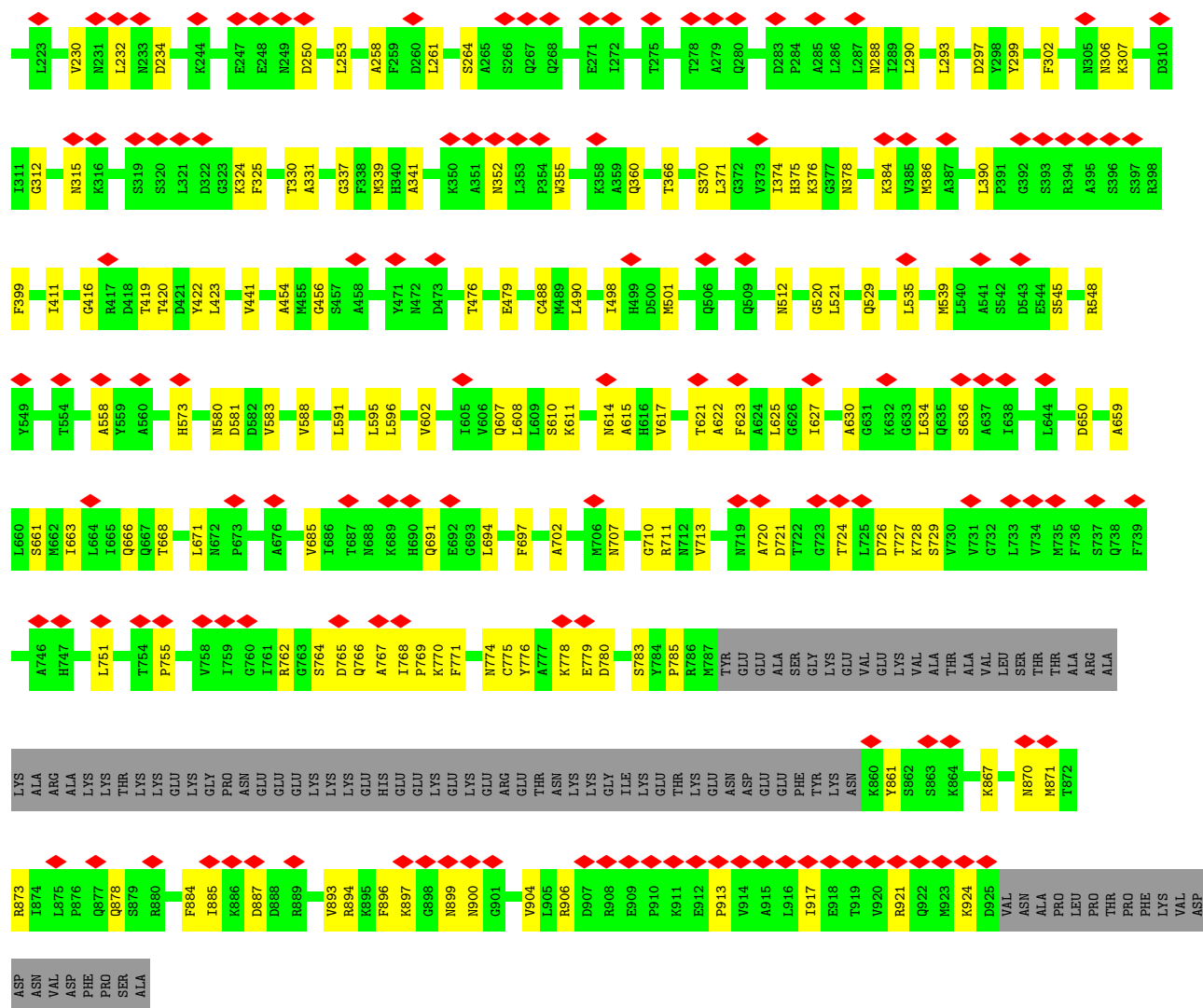


• Molecule 10: 26S proteasome complex subunit SEM1

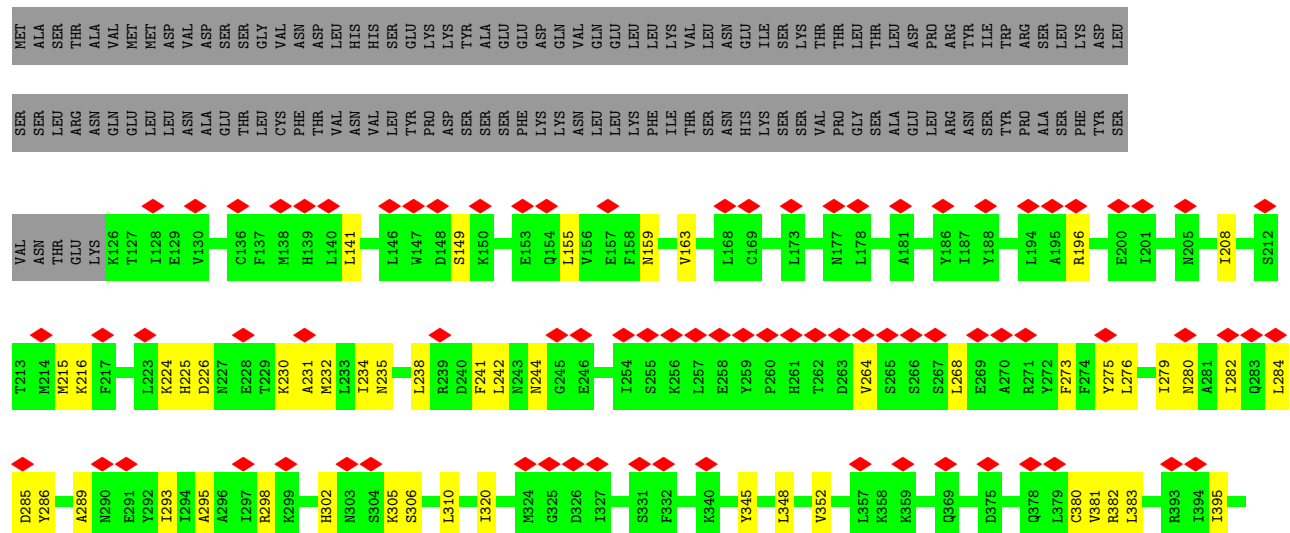


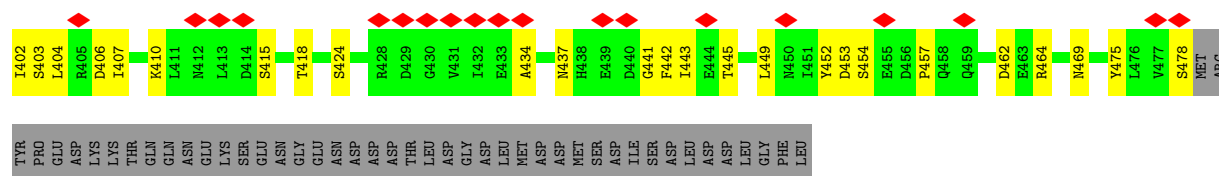
• Molecule 11: 26S proteasome regulatory subunit RPN2





• Molecule 12: 26S proteasome regulatory subunit RPN3

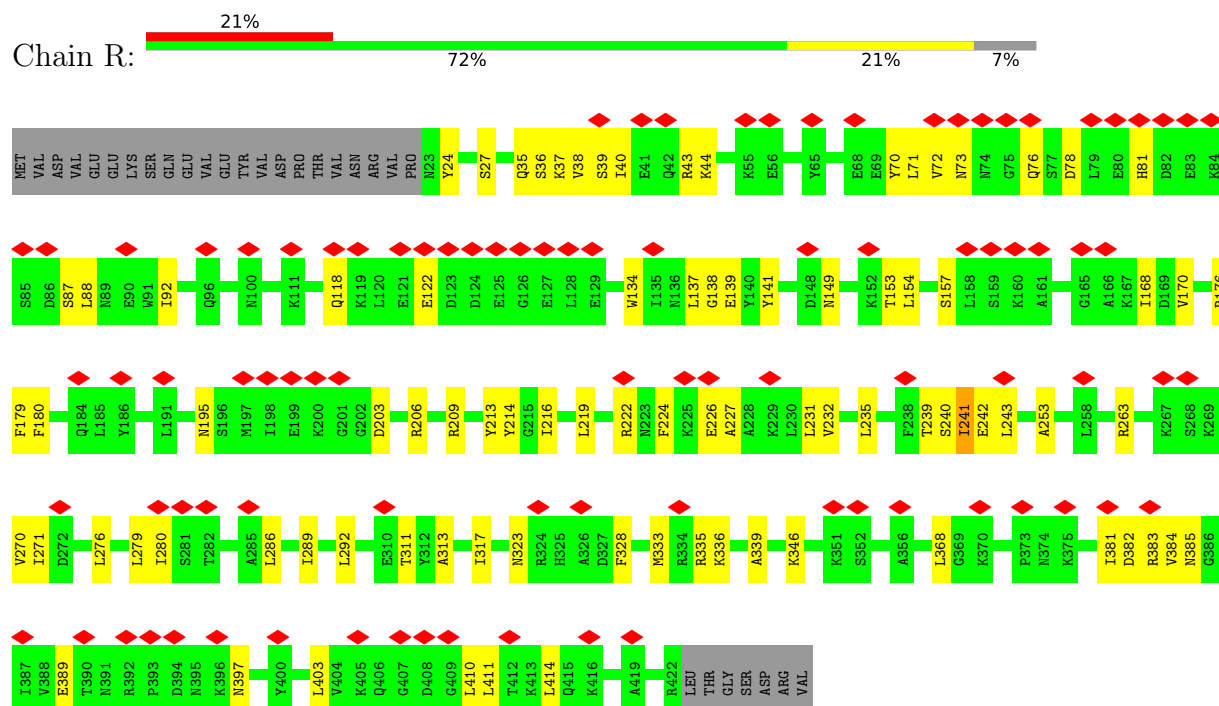




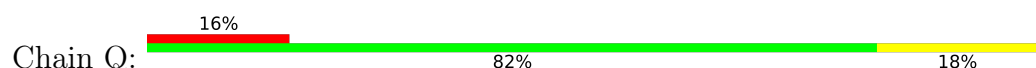
• Molecule 13: 26S proteasome regulatory subunit RPN12

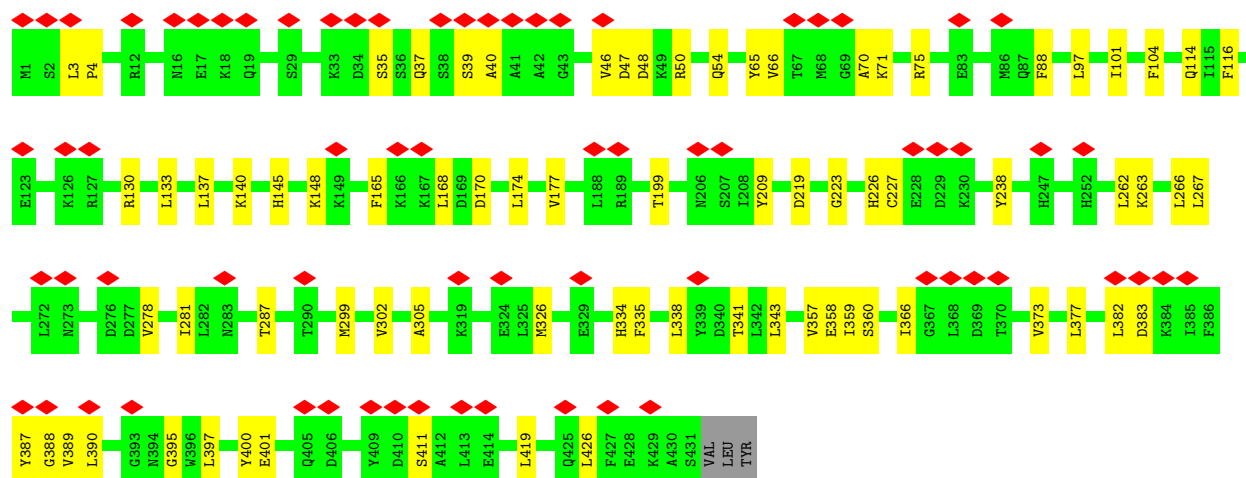


• Molecule 14: 26S proteasome regulatory subunit RPN7

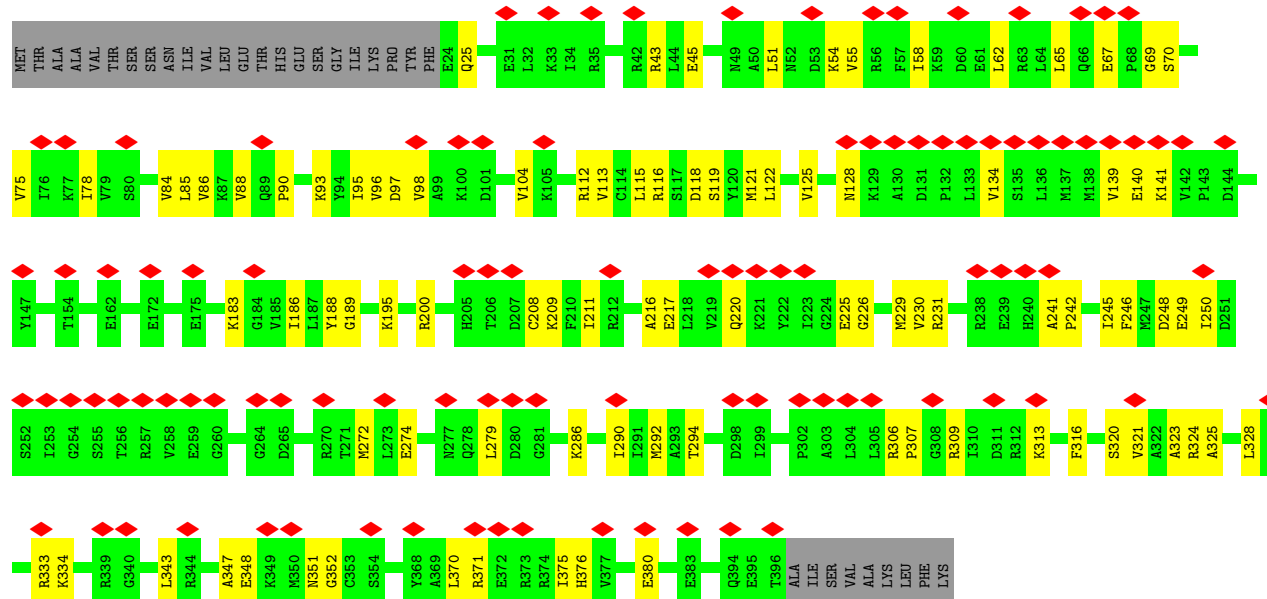


• Molecule 15: 26S proteasome regulatory subunit RPN6

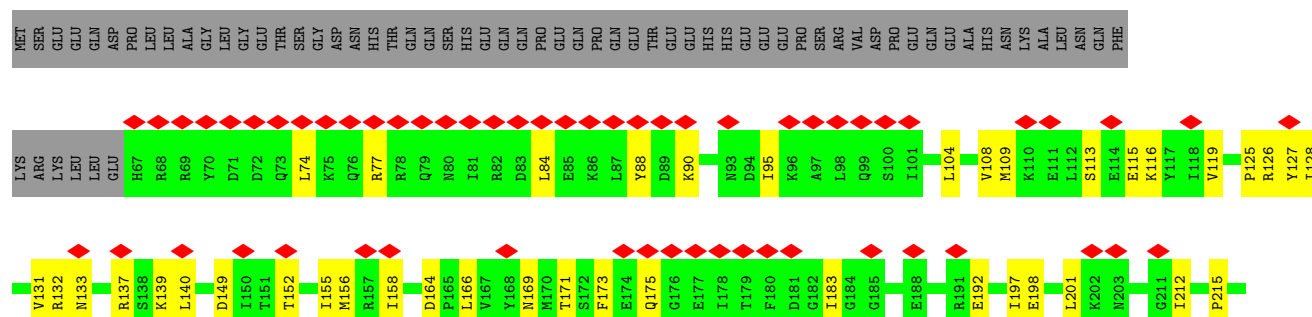


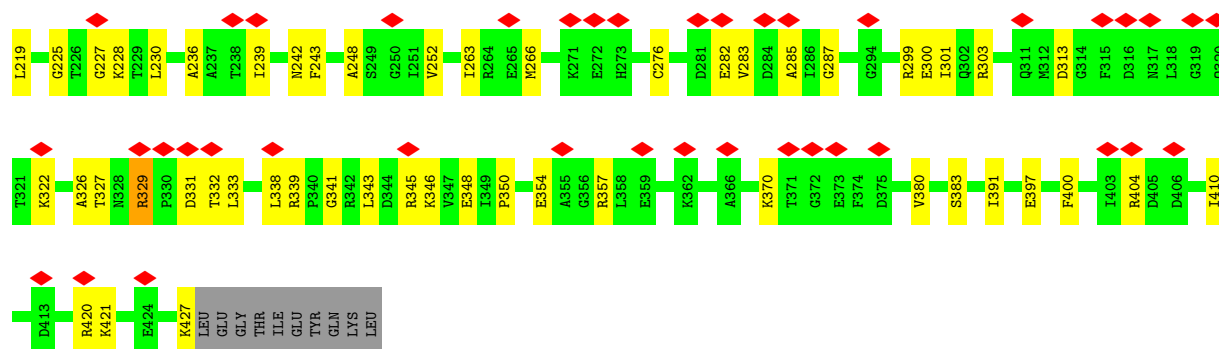


- Molecule 16: 26S protease regulatory subunit 8 homolog

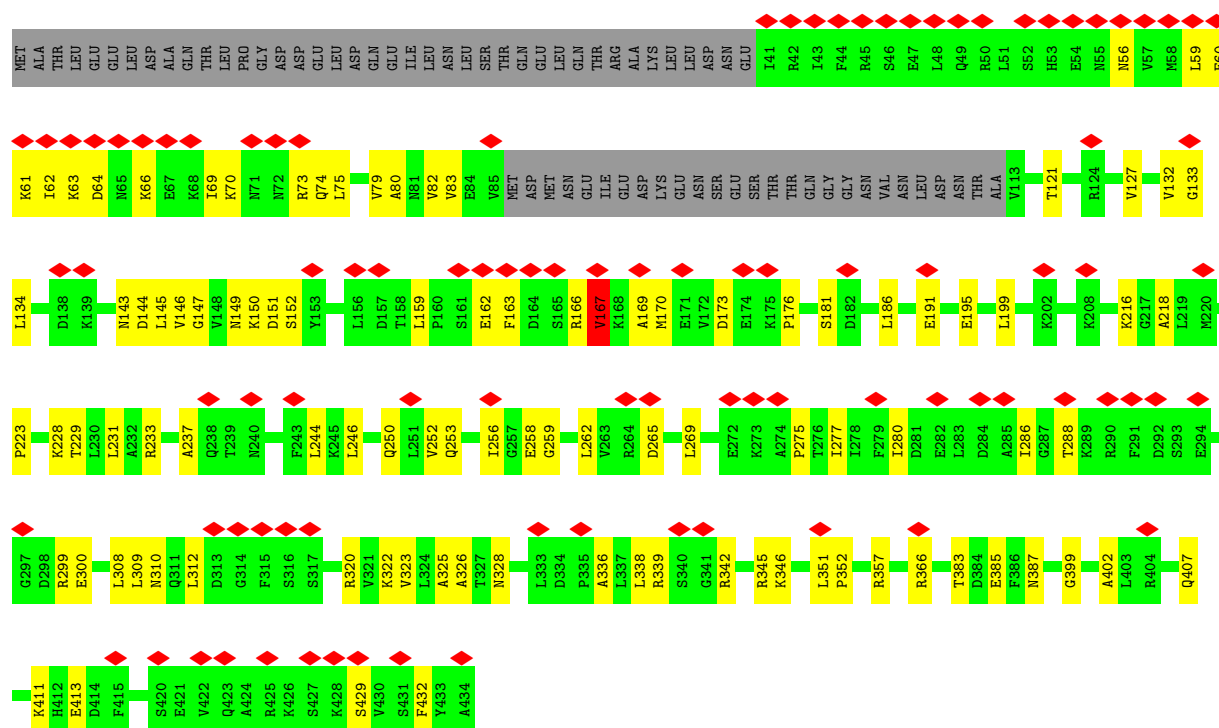


- Molecule 17: 26S protease subunit RPT4

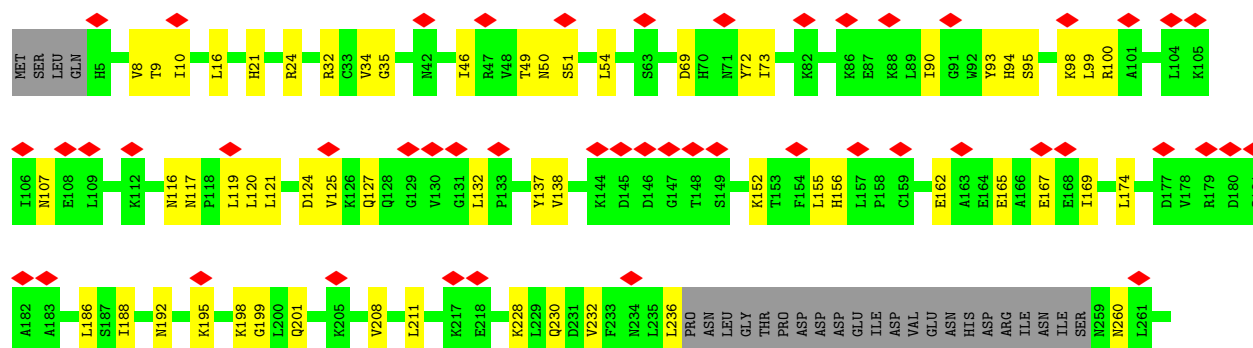


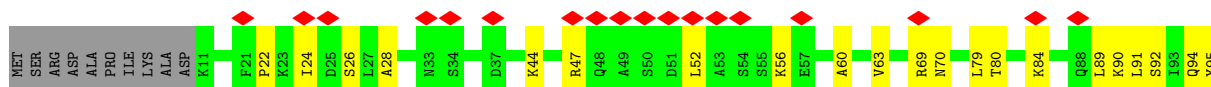


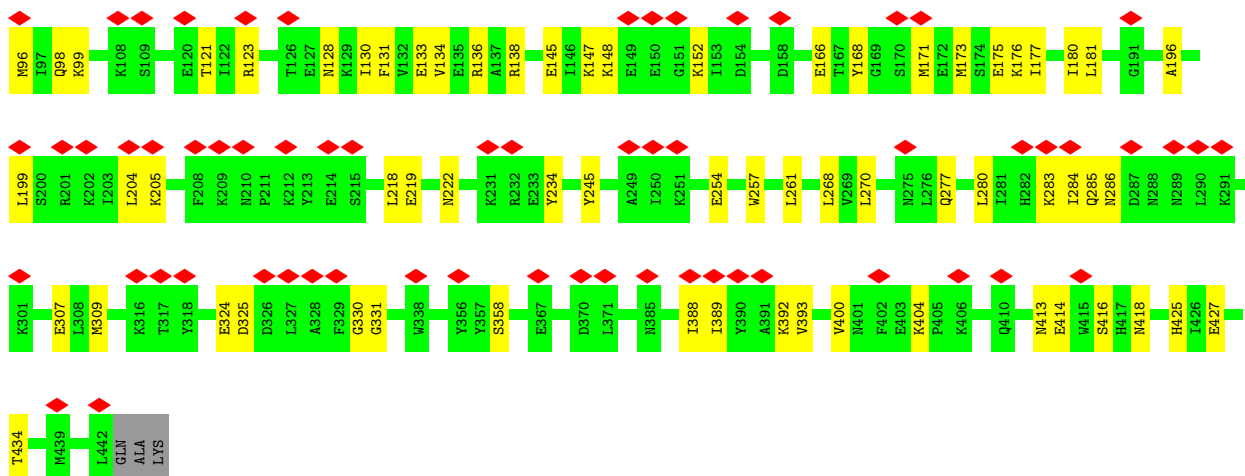
• Molecule 18: 26S protease regulatory subunit 6A



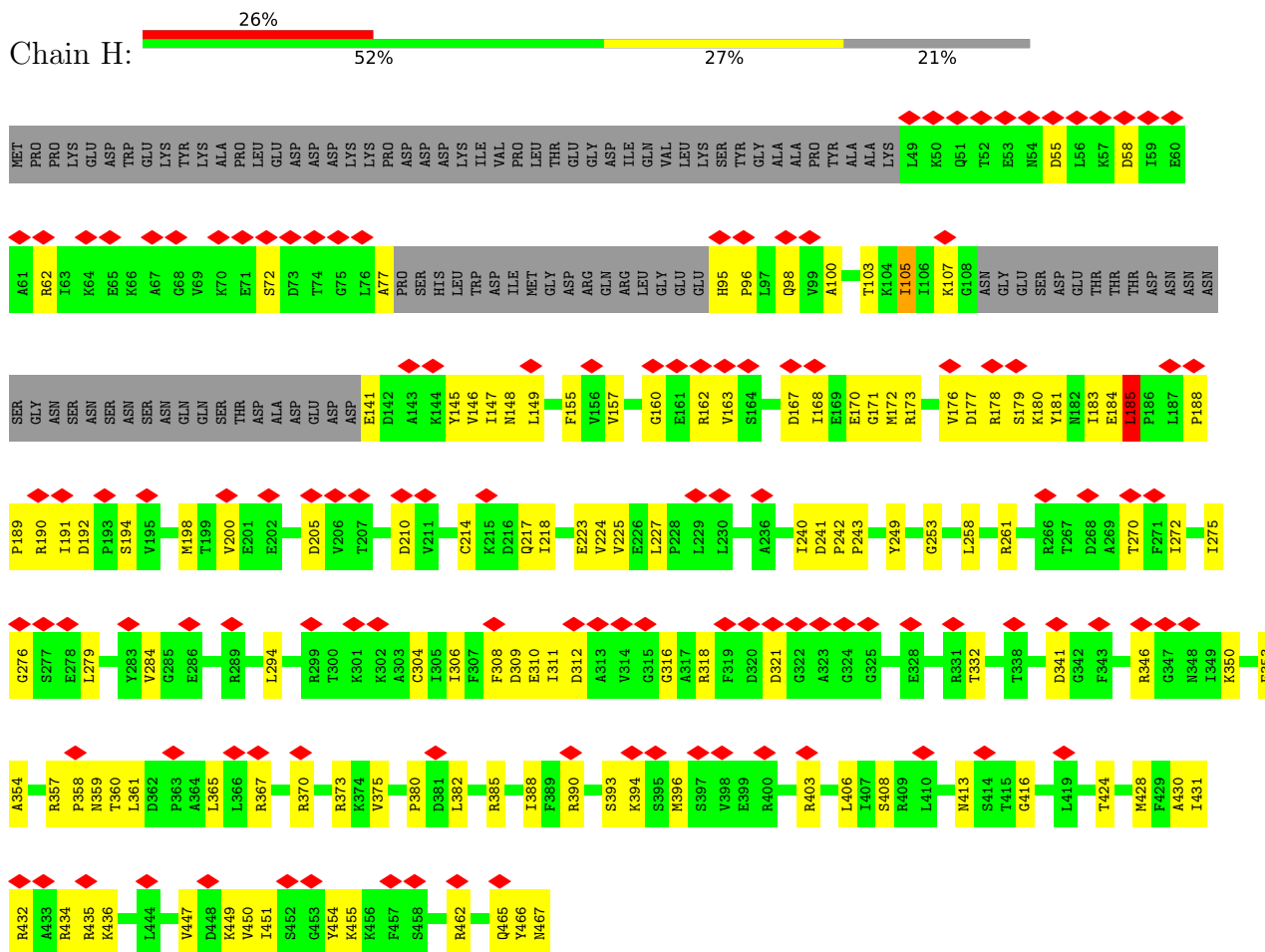
• Molecule 19: 26S proteasome regulatory subunit RPN8



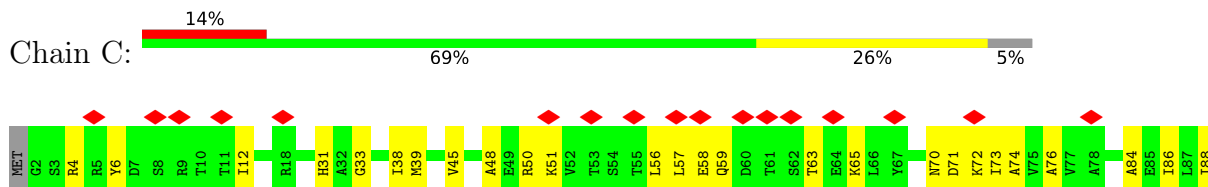


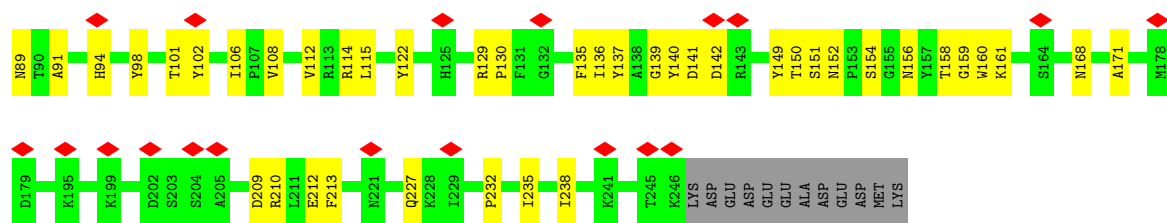


- Molecule 23: 26S protease regulatory subunit 7 homolog

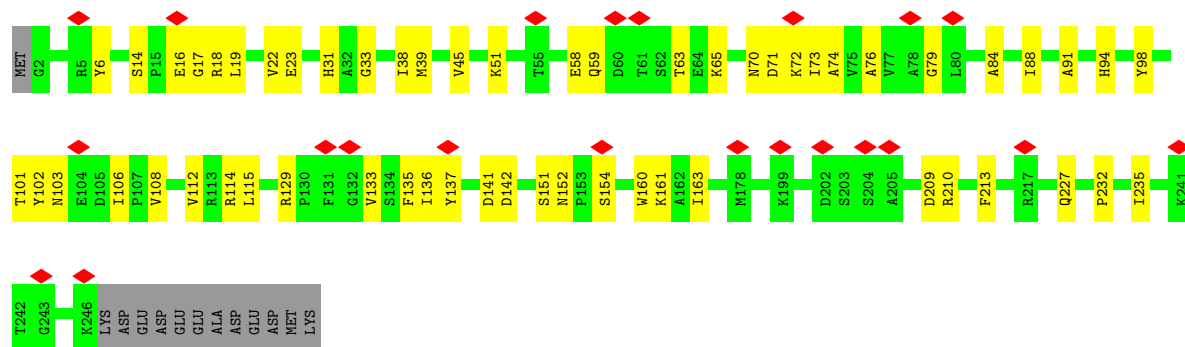
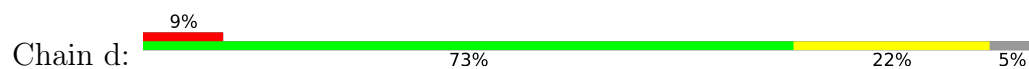


- Molecule 24: Proteasome subunit alpha type-3

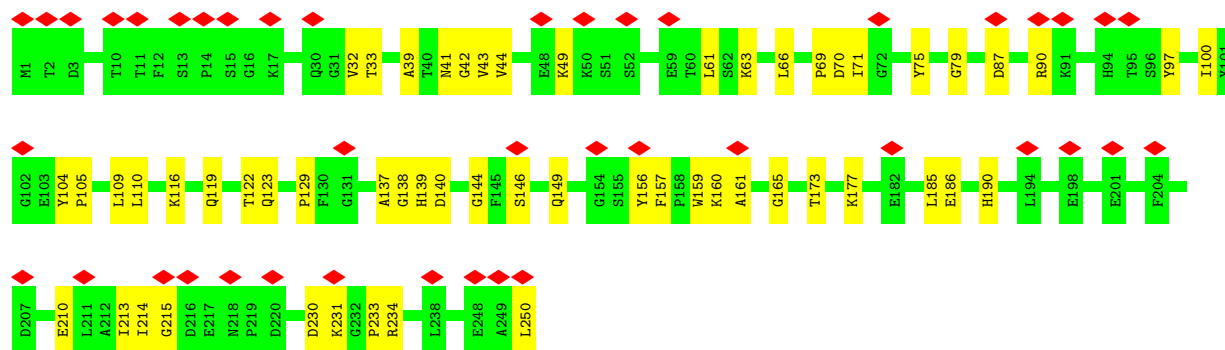
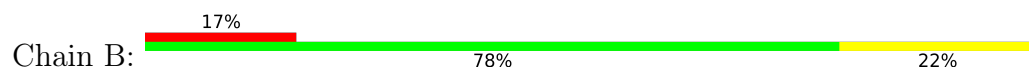




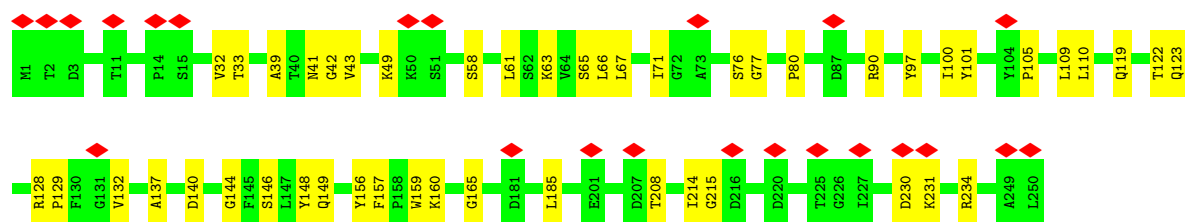
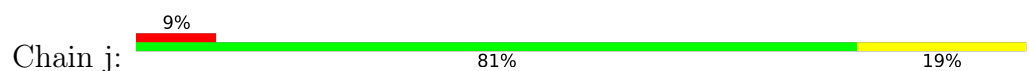
• Molecule 24: Proteasome subunit alpha type-3



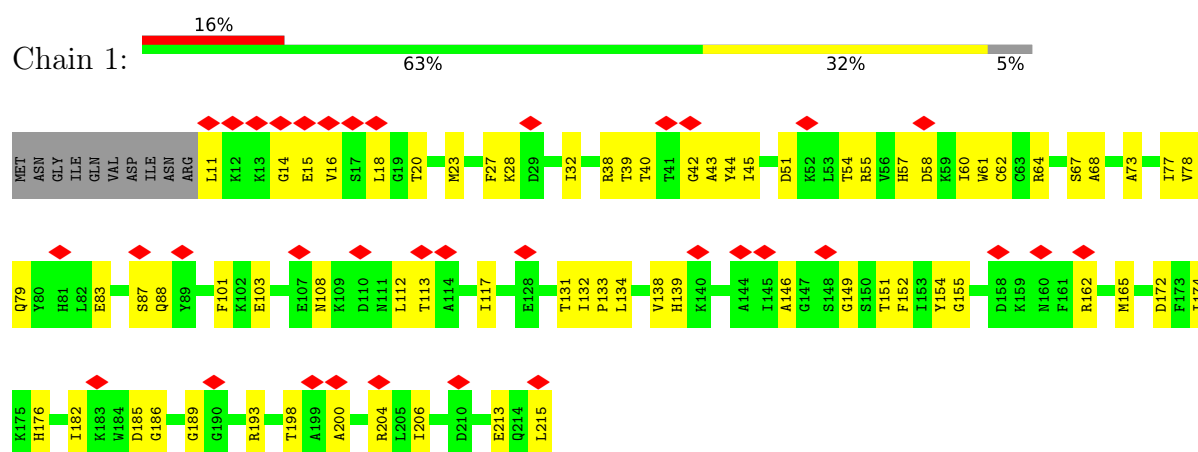
• Molecule 25: Proteasome subunit alpha type-2



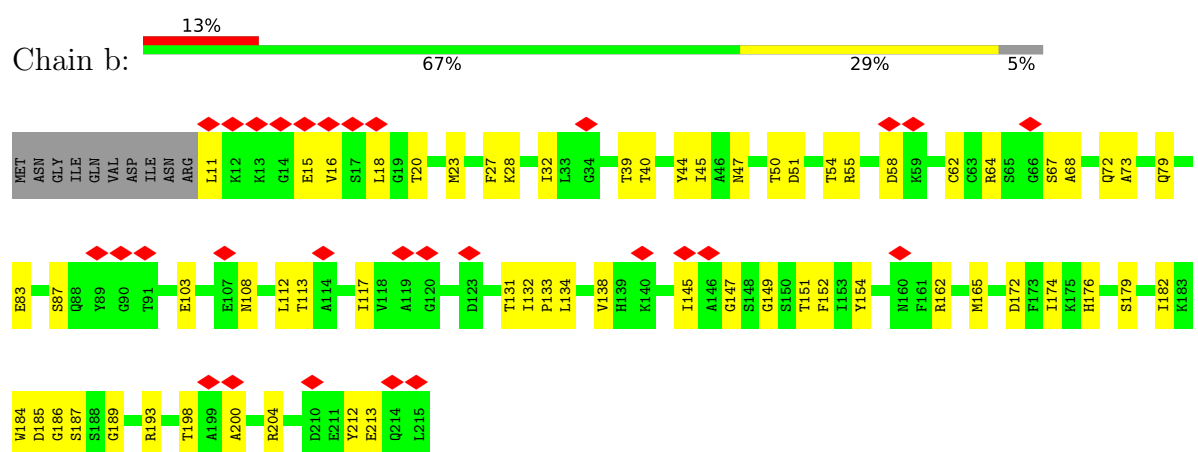
• Molecule 25: Proteasome subunit alpha type-2



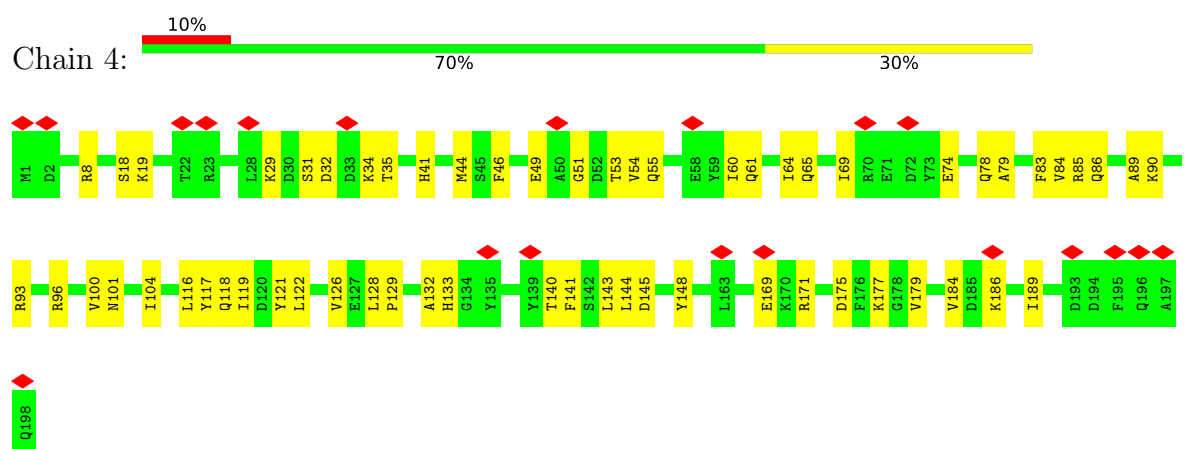
• Molecule 26: Proteasome subunit beta type-1



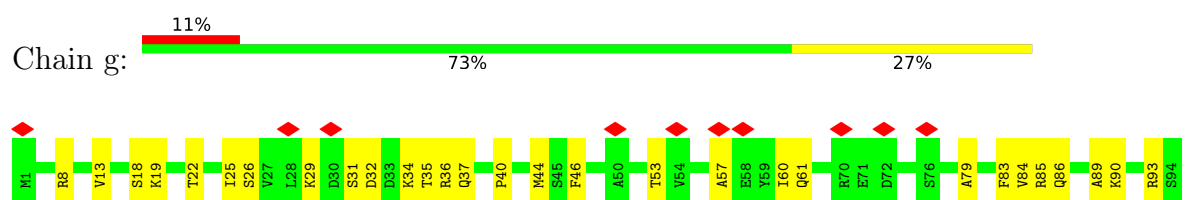
• Molecule 26: Proteasome subunit beta type-1

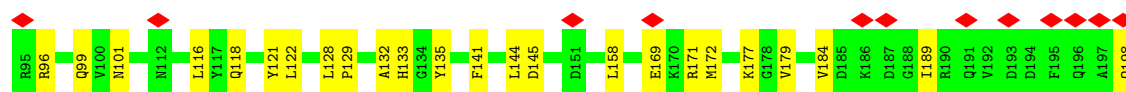


• Molecule 27: Proteasome subunit beta type-4

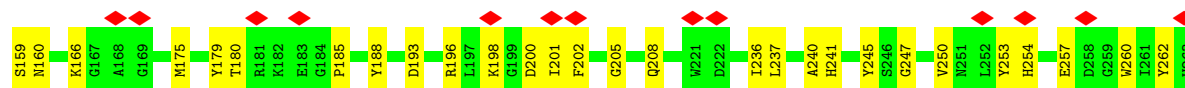
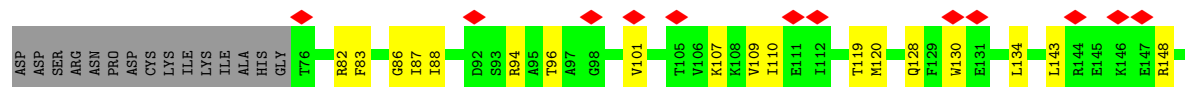


• Molecule 27: Proteasome subunit beta type-4

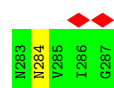
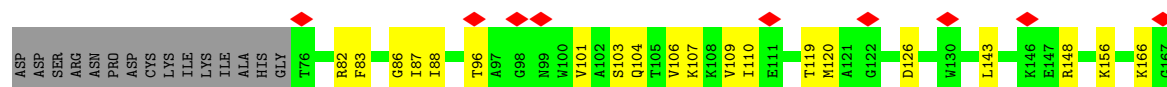
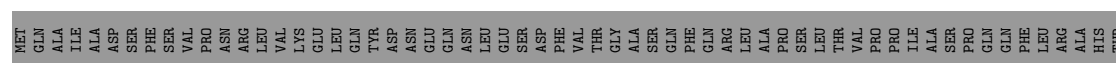




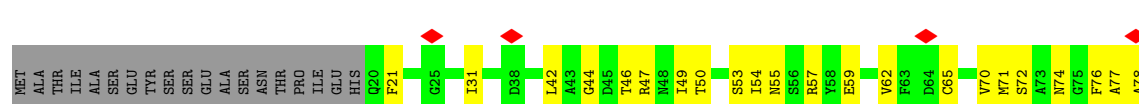
• Molecule 28: Proteasome subunit beta type-5

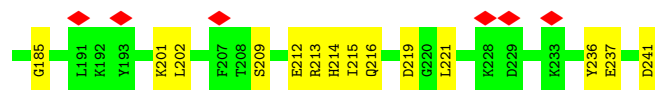


• Molecule 28: Proteasome subunit beta type-5

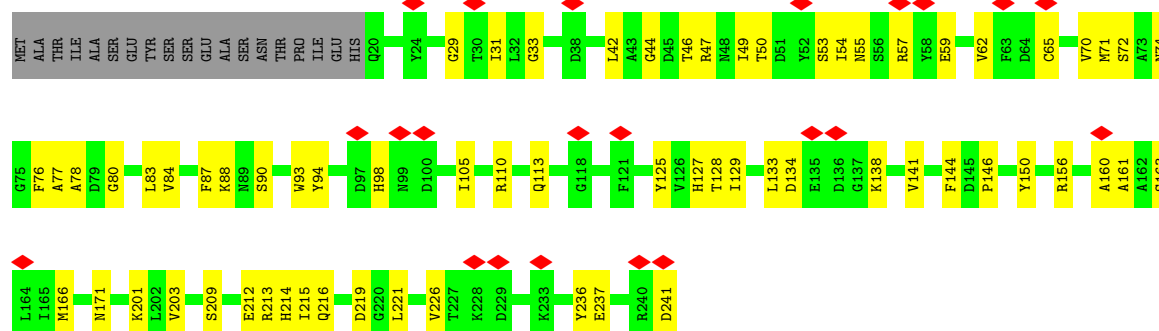


• Molecule 29: Proteasome subunit beta type-6

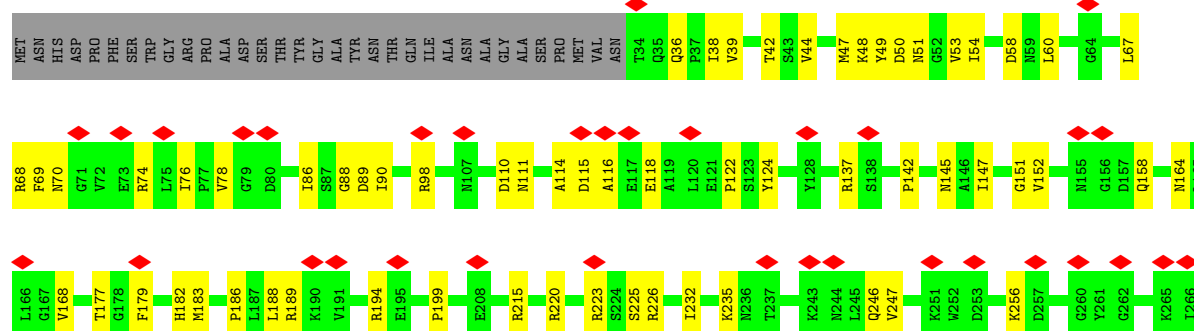




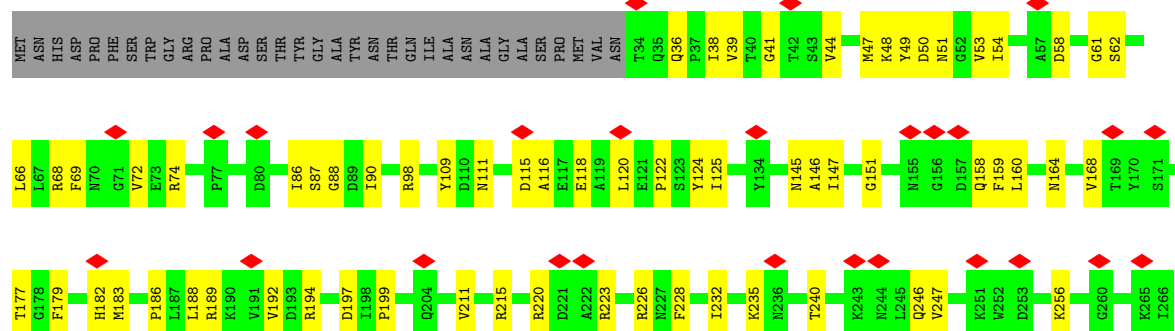
- Molecule 29: Proteasome subunit beta type-6



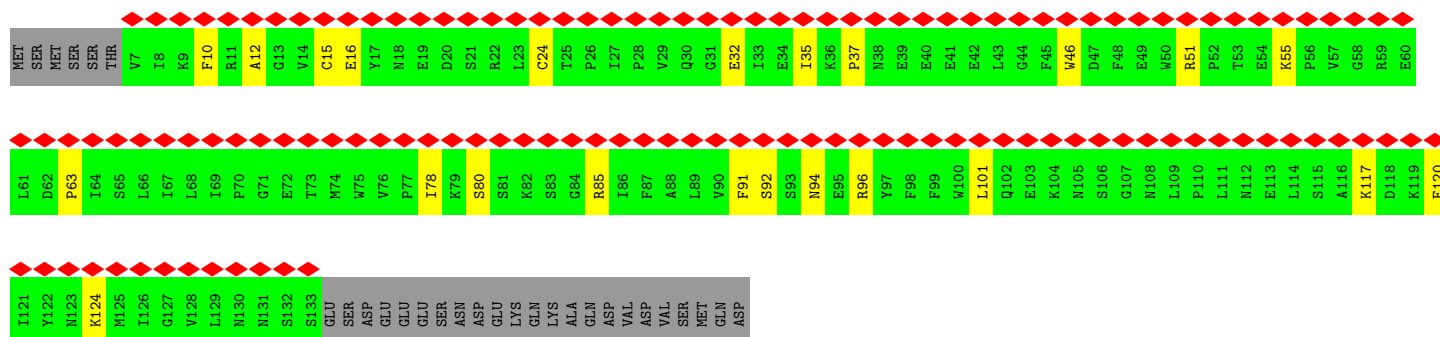
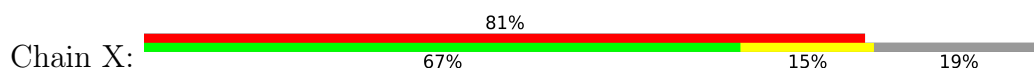
- Molecule 30: Proteasome subunit beta type-7



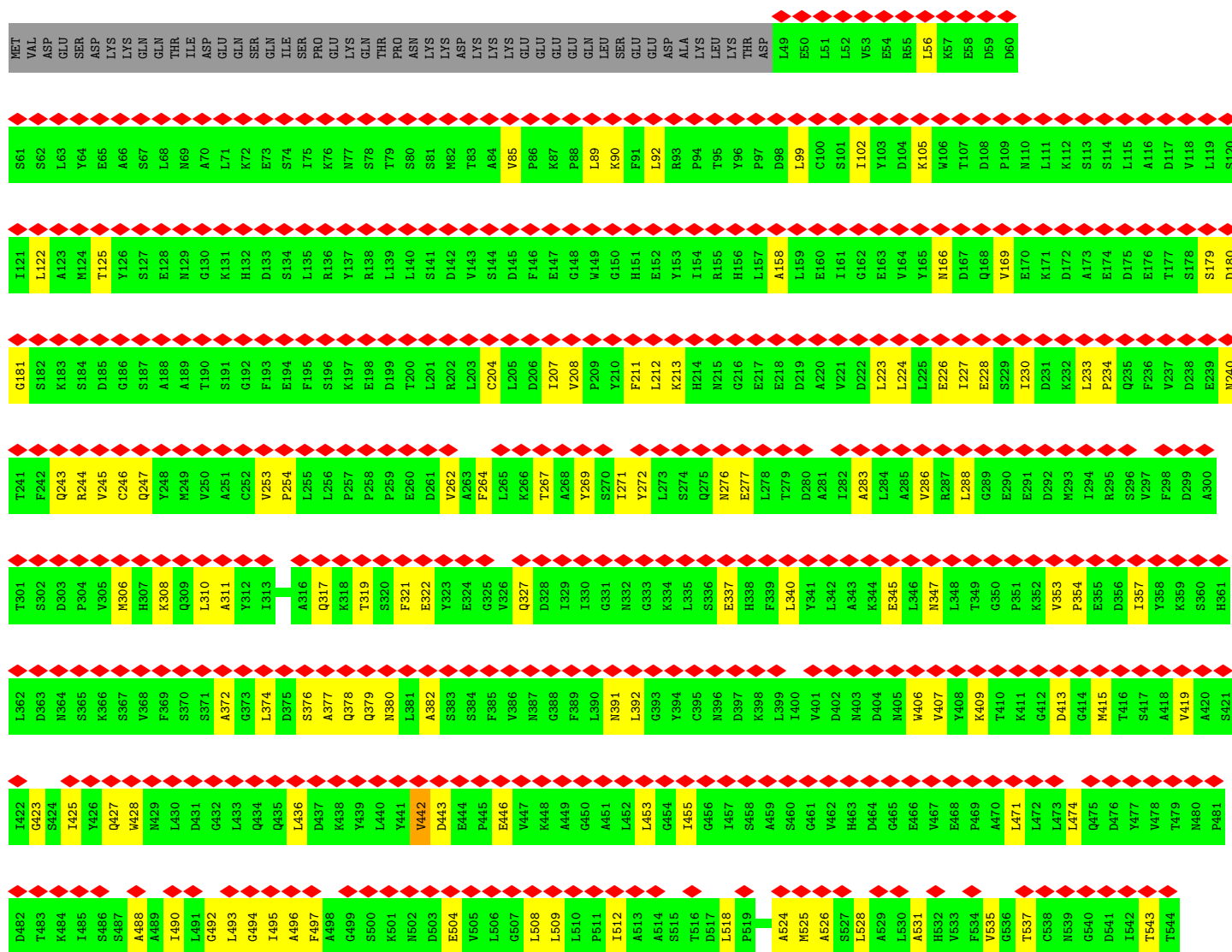
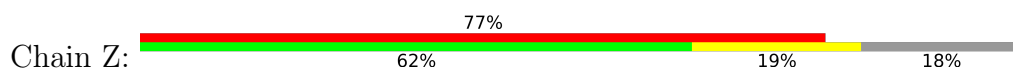
- Molecule 30: Proteasome subunit beta type-7



- Molecule 31: 26S proteasome regulatory subunit RPN13



• Molecule 32: 26S proteasome regulatory subunit RPN1





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	26000	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 ($e^-/\text{\AA}^2$)	25	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	2.237	Depositor
Minimum map value	-1.142	Depositor
Average map value	0.012	Depositor
Map value standard deviation	0.123	Depositor
Recommended contour level	0.755	Depositor
Map size ($\text{\AA}$)	474.47998, 474.47998, 474.47998	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.318, 1.318, 1.318	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	I	0.10	0/2860	0.34	0/3856
2	K	0.11	0/3062	0.35	0/4132
3	2	0.07	0/1715	0.23	0/2326
3	i	0.07	0/1715	0.22	0/2326
4	A	0.07	0/1959	0.25	0/2652
4	c	0.07	0/1959	0.23	0/2652
5	3	0.08	0/1611	0.25	0/2174
5	h	0.09	0/1611	0.28	0/2174
6	G	0.07	0/1940	0.23	0/2619
6	k	0.07	0/1940	0.24	0/2619
7	F	0.07	0/1823	0.25	0/2463
7	l	0.07	0/1823	0.23	0/2463
8	E	0.06	0/1892	0.22	0/2549
8	m	0.06	0/1892	0.23	0/2549
9	D	0.08	0/1928	0.26	0/2610
9	n	0.07	0/1928	0.23	0/2610
10	Y	0.07	0/239	0.21	0/322
11	N	0.08	0/6670	0.25	0/9023
12	S	0.08	0/2945	0.26	0/3976
13	T	0.08	0/2279	0.27	0/3077
14	R	0.08	0/3272	0.25	0/4412
15	Q	0.07	0/3527	0.23	0/4748
16	J	0.21	1/2964 (0.0%)	0.28	0/3981
17	L	0.15	1/2896 (0.0%)	0.30	0/3895
18	M	0.09	0/2903	0.30	0/3909
19	U	0.07	0/2287	0.23	0/3087
20	W	0.08	0/1557	0.26	0/2111
21	O	0.08	0/3243	0.26	0/4374
22	P	0.07	0/3599	0.24	0/4854
23	H	0.23	1/2931 (0.0%)	0.37	0/3941
24	C	0.07	0/1943	0.23	0/2629
24	d	0.07	0/1943	0.23	0/2629
25	B	0.08	0/1952	0.25	0/2642
25	j	0.08	0/1952	0.26	0/2642

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
26	1	0.08	0/1605	0.31	0/2171
26	b	0.07	0/1603	0.27	0/2168
27	4	0.07	0/1613	0.24	0/2173
27	g	0.08	0/1613	0.29	0/2173
28	5	0.07	0/1681	0.23	0/2274
28	f	0.06	0/1681	0.23	0/2274
29	6	0.07	0/1795	0.24	0/2420
29	e	0.07	0/1795	0.24	0/2420
30	7	0.08	0/1855	0.25	0/2514
30	a	0.08	0/1855	0.25	0/2514
31	X	0.07	0/1058	0.25	0/1432
32	Z	0.09	0/6403	0.29	0/8686
33	V	0.13	0/2271	0.38	0/3064
All	All	0.10	3/107588 (0.0%)	0.27	0/145309

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	I	0	1
5	h	0	1
18	M	0	1
26	1	0	1
33	V	0	2
All	All	0	6

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	H	185	LEU	C-N	10.56	1.58	1.33
16	J	241	ALA	C-N	10.36	1.58	1.33
17	L	329	ARG	C-N	6.95	1.50	1.33

There are no bond angle outliers.

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
26	1	42	GLY	Peptide

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Mol	Chain	Res	Type	Group
1	I	102	ASN	Peptide
18	M	167	VAL	Peptide
33	V	162	GLY	Peptide
33	V	273	ARG	Peptide
5	h	45	HIS	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	I	2822	0	2870	79	0
2	K	3019	0	3084	100	0
3	2	1684	0	1685	37	0
3	i	1684	0	1685	32	0
4	A	1921	0	1910	49	0
4	c	1921	0	1910	42	0
5	3	1581	0	1571	46	0
5	h	1581	0	1571	62	0
6	G	1900	0	1889	41	0
6	k	1900	0	1889	41	0
7	F	1795	0	1797	39	0
7	l	1795	0	1797	41	0
8	E	1867	0	1841	51	0
8	m	1867	0	1841	48	0
9	D	1899	0	1908	39	0
9	n	1899	0	1908	43	0
10	Y	236	0	203	2	0
11	N	6562	0	6625	130	0
12	S	2893	0	2937	55	0
13	T	2235	0	2207	37	0
14	R	3218	0	3216	58	0
15	Q	3471	0	3495	48	0
16	J	2928	0	3057	76	0
17	L	2853	0	2926	78	0
18	M	2866	0	2938	81	0
19	U	2257	0	2312	52	0
20	W	1534	0	1542	35	0
21	O	3182	0	3207	59	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	P	3545	0	3629	52	0
23	H	2889	0	2964	108	0
24	C	1913	0	1914	46	0
24	d	1913	0	1914	38	0
25	B	1915	0	1929	41	0
25	j	1915	0	1929	37	0
26	1	1576	0	1552	48	0
26	b	1574	0	1547	43	0
27	4	1585	0	1590	53	0
27	g	1585	0	1590	39	0
28	5	1644	0	1592	39	0
28	f	1644	0	1592	35	0
29	6	1757	0	1708	53	0
29	e	1757	0	1708	53	0
30	7	1824	0	1829	48	0
30	a	1824	0	1829	54	0
31	X	1032	0	1015	19	0
32	Z	6289	0	6236	129	0
33	V	2236	0	2242	81	0
All	All	105787	0	106130	2162	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 10.

All (2162) 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)
11:N:25:LEU:HB3	11:N:29:ASN:HB2	1.63	0.80
18:M:162:GLU:HG2	18:M:166:ARG:HG2	1.64	0.80
5:h:133:ALA:H	5:h:137:ILE:HD11	1.47	0.79
9:D:63:LYS:HE2	9:D:76:SER:HB2	1.64	0.76
32:Z:233:LEU:HB3	32:Z:271:ILE:HD11	1.66	0.75
4:A:61:ASP:HB3	4:A:64:LEU:HG	1.68	0.75
32:Z:926:ASN:HB3	32:Z:956:LEU:HD22	1.68	0.75
29:e:71:MET:HE3	29:e:84:VAL:HG22	1.69	0.74
23:H:214:CYS:HA	23:H:217:GLN:HB3	1.70	0.74
11:N:330:THR:HG23	11:N:366:THR:HG21	1.69	0.74
18:M:170:MET:HB2	23:H:180:LYS:HZ3	1.52	0.74
30:a:54:ILE:HG12	30:a:232:ILE:HG12	1.70	0.74
5:h:107:PRO:HG2	5:h:124:PHE:H	1.53	0.74
7:l:58:SER:HB2	8:m:166:ARG:HB3	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:h:56:LEU:HD11	27:g:122:LEU:HB3	1.70	0.73
16:J:328:LEU:HB3	16:J:343:LEU:HD22	1.71	0.73
1:I:218:GLY:H	1:I:344:ILE:HG12	1.53	0.73
12:S:231:ALA:O	12:S:235:ASN:ND2	2.22	0.73
16:J:195:LYS:NZ	16:J:294:THR:O	2.22	0.73
26:b:55:ARG:O	26:b:79:GLN:NE2	2.21	0.73
3:i:126:TYR:HB3	3:i:156:LEU:HD13	1.72	0.71
6:k:30:ALA:HB2	7:l:17:GLY:HA3	1.72	0.71
1:I:128:TYR:HB3	1:I:130:VAL:HG13	1.72	0.71
11:N:341:ALA:HA	11:N:374:ILE:HA	1.72	0.71
16:J:98:VAL:HA	16:J:122:LEU:HB3	1.72	0.71
1:I:113:ILE:HG22	1:I:115:ASP:H	1.56	0.71
2:K:211:LEU:HG	2:K:219:LYS:HE2	1.72	0.71
18:M:170:MET:HB2	23:H:180:LYS:NZ	2.05	0.71
5:3:56:LEU:HD11	27:4:122:LEU:HB3	1.72	0.71
11:N:770:LYS:HA	11:N:870:ASN:HD22	1.56	0.71
30:7:54:ILE:HG12	30:7:232:ILE:HG12	1.72	0.71
5:3:29:LEU:HB3	5:3:37:SER:HB3	1.73	0.71
19:U:186:LEU:HD21	33:V:296:LEU:HD12	1.72	0.71
33:V:277:LYS:HG3	33:V:282:GLU:HB2	1.73	0.70
11:N:884:PHE:HZ	11:N:897:LYS:HB2	1.56	0.70
4:A:15:HIS:HB2	24:C:6:TYR:HE2	1.56	0.70
8:E:223:THR:HG22	8:E:225:GLN:H	1.57	0.70
27:4:118:GLN:NE2	27:4:132:ALA:O	2.25	0.70
33:V:54:LEU:HB3	33:V:102:GLN:HB2	1.73	0.70
3:i:70:ILE:HG12	3:i:131:GLY:HA3	1.73	0.70
11:N:19:SER:HA	11:N:22:THR:HB	1.74	0.70
13:T:200:LEU:HD12	13:T:201:PRO:HD2	1.74	0.70
23:H:163:VAL:HG22	23:H:185:LEU:HD11	1.74	0.70
3:2:70:ILE:HG12	3:2:131:GLY:HA3	1.74	0.69
1:I:300:ARG:HB3	1:I:304:ARG:HE	1.57	0.69
22:P:325:ASP:HB2	22:P:330:GLY:H	1.56	0.69
1:I:358:LYS:HD3	1:I:384:LYS:HD3	1.74	0.69
16:J:217:GLU:O	16:J:220:GLN:NE2	2.26	0.69
25:j:97:TYR:HA	25:j:100:ILE:HB	1.75	0.69
28:f:166:LYS:O	27:g:96:ARG:NH2	2.24	0.69
4:A:114:CYS:SG	4:A:145:SER:OG	2.51	0.69
2:K:276:SER:HB2	17:L:303:ARG:HG3	1.73	0.69
8:E:52:LYS:HE3	8:E:218:GLN:HB2	1.73	0.69
3:2:126:TYR:HB3	3:2:156:LEU:HD13	1.73	0.69
5:3:55:GLY:HA3	5:3:105:VAL:HG12	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:j:42:GLY:HA3	25:j:185:LEU:HD13	1.74	0.69
23:H:311:ILE:HD12	23:H:361:LEU:HD11	1.75	0.68
26:1:11:LEU:N	26:1:113:THR:HG1	1.91	0.68
2:K:180:GLN:NE2	2:K:339:GLU:O	2.20	0.68
8:m:52:LYS:HE3	8:m:218:GLN:HB2	1.75	0.68
22:P:90:LYS:HB3	22:P:130:ILE:HG12	1.76	0.68
23:H:149:LEU:HD22	23:H:178:ARG:HD2	1.74	0.68
6:G:136:THR:HB	6:G:151:LEU:HB3	1.74	0.68
9:D:163:THR:HG23	9:D:168:SER:HB3	1.76	0.68
11:N:6:ALA:HB1	11:N:45:ASP:HB2	1.76	0.68
4:c:36:ASN:HD22	4:c:173:PRO:HD3	1.58	0.68
28:5:148:ARG:NH1	28:5:179:TYR:O	2.27	0.68
29:6:71:MET:HE3	29:6:84:VAL:HG22	1.75	0.68
4:c:114:CYS:SG	4:c:145:SER:OG	2.52	0.68
8:m:63:SER:HB2	9:n:158:SER:HB2	1.75	0.68
8:m:223:THR:HG22	8:m:225:GLN:H	1.59	0.68
2:K:248:GLY:O	2:K:252:ARG:NH1	2.27	0.67
26:1:20:THR:HA	26:1:149:GLY:H	1.60	0.67
1:I:225:PRO:O	16:J:306:ARG:NH1	2.28	0.67
6:k:222:SER:O	6:k:225:ASN:ND2	2.27	0.67
11:N:634:LEU:HG	11:N:636:SER:H	1.58	0.67
32:Z:774:ARG:HH12	32:Z:886:VAL:HG13	1.59	0.67
24:d:129:ARG:O	25:j:123:GLN:NE2	2.28	0.67
19:U:198:LYS:HE2	21:O:378:GLU:HG3	1.76	0.67
4:c:88:PRO:HD3	6:k:156:SER:HB3	1.77	0.67
21:O:76:LEU:HB2	21:O:122:HIS:HB2	1.76	0.67
6:G:222:SER:O	6:G:225:ASN:ND2	2.28	0.67
2:K:187:ALA:O	2:K:313:LYS:NZ	2.27	0.67
15:Q:411:SER:O	33:V:250:GLN:NE2	2.28	0.67
21:O:1:MET:N	21:O:36:LYS:O	2.27	0.67
16:J:320:SER:H	16:J:323:ALA:HB3	1.60	0.66
5:h:29:LEU:HB3	5:h:37:SER:HB3	1.77	0.66
27:4:29:LYS:HE2	27:4:31:SER:HB2	1.76	0.66
1:I:196:GLU:HA	1:I:200:LEU:HD12	1.76	0.66
9:n:163:THR:HG23	9:n:168:SER:HB3	1.77	0.66
15:Q:75:ARG:HD2	15:Q:116:PHE:HB2	1.78	0.66
5:h:49:VAL:HG11	5:h:109:VAL:HG13	1.78	0.66
25:B:122:THR:HG22	25:B:129:PRO:HB3	1.76	0.66
22:P:204:LEU:HG	22:P:205:LYS:H	1.60	0.66
9:D:158:SER:HB2	8:E:63:SER:HB2	1.77	0.66
2:K:217:THR:HG22	2:K:381:ALA:HB2	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:78:ALA:HB1	7:F:81:ALA:HB3	1.78	0.66
33:V:114:PHE:HB2	33:V:118:LEU:HD23	1.76	0.66
33:V:245:VAL:HG12	33:V:290:ASN:HB3	1.78	0.66
2:K:119:VAL:H	16:J:70:SER:H	1.44	0.66
2:K:132:LYS:HZ3	2:K:262:ARG:HD3	1.61	0.65
6:k:40:ILE:HD11	6:k:196:ALA:HB2	1.78	0.65
29:e:49:ILE:HG22	29:e:54:ILE:HG12	1.77	0.65
28:5:148:ARG:NH2	28:5:257:GLU:O	2.30	0.65
26:1:55:ARG:NH2	26:1:58:ASP:OD1	2.29	0.65
30:a:182:HIS:HD1	29:e:53:SER:HG	1.42	0.65
33:V:148:LYS:HE3	33:V:150:LYS:HB3	1.79	0.65
11:N:885:ILE:HG22	11:N:887:ASP:H	1.60	0.65
32:Z:453:LEU:HA	32:Z:492:GLY:HA2	1.76	0.65
12:S:415:SER:OG	12:S:418:THR:OG1	2.14	0.65
23:H:176:VAL:HB	23:H:191:ILE:H	1.61	0.65
23:H:176:VAL:HG23	23:H:190:ARG:HB2	1.78	0.65
25:B:43:VAL:HB	25:B:214:ILE:HB	1.79	0.65
24:d:33:GLY:H	24:d:65:LYS:HE3	1.60	0.65
33:V:54:LEU:HB2	33:V:67:ASP:HB3	1.79	0.65
2:K:119:VAL:HB	16:J:70:SER:HB2	1.78	0.65
26:1:51:ASP:OD2	26:1:204:ARG:NH2	2.29	0.65
3:i:141:SER:HB2	3:i:154:LEU:HD13	1.78	0.65
23:H:214:CYS:HB3	23:H:218:ILE:HG13	1.77	0.65
23:H:276:GLY:H	23:H:310:GLU:HB2	1.61	0.65
3:2:230:LYS:HB2	29:e:201:LYS:HD3	1.79	0.65
32:Z:308:LYS:HB2	32:Z:982:ILE:HD11	1.79	0.65
32:Z:518:LEU:HD13	32:Z:559:LYS:HB3	1.78	0.65
11:N:766:GLN:O	11:N:921:ARG:NH2	2.30	0.65
18:M:66:LYS:HA	18:M:69:ILE:HB	1.79	0.65
33:V:273:ARG:HG3	33:V:274:GLN:H	1.62	0.65
27:4:29:LYS:HG2	27:4:31:SER:H	1.61	0.65
2:K:385:ALA:HB3	2:K:414:GLN:HE22	1.62	0.64
16:J:67:GLU:OE2	16:J:116:ARG:NH2	2.30	0.64
7:F:117:GLN:NE2	7:F:120:THR:OG1	2.30	0.64
5:3:101:GLY:O	27:4:93:ARG:NH1	2.30	0.64
30:7:111:ASN:HD21	30:7:118:GLU:HB3	1.61	0.64
9:D:124:GLY:H	8:E:133:LEU:HB3	1.63	0.64
14:R:313:ALA:HA	14:R:317:ILE:HD12	1.79	0.64
27:4:169:GLU:O	27:g:177:LYS:NZ	2.30	0.64
18:M:195:GLU:HA	18:M:199:LEU:HD12	1.79	0.64
32:Z:253:VAL:HG13	32:Z:264:PHE:HD2	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:g:118:GLN:NE2	27:g:132:ALA:O	2.30	0.64
11:N:870:ASN:OD1	11:N:871:MET:N	2.30	0.64
32:Z:413:ASP:HB2	32:Z:898:HIS:HD2	1.62	0.64
26:b:23:MET:HE2	26:b:174:ILE:HG12	1.80	0.64
25:j:122:THR:HG22	25:j:129:PRO:HB3	1.79	0.64
3:i:230:LYS:HB2	29:6:201:LYS:HD3	1.80	0.64
23:H:272:ILE:HB	23:H:306:ILE:HG12	1.79	0.64
26:b:182:ILE:HG23	26:b:189:GLY:HA2	1.79	0.64
25:B:97:TYR:HA	25:B:100:ILE:HB	1.80	0.64
27:4:184:VAL:HG22	27:4:189:ILE:HG12	1.79	0.64
14:R:35:GLN:O	14:R:323:ASN:ND2	2.31	0.64
24:C:76:ALA:HB3	24:C:136:ILE:HB	1.80	0.64
32:Z:888:LEU:HB3	32:Z:901:PHE:HE1	1.63	0.64
6:k:136:THR:HB	6:k:151:LEU:HB3	1.79	0.64
21:O:239:MET:HE1	21:O:251:LEU:HB2	1.79	0.64
5:3:172:LEU:HD22	5:3:202:MET:HB3	1.79	0.64
30:7:38:ILE:HG22	30:7:39:VAL:HG23	1.80	0.64
32:Z:317:GLN:HB3	32:Z:321:PHE:HB2	1.79	0.64
11:N:339:MET:HE2	11:N:707:ASN:HD21	1.63	0.63
14:R:71:LEU:HG	14:R:72:VAL:HG23	1.80	0.63
19:U:120:LEU:HB3	19:U:137:TYR:HB2	1.79	0.63
2:K:244:HIS:CE1	2:K:246:TYR:HB3	2.33	0.63
7:l:82:ARG:O	7:l:86:ASN:ND2	2.31	0.63
32:Z:537:THR:O	32:Z:577:GLN:NE2	2.30	0.63
5:h:172:LEU:HD22	5:h:202:MET:HB3	1.81	0.63
2:K:339:GLU:HG2	2:K:341:PRO:HD3	1.79	0.63
6:G:40:ILE:HD11	6:G:196:ALA:HB2	1.81	0.63
24:d:14:SER:OG	24:d:18:ARG:O	2.16	0.63
5:h:109:VAL:O	5:h:122:ALA:N	2.28	0.63
21:O:105:GLN:HG2	21:O:109:LEU:HD12	1.79	0.63
27:4:100:VAL:H	27:4:121:TYR:HB3	1.63	0.63
8:m:86:ARG:NH2	9:n:156:TYR:OH	2.32	0.63
26:1:23:MET:HE2	26:1:174:ILE:HG12	1.80	0.63
5:h:121:ILE:HD12	5:h:137:ILE:HG12	1.81	0.63
11:N:595:LEU:HB3	11:N:602:VAL:HG22	1.81	0.63
18:M:336:ALA:O	18:M:342:ARG:NH1	2.32	0.63
4:c:144:VAL:HG12	4:c:154:ILE:HG12	1.80	0.63
11:N:711:ARG:O	11:N:873:ARG:NH2	2.32	0.63
18:M:411:LYS:HE3	18:M:413:GLU:HB3	1.79	0.63
22:P:413:ASN:OD1	22:P:414:GLU:N	2.32	0.63
7:F:40:SER:OG	7:F:43:HIS:O	2.15	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:4:54:VAL:HG11	28:5:196:ARG:H	1.63	0.63
33:V:249:GLU:OE2	33:V:290:ASN:ND2	2.32	0.63
22:P:98:GLN:OE1	22:P:136:ARG:NH1	2.32	0.63
7:F:105:VAL:HB	7:F:145:LEU:HB2	1.81	0.63
3:2:65:ARG:NH1	3:2:93:GLU:OE2	2.32	0.63
9:D:187:THR:HB	9:D:190:GLU:HG2	1.80	0.62
24:C:31:HIS:O	24:C:51:LYS:NZ	2.31	0.62
30:7:226:ARG:HE	30:7:246:GLN:HB3	1.63	0.62
8:m:83:ALA:O	9:n:118:GLN:NE2	2.32	0.62
23:H:141:GLU:OE1	23:H:162:ARG:NH1	2.30	0.62
32:Z:858:GLY:HA3	32:Z:862:MET:HB2	1.81	0.62
30:a:226:ARG:HE	30:a:246:GLN:HB3	1.63	0.62
26:b:20:THR:HA	26:b:149:GLY:H	1.65	0.62
29:e:50:THR:OG1	29:e:55:ASN:ND2	2.31	0.62
1:I:294:SER:O	1:I:303:GLN:NE2	2.31	0.62
14:R:168:ILE:HD11	16:J:333:ARG:HH22	1.64	0.62
17:L:183:ILE:HD13	17:L:230:LEU:HB2	1.81	0.62
22:P:131:PHE:CZ	22:P:133:GLU:HB3	2.34	0.62
22:P:147:LYS:HB3	22:P:152:LYS:HB2	1.80	0.62
4:A:105:ARG:HG3	4:A:109:GLY:HA2	1.82	0.62
7:F:82:ARG:O	7:F:86:ASN:ND2	2.32	0.62
11:N:545:SER:OG	11:N:580:ASN:ND2	2.32	0.62
11:N:614:ASN:OD1	11:N:615:ALA:N	2.33	0.62
19:U:54:LEU:HG	19:U:73:ILE:HD13	1.82	0.62
2:K:95:VAL:O	2:K:139:LEU:N	2.32	0.62
4:c:15:HIS:HB2	24:d:6:TYR:HE2	1.63	0.62
19:U:201:GLN:NE2	21:O:375:ASP:OD1	2.33	0.62
23:H:224:VAL:HG22	23:H:243:PRO:HG2	1.81	0.62
30:7:58:ASP:OD1	30:7:74:ARG:NH2	2.33	0.62
30:a:111:ASN:HD21	30:a:118:GLU:HB3	1.64	0.62
29:e:125:TYR:HD1	29:e:146:PRO:HB3	1.63	0.62
23:H:436:LYS:NZ	32:Z:959:HIS:O	2.32	0.62
24:C:70:ASN:OD1	24:C:71:ASP:N	2.32	0.62
3:2:50:THR:HG22	3:2:55:VAL:HG22	1.82	0.62
6:k:68:GLN:OE1	6:k:93:ARG:NH2	2.33	0.61
11:N:325:PHE:HE1	33:V:24:LYS:HD3	1.65	0.61
13:T:107:SER:HB3	13:T:142:LEU:HD23	1.82	0.61
16:J:245:ILE:HB	16:J:290:ILE:HG12	1.82	0.61
21:O:341:ILE:HG12	21:O:348:VAL:HG13	1.82	0.61
2:K:174:VAL:O	2:K:181:LYS:NZ	2.34	0.61
23:H:184:GLU:OE1	23:H:190:ARG:NE	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:N:230:VAL:HG11	11:N:724:THR:HG21	1.81	0.61
12:S:284:LEU:HA	12:S:382:ARG:HH21	1.65	0.61
14:R:24:TYR:HB2	14:R:242:GLU:HA	1.81	0.61
4:A:86:PRO:HG2	4:A:89:ASP:HB2	1.82	0.61
24:C:102:TYR:HB3	27:4:79:ALA:HB1	1.81	0.61
24:d:76:ALA:HB3	24:d:136:ILE:HB	1.80	0.61
33:V:277:LYS:HD2	33:V:281:SER:HB2	1.83	0.61
2:K:300:LEU:HA	2:K:333:ARG:HE	1.64	0.61
2:K:344:ARG:O	2:K:349:ARG:NH1	2.33	0.61
30:a:88:GLY:HA3	30:a:145:ASN:HA	1.82	0.61
7:l:52:ASN:ND2	7:l:54:ASP:O	2.33	0.61
9:n:187:THR:HB	9:n:190:GLU:HG2	1.83	0.61
17:L:357:ARG:HD2	17:L:391:ILE:HD11	1.81	0.61
26:1:182:ILE:HG23	26:1:189:GLY:HA2	1.82	0.61
23:H:403:ARG:NH2	8:E:206:GLN:OE1	2.34	0.61
23:H:462:ARG:O	23:H:465:GLN:NE2	2.33	0.61
32:Z:564:ARG:NH2	32:Z:595:MET:SD	2.73	0.61
2:K:281:ARG:NH2	17:L:300:GLU:OE2	2.34	0.61
22:P:181:LEU:HD13	22:P:219:GLU:HG2	1.83	0.61
8:m:116:VAL:O	8:m:120:ALA:N	2.32	0.61
16:J:78:ILE:HG22	16:J:84:VAL:HG23	1.82	0.61
29:6:47:ARG:NH1	29:6:215:ILE:O	2.34	0.61
1:I:340:ARG:HH11	1:I:343:ARG:HG2	1.66	0.61
5:h:67:PHE:HE1	5:h:91:VAL:HG22	1.65	0.61
5:h:91:VAL:HG11	5:h:107:PRO:HG3	1.82	0.60
15:Q:263:LYS:HG2	15:Q:299:MET:HG3	1.83	0.60
16:J:220:GLN:HG3	16:J:225:GLU:HB2	1.83	0.60
31:X:37:PRO:HA	31:X:46:TRP:HA	1.83	0.60
32:Z:436:LEU:HD21	32:Z:455:ILE:HA	1.83	0.60
28:f:272:PHE:HZ	28:f:282:PHE:HB2	1.66	0.60
1:I:315:GLY:O	23:H:261:ARG:NH1	2.35	0.60
3:i:228:LYS:HE2	3:i:231:SER:HA	1.82	0.60
11:N:608:LEU:HD23	11:N:611:LYS:HD2	1.83	0.60
20:W:161:VAL:O	20:W:163:ASN:ND2	2.34	0.60
25:B:97:TYR:HB2	25:B:105:PRO:HD3	1.83	0.60
27:g:19:LYS:HB3	27:g:31:SER:HA	1.83	0.60
2:K:268:ILE:HA	2:K:313:LYS:HB2	1.84	0.60
17:L:354:GLU:HB2	17:L:380:VAL:HG11	1.81	0.60
24:C:63:THR:O	25:B:156:TYR:OH	2.20	0.60
5:3:58:THR:OG1	27:4:122:LEU:O	2.19	0.60
24:d:74:ALA:HB2	24:d:227:GLN:HE22	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:k:116:LEU:HB3	6:k:151:LEU:HD22	1.84	0.60
19:U:124:ASP:H	19:U:127:GLN:HE21	1.47	0.60
20:W:150:ASN:OD1	20:W:151:THR:N	2.34	0.60
25:B:100:ILE:HG23	5:3:90:LEU:HD13	1.82	0.60
1:I:319:ARG:HH22	32:Z:829:GLN:HG2	1.66	0.60
4:c:86:PRO:HG2	4:c:89:ASP:HB2	1.83	0.60
5:h:50:PHE:HZ	5:h:195:VAL:HG21	1.66	0.60
7:F:129:GLY:HA2	7:F:149:PRO:HB3	1.82	0.60
11:N:778:LYS:HE2	11:N:780:ASP:HB2	1.84	0.60
17:L:197:ILE:HA	17:L:322:LYS:HE3	1.83	0.60
18:M:132:VAL:HG12	18:M:134:LEU:H	1.66	0.60
18:M:402:ALA:HB1	18:M:407:GLN:HB2	1.83	0.60
19:U:116:ASN:OD1	19:U:117:ASN:N	2.29	0.60
32:Z:213:LYS:HE2	32:Z:240:ASN:HB2	1.83	0.60
25:j:49:LYS:NZ	25:j:58:SER:O	2.34	0.60
9:n:29:ARG:HE	24:d:17:GLY:HA3	1.66	0.60
11:N:778:LYS:NZ	11:N:861:TYR:OH	2.35	0.60
22:P:176:LYS:HE2	22:P:180:ILE:HD11	1.84	0.60
4:A:86:PRO:HD2	4:A:139:VAL:HG22	1.83	0.60
30:a:164:ASN:OD1	30:a:168:VAL:N	2.34	0.60
4:c:141:LEU:HB2	4:c:157:THR:HB	1.84	0.60
32:Z:844:ALA:HA	32:Z:847:ILE:HD12	1.83	0.60
5:h:11:ILE:HG21	5:h:142:ALA:HB3	1.83	0.60
11:N:456:GLY:H	11:N:490:LEU:HD12	1.67	0.60
6:G:70:VAL:N	6:G:74:ILE:O	2.35	0.60
11:N:668:THR:HG22	11:N:671:LEU:HD12	1.84	0.60
24:d:19:LEU:HB2	24:d:22:VAL:HG23	1.82	0.60
26:b:117:ILE:HG12	26:b:131:THR:HG23	1.84	0.60
14:R:139:GLU:OE1	14:R:176:ARG:NH2	2.34	0.59
20:W:97:THR:HA	20:W:100:HIS:HD2	1.66	0.59
4:A:144:VAL:HG12	4:A:154:ILE:HG12	1.84	0.59
25:B:119:GLN:NE2	25:B:122:THR:OG1	2.35	0.59
32:Z:337:GLU:HB3	32:Z:340:LEU:HA	1.84	0.59
25:j:43:VAL:HB	25:j:214:ILE:HB	1.84	0.59
28:f:96:THR:HG22	28:f:101:VAL:HG22	1.83	0.59
33:V:188:LEU:HB3	33:V:192:LEU:HD12	1.83	0.59
7:l:21:GLN:NE2	8:m:13:SER:O	2.35	0.59
18:M:288:THR:HG23	23:H:321:ASP:HB3	1.84	0.59
32:Z:543:THR:HG1	32:Z:574:TYR:HH	1.46	0.59
29:e:134:ASP:OD1	29:e:138:LYS:N	2.34	0.59
11:N:324:LYS:HD2	11:N:360:GLN:HE21	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Q:3:LEU:HD12	15:Q:4:PRO:HD2	1.84	0.59
23:H:360:THR:HG22	23:H:467:ASN:HD22	1.68	0.59
4:A:220:LYS:HB3	4:A:242:GLU:HB2	1.83	0.59
5:3:50:PHE:HZ	5:3:195:VAL:HG11	1.67	0.59
5:3:62:THR:OG1	27:4:85:ARG:NH1	2.35	0.59
27:4:19:LYS:HB3	27:4:31:SER:HA	1.85	0.59
32:Z:905:ASN:HA	32:Z:908:ILE:HD12	1.85	0.59
30:a:194:ARG:NH1	29:e:237:GLU:OE2	2.35	0.59
5:h:13:VAL:HA	5:h:138:VAL:HG12	1.84	0.59
15:Q:170:ASP:O	15:Q:174:LEU:N	2.35	0.59
16:J:75:VAL:HG22	16:J:86:VAL:HG22	1.84	0.59
18:M:252:VAL:HG12	23:H:284:VAL:HG11	1.84	0.59
8:E:10:ARG:HE	8:E:14:THR:HG21	1.67	0.59
26:1:45:ILE:HB	30:a:220:ARG:HA	1.85	0.59
26:1:117:ILE:HG12	26:1:131:THR:HG23	1.83	0.59
32:Z:212:LEU:O	32:Z:244:ARG:NH2	2.35	0.59
32:Z:546:ILE:HG23	32:Z:566:LEU:HD13	1.84	0.59
29:e:47:ARG:NH2	29:e:241:ASP:OD1	2.36	0.59
1:I:151:HIS:CD2	1:I:152:LYS:HG3	2.38	0.59
11:N:685:VAL:HG13	11:N:691:GLN:HG3	1.84	0.59
14:R:263:ARG:NH2	15:Q:383:ASP:OD1	2.33	0.59
29:6:134:ASP:OD1	29:6:138:LYS:N	2.35	0.59
32:Z:376:SER:H	32:Z:409:LYS:HZ2	1.48	0.59
7:l:78:ALA:HB1	7:l:81:ALA:HB3	1.84	0.59
14:R:235:LEU:O	16:J:376:HIS:NE2	2.34	0.59
17:L:228:LYS:HE2	17:L:326:ALA:HB1	1.85	0.59
1:I:168:VAL:O	16:J:231:ARG:NH2	2.35	0.59
1:I:188:GLU:HA	1:I:191:ILE:HB	1.83	0.59
3:i:50:THR:HG22	3:i:55:VAL:HG22	1.85	0.59
11:N:454:ALA:HB1	11:N:488:CYS:HA	1.83	0.59
7:F:52:ASN:ND2	7:F:54:ASP:O	2.36	0.59
27:4:34:LYS:HB3	27:4:46:PHE:HB2	1.85	0.59
25:j:32:VAL:HG11	25:j:63:LYS:HE3	1.85	0.59
11:N:774:ASN:HA	11:N:867:LYS:HA	1.85	0.59
12:S:449:LEU:HA	14:R:397:ASN:HD21	1.68	0.59
22:P:80:THR:HG22	22:P:84:LYS:HE3	1.85	0.59
24:d:18:ARG:NH2	24:d:23:GLU:OE2	2.36	0.59
26:b:51:ASP:OD2	26:b:204:ARG:NH2	2.36	0.59
24:d:63:THR:O	25:j:156:TYR:OH	2.21	0.59
11:N:650:ASP:HB3	11:N:694:LEU:HD23	1.83	0.59
23:H:311:ILE:HD13	23:H:353:PHE:HB3	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:4:18:SER:HA	27:4:179:VAL:HG12	1.84	0.59
32:Z:772:ILE:HA	32:Z:775:MET:HE3	1.83	0.59
1:I:148:LEU:HB2	1:I:158:GLY:H	1.68	0.58
11:N:897:LYS:NZ	11:N:904:VAL:O	2.35	0.58
12:S:302:HIS:HB2	12:S:305:LYS:HB2	1.84	0.58
17:L:348:GLU:HG3	17:L:350:PRO:HD3	1.85	0.58
17:L:420:ARG:NH2	6:G:177:GLU:OE2	2.36	0.58
25:j:97:TYR:HD2	25:j:105:PRO:HB3	1.66	0.58
26:b:55:ARG:NH2	26:b:58:ASP:OD1	2.33	0.58
24:C:152:ASN:ND2	24:C:154:SER:OG	2.36	0.58
1:I:129:TYR:CZ	23:H:77:ALA:HA	2.38	0.58
11:N:297:ASP:HB3	11:N:921:ARG:HB2	1.85	0.58
22:P:254:GLU:HA	22:P:257:TRP:HB3	1.84	0.58
26:l:54:THR:HB	26:l:62:CYS:HB3	1.84	0.58
5:h:58:THR:OG1	27:g:122:LEU:O	2.19	0.58
5:h:102:PRO:O	27:g:93:ARG:NH2	2.31	0.58
30:7:122:PRO:HG2	30:7:151:GLY:HA3	1.85	0.58
29:e:46:THR:HB	29:e:59:GLU:H	1.66	0.58
27:g:19:LYS:HB3	27:g:32:ASP:H	1.67	0.58
5:h:48:HIS:CD2	5:h:49:VAL:HG23	2.39	0.58
14:R:44:LYS:HD3	14:R:88:LEU:HD12	1.86	0.58
6:G:41:LYS:HD3	6:G:161:LYS:HA	1.85	0.58
24:C:38:ILE:O	24:C:45:VAL:N	2.36	0.58
30:7:164:ASN:OD1	30:7:168:VAL:N	2.35	0.58
33:V:297:THR:OG1	33:V:301:ASN:ND2	2.37	0.58
18:M:149:ASN:OD1	18:M:150:LYS:N	2.36	0.58
22:P:52:LEU:HD21	22:P:56:LYS:HD3	1.85	0.58
22:P:89:LEU:HG	22:P:91:LEU:H	1.68	0.58
2:K:281:ARG:NH2	2:K:288:SER:O	2.35	0.58
6:k:58:LEU:HD23	7:l:176:LEU:HD22	1.86	0.58
6:k:70:VAL:N	6:k:74:ILE:O	2.35	0.58
7:l:95:SER:O	7:l:100:ASN:N	2.37	0.58
8:m:93:ARG:HD3	28:f:143:LEU:HD22	1.86	0.58
8:m:138:PHE:HB2	8:m:160:PRO:HA	1.85	0.58
11:N:25:LEU:HA	11:N:28:ILE:HB	1.84	0.58
14:R:37:LYS:HG3	14:R:38:VAL:HG23	1.86	0.58
22:P:94:GLN:HG2	22:P:131:PHE:HD1	1.69	0.58
25:B:90:ARG:HD3	3:2:94:LEU:HD22	1.84	0.58
28:5:166:LYS:NZ	28:5:193:ASP:OD1	2.36	0.58
29:6:77:ALA:HB3	30:7:168:VAL:HA	1.86	0.58
30:a:58:ASP:OD1	30:a:74:ARG:NH2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:84:LEU:HD22	18:M:59:LEU:HD13	1.84	0.58
20:W:73:LEU:HD23	20:W:76:LEU:HD12	1.84	0.58
3:2:143:HIS:HB2	3:2:147:SER:HB3	1.85	0.58
3:2:196:LEU:HB3	29:e:215:ILE:HB	1.86	0.58
32:Z:518:LEU:HD12	32:Z:557:GLU:HA	1.86	0.58
5:h:151:GLU:HB3	29:6:209:SER:HB3	1.86	0.58
11:N:261:LEU:HA	11:N:264:SER:HB2	1.86	0.58
1:I:435:LEU:HB2	9:D:79:ASN:HD21	1.69	0.58
13:T:253:GLU:OE2	21:O:376:GLN:NE2	2.37	0.58
17:L:192:GLU:OE2	17:L:345:ARG:NH1	2.36	0.58
24:C:58:GLU:HB2	25:B:160:LYS:HG3	1.86	0.58
26:1:55:ARG:O	26:1:79:GLN:NE2	2.33	0.58
24:d:102:TYR:HB3	27:g:79:ALA:HB1	1.86	0.58
11:N:307:LYS:HG3	11:N:710:GLY:HA3	1.86	0.57
17:L:132:ARG:HD3	17:L:156:MET:HA	1.84	0.57
20:W:179:ARG:HE	20:W:183:GLU:HG2	1.69	0.57
6:G:130:ARG:HB3	7:F:121:GLN:HA	1.85	0.57
30:7:49:TYR:HE2	30:7:54:ILE:HG13	1.68	0.57
32:Z:354:PRO:HA	32:Z:357:ILE:HG12	1.85	0.57
3:i:193:TRP:HB3	29:6:57:ARG:HH22	1.67	0.57
7:l:117:GLN:NE2	7:l:120:THR:OG1	2.37	0.57
30:a:49:TYR:HE2	30:a:54:ILE:HG13	1.69	0.57
33:V:280:LEU:O	33:V:283:THR:OG1	2.22	0.57
2:K:113:THR:HB	2:K:252:ARG:NH2	2.19	0.57
11:N:176:GLN:O	11:N:182:ASN:ND2	2.37	0.57
13:T:230:ASN:OD1	13:T:231:SER:N	2.37	0.57
14:R:134:TRP:HB2	14:R:157:SER:HB3	1.85	0.57
17:L:133:ASN:H	33:V:45:VAL:HG11	1.69	0.57
17:L:228:LYS:NZ	17:L:327:THR:O	2.37	0.57
32:Z:575:MET:HA	32:Z:606:CYS:HB3	1.85	0.57
30:a:62:SER:OG	30:a:66:LEU:O	2.22	0.57
2:K:89:ILE:HD13	16:J:62:LEU:HD13	1.86	0.57
2:K:245:LYS:NZ	17:L:300:GLU:OE1	2.33	0.57
3:i:240:ALA:HB2	29:6:185:GLY:HA3	1.86	0.57
12:S:469:ASN:ND2	13:T:269:SER:OG	2.37	0.57
12:S:478:SER:HA	16:J:43:ARG:HH22	1.68	0.57
22:P:138:ARG:NH2	22:P:175:GLU:OE1	2.37	0.57
25:B:90:ARG:HB3	3:2:94:LEU:HD13	1.87	0.57
32:Z:56:LEU:HD13	32:Z:99:LEU:HD21	1.86	0.57
32:Z:427:GLN:HG2	32:Z:428:TRP:CD1	2.40	0.57
24:d:70:ASN:HB3	24:d:73:ILE:HB	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:h:11:ILE:HD12	5:h:146:LEU:HD11	1.87	0.57
8:E:68:VAL:HB	8:E:93:ARG:HH21	1.70	0.57
9:n:29:ARG:NH2	24:d:16:GLU:O	2.38	0.57
18:M:277:ILE:HA	18:M:322:LYS:HB2	1.86	0.57
20:W:179:ARG:HG2	20:W:180:LEU:H	1.69	0.57
23:H:465:GLN:HB3	8:E:10:ARG:HH22	1.69	0.57
2:K:126:LEU:HD22	2:K:149:ILE:H	1.68	0.57
12:S:464:ARG:HE	14:R:403:LEU:HD11	1.70	0.57
20:W:30:ILE:HG23	20:W:76:LEU:HD13	1.85	0.57
22:P:388:ILE:HG22	22:P:389:ILE:HG23	1.86	0.57
4:A:57:LYS:NZ	4:A:66:PRO:O	2.36	0.57
8:E:110:GLU:HA	8:E:156:PHE:HE2	1.70	0.57
5:h:53:ILE:HG22	5:h:60:VAL:HG22	1.85	0.57
11:N:476:THR:OG1	33:V:61:TYR:OH	2.23	0.57
13:T:69:SER:HG	13:T:77:SER:HG	1.53	0.57
8:E:116:VAL:O	8:E:120:ALA:N	2.38	0.57
32:Z:524:ALA:O	32:Z:562:TRP:NE1	2.37	0.57
1:I:127:ASP:OD1	23:H:173:ARG:NH2	2.37	0.57
4:c:86:PRO:HD2	4:c:139:VAL:HG22	1.86	0.57
12:S:149:SER:HB3	12:S:196:ARG:HH11	1.70	0.57
12:S:273:PHE:HA	12:S:276:LEU:HB2	1.86	0.57
14:R:270:VAL:HG12	14:R:276:LEU:HD22	1.87	0.57
22:P:128:ASN:ND2	22:P:166:GLU:O	2.38	0.57
4:A:51:THR:HB	4:A:228:ALA:HB3	1.86	0.57
27:4:19:LYS:HB3	27:4:32:ASP:H	1.69	0.57
29:6:46:THR:HB	29:6:59:GLU:H	1.68	0.57
32:Z:490:ILE:HG21	32:Z:526:ALA:HA	1.87	0.57
7:l:88:LEU:HD22	7:l:112:LEU:HD11	1.87	0.56
11:N:352:ASN:HB2	11:N:355:TRP:HE1	1.69	0.56
11:N:614:ASN:HB3	11:N:617:VAL:HB	1.87	0.56
16:J:55:VAL:HA	16:J:58:ILE:HD12	1.87	0.56
23:H:279:LEU:HD21	23:H:332:THR:HG21	1.85	0.56
8:E:80:GLY:HA3	8:E:140:VAL:HA	1.87	0.56
9:D:34:VAL:O	9:D:45:GLY:N	2.38	0.56
24:C:91:ALA:HB2	24:C:115:LEU:HD21	1.87	0.56
3:2:228:LYS:HE2	3:2:231:SER:HA	1.87	0.56
25:j:149:GLN:HB3	25:j:157:PHE:HB2	1.86	0.56
1:I:340:ARG:NE	23:H:253:GLY:O	2.37	0.56
3:i:65:ARG:NH1	3:i:93:GLU:OE2	2.37	0.56
7:l:18:ARG:HH12	7:l:23:GLU:HB2	1.69	0.56
12:S:276:LEU:HD22	12:S:279:ILE:HD11	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:S:280:ASN:O	12:S:382:ARG:NH2	2.39	0.56
14:R:138:GLY:HA3	14:R:154:LEU:HD13	1.87	0.56
17:L:164:ASP:O	17:L:169:ASN:ND2	2.30	0.56
21:O:147:ARG:HH21	22:P:284:ILE:HB	1.69	0.56
23:H:95:HIS:N	23:H:192:ASP:OD2	2.38	0.56
24:d:39:MET:HE2	24:d:161:LYS:HG2	1.86	0.56
24:d:70:ASN:OD1	24:d:71:ASP:N	2.38	0.56
26:b:11:LEU:N	26:b:113:THR:HG1	2.03	0.56
29:e:90:SER:HA	29:e:93:TRP:HD1	1.69	0.56
33:V:235:GLU:HG3	33:V:236:SER:H	1.69	0.56
19:U:99:LEU:HB2	22:P:434:THR:HG21	1.86	0.56
23:H:179:SER:O	23:H:181:TYR:N	2.38	0.56
4:A:170:ALA:HB3	4:A:175:GLN:HG3	1.87	0.56
2:K:131:LEU:HD11	33:V:273:ARG:HH21	1.70	0.56
5:h:61:THR:OG1	27:g:85:ARG:NH1	2.39	0.56
24:C:50:ARG:HH21	24:C:57:LEU:HD21	1.71	0.56
29:6:49:ILE:HA	29:6:55:ASN:H	1.71	0.56
29:6:80:GLY:O	29:6:84:VAL:N	2.37	0.56
25:j:215:GLY:H	25:j:234:ARG:HB3	1.71	0.56
18:M:186:LEU:HD13	18:M:231:LEU:HD22	1.87	0.56
29:6:237:GLU:OE2	30:7:194:ARG:NH1	2.39	0.56
26:b:162:ARG:H	26:b:165:MET:HE3	1.71	0.56
28:f:83:PHE:HE2	28:f:88:ILE:HG12	1.70	0.56
11:N:258:ALA:HB1	11:N:290:LEU:HD21	1.88	0.56
24:C:129:ARG:O	25:B:123:GLN:NE2	2.39	0.56
26:1:18:LEU:HD13	26:1:64:ARG:HG2	1.88	0.56
27:4:8:ARG:HH11	27:4:116:LEU:HB3	1.69	0.56
29:e:42:LEU:HD23	29:e:70:VAL:HG12	1.86	0.56
17:L:198:GLU:HA	17:L:201:LEU:HD12	1.87	0.56
21:O:31:LYS:HA	21:O:39:PHE:HE2	1.71	0.56
9:D:41:CYS:HA	9:D:138:PHE:HZ	1.71	0.56
24:d:31:HIS:O	24:d:51:LYS:NZ	2.34	0.56
1:I:408:ARG:HG2	1:I:410:GLN:H	1.70	0.56
16:J:140:GLU:OE1	16:J:200:ARG:NH2	2.38	0.56
18:M:170:MET:HE2	18:M:244:LEU:HD22	1.88	0.56
9:D:4:TYR:HD2	9:D:125:GLY:HA2	1.70	0.56
30:7:60:LEU:HA	30:7:70:ASN:HA	1.88	0.56
32:Z:233:LEU:HB2	32:Z:234:PRO:HD3	1.87	0.56
11:N:34:GLN:NE2	12:S:215:MET:O	2.39	0.56
17:L:427:LYS:NZ	6:G:18:ASP:OD2	2.33	0.56
18:M:75:LEU:HB3	23:H:146:VAL:HB	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:W:172:LEU:HG	20:W:189:PRO:HD2	1.88	0.56
25:B:149:GLN:HB3	25:B:157:PHE:HB2	1.88	0.56
32:Z:166:ASN:ND2	32:Z:226:GLU:O	2.38	0.56
6:k:69:VAL:HA	6:k:75:GLY:HA2	1.88	0.55
7:l:40:SER:HB2	7:l:180:ILE:HA	1.86	0.55
20:W:109:ARG:HE	20:W:140:ASP:HB2	1.70	0.55
23:H:105:ILE:HA	23:H:170:GLU:HG3	1.88	0.55
23:H:382:LEU:HD11	23:H:408:SER:HB2	1.88	0.55
29:6:65:CYS:HA	29:6:88:LYS:HG2	1.88	0.55
29:6:172:GLN:HE21	29:6:202:LEU:HD21	1.71	0.55
29:e:65:CYS:HA	29:e:88:LYS:HG2	1.88	0.55
2:K:170:THR:HA	2:K:228:ASN:HD22	1.70	0.55
11:N:728:LYS:HD3	11:N:751:LEU:HD22	1.88	0.55
20:W:133:LYS:HD3	20:W:163:ASN:HD21	1.70	0.55
9:D:122:GLN:NE2	8:E:84:ASP:OD1	2.31	0.55
24:C:135:PHE:HB2	24:C:151:SER:HB3	1.88	0.55
3:2:164:MET:SD	30:a:220:ARG:NH2	2.79	0.55
32:Z:797:THR:HG22	32:Z:798:ARG:HG2	1.89	0.55
14:R:240:SER:OG	14:R:243:LEU:HB2	2.07	0.55
23:H:200:VAL:HG22	23:H:272:ILE:HG12	1.88	0.55
25:B:109:LEU:HD13	5:3:77:LYS:HB3	1.89	0.55
5:3:44:PHE:O	5:3:51:LEU:N	2.35	0.55
30:a:50:ASP:O	30:a:158:GLN:NE2	2.36	0.55
33:V:52:LEU:HD11	33:V:104:VAL:HG13	1.86	0.55
1:I:221:LEU:HG	1:I:348:ILE:HB	1.87	0.55
5:h:10:GLY:N	5:h:180:LEU:O	2.37	0.55
6:k:130:ARG:O	7:l:121:GLN:NE2	2.39	0.55
9:n:32:CYS:HA	9:n:165:GLY:HA3	1.87	0.55
9:n:111:ARG:O	9:n:115:GLY:N	2.40	0.55
19:U:49:THR:HB	33:V:39:LYS:HE3	1.88	0.55
29:6:53:SER:OG	30:7:182:HIS:ND1	2.38	0.55
31:X:78:ILE:HG12	31:X:80:SER:H	1.71	0.55
24:d:94:HIS:HB3	24:d:114:ARG:HH11	1.70	0.55
30:a:72:VAL:HG11	30:a:90:ILE:HD13	1.88	0.55
2:K:88:ARG:O	2:K:91:SER:OG	2.24	0.55
7:l:52:ASN:ND2	7:l:57:SER:O	2.26	0.55
11:N:416:GLY:O	11:N:420:THR:OG1	2.23	0.55
24:C:72:LYS:HB2	24:C:140:TYR:HB3	1.87	0.55
25:B:215:GLY:H	25:B:234:ARG:HB3	1.71	0.55
29:6:54:ILE:HB	30:7:189:ARG:HH12	1.71	0.55
25:j:67:LEU:HD23	25:j:90:ARG:HE	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:f:260:TRP:HZ3	28:f:262:TYR:HB2	1.71	0.55
33:V:270:TYR:CD2	33:V:271:VAL:HG22	2.41	0.55
7:l:34:VAL:HG22	7:l:163:ALA:H	1.72	0.55
29:e:47:ARG:HB2	29:e:219:ASP:HB2	1.87	0.55
16:J:324:ARG:NE	16:J:347:ALA:O	2.35	0.55
23:H:406:LEU:HD22	8:E:209:GLU:HA	1.89	0.55
9:D:65:SER:OG	9:D:73:LEU:O	2.22	0.55
3:2:201:ASN:ND2	3:2:218:ASN:OD1	2.30	0.55
32:Z:262:VAL:HG21	32:Z:288:LEU:HD21	1.88	0.55
8:m:86:ARG:HD3	9:n:111:ARG:HE	1.72	0.55
21:O:47:LYS:HE3	21:O:80:LYS:HD2	1.87	0.55
27:4:44:MET:HE1	27:4:84:VAL:HG11	1.89	0.55
19:U:107:ASN:HD22	19:U:152:LYS:HD3	1.71	0.55
28:5:96:THR:HG22	28:5:101:VAL:HG22	1.89	0.55
29:6:42:LEU:HD23	29:6:70:VAL:HG12	1.87	0.55
24:d:91:ALA:HB2	24:d:115:LEU:HD21	1.87	0.55
11:N:376:LYS:HA	11:N:411:ILE:HA	1.87	0.55
11:N:625:LEU:HB3	11:N:663:ILE:HD11	1.88	0.55
14:R:219:LEU:HA	14:R:224:PHE:HE1	1.71	0.55
6:G:8:TYR:HB3	6:G:22:PHE:H	1.71	0.55
6:G:69:VAL:HA	6:G:75:GLY:HA2	1.88	0.55
4:A:82:VAL:HB	4:A:142:THR:HB	1.89	0.55
9:D:27:VAL:HG22	9:D:77:GLY:HA2	1.89	0.55
27:g:8:ARG:HH11	27:g:116:LEU:HB3	1.72	0.55
2:K:104:ASP:HB3	2:K:107:THR:HB	1.87	0.54
7:l:140:SER:OG	7:l:143:HIS:NE2	2.35	0.54
8:m:18:GLU:OE1	8:m:20:ARG:NH2	2.40	0.54
12:S:348:LEU:O	12:S:352:VAL:N	2.38	0.54
18:M:262:LEU:HA	18:M:265:ASP:HB2	1.89	0.54
7:F:58:SER:HB2	8:E:166:ARG:HB3	1.90	0.54
24:C:158:THR:OG1	24:C:160:TRP:NE1	2.40	0.54
24:d:152:ASN:ND2	24:d:154:SER:OG	2.40	0.54
9:n:34:VAL:O	9:n:45:GLY:N	2.35	0.54
13:T:111:LEU:HB3	13:T:181:LEU:HD21	1.88	0.54
14:R:279:LEU:HD21	14:R:286:LEU:HD22	1.89	0.54
16:J:139:VAL:HG22	16:J:211:ILE:HG12	1.87	0.54
18:M:216:LYS:HB3	18:M:323:VAL:H	1.71	0.54
21:O:120:LYS:HB2	21:O:166:ARG:HH12	1.73	0.54
23:H:167:ASP:OD1	23:H:168:ILE:N	2.40	0.54
28:5:83:PHE:HE2	28:5:88:ILE:HG12	1.71	0.54
29:6:90:SER:HA	29:6:93:TRP:HD1	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:796:LEU:HD13	32:Z:815:MET:HE2	1.89	0.54
27:g:36:ARG:HH21	27:g:57:ALA:H	1.54	0.54
1:I:225:PRO:HG2	16:J:306:ARG:HH22	1.71	0.54
5:h:77:LYS:HB3	25:j:109:LEU:HD13	1.89	0.54
14:R:410:LEU:HD13	15:Q:419:LEU:HD13	1.89	0.54
21:O:114:GLN:HE22	21:O:126:ILE:HD12	1.72	0.54
23:H:223:GLU:HA	23:H:227:LEU:HB2	1.90	0.54
32:Z:763:HIS:ND1	32:Z:767:TYR:OH	2.32	0.54
33:V:171:ARG:HD2	33:V:179:LEU:HD11	1.90	0.54
1:I:130:VAL:HB	1:I:155:SER:HA	1.89	0.54
3:i:201:ASN:ND2	3:i:218:ASN:OD1	2.32	0.54
11:N:661:SER:HB3	11:N:702:ALA:HB1	1.90	0.54
17:L:131:VAL:HG12	17:L:155:ILE:HD12	1.90	0.54
18:M:169:ALA:H	18:M:246:LEU:HD13	1.72	0.54
19:U:54:LEU:HG	19:U:73:ILE:HG21	1.89	0.54
22:P:44:LYS:HG2	22:P:47:ARG:HH21	1.73	0.54
27:4:86:GLN:HE21	27:4:90:LYS:HE3	1.71	0.54
33:V:231:GLU:HG3	33:V:301:ASN:HD21	1.71	0.54
12:S:282:ILE:HG23	13:T:123:HIS:HB2	1.90	0.54
14:R:78:ASP:HB2	14:R:92:ILE:HG12	1.89	0.54
18:M:275:PRO:HA	18:M:320:ARG:HA	1.89	0.54
19:U:10:ILE:O	19:U:162:GLU:N	2.37	0.54
27:g:86:GLN:HE21	27:g:90:LYS:HE3	1.72	0.54
4:c:170:ALA:HB3	4:c:175:GLN:HG3	1.90	0.54
8:m:89:ILE:HG23	8:m:93:ARG:HD2	1.90	0.54
18:M:229:THR:OG1	23:H:341:ASP:OD1	2.24	0.54
24:d:58:GLU:HB2	25:j:160:LYS:HG3	1.89	0.54
1:I:251:GLU:O	1:I:254:GLN:HG2	2.07	0.54
9:D:32:CYS:HA	9:D:165:GLY:HA3	1.90	0.54
33:V:53:MET:HG3	33:V:108:TYR:HD2	1.71	0.54
1:I:220:ILE:H	1:I:346:ARG:HB3	1.72	0.54
6:k:130:ARG:HB2	7:l:11:VAL:HG12	1.90	0.54
11:N:529:GLN:HE22	11:N:558:ALA:HB3	1.72	0.54
19:U:50:ASN:OD1	19:U:51:SER:N	2.40	0.54
26:1:16:VAL:HG11	26:1:39:THR:HG23	1.89	0.54
30:7:51:ASN:HA	30:7:235:LYS:HE2	1.90	0.54
4:c:82:VAL:HB	4:c:142:THR:HB	1.90	0.54
4:c:147:ASP:HB3	4:c:151:GLY:H	1.73	0.54
5:h:169:GLN:OE1	5:h:173:ASN:ND2	2.39	0.54
19:U:165:GLU:HB2	33:V:43:ALA:HB2	1.89	0.54
23:H:241:ASP:HB3	23:H:346:ARG:HD2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:103:GLU:OE1	4:A:120:ARG:NH2	2.41	0.54
28:5:87:ILE:HD11	28:5:185:PRO:HB3	1.89	0.54
28:f:208:GLN:HE21	27:g:25:ILE:HD11	1.72	0.54
10:Y:66:ASP:OD1	14:R:222:ARG:NH1	2.41	0.54
11:N:422:TYR:HD2	11:N:423:LEU:HD12	1.73	0.54
11:N:521:LEU:HB3	11:N:535:LEU:HD21	1.89	0.54
12:S:406:ASP:OD1	14:R:383:ARG:NH1	2.41	0.54
14:R:333:MET:HA	14:R:336:LYS:HD3	1.90	0.54
22:P:284:ILE:HG13	22:P:285:GLN:HG2	1.89	0.54
23:H:318:ARG:HD2	23:H:321:ASP:HA	1.89	0.54
29:6:62:VAL:HA	29:6:72:SER:HB2	1.89	0.54
32:Z:564:ARG:HD2	32:Z:738:TYR:HE2	1.72	0.54
29:e:80:GLY:O	29:e:84:VAL:N	2.36	0.54
5:h:20:CYS:HA	5:h:112:ILE:HD11	1.89	0.53
5:h:155:GLU:HB3	5:h:158:LEU:HD21	1.90	0.53
16:J:88:VAL:HG12	16:J:90:PRO:HD2	1.90	0.53
26:1:162:ARG:H	26:1:165:MET:HE3	1.72	0.53
33:V:282:GLU:O	33:V:286:GLU:N	2.35	0.53
1:I:366:THR:HA	1:I:369:MET:HB2	1.90	0.53
4:c:138:GLY:HA2	4:c:159:PRO:HB3	1.91	0.53
9:n:66:LYS:H	9:n:90:ARG:HH21	1.57	0.53
16:J:272:MET:HG3	16:J:292:MET:HE2	1.90	0.53
17:L:339:ARG:HG2	17:L:341:GLY:H	1.72	0.53
29:6:50:THR:OG1	29:6:55:ASN:ND2	2.31	0.53
32:Z:927:VAL:H	32:Z:956:LEU:HA	1.74	0.53
29:e:74:ASN:N	29:e:127:HIS:O	2.40	0.53
1:I:299:GLU:HG3	1:I:301:GLU:H	1.73	0.53
9:n:37:LYS:HD3	9:n:160:SER:HA	1.90	0.53
17:L:225:GLY:HA3	18:M:342:ARG:HH22	1.71	0.53
18:M:223:PRO:HB3	23:H:367:ARG:HD3	1.90	0.53
18:M:429:SER:OG	8:E:20:ARG:NH2	2.35	0.53
6:G:156:SER:HB3	4:A:88:PRO:HD3	1.88	0.53
27:4:44:MET:HE2	27:4:46:PHE:HE1	1.74	0.53
29:6:94:TYR:O	29:6:98:HIS:ND1	2.40	0.53
1:I:102:ASN:HD22	16:J:97:ASP:HB3	1.72	0.53
4:c:14:ARG:HB3	6:k:7:GLY:HA3	1.91	0.53
11:N:668:THR:HB	11:N:785:PRO:HB3	1.91	0.53
24:C:33:GLY:H	24:C:65:LYS:HE3	1.74	0.53
24:C:39:MET:HE2	24:C:161:LYS:HG2	1.90	0.53
24:C:168:ASN:HB3	24:C:171:ALA:HB3	1.91	0.53
4:c:40:ILE:HG12	4:c:71:TYR:HE2	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:k:130:ARG:HB3	7:l:121:GLN:HA	1.90	0.53
11:N:726:ASP:HB3	11:N:729:SER:HB3	1.90	0.53
12:S:402:ILE:HB	12:S:443:ILE:HB	1.91	0.53
16:J:324:ARG:HH21	16:J:348:GLU:HA	1.73	0.53
23:H:393:SER:HA	23:H:396:MET:HB3	1.89	0.53
4:A:16:ILE:HG13	4:A:17:THR:H	1.72	0.53
8:E:142:LEU:HB2	8:E:158:ALA:HB3	1.90	0.53
32:Z:378:GLN:NE2	32:Z:842:GLN:O	2.39	0.53
30:a:87:SER:HB3	30:a:146:ALA:HB3	1.90	0.53
29:e:113:GLN:HB2	29:e:150:TYR:HE2	1.72	0.53
1:I:108:THR:HB	1:I:121:THR:HB	1.91	0.53
3:i:143:HIS:HB2	3:i:147:SER:HB3	1.89	0.53
15:Q:40:ALA:HA	15:Q:46:VAL:HA	1.91	0.53
23:H:380:PRO:HG2	23:H:385:ARG:HH11	1.74	0.53
32:Z:212:LEU:HD22	32:Z:245:VAL:HG22	1.90	0.53
32:Z:821:GLY:H	32:Z:863:THR:HG21	1.73	0.53
30:a:86:ILE:HG12	30:a:147:ILE:HG12	1.89	0.53
27:g:29:LYS:HG2	27:g:31:SER:H	1.73	0.53
21:O:55:THR:HG22	21:O:57:LEU:HG	1.90	0.53
31:X:91:PHE:HB3	31:X:94:ASN:HD22	1.73	0.53
11:N:59:GLU:HB2	11:N:88:ARG:HE	1.74	0.53
11:N:607:GLN:HG2	11:N:611:LYS:HE3	1.90	0.53
19:U:192:ASN:HB3	33:V:226:LYS:HG3	1.91	0.53
20:W:51:LEU:HB3	20:W:63:SER:HB3	1.90	0.53
9:D:157:SER:OG	9:D:159:TRP:NE1	2.42	0.53
24:C:152:ASN:OD1	24:C:156:ASN:N	2.41	0.53
5:3:30:GLY:HA3	5:3:35:GLY:HA2	1.91	0.53
25:j:119:GLN:NE2	25:j:122:THR:OG1	2.41	0.53
2:K:345:ASP:OD2	2:K:347:ARG:NH1	2.42	0.53
4:c:51:THR:HB	4:c:228:ALA:HB3	1.90	0.53
5:h:30:GLY:HA3	5:h:35:GLY:HA2	1.91	0.53
15:Q:50:ARG:O	15:Q:54:GLN:N	2.37	0.53
17:L:252:VAL:HB	18:M:256:ILE:HG22	1.90	0.53
17:L:421:LYS:NZ	18:M:345:ARG:HH12	2.07	0.53
18:M:69:ILE:O	18:M:73:ARG:N	2.40	0.53
18:M:79:VAL:HA	18:M:147:GLY:HA2	1.91	0.53
18:M:259:GLY:N	18:M:300:GLU:OE2	2.36	0.53
5:3:57:ALA:HA	5:3:60:VAL:HB	1.91	0.53
32:Z:272:TYR:CG	32:Z:277:GLU:HB2	2.44	0.53
30:a:38:ILE:HG22	30:a:39:VAL:HG23	1.90	0.53
28:f:87:ILE:HD11	28:f:185:PRO:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:g:60:ILE:HG21	27:g:84:VAL:HG22	1.90	0.53
8:m:111:SER:HB2	29:e:98:HIS:HA	1.90	0.53
14:R:149:ASN:O	14:R:153:THR:OG1	2.26	0.53
15:Q:281:ILE:O	15:Q:287:THR:OG1	2.25	0.53
20:W:6:THR:HB	20:W:49:VAL:HG22	1.90	0.53
5:3:5:SER:HA	5:3:56:LEU:HB2	1.91	0.53
27:g:101:ASN:HB3	27:g:133:HIS:CG	2.44	0.53
3:i:113:LYS:HZ1	26:b:72:GLN:HB3	1.74	0.52
6:G:60:VAL:HG21	7:F:39:ARG:HH21	1.74	0.52
27:4:101:ASN:HB3	27:4:133:HIS:CG	2.43	0.52
2:K:190:LEU:HD11	2:K:197:LEU:HD12	1.90	0.52
5:h:125:ASP:OD1	5:h:129:CYS:N	2.42	0.52
6:k:68:GLN:N	6:k:76:CYS:O	2.37	0.52
9:n:138:PHE:HE1	9:n:145:PRO:HB3	1.75	0.52
14:R:411:LEU:HD23	14:R:414:LEU:HD12	1.90	0.52
16:J:183:LYS:HG2	16:J:286:LYS:NZ	2.24	0.52
19:U:32:ARG:HG3	19:U:95:SER:H	1.75	0.52
20:W:186:ALA:HA	20:W:191:ILE:HG21	1.90	0.52
26:1:151:THR:HA	26:1:154:TYR:CE2	2.43	0.52
3:i:49:SER:HB3	3:i:57:ASP:HB3	1.92	0.52
11:N:694:LEU:HA	11:N:697:PHE:HB3	1.91	0.52
17:L:331:ASP:C	17:L:333:LEU:H	2.18	0.52
23:H:147:ILE:HD11	23:H:157:VAL:HB	1.91	0.52
26:1:57:HIS:HB3	26:1:60:ILE:HB	1.90	0.52
30:7:220:ARG:HA	26:b:45:ILE:HB	1.92	0.52
12:S:295:ALA:HA	12:S:298:ARG:HE	1.75	0.52
18:M:80:ALA:HA	18:M:121:THR:HA	1.90	0.52
20:W:12:ASN:ND2	20:W:53:SER:OG	2.42	0.52
23:H:242:PRO:O	23:H:346:ARG:NH1	2.38	0.52
4:A:105:ARG:HA	4:A:109:GLY:H	1.74	0.52
24:C:129:ARG:HB3	25:B:123:GLN:HE22	1.75	0.52
27:4:49:GLU:HG3	27:4:51:GLY:H	1.73	0.52
29:6:31:ILE:HG22	29:6:44:GLY:HA3	1.90	0.52
33:V:277:LYS:O	33:V:282:GLU:N	2.33	0.52
11:N:306:ASN:HD21	11:N:871:MET:HB3	1.74	0.52
11:N:610:SER:HB2	11:N:621:THR:HG21	1.92	0.52
12:S:437:ASN:HB3	12:S:442:PHE:H	1.74	0.52
13:T:241:GLU:HG2	13:T:242:LYS:HG3	1.91	0.52
22:P:324:GLU:HA	22:P:331:GLY:HA3	1.92	0.52
4:A:114:CYS:SG	4:A:153:SER:OG	2.68	0.52
7:F:62:LYS:HD2	7:F:74:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:102:ILE:HD12	32:Z:105:LYS:HD2	1.91	0.52
32:Z:810:ASN:HA	32:Z:813:PHE:HB2	1.91	0.52
33:V:164:LEU:HD12	33:V:168:LEU:HD23	1.92	0.52
2:K:218:GLY:HA2	2:K:221:MET:HB2	1.92	0.52
4:c:240:ASN:HB3	4:c:244:ARG:HH12	1.74	0.52
15:Q:426:LEU:HB3	19:U:292:ILE:HG21	1.91	0.52
16:J:186:ILE:HG12	16:J:292:MET:HB2	1.92	0.52
23:H:359:ASN:HB2	23:H:466:TYR:O	2.09	0.52
6:G:116:LEU:HB3	6:G:151:LEU:HD22	1.92	0.52
9:D:13:PRO:HA	8:E:26:TYR:HB3	1.91	0.52
27:g:184:VAL:HG22	27:g:189:ILE:HG12	1.91	0.52
1:I:193:GLU:HG2	23:H:432:ARG:HH22	1.75	0.52
11:N:36:TRP:HB2	11:N:68:VAL:HG13	1.91	0.52
22:P:24:ILE:O	22:P:69:ARG:NH2	2.43	0.52
5:3:13:VAL:HA	5:3:138:VAL:HG12	1.92	0.52
27:4:78:GLN:HA	27:4:117:TYR:HE2	1.75	0.52
26:b:18:LEU:HD13	26:b:64:ARG:HG2	1.91	0.52
28:f:119:THR:HG1	28:f:175:MET:H	1.53	0.52
27:g:44:MET:HE1	27:g:84:VAL:HG11	1.92	0.52
8:m:71:ASP:OD1	8:m:72:ARG:N	2.41	0.52
11:N:728:LYS:HB3	11:N:751:LEU:HB3	1.92	0.52
17:L:166:LEU:HD21	18:M:83:VAL:HG12	1.92	0.52
19:U:138:VAL:HB	19:U:155:LEU:HB3	1.92	0.52
20:W:1:MET:HG2	20:W:2:VAL:HG13	1.92	0.52
32:Z:204:CYS:HA	32:Z:207:ILE:HD12	1.90	0.52
6:k:164:ALA:HB3	6:k:169:ARG:HG3	1.92	0.52
12:S:141:LEU:HD22	12:S:155:LEU:HD11	1.92	0.52
16:J:141:LYS:HB2	16:J:209:LYS:HG2	1.91	0.52
16:J:195:LYS:HG2	16:J:316:PHE:HE2	1.74	0.52
16:J:351:ASN:OD1	16:J:352:GLY:N	2.43	0.52
23:H:105:ILE:HB	23:H:146:VAL:HG13	1.92	0.52
23:H:430:ALA:HA	23:H:435:ARG:H	1.75	0.52
4:A:106:TYR:OH	3:2:114:GLN:NE2	2.42	0.52
32:Z:89:LEU:HD22	32:Z:125:THR:HG21	1.92	0.52
32:Z:169:VAL:HG13	32:Z:179:SER:HB2	1.91	0.52
32:Z:488:ALA:HB1	32:Z:899:GLN:HE22	1.75	0.52
33:V:276:PRO:O	33:V:280:LEU:N	2.43	0.52
1:I:221:LEU:HD23	1:I:229:LYS:HG2	1.91	0.52
11:N:384:LYS:HA	11:N:390:LEU:HD11	1.91	0.52
12:S:424:SER:HB3	13:T:192:ASN:HB3	1.91	0.52
13:T:248:GLU:OE2	13:T:258:ASN:ND2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Q:97:LEU:HD23	15:Q:133:LEU:HD11	1.92	0.52
16:J:86:VAL:HG11	16:J:115:LEU:HD11	1.92	0.52
8:E:89:ILE:HG23	8:E:93:ARG:HD2	1.91	0.52
28:5:110:ILE:HD11	28:5:120:MET:HE3	1.92	0.52
2:K:261:ALA:HB1	2:K:312:VAL:HG22	1.92	0.51
3:i:196:LEU:HB3	29:6:215:ILE:HB	1.91	0.51
6:k:45:GLY:HA3	6:k:220:SER:HA	1.93	0.51
7:l:54:ASP:OD1	7:l:55:GLU:N	2.43	0.51
17:L:219:LEU:HD23	17:L:346:LYS:HG2	1.92	0.51
5:3:53:ILE:HG22	5:3:60:VAL:HG22	1.92	0.51
29:6:49:ILE:HG22	29:6:54:ILE:HG12	1.90	0.51
1:I:80:GLU:OE2	32:Z:622:HIS:ND1	2.43	0.51
14:R:177:LEU:HD23	14:R:180:PHE:HD2	1.75	0.51
18:M:280:ILE:HB	18:M:325:ALA:HA	1.91	0.51
4:A:61:ASP:OD1	4:A:62:LYS:N	2.43	0.51
24:C:45:VAL:HG13	24:C:213:PHE:HE1	1.74	0.51
27:4:96:ARG:NH2	28:5:166:LYS:O	2.43	0.51
28:5:240:ALA:HB1	28:5:247:GLY:HA2	1.91	0.51
28:f:236:ILE:HG21	28:f:250:VAL:HG11	1.91	0.51
33:V:51:GLY:HA2	33:V:71:MET:HG2	1.92	0.51
33:V:56:GLU:HA	33:V:135:ARG:HH22	1.75	0.51
4:c:220:LYS:HB3	4:c:242:GLU:HB2	1.92	0.51
11:N:4:THR:OG1	13:T:76:ASP:O	2.19	0.51
11:N:165:ILE:HA	11:N:168:SER:HB3	1.92	0.51
15:Q:35:SER:HB3	15:Q:46:VAL:HG22	1.92	0.51
23:H:217:GLN:HE21	23:H:375:VAL:HG13	1.74	0.51
30:7:256:LYS:HA	26:b:193:ARG:HH12	1.75	0.51
30:a:47:MET:HE3	30:a:188:LEU:HD22	1.92	0.51
30:a:48:LYS:HA	30:a:53:VAL:HG12	1.92	0.51
29:e:47:ARG:NH1	29:e:215:ILE:O	2.43	0.51
29:e:62:VAL:HA	29:e:72:SER:HB2	1.91	0.51
29:e:83:LEU:O	29:e:87:PHE:N	2.38	0.51
8:m:74:ILE:HG22	8:m:146:GLY:HA3	1.91	0.51
21:O:342:ASP:OD1	22:P:358:SER:OG	2.26	0.51
6:G:45:GLY:HA3	6:G:220:SER:HA	1.92	0.51
24:C:56:LEU:HD13	25:B:161:ALA:HB3	1.93	0.51
25:j:105:PRO:HG2	25:j:110:LEU:HB2	1.93	0.51
2:K:123:LEU:HB3	2:K:126:LEU:HG	1.92	0.51
6:k:152:GLU:OE1	6:k:156:SER:OG	2.28	0.51
11:N:208:ARG:NH2	11:N:234:ASP:OD2	2.42	0.51
30:a:62:SER:HB3	30:a:223:ARG:HE	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:b:40:THR:HG21	26:b:187:SER:HA	1.92	0.51
3:i:43:ILE:HD12	3:i:63:LEU:HD22	1.93	0.51
8:m:213:ASP:OD1	8:m:214:GLU:N	2.43	0.51
16:J:183:LYS:HZ2	16:J:309:ARG:NH1	2.09	0.51
17:L:285:ALA:HB1	18:M:299:ARG:HB2	1.93	0.51
19:U:236:LEU:H	22:P:418:ASN:HD22	1.59	0.51
23:H:308:PHE:HD2	23:H:353:PHE:HE1	1.56	0.51
24:C:73:ILE:HA	24:C:139:GLY:HA2	1.93	0.51
29:6:54:ILE:O	30:7:189:ARG:NH2	2.44	0.51
29:6:113:GLN:HB2	29:6:150:TYR:HE2	1.76	0.51
30:a:182:HIS:ND1	29:e:53:SER:OG	2.33	0.51
30:a:215:ARG:HG2	30:a:247:VAL:HG13	1.93	0.51
2:K:110:VAL:HG11	2:K:139:LEU:HD11	1.92	0.51
2:K:190:LEU:HD21	16:J:370:LEU:HD22	1.93	0.51
4:c:57:LYS:NZ	4:c:66:PRO:O	2.44	0.51
5:h:68:ARG:NH1	24:d:103:ASN:OD1	2.43	0.51
8:m:142:LEU:HB2	8:m:158:ALA:HB3	1.93	0.51
11:N:366:THR:O	11:N:370:SER:N	2.44	0.51
15:Q:47:ASP:OD1	15:Q:50:ARG:NH2	2.43	0.51
15:Q:266:LEU:HD22	15:Q:278:VAL:HG13	1.93	0.51
15:Q:357:VAL:H	15:Q:397:LEU:HB3	1.76	0.51
19:U:32:ARG:HD3	19:U:94:HIS:HB3	1.93	0.51
7:F:54:ASP:OD1	7:F:55:GLU:N	2.43	0.51
32:Z:311:ALA:HB2	32:Z:345:GLU:HG3	1.93	0.51
30:a:189:ARG:HH12	29:e:54:ILE:HB	1.75	0.51
33:V:109:HIS:HB2	33:V:140:VAL:HG12	1.92	0.51
1:I:117:HIS:CD2	23:H:172:MET:HE1	2.46	0.51
2:K:156:SER:OG	17:L:126:ARG:NH2	2.44	0.51
2:K:177:LEU:HB2	2:K:181:LYS:HE2	1.93	0.51
5:h:57:ALA:HA	5:h:60:VAL:HB	1.93	0.51
11:N:371:LEU:HD12	11:N:386:MET:HE2	1.91	0.51
4:A:220:LYS:HD2	4:A:238:ALA:HB1	1.93	0.51
26:1:213:GLU:OE1	30:a:226:ARG:NH1	2.37	0.51
30:7:226:ARG:NH1	26:b:213:GLU:OE1	2.42	0.51
30:a:50:ASP:HB2	30:a:199:PRO:HA	1.91	0.51
33:V:44:GLY:O	33:V:45:VAL:HG22	2.10	0.51
7:l:129:GLY:HA2	7:l:149:PRO:HB3	1.92	0.51
12:S:224:LYS:HB3	16:J:25:GLN:HG3	1.93	0.51
13:T:39:LEU:HD22	13:T:46:ILE:HG22	1.93	0.51
18:M:308:LEU:HD11	18:M:323:VAL:HG11	1.92	0.51
19:U:34:VAL:HG13	19:U:94:HIS:CD2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:H:223:GLU:OE1	23:H:373:ARG:NH1	2.29	0.51
9:D:172:ARG:NH1	8:E:56:SER:OG	2.42	0.51
8:E:213:ASP:OD1	8:E:214:GLU:N	2.44	0.51
24:C:209:ASP:OD1	24:C:210:ARG:N	2.44	0.51
30:7:50:ASP:HB2	30:7:199:PRO:HA	1.93	0.51
32:Z:253:VAL:HB	32:Z:254:PRO:HD3	1.92	0.51
32:Z:377:ALA:HA	32:Z:380:ASN:HB3	1.93	0.51
26:b:198:THR:HG23	26:b:200:ALA:H	1.75	0.51
1:I:213:ILE:HG21	23:H:424:THR:HA	1.93	0.51
8:m:93:ARG:HH11	28:f:143:LEU:HB3	1.76	0.51
8:E:111:SER:HB2	29:6:98:HIS:HA	1.92	0.51
25:B:32:VAL:HG11	25:B:63:LYS:HE3	1.93	0.51
27:4:55:GLN:OE1	28:5:159:SER:OG	2.22	0.51
2:K:208:GLY:HA3	2:K:334:LEU:HA	1.93	0.50
12:S:238:LEU:HG	12:S:276:LEU:HD21	1.93	0.50
20:W:185:ILE:HG22	20:W:191:ILE:HB	1.92	0.50
23:H:147:ILE:HA	23:H:155:PHE:HB2	1.91	0.50
6:G:183:HIS:CD2	6:G:187:LEU:HD12	2.47	0.50
8:E:71:ASP:OD1	8:E:72:ARG:N	2.41	0.50
24:C:84:ALA:O	24:C:88:ILE:HG12	2.11	0.50
9:n:4:TYR:HD2	9:n:125:GLY:HA2	1.76	0.50
11:N:580:ASN:OD1	11:N:581:ASP:N	2.45	0.50
14:R:73:ASN:HB3	14:R:76:GLN:HE21	1.77	0.50
19:U:260:ASN:HD21	21:O:304:ASN:HB3	1.76	0.50
21:O:134:ALA:HB1	21:O:174:THR:HG21	1.91	0.50
21:O:289:GLN:HG3	21:O:317:THR:HG21	1.94	0.50
23:H:100:ALA:N	23:H:177:ASP:OD2	2.30	0.50
27:4:8:ARG:N	27:4:129:PRO:O	2.43	0.50
5:h:51:LEU:HA	5:h:108:VAL:O	2.11	0.50
15:Q:104:PHE:HE2	15:Q:114:GLN:HB2	1.76	0.50
8:E:101:LEU:O	29:6:114:HIS:NE2	2.43	0.50
5:3:61:THR:OG1	27:4:85:ARG:NH1	2.45	0.50
32:Z:900:LEU:HA	32:Z:903:MET:HE2	1.94	0.50
24:d:45:VAL:HG13	24:d:213:PHE:HE1	1.76	0.50
2:K:155:ASP:OD1	2:K:259:ARG:NH2	2.44	0.50
5:h:90:LEU:HB2	25:j:101:TYR:HE1	1.76	0.50
7:l:206:LEU:HD11	7:l:211:LEU:HD22	1.94	0.50
9:n:82:SER:HB3	9:n:131:VAL:HG11	1.94	0.50
11:N:769:PRO:HG2	11:N:771:PHE:HE2	1.76	0.50
16:J:208:CYS:HA	16:J:242:PRO:HB2	1.92	0.50
22:P:218:LEU:O	22:P:222:ASN:ND2	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:16:SER:N	8:E:20:ARG:O	2.43	0.50
29:e:105:ILE:HG12	29:e:133:LEU:H	1.76	0.50
3:i:248:ASN:O	5:h:45:HIS:NE2	2.43	0.50
11:N:163:LEU:HD13	11:N:206:ILE:HG12	1.94	0.50
19:U:132:LEU:HB2	33:V:224:GLY:HA3	1.93	0.50
7:F:34:VAL:HG22	7:F:163:ALA:H	1.77	0.50
9:D:17:ILE:O	9:D:21:GLU:HG3	2.11	0.50
5:3:173:ASN:ND2	29:e:171:ASN:OD1	2.45	0.50
27:4:177:LYS:NZ	27:g:169:GLU:O	2.44	0.50
8:m:10:ARG:HH21	8:m:14:THR:HG21	1.75	0.50
8:m:159:GLU:OE2	8:m:167:TYR:OH	2.30	0.50
11:N:721:ASP:OD1	11:N:899:ASN:ND2	2.45	0.50
12:S:282:ILE:HD11	13:T:127:GLN:HG3	1.94	0.50
6:G:68:GLN:N	6:G:76:CYS:O	2.41	0.50
6:G:130:ARG:HB2	7:F:11:VAL:HG12	1.94	0.50
7:F:95:SER:HB3	7:F:101:ARG:HB2	1.94	0.50
5:3:48:HIS:CE1	5:3:81:ALA:HB1	2.46	0.50
27:g:8:ARG:NH1	27:g:128:LEU:O	2.43	0.50
14:R:40:ILE:HG23	14:R:87:SER:HA	1.94	0.50
14:R:70:TYR:HE2	14:R:81:HIS:HB2	1.76	0.50
16:J:85:LEU:HD11	16:J:93:LYS:HB3	1.92	0.50
18:M:218:ALA:HB1	18:M:345:ARG:HB2	1.94	0.50
25:j:65:SER:OG	25:j:90:ARG:NH2	2.44	0.50
33:V:24:LYS:HD2	33:V:172:GLN:HG3	1.93	0.50
1:I:150:HIS:N	1:I:155:SER:O	2.43	0.50
11:N:117:TYR:O	11:N:201:LYS:NZ	2.42	0.50
14:R:118:GLN:NE2	14:R:122:GLU:OE2	2.42	0.50
17:L:149:ASP:OD2	17:L:152:THR:N	2.45	0.50
18:M:170:MET:HE3	23:H:180:LYS:NZ	2.27	0.50
23:H:258:LEU:HD23	23:H:261:ARG:HH21	1.77	0.50
9:D:56:ASP:OD1	9:D:57:THR:N	2.45	0.50
25:B:173:THR:HG22	25:B:177:LYS:HE3	1.93	0.50
3:2:43:ILE:HD12	3:2:63:LEU:HD22	1.93	0.50
3:2:121:GLY:O	3:2:145:HIS:NE2	2.44	0.50
30:a:61:GLY:N	30:a:69:PHE:O	2.44	0.50
28:f:240:ALA:HB1	28:f:247:GLY:HA2	1.92	0.50
33:V:51:GLY:HA3	33:V:70:ALA:HA	1.93	0.50
33:V:171:ARG:NH2	33:V:177:THR:O	2.43	0.50
14:R:209:ARG:HA	14:R:243:LEU:HD21	1.93	0.50
4:A:54:ILE:HG23	4:A:225:VAL:HG22	1.94	0.50
33:V:110:SER:HB3	33:V:143:PRO:HD3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:295:ILE:O	2:K:299:LEU:N	2.40	0.49
9:n:70:HIS:HB3	9:n:138:PHE:HB2	1.94	0.49
11:N:158:LEU:HD13	11:N:196:THR:HG21	1.94	0.49
11:N:250:ASP:HB3	11:N:253:LEU:HB3	1.94	0.49
7:F:88:LEU:HD22	7:F:112:LEU:HD11	1.94	0.49
30:7:60:LEU:HD21	30:7:67:LEU:HD13	1.93	0.49
33:V:35:LEU:HD23	33:V:38:LEU:HD12	1.93	0.49
1:I:147:VAL:HA	1:I:159:VAL:HA	1.94	0.49
4:c:73:PHE:HB2	4:c:81:MET:HE2	1.92	0.49
17:L:139:LYS:HB2	17:L:158:ILE:HD13	1.95	0.49
21:O:4:ASN:HD22	21:O:39:PHE:HD2	1.60	0.49
21:O:134:ALA:HA	21:O:149:LEU:HD23	1.95	0.49
22:P:392:LYS:HE3	22:P:404:LYS:HG2	1.93	0.49
7:F:95:SER:O	7:F:100:ASN:N	2.45	0.49
8:E:122:ARG:HD2	8:E:130:GLU:HB2	1.93	0.49
2:K:86:VAL:HA	2:K:89:ILE:HD12	1.93	0.49
12:S:242:LEU:HD21	12:S:275:TYR:HB3	1.93	0.49
21:O:56:PRO:HG3	21:O:85:SER:HB3	1.94	0.49
4:A:106:TYR:HE1	26:1:77:ILE:HG12	1.76	0.49
32:Z:243:GLN:NE2	32:Z:974:THR:O	2.45	0.49
24:d:72:LYS:HG3	24:d:73:ILE:HG13	1.93	0.49
26:b:15:GLU:OE1	26:b:67:SER:OG	2.29	0.49
27:g:34:LYS:HD3	27:g:53:THR:HG21	1.94	0.49
1:I:340:ARG:NH1	1:I:343:ARG:HG2	2.28	0.49
1:I:347:LYS:NZ	23:H:454:TYR:O	2.31	0.49
3:i:41:VAL:HG13	3:i:207:MET:HE3	1.93	0.49
7:l:105:VAL:HB	7:l:145:LEU:HB2	1.93	0.49
7:l:172:LEU:HD11	7:l:196:ALA:HB2	1.95	0.49
8:m:41:ALA:HB2	8:m:155:LEU:HB2	1.95	0.49
11:N:622:ALA:HB1	11:N:659:ALA:HB2	1.95	0.49
16:J:306:ARG:HD2	16:J:309:ARG:HG2	1.93	0.49
17:L:74:LEU:HD23	17:L:77:ARG:HD2	1.94	0.49
19:U:156:HIS:NE2	22:P:427:GLU:OE2	2.37	0.49
19:U:208:VAL:HG22	21:O:367:LYS:HZ3	1.76	0.49
20:W:103:ASN:OD1	33:V:96:LYS:NZ	2.43	0.49
21:O:80:LYS:HA	21:O:119:SER:HA	1.95	0.49
24:C:72:LYS:HG3	24:C:73:ILE:HG13	1.94	0.49
29:6:164:LEU:HD21	29:6:213:ARG:HB2	1.93	0.49
30:7:47:MET:HE3	30:7:188:LEU:HD22	1.93	0.49
30:7:48:LYS:HA	30:7:53:VAL:HG12	1.94	0.49
1:I:226:GLY:H	1:I:230:THR:HB	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:m:208:MET:HG2	8:m:210:GLU:H	1.77	0.49
14:R:280:ILE:HG12	14:R:289:ILE:HD12	1.94	0.49
18:M:352:PRO:O	18:M:357:ARG:NH1	2.45	0.49
23:H:205:ASP:OD2	32:Z:832:ARG:NH2	2.42	0.49
8:E:51:GLU:HG2	8:E:53:ARG:HG3	1.94	0.49
24:C:101:THR:HG23	27:4:83:PHE:CD1	2.47	0.49
30:a:168:VAL:HA	29:e:77:ALA:HB3	1.95	0.49
1:I:109:LEU:O	1:I:144:GLY:N	2.43	0.49
19:U:46:ILE:HD13	19:U:119:LEU:HD22	1.94	0.49
5:3:138:VAL:HG23	5:3:143:SER:HB2	1.94	0.49
11:N:535:LEU:HG	11:N:539:MET:HE2	1.95	0.49
14:R:263:ARG:HH21	15:Q:382:LEU:HB2	1.77	0.49
17:L:339:ARG:NH1	17:L:341:GLY:HA3	2.27	0.49
20:W:81:ILE:HG21	21:O:115:ARG:HG3	1.94	0.49
26:l:113:THR:HB	26:l:134:LEU:HD11	1.93	0.49
26:b:39:THR:HG1	26:b:50:THR:HG1	1.61	0.49
1:I:243:THR:HB	1:I:276:PRO:HG2	1.95	0.49
2:K:99:PHE:HZ	2:K:102:PRO:HD3	1.77	0.49
5:h:50:PHE:CZ	5:h:195:VAL:HG21	2.47	0.49
16:J:211:ILE:HB	16:J:245:ILE:HA	1.93	0.49
17:L:88:TYR:HB3	18:M:62:ILE:HG12	1.95	0.49
18:M:181:SER:O	18:M:366:ARG:NH2	2.46	0.49
21:O:70:TYR:HB3	21:O:75:GLN:HB2	1.95	0.49
23:H:449:LYS:O	23:H:454:TYR:N	2.46	0.49
8:E:18:GLU:OE1	8:E:20:ARG:NH2	2.45	0.49
27:4:85:ARG:HB2	27:4:119:ILE:HD13	1.94	0.49
31:X:120:GLU:HG2	31:X:124:LYS:HE3	1.95	0.49
26:b:151:THR:HA	26:b:154:TYR:CE2	2.48	0.49
28:f:110:ILE:HD11	28:f:120:MET:HE3	1.95	0.49
28:f:126:ASP:HB3	28:f:172:MET:HB3	1.94	0.49
33:V:202:ASP:OD1	33:V:203:TYR:N	2.45	0.49
6:k:108:PRO:HB2	6:k:110:PRO:HD2	1.95	0.49
11:N:9:LEU:HD21	13:T:80:ASN:HD22	1.78	0.49
16:J:188:TYR:HA	16:J:195:LYS:HZ2	1.78	0.49
18:M:145:LEU:HD11	18:M:163:PHE:HA	1.93	0.49
20:W:148:GLU:HB3	21:O:14:LEU:HD22	1.94	0.49
21:O:44:SER:HA	21:O:73:ILE:HD12	1.93	0.49
22:P:168:TYR:HB3	22:P:171:MET:HB2	1.94	0.49
27:4:55:GLN:NE2	28:5:160:ASN:OD1	2.46	0.49
30:a:98:ARG:NH1	26:b:103:GLU:OE2	2.34	0.49
26:b:108:ASN:O	26:b:112:LEU:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:282:ASP:OD1	1:I:283:GLU:HG2	2.12	0.49
2:K:104:ASP:OD1	2:K:105:GLN:N	2.42	0.49
6:k:183:HIS:CD2	6:k:187:LEU:HD12	2.48	0.49
9:n:98:LEU:O	28:f:156:LYS:NZ	2.39	0.49
11:N:588:VAL:HG11	11:N:623:PHE:HD2	1.78	0.49
11:N:762:ARG:HB3	11:N:767:ALA:H	1.77	0.49
11:N:762:ARG:HH21	11:N:913:PRO:HB3	1.77	0.49
15:Q:326:MET:HG2	15:Q:335:PHE:HD2	1.78	0.49
16:J:279:LEU:HD13	16:J:286:LYS:HG3	1.93	0.49
20:W:5:ALA:N	20:W:107:HIS:O	2.42	0.49
23:H:72:SER:HB3	23:H:107:LYS:HE3	1.95	0.49
23:H:450:VAL:HA	23:H:454:TYR:HB3	1.94	0.49
26:1:185:ASP:OD1	26:1:186:GLY:N	2.46	0.49
27:4:8:ARG:NH1	27:4:128:LEU:O	2.45	0.49
27:4:145:ASP:HB3	28:f:282:PHE:HA	1.94	0.49
27:4:171:ARG:HH22	28:f:201:ILE:HD12	1.78	0.49
29:6:47:ARG:HB2	29:6:219:ASP:HB2	1.95	0.49
32:Z:419:VAL:O	32:Z:423:GLY:N	2.44	0.49
2:K:208:GLY:HA3	2:K:335:ASP:H	1.78	0.48
15:Q:223:GLY:HA2	15:Q:226:HIS:HD2	1.76	0.48
6:G:165:THR:HA	6:G:169:ARG:HE	1.78	0.48
9:D:39:LYS:HD2	9:D:186:ALA:HA	1.94	0.48
25:B:42:GLY:HA3	25:B:185:LEU:HD13	1.95	0.48
26:1:15:GLU:OE1	26:1:67:SER:OG	2.30	0.48
3:2:141:SER:HB2	3:2:154:LEU:HD13	1.94	0.48
28:5:260:TRP:HZ3	28:5:262:TYR:HB2	1.77	0.48
25:j:97:TYR:CD2	25:j:105:PRO:HB3	2.47	0.48
1:I:77:SER:HB3	1:I:81:ILE:HB	1.96	0.48
11:N:150:LEU:HD21	11:N:189:LEU:HB2	1.95	0.48
23:H:270:THR:HB	23:H:304:CYS:HA	1.94	0.48
24:C:38:ILE:HB	24:C:45:VAL:HB	1.94	0.48
31:X:117:LYS:HD3	31:X:120:GLU:HB2	1.94	0.48
27:g:8:ARG:N	27:g:129:PRO:O	2.37	0.48
8:m:36:THR:HG21	8:m:207:VAL:HG11	1.95	0.48
12:S:406:ASP:HB2	14:R:384:VAL:HB	1.95	0.48
14:R:214:TYR:OH	14:R:226:GLU:OE1	2.25	0.48
15:Q:65:TYR:HA	15:Q:70:ALA:HB3	1.94	0.48
21:O:99:LEU:HD22	21:O:129:ILE:HA	1.95	0.48
23:H:145:TYR:CZ	23:H:160:GLY:HA2	2.47	0.48
4:A:73:PHE:HB2	4:A:81:MET:HE2	1.95	0.48
26:1:38:ARG:HG2	26:1:40:THR:HG23	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:b:83:GLU:O	26:b:87:SER:OG	2.27	0.48
33:V:27:VAL:HB	33:V:201:ILE:HA	1.95	0.48
4:c:15:HIS:CE1	6:k:7:GLY:HA2	2.48	0.48
4:c:54:ILE:HG23	4:c:225:VAL:HG22	1.94	0.48
13:T:78:PHE:O	13:T:82:PHE:N	2.42	0.48
18:M:339:ARG:HE	18:M:342:ARG:HG3	1.77	0.48
19:U:124:ASP:OD1	19:U:125:VAL:N	2.46	0.48
7:F:45:VAL:HG11	7:F:190:ILE:HA	1.94	0.48
9:D:106:VAL:HB	9:D:146:LYS:HD2	1.95	0.48
5:3:18:LYS:HB2	5:3:157:ASN:HA	1.94	0.48
28:5:236:ILE:HG21	28:5:250:VAL:HG11	1.95	0.48
32:Z:376:SER:O	32:Z:380:ASN:N	2.46	0.48
26:b:185:ASP:OD1	26:b:186:GLY:N	2.46	0.48
29:e:46:THR:OG1	29:e:219:ASP:O	2.31	0.48
33:V:73:GLN:HE22	33:V:77:GLY:HA2	1.79	0.48
13:T:94:HIS:NE2	13:T:96:LEU:HB2	2.29	0.48
16:J:183:LYS:HD2	16:J:309:ARG:HA	1.95	0.48
17:L:113:SER:OG	17:L:116:LYS:O	2.29	0.48
19:U:8:VAL:HG11	19:U:121:LEU:HD21	1.94	0.48
19:U:232:VAL:HG21	21:O:370:LEU:HD11	1.96	0.48
23:H:58:ASP:O	23:H:62:ARG:N	2.47	0.48
8:E:74:ILE:HG22	8:E:146:GLY:HA3	1.96	0.48
3:2:66:ILE:HG23	3:2:89:GLY:HA2	1.95	0.48
2:K:191:PRO:HB3	2:K:198:TYR:HE2	1.79	0.48
2:K:259:ARG:NH1	2:K:263:GLU:OE2	2.47	0.48
8:m:110:GLU:HA	8:m:156:PHE:HE2	1.78	0.48
11:N:13:LEU:HD13	11:N:55:PHE:HB2	1.95	0.48
11:N:762:ARG:NH1	11:N:764:SER:HB2	2.29	0.48
12:S:452:TYR:HA	12:S:457:PRO:HD3	1.95	0.48
6:G:68:GLN:HG3	6:G:89:VAL:HG21	1.95	0.48
9:D:19:GLN:HE22	24:C:12:ILE:HB	1.79	0.48
25:B:70:ASP:HB3	25:B:139:HIS:HB3	1.95	0.48
30:7:215:ARG:HG2	30:7:247:VAL:HG13	1.96	0.48
20:W:19:GLY:HA3	21:O:71:ASP:HA	1.96	0.48
6:G:40:ILE:HB	6:G:47:VAL:HB	1.95	0.48
8:E:93:ARG:HD3	28:5:143:LEU:HD22	1.95	0.48
5:3:10:GLY:N	5:3:180:LEU:O	2.47	0.48
26:b:16:VAL:HG11	26:b:39:THR:HG23	1.94	0.48
3:i:48:ARG:NH2	29:6:212:GLU:OE1	2.47	0.48
5:h:90:LEU:HB2	25:j:101:TYR:CE1	2.48	0.48
6:k:220:SER:O	6:k:224:THR:OG1	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:N:352:ASN:HB2	11:N:355:TRP:NE1	2.28	0.48
11:N:694:LEU:HB2	33:V:175:SER:HB3	1.96	0.48
14:R:368:LEU:HD11	14:R:381:ILE:HG13	1.96	0.48
15:Q:130:ARG:NH2	25:B:186:GLU:OE1	2.46	0.48
7:F:38:LEU:HA	7:F:158:GLY:HA2	1.96	0.48
25:B:69:PRO:HB2	25:B:233:PRO:HA	1.95	0.48
5:h:58:THR:O	5:h:62:THR:HB	2.13	0.48
6:k:56:SER:OG	7:l:173:GLU:OE2	2.29	0.48
11:N:498:ILE:HG23	11:N:521:LEU:HD22	1.95	0.48
22:P:94:GLN:HG2	22:P:131:PHE:CD1	2.48	0.48
8:E:159:GLU:OE1	8:E:163:THR:OG1	2.32	0.48
5:3:74:TYR:CE2	5:3:82:ILE:HB	2.49	0.48
29:6:46:THR:OG1	29:6:219:ASP:O	2.29	0.48
32:Z:224:LEU:HD23	32:Z:227:ILE:HD11	1.96	0.48
32:Z:597:SER:HB2	32:Z:623:ARG:HH21	1.79	0.48
6:k:47:VAL:HG13	6:k:218:TRP:HB3	1.96	0.48
16:J:85:LEU:HA	16:J:95:ILE:HA	1.96	0.48
17:L:282:GLU:HG3	18:M:310:ASN:HD21	1.78	0.48
18:M:56:ASN:HA	18:M:60:GLU:HB2	1.96	0.48
18:M:223:PRO:HG3	18:M:387:ASN:HD22	1.79	0.48
19:U:24:ARG:HH21	33:V:66:VAL:HG11	1.79	0.48
22:P:416:SER:HB3	33:V:232:GLU:HG2	1.95	0.48
23:H:183:ILE:O	23:H:188:PRO:HB3	2.14	0.48
25:B:44:VAL:HG22	25:B:213:ILE:HG22	1.95	0.48
26:1:108:ASN:O	26:1:112:LEU:N	2.46	0.48
26:1:172:ASP:O	26:1:176:HIS:ND1	2.32	0.48
29:6:47:ARG:NH2	29:6:241:ASP:OD1	2.46	0.48
29:6:156:ARG:HA	29:6:166:MET:SD	2.54	0.48
30:7:36:GLN:HE21	30:7:38:ILE:HD11	1.78	0.48
30:7:42:THR:HG22	30:7:223:ARG:HB3	1.95	0.48
30:a:120:LEU:HD11	30:a:125:ILE:HD12	1.96	0.48
1:I:287:ILE:HA	1:I:302:ILE:HG23	1.96	0.47
4:c:174:LYS:HD3	4:c:213:ALA:HB1	1.95	0.47
5:h:93:SER:O	5:h:97:GLU:HG3	2.15	0.47
7:l:100:ASN:HB3	30:a:124:TYR:HA	1.95	0.47
14:R:335:ARG:O	14:R:339:ALA:N	2.42	0.47
17:L:357:ARG:NH2	17:L:383:SER:OG	2.47	0.47
17:L:370:LYS:HB2	17:L:410:ILE:H	1.79	0.47
20:W:68:GLU:HG2	20:W:70:GLY:H	1.79	0.47
22:P:22:PRO:O	22:P:26:SER:OG	2.30	0.47
4:A:147:ASP:OD1	4:A:148:GLU:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:164:VAL:HG22	4:A:165:GLY:H	1.78	0.47
5:3:145:GLN:HG2	29:e:163:SER:HB2	1.96	0.47
32:Z:286:VAL:C	32:Z:288:LEU:H	2.22	0.47
24:d:141:ASP:OD1	24:d:142:ASP:N	2.46	0.47
30:a:211:VAL:HG13	30:a:228:PHE:HZ	1.78	0.47
2:K:388:GLN:HE22	17:L:212:ILE:HB	1.79	0.47
5:h:7:ILE:HG23	5:h:32:GLN:HG3	1.95	0.47
8:m:133:LEU:HB3	9:n:124:GLY:H	1.78	0.47
9:n:71:VAL:HG22	9:n:137:GLY:HA3	1.96	0.47
9:n:94:GLN:O	9:n:98:LEU:N	2.39	0.47
11:N:122:GLN:NE2	11:N:164:ASP:OD2	2.47	0.47
11:N:596:LEU:HD21	11:N:627:ILE:HG22	1.95	0.47
12:S:224:LYS:HE3	12:S:225:HIS:HE1	1.78	0.47
14:R:410:LEU:HD21	19:U:285:ILE:HD11	1.95	0.47
21:O:162:SER:HB2	21:O:167:ILE:HD13	1.96	0.47
23:H:148:ASN:H	23:H:155:PHE:HB2	1.80	0.47
23:H:177:ASP:O	23:H:178:ARG:HG2	2.13	0.47
23:H:450:VAL:O	23:H:455:LYS:N	2.38	0.47
4:A:46:ARG:HH21	4:A:167:LYS:HA	1.79	0.47
9:D:37:LYS:HA	9:D:42:VAL:HG23	1.95	0.47
28:5:82:ARG:HD2	28:5:185:PRO:HB2	1.96	0.47
29:6:57:ARG:HH21	30:7:189:ARG:HD3	1.80	0.47
1:I:150:HIS:HB3	1:I:155:SER:H	1.79	0.47
9:n:56:ASP:HB3	9:n:59:ILE:HG12	1.95	0.47
15:Q:168:LEU:HD23	25:B:177:LYS:HB3	1.95	0.47
15:Q:199:THR:OG1	16:J:380:GLU:OE2	2.30	0.47
17:L:133:ASN:N	33:V:45:VAL:HG11	2.30	0.47
18:M:145:LEU:HD21	18:M:163:PHE:HD1	1.78	0.47
21:O:271:LYS:H	21:O:274:ILE:HG22	1.79	0.47
23:H:176:VAL:HG21	23:H:191:ILE:HG13	1.96	0.47
23:H:225:VAL:HG22	23:H:350:LYS:HG3	1.97	0.47
6:G:220:SER:O	6:G:224:THR:OG1	2.33	0.47
30:7:86:ILE:HG12	30:7:147:ILE:HG12	1.96	0.47
24:d:84:ALA:O	24:d:88:ILE:HG12	2.14	0.47
29:e:203:VAL:HG12	29:e:221:LEU:HD21	1.96	0.47
1:I:295:ASN:ND2	23:H:312:ASP:O	2.46	0.47
2:K:94:LEU:HB2	17:L:128:ILE:HB	1.96	0.47
3:i:84:VAL:HG13	3:i:88:ILE:HD12	1.97	0.47
5:h:26:ASP:OD1	5:h:42:LYS:NZ	2.32	0.47
7:l:19:LEU:HG	7:l:21:GLN:H	1.78	0.47
13:T:94:HIS:HD2	13:T:97:SER:HB2	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:173:ASP:OD2	18:M:233:ARG:NH2	2.47	0.47
7:F:18:ARG:HH12	7:F:23:GLU:HB2	1.80	0.47
26:b:39:THR:HB	26:b:47:ASN:H	1.79	0.47
2:K:121:ARG:H	16:J:65:LEU:HD21	1.79	0.47
3:i:58:LYS:HD3	29:6:212:GLU:HB3	1.96	0.47
5:h:173:ASN:ND2	29:6:171:ASN:OD1	2.47	0.47
5:h:179:ALA:HB2	28:5:101:VAL:HG23	1.97	0.47
9:n:106:VAL:HB	9:n:146:LYS:HD2	1.95	0.47
6:G:152:GLU:OE1	6:G:156:SER:OG	2.32	0.47
32:Z:322:GLU:HA	32:Z:327:GLN:HB2	1.97	0.47
32:Z:471:LEU:HD22	32:Z:504:GLU:HB3	1.97	0.47
33:V:123:VAL:HG12	33:V:127:LYS:HE3	1.96	0.47
7:l:226:ASP:OD1	7:l:227:GLY:N	2.48	0.47
11:N:307:LYS:NZ	11:N:339:MET:O	2.47	0.47
17:L:236:ALA:HA	17:L:239:ILE:HD12	1.96	0.47
18:M:167:VAL:O	18:M:169:ALA:N	2.48	0.47
18:M:250:GLN:O	18:M:253:GLN:NE2	2.45	0.47
32:Z:392:LEU:HB3	32:Z:858:GLY:HA2	1.97	0.47
24:d:129:ARG:HB3	25:j:123:GLN:HE22	1.79	0.47
27:g:35:THR:O	27:g:36:ARG:NH1	2.39	0.47
1:I:228:GLY:HA2	1:I:231:LEU:HB2	1.97	0.47
2:K:118:TYR:HB3	16:J:69:GLY:HA3	1.96	0.47
2:K:224:LYS:NZ	17:L:313:ASP:O	2.36	0.47
2:K:366:ALA:HA	2:K:404:GLN:HB2	1.96	0.47
3:i:55:VAL:HB	29:6:213:ARG:HA	1.96	0.47
8:m:117:CYS:HA	8:m:120:ALA:HB3	1.97	0.47
9:n:17:ILE:HG22	9:n:19:GLN:H	1.79	0.47
9:n:139:ASP:HB2	9:n:142:ASP:HB3	1.97	0.47
11:N:34:GLN:HE22	12:S:216:LYS:HA	1.78	0.47
13:T:152:LEU:HD21	13:T:185:ILE:HG12	1.96	0.47
13:T:213:ASN:OD1	13:T:214:GLU:N	2.47	0.47
15:Q:387:TYR:HB2	15:Q:401:GLU:HB2	1.97	0.47
16:J:375:ILE:HG13	16:J:376:HIS:ND1	2.28	0.47
17:L:95:ILE:HD11	18:M:69:ILE:HD11	1.96	0.47
19:U:46:ILE:HG23	19:U:90:ILE:HD12	1.97	0.47
21:O:75:GLN:HG2	21:O:107:GLN:NE2	2.30	0.47
22:P:89:LEU:O	22:P:92:SER:OG	2.30	0.47
23:H:55:ASP:HA	23:H:58:ASP:HB2	1.96	0.47
7:F:31:GLN:HG3	8:E:18:GLU:HB3	1.97	0.47
26:1:193:ARG:HH12	30:a:256:LYS:HA	1.80	0.47
5:3:58:THR:O	5:3:62:THR:HB	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:7:152:VAL:HA	30:7:158:GLN:HA	1.97	0.47
24:d:38:ILE:HB	24:d:45:VAL:HB	1.95	0.47
30:a:41:GLY:C	30:a:223:ARG:HH12	2.23	0.47
26:b:172:ASP:O	26:b:176:HIS:ND1	2.33	0.47
29:e:94:TYR:O	29:e:98:HIS:ND1	2.47	0.47
33:V:153:ILE:HG22	33:V:201:ILE:HB	1.96	0.47
33:V:163:ALA:HB3	33:V:168:LEU:HD22	1.97	0.47
8:m:121:LEU:HD12	8:m:162:GLY:HA3	1.97	0.47
9:n:56:ASP:OD1	9:n:57:THR:N	2.47	0.47
11:N:299:TYR:HA	11:N:302:PHE:HB3	1.95	0.47
12:S:208:ILE:HG12	13:T:91:SER:HB2	1.97	0.47
12:S:395:ILE:HG12	12:S:410:LYS:HD2	1.96	0.47
17:L:287:GLY:HA3	17:L:333:LEU:HD23	1.96	0.47
18:M:216:LYS:HD2	18:M:312:LEU:HD22	1.96	0.47
7:F:190:ILE:HD11	7:F:215:ILE:HD12	1.96	0.47
2:K:88:ARG:HH12	19:U:169:ILE:HG13	1.80	0.47
3:i:132:VAL:HG11	3:i:209:ILE:HA	1.96	0.47
4:A:29:GLU:HB3	4:A:33:LYS:HE2	1.95	0.47
8:E:134:MET:HE3	8:E:137:PRO:HA	1.96	0.47
3:2:41:VAL:HG13	3:2:207:MET:HE3	1.96	0.47
28:5:107:LYS:HE2	28:5:109:VAL:HB	1.97	0.47
32:Z:531:ALA:HB1	32:Z:572:ILE:HB	1.96	0.47
32:Z:890:SER:HB3	32:Z:895:LEU:HD12	1.97	0.47
13:T:165:GLN:O	13:T:170:ASN:ND2	2.45	0.47
19:U:9:THR:HG22	19:U:162:GLU:HB2	1.96	0.47
19:U:98:LYS:HB2	19:U:100:ARG:HH12	1.80	0.47
19:U:230:GLN:HG3	21:O:352:TRP:HH2	1.80	0.47
23:H:103:THR:C	23:H:105:ILE:H	2.23	0.47
3:2:55:VAL:HB	29:e:213:ARG:HA	1.98	0.47
29:6:160:ALA:HB3	29:6:214:HIS:CE1	2.50	0.47
23:H:434:ARG:HH22	32:Z:956:LEU:HD12	1.80	0.46
4:A:174:LYS:HD3	4:A:213:ALA:HB1	1.96	0.46
26:1:18:LEU:HD11	26:1:68:ALA:HA	1.96	0.46
3:2:58:LYS:HD3	29:e:212:GLU:HB3	1.96	0.46
5:3:78:GLU:HB3	5:3:80:ARG:HG2	1.97	0.46
27:4:60:ILE:HG13	27:4:84:VAL:HG22	1.96	0.46
30:a:232:ILE:HB	30:a:240:THR:HB	1.97	0.46
1:I:435:LEU:HB2	9:D:79:ASN:ND2	2.30	0.46
5:h:185:ALA:HB3	5:h:200:LEU:HD12	1.97	0.46
11:N:666:GLN:HG2	11:N:873:ARG:NH2	2.31	0.46
12:S:264:VAL:HA	12:S:268:LEU:HD12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:S:462:ASP:OD1	13:T:262:LYS:NZ	2.48	0.46
14:R:137:LEU:O	14:R:141:TYR:N	2.39	0.46
15:Q:101:ILE:HG21	15:Q:140:LYS:HD3	1.97	0.46
16:J:325:ALA:HA	16:J:328:LEU:HD12	1.98	0.46
18:M:176:PRO:HD2	18:M:237:ALA:HB2	1.97	0.46
23:H:357:ARG:CZ	23:H:467:ASN:HB2	2.46	0.46
24:C:98:TYR:CD2	24:C:106:ILE:HB	2.50	0.46
25:B:33:THR:HA	25:B:165:GLY:HA3	1.97	0.46
26:1:198:THR:HG23	26:1:200:ALA:H	1.80	0.46
29:6:74:ASN:HB3	29:6:127:HIS:HB3	1.97	0.46
28:f:180:THR:OG1	28:f:184:GLY:O	2.25	0.46
1:I:248:VAL:HG22	16:J:274:GLU:HG3	1.96	0.46
2:K:354:GLY:O	2:K:358:SER:OG	2.29	0.46
5:h:175:ALA:HB3	5:h:202:MET:HE1	1.97	0.46
8:m:80:GLY:HA3	8:m:140:VAL:HA	1.98	0.46
11:N:501:MET:HE1	11:N:520:GLY:HA3	1.98	0.46
17:L:331:ASP:O	17:L:333:LEU:N	2.48	0.46
17:L:404:ARG:HH22	18:M:191:GLU:HG3	1.80	0.46
20:W:179:ARG:NH2	20:W:183:GLU:O	2.48	0.46
26:b:39:THR:O	26:b:45:ILE:HA	2.15	0.46
1:I:191:ILE:HG12	1:I:232:LEU:HD13	1.96	0.46
4:c:92:ASN:HA	6:k:121:GLN:HE22	1.80	0.46
5:h:18:LYS:HB2	5:h:157:ASN:HA	1.96	0.46
7:l:67:ASP:OD1	7:l:68:GLU:N	2.43	0.46
14:R:27:SER:HB2	14:R:179:PHE:HB2	1.97	0.46
18:M:61:LYS:HA	18:M:64:ASP:HB2	1.96	0.46
8:E:10:ARG:O	24:C:4:ARG:NH2	2.48	0.46
5:3:17:GLY:HA3	5:3:163:LEU:HD22	1.97	0.46
31:X:91:PHE:H	31:X:96:ARG:HE	1.63	0.46
32:Z:525:MET:SD	32:Z:897:HIS:NE2	2.82	0.46
24:d:38:ILE:O	24:d:45:VAL:N	2.37	0.46
30:a:189:ARG:NH2	29:e:54:ILE:O	2.49	0.46
33:V:67:ASP:HA	33:V:100:ARG:HH21	1.79	0.46
11:N:726:ASP:OD1	11:N:727:THR:N	2.49	0.46
15:Q:388:GLY:HA2	15:Q:400:TYR:HB3	1.98	0.46
21:O:298:GLU:HB2	21:O:356:ARG:HH22	1.80	0.46
26:1:83:GLU:O	26:1:87:SER:OG	2.20	0.46
5:3:113:ASN:HB3	5:3:118:LYS:H	1.79	0.46
30:7:50:ASP:O	30:7:158:GLN:NE2	2.41	0.46
30:a:151:GLY:N	30:a:159:PHE:O	2.44	0.46
1:I:201:PRO:HB3	32:Z:931:GLN:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:300:LEU:HD23	2:K:333:ARG:HE	1.80	0.46
11:N:331:ALA:HB2	11:N:697:PHE:CD1	2.50	0.46
11:N:713:VAL:HA	11:N:755:PRO:HA	1.98	0.46
16:J:186:ILE:HB	16:J:313:LYS:HG2	1.98	0.46
17:L:132:ARG:HG2	33:V:46:PRO:HD2	1.98	0.46
18:M:252:VAL:HG23	18:M:286:ILE:HG22	1.98	0.46
32:Z:918:ASP:OD1	32:Z:919:GLU:N	2.49	0.46
25:j:49:LYS:N	25:j:208:THR:O	2.42	0.46
1:I:242:ALA:HB1	1:I:276:PRO:HG3	1.98	0.46
2:K:281:ARG:NH1	17:L:299:ARG:HB3	2.31	0.46
2:K:392:LEU:HD21	17:L:215:PRO:HG3	1.97	0.46
18:M:357:ARG:NE	18:M:383:THR:OG1	2.48	0.46
23:H:390:ARG:O	23:H:394:LYS:HG3	2.15	0.46
9:D:73:LEU:HD11	9:D:135:ILE:HG12	1.97	0.46
30:7:114:ALA:HA	30:7:118:GLU:HB2	1.98	0.46
31:X:85:ARG:HD2	31:X:101:LEU:HD23	1.97	0.46
32:Z:474:LEU:HD23	32:Z:508:LEU:HD23	1.98	0.46
24:d:135:PHE:HB2	24:d:151:SER:HB3	1.97	0.46
28:f:148:ARG:HH11	28:f:180:THR:HA	1.81	0.46
33:V:136:ALA:O	33:V:157:ARG:NH1	2.48	0.46
2:K:272:ASP:OD1	2:K:273:GLU:N	2.48	0.46
8:m:26:TYR:HB2	9:n:11:PHE:HE2	1.80	0.46
9:n:157:SER:OG	9:n:159:TRP:NE1	2.49	0.46
11:N:50:TYR:HA	11:N:58:ARG:HB2	1.96	0.46
17:L:197:ILE:HG21	17:L:239:ILE:HD13	1.96	0.46
20:W:110:ILE:O	20:W:140:ASP:N	2.40	0.46
22:P:28:ALA:HB3	22:P:70:ASN:HB3	1.98	0.46
8:E:32:LYS:HG2	8:E:174:SER:HA	1.98	0.46
5:3:169:GLN:OE1	5:3:173:ASN:ND2	2.49	0.46
28:5:94:ARG:HH11	28:5:101:VAL:HG11	1.81	0.46
29:6:214:HIS:NE2	29:6:216:GLN:HB2	2.30	0.46
32:Z:574:TYR:HB3	32:Z:581:VAL:HG22	1.98	0.46
28:f:242:ARG:HH22	28:f:284:ASN:HD21	1.64	0.46
27:g:37:GLN:O	27:g:61:GLN:NE2	2.43	0.46
1:I:174:ASP:OD1	1:I:175:LYS:N	2.49	0.46
2:K:113:THR:HG21	17:L:126:ARG:HD3	1.98	0.46
7:l:134:ILE:O	7:l:145:LEU:N	2.43	0.46
8:m:46:VAL:HG11	8:m:145:ALA:HB1	1.98	0.46
8:m:141:ALA:HB1	8:m:157:HIS:CE1	2.51	0.46
15:Q:39:SER:HB2	15:Q:88:PHE:HB3	1.98	0.46
17:L:242:ASN:HB3	17:L:276:CYS:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:H:385:ARG:HH22	23:H:413:ASN:HA	1.80	0.46
26:1:43:ALA:O	26:1:44:TYR:HB2	2.16	0.46
5:3:93:SER:O	5:3:97:GLU:HG3	2.15	0.46
5:3:125:ASP:OD1	5:3:129:CYS:N	2.46	0.46
16:J:78:ILE:HD13	16:J:104:VAL:HB	1.97	0.46
19:U:69:ASP:HB2	19:U:73:ILE:HG13	1.98	0.46
23:H:105:ILE:HD12	23:H:146:VAL:HG13	1.98	0.46
4:A:123:ASN:ND2	25:B:87:ASP:OD2	2.49	0.46
3:2:64:HIS:N	3:2:72:CYS:O	2.45	0.46
29:e:129:ILE:HG23	29:e:141:VAL:HG13	1.98	0.46
2:K:244:HIS:ND1	2:K:249:GLU:HB3	2.29	0.45
4:c:220:LYS:HD2	4:c:238:ALA:HB1	1.98	0.45
8:m:70:ILE:HA	8:m:93:ARG:HG2	1.97	0.45
11:N:337:GLY:HA2	11:N:374:ILE:HG13	1.98	0.45
11:N:785:PRO:HD2	11:N:873:ARG:HH12	1.80	0.45
19:U:35:GLY:HA3	19:U:93:TYR:CZ	2.52	0.45
19:U:98:LYS:HB2	19:U:100:ARG:NH1	2.31	0.45
19:U:211:LEU:HD13	21:O:363:ILE:HD13	1.99	0.45
21:O:74:ASN:OD1	21:O:75:GLN:N	2.49	0.45
4:A:218:PHE:HB3	4:A:222:ASP:HB2	1.98	0.45
25:B:157:PHE:HB3	25:B:159:TRP:CD1	2.51	0.45
28:5:237:LEU:HD11	28:5:272:PHE:HD1	1.80	0.45
3:i:77:THR:HG22	3:i:79:ALA:H	1.81	0.45
5:h:58:THR:HG23	27:g:89:ALA:HB1	1.98	0.45
5:h:161:GLU:OE1	5:h:198:ARG:NH1	2.41	0.45
16:J:321:VAL:HG22	16:J:324:ARG:HH22	1.81	0.45
21:O:277:ILE:HG22	21:O:279:ILE:H	1.81	0.45
22:P:245:TYR:CE1	22:P:261:LEU:HD13	2.52	0.45
7:F:226:ASP:OD1	7:F:227:GLY:N	2.50	0.45
31:X:117:LYS:HB3	31:X:120:GLU:HB3	1.98	0.45
28:f:208:GLN:NE2	27:g:25:ILE:HD11	2.32	0.45
2:K:347:ARG:HD3	15:Q:209:TYR:HD1	1.81	0.45
6:k:95:GLU:HG3	6:k:115:ARG:HH21	1.80	0.45
22:P:121:THR:O	22:P:123:ARG:NH1	2.48	0.45
22:P:196:ALA:HA	22:P:199:LEU:HD12	1.99	0.45
5:3:113:ASN:ND2	5:3:116:SER:OG	2.50	0.45
32:Z:918:ASP:HB3	32:Z:921:GLU:HB2	1.97	0.45
29:e:29:GLY:O	29:e:74:ASN:ND2	2.39	0.45
2:K:106:ASN:HA	2:K:122:ILE:HB	1.99	0.45
4:c:58:LYS:HG2	4:c:60:PRO:HD3	1.99	0.45
5:h:126:LEU:HD12	5:h:127:ILE:HG23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:S:381:VAL:HG13	13:T:150:ARG:HG3	1.99	0.45
15:Q:165:PHE:HE2	15:Q:177:VAL:HG21	1.81	0.45
19:U:228:LYS:HD3	22:P:425:HIS:HA	1.98	0.45
7:F:143:HIS:ND1	7:F:155:GLU:OE2	2.36	0.45
9:D:56:ASP:HB3	9:D:59:ILE:HG12	1.97	0.45
25:B:140:ASP:N	25:B:144:GLY:O	2.41	0.45
29:6:109:ALA:HB3	29:6:142:TYR:HD2	1.82	0.45
31:X:91:PHE:H	31:X:96:ARG:NE	2.15	0.45
32:Z:543:THR:OG1	32:Z:574:TYR:OH	2.21	0.45
24:d:209:ASP:OD1	24:d:210:ARG:N	2.49	0.45
26:b:54:THR:HB	26:b:62:CYS:HB3	1.97	0.45
28:f:96:THR:HG21	28:f:245:TYR:HA	1.99	0.45
27:g:40:PRO:O	27:g:189:ILE:HG13	2.17	0.45
33:V:278:LYS:HA	33:V:282:GLU:HB3	1.98	0.45
2:K:126:LEU:HD21	2:K:148:ASP:HA	1.99	0.45
2:K:131:LEU:HD21	33:V:273:ARG:HE	1.82	0.45
9:n:4:TYR:CD2	9:n:125:GLY:HA2	2.51	0.45
11:N:288:ASN:HB3	11:N:293:LEU:HD12	1.98	0.45
12:S:285:ASP:OD1	12:S:286:TYR:N	2.49	0.45
17:L:183:ILE:HD12	17:L:227:GLY:HA2	1.99	0.45
21:O:164:PRO:HB2	21:O:166:ARG:HG2	1.98	0.45
8:E:159:GLU:OE2	8:E:167:TYR:OH	2.35	0.45
32:Z:230:ILE:O	32:Z:267:THR:OG1	2.32	0.45
32:Z:306:MET:HG3	32:Z:310:LEU:HG	1.98	0.45
32:Z:741:LEU:HB3	32:Z:745:LEU:HD12	1.98	0.45
12:S:232:MET:HA	12:S:235:ASN:HD22	1.80	0.45
17:L:108:VAL:HA	17:L:119:VAL:HG22	1.99	0.45
22:P:134:VAL:HG21	22:P:175:GLU:HB3	1.99	0.45
6:G:108:PRO:HB2	6:G:110:PRO:HD2	1.99	0.45
32:Z:406:TRP:CE3	32:Z:407:VAL:HG23	2.52	0.45
25:j:140:ASP:N	25:j:144:GLY:O	2.42	0.45
33:V:45:VAL:HB	33:V:46:PRO:HD2	1.99	0.45
2:K:109:ILE:HA	2:K:119:VAL:HA	1.98	0.45
2:K:356:ILE:HG22	2:K:387:MET:HE2	1.99	0.45
11:N:775:CYS:SG	11:N:776:TYR:N	2.88	0.45
12:S:306:SER:O	12:S:310:LEU:HB3	2.16	0.45
14:R:137:LEU:HB3	14:R:141:TYR:CE2	2.51	0.45
15:Q:267:LEU:HD21	15:Q:334:HIS:ND1	2.31	0.45
18:M:351:LEU:HD13	18:M:385:GLU:HG2	1.98	0.45
23:H:309:ASP:OD1	23:H:310:GLU:N	2.49	0.45
32:Z:509:LEU:HD23	32:Z:512:ILE:HD12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:e:33:GLY:HA3	29:e:129:ILE:HG21	1.99	0.45
33:V:25:GLU:HG2	33:V:60:ASP:HA	1.98	0.45
1:I:117:HIS:HA	1:I:131:SER:HA	1.98	0.45
1:I:288:GLY:HA2	1:I:306:MET:SD	2.57	0.45
5:h:204:GLN:HB3	28:5:241:HIS:CE1	2.51	0.45
12:S:284:LEU:HD23	12:S:382:ARG:NH2	2.31	0.45
16:J:211:ILE:O	16:J:246:PHE:N	2.43	0.45
20:W:132:LEU:HD12	20:W:161:VAL:HG21	1.99	0.45
23:H:361:LEU:HB3	23:H:365:LEU:HD23	1.98	0.45
6:G:47:VAL:HG13	6:G:218:TRP:HB3	1.99	0.45
9:D:124:GLY:N	8:E:133:LEU:O	2.48	0.45
24:C:141:ASP:OD1	24:C:142:ASP:N	2.50	0.45
29:6:76:PHE:CE2	29:6:78:ALA:HB3	2.52	0.45
32:Z:234:PRO:HB3	32:Z:271:ILE:HA	1.99	0.45
32:Z:253:VAL:HG13	32:Z:264:PHE:CD2	2.48	0.45
32:Z:927:VAL:HG11	32:Z:963:ALA:HB1	1.98	0.45
28:f:188:TYR:HE1	28:f:198:LYS:HG3	1.81	0.45
33:V:38:LEU:HD21	33:V:141:VAL:HG11	1.99	0.45
33:V:134:SER:O	33:V:157:ARG:NH2	2.49	0.45
4:c:29:GLU:O	4:c:33:LYS:N	2.46	0.45
6:k:120:VAL:HG21	6:k:151:LEU:HD21	1.98	0.45
11:N:762:ARG:HH11	11:N:765:ASP:H	1.65	0.45
14:R:232:VAL:HG13	14:R:253:ALA:HA	1.99	0.45
14:R:292:LEU:HD11	14:R:311:THR:HG21	1.99	0.45
17:L:225:GLY:HA3	18:M:342:ARG:NH2	2.31	0.45
18:M:70:LYS:O	18:M:74:GLN:HG2	2.16	0.45
6:G:76:CYS:HA	6:G:138:PHE:HA	1.99	0.45
4:A:29:GLU:O	4:A:33:LYS:HG3	2.17	0.45
25:B:230:ASP:OD1	25:B:231:LYS:N	2.50	0.45
27:4:35:THR:OG1	27:4:44:MET:O	2.28	0.45
2:K:90:GLN:O	2:K:93:PRO:HD2	2.17	0.45
4:c:54:ILE:HG12	4:c:225:VAL:HG13	1.99	0.45
4:c:59:VAL:HG13	4:c:64:LEU:HD12	1.99	0.45
5:h:21:VAL:HG11	5:h:110:ALA:HB1	1.98	0.45
7:l:60:GLN:HE21	7:l:62:LYS:HZ3	1.65	0.45
8:m:51:GLU:HG2	8:m:53:ARG:HG3	1.99	0.45
14:R:203:ASP:HA	16:J:334:LYS:HA	1.98	0.45
20:W:4:GLU:HG2	20:W:107:HIS:HB2	1.98	0.45
21:O:329:MET:HA	21:O:332:ILE:HD12	1.99	0.45
21:O:332:ILE:HG23	21:O:337:LEU:O	2.17	0.45
4:A:141:LEU:O	4:A:157:THR:N	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:B:75:TYR:CE1	25:B:79:GLY:HA2	2.52	0.45
3:2:48:ARG:NH2	29:e:212:GLU:OE1	2.50	0.45
28:5:282:PHE:HA	27:g:145:ASP:HB3	1.98	0.45
32:Z:391:ASN:HB2	32:Z:425:ILE:HG12	1.98	0.45
32:Z:612:GLY:N	32:Z:747:ALA:HB2	2.32	0.45
30:a:115:ASP:OD1	30:a:116:ALA:N	2.49	0.45
1:I:122:SER:HB3	1:I:126:PRO:HD3	1.98	0.44
3:i:102:GLU:HB3	3:i:134:PRO:HG3	1.98	0.44
6:k:40:ILE:HB	6:k:47:VAL:HB	1.98	0.44
8:m:133:LEU:HB3	9:n:124:GLY:N	2.33	0.44
9:n:83:ARG:HD2	9:n:86:ILE:HD12	1.99	0.44
11:N:608:LEU:HD21	16:J:45:GLU:HG2	1.99	0.44
17:L:115:GLU:HB3	17:L:131:VAL:HG21	1.98	0.44
20:W:10:ILE:HA	20:W:113:PHE:HB2	1.99	0.44
25:B:190:HIS:HB3	25:B:250:LEU:HD21	1.99	0.44
26:1:103:GLU:OE2	30:7:98:ARG:NH1	2.35	0.44
3:2:196:LEU:HD11	29:e:49:ILE:HG21	1.99	0.44
30:a:68:ARG:NH1	26:b:145:ILE:O	2.43	0.44
29:e:214:HIS:NE2	29:e:216:GLN:HB2	2.32	0.44
2:K:182:GLN:HG2	16:J:371:ARG:HH21	1.82	0.44
8:m:107:ILE:HD13	8:m:112:LEU:HD13	1.99	0.44
11:N:66:SER:OG	11:N:78:ALA:O	2.32	0.44
16:J:116:ARG:HB2	16:J:121:MET:H	1.81	0.44
16:J:226:GLY:HA2	16:J:229:MET:HB2	1.97	0.44
20:W:53:SER:O	20:W:60:ARG:N	2.39	0.44
7:F:232:LYS:HE3	7:F:233:TYR:CZ	2.52	0.44
24:C:59:GLN:NE2	24:C:209:ASP:O	2.48	0.44
27:4:55:GLN:HE22	28:5:160:ASN:HA	1.82	0.44
32:Z:528:LEU:HD13	32:Z:565:PHE:HB3	1.98	0.44
1:I:399:ALA:HB1	1:I:411:VAL:HG11	2.00	0.44
2:K:292:VAL:HA	2:K:295:ILE:HD12	1.98	0.44
4:c:141:LEU:O	4:c:157:THR:N	2.46	0.44
6:k:135:SER:HB2	6:k:153:PRO:HD3	1.99	0.44
13:T:201:PRO:HA	13:T:232:LYS:HG2	1.99	0.44
14:R:382:ASP:OD1	14:R:383:ARG:N	2.50	0.44
23:H:428:MET:HA	23:H:431:ILE:HD12	1.98	0.44
24:C:74:ALA:HB2	24:C:227:GLN:HE22	1.83	0.44
26:1:132:ILE:HG12	26:1:138:VAL:HA	2.00	0.44
29:6:21:PHE:HB2	30:7:142:PRO:HB3	1.98	0.44
31:X:91:PHE:HB3	31:X:94:ASN:HB2	1.99	0.44
32:Z:378:GLN:HG3	32:Z:845:LEU:HD23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:a:68:ARG:HG3	30:a:69:PHE:CD1	2.52	0.44
30:a:122:PRO:HG2	30:a:151:GLY:HA3	2.00	0.44
26:b:18:LEU:HD11	26:b:68:ALA:HA	1.99	0.44
27:g:22:THR:HG23	27:g:26:SER:O	2.18	0.44
3:i:247:VAL:HG12	5:h:45:HIS:CD2	2.52	0.44
5:h:5:SER:HA	5:h:56:LEU:HB2	1.99	0.44
8:m:84:ASP:OD1	9:n:122:GLN:NE2	2.50	0.44
15:Q:359:ILE:HD12	15:Q:395:GLY:HA2	2.00	0.44
21:O:331:ALA:HB1	21:O:336:LEU:HD12	1.99	0.44
23:H:163:VAL:CG2	23:H:185:LEU:HD11	2.44	0.44
8:E:41:ALA:HB2	8:E:155:LEU:HB2	1.99	0.44
24:C:108:VAL:O	24:C:112:VAL:HG23	2.17	0.44
25:B:66:LEU:HD11	25:B:69:PRO:HA	1.99	0.44
26:1:146:ALA:HB2	30:7:68:ARG:HH22	1.82	0.44
32:Z:957:LEU:HD13	32:Z:961:GLU:HB2	2.00	0.44
25:j:230:ASP:OD1	25:j:231:LYS:N	2.51	0.44
1:I:331:ILE:HG13	1:I:334:LEU:HB2	1.98	0.44
1:I:384:LYS:HE3	1:I:387:LEU:HD12	1.99	0.44
2:K:244:HIS:CG	2:K:249:GLU:HB3	2.52	0.44
11:N:630:ALA:HA	11:N:663:ILE:HA	1.98	0.44
12:S:380:CYS:HA	12:S:383:LEU:HD12	1.98	0.44
14:R:382:ASP:OD2	14:R:385:ASN:HB2	2.18	0.44
15:Q:104:PHE:CE2	15:Q:114:GLN:HB2	2.53	0.44
17:L:171:THR:HG22	17:L:173:PHE:H	1.82	0.44
17:L:397:GLU:OE2	17:L:421:LYS:NZ	2.46	0.44
18:M:309:LEU:HD22	18:M:342:ARG:HD3	1.98	0.44
19:U:167:GLU:HG2	33:V:35:LEU:HD13	1.99	0.44
21:O:114:GLN:NE2	21:O:126:ILE:HD12	2.32	0.44
9:D:139:ASP:HB2	9:D:142:ASP:HB3	2.00	0.44
26:1:44:TYR:HD1	30:a:179:PHE:HZ	1.65	0.44
3:2:192:ILE:HG23	3:2:199:GLY:HA2	1.99	0.44
29:6:83:LEU:O	29:6:87:PHE:N	2.45	0.44
29:6:113:GLN:HB2	29:6:150:TYR:CE2	2.53	0.44
31:X:35:ILE:HG22	31:X:46:TRP:CE3	2.52	0.44
2:K:109:ILE:HD11	2:K:117:SER:HB3	1.99	0.44
2:K:244:HIS:CB	2:K:249:GLU:HB3	2.47	0.44
2:K:399:ARG:NH1	2:K:406:ASP:OD2	2.51	0.44
11:N:775:CYS:SG	11:N:878:GLN:NE2	2.88	0.44
19:U:195:LYS:O	19:U:199:GLY:N	2.45	0.44
6:G:125:LEU:HA	4:A:135:ARG:HB3	1.99	0.44
8:E:84:ASP:OD2	8:E:136:ARG:NH1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:3:11:ILE:HG21	5:3:142:ALA:HB3	2.00	0.44
30:7:88:GLY:HA3	30:7:145:ASN:HA	2.00	0.44
30:7:179:PHE:HZ	26:b:44:TYR:HD1	1.64	0.44
32:Z:228:GLU:HA	32:Z:264:PHE:CE1	2.52	0.44
32:Z:857:LEU:HD21	32:Z:908:ILE:HD13	1.98	0.44
30:a:48:LYS:HE3	30:a:160:LEU:HB3	2.00	0.44
27:g:8:ARG:HA	27:g:13:VAL:HA	2.00	0.44
33:V:54:LEU:HD23	33:V:104:VAL:HA	2.00	0.44
2:K:249:GLU:HA	2:K:252:ARG:HG2	1.99	0.44
2:K:367:ASP:OD1	2:K:368:LEU:N	2.51	0.44
5:h:147:PHE:O	5:h:151:GLU:HG2	2.17	0.44
7:l:38:LEU:HA	7:l:158:GLY:HA2	2.00	0.44
14:R:213:TYR:HA	14:R:216:ILE:HD12	2.00	0.44
16:J:226:GLY:O	16:J:230:VAL:HG23	2.18	0.44
18:M:399:GLY:HA3	23:H:240:ILE:HG21	1.99	0.44
4:A:211:ILE:O	4:A:215:GLY:N	2.51	0.44
7:F:157:TYR:HB2	7:F:176:LEU:HD21	2.00	0.44
24:C:86:ILE:HA	25:B:116:LYS:HE3	1.98	0.44
26:1:78:VAL:HG21	26:1:101:PHE:CE1	2.53	0.44
3:2:193:TRP:HB3	29:e:57:ARG:HH22	1.83	0.44
5:3:8:ASN:ND2	5:3:30:GLY:O	2.40	0.44
5:3:45:HIS:ND1	5:3:50:PHE:HD1	2.14	0.44
28:5:148:ARG:HH11	28:5:180:THR:HA	1.82	0.44
28:5:201:ILE:HD12	27:g:171:ARG:NH2	2.33	0.44
32:Z:228:GLU:HA	32:Z:264:PHE:HE1	1.82	0.44
2:K:296:LEU:HD23	2:K:299:LEU:HD12	2.00	0.44
4:c:162:TYR:HB2	25:j:80:PRO:HD3	2.00	0.44
12:S:289:ALA:HB1	12:S:320:ILE:HD13	1.99	0.44
15:Q:335:PHE:HD1	15:Q:338:LEU:HD12	1.83	0.44
15:Q:358:GLU:HG2	15:Q:360:SER:H	1.83	0.44
9:D:68:ASP:OD1	9:D:69:SER:N	2.43	0.44
5:3:56:LEU:O	5:3:60:VAL:HG23	2.18	0.44
5:3:204:GLN:HB3	28:f:241:HIS:CE1	2.52	0.44
32:Z:495:ILE:HG12	32:Z:903:MET:HA	2.00	0.44
30:a:51:ASN:HA	30:a:235:LYS:HE2	2.00	0.44
3:i:105:VAL:HG11	3:i:138:HIS:HB2	2.00	0.44
4:c:46:ARG:HH21	4:c:167:LYS:HA	1.83	0.44
8:m:71:ASP:HB3	8:m:74:ILE:HG12	2.00	0.44
17:L:175:GLN:H	17:L:243:PHE:HB3	1.83	0.44
21:O:175:ASN:HA	21:O:178:TYR:HB3	1.99	0.44
8:E:117:CYS:HA	8:E:120:ALA:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:1:176:HIS:CD2	26:1:215:LEU:HD13	2.52	0.44
27:4:140:THR:O	27:4:143:LEU:N	2.51	0.44
32:Z:347:ASN:HB3	32:Z:353:VAL:HG23	1.99	0.44
1:I:172:LYS:HZ3	1:I:246:ARG:HB3	1.82	0.43
15:Q:97:LEU:HD21	15:Q:137:LEU:HD11	2.00	0.43
15:Q:338:LEU:HA	15:Q:341:THR:HB	2.00	0.43
15:Q:373:VAL:HG22	15:Q:377:LEU:HG	2.00	0.43
21:O:83:LEU:HD11	21:O:98:TYR:HB3	2.00	0.43
21:O:189:TYR:HA	21:O:220:SER:HB2	1.99	0.43
23:H:180:LYS:HD3	23:H:180:LYS:HA	1.78	0.43
3:2:41:VAL:HG11	3:2:130:ALA:HB1	2.00	0.43
29:6:105:ILE:HG12	29:6:133:LEU:H	1.83	0.43
30:7:76:ILE:HG22	30:7:78:VAL:HG23	1.99	0.43
32:Z:272:TYR:HB3	32:Z:277:GLU:H	1.82	0.43
32:Z:924:LYS:HE2	32:Z:993:GLU:HG3	1.99	0.43
29:e:221:LEU:N	29:e:236:TYR:O	2.44	0.43
3:i:92:ILE:HD12	3:i:107:SER:HB3	1.98	0.43
13:T:161:TRP:HH2	13:T:182:LYS:HE3	1.82	0.43
14:R:346:LYS:HB2	15:Q:389:VAL:HB	2.00	0.43
16:J:195:LYS:HG2	16:J:316:PHE:CE2	2.52	0.43
16:J:248:ASP:C	16:J:250:ILE:H	2.26	0.43
22:P:173:MET:O	22:P:177:ILE:HG13	2.18	0.43
7:F:106:GLU:HG2	30:7:110:ASP:HB3	1.99	0.43
27:4:41:HIS:NE2	27:4:186:LYS:O	2.47	0.43
25:j:77:GLY:HA3	25:j:132:VAL:HG12	1.98	0.43
30:a:69:PHE:HE2	26:b:133:PRO:HD3	1.82	0.43
26:b:27:PHE:CE2	26:b:32:ILE:HG13	2.54	0.43
27:g:141:PHE:HD1	27:g:144:LEU:HD12	1.82	0.43
6:k:52:LYS:NZ	6:k:60:VAL:O	2.51	0.43
11:N:4:THR:HG23	11:N:8:PRO:HG2	2.01	0.43
11:N:779:GLU:HA	11:N:783:SER:HB2	1.99	0.43
12:S:453:ASP:OD1	12:S:454:SER:N	2.48	0.43
8:E:88:MET:O	8:E:92:ALA:N	2.51	0.43
25:B:70:ASP:HB2	25:B:104:TYR:OH	2.18	0.43
27:4:29:LYS:HB2	28:5:202:PHE:CE1	2.53	0.43
31:X:37:PRO:HD3	31:X:46:TRP:CZ3	2.52	0.43
28:f:237:LEU:HD11	28:f:272:PHE:HD1	1.83	0.43
33:V:135:ARG:HA	33:V:157:ARG:HH22	1.82	0.43
7:l:232:LYS:HE3	7:l:233:TYR:CZ	2.52	0.43
8:m:86:ARG:HA	8:m:89:ILE:HD12	1.99	0.43
14:R:227:ALA:HB1	14:R:231:LEU:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J:189:GLY:H	16:J:195:LYS:HZ2	1.66	0.43
20:W:16:SER:OG	20:W:115:CYS:SG	2.76	0.43
21:O:23:HIS:CG	21:O:24:PRO:HD2	2.53	0.43
21:O:116:ASN:ND2	21:O:160:LYS:HD3	2.33	0.43
22:P:283:LYS:HB2	22:P:286:ASN:CG	2.43	0.43
6:G:50:VAL:HG21	6:G:66:LYS:HB2	1.99	0.43
8:E:107:ILE:HD13	8:E:112:LEU:HD13	2.00	0.43
3:2:185:SER:HB3	3:2:220:LEU:HD11	1.98	0.43
5:3:68:ARG:HA	5:3:71:THR:HB	2.01	0.43
27:4:61:GLN:HG2	27:4:65:GLN:HG2	2.00	0.43
31:X:16:GLU:N	31:X:24:CYS:SG	2.91	0.43
31:X:32:GLU:HB2	31:X:51:ARG:HB3	2.00	0.43
32:Z:785:VAL:HG23	32:Z:817:LEU:HB3	1.99	0.43
33:V:176:ASN:HD21	33:V:200:ASN:ND2	2.16	0.43
2:K:109:ILE:HB	2:K:119:VAL:HG22	1.99	0.43
11:N:142:GLU:HA	11:N:145:LEU:HB2	2.00	0.43
12:S:403:SER:HB3	14:R:384:VAL:HG11	2.00	0.43
14:R:346:LYS:O	14:R:389:GLU:HA	2.19	0.43
17:L:125:PRO:HG2	17:L:127:TYR:CZ	2.54	0.43
17:L:149:ASP:HB2	17:L:156:MET:HE2	1.98	0.43
22:P:145:GLU:HA	22:P:148:LYS:HD3	1.99	0.43
23:H:275:ILE:HA	23:H:309:ASP:HB3	1.99	0.43
26:1:14:GLY:HA3	3:2:145:HIS:ND1	2.34	0.43
27:4:61:GLN:HA	27:4:64:ILE:HB	2.00	0.43
28:5:86:GLY:HA3	28:5:254:HIS:CE1	2.54	0.43
29:e:128:THR:HB	29:e:144:PHE:CD2	2.53	0.43
1:I:340:ARG:HD3	1:I:343:ARG:CG	2.49	0.43
2:K:96:ILE:HD12	17:L:126:ARG:HB3	2.00	0.43
8:m:84:ASP:OD2	8:m:136:ARG:NH1	2.52	0.43
9:n:4:TYR:CZ	9:n:6:ARG:HB2	2.54	0.43
21:O:226:LYS:HG2	21:O:227:ILE:HG13	2.01	0.43
23:H:179:SER:C	23:H:181:TYR:H	2.26	0.43
4:A:13:ASP:HB3	4:A:27:GLN:NE2	2.33	0.43
4:A:53:VAL:HG11	4:A:144:VAL:HG21	1.99	0.43
27:4:171:ARG:NH2	28:f:201:ILE:HD12	2.34	0.43
31:X:85:ARG:HD2	31:X:101:LEU:HB3	2.00	0.43
33:V:27:VAL:HG11	33:V:201:ILE:HG12	2.01	0.43
2:K:157:SER:HB2	17:L:109:MET:HB3	2.00	0.43
11:N:203:ARG:HG2	11:N:232:LEU:HD21	2.01	0.43
14:R:38:VAL:HG12	14:R:39:SER:N	2.32	0.43
18:M:151:ASP:OD1	18:M:152:SER:N	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:228:LYS:HG3	18:M:326:ALA:HB1	2.01	0.43
8:E:156:PHE:HE1	8:E:166:ARG:HG3	1.84	0.43
28:5:130:TRP:O	28:5:134:LEU:N	2.50	0.43
32:Z:415:MET:HG3	32:Z:446:GLU:HB2	2.01	0.43
25:j:33:THR:HA	25:j:165:GLY:HA3	2.00	0.43
30:a:192:VAL:HG13	30:a:197:ASP:HB2	2.00	0.43
27:g:99:GLN:HG3	27:g:121:TYR:CG	2.53	0.43
2:K:150:LEU:HB3	2:K:154:SER:HB2	2.00	0.43
4:c:78:THR:HG22	4:c:231:ASP:HA	2.00	0.43
7:l:41:ASN:HD22	7:l:183:ASP:CG	2.25	0.43
8:m:56:SER:OG	9:n:172:ARG:NH1	2.41	0.43
11:N:548:ARG:HD2	11:N:583:VAL:HG22	2.00	0.43
12:S:434:ALA:HB2	12:S:445:THR:HG22	2.00	0.43
14:R:195:ASN:O	14:R:206:ARG:NH2	2.51	0.43
16:J:84:VAL:O	16:J:96:VAL:N	2.41	0.43
4:A:78:THR:HG22	4:A:231:ASP:HA	2.01	0.43
7:F:132:LEU:HB2	7:F:147:PHE:HB3	2.01	0.43
9:D:111:ARG:O	9:D:115:GLY:N	2.52	0.43
29:6:161:ALA:HB2	29:6:214:HIS:CD2	2.53	0.43
31:X:55:LYS:HE2	31:X:63:PRO:HD3	2.01	0.43
32:Z:372:ALA:O	32:Z:374:LEU:HG	2.18	0.43
29:e:76:PHE:HE2	29:e:78:ALA:HB3	1.84	0.43
5:h:56:LEU:O	5:h:60:VAL:HG23	2.18	0.43
6:k:167:LYS:HD3	6:k:207:ASN:HD21	1.83	0.43
6:k:194:LYS:HE2	6:k:238:GLU:HG2	2.01	0.43
9:n:187:THR:HG22	9:n:189:GLU:H	1.84	0.43
11:N:312:GLY:HA2	11:N:315:ASN:HB3	2.01	0.43
15:Q:219:ASP:HB3	15:Q:238:TYR:HB3	2.01	0.43
7:F:91:GLN:HA	7:F:94:TYR:HB3	2.01	0.43
25:B:39:ALA:C	25:B:41:ASN:H	2.26	0.43
3:2:217:ARG:HG2	3:2:218:ASN:ND2	2.33	0.43
28:5:96:THR:HG21	28:5:245:TYR:HA	2.01	0.43
2:K:371:LEU:O	2:K:375:ASN:ND2	2.24	0.43
11:N:33:ASP:HB3	11:N:71:ASN:HD21	1.84	0.43
11:N:419:THR:HB	11:N:423:LEU:HD13	2.01	0.43
12:S:208:ILE:HB	13:T:44:LEU:HD11	2.01	0.43
12:S:226:ASP:HB3	12:S:230:LYS:HB2	2.01	0.43
9:D:32:CYS:O	9:D:63:LYS:NZ	2.52	0.43
24:C:89:ASN:ND2	5:3:77:LYS:HE2	2.34	0.43
3:2:50:THR:HG21	3:2:197:GLY:HA2	2.01	0.43
32:Z:269:TYR:OH	32:Z:276:ASN:OD1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:d:108:VAL:O	24:d:112:VAL:HG23	2.19	0.43
30:a:58:ASP:HA	30:a:228:PHE:HA	2.01	0.43
27:g:158:LEU:HD13	27:g:198:GLN:HE22	1.84	0.43
33:V:111:HIS:CD2	33:V:118:LEU:HB3	2.54	0.43
3:i:113:LYS:HD3	26:b:73:ALA:HB2	2.00	0.42
3:i:217:ARG:HG2	3:i:218:ASN:ND2	2.34	0.42
12:S:286:TYR:HE1	12:S:382:ARG:HD3	1.84	0.42
14:R:239:THR:HG23	14:R:241:ILE:H	1.83	0.42
17:L:420:ARG:HD3	6:G:170:GLN:HB3	2.00	0.42
22:P:280:LEU:HA	22:P:283:LYS:HE2	2.01	0.42
4:A:13:ASP:HB2	4:A:26:TYR:HB2	2.00	0.42
8:E:49:GLY:HA2	8:E:219:LEU:HA	1.99	0.42
8:E:70:ILE:HA	8:E:93:ARG:HG2	2.00	0.42
27:4:126:VAL:HG22	27:4:128:LEU:HG	2.00	0.42
28:5:188:TYR:HE1	28:5:198:LYS:HG3	1.83	0.42
32:Z:277:GLU:OE1	32:Z:974:THR:OG1	2.36	0.42
2:K:244:HIS:HB2	2:K:249:GLU:HB3	2.01	0.42
11:N:770:LYS:HA	11:N:870:ASN:ND2	2.28	0.42
14:R:154:LEU:HD21	14:R:170:VAL:HA	2.01	0.42
16:J:84:VAL:N	16:J:96:VAL:O	2.43	0.42
17:L:90:LYS:HB3	18:M:133:GLY:HA3	2.01	0.42
18:M:70:LYS:HA	18:M:73:ARG:HB3	2.01	0.42
21:O:306:ARG:HH12	21:O:349:THR:HG23	1.84	0.42
23:H:357:ARG:HH21	23:H:466:TYR:H	1.67	0.42
26:1:40:THR:HG22	26:1:44:TYR:O	2.18	0.42
3:2:123:ILE:HG12	5:3:99:ARG:HE	1.84	0.42
5:3:176:ASP:O	28:f:104:GLN:NE2	2.52	0.42
28:5:119:THR:OG1	28:5:175:MET:N	2.46	0.42
32:Z:407:VAL:HG12	32:Z:409:LYS:H	1.84	0.42
26:b:147:GLY:O	26:b:154:TYR:OH	2.31	0.42
29:e:76:PHE:CE2	29:e:78:ALA:HB3	2.54	0.42
33:V:67:ASP:HA	33:V:100:ARG:NH2	2.34	0.42
2:K:241:GLU:HG3	2:K:245:LYS:HE2	2.01	0.42
2:K:392:LEU:HD11	17:L:215:PRO:HG3	2.01	0.42
11:N:769:PRO:HG2	11:N:771:PHE:CE2	2.54	0.42
12:S:475:TYR:CE2	19:U:291:LEU:HB2	2.55	0.42
13:T:267:ALA:HA	13:T:270:ILE:HD12	2.01	0.42
26:1:152:PHE:CZ	30:a:66:LEU:HD23	2.54	0.42
25:j:39:ALA:C	25:j:41:ASN:H	2.27	0.42
25:j:66:LEU:O	25:j:90:ARG:NH2	2.53	0.42
25:j:146:SER:HB2	25:j:148:TYR:CE2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:e:110:ARG:HA	29:e:150:TYR:OH	2.18	0.42
1:I:306:MET:HG3	1:I:338:LEU:HD21	2.02	0.42
2:K:306:PHE:CE1	2:K:312:VAL:HB	2.54	0.42
4:c:17:THR:O	25:j:128:ARG:NE	2.53	0.42
5:h:188:TYR:HE1	5:h:197:LYS:HG3	1.83	0.42
11:N:768:ILE:O	11:N:917:ILE:HG22	2.19	0.42
17:L:219:LEU:HD13	17:L:343:LEU:HD13	2.01	0.42
18:M:146:VAL:HA	18:M:159:LEU:H	1.85	0.42
18:M:166:ARG:HB3	18:M:269:LEU:HD22	2.01	0.42
18:M:170:MET:HE3	23:H:180:LYS:HZ3	1.83	0.42
21:O:371:VAL:O	21:O:375:ASP:N	2.50	0.42
22:P:234:TYR:CD2	22:P:270:LEU:HD13	2.54	0.42
23:H:225:VAL:HA	23:H:350:LYS:HE3	2.02	0.42
26:1:193:ARG:HH11	26:1:206:ILE:HD12	1.82	0.42
29:6:98:HIS:HB3	29:6:101:LYS:HB3	2.01	0.42
32:Z:246:CYS:HB2	32:Z:272:TYR:OH	2.19	0.42
32:Z:493:LEU:HD12	32:Z:496:ALA:HB3	2.00	0.42
24:d:79:GLY:HA3	24:d:133:VAL:HG22	2.00	0.42
1:I:129:TYR:HB3	23:H:171:GLY:C	2.45	0.42
13:T:3:SER:HA	13:T:9:LYS:HB3	2.01	0.42
13:T:85:LEU:HA	13:T:88:TYR:CD2	2.54	0.42
19:U:16:LEU:HB3	33:V:32:ILE:HG12	2.02	0.42
19:U:21:HIS:CD2	33:V:100:ARG:HB2	2.54	0.42
20:W:21:PHE:HB2	20:W:25:ARG:CZ	2.49	0.42
21:O:258:LEU:HB3	21:O:291:ILE:HG12	2.00	0.42
6:G:60:VAL:HG21	7:F:39:ARG:NH2	2.33	0.42
9:D:117:GLN:HA	9:D:120:TYR:CD2	2.55	0.42
9:D:138:PHE:HE1	9:D:145:PRO:HB3	1.84	0.42
8:E:40:ILE:O	8:E:47:VAL:N	2.49	0.42
8:E:89:ILE:O	8:E:93:ARG:HB2	2.20	0.42
32:Z:494:GLY:HA2	32:Z:497:PHE:CD2	2.55	0.42
32:Z:562:TRP:HA	32:Z:565:PHE:CD2	2.55	0.42
29:e:160:ALA:HB3	29:e:214:HIS:CE1	2.54	0.42
1:I:183:ASP:HB3	1:I:365:HIS:HE2	1.84	0.42
2:K:112:SER:OG	2:K:116:MET:O	2.35	0.42
5:h:18:LYS:HD2	5:h:157:ASN:HB3	2.02	0.42
6:k:100:LYS:O	30:a:98:ARG:HD2	2.19	0.42
7:l:4:ASN:HA	7:l:7:ASP:HB3	2.01	0.42
8:m:49:GLY:HA2	8:m:219:LEU:HA	2.01	0.42
8:m:156:PHE:HE1	8:m:166:ARG:HG3	1.84	0.42
9:n:68:ASP:OD1	9:n:69:SER:N	2.43	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:357:ARG:NH2	18:M:383:THR:O	2.53	0.42
21:O:50:ASP:OD1	21:O:51:ASP:N	2.52	0.42
6:G:7:GLY:HA2	4:A:15:HIS:CE1	2.54	0.42
6:G:167:LYS:HG2	6:G:207:ASN:HD21	1.85	0.42
5:3:151:GLU:HB3	29:e:209:SER:HB3	2.02	0.42
28:5:96:THR:HA	28:5:101:VAL:HA	2.02	0.42
29:6:109:ALA:HB2	29:6:130:ILE:HD13	2.01	0.42
32:Z:283:ALA:HB2	32:Z:317:GLN:OE1	2.19	0.42
2:K:246:TYR:CG	2:K:247:LEU:N	2.88	0.42
5:h:120:PHE:CE2	5:h:122:ALA:HB2	2.54	0.42
11:N:9:LEU:HD21	13:T:80:ASN:ND2	2.35	0.42
15:Q:262:LEU:HD11	15:Q:281:ILE:HG21	2.01	0.42
6:G:69:VAL:HG21	6:G:228:HIS:CE1	2.54	0.42
24:C:136:ILE:HG12	24:C:150:THR:HG23	2.02	0.42
5:3:58:THR:HG23	27:4:89:ALA:HB1	2.01	0.42
32:Z:896:LYS:O	32:Z:897:HIS:CG	2.72	0.42
24:d:59:GLN:NE2	24:d:209:ASP:O	2.47	0.42
30:a:183:MET:C	30:a:186:PRO:HD2	2.44	0.42
1:I:147:VAL:HG12	1:I:159:VAL:HG23	2.01	0.42
7:l:39:ARG:NH1	7:l:142:ALA:O	2.52	0.42
7:l:60:GLN:HE21	7:l:62:LYS:NZ	2.16	0.42
13:T:136:LEU:HD23	13:T:142:LEU:HD13	2.01	0.42
19:U:72:TYR:H	20:W:64:THR:HG21	1.84	0.42
19:U:174:LEU:O	33:V:205:LYS:NZ	2.41	0.42
3:2:206:VAL:HB	3:2:214:GLU:HB2	2.02	0.42
32:Z:494:GLY:HA2	32:Z:497:PHE:CE2	2.55	0.42
24:d:98:TYR:CD2	24:d:106:ILE:HB	2.54	0.42
25:j:32:VAL:O	25:j:76:SER:OG	2.32	0.42
1:I:433:GLU:HB3	1:I:436:TYR:HE2	1.85	0.42
2:K:285:GLN:O	2:K:289:ASP:HB3	2.20	0.42
2:K:349:ARG:HG2	2:K:383:ILE:HD11	2.02	0.42
2:K:421:VAL:HG11	4:A:33:LYS:HA	2.01	0.42
7:l:45:VAL:HG11	7:l:190:ILE:HA	2.01	0.42
12:S:345:TYR:HD1	12:S:348:LEU:HD12	1.84	0.42
16:J:97:ASP:OD1	16:J:98:VAL:N	2.53	0.42
18:M:432:PHE:HD2	7:F:77:LEU:HD13	1.84	0.42
7:F:19:LEU:HG	7:F:21:GLN:H	1.83	0.42
7:F:101:ARG:HG2	30:7:124:TYR:OH	2.20	0.42
32:Z:166:ASN:HD21	32:Z:226:GLU:C	2.28	0.42
32:Z:376:SER:O	32:Z:379:GLN:N	2.53	0.42
30:a:62:SER:HA	30:a:68:ARG:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:h:104:PHE:HD1	5:h:126:LEU:HD22	1.84	0.42
15:Q:37:GLN:HB2	15:Q:48:ASP:HB3	2.02	0.42
19:U:188:ILE:HG21	33:V:218:LYS:NZ	2.34	0.42
23:H:311:ILE:HG12	23:H:354:ALA:O	2.20	0.42
4:A:54:ILE:HG12	4:A:225:VAL:HG13	2.01	0.42
26:1:54:THR:O	26:1:62:CYS:N	2.52	0.42
28:5:200:ASP:OD1	28:5:201:ILE:N	2.48	0.42
30:7:49:TYR:HE1	30:7:51:ASN:HB2	1.84	0.42
30:7:225:SER:OG	30:7:226:ARG:N	2.53	0.42
32:Z:442:VAL:HG12	32:Z:443:ASP:N	2.34	0.42
32:Z:785:VAL:HG11	32:Z:881:ILE:HD13	2.01	0.42
25:j:157:PHE:HB3	25:j:159:TRP:CD1	2.55	0.42
26:b:113:THR:HB	26:b:134:LEU:HD11	2.02	0.42
26:b:179:SER:HB3	26:b:212:TYR:HB2	2.02	0.42
28:f:103:SER:HB3	28:f:106:VAL:HG23	2.01	0.42
27:g:18:SER:HA	27:g:179:VAL:HG12	2.02	0.42
1:I:170:VAL:HG23	16:J:231:ARG:HD3	2.01	0.41
1:I:231:LEU:HD23	1:I:234:LYS:HD2	2.02	0.41
2:K:250:GLY:O	2:K:254:VAL:HG23	2.20	0.41
6:k:93:ARG:NH1	30:a:109:TYR:HB3	2.34	0.41
9:n:117:GLN:HA	9:n:120:TYR:CD2	2.54	0.41
12:S:404:LEU:HB2	12:S:441:GLY:HA3	2.02	0.41
13:T:162:ASP:O	13:T:166:SER:OG	2.33	0.41
18:M:82:VAL:O	18:M:143:ASN:N	2.53	0.41
22:P:277:GLN:HA	22:P:280:LEU:HD12	2.02	0.41
23:H:98:GLN:HA	23:H:194:SER:HB2	2.02	0.41
23:H:403:ARG:HH22	8:E:206:GLN:HA	1.85	0.41
4:A:40:ILE:HG12	4:A:71:TYR:HE2	1.85	0.41
7:F:46:LEU:HB2	7:F:214:ALA:HB3	2.01	0.41
25:B:71:ILE:HG23	25:B:137:ALA:O	2.20	0.41
28:5:82:ARG:NE	28:5:200:ASP:HB3	2.34	0.41
30:7:115:ASP:OD1	30:7:116:ALA:N	2.53	0.41
32:Z:180:ASP:OD1	32:Z:181:GLY:N	2.53	0.41
25:j:71:ILE:HG23	25:j:137:ALA:O	2.20	0.41
29:e:128:THR:HB	29:e:144:PHE:HD2	1.85	0.41
33:V:42:ARG:CZ	33:V:147:VAL:HG12	2.50	0.41
1:I:225:PRO:HG2	16:J:306:ARG:NH2	2.34	0.41
1:I:268:PHE:HE1	1:I:279:VAL:HG21	1.85	0.41
5:h:35:GLY:HA3	5:h:183:TRP:CH2	2.55	0.41
8:m:134:MET:HE3	8:m:137:PRO:HA	2.01	0.41
9:n:7:ALA:HA	9:n:124:GLY:HA3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:N:371:LEU:HB3	11:N:375:HIS:HD2	1.85	0.41
11:N:378:ASN:OD1	11:N:924:LYS:NZ	2.41	0.41
13:T:73:PHE:CE1	13:T:176:SER:HB3	2.55	0.41
17:L:263:ILE:HG23	17:L:266:MET:HE2	2.01	0.41
17:L:327:THR:HG21	17:L:333:LEU:HD11	2.01	0.41
18:M:82:VAL:HB	18:M:144:ASP:HB3	2.02	0.41
22:P:60:ALA:HA	22:P:96:MET:HG2	2.01	0.41
23:H:95:HIS:HD2	23:H:189:PRO:HB3	1.86	0.41
23:H:365:LEU:O	23:H:370:ARG:HD2	2.20	0.41
6:G:102:LEU:HA	26:1:103:GLU:HG3	2.00	0.41
24:C:48:ALA:N	24:C:212:GLU:O	2.53	0.41
32:Z:474:LEU:HD21	32:Z:509:LEU:HD21	2.02	0.41
32:Z:809:MET:HE1	32:Z:892:SER:HB2	2.01	0.41
26:b:132:ILE:HG12	26:b:138:VAL:HA	2.03	0.41
26:b:151:THR:HA	26:b:154:TYR:CD2	2.55	0.41
26:b:152:PHE:HE2	26:b:184:TRP:HB2	1.83	0.41
29:e:31:ILE:HG22	29:e:44:GLY:HA3	2.02	0.41
28:f:107:LYS:HE2	28:f:109:VAL:HB	2.01	0.41
28:f:200:ASP:OD1	28:f:201:ILE:N	2.47	0.41
33:V:273:ARG:HG3	33:V:274:GLN:N	2.34	0.41
2:K:368:LEU:HD23	2:K:407:LEU:HD13	2.01	0.41
4:c:13:ASP:HB2	4:c:26:TYR:HB2	2.03	0.41
5:h:30:GLY:HA2	5:h:36:VAL:HG23	2.01	0.41
7:l:41:ASN:ND2	7:l:183:ASP:OD2	2.43	0.41
11:N:20:VAL:HG23	11:N:21:LYS:H	1.86	0.41
16:J:216:ALA:N	16:J:249:GLU:OE1	2.51	0.41
17:L:301:ILE:HG13	18:M:299:ARG:HD3	2.01	0.41
20:W:179:ARG:HG2	20:W:180:LEU:N	2.33	0.41
23:H:434:ARG:CZ	32:Z:956:LEU:HB2	2.51	0.41
4:A:114:CYS:HG	4:A:153:SER:HG	1.53	0.41
24:C:235:ILE:HA	24:C:238:ILE:HD12	2.02	0.41
29:e:156:ARG:HA	29:e:166:MET:SD	2.61	0.41
4:c:79:ILE:HD11	4:c:112:MET:O	2.20	0.41
5:h:8:ASN:HA	5:h:30:GLY:O	2.20	0.41
11:N:399:PHE:HA	11:N:441:VAL:HG22	2.01	0.41
15:Q:227:CYS:HB3	15:Q:334:HIS:CE1	2.56	0.41
17:L:88:TYR:CE1	18:M:61:LYS:HD3	2.55	0.41
17:L:248:ALA:HB2	17:L:283:VAL:HG22	2.03	0.41
17:L:285:ALA:HB1	18:M:299:ARG:NE	2.35	0.41
18:M:253:GLN:HB2	18:M:258:GLU:HB3	2.02	0.41
19:U:69:ASP:HB3	19:U:72:TYR:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:9:ASP:OD1	6:G:10:LEU:N	2.53	0.41
4:A:98:LYS:HD3	26:1:88:GLN:HG2	2.02	0.41
7:F:47:VAL:HG22	7:F:213:ILE:HG12	2.03	0.41
7:F:50:LYS:NZ	7:F:62:LYS:H	2.18	0.41
9:D:66:LYS:HB3	27:4:69:ILE:HG23	2.02	0.41
25:B:138:GLY:O	25:B:146:SER:N	2.53	0.41
27:4:29:LYS:HB2	28:5:202:PHE:HE1	1.85	0.41
27:4:104:ILE:HD12	27:4:119:ILE:HD12	2.03	0.41
32:Z:158:ALA:HB1	32:Z:223:LEU:HD11	2.02	0.41
33:V:36:LYS:NZ	33:V:69:PHE:HA	2.35	0.41
2:K:90:GLN:HB3	2:K:147:VAL:HG22	2.01	0.41
4:c:135:ARG:HB2	6:k:13:SER:HA	2.02	0.41
9:n:66:LYS:O	9:n:90:ARG:NE	2.52	0.41
9:n:77:GLY:HA3	9:n:131:VAL:HG22	2.01	0.41
11:N:479:GLU:HB2	11:N:512:ASN:HB3	2.01	0.41
16:J:118:ASP:OD1	16:J:119:SER:N	2.53	0.41
17:L:137:ARG:HA	17:L:140:LEU:HD12	2.02	0.41
21:O:76:LEU:HB3	21:O:123:GLY:N	2.35	0.41
6:G:52:LYS:NZ	6:G:60:VAL:O	2.53	0.41
4:A:141:LEU:HB2	4:A:157:THR:HB	2.03	0.41
9:D:72:VAL:HG21	9:D:221:ILE:HG12	2.01	0.41
9:D:149:GLN:O	9:D:156:TYR:HA	2.20	0.41
8:E:201:LEU:HB3	8:E:243:LEU:HD22	2.02	0.41
24:C:112:VAL:HG22	24:C:137:TYR:CD2	2.55	0.41
25:B:105:PRO:HG2	25:B:110:LEU:HD13	2.02	0.41
26:1:38:ARG:NH2	26:1:189:GLY:HA3	2.36	0.41
28:5:82:ARG:H	28:5:200:ASP:HB2	1.85	0.41
31:X:10:PHE:CE2	31:X:12:ALA:HB2	2.56	0.41
32:Z:382:ALA:O	32:Z:849:ARG:NH1	2.54	0.41
24:d:160:TRP:CD1	24:d:163:ILE:HD13	2.55	0.41
25:j:146:SER:HB2	25:j:148:TYR:HE2	1.85	0.41
30:a:36:GLN:HE21	30:a:38:ILE:HD11	1.85	0.41
30:a:44:VAL:H	30:a:177:THR:HB	1.85	0.41
33:V:271:VAL:HB	33:V:275:ASP:HB2	2.02	0.41
1:I:391:ASP:OD1	16:J:307:PRO:HG3	2.20	0.41
2:K:425:ASP:OD1	4:A:24:ARG:NH1	2.53	0.41
4:c:136:PRO:HG2	6:k:15:PHE:CZ	2.55	0.41
6:k:50:VAL:HG21	6:k:66:LYS:HB2	2.03	0.41
11:N:785:PRO:HD2	11:N:873:ARG:NH1	2.34	0.41
16:J:116:ARG:HG3	16:J:121:MET:HB3	2.03	0.41
22:P:393:VAL:HG13	22:P:400:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:H:451:ILE:O	23:H:455:LYS:HB3	2.20	0.41
6:G:38:ILE:HG12	6:G:200:ILE:HD11	2.02	0.41
9:D:72:VAL:HB	9:D:215:VAL:HG22	2.02	0.41
24:C:137:TYR:N	24:C:149:TYR:O	2.49	0.41
25:B:49:LYS:HD2	25:B:210:GLU:HB2	2.03	0.41
26:1:133:PRO:HD3	30:7:69:PHE:HE2	1.86	0.41
5:3:21:VAL:HB	5:3:190:ILE:HB	2.02	0.41
27:4:175:ASP:HB3	27:4:177:LYS:HE2	2.02	0.41
24:d:232:PRO:HA	24:d:235:ILE:HD12	2.02	0.41
25:j:231:LYS:HD3	25:j:234:ARG:HH21	1.84	0.41
28:f:166:LYS:NZ	28:f:193:ASP:OD1	2.54	0.41
1:I:181:TYR:CD1	1:I:184:ILE:HD11	2.55	0.41
2:K:345:ASP:OD1	2:K:346:ARG:N	2.43	0.41
3:i:192:ILE:HG23	3:i:199:GLY:HA2	2.02	0.41
4:c:64:LEU:HD22	6:k:158:TRP:HE1	1.86	0.41
5:h:2:SER:OG	5:h:3:ASP:N	2.51	0.41
5:h:109:VAL:HB	5:h:122:ALA:HB3	2.01	0.41
13:T:57:ILE:O	13:T:61:ILE:HG13	2.20	0.41
16:J:51:LEU:HD23	16:J:54:LYS:HD2	2.01	0.41
17:L:400:PHE:HB3	18:M:195:GLU:OE1	2.20	0.41
18:M:63:LYS:HA	18:M:66:LYS:HD2	2.02	0.41
18:M:228:LYS:NZ	18:M:328:ASN:OD1	2.53	0.41
21:O:169:ASN:OD1	21:O:198:THR:OG1	2.21	0.41
22:P:56:LYS:HD2	22:P:92:SER:HB3	2.01	0.41
24:C:94:HIS:HB3	24:C:114:ARG:HH11	1.85	0.41
26:1:27:PHE:CE2	26:1:32:ILE:HG13	2.56	0.41
27:4:145:ASP:HA	27:4:148:TYR:HB3	2.02	0.41
29:6:221:LEU:N	29:6:236:TYR:O	2.52	0.41
31:X:15:CYS:SG	31:X:16:GLU:N	2.94	0.41
32:Z:813:PHE:CE1	32:Z:847:ILE:HG23	2.55	0.41
2:K:275:ASP:HB3	2:K:318:THR:OG1	2.20	0.41
4:c:218:PHE:HB3	4:c:222:ASP:HB2	2.03	0.41
6:k:204:HIS:O	6:k:208:LYS:HB2	2.20	0.41
7:l:2:PHE:CE2	7:l:4:ASN:HB2	2.55	0.41
7:l:62:LYS:HD2	7:l:74:LEU:HD11	2.03	0.41
8:m:83:ALA:HB3	8:m:136:ARG:NH2	2.36	0.41
15:Q:66:VAL:HA	15:Q:71:LYS:HG3	2.03	0.41
19:U:32:ARG:HG3	19:U:95:SER:HB2	2.02	0.41
23:H:177:ASP:C	23:H:179:SER:N	2.78	0.41
23:H:210:ASP:OD1	23:H:388:ILE:HD11	2.21	0.41
6:G:194:LYS:HE2	6:G:238:GLU:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:71:ASP:HB3	8:E:74:ILE:HG12	2.01	0.41
25:B:231:LYS:HD3	25:B:234:ARG:HH21	1.86	0.41
28:5:205:GLY:N	28:5:208:GLN:HB3	2.36	0.41
30:7:39:VAL:O	30:7:89:ASP:HA	2.21	0.41
32:Z:208:VAL:O	32:Z:212:LEU:HG	2.21	0.41
1:I:331:ILE:O	1:I:335:ASP:N	2.54	0.41
2:K:248:GLY:O	2:K:252:ARG:HG2	2.20	0.41
3:i:113:LYS:NZ	26:b:72:GLN:O	2.42	0.41
6:k:23:GLN:NE2	7:l:11:VAL:O	2.54	0.41
8:m:133:LEU:O	9:n:124:GLY:N	2.51	0.41
11:N:55:PHE:CZ	11:N:57:ASP:HB2	2.56	0.41
11:N:120:ASP:OD1	11:N:121:GLU:N	2.53	0.41
12:S:234:ILE:O	12:S:238:LEU:N	2.43	0.41
12:S:241:PHE:HA	12:S:244:ASN:O	2.21	0.41
12:S:293:ILE:HD13	12:S:320:ILE:HD12	2.03	0.41
20:W:113:PHE:HE1	20:W:142:ILE:HD13	1.86	0.41
21:O:81:TYR:HA	21:O:84:ALA:HB3	2.03	0.41
22:P:268:LEU:HB3	22:P:277:GLN:NE2	2.36	0.41
22:P:307:GLU:C	22:P:309:MET:H	2.28	0.41
7:F:67:ASP:OD1	7:F:68:GLU:N	2.43	0.41
24:C:122:TYR:HD2	24:C:130:PRO:HA	1.86	0.41
27:4:34:LYS:HD3	27:4:53:THR:HG21	2.02	0.41
29:6:124:TYR:HE1	30:7:137:ARG:HH12	1.67	0.41
30:7:44:VAL:H	30:7:177:THR:HB	1.85	0.41
32:Z:243:GLN:HE21	32:Z:277:GLU:CD	2.28	0.41
32:Z:243:GLN:O	32:Z:247:GLN:HG3	2.21	0.41
32:Z:407:VAL:C	32:Z:409:LYS:H	2.29	0.41
24:d:101:THR:HG23	27:g:83:PHE:HD1	1.85	0.41
29:e:161:ALA:HB2	29:e:214:HIS:CD2	2.56	0.41
28:f:82:ARG:H	28:f:200:ASP:HB2	1.85	0.41
28:f:82:ARG:NE	28:f:200:ASP:HB3	2.35	0.41
33:V:284:ALA:O	33:V:287:THR:OG1	2.34	0.41
4:c:40:ILE:HG12	4:c:71:TYR:CE2	2.56	0.41
8:m:31:ILE:HD12	8:m:141:ALA:HB2	2.03	0.41
11:N:893:VAL:HG22	11:N:906:ARG:HH11	1.85	0.41
15:Q:145:HIS:HA	15:Q:148:LYS:HB3	2.02	0.41
17:L:329:ARG:HH11	17:L:331:ASP:HB3	1.85	0.41
19:U:32:ARG:HA	19:U:95:SER:HB2	2.02	0.41
23:H:176:VAL:H	23:H:190:ARG:HB2	1.86	0.41
23:H:316:GLY:HA2	23:H:360:THR:O	2.21	0.41
4:A:164:VAL:HG23	25:B:61:LEU:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:1:155:GLY:HA3	26:b:152:PHE:HB3	2.03	0.41
3:2:33:VAL:HG22	3:2:188:ILE:HD11	2.03	0.41
3:2:38:ASN:HD21	3:2:174:ASP:HA	1.86	0.41
27:4:141:PHE:HD1	27:4:144:LEU:HD12	1.86	0.41
28:5:128:GLN:NE2	29:6:150:TYR:O	2.53	0.41
28:5:253:TYR:HE1	28:5:262:TYR:HD1	1.69	0.41
30:7:183:MET:C	30:7:186:PRO:HD2	2.45	0.41
33:V:189:ILE:HG12	33:V:196:TYR:CE2	2.55	0.41
1:I:371:LEU:HD21	1:I:377:LEU:HD21	2.03	0.40
4:c:25:LEU:HB2	4:c:28:VAL:HG23	2.03	0.40
5:h:178:ASP:OD1	5:h:179:ALA:N	2.54	0.40
6:k:150:MET:HB3	6:k:160:TYR:CD2	2.56	0.40
11:N:894:ARG:NH1	11:N:896:PHE:HB3	2.35	0.40
14:R:36:SER:O	14:R:43:ARG:HD3	2.21	0.40
14:R:271:ILE:HA	14:R:276:LEU:HD23	2.02	0.40
16:J:113:VAL:HG12	16:J:125:VAL:HG22	2.03	0.40
20:W:56:GLY:HA2	20:W:83:GLY:HA3	2.03	0.40
20:W:111:VAL:HG22	20:W:140:ASP:HB3	2.04	0.40
21:O:239:MET:O	21:O:242:ILE:HG13	2.21	0.40
22:P:63:VAL:HG11	22:P:79:LEU:HD21	2.02	0.40
23:H:198:MET:HE1	23:H:294:LEU:HB2	2.03	0.40
6:G:47:VAL:HG11	6:G:193:VAL:HG22	2.02	0.40
9:D:25:GLU:HG2	9:D:28:LYS:HD2	2.03	0.40
26:1:73:ALA:HB2	3:2:113:LYS:HD3	2.03	0.40
3:2:79:ALA:HB2	5:3:130:ILE:HG13	2.02	0.40
5:3:84:PRO:HB2	5:3:120:PHE:HD2	1.86	0.40
32:Z:92:LEU:HG	32:Z:122:LEU:HD22	2.03	0.40
33:V:50:MET:HG3	33:V:71:MET:HG3	2.03	0.40
33:V:159:ILE:HG23	33:V:164:LEU:HD13	2.02	0.40
33:V:278:LYS:HE3	33:V:279:HIS:NE2	2.36	0.40
1:I:380:LEU:HD22	1:I:420:LYS:NZ	2.36	0.40
2:K:123:LEU:HG	2:K:125:THR:H	1.86	0.40
2:K:145:ALA:HB1	16:J:65:LEU:HD13	2.03	0.40
8:m:134:MET:HA	9:n:122:GLN:O	2.21	0.40
11:N:124:TYR:OH	11:N:164:ASP:OD2	2.29	0.40
11:N:720:ALA:H	11:N:900:ASN:HD21	1.69	0.40
22:P:95:TYR:CD1	22:P:99:LYS:HE3	2.57	0.40
23:H:184:GLU:O	23:H:188:PRO:HD3	2.22	0.40
23:H:249:TYR:CD2	23:H:358:PRO:HB3	2.56	0.40
23:H:447:VAL:HG13	23:H:451:ILE:HD12	2.03	0.40
4:A:110:TYR:CG	4:A:111:ASP:N	2.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:92:CYS:HA	7:F:103:LEU:HD22	2.02	0.40
9:D:66:LYS:H	9:D:90:ARG:HH21	1.69	0.40
8:E:148:ASP:HB3	8:E:152:GLY:H	1.86	0.40
26:1:139:HIS:HE1	30:7:90:ILE:HG21	1.85	0.40
32:Z:85:VAL:HG21	32:Z:90:LYS:HB2	2.03	0.40
32:Z:207:ILE:HG23	32:Z:211:PHE:CD2	2.56	0.40
32:Z:319:THR:HG21	32:Z:535:VAL:HG12	2.02	0.40
32:Z:380:ASN:ND2	32:Z:407:VAL:HG22	2.37	0.40
1:I:86:GLU:HA	1:I:89:GLN:HB3	2.03	0.40
1:I:113:ILE:HD11	23:H:96:PRO:HD2	2.04	0.40
2:K:56:LYS:O	2:K:60:LEU:HG	2.22	0.40
2:K:66:ASP:HB3	11:N:573:HIS:HE1	1.86	0.40
9:n:39:LYS:HD2	9:n:186:ALA:HA	2.02	0.40
11:N:258:ALA:HA	11:N:261:LEU:HD12	2.04	0.40
11:N:302:PHE:CZ	11:N:873:ARG:HG2	2.56	0.40
12:S:155:LEU:O	12:S:159:ASN:N	2.51	0.40
12:S:404:LEU:HA	12:S:407:ILE:HD12	2.04	0.40
18:M:338:LEU:HD21	18:M:346:LYS:HE3	2.02	0.40
21:O:83:LEU:HD23	21:O:132:GLU:HG3	2.03	0.40
6:G:15:PHE:CZ	4:A:136:PRO:HG2	2.56	0.40
9:D:55:GLN:HB3	24:C:159:GLY:O	2.21	0.40
24:C:232:PRO:HA	24:C:235:ILE:HD12	2.03	0.40
26:1:55:ARG:HB2	26:1:61:TRP:CZ3	2.56	0.40
27:4:41:HIS:HB2	27:4:74:GLU:OE2	2.22	0.40
24:d:112:VAL:HG22	24:d:137:TYR:CD2	2.57	0.40
27:g:44:MET:HE2	27:g:46:PHE:HE1	1.87	0.40
1:I:120:VAL:HG11	1:I:128:TYR:HD2	1.86	0.40
1:I:169:SER:HB3	1:I:263:LEU:HD13	2.02	0.40
11:N:145:LEU:HD21	11:N:153:ALA:HB2	2.03	0.40
12:S:224:LYS:HE3	12:S:225:HIS:CE1	2.57	0.40
13:T:62:LEU:HD12	13:T:85:LEU:HD13	2.04	0.40
13:T:67:LEU:HD23	13:T:105:LEU:HD21	2.02	0.40
16:J:112:ARG:NE	16:J:128:ASN:O	2.51	0.40
17:L:338:LEU:HD23	17:L:343:LEU:HD12	2.03	0.40
21:O:16:MET:HG3	21:O:20:PRO:HG3	2.03	0.40
6:G:204:HIS:O	6:G:208:LYS:HB2	2.21	0.40
32:Z:796:LEU:HA	32:Z:799:PHE:CE2	2.57	0.40
30:a:226:ARG:NE	30:a:246:GLN:HB3	2.31	0.40
26:b:184:TRP:O	26:b:185:ASP:HB2	2.21	0.40
29:e:133:LEU:HD11	29:e:226:VAL:HG12	2.03	0.40
3:i:64:HIS:N	3:i:72:CYS:O	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:c:164:VAL:HG23	25:j:61:LEU:HB2	2.04	0.40
10:Y:65:ASP:HB3	14:R:328:PHE:CE1	2.57	0.40
11:N:588:VAL:HA	11:N:591:LEU:HD12	2.03	0.40
15:Q:302:VAL:HA	15:Q:305:ALA:HB3	2.03	0.40
15:Q:343:LEU:HG	15:Q:366:ILE:HD11	2.04	0.40
15:Q:377:LEU:HB3	15:Q:390:LEU:HD11	2.02	0.40
17:L:104:LEU:HD23	18:M:127:VAL:HG12	2.02	0.40
23:H:388:ILE:HD13	23:H:416:GLY:HA2	2.03	0.40
6:G:100:LYS:O	30:7:98:ARG:HD2	2.21	0.40
7:F:168:ALA:HB1	7:F:196:ALA:HB1	2.04	0.40
8:E:31:ILE:HG13	8:E:160:PRO:HG3	2.02	0.40
3:2:102:GLU:HB3	3:2:134:PRO:HG3	2.03	0.40
31:X:92:SER:H	31:X:94:ASN:HD22	1.67	0.40
28:f:86:GLY:HA3	28:f:254:HIS:CE1	2.57	0.40
28:f:189:TYR:CE1	28:f:204:VAL:HG21	2.56	0.40
27:g:135:TYR:HB3	27:g:172:MET:HE1	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	I	360/437 (82%)	315 (88%)	44 (12%)	1 (0%)	37	72
2	K	379/428 (89%)	326 (86%)	53 (14%)	0	100	100
3	2	220/261 (84%)	210 (96%)	10 (4%)	0	100	100
3	i	220/261 (84%)	209 (95%)	11 (5%)	0	100	100
4	A	241/252 (96%)	228 (95%)	13 (5%)	0	100	100
4	c	241/252 (96%)	227 (94%)	14 (6%)	0	100	100
5	3	202/205 (98%)	190 (94%)	12 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	h	202/205 (98%)	188 (93%)	13 (6%)	1 (0%)	25	64
6	G	243/288 (84%)	235 (97%)	8 (3%)	0	100	100
6	k	243/288 (84%)	233 (96%)	10 (4%)	0	100	100
7	F	231/234 (99%)	221 (96%)	10 (4%)	0	100	100
7	l	231/234 (99%)	221 (96%)	10 (4%)	0	100	100
8	E	241/260 (93%)	226 (94%)	15 (6%)	0	100	100
8	m	241/260 (93%)	227 (94%)	14 (6%)	0	100	100
9	D	240/254 (94%)	222 (92%)	18 (8%)	0	100	100
9	n	240/254 (94%)	226 (94%)	14 (6%)	0	100	100
10	Y	25/89 (28%)	23 (92%)	2 (8%)	0	100	100
11	N	843/945 (89%)	786 (93%)	57 (7%)	0	100	100
12	S	351/523 (67%)	313 (89%)	37 (10%)	1 (0%)	37	72
13	T	270/274 (98%)	231 (86%)	39 (14%)	0	100	100
14	R	398/429 (93%)	357 (90%)	40 (10%)	1 (0%)	37	72
15	Q	429/434 (99%)	393 (92%)	36 (8%)	0	100	100
16	J	371/405 (92%)	335 (90%)	35 (9%)	1 (0%)	37	72
17	L	359/437 (82%)	320 (89%)	38 (11%)	1 (0%)	37	72
18	M	363/434 (84%)	331 (91%)	31 (8%)	1 (0%)	37	72
19	U	278/338 (82%)	260 (94%)	18 (6%)	0	100	100
20	W	195/268 (73%)	182 (93%)	13 (7%)	0	100	100
21	O	385/393 (98%)	341 (89%)	43 (11%)	1 (0%)	37	72
22	P	430/445 (97%)	386 (90%)	44 (10%)	0	100	100
23	H	364/467 (78%)	311 (85%)	52 (14%)	1 (0%)	37	72
24	C	243/258 (94%)	228 (94%)	15 (6%)	0	100	100
24	d	243/258 (94%)	227 (93%)	16 (7%)	0	100	100
25	B	248/250 (99%)	234 (94%)	14 (6%)	0	100	100
25	j	248/250 (99%)	232 (94%)	16 (6%)	0	100	100
26	l	203/215 (94%)	185 (91%)	17 (8%)	1 (0%)	25	64
26	b	203/215 (94%)	184 (91%)	18 (9%)	1 (0%)	25	64
27	4	196/198 (99%)	186 (95%)	10 (5%)	0	100	100
27	g	196/198 (99%)	182 (93%)	14 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	5	210/287 (73%)	200 (95%)	10 (5%)	0	100	100
28	f	210/287 (73%)	198 (94%)	12 (6%)	0	100	100
29	6	220/241 (91%)	204 (93%)	16 (7%)	0	100	100
29	e	220/241 (91%)	205 (93%)	15 (7%)	0	100	100
30	7	231/266 (87%)	215 (93%)	16 (7%)	0	100	100
30	a	231/266 (87%)	216 (94%)	15 (6%)	0	100	100
31	X	125/156 (80%)	113 (90%)	12 (10%)	0	100	100
32	Z	807/993 (81%)	716 (89%)	90 (11%)	1 (0%)	48	83
33	V	282/306 (92%)	234 (83%)	45 (16%)	3 (1%)	12	47
All	All	13352/15139 (88%)	12232 (92%)	1105 (8%)	15 (0%)	50	83

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
17	L	332	THR
5	h	105	VAL
14	R	241	ILE
33	V	305	ILE
16	J	134	VAL
32	Z	442	VAL
33	V	273	ARG
26	1	28	LYS
26	b	28	LYS
18	M	167	VAL
1	I	168	VAL
21	O	357	ILE
12	S	163	VAL
23	H	105	ILE
33	V	303	VAL

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	I	319/385 (83%)	319 (100%)	0	100	100
2	K	334/374 (89%)	334 (100%)	0	100	100
3	2	181/214 (85%)	181 (100%)	0	100	100
3	i	181/214 (85%)	181 (100%)	0	100	100
4	A	207/210 (99%)	207 (100%)	0	100	100
4	c	207/210 (99%)	207 (100%)	0	100	100
5	3	172/173 (99%)	172 (100%)	0	100	100
5	h	172/173 (99%)	172 (100%)	0	100	100
6	G	201/239 (84%)	201 (100%)	0	100	100
6	k	201/239 (84%)	201 (100%)	0	100	100
7	F	192/193 (100%)	192 (100%)	0	100	100
7	l	192/193 (100%)	192 (100%)	0	100	100
8	E	199/215 (93%)	199 (100%)	0	100	100
8	m	199/215 (93%)	199 (100%)	0	100	100
9	D	214/226 (95%)	214 (100%)	0	100	100
9	n	214/226 (95%)	214 (100%)	0	100	100
10	Y	26/81 (32%)	26 (100%)	0	100	100
11	N	713/797 (90%)	713 (100%)	0	100	100
12	S	330/489 (68%)	330 (100%)	0	100	100
13	T	254/256 (99%)	254 (100%)	0	100	100
14	R	351/379 (93%)	351 (100%)	0	100	100
15	Q	388/391 (99%)	388 (100%)	0	100	100
16	J	325/352 (92%)	325 (100%)	0	100	100
17	L	308/377 (82%)	308 (100%)	0	100	100
18	M	315/375 (84%)	315 (100%)	0	100	100
19	U	256/308 (83%)	256 (100%)	0	100	100
20	W	171/230 (74%)	171 (100%)	0	100	100
21	O	363/368 (99%)	363 (100%)	0	100	100
22	P	405/415 (98%)	405 (100%)	0	100	100
23	H	314/399 (79%)	313 (100%)	1 (0%)	91	92
24	C	204/216 (94%)	204 (100%)	0	100	100
24	d	204/216 (94%)	204 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	B	209/209 (100%)	209 (100%)	0	100	100
25	j	209/209 (100%)	209 (100%)	0	100	100
26	1	169/178 (95%)	169 (100%)	0	100	100
26	b	168/178 (94%)	168 (100%)	0	100	100
27	4	175/175 (100%)	175 (100%)	0	100	100
27	g	175/175 (100%)	175 (100%)	0	100	100
28	5	169/235 (72%)	169 (100%)	0	100	100
28	f	169/235 (72%)	169 (100%)	0	100	100
29	6	185/201 (92%)	185 (100%)	0	100	100
29	e	185/201 (92%)	185 (100%)	0	100	100
30	7	199/224 (89%)	199 (100%)	0	100	100
30	a	199/224 (89%)	199 (100%)	0	100	100
31	X	116/144 (81%)	116 (100%)	0	100	100
32	Z	692/850 (81%)	692 (100%)	0	100	100
33	V	249/268 (93%)	249 (100%)	0	100	100
All	All	11580/13054 (89%)	11579 (100%)	1 (0%)	100	100

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
23	H	185	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (189) such sidechains are listed below:

Mol	Chain	Res	Type
1	I	89	GLN
1	I	95	GLN
1	I	117	HIS
1	I	151	HIS
1	I	238	ASN
1	I	303	GLN
1	I	431	ASN
2	K	64	GLN
2	K	83	GLN
2	K	200	GLN
2	K	228	ASN

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Mol	Chain	Res	Type
2	K	244	HIS
2	K	388	GLN
2	K	414	GLN
2	K	419	ASN
3	i	110	GLN
3	i	138	HIS
3	i	170	HIS
3	i	189	GLN
4	c	92	ASN
4	c	185	HIS
5	h	48	HIS
5	h	169	GLN
5	h	173	ASN
6	k	23	GLN
6	k	121	GLN
6	k	183	HIS
6	k	207	ASN
6	k	225	ASN
6	k	228	HIS
7	l	21	GLN
7	l	43	HIS
7	l	60	GLN
7	l	93	ASN
7	l	117	GLN
7	l	121	GLN
8	m	99	HIS
8	m	100	ASN
8	m	157	HIS
8	m	168	ASN
9	n	16	HIS
9	n	19	GLN
9	n	40	ASN
9	n	96	HIS
9	n	118	GLN
11	N	34	GLN
11	N	71	ASN
11	N	176	GLN
11	N	256	GLN
11	N	306	ASN
11	N	529	GLN
11	N	691	GLN
11	N	703	GLN

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Mol	Chain	Res	Type
12	S	154	GLN
12	S	235	ASN
12	S	314	ASN
12	S	469	ASN
12	S	472	HIS
13	T	80	ASN
13	T	127	GLN
13	T	272	ASN
14	R	76	GLN
14	R	325	HIS
14	R	397	ASN
15	Q	226	HIS
15	Q	361	HIS
15	Q	418	GLN
16	J	25	GLN
16	J	123	HIS
17	L	311	GLN
18	M	238	GLN
18	M	364	HIS
18	M	387	ASN
19	U	5	HIS
19	U	21	HIS
19	U	107	ASN
19	U	127	GLN
19	U	201	GLN
19	U	230	GLN
20	W	12	ASN
20	W	100	HIS
20	W	102	GLN
20	W	136	ASN
20	W	163	ASN
21	O	114	GLN
21	O	229	ASN
21	O	343	GLN
21	O	376	GLN
22	P	78	GLN
22	P	88	GLN
22	P	128	ASN
22	P	242	GLN
22	P	282	HIS
22	P	425	HIS
23	H	51	GLN

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Mol	Chain	Res	Type
23	H	151	GLN
23	H	217	GLN
23	H	281	GLN
23	H	330	GLN
23	H	356	ASN
6	G	121	GLN
6	G	123	HIS
6	G	207	ASN
6	G	225	ASN
6	G	228	HIS
4	A	37	GLN
4	A	92	ASN
4	A	130	GLN
4	A	185	HIS
4	A	221	ASN
7	F	21	GLN
7	F	43	HIS
7	F	60	GLN
7	F	93	ASN
7	F	117	GLN
7	F	166	GLN
9	D	19	GLN
9	D	40	ASN
9	D	118	GLN
9	D	162	GLN
8	E	100	ASN
24	C	21	GLN
24	C	89	ASN
25	B	119	GLN
25	B	123	GLN
26	1	57	HIS
26	1	180	GLN
3	2	64	HIS
3	2	95	HIS
3	2	114	GLN
3	2	138	HIS
3	2	170	HIS
3	2	189	GLN
5	3	48	HIS
5	3	169	GLN
5	3	173	ASN
5	3	204	GLN

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Mol	Chain	Res	Type
27	4	86	GLN
27	4	101	ASN
27	4	112	ASN
27	4	146	HIS
27	4	147	HIS
27	4	198	GLN
28	5	251	ASN
28	5	254	HIS
28	5	266	HIS
29	6	55	ASN
29	6	89	ASN
29	6	171	ASN
29	6	172	GLN
29	6	178	GLN
30	7	36	GLN
30	7	59	ASN
30	7	111	ASN
31	X	94	ASN
32	Z	168	GLN
32	Z	307	HIS
32	Z	327	GLN
32	Z	338	HIS
32	Z	396	ASN
32	Z	593	HIS
32	Z	833	GLN
32	Z	898	HIS
32	Z	899	GLN
32	Z	958	ASN
24	d	31	HIS
24	d	177	GLN
24	d	227	GLN
25	j	20	GLN
25	j	119	GLN
25	j	123	GLN
30	a	36	GLN
30	a	59	ASN
26	b	57	HIS
26	b	180	GLN
29	e	171	ASN
29	e	172	GLN
29	e	178	GLN
28	f	104	GLN

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Mol	Chain	Res	Type
28	f	241	HIS
28	f	254	HIS
28	f	266	HIS
27	g	86	GLN
27	g	198	GLN
33	V	97	GLN
33	V	184	ASN
33	V	200	ASN
33	V	274	GLN
33	V	301	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6693. These allow visual inspection of the internal detail of the map and identification of artifacts.

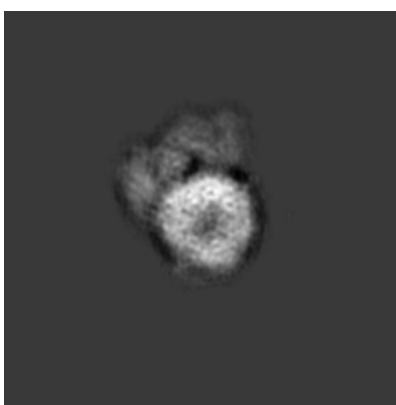
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



X



Y

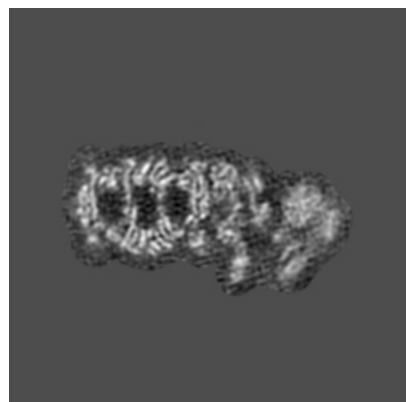


Z

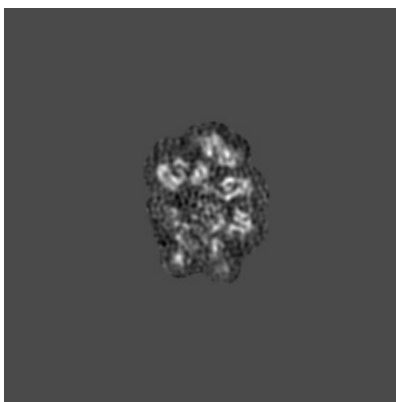
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

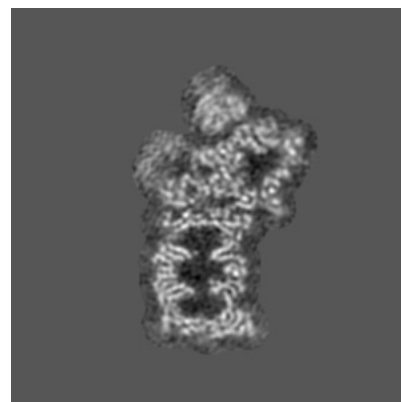
6.2.1 Primary map



X Index: 180



Y Index: 180

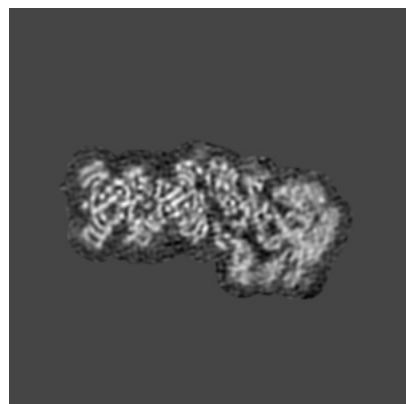


Z Index: 180

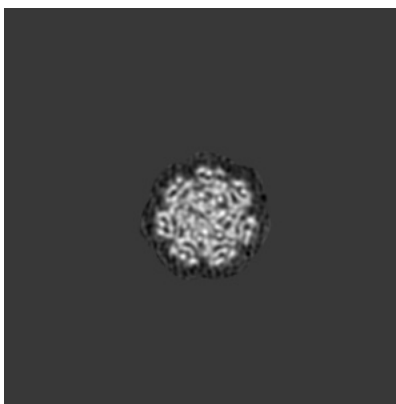
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 192



Y Index: 77

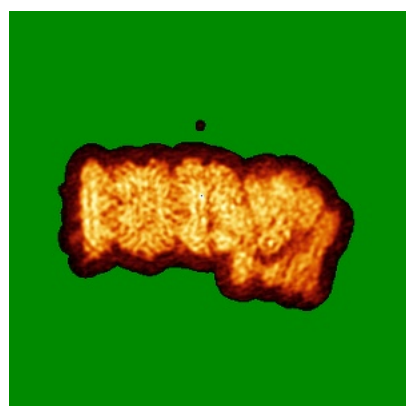


Z Index: 182

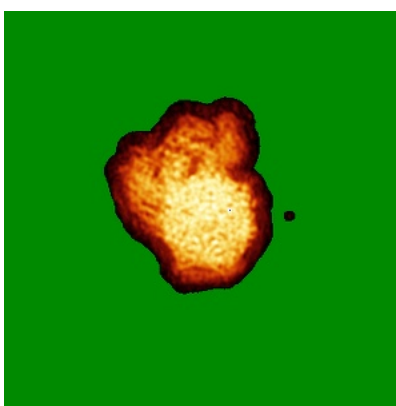
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



X



Y

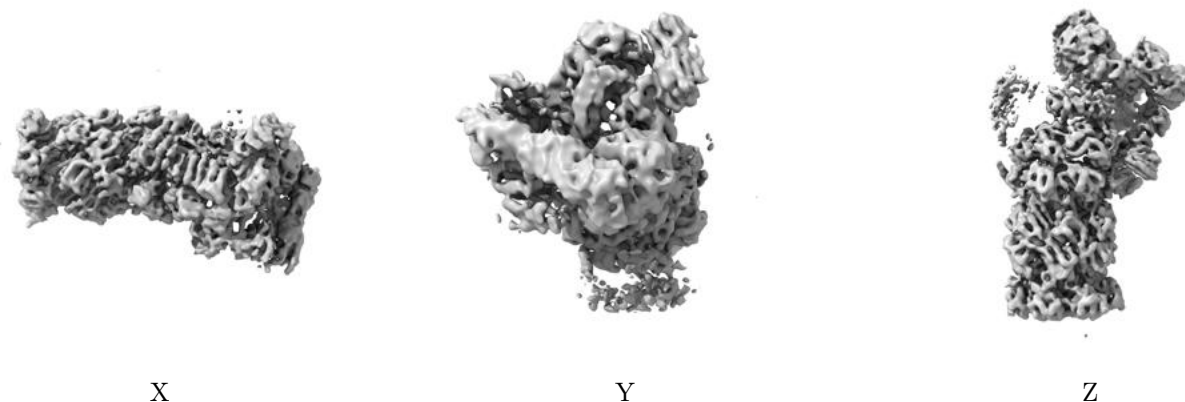


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.755. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

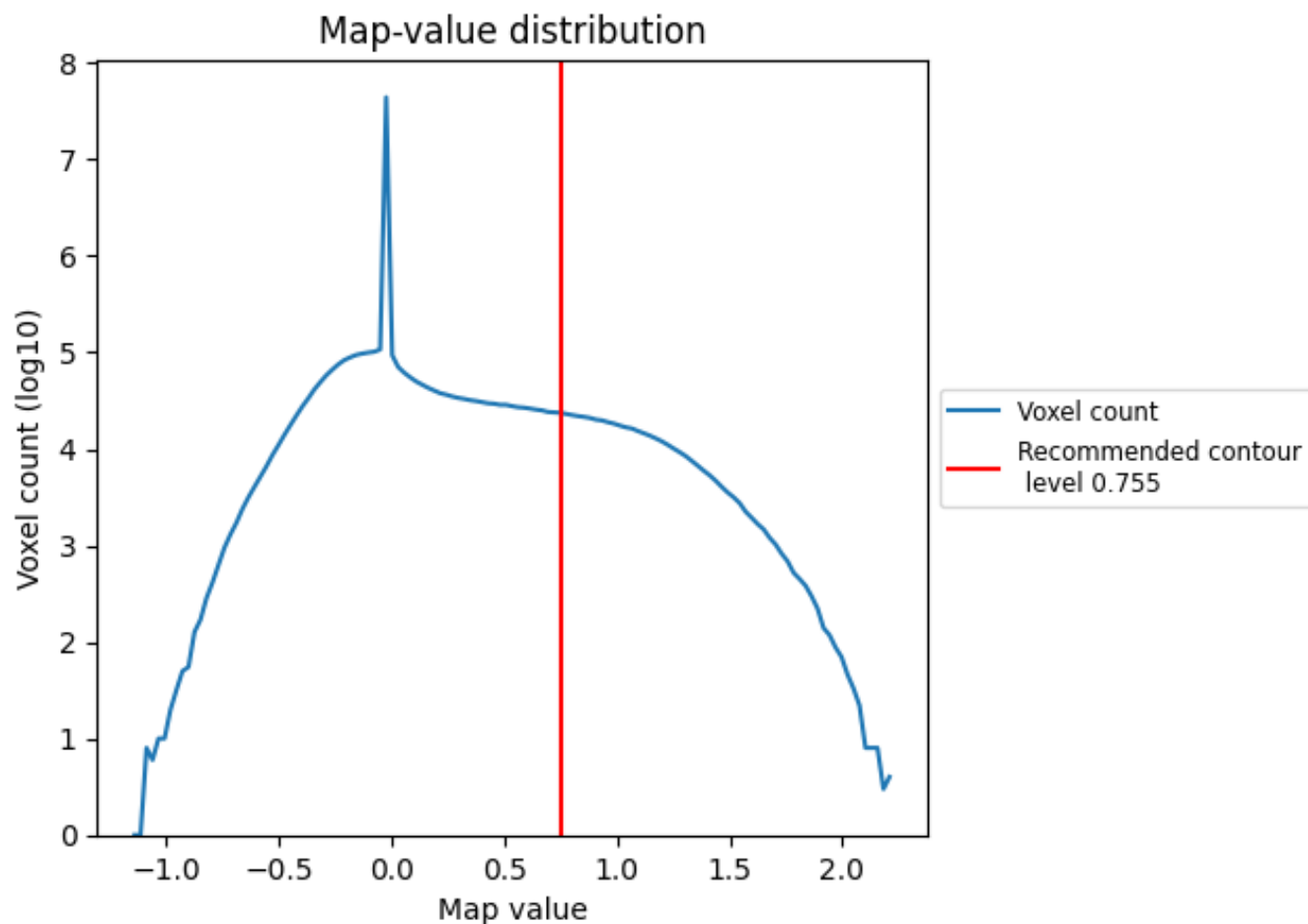
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

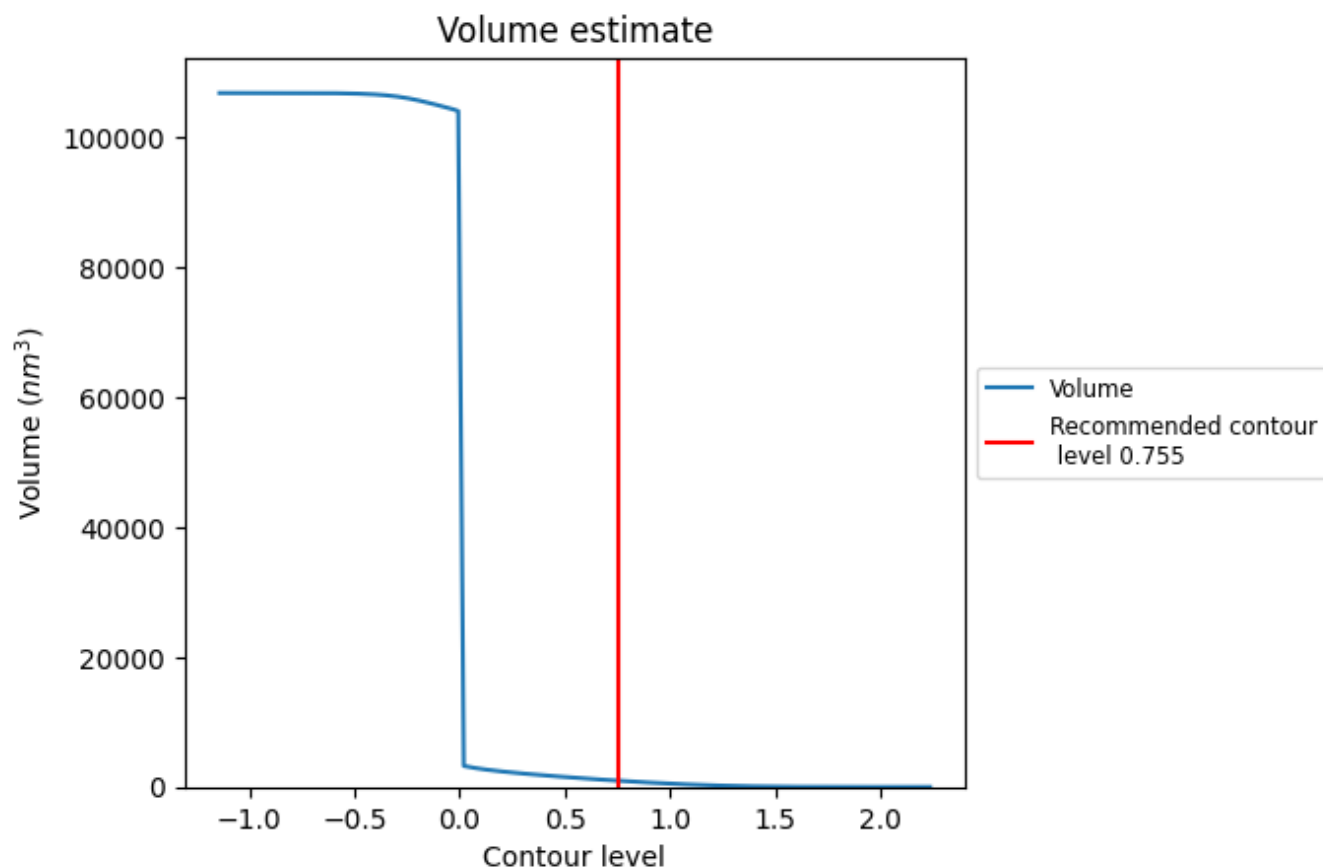
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

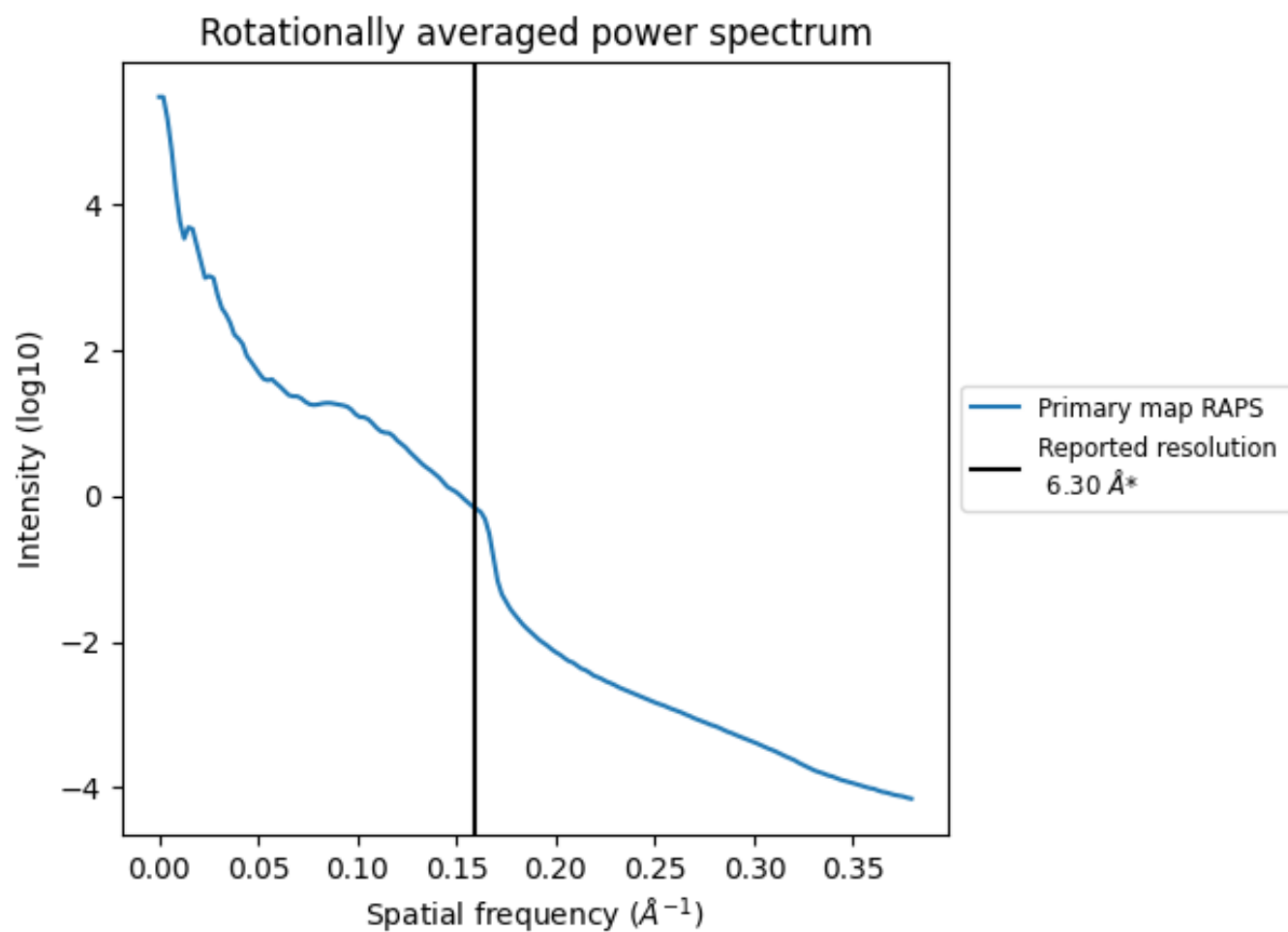
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 959 nm^3 ; this corresponds to an approximate mass of 866 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 0.159 Å⁻¹

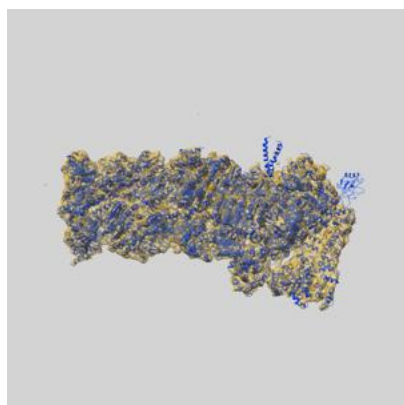
8 Fourier-Shell correlation

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

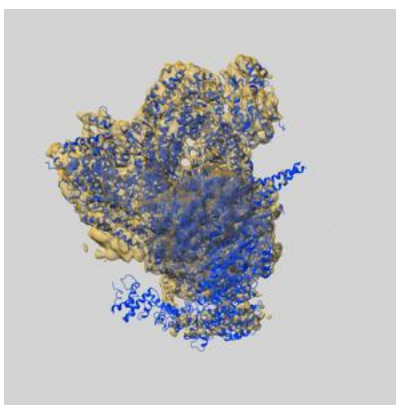
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-6693 and PDB model 5WVI. Per-residue inclusion information can be found in section 3 on page 11.

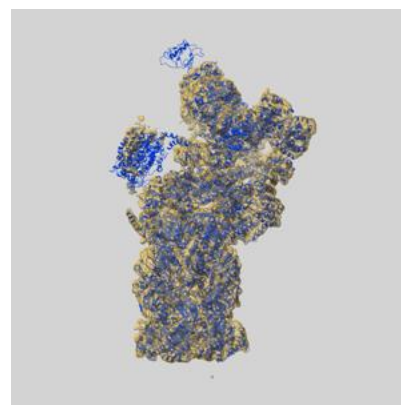
9.1 Map-model overlay [i](#)



X



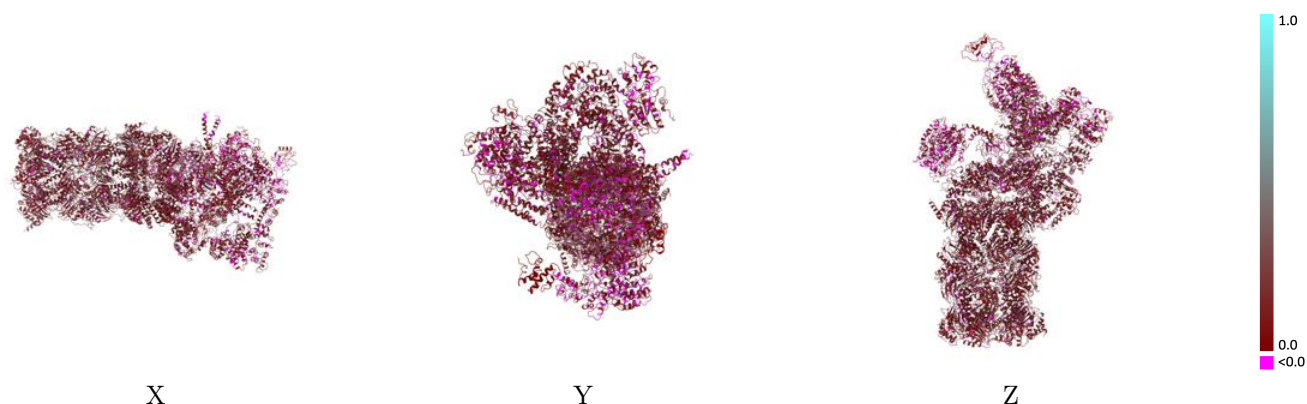
Y



Z

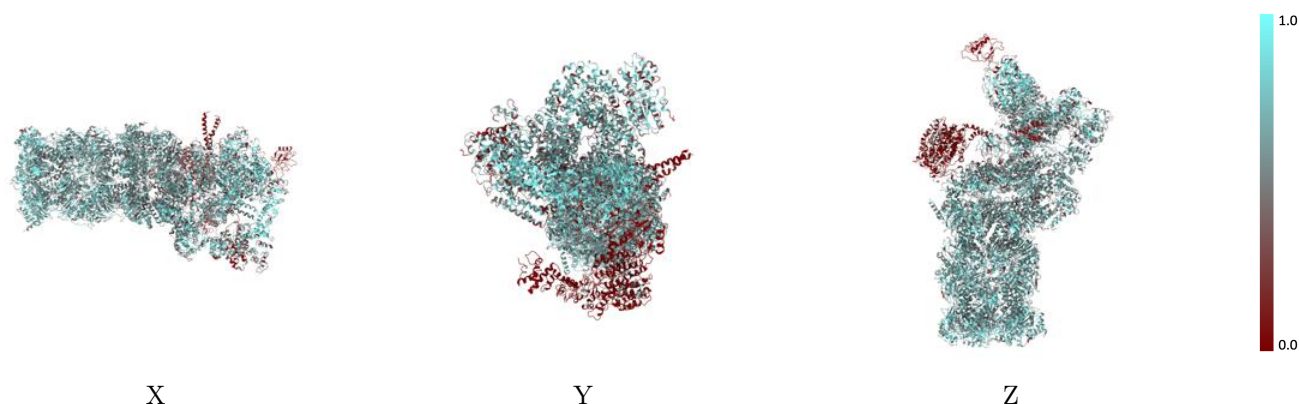
The images above show the 3D surface view of the map at the recommended contour level 0.755 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



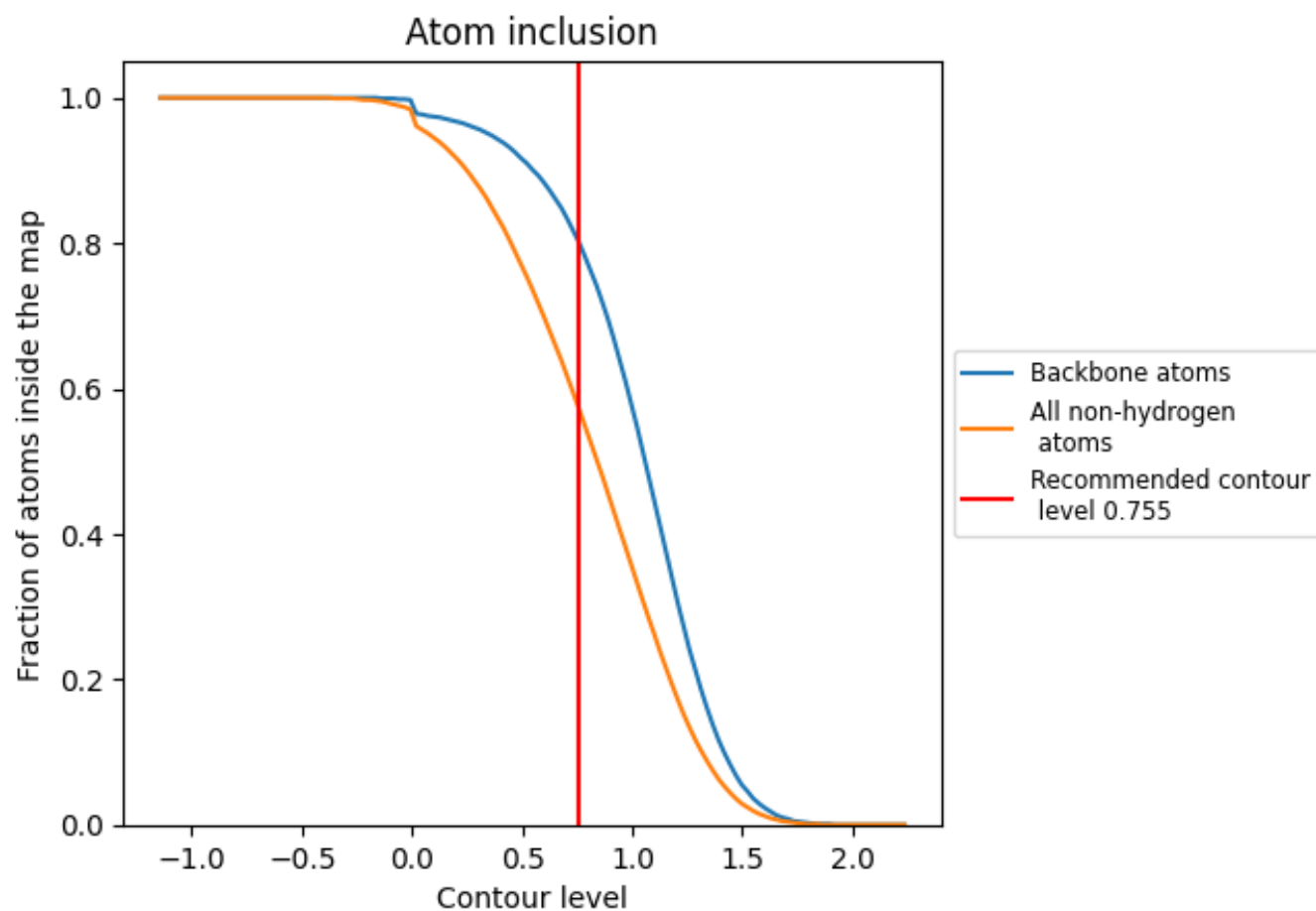
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.755).

9.4 Atom inclusion [i](#)



At the recommended contour level, 80% of all backbone atoms, 57% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.755) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5750	 0.1400
1	 0.6150	 0.1510
2	 0.6520	 0.1760
3	 0.6420	 0.1510
4	 0.6490	 0.1670
5	 0.6430	 0.1550
6	 0.6460	 0.1600
7	 0.6290	 0.1730
A	 0.6070	 0.1720
B	 0.5830	 0.1580
C	 0.6190	 0.1490
D	 0.6500	 0.1610
E	 0.6190	 0.1520
F	 0.6280	 0.1530
G	 0.6110	 0.1600
H	 0.5320	 0.1330
I	 0.5360	 0.1430
J	 0.5500	 0.1370
K	 0.5560	 0.1460
L	 0.5420	 0.1380
M	 0.5480	 0.1460
N	 0.6810	 0.1050
O	 0.6000	 0.1270
P	 0.5960	 0.1430
Q	 0.6190	 0.1520
R	 0.6010	 0.1280
S	 0.5630	 0.1330
T	 0.3940	 0.1160
U	 0.6130	 0.1370
V	 0.5800	 0.1280
W	 0.6060	 0.1200
X	 0.0000	 0.0040
Y	 0.5830	 0.1600
Z	 0.0600	 0.0640
a	 0.6350	 0.1700



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Chain	Atom inclusion	Q-score
b	 0.6300	 0.1500
c	 0.6810	 0.1640
d	 0.6780	 0.1490
e	 0.6680	 0.1670
f	 0.6680	 0.1560
g	 0.6530	 0.1580
h	 0.6710	 0.1500
i	 0.6710	 0.1860
j	 0.6740	 0.1650
k	 0.6660	 0.1550
l	 0.6720	 0.1540
m	 0.6670	 0.1530
n	 0.6880	 0.1530